

## Can Countercyclical Capital Buffers Help Prevent a Financial Crisis?

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In response to the global Financial Crisis of 2007-09, national authorities from all over the world agreed on a new set of rules—collectively known as Basel III—aimed at better regulating the financial system. Many of these new regulations concerned bank capital requirements. This essay explains what bank capital is, why it is important, and how regulators seek to maintain it.

### What Are Capital Buffers?

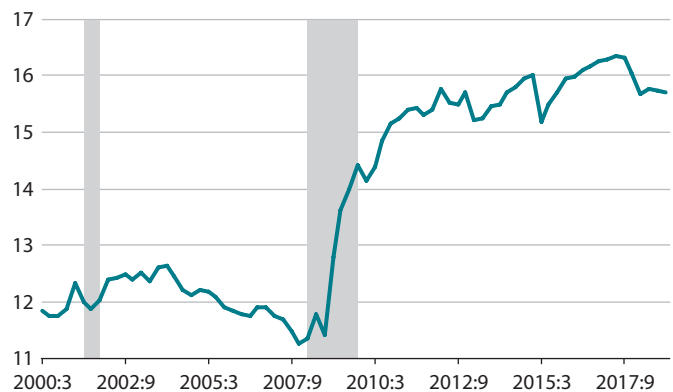
Banks make loans with a combination of funds borrowed from depositors (and bondholders) and funds owned by their own shareholders. The latter are called capital. When the value of a bank's assets—mostly loans—falls below that of its debt (deposits and bonds), the value of the bank to its owners (capital) becomes negative; the bank becomes insolvent and its depositors (or the deposit insurance agency) lose money. Since bank insolvency can spread to other financial institutions (and cause a crisis), regulators set a minimum capital requirement, which forces banks to hold more capital than shareholders might otherwise prefer. This capital serves as a buffer between the value of a bank's assets and its debt. The figure plots a measure of capital as a percentage of bank assets for the United States.

Higher bank capital requirements may buffer the effects of crises.

Besides tweaking the minimum capital requirement, Basel III also introduced new rules that mandate banks to hold extra capital when certain conditions are met. One of these new rules is the so-called countercyclical capital buffer (CCyB) that obliges banks to hold extra capital during periods of “excess aggregate credit growth.”<sup>1</sup> In the United States, the Board of Governors of the Federal Reserve System is responsible for setting the CCyB rate but has chosen not to raise it above 0 percent since the rule's implementation.

### Capital Ratio

Percentage of Risk-Weighted Assets



NOTE: The ratios use weighted averages of total capital and risk-weighted assets. Shaded areas indicate recessions as determined by the National Bureau of Economic Research. SOURCE: Consolidated Financial Statements for Bank Holding Companies, Federal Reserve Bank of Chicago.

### What Is the Point of the CCyB?

Many economists argue that the rapid growth of credit, especially in the household sector, contributed to the global Financial Crisis of 2007-09 and the subsequent Great Recession. By forcing banks to hold more capital when their assets grow rapidly (i.e., when they make a lot of loans), regulators can ensure that a larger buffer protects bank solvency should the value of those assets drop. In other words, the CCyB is designed to be activated during good times, when banks are lending a lot. During a recession, bank assets are likely to lose value; the extra capital buffer can then help ensure that banks have sufficient capital to absorb those losses.

### Measuring the Effects of the CCyB

One way to assess whether the CCyB can help prevent the next financial crisis is to look at the past and ask if the CCyB would have helped prevent or moderate the Financial Crisis of 2007-09. In a recent paper (Faria-e-Castro, 2019), I try to answer this question by combining U.S. data and a rich model of financial crises that features borrowers,

savers, and banks. I first estimate the model to replicate the behavior of the U.S. economy before, during, and after the Financial Crisis. I then use the model's structure to ask if implementing the CCyB would have helped insulate the U.S. economy from the effects of the crisis.

I find that the use of the CCyB could have helped prevent a financial crisis and a large drop in consumption around 2007 and 2008, but not the subsequent slump. In other words, this regulatory tool could have helped prevent the Financial Crisis, but not the Great Recession. Rather, the use of this tool would have allowed the U.S. economy to experience a "soft landing." Still, the model predicts that the policy would have benefited U.S. consumers substantially, increasing aggregate consumption by around \$2.5 trillion over several years.

## Conclusion

My analysis shows that the CCyB framework can prevent financial crises or at least attenuate the effects of recessions. So, why has the Board of Governors not raised the CCyB? Well, along with benefits there are costs to raising bank capital requirements. By constraining bank lending, this policy may reduce corporate investment and economic growth. Another unintended consequence is that tighter bank regulation may induce intermediation to migrate to the unregulated "shadow banking" sector. ■

## Note

<sup>1</sup> See Basel Committee on Banking Supervision (2015, p. 1).

## References

Basel Committee on Banking Supervision. "Frequently Asked Questions on the Basel III Countercyclical Capital Buffer." Bank of International Settlements, October 2015; <https://www.bis.org/bcbs/publ/d339.pdf>.

Faria-e-Castro, Miguel, 2019. "A Quantitative Analysis of Countercyclical Capital Buffers." Working Paper No. 2019-008, Federal Reserve Bank of St. Louis; <https://research.stlouisfed.org/wp/more/2019-008>.