

Manuscript ID:
IJEBAMPSR-2026-030127

Volume: 3

Issue: 1

Month: February

Year: 2026

E-ISSN: 3065-9140

Submitted: 15- Jan.-2026

Revised: 20 -Jan.-2026

Accepted: 22 - Feb.-2026

Published: 28-Feb.-2026

Address for correspondence:

Varsha Banka
(M.A. in Economics, Pursuing
M.Sc. in International Economics
Policy (Germany), ACCA
Aspirant)
Email: varshabanka123@gmail.com

DOI: [10.5281/zenodo.19218602](https://doi.org/10.5281/zenodo.19218602)

DOI Link:
<https://doi.org/10.5281/zenodo.19218602>



Creative Commons (CC BY-NC-SA 4.0):

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License, which allows others to remix, tweak, and build upon the work noncommercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Countercyclical Bank Capital Buffers and Credit Supply: A Critical Review with Implications for Viksit Bharat 2047

Varsha Banka

(M.A. in Economics, Pursuing M.Sc. in International Economics Policy (Germany), ACCA Aspirant)

Abstract

This paper presents a critical review of Jiménez et al. (2017), who combine loan-level data from the Banco de España's Credit Register with bank and firm balance-sheet information to examine Spain's dynamic provisioning regime. The study combines loan-level data from the Banco de España's Credit Register with bank and firm balance sheet information over 1999–2013 and exploits multiple regulatory "experiments" using difference-in-differences and related identification strategies. Jiménez et al. (2017) found that higher countercyclical buffers reduce credit growth in good times without harming aggregate firm outcomes, while pre-accumulated provisions support lending, employment, and firm survival during crises; by contrast, abrupt tightening in downturns amplifies credit contractions. This review evaluates the strengths and limitations of the data, empirical design, and robustness tests, and discusses internal and external validity issues for applying similar tools in other bank-based economies. The review highlights the importance of timing, buffer calibration, and supervisory coordination for sustainable financial stability and offers lessons for designing countercyclical capital frameworks relevant to emerging economies and the Viksit Bharat 2047 vision.

Keywords: countercyclical capital buffers; dynamic provisioning; macroprudential policy; credit supply; financial stability; Viksit Bharat 2047.

Introduction

Episodes of rapid credit expansion are often followed by banking crises that severely disrupt growth and employment, motivating policymakers to adopt macroprudential tools that address system-wide risks rather than individual institutions. Among these instruments, dynamic provisioning requires banks to build loss buffers in good times that can be released during downturns, aiming to moderate the credit cycle and strengthen resilience. However, empirical evidence on the real effects of time-varying macroprudential policies has historically been scarce, with much of the debate relying on theory or partial indicators. Spain's early and extensive use of dynamic provisioning provides a rare opportunity to study how such tools influence both credit supply and firm-level outcomes over a full boom–bust cycle.

Jiménez et al. (2017) exploit this setting to ask whether countercyclical bank capital buffers smooth credit supply and protect firms or instead distort lending and amplify shocks. Their results suggest that well-designed buffers can reduce procyclicality, but the timing and manner of interventions crucially shape their aggregate impact. For emerging economies such as India, which rely heavily on bank finance and seek to support long-term development under the Viksit Bharat 2047 agenda, understanding these mechanisms is highly relevant.

Data

1. Dataset and Sample:

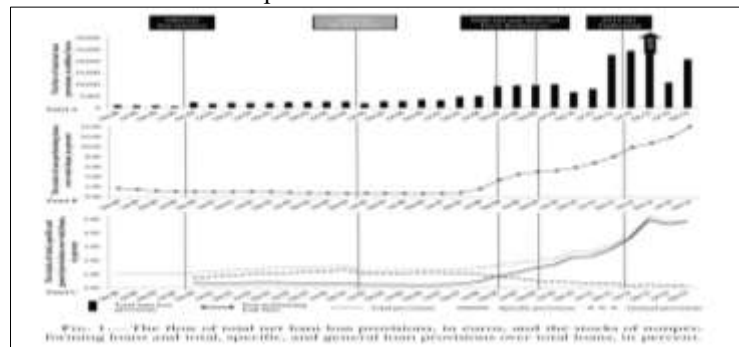
Jiménez et al. (2017) use Spain's Credit Register (CIR), combined with bank and firm financial data, to construct a large panel of lending relationships. The CIR is a confidential supervisory database covering virtually all commercial and industrial loans above a low threshold of €6,000, spanning more than 175 banks and around 100,000 firms and capturing roughly 80% of total loans.

How to Cite this Article:

Banka, V. (2026). Countercyclical Bank Capital Buffers and Credit Supply: A Critical Review with Implications for Viksit Bharat 2047. *International Journal of Economic, Business, Accounting, Agriculture and Management Towards Paradigm Shift in Research*, 3(1), 145–149. <https://doi.org/10.5281/zenodo.19218602>

allowing precise measurement of credit supply adjustments. These loans are linked to quarterly bank balance sheets (size, capital, liquidity, non-performing loans, and profitability) and to firm-level accounts from the Spanish

Mercantile Register (assets, employment, profits, age, industry, and survival status). The sample runs from 1999 Q1 to 2013 Q3, encompassing a prolonged expansion followed by a deep recession.



2. Sources, Coverage, and Suitability:

Additional information comes from loan application data, which captures firms' attempts to establish or expand banking relationships and helps identify substitution across lenders. Firm demographics, including entry and exit, are obtained from the Central Business Register (DIRCE), while coverage of financial statements reaches roughly 70% of outstanding loans, and survival data extend to late 2012. Although individual observations are confidential, the structure enables replication of the published results using aggregate or simulated measures.

The dataset is well-suited to the research question because it links bank-specific shocks from dynamic provisioning rules to firm-level credit and real outcomes over time. The quarterly frequency and alignment with policy changes support difference-in-differences and event-study designs, while variation in provisioning across banks – driven by portfolio composition and regulatory formulas – creates quasi-experimental treatment intensity. Graphical evidence on

provisions and non-performing loans over the cycle further supports the presence of sharp, plausibly exogenous shifts needed for causal identification.

Econometric Methods

1. Main Econometric Approach:

The core of the empirical strategy is a difference-in-differences (DiD) analysis that exploits the multiple policy experiments with dynamic provisioning in Spain from 2000 to 2013. The methodology leverages the fact that the dynamic provisioning formula imposed differential changes in required provisions across banks depending on the composition and risk buckets of their loan portfolio. This exogenous cross-sectional variation, coupled with the precise timing of several policy interventions (introductions, modifications, floor reductions, and tightening), enables credible identification of policy impacts on credit supply and real outcomes.

The loan-level dataset records all lending relationships between banks and firms at a quarterly frequency. The authors estimate models of the following form:

$$\Delta \log \text{Commitment}_{bf} (2000:Q1-2001:Q2)_f \\ = \delta_f + \beta \text{Dynamic Provision (for 1998:Q4)}_b + \text{controls}_{bf} + \varepsilon_{bf}$$

Where $\Delta \log (\text{Commitment}_{bf})$ is the change in the logarithm of committed credit from the bank b to firm f , α_f is the is a firm fixed effect (thus comparing the same firm's credit received from differentially treated banks before and after policy shocks), Treatment_b is the exogenous increase in provision requirement, and Controls_{bf} includes detailed bank, firm, and bank-firm relationship characteristics. Models are also estimated at the firm level, where the outcome is total credit or real outcomes (assets, employment, survival), and the treatment is a weighted measure of banks' exposure to the new requirement.

2. Identification Strategy

Identification in Jiménez et al. (2017) comes from two main sources of variation. First, time-series shifts arise from the introduction of dynamic provisioning in 2000, calibration changes in 2005, floor reductions during the 2008–2009 crisis, and the 2012 tightening targeted at real-estate exposures. Second, cross-sectional variation stems from differences in loan portfolio composition, which generate distinct changes in required provisions when the formula is altered. The models further exploit several design features: firm fixed effects to net out unobserved demand shifts; a rich set of bank-level controls to isolate regulatory effects from fundamentals; and foreign

bank branches, which were exempt from the regime, as a natural control group. Initial provisioning for the 2000 reform is calibrated based on 1998 portfolios, which helps address concerns about anticipation and endogenous adjustment.

3. Instrumental Variables and Robustness

To reduce reverse causality and measurement error, the study instruments actual bank provisions with simulated values derived from ex ante loan portfolios. Placebo tests in pre-policy periods show no differential trends in credit supply between more and less affected banks, supporting the validity of the parallel-trends assumption. Excluding very large or politically important banks, varying control sets and fixed-effect structures, and conducting subsample analyses by bank capitalization, risk, firm size, and credit history all yield broadly consistent results. These robustness exercises strengthen the interpretation that observed changes in credit and firm outcomes are driven primarily by dynamic provisioning shocks rather than coincident policies.

Results:

1. Main Findings Across Experiments

The analysis examines three key experiments: the initial introduction of dynamic provisioning in 2000 Q3, the crisis-period buffer release and floor reductions in 2008–2010, and the one-off provisioning increase for real-estate exposures in 2012.

Following the initial reform, banks facing larger increases in required provisions reduced committed credit more than less-affected banks, and cut drawn credit, shortened maturities, tightened collateral, and raised credit costs. A one-standard-deviation rise in provisions (0.10 percentage points of assets) is associated with about a 4-percentage-point decline in committed lending over 2000 Q1–2001 Q2 at the loan level. However, firms largely compensated by shifting borrowing toward less affected domestic banks and unregulated foreign branches, so aggregate firm credit, assets, employment, and survival remained essentially unchanged.

During the global financial crisis, pre-crisis buffer stocks accumulated by 2007 Q4 became available for drawdown. Banks with one percentage point higher buffers expanded committed credit by roughly 9 percentage points over 2008 Q1–2010 Q4, and those below the regulatory ceiling benefited further when provisioning floors were reduced, increasing lending by around 13 percentage points relative to banks at the ceiling. These institutions eased constraints on drawn credit and on the extensive margin of lending, although they still shortened maturities and tightened collateral to manage heightened risk.

By contrast, the 2012 real-estate-focused provisioning shock had contractionary spillovers to non-real-estate lending. Banks with greater real-estate exposure in 2011 Q4 cut non-real-estate committed credit by about 3 percentage points through 2012, with parallel declines in drawn credit, maturities, and collateral provision. Unlike the earlier reforms, these bank-level contractions translated into a 4-percentage point fall in firm-level credit and a 1 percentage point rise in firm exit rates, indicating meaningful real effects.

2. Good-Time versus Bad-Time Effects

The evidence reveals a sharp contrast between reforms undertaken in expansions and those introduced during stress. In good times, higher dynamic provisioning requirements slowed credit growth by affected banks but did not significantly harm average firm outcomes, because firms could substitute toward less constrained lenders and exploit regulatory arbitrage opportunities. In bad times, however, pre-built buffers played a stabilizing role: banks with larger stocks of provisions expanded lending, supported employment growth by roughly 6 percentage points, and modestly improved firm survival. When capital requirements were tightened during an already weak recovery in 2012, the effects were strongly contractionary and less easily offset, demonstrating that the same tool can either mitigate or amplify crises depending on timing.

3. Loan-Level and Firm-Level Channels

At the loan level, more affected banks responded to higher provisioning by restricting credit volumes, shortening maturities, and demanding more collateral, with especially pronounced reactions among smaller and weaker institutions. There is also some evidence that constrained banks rebalanced portfolios toward riskier borrowers with higher yields, consistent with risk-shifting and search-for-yield behavior under tighter capital constraints. At the firm level, the aggregate impact depends on the ability to substitute across lenders: in tranquil times, substitution largely neutralized shocks, but during the global crisis and the 2012 tightening, credit constraints became binding for many firms and led to lower investment, employment, and survival.

Critical Analysis

1. Data and Methodology

The use of Spain's CIR, combined with bank balance sheets and firm accounts, is a major strength because it captures most commercial lending and allows detailed tracking of credit and real outcomes at the relationship level. The long panel from 1999 to 2013 supports robust difference-in-differences designs, and the study exploits multiple policy shocks, reinforcing the credibility of causal claims. However, treatment intensity is partly driven by banks' pre-existing

portfolios, which may reflect endogenous risk preferences; this limits how close the setting is to a fully randomized experiment. Extensive controls mitigate omitted-variable bias but raise concerns about overfitting and multicollinearity, while simulated provisioning measures may introduce measurement error. Data coverage is high but incomplete, particularly for employment records, which may affect representativeness and external validity.

2. Internal and External Validity

Internal validity is strengthened by firm fixed effects, rich bank-level controls, placebo tests, and the use of foreign branches as a control group. Nonetheless, other crisis-era interventions—such as central bank liquidity support and fiscal measures—make it difficult to isolate the pure impact of dynamic provisioning during 2008–2010. The evidence on risk-taking is suggestive rather than definitive, as mechanisms like moral hazard and delayed loss recognition are inferred indirectly.

External validity is constrained by Spain's institutional context and by its bank-centric financial system. The findings are most applicable to economies where banks dominate corporate finance and where supervisors can implement and enforce rules like Spain's regime. Moreover, the size of Spain's buffers (around 1.2% of loans) is smaller than the countercyclical capital buffer envisaged under Basel III, so extrapolation to more ambitious frameworks should be cautious.

3. Interpretation and Remaining Issues

The study's extensive robustness checks – alternative specifications, instrumental variables, placebo periods, and heterogeneity analysis – enhance confidence in its core message that time-varying provisions can meaningfully affect credit supply and real outcomes. However, substitution of credit across banks is treated mainly as a background mechanism rather than modeled explicitly, leaving some uncertainty about the elasticity of firm demand for credit. Future work could combine structural approaches or additional instruments to separate supply- and demand-side channels more cleanly.

Conclusion and Implications for Viksit Bharat 2047:

Jiménez et al. (2017) provide the first comprehensive analysis of a time-varying macroprudential tool over a full credit cycle, showing that dynamic provisioning can reduce the procyclicality of bank lending and support real economic resilience when buffers are built in advance of downturns. In expansions, tighter provisions temper credit growth but, given ample substitutability across banks, do not substantially harm aggregate firm-level outcomes, although they may encourage risk-shifting and regulatory arbitrage by less constrained institutions. During

crises, accumulated buffers allow better-prepared banks to sustain lending, ease credit terms relative to more constrained peers, and help maintain employment and firm survival, whereas ad hoc tightening in bad times can sharply contract credit and raise exit rates.

For India and other bank-dominated economies pursuing the Viksit Bharat 2047 vision, these findings underscore three key principles. First, timing is critical: countercyclical capital buffers should be built gradually and transparently in good times rather than introduced abruptly during stress. Second, design must anticipate behavioral responses, including risk-shifting and cross-border regulatory arbitrage, which requires strong supervision and coordination across regulatory perimeters. Third, macroprudential policy should be integrated into a broader development strategy that supports productive credit, especially for SMEs, while also aligning with priorities such as green investment, inclusion, and digitalization. Spain's experience with dynamic provisioning thus offers valuable guidance for crafting evidence-based, forward-looking macroprudential frameworks that can help India achieve resilient and inclusive growth by 2047.

Acknowledgment

I would like to express my sincere gratitude to all those who supported and guided me in the completion of my study titled "Countercyclical Bank Capital Buffers and Credit Supply: A Critical Review with Implications for Viksit Bharat 2047."

I am deeply thankful to my teachers and mentors for their valuable guidance, insightful suggestions, and continuous encouragement throughout the preparation of this research. Their expertise and support greatly contributed to the successful completion of this work and helped me develop a deeper understanding of banking regulation, financial stability, and credit supply in the context of India's development goals.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

1. Admati, A. R., & Hellwig, M. F. (2013). *The Bankers' New Clothes: What's Wrong with Banking and What to Do About It*. Princeton University Press.
2. Adrian, T., & Shin, H. S. (2011). Financial Intermediaries and Monetary Economics. *Handbook of Monetary Economics*, Vol. 3A, 601–650.
3. Allen, F., & Gale, D. (2007). *Understanding Financial Crises*. Oxford University Press.

4. Bernanke, B. S. (1983). Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression. *American Economic Review*, 73(3), 257–276.
5. Berger, A. N., & Udell, G. F. (1994). Did Risk-Based Capital Allocate Bank Credit and Cause a ‘Credit Crunch’ in the United States? *Journal of Money, Credit, and Banking*, 26(3), 585–628.
6. Chodorow-Reich, G. (2014). The Employment Effects of Credit Market Disruptions: Firm-Level Evidence from the 2008–09 Financial Crisis. *Quarterly Journal of Economics*, 129(1), 1–59.
7. Dell’Ariccia, G., & Marquez, R. (2006). Lending Booms and Lending Standards. *Journal of Finance*, 61(5), 2511–2546.
8. Dewatripont, M., & Tirole, J. (2012). Macroeconomic Shocks and Banking Regulation. *Journal of Money, Credit and Banking*, 44(s2), 237–254.
9. Gourinchas, P.-O., & Obstfeld, M. (2012). Stories of the Twentieth Century for the Twenty-First. *American Economic Journal: Macroeconomics*, 4(1), 226–265.
10. Hanson, S. G., Kashyap, A. K., & Stein, J. C. (2011). A Macroprudential Approach to Financial Regulation. *Journal of Economic Perspectives*, 25(1), 3–28.
11. Jiménez, G., Ongena, S., Peydró, J.-L., & Saurina, J. (2017). Macroprudential Policy, Countercyclical Bank Capital Buffers, and Credit Supply: Evidence from the Spanish Dynamic Provisioning Experiments. *Journal of Political Economy*, 125(6), 2126–2177.
12. Kashyap, A. K., Berner, R., & Goodhart, C. (2011). The Macroprudential Toolkit. *IMF Economic Review*, 59(2), 145–161.
13. Saurina, J. (2009). Loan Loss Provisions in Spain: A Working Macroprudential Tool. *Revista de Estabilidad Financiera*.
14. Yellen, J. (2011). Pursuing Financial Stability at the Federal Reserve. Speech at the Annual International Banking Conference, Federal Reserve Bank of Chicago.