

Stress tests and efficient stable banking: Is more sunlight needed?*



By Diego Moreno (Universidad Carlos III de Madrid) and Tuomas Takalo (Bank of Finland)

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Increasing transparency is recurrently offered as a recipe to promote efficient and stable banking. This policy brief argues that this recipe is not panacea. Instead, the design and precision of stress tests should consider the structure of the banking industry: Increasing the precision of stress tests improves the efficiency of a competitive banking industry, even though banks choose risky assets and gamble for good stress test results. In the presence of market power, however, precise stress tests should only be implemented if authorities have effective means to deal with failing banks; absent these means, efficiency and stability may call for relative opacity.

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Background

Since Louis D. Brandeis famously claimed that

“... sunlight is the best of disinfectants” (*Harper's Weekly*, December 20, 1913)

enhanced transparency is recurrently proposed as an effective regulatory intervention to prevent bank crises. In the aftermath of the global financial crisis, stress tests emerged as a novel policy tool to enhance disclosure and promote financial stability. Originally, stress testing aimed to

“... restore confidence over time and make the financial system investable again... to impose transparency on opaque financial institutions and their opaque assets in order to... help markets distinguish between viable banks that were temporarily illiquid and weak banks that were essentially insolvent.” (Timothy F. Geithner 2014, page 286).

The turmoil in 2023 in the US and Swiss banking sectors renewed the calls for more stringent stress testing of banks' asset portfolios -- e.g., *The Economist*, March 18, 2023.

Effects of bank transparency regulation

Bank transparency involves providing information to market participants about the quality of a bank's investments both before and after they are made. *Ex-post* information about a low value of a bank's assets may lead creditors to withdraw their funds or refuse to refinance. The threat of a rollover crisis thus may discipline banks' risk-taking -- Moreno and Takalo (2016). *Ex-ante* information about a bank's financial condition, by allowing investors a better evaluation of its risk position, provides market discipline, which is more rigorous the more risk-sensitive is the supply of funds -- Cordella and Yeayati (1998), Hyytinen and Takalo (2002). Thus, bank transparency has some attractive features as a macroprudential policy tool.

Nonetheless, bank transparency has two fundamental weaknesses: The first is that banks are inherently opaque - - Dang et al. (2017) -- and they engage in maturity transformation and are therefore subject to confidence crises. No level of *ex-ante* transparency feasible in practice can eliminate confidence crises arising from investors' self-fulfilling expectations -- Hyytinen and Takalo (2004), Moreno and Takalo (2023). Ruling out perfect information, banks remain susceptible to confidence crises regardless the level of transparency. Moreover, even *ex-post* perfect information would not eliminate bank runs arising from maturity transformation. As Diamond and Dybvig (1983) demonstrate in their Nobel Prize winning work, bank runs can be eliminated via full depositor insurance. However, extensive safety nets would make transparency regulation a moot issue since banks' creditors would no longer need to pay attention to banks' financial conditions -- Hyytinen and Takalo (2002).

Another weakness is that a public disclosure will calm markets only if it provides *good news* (i.e., improve markets' expectations) -- Moreno and Takalo (2016). Disclosing that the market situation is worse than expected may prompt a panic, as the management of Silicon Valley Bank quickly learned during last year's episode. Moreover, information *unraveling* may prevent regulatory authorities from hiding unfavorable information about banks when investors know the existence of such information -- Grossman (1981), Milgrom (1981). These challenges came to the fore when the regulatory authorities contemplated the seminal U.S. bank stress test of 2009. As Timothy F. Geithner (2014, page 346) recalls

“...Fed officials were reluctant to publicize bank-specific numbers. They feared that publicizing...could undermine confidence, prompting investors to run from banks that looked weak. Larry [Summers] and I believed that we needed the fullest plausible disclosure, that even bad news would be better than no news. Investors were already assuming the worst about many banks. And I worried that voluntary disclosures by stronger banks alone could be even more stigmatizing to weaker banks than mandatory disclosures for all. I made the case to Ben [Bernanke] and he ultimately agreed, overruling the traditional conservatism of the Fed staff.”

Banking market structure matters

It is well known that bank competition may encourage banks to take more risk as competition erodes the banks' charter value (Keeley 1990). But competition may have adverse effects on stability even without a concern for charter value. In a recent paper, Moreno and Takalo (2024) show that under competitive pressure banks, in anticipation of regulatory stress test information disclosure, gamble for good stress test results, choosing risky assets to credibly offer high returns investors. This result provides context to Chuck Prince's (Citigroup CEO) infamous quote:

“When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance.” (Charles O. Prince III, *The Financial Times*, July 9, 2007).

Furthermore, competitive banks choose riskier assets than a bank with market power, and the competitive banks are the riskier the more precise is the stress test.

Lessons for stress tests design

In recent research, Moreno and Takalo (2023, 2024) address the issue of stress test design when disclosure is mandatory and affects banks' risk-taking incentives and cost of funding, both in the presence of market power and in a competitive banking sector, and both when investors observe asset risk and when they do not. It is argued that regulators' stress tests design must consider the market structure of the banking sector and the impact of stress test disclosure both on the banks' risk-taking incentives *ex-ante* and on investors' reactions *ex-post*.

Since stress tests cannot prevent the competitive banks from gambling and choosing risky assets, the optimal design of stress tests boils down to a simple trade off: On the one hand, more precise stress tests encourage banks to take more risk. On the other hand, more precise tests allow investors to better distinguish between solvent and insolvent banks, in line with the original intend of stress testing. Thus, if the banks' asset risk taking is not very sensitive to the precision of stress test information, stringent and informative stress testing is desirable. However, if asset risk taking reacts strongly to changes in the precision of stress test information, more opaqueness is called for, especially if the bank failures are socially costly.

In the presence of market power, relative opaqueness, allowing banks to raise funding and invest even upon bad (but not very precise) news, may generally be desirable. Stringent and precise stress tests help stabilizing the banking sector only if regulatory authorities have effective means to deal with failing banks. This was the case at the time of the first stress tests in the U.S., where authorities could tap into TARP funds to recapitalize failing banks, thus allowing the implementation of tough and precise stress tests. This feature, together with Geithner's observation that investors were already assuming the worst, explain why the first U.S. stress test has widely successful. In contrast, if the authorities lack instruments to mitigate the consequences of bank failures, it may be unwise to provide precise stress tests, which may lead investors to shun banks for which the news is bad. The lack of clear fiscal authority to resolve failing banks may explain why the first stress tests of European banks were rather uninformative.

The optimal precision of stress tests also depends on whether investors observe the riskiness of banks' asset risk portfolio when providing funds to banks prior to stress tests. If banks' asset riskiness is observable to investors, precise stress tests may not be so helpful since they may substitute for market discipline. In contrast, if banks' asset riskiness is unobservable to investors, precise stress tests are effective since they enhance market discipline. In practice, riskier banks often pay more for their funding, suggesting that sophisticated investors can assess banks' asset risk levels. In the case of Silicon Valley Bank, for example, it is quite clear that its asset risk level was observable to those who wanted to look. In some cases, however, asset risk is unobservable. It is likely, for example, that very few people outside of Credit Suisse knew what had been hidden in its balance sheets and derivatives.

These observations suggest that optimal design of stress tests depends on *ex-ante* transparency regulations like those included in Pillar 3 of the Basel framework. While *ex-ante* transparency introduces market discipline, its compliance costs may dilute banks' charter value and increase their risk-taking incentives --Hyytinen and Takalo (2002). When such compliance costs are significant, high levels of *ex-ante* transparency should be avoided, and stringent stress tests may be more useful.

Finally, even when increasing bank transparency can be effectively used to rein in banks' risk taking, bank regulation should not lead to

"... the stability of the graveyard" (George Osborne, *The Financial Times*, June 15, 2012).

To foster economic growth and serve as value-creating financial intermediaries, banks need to take risk. Hence, to the extent that stress test disclosures are effective in disciplining banks, their goal should be to eliminate excessive risk-taking incentives but not to make banks excessively conservative, indeed a challenging task. ■

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About the authors

Diego Moreno is a professor of economics at the Universidad Carlos III de Madrid. His fields of research are microeconomics and game theory. Currently, he studies the role of information in competitive and strategic settings (e.g., the banking sector, markets with adverse selection, contests), and the design of regulatory policies (e.g., to promote banking stability, or to alleviate the impact of market power in market economies). He has published research articles in professional journals with the highest impact factors, including the *Journal of Economic Theory*, *Games and Economic Behavior*, *Theoretical Economics*, *Rand Journal of Economics*, *International Economic Review*, *Journal of Money, Credit and Banking*, *Economic Theory*, *Journal of Mathematical Economics*, *International Journal of Game Theory*, etc. He is an associate editor of *Games*, the *Journal of Public Economic Theory*, and the *International Game Theory Review*. He has served as Chair of the Department of Economics and Director of the Institute of Economics. See <http://www.eco.uc3m.es/~dmoreno/>.

Tuomas Takalo works as a Senior Advisor at the Monetary Policy and Research Department at the Bank of Finland. His research focuses on innovation and financial economics. Mr. Takalo received his doctorate in Economics from the University of Helsinki. He is also an Adjunct Professor ("docent") at the Aalto University, University of Jyväskylä, University of Oulu and University of Turku, and a member of the Helsinki GSE Industrial Organization Research Group and the editorial boards of the *Journal of Financial Stability* and the *Review of Business*. Previously Mr. Takalo has been Professor of Economics at the Hanken School of Economics and the Jyväskylä University School of Business and Economics, and Director of the Finnish Doctoral Program in Economics.

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SUERF Secretariat
c/o OeNB
Otto-Wagner-Platz 3
A-1090 Vienna, Austria
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