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ACADEMIA

KNOWLEDGE

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Stressed Banks and Risk-Taking Incentives

In the aftermath of the 2008 financial crisis, the US Congress approved the Dodd–Frank Wall Street Reform and Consumer Protection Act, hereafter the Act, to help design a safe and sound banking system. In the Act, two essential provisions feature more stringent regulatory capital requirements and regulatory stress tests. Interestingly, the Act induces a strict link between capital requirements and stress tests, in that banks that are subject to regulatory monitoring through stress tests face individual capital requirements whose tightness is determined on the basis of the assessed risk of their individual portfolios under a severely adverse economic scenario.

Regulatory stress tests have a contrasting effect on bank risk taking. On the one hand, the current implementation of the Act's stress tests increases banks' capital requirements. On average, banks subject to regulatory stress tests face more stringent capital requirements than other banks—namely, 6.8 percent versus 3 percent of assets. Tighter capital requirements could increase banks' cost of funding if equity is more expensive than debt. Thus, profit-maximizing banks could seek to increase the expected profitability of their portfolio, for example by investing in riskier assets. On the other hand, regulatory stress tests potentially alleviate this problem by monitoring a bank's investments and reducing its incentives to undertake risky investments. Regulatory stress tests therefore simultaneously incentivize any given bank to take more risk via an increased cost of funding channel and less risk via the regulatory monitoring channel.

SFI professors Diane Pierret and Roberto Steri examine how capital requirements determined on the basis of regulatory stress tests influence the riskiness of banks' investments. Their results show that higher capital requirements are not a substitute for monitoring, but actually need to be accompanied by additional regulatory monitoring of banks' asset risk to be fully effective.

Do banks invest in riskier assets when they are subject to stress tests?
Results reveal that after the introduction of the Act, 'stressed banks'—those that are examined yearly by the Federal Reserve—tilted their portfolios toward risky firms, risky according to their credit rating, less than 'non-stressed banks' did, after controlling for the former's more stringent capital requirements. Importantly, this effect is significant only when the level of bank-specific capital requirement is controlled for, showing that the two channels originating from stress tests—higher capital requirements triggering risky investments and the regulatory monitoring of banks' investments—are at work.

How were portfolio yields influenced by the introduction of the Act?
The portfolio yield is used as another proxy for the aggregate risk of banks' portfolio of new loans. Holding the capital requirement constant, the average yield on the portfolio of new loans increased for all banks after the Act, but by 186 to 197 bps less for stressed banks. As for the results regarding portfolio composition, this effect is significant only after controlling for the level of bank-specific capital requirements.

Does the link between capital requirements and stress tests as required by the Act influence banks' investment decisions and behavior?
After controlling for the capital requirement level, the increase in the capital requirement resulting from the stress test does not lead to increased risk taking, and even induces banks to reallocate their loan portfolio toward safe borrowers. These results suggest that capital requirements derived on the basis of the effective regulatory monitoring of banks' portfolios can significantly dampen or offset the risk-taking channel, and possibly reconcile themselves with the arguments that point to a reduction of risk-taking incentives when shareholders have a larger equity stake—"skin in the game"—in the bank.

Higher capital requirements are not a substitute for monitoring, but actually need to be accompanied by additional regulatory monitoring of banks' asset risk, in addition to capital requirements based on risk-weighted assets in the Basel agreements.

These insights draw on the academic paper by Prof. Diane Pierret and Prof. Roberto Steri.
The full academic paper can be accessed at: https://bit.ly/2xroOuY

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INDUSTRY

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The Appeal of the Dual Approach

The research by SFI professors Pierret and Steri focuses on the interplay of higher capital requirements for, and the monitoring of, investment portfolios owned by banks. Whereas the analysis in particular looks at the banking sector and the regulatory framework of the United States, it is important to highlight the global relevance of the topic and perhaps complement the analysis with a practitioner's view on the implementation of said approach.

Today, the prevailing regulatory and market view certainly share the opinion of professors Pierret and Steri in that higher capital requirements are not a substitute for monitoring, but actually need to be accompanied by additional regulatory monitoring of banks' asset risk to be fully effective.

Results from the empirical research in the study confirm that by applying the discussed dual approach, the overarching policy objective has been reached with regard to US banks subject to stress testing maintaining lower levels of risk in their portfolios compared to non-stressed banks and hence mitigating solvency risks (and in the case of the largest institutions, also systemic risks).

From a shareholder point of view, banks' response to higher capital requirements, and hence—all else being equal—higher funding costs, in seeking higher portfolio yields is sensible. This holds true as long as presumably riskier portfolios do not jeopardize the capital position of the bank. As professors Pierret and Steri point out, the introduction of the Act induced an increase in the average portfolio yield for both stressed and non-stressed banks, but the increase was up to 197 bps less for stressed banks than for non-stressed banks (controlling for bank-specific capital requirements). Such a significant difference in the increase of portfolio yields indeed suggests that management choices reflect the effect of additional monitoring.

Such additional regulatory monitoring is already in place in several jurisdictions and has seen adjustments based on the experience gathered in the past few years in the United States.

The global appeal of the dual approach is prominently showcased by the fact that the European Union has put in place a program similar to CCAR, called the Supervisory Evaluation and Review Process (SREP). Based on the sector's reduced cross-border exposures to higher yielding peripheral bonds, European stress tests also clearly contributed to on average less opportunistic and less risky investment and lending decisions after the crisis.

While the professors' findings confirm that regulatory monitoring complements higher capital requirements well, we have to make two important points with regard to the effectiveness of the dual approach laid out in the research paper.

First, in the context of higher capital requirements, the appropriate calibration of risk weights and leverage exposure measures are equally crucial in order to incentivize sound lending and investment decisions and to avoid undesired outcomes (e.g., climbing up the risk curve in order to maximize returns). Banks are managed within the regulatory "envelope" with the objective of maximizing risk-adjusted returns (unless the management board has a different mandate of course); hence, the alignment of incentives is crucial for a well-functioning banking sector.

Second, the credibility of the stress tests is of the uttermost importance. Regulatory monitoring is effective if realistic stress scenarios form the inputs and the methodology reflects reasonable assumptions around P&L, income statement, and risk management mechanisms. The thorough evaluation of results, communication, and the adequate disclosure of subsequent steps help to instill market confidence that the sector is well capitalized to withstand shocks and downturns. Put simply, stress test and transparency exercise data not only serve regulatory purposes, but disclosure helps increase market confidence in the sector, putting an additional layer of pressure on banks' management boards to make sound investment and lending decisions as well as keeping an adequate buffer above minimum capital requirements in stressed scenarios.

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