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Bank Capital Requirements Increases and Their Effects on Banks and Firms

To further strengthen financial markets after the crisis, regulators have resorted to taking measures to increase capital requirements. The Basel III agreement, due to be implemented in 2019, seeks to further increase the amount and quality of bank capital, enhance risk capture, contain leverage, improve liquidity, and limit procyclicality. With this reform, minimum capital requirements are increased by 50 percent, requiring banks to increase their risk-based capital ratios. Banks can reach this goal by increasing the amount of regulatory capital they hold or by decreasing the quantity of risk-weighted assets they finance.

SFI Professor Steven Ongena, together with fellow researchers Reint Gropp (Halle Institute for Economic Research) and Thomas C. Mosk and Carlo Wix (Goethe University Frankfurt), study the impact of the 2011 European Banking Authority (EBA) capital exercise—which unexpectedly required certain banks to increase their regulatory capital ratios—on banks' balance sheets and the real economy. Based on this exercise, the researchers forecast that the Basel III agreement may induce banks to reduce the amount of assets they finance by lowering their credit exposure to certain businesses, but that they will likely not increase their amount of regulatory capital.

What is the purpose of the risk-based capital ratio?

The goal of the risk-based capital ratio is to ensure that banks hold sufficient capital available to allow them to absorb a financial loss. The ratio is obtained by dividing the amount of regulatory capital a bank owns by the amount of risk-weighted assets that bank finances. Regulatory capital is equal to the amount of equity, retained earnings, and reserves a bank owns. Risk-weighted assets are equal to the total value of each asset financed by the bank multiplied by their respective risk weights. Riskier deals require banks to allocate more funds, making such deals less attractive.

The EBA capital exercise

Any attempt to identify the effect of regulatory changes with regard to capital requirements faces the methodological challenge of finding an external change in capital requirements. The 2011 EBA capital exercise provides a setting which allows the authors to isolate the effect of changes in capital requirements on banks' lending behavior. The exercise required a subset of European banks to hold a 9 percent capital ratio—up from 5 percent. The selection rule included banks in descending order of their market share, such that 50 percent of each country's banking sector was included in the exercise. Since banks differ in size within countries, as do banking sectors across countries, banks with significantly different balance sheets were included, or excluded, from the exercise. In their paper—*Bank Response To Higher Capital Requirements: Evidence From A Quasi-Natural Experiment*—the researchers take advantage of this selection process and observe how seemingly identical banks reacted differently depending on whether or not they were included in the exercise.

What does the EBA capital exercise teach us?

Data from nearly 200 European banks reveal that the banks included in the exercise increased their risk-based capital ratio by 2 percent more than the excluded banks. The amount of regulatory capital evolved identically for both groups of banks, whilst the included banks reduced their amount of risk-weighted assets by 16 percent compared to the excluded banks. These results provide evidence that when banks face increases in capital requirement ratios they tend to reduce their levels of risk-weighted assets instead of raising new capital.

Further analysis shows that the reduction in levels of risk-weighted assets was carried out via reductions in corporate and retail credit exposure. Firms that relied on the treated banks for funding grew less, and exhibited less investment and sales growth than those that were less reliant on such banks.

The exercise may have been a somewhat blunt instrument, as the results suggest that banks did not raise their capital ratios by increasing their levels of regulatory capital but by decreasing their exposure to corporate and retail clients. Requiring banks to increase their amount of regulatory capital, instead of their regulatory capital ratio, may be a more effective policy that would both strengthen the banking sector and avoid penalizing business activities.

These insights draw on the academic paper by Prof. Reint Gropp, Prof. Thomas C. Mosk, Prof. Steven Ongena, and Carlo Wix. The full academic paper can be accessed at: http://bit.ly/2DXhQj9

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Basel III: No Material Impact on Credit Granting Process Expected

The authors' analysis indicates that banks subject to the 2011 European Banking Authority (EBA) capital exercise, which required them to increase their capital ratios, reacted by reducing their average credit exposures (de-leveraging) rather than by increasing their level of capital. Therefore, the authors anticipate that the finalized Basel III reforms will lead banks to decrease the assets they finance as they will face higher required capital ratios.

There are several reasons why the quantitative conclusions of the research paper by SFI Professor Steven Ongena et al. are likely to be of a different magnitude following the implementation of the finalized Basel III reforms. In particular, one has to bear in mind that the 2011 EBA capital exercise was conducted in a fragile market environment dominated by the sovereign debt crisis whereas today the economic cycle is on a stronger footing, which is consistent with the positive market reactions across jurisdictions observed after the 7 December Basel Committee on Banking Supervision (BCBS) announcement of the finalization of Basel III.

First, the finalized Basel III is a comprehensive set of reforms that are not limited to capital ratios, but include liquidity and leverage ratios as well. Therefore, the implications for banks' willingness to extend credit will be a blend of the impacts of these different regulatory measures. In particular, the reforms address all types of risk that attract capital—namely, credit, market, and operational risks—and do not focus only on credit risk requirements.

Second, the stated objectives of the reforms have included reducing excessive variability in credit risk risk-weighted assets (RWA) (between internal rate based approaches and standardized ones) with the additional aim to not significantly increase overall capital requirements, as publicly stated by the Basel Committee in March 2016.

Third, the reforms have also increased the risk sensitivity of the credit risk framework, in particular for exposures under the standardized approach. As the relative price (in RWA terms) changes, capital becomes more or less expensive for a certain asset class, which incentivizes an optimal—and more risk-sensitive—reallocation of resources from more expensive to less expensive assets.

Finally, an important feature of the Basel III reforms is the timing of their implementation. While the EBA required banks to increase capital ratios within six to nine months following the exercise, the Basel III reforms are expected to be implemented by 2022, with some important elements of the framework—such as the RWA floor limiting the difference between RWAs under internal rate based and standardized approaches—to be fully binding only in 2027. This timeline allows jurisdictions to adequately implement the new framework and provides banks with the opportunity to smoothly adjust to the new requirements, avoiding potentially negative consequences for the broader economy.

In conclusion, my expectations are that the implementation of the Basel III reforms will lead to a combined set of reactions from banks and no material impact on the credit granting process. Banks that might see capital requirements increase will be incentivized to restructure or reduce certain businesses while achieving enhanced efficiency and increasing the capital base through issuance or revenue retention. Other banks will have the opportunity to expand or further optimize their balance sheets.