# **Response to the comments on: Regulation and bank lending in South Africa: A narrative index approach**

Below we provide our response to the valuable comments received during the review process. Specifically, we provide a response to the comments provided, as well as highlight how the comments were incorporated into our paper.

**Introduction and literature review sections**

*“the authors posit that stricter capital requirements are associated to decreases in bank lending. This is not necessarily true (ie, a healthier banking system can sustain higher lending capacity or regulatory pressure can prompt more risk taking). We have presented various arguments from the literature on banking in Merrino, Lesame, Chondrogiannis (2024).*”

Thank you for the reference. We have included it in the paper to highlight the complexities related to the impact of stricter capital requirements. Please see the updated introduction.

*“I find there is some confusion between macro and microprudential regulation: Basel 2 and 2.5 and part of Basel 3 are micropru. So, more clarity is needed when distinguishing instruments in the empirical analysis and the lit review. The authors might consider broadening their analysis to bank regulation - rather than macropru - if they intend to include minimum CARs. It would be useful to specify in Section 3.1 which instruments are included in the narrative identification (the criteria at p. 11 are broad)*.*”*

It is true that some regulatory measures introduced are microprudential measures. However, the intuition behind the categorisation of the measures as macroprudential, is that although some measures are micro, the regulation (macro and micro), is aimed at addressing the systemic risks of the entire banking system[[1]](#footnote-1). In addition, most of the regulation introduced after the Global Financial Crisis (GFC) are aimed at reducing the systematic risk in individual banks (capital requirement, liquidity requirement etc), and in turn, risk in the banking system.[[2]](#footnote-2)

Furthermore, the sample of banks used in the paper includes the big four banks, who face similar minimum prudential requirements such as capital requirements relating to Domestic Systemically Important banks (D-SIBs). A comprehensive list of measures capturing the macroprudential regulations are listed in Appendix A.6.1, page 45. In relation to existing work, Fernandez-Gallardo (2023)[[3]](#footnote-3) also use information on policy actions related to a set of macroprudential policy tools[[4]](#footnote-4), to study the relationship between macroprudential policy and the likelihood and severity of financial crises.

The list of measures used as instruments in our paper, are categorised as “Draft” and “Implementation”. The “Draft” instrument captures the announcement and drafting dates of regulation, while “Implementation” captures the implementation of the regulation. For future work, we intend on constructing a narrative series of regulation that focuses on a single policy instrument, such as capital requirements, and study their effects thereof.

The above notwithstanding, we have included an explanatory footnote (on page 2) that highlights that our references to “macroprudential” and “financial inclusion” regulation is useful for analytical purposes but that our work is primarily about bank regulation.

**In the methodology section, the authors should specify:**

*“the time period and frequency of the sample. It is said they include a covid dummy but somewhere else they say data stops at 2019. In addition, it is unclear why regulatory data stops in 2019.”*

Thank you for spotting this. References to Covid and 2019 reflect drafting around earlier analyses. We have removed those references and clarified that our analysis spans January 2009 to February 2020. Please refer to Sections 4.3.

*“Which control variables they have included and if they have accounted for unit roots as T is large while N=4.”*

This was not articulated effectively in our previous draft version. We have included a description of the control variables in Section 4.3. Regarding testing for stationarity, we have included a description of our estimation approach, also in Section 4.3. Specifically we refer to the estimation of robust standard errors, clustered at bank level, which addresses potential heteroskedasticity and serial correlation that may arise from potential non-stationariness.

*“There are no considerations on the exogeneity of the independent variable (ie dummy indicators). Also,* *a time-series plot of the dummies would be useful to observe the evolution of regulatory stringency.”*

The exogeneity of the narrative indicators is crucial. On page 26, we highlight the limits and challenging aspects related to the exogeneity of the indicators. The “Implementation” instrument in particular, might not be entirely exogenous as the implementation of regulation is anticipated. Therefore, we plan to address the issue in future work (including this paper), by disentangling and distinguishing polices with and without implementation lags. Following the work of Mertens & Ravn (2012)[[5]](#footnote-5), Fang et al. (2022)[[6]](#footnote-6), Mokas and Giuliodori (2023)[[7]](#footnote-7) and Fernández-Gallardo Romero and Lloyd (2023)[[8]](#footnote-8), policies without implementation lags are exogenous and captured by the announcement of regulation. Policies with implementation lags are those with significant delay between the announcement and enforcement or implementation date (Mertens & Ravn, 2012).

Regarding the “Draft” instrument, we have confidence in their exogeneity as Mokas and Giuliodori (2023) and Fernández-Gallardo Romero and Lloyd (2023), use announcement dates of the respective macroprudential regulations to identify policy shocks.

Government resolutions and processes historically drive the inclusion regulations. Moreover, the timing of these regulatory developments occur at irregular frequencies. We believe that the nature of such regulatory processes are likely exogenous of other factors that may affect bank lending at any given point in time.

We include time-series plots of the dummies, along with lending growth plots in Appendix A.7 and A.8, Figures A3 to A6.

**In the results/discussion section,**

*“I am unsure about the interpretation of coefficients: given the dep var is expressed in log difference (growth rate), then a coeff = 0.51 indicates that the dep variable is on average 51% higher when regulation is stricter.”*

We erred in not noting that the log differences were multiplied by 100, resulting in a value of 0.51 referring to 0.51%. We have clarified this in Section 4.3.

“*I would suggest acknowledging the data limitations. (i) Results are limited on bank lending, not total lending. Therefore, the finding that inclusion-related reforms are instead exclusionary only refers to bank lending (NBFIs have been growing in SA but they are not captured by the model). (ii) Data is limited to some type of loans and borrowers, but financial inclusion also refers to marginal borrowers, which are not captured here*.”

Agreed. It would certainly be ideal to be able to isolate marginal borrowers; however, it is likely that these borrowers are captured in the dataset albeit as part of a larger pool of borrowers. We have updated the draft to reflect the salient points relating to the limitations of our interpretation. Please refer to a footnote in the introduction.

1. See also Coman, A. and Lloyd, S.P., 2022. In the face of spillovers: Prudential policies in emerging economies. *Journal of International Money and Finance*, *122*, p.102554. [↑](#footnote-ref-1)
2. See Mirzaei, A. and Samet, A., 2022. Effectiveness of macroprudential policies: Do stringent bank regulation and supervision matter?. International Review of Economics & Finance, 80, pp.342-360. [↑](#footnote-ref-2)
3. Fernandez-Gallardo, A., 2023. Preventing financial disasters: Macroprudential policy and financial crises. *European Economic Review*, *151*, p.104350. [↑](#footnote-ref-3)
4. The set macroprudential policy tools or instruments include capital buffers, lending standards, limits on credit growth, exposure limits, liquidity rules, loan loss provisions, minimum capital requirements,

   risk weights and leverage ratio, among others. [↑](#footnote-ref-4)
5. Mertens, K. and Ravn, M.O., 2012. Empirical evidence on the aggregate effects of anticipated and unanticipated US tax policy shocks. *American Economic Journal: Economic Policy*, *4*(2), pp.145-181. [↑](#footnote-ref-5)
6. Fang, X., Jutrsa, D., Peria, S.M., Presbitero, A.F. and Ratnovski, L., 2022. Bank capital requirements and lending in emerging markets: The role of bank characteristics and economic conditions. *Journal of Banking & Finance*, *135*, p.105806. [↑](#footnote-ref-6)
7. Mokas, D. and Giuliodori, M., 2023. Effects of LTV announcements in EU economies. *Journal of International Money and Finance*, *133*, p.102838. [↑](#footnote-ref-7)
8. Fernández-Gallardo Romero, Á. and Lloyd, S., 2023. The transmission of macroprudential policy in the tails: evidence from a narrative approach. [↑](#footnote-ref-8)