Journal of Financial Stability 6 (2010) 121–129

Contents lists available at ScienceDirect

Journal of Financial Stability

journal homepage: www.elsevier.com/locate/jfstabil

Bank risk and monetary policy

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ARTICLE INFO

Article history:
Received 15 June 2008
Received in revised form 24 June 2009
Accepted 15 July 2009
Available online 6 August 2009

JEL classification:
E44
E55

Keywords:
Bank
Risk
Bank lending channel
Monetary policy

ABSTRACT

We find evidence of a bank lending channel operating in the euro area via bank risk. Financial innovation and the wider use of new ways of transferring credit risk have tended to diminish the informational content of standard bank balance sheet indicators. We show that bank risk conditions, as perceived by financial market investors, need to be considered, together with the other indicators (i.e., size, liquidity and capitalization), traditionally used in the bank lending channel literature to assess banks' ability and willingness to supply new loans. Using a large sample of European banks, we find that banks characterized by lower expected default frequency are able to offer a larger amount of credit and to better insulate their loan supply from monetary policy changes.

1. Introduction[1]

In contrast to findings for the United States, existing empirical research on the importance of bank conditions in the transmission mechanism of monetary policy provides inconclusive evidence for the euro area. More broadly, the overall results for the euro area on the role of financial factors in the transmission mechanism remain mixed.[2] This is surprising, since in the euro area banks play a pivotal position in the financial system and are one of the main conduits for the transmission of monetary policy. The weak evidence for a "bank lending channel" is probably due to two main concurring factors: first, there are significant data limitations, as the bulk of existing evidence was undertaken under the auspices of the Monetary Transmission Network in 2002, which was only a handful of years after the start of monetary union. Second, the role of banks in the transmission mechanism is likely to have changed, mainly because the business of banks has also undergone fundamental changes in recent years, owing to financial innovation, financial integration and increases in market funding. In other words, parts of the banking sector have moved away from the traditional "originate-and-hold" to an "originate-and-distribute" model of the banking firm, which is much more reliant on market forces. As a result, it is likely that this new role of banks has an impact on the way they grant credit and react to monetary policy impulses (Loutskina and Strahan, 2006; Hirtle, 2007; Altunbas et al., 2009).

Some of the latest literature on the transmission mechanism also underlines the role of banks, by focusing on banks' incentive problems arising from bank managers. Borio and Zhu (2008) argue that financial innovation, in parallel with changes to the capital regulatory framework (Basel II), are likely to have enhanced the impact of the perception, pricing and management of risk on the behavior of banks. Similarly, Rajan (2005) suggests that more market-based pricing and stronger interaction between banks and financial markets exacerbate the incentive structures driving banks, potentially leading to stronger links between monetary policy and financial stability effects.

In this paper, we claim that bank risk must be carefully considered, together with other standard bank-specific characteristics, when analyzing the functioning of the bank lending channel of

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[1] We would like to thank Francesco Columba, Michael Ehrmann, Paolo Del Giovane, Alistair Milne, Fabio Panetta, and participants at the conference "The Transmission of Credit Risk and Bank Stability" (Centre for Banking Studies, Cass Business School, London, 22nd May 2008) for their comments. In particular, we would like to thank two anonymous referees for very insightful comments. This paper was written in great part while Leonardo Gambacorta was at the Economic Outlook and Monetary Policy Department of the Bank of Italy. The opinions expressed in this paper are those of the authors only and in no way involve the responsibility of the Bank of Italy, the ECB or the BIS. Email addresses: Y.Altunbas@bangor.ac.uk, Leonardo.Gambacorta@bis.org and David.Marques@ecb.int.

[2] See Angeloni et al. (2003), Ehrmann et al. (2003b), Gambacorta (2005).

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doi:10.1016/j.jfs.2009.07.001

monetary policy. Due to financial innovation, variables capturing bank size, liquidity and capitalization (the standard indicators used in the bank lending channel literature) may not be adequate for the accurate assessment of banks' ability and willingness to supply additional loans. Namely, the size indicator has become less indicative of banks' ability to originate loans as banks following the "originate-to-distribute" model have securitised substantial amounts of assets thereby reducing their size as measured by on-balance sheet indicators. The ability of banks to sell promptly loans and get fresh liquidity coupled with new developments in liquidity management have also lowered banks' needs to hold certain amounts of risk-free securities on the asset side of their balance sheet. This has, in turn, distorted the significance of standard liquidity ratios. Likewise, developments in accounting practices and a closer link to market perceptions have also probably blurred the informative power of the capital-to-asset ratio. The latter was illustrated most vividly by the recent financial crisis which showed that many of the risks were not adequately captured on their books. More broadly, financial innovation has also probably changed bank incentives towards risk-taking (Hänsel and Krahnen, 2007; Instefjord, 2005).

In recent years, before the 2007–2008 financial turmoil, more lenient credit risk management by banks may have partly contributed to a gradual easing of credit standards applied to loans and credit lines to borrowers. This is supported by the results of the Bank Lending Survey for the euro area and evidence from the United States (Keys et al., 2008; Dell'Ariccia et al., 2008). The lower pressure on banks' balance sheets was also reflected in a decrease in the expected default frequency, until a reversal in 2007 and more clearly in 2008 (Fig. 1).

The 2007–2008 credit crisis has made it very clear that the perception of risk by financial markets is crucial to banks' capability to raise new funds. Also, in this respect, the turmoil has affected their balance sheets in a number of ways. The worsening of risk factors and the process of re-intermediation of assets previously sold by banks to the markets has implied higher actual and expected bank capital requirements. At the same time, increased write-offs and the reductions in investment banking activities (M&A and IPOs) have reduced both banks' profitability and capital base. These effects may ultimately imply a restriction in the supply of credit.

According to replies from banks participating in the euro area bank lending survey (BLS), the problems in credit markets significantly affected credit standards and lending supply. As the credit crisis erupted, the BLS indicated a progressive increase in the net tightening of credit standards for loans to households and firms, especially for large enterprises. A major contribution to the tightening came from banks' difficulties in obtaining capital or issuing new bonds. Concerning capital needs, banks have made recourse to equity issuance on a large scale to compensate for augmenting write-offs. However, due to the higher level of risk, as perceived by the financial markets, and the large amounts of capital needed, equity issuance has often relied on new classes of investors, such as sovereign wealth funds. The reassessment of risk has also affected bond issuance: gross issuance of bonds by euro area banks and financial companies declined significantly in the second half of 2007 compared with 2006, and remained very weak in 2008. All in all, the credit crisis has vividly demonstrated that the ability of a bank to tap funds on the market and, consequently, to sustain changes in money market conditions is strongly dependent on its specific risk position. It is therefore highly relevant to investigate how the lending supply is influenced by bank risk.

This paper concentrates on the implications of changes described above for the provision of credit supply and the monetary policy transmission mechanism, departing in two ways from the existing literature. First, the paper presents an in-depth analysis of the effects of bank risk on loan supply, using both an ex-post measure of credit risk (loan-loss provisions as a percentage of loans) and an ex-ante measure (the 1-year expected default frequency, EDF). The latter is a forward-looking indicator that allows for a more direct assessment of how the markets perceive the effects of a transfer of credit risk impact on bank risk; for instance, due to the use of true-sale securitisation, credit derivatives or synthetic collateralized debt obligations (CDOs). Our second innovation lies in the analysis of the effects of credit risk on the banks' response to both monetary policy and GDP shocks.

We use a unique dataset of bank balance sheet items and asset-backed securities for euro area banks over the period 1999 to 2005. The estimation is performed using an approach similar to that of Altunbas et al. (2009), who analyse the link between securitisation and the bank lending channel. To tackle problems derived from the use of a dynamic panel, all the models have been estimated using the GMM estimator, as suggested by Arellano and Bond (1991).

The results indicate that low-risk banks are able to offer a larger amount of credit and can better shield their lending from monetary policy changes, probably due to easier access to uninsured fund raising, as suggested by the "bank lending channel" hypothesis. Interestingly, this insulation effect is dependent on the business cycle and tends to decline in the case of an economic downturn.

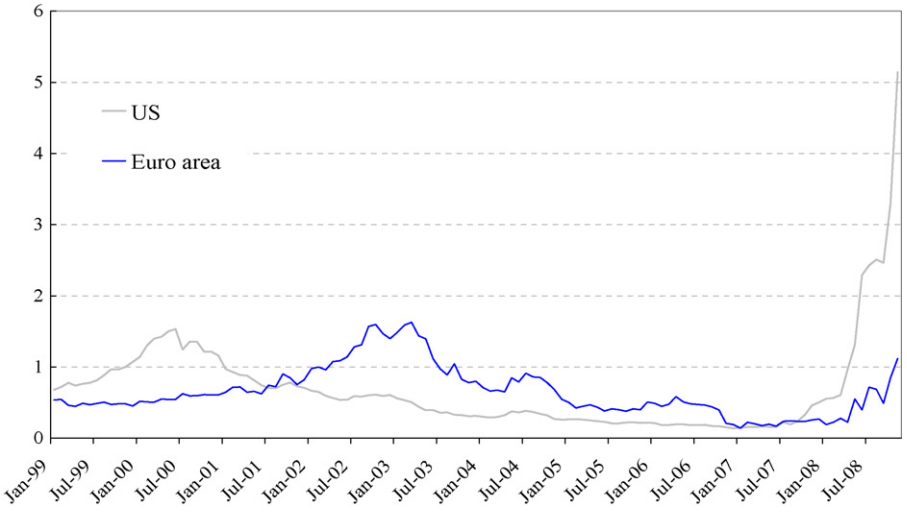

Fig. 1. Expected default frequency (1-year ahead, averages). *Source*: Moody's KMV.