# Loose monetary policy and excessive credit and liquidity risk-taking by banks

|  |  |
| --- | --- |
| [Steven Ongena](http://www.voxeu.org/index.php?q=node/639), [José-Luis Peydró](http://www.voxeu.org/index.php?q=node/640)25 October 2011, Vox.EU | [**Print**](http://www.voxeu.org/index.php?q=node/7125) [**Email**](http://www.voxeu.org/index.php?q=forward&path=node/7125)[**Comment**](http://www.voxeu.org/index.php?q=node/7125#comments) [**Republish**](http://www.voxeu.org/index.php?q=node/87) |

|  |
| --- |
| *Do low interest rates encourage excessive risk-taking by banks? This column summarises two studies analysing the impact of short-term interest rates on the risk composition of the supply of credit. They find that lower rates spur greater risk-taking by lower-capitalised banks and greater liquidity risk exposure.*A question under intense academic and policy debate since the start of the ongoing severe financial crisis is whether a low monetary-policy rate spurs excessive risk-taking by banks. From the start of the crisis in the summer of 2007, market commentators were quick to argue that, during the long period of very low interest rates from 2002 to 2005, banks had softened their lending standards and taken on excessive risk.Indeed, nominal rates were the lowest in almost four decades and below Taylor rates in many countries, while real rates were negative (Taylor 2007, Rajan 2010, Reinhart and Rogoff 2010, among others). Expansionary monetary policy and credit risk-taking followed by restrictive monetary policy possibly led to the financial crisis during the 1990s in Japan (Allen and Gale 2004), while lower real interest rates preceded banking crises in 47 countries (von Hagen and Ho 2007). This time the regulatory arbitrage for bank capital associated with the high degree of bank leverage, the widespread use of complex and opaque financial instruments including loan securitization, and the increased interconnectedness among financial intermediaries may have intensified the resultant risk-taking associated with expansive monetary policy (Calomiris 2009, Mian and Sufi 2009, Acharya and Richardson 2010).During the crisis,commentators also continuously raised concerns that a zero policy interest rate combined with additional and far-reaching quantitative easing, while alleviating the immediate predicament of many financial market participants, were sowing the seeds for the next credit bubble (Giavazzi and Giovannini 2010).Recent theoretical work has modelled how changes in short-term interest rates may affect credit and liquidity risk-taking by financial intermediaries. Banks may take more risk in their lending when monetary policy is expansive and, especially when afflicted by agency problems, banks’ risk-taking can turn excessive.Indeed, lower short-term interest rates may reduce the threat of deposit withdrawals, and improve banks’ liquidity and net worth, allowing banks to relax their lending standards and to increase their credit and liquidity risk-taking. Acute agency problems in banks, when their capital is low for example, combined with a reliance on short-term funding, may therefore lead short-term interest rates – more than long-term rates – to spur risk-taking. Finally, low short-term interest rates make riskless assets less attractive and may lead to a search-for-yield by those financial institutions that have short time horizons.[1](http://www.voxeu.org/index.php?q=node/7125#fn1)Concurrent with these theoretical developments, recent empirical work has begun to study the impact of monetary policy on credit risk-taking by banks. Recent papers that in essence study the impact of short-term interest rates on the risk composition of the supply of creditfollow a longstanding and wide literature that has analysed its impact on the aggregate volume of credit in the economy, and on the changes in the composition of credit in response to changes in the quality of the pool of borrowers.[2](http://www.voxeu.org/index.php?q=node/7125#fn1)In Jiménez et al (2011), our co-authors and we use a uniquely comprehensive credit register from Spain that, matched with bank and firm relevant information, contains exhaustive loan (bank-firm) level data on all outstanding business loan contracts at a quarterly frequency since 1984:IV, and loan application information at the bank-firm level at a monthly frequency since 2002:02.Our identification strategy consists out of three crucial components:(1) Interacting the overnight interest rate with bank capital (the main theory-based measure of bank agency problems) and a firm credit-risk measure(2) Accounting fully for both observed and unobserved time-varying bank and firm heterogeneity by saturating the specifications with time\*bank and time\*firm fixed effects (at a quarterly or monthly frequency), and when possible, also controlling for unobserved heterogeneity in bank-firm matching with bank\*firm fixed effects and time-varying bank-firm characteristics (past bank-firm credit volume for example).(3) Including in all key specifications – and concurrent with the short-term rate – also the ten-year government-bond interest rate, in particular in a triple interaction with bank capital and a firm credit risk measure (as in (2)).Spain offers an ideal setting to employ this identification strategy because it has an exhaustive credit register from the banking supervisor, an economic system dominated by banks and, for the last 22 years, a fairly exogenous monetary policy.We find the following results for a decrease in the overnight interest rate (even when controlling for changes in the ten-year government-bond interest rate):(1) On the intensive margin, a rate cut induces lowly capitalized banks to expand credit to riskier firms more than highly capitalized banks, where firm credit risk is either measured as having an *ex ante* bad credit history (*ie*, past doubtful loans) or as facing future credit defaults.(2) On the extensive margin of ended lending, a rate cut has if anything a similar impact, *ie*, lowly capitalized banks end credit to riskier firms less often than highly capitalized banks.(3) On the extensive margin of new lending, a rate cut leads lower-capitalized banks to more likely grant loans to applicants with a worse credit history, and to grant them larger loans or loans with a longer maturity. A decrease in the long-term rate has a much smaller or no such effects on bank risk-taking (on all margins of lending).Our results in Jiménez et al (2011) suggest that, fully accounting for the credit-demand, firm, and bank balance-sheet channels, monetary policy affects the composition of credit supply. A lower monetary-policy rate spurs bank risk-taking. Suggestive of excessive risk-taking are their findings that risk-taking occurs especially at banks with less capital at stake, ie, those afflicted by agency problems, and that credit risk-taking is combined with vigorous liquidity risk-taking (increase in long-term lending to high credit risk borrowers) even when controlling for a long-term interest rate.In work with Vasso Ioannidou, we also investigate the impact of monetary policy on the risk-taking by banks (Ioannidou et al 2009). This study focuses on the pricing of the risk banks take in Bolivia (relying on a different and complementary identification strategy to Jiménez, et al 2011 and studying data from a developing country). Examining the credit register from Bolivia from 1999 to 2003, we find that, when the US federal-funds rate decreases, bank credit risk increases while loan spreads drop (the Bolivian economy is largely dollarised and most loans are dollar-denominated making the federal-funds rate the appropriate but exogenously determined monetary-policy rate). The latter result is again suggestive of excessive bank risk-taking following decreases in the monetary-policy rate. Hence, despite using very different methodologies, and credit registers covering different countries, time periods, and monetary policy regimes, both papers find strikingly consistent results.[3](http://www.voxeu.org/index.php?q=node/7125#fn1)There are a number of natural extensions to these studies. Our focus on the impact of monetary policy on individual loan granting overlooks the correlations between borrower risk and the impact on each individual bank’s portfolio or the correlations between all the banks’ portfolios and the resulting systemic-risk impact of monetary policy. In addition, both studies focus on the effects of monetary policy on the composition of credit supply in only one dimension, *ie*, firm risk. Industry affiliation or portfolio distribution between mortgages, consumer loans and business loans for example may also change. Given the intensity of agency problems, social costs and externalities in banking, banks’ risk-taking – and other compositional changes of their credit supply for that matter – can be expected to directly impact future financial stability and economic growth. We plan to broach all such extensions in future work.**References** Acharya, Viral V and Hassan Naqvi (2010) "The Seeds of a Crisis: A Theory of Bank Liquidity and Risk-Taking over the Business Cycle", mimeo, New York University.Acharya, Viral V and Matthew Richardson (2010) Restoring Financial Stability: How to Repair a Failed System. New York: John Wiley & Sons.Adrian, Tobias and Hyun Song Shin (2010) "Financial Intermediaries and Monetary Economics", in Friedman, Benjamin M and Michael Woodford (eds), Handbook of Monetary Economics. New York: Elsevier.Allen, Franklin and Douglas Gale (2004) "Asset Price Bubbles and Monetary Policy", in Desai, Meghnad and Yahia Said (eds), Global Governance and Financial Crises. London: Routledge.Allen, Franklin and Douglas Gale (2007) Understanding Financial Crises. New York: Oxford University Press.Bernanke, Ben S and Alan S Blinder (1992) "The Federal Funds Rate and the Channels of Monetary Transmission", American Economic Review 82: 901-921.Bernanke, Ben S, Mark Gertler, and Simon Gilchrist (1996) "The Financial Accelerator and the Flight to Quality", Review of Economics and Statistics 78: 1-15.Blanchard, Olivier (2008) "The State of Macro", Working Paper 14259, National Bureau for Economic Research.Borio, Claudio and Haibin Zhu (2008) "Capital Regulation, Risk-Taking and Monetary Policy: A Missing Link in the Transmission Mechanism", Working Paper 268, Bank for International Settlements.Calomiris, Charles W (2009) "The Subprime Turmoil: What's Old, What's New and What's Next?", Journal of Structured Finance 15: 6-52.De Nicolò, Gianni, Giovanni Dell’Ariccia, Luc Laeven, and Fabian Valencia (2010) "Monetary Policy and Bank Risk-Taking," mimeo, International Monetary Fund.Den Haan, Wouter J, Steven Sumner, and Guy Yamashiro (2007) "Bank Loan Portfolios and the Monetary Transmission Mechanism", Journal of Monetary Economics 54: 904-924.Diamond, Douglas W and Raghuram G Rajan (2006) "Money in a Theory of Banking", American Economic Review 96: 30-53.Diamond, Douglas W and Raghuram G Rajan (forthcoming) "Fear of Fire Sales, Illiquidity Seeking, and Credit Freezes", Quarterly Journal of Economics 126.Diamond, Douglas W and Raghuram G Rajan (2011a) "Illiquid Banks, Financial Stability, and Interest Rate Policy", mimeo, Booth School of Business.Gennaioli, Nicola, Andrei Shleifer, and Robert Vishny (2011) "A Model of Shadow Banking", mimeo, CREI.Gertler, Mark and Simon Gilchrist (1994) "Monetary Policy, Business Cycles, and the Behavior of Small Manufacturing Firms", Quarterly Journal of Economics 109: 309-340.Giavazzi, Francesco and Alberto Giovannini (2010) "The Low-Interest-Rate Trap", VoxEU.org, 19 June.Ioannidou, Vasso P, Steven Ongena, and José-Luis Peydró (2009) "Monetary Policy, Risk-Taking and Pricing: Evidence from a Quasi-Natural Experiment", mimeo, CentER - Tilburg University/European Central Bank.Jiménez, Gabriel, Steven Ongena, José-Luis Peydró, and Jesús Saurina (forthcoming) "Credit Supply and Monetary Policy: Identifying the Bank Balance-Sheet Channel with Loan Applications", American Economic Review.Jiménez, Gabriel, Steven Ongena, José-Luis Peydró, and Jesús Saurina, (2011), "Hazardous Times for Monetary Policy: What Do Twenty-Three Million Bank Loans Say about the Effects of Monetary Policy on Credit Risk-Taking?", mimeo, Bank of Spain.Kashyap, Anil K and Jeremy C Stein (2000) "What Do A Million Observations on Banks Say About the Transmission of Monetary Policy?", American Economic Review 90: 407-428.Maddaloni, Angela and Jose-Luis Peydró (2011) "Bank Risk-taking, Securitization, Supervision, and Low Interest Rates: Evidence from Euro-area and US Lending Standards", Review of Financial Studies 24: 2121-2165.Mian, Atif and Amir Sufi (2009) "The Consequences of Mortgage Credit Expansion: Evidence from the US Mortgage Default Crisis", Quarterly Journal of Economics 124: 1449-1496.Rajan, Raghuram G (2006) "Has Finance Made the World Riskier?", European Financial Management 12: 499-533.Rajan, Raghuram G (2010) Fault Lines. Princeton NJ: Princeton University Press.Reinhart, Carmen M and Kenneth S Rogoff (2010) This Time is Different: Eight Centuries of Financial Folly. Princeton NJ: Princeton University Press.Stiglitz, Joseph E and Bruce Greenwald (2003) Towards a New Paradigm in Monetary Economics. Cambridge: Cambridge University Press.Taylor, John (2007) "Housing and Monetary Policy", paper presented at a symposium sponsored by the Federal Reserve Bank of Kansas City at Jackson Hole WY, Federal Reserve Bank of Kansas City.von Hagen, Jürgen and Tai-Kuang Ho (2007) "Money Market Pressure and the Determinants of Banking Crises", Journal of Money, Credit and Banking 39: 1037-1066.1 See Stiglitz and Greenwald (2003), Diamond and Rajan (2006), Rajan (2006), Allen and Gale (2007), Blanchard (2008), Borio and Zhu (2008), Acharya and Naqvi (2010), Adrian and Shin (2010), Diamond and Rajan (2011), Diamond and Rajan (forthcoming), and Gennaioli et al (2011).2 See Bernanke and Blinder (1992), Gertler and Gilchrist (1994), Bernanke et al (1996), Kashyap and Stein (2000), and Jiménez et al (forthcoming).3 See also Gertler and Gilchrist (1994), Den Haan et al (2007), Adrian and Shin (2010), De Nicolò et al (2010), and Maddaloni and Peydró (2011). |

Comments (0) | [Login to post comments](http://www.voxeu.org/index.php?q=user/login&destination=comment/reply/7058#comment-form)

VoxEU.org

[**Copyright**](http://www.voxeu.org/index.php?q=node/87) [**Contact**](http://www.voxeu.org/index.php?q=node/86)

Comments (0) | [Login to post comments](http://www.voxeu.org/index.php?q=user/login&destination=comment/reply/7051#comment-form)

VoxEU.org

[**Copyright**](http://www.voxeu.org/index.php?q=node/87) [**Contact**](http://www.voxeu.org/index.php?q=node/86)