Loose Monetary Policy and Financial Instability*

By Maximilian Grimm (University of Bonn), Òscar Jordà (Federal Reserve Bank of San Francisco; University of California, Davis; and CEPR), Moritz Schularick (Sciences Po Paris; University of Bonn; and CEPR), and Alan M. Taylor (Columbia University; University of California, Davis; NBER; and CEPR)

Keywords: financial crises, crisis prediction, monetary policy, natural rate
JEL codes: E43, E44, E52, E58, G01, G21, N10

Do periods of persistently loose monetary policy increase financial fragility and the likelihood of a financial crisis? This is a central question for policymakers, yet the literature does not provide systematic empirical evidence about this link at the aggregate level. We fill this gap by analyzing long-run historical data. This policy brief shows that when the stance of monetary policy is accommodative over an extended period, the likelihood of financial turmoil down the line increases considerably. We will investigate the causal pathways that lead to this result and argue that credit creation and asset price overheating are important intermediating channels.

*The views expressed in this brief are the sole responsibility of the authors and do not necessarily reflect the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System. Schularick acknowledges funding by the European Research Council (ERC-2017-COG 772332) and wishes to thank, without implicating, Nina Boyarchenko, Anna Kovner, Giovanni Favara and Andrea Tambalotti. Support by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) under Germany’s Excellence Strategy - EXC 2126/1 - 390838866 is gratefully acknowledged. Grimm gratefully acknowledges support from the Deutsche Forschungsgemeinschaft - AOBJ:664086.
1. Introduction

Does persistently loose monetary policy breed financial fragility? And if so, why? Scholars and policymakers alike blamed loose monetary policy for the boom-bust that culminated in the Global Financial Crisis (Geithner, 2009; Taylor, 2011) and warned again in its aftermath “that a long period of low interest rates...could undermine financial stability” (Bernanke, 2013; Stein, 2013). However, there is no systematic empirical study that analyzes the link between the stance of monetary policy and macro-level financial stability (Boyarchenko et al., 2022). Our study fills this gap in the literature using macro-financial data for 18 advanced economies over the past 150 years (Grimm et al., 2023). This policy brief shows that, as a causal matter, a loose stance increases the risk of medium-term financial instability and of overheated credit and housing markets.

![Figure 1: The stance of monetary policy and credit growth before financial crises](image)

Notes: The blue lines show the paths of the stance and the credit-to-GDP ratio before the onset of financial crises relative to normal times. Shaded areas indicate 95% (light) and 68% (dark) confidence intervals. The dashed red line shows demeaned changes in the two variables before the U.S. Great Recession. As for the other figures, the data source is the Macrohistory Database (Jorda et al., 2017).

How do we know if monetary policy is too loose? Ever since Wicksell (1898), macroeconomists have generally understood the equilibrium or natural real rate to be that which leaves a fully flexible economy at full employment with stable inflation. Thus, as in the literature on policy rules, deviations of the real policy rate from the natural rate are a measure of monetary policy stance, or \( \text{stance} = r - r^* \). A loose monetary policy is when \( \text{stance} < 0 \).

Using an event study approach we can show preliminary evidence to motivate our work. Panel (a) of figure 1 shows the path of stance as defined above before financial crises vis-à-vis normal times. The stance measure falls in the medium term and rises again in the immediate years before crisis events. For example, stance is on average 3.5 percentage points (pps) lower 5 years before a crisis compared to at the time of the crisis itself. Panel (b) illustrates the well-established evidence that credit booms are a precursor of financial busts (e.g., Schularick and Taylor, 2012). The dynamics illustrated in this figure form the starting point for our empirical analysis. Panel (a) uncovers a correlation between a loose stance and future financial fragility. Figure 1 as a whole gives rise to the possibility that credit booms, which are highly predictive of crises, are triggered by too accommodative a stance of monetary policy. In the rest of this policy brief, we go beyond these unconditional means.
2. Loose monetary policy and financial instability

Are periods of persistently loose monetary policy more crisis-prone? We are the first to show that being in a low stance environment has strong implications for medium-term financial crisis risk. We do this by exploiting the exogenous variation in policy rates from the trilemma IV, as described in our working paper, and estimating local projections (Jordà, 2005).

Figure 2 presents our main result. It shows the measured three-year crisis probability at different horizons when the stance, averaged over five years, equals -1%. The horizontal dashed line indicates the unconditional three-year crisis probability in our sample which is 10.5%. The estimates are above this dashed line at statistically significant levels in the medium term, that is around horizons of 5 to 10 years. A loose stance of monetary policy implies a higher probability of entering a financial crisis several years ahead, and it does so at economically relevant scales. For instance, the likelihood of entering a financial crisis 5 to 7 years ahead is higher by 5.5 pps when our measure for the stance of monetary policy is looser by 1 pp. As shown in figure 2, this implies a three-year crisis risk of 16% when the stance over the last five years equals -1%. At higher horizons, crisis risk more than doubles from 10.5% to over 20%.

Notes: The figure shows estimated coefficients of interest from an LP-IV setting. The binary dependent variable is a crisis indicator that equals 1 if a crisis occurs within a three-year window and 0 else. The independent variable of interest is the (negative) five-year moving-averaged stance. Bars indicate 95% confidence intervals.
We now go one step back and ask: how does excessively loose monetary policy trigger financial instability? We find that when interest rates remain below the natural rate for an extended period of time, there is a buildup in asset prices and in credit growth, both of which have been shown to be associated with greater financial fragility (e.g., Schularick and Taylor, 2012; Jorda et al., 2015a,b, 2016; Greenwood et al., 2022).

More precisely, we build on the recent findings of Greenwood et al. (2022). They define Red-zone indicators or R-zones in which both credit and asset price growth—either in the household sector (household credit & real house prices) or in the business sector (business credit & real equity prices)—is elevated from a historical point of view. The authors show that R-zone signals have a high degree of predictability for financial crises that goes far beyond the predictive power inherent in credit growth alone. Is a loose stance of monetary policy a source of such R-zones? Our empirical evidence strongly suggests that the answer to this question is in the affirmative. Our main findings are summarized in figure 3, which shows the measured change in the likelihood of entering an R-zone when the stance of monetary policy is looser by 1 pp.

Recall that when central banks keep the policy rate below the natural rate for an extended period, the likelihood of financial turmoil rises at statistically significant levels starting at a horizon of around five years (figure 2). Figure 3 shows that, at this point, it is likely that the country has already experienced financial fragility by entering an R-zone. A loose stance of monetary policy raises the likelihood of credit market overheating in advanced economies both in the household and in the business sector. When our measure of the stance is looser by 1 pp, the likelihood of entering a household- or business-sector R-zone in five years is higher by 3 and 5.3 pps, respectively.
4. Conclusion

We provide the first evidence that the stance of monetary policy has implications for the stability of the financial system. A loose stance over an extended period of time leads to increased financial fragility several years down the line. The source of this fragility is associated with swings in those financial variables that have been identified by the literature as harbingers of financial turmoil.

Policymakers should take the dangers imposed by keeping policy rates low for long seriously, and thus weigh the potential short-run gains of loose monetary policy against potentially adverse medium-term consequences. Such policies increase the risk of financial crises and thus the risk of high social, political, and economic costs.

References


Geithner, Timothy. 2009. Charlie Rose Show on PBS.


About the authors

Maximilian Grimm is a Ph.D. student in Economics at the University of Bonn and a member of the MacroFinance and MacroHistory Lab.

Óscar Jordà is Senior Policy Advisor at the Federal Reserve Bank of San Francisco, Professor of Economics at the University of California, Davis and a Research Fellow at CEPR.

Moritz Schularick is Professor of Economics at Sciences Po Paris and the University of Bonn, as well as a Research Fellow at CEPR.

Alan M. Taylor is Distinguished Professor of Economics and Finance and C. Bryan Cameron Chair in International Economics at UC Davis, currently Visiting Professor at Columbia University, a Research Associate at NBER, and a Research Fellow at CEPR.

SUERF Publications

Find more SUERF Policy Briefs and Policy Notes at www.suerf.org/policynotes

SUERF is a network association of central bankers and regulators, academics, and practitioners in the financial sector. The focus of the association is on the analysis, discussion and understanding of financial markets and institutions, the monetary economy, the conduct of regulation, supervision and monetary policy.

SUERF’s events and publications provide a unique European network for the analysis and discussion of these and related issues.

SUERF Policy Briefs (SPBs) serve to promote SUERF Members’ economic views and research findings as well as economic policy-oriented analyses. They address topical issues and propose solutions to current economic and financial challenges. SPBs serve to increase the international visibility of SUERF Members’ analyses and research.

The views expressed are those of the author(s) and not necessarily those of the institution(s) the author(s) is/are affiliated with.

All rights reserved.

Editorial Board
Ernest Gnan
Frank Lierman
David T. Llewellyn
Donato Masciandaro
Natacha Valla

SUERF Secretariat
c/o ÖeNB
Otto-Wagner-Platz 3
A-1090 Vienna, Austria
Phone: +43-1-40420-7206
www.suerf.org • suerf@oenb.at