The impact of Basel III implementation on bank lending in South Africa

Xolani Sibande and Alistair Milne

South African Reserve Bank and Loughborough University

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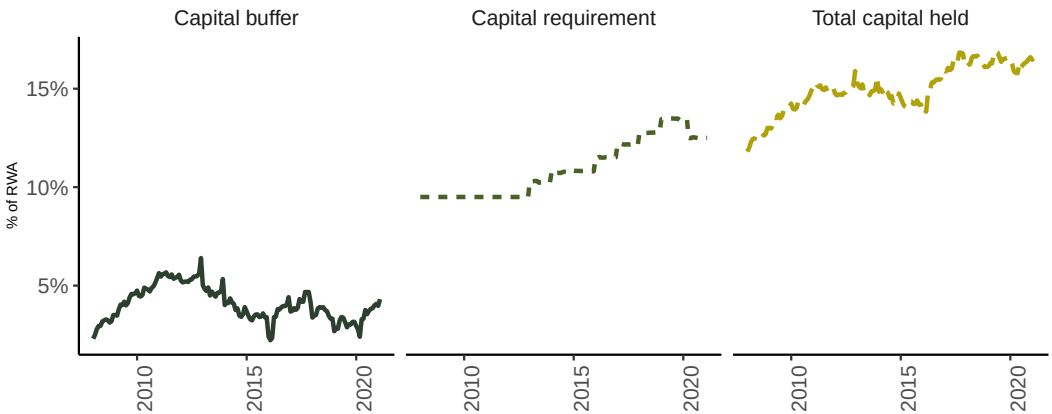
Introduction

- This paper investigates the impact of the higher regulatory capital requirements of the implementation of the Basel III in South Africa between 2013 and 2019.
- The principal data employed is monthly balance sheet data
- Focus on a small set of large banks has some advantages: business models of these banks are similar
- Our empirical specification follows previous studies of the impact of capital requirements on bank credit supply (for UK Aiyar *et al.* (2014); for Peru Fang *et al.* (2020))
- We find little evidence of the impact of Basel III on lending

Incremental implementation of capital requirments



Data

- We collected data on the four major South African banks: Absa Bank, Standard Bank, First National Bank, and Nedbank
- Mainly utilised the BA900s (bank economic returns) and the BA930s (bank product lending rates)
- The Basel III capital requirements (BA700s) data was collected from the Prudential Authority
- From the Prudential Authority, we also collected the controls data
- We focus on real economic activity lending in the BA900s is represented by lending to households and non-financial corporations.
- However, the BA900s only report granular lending categories to households and non-financial corporations. Therefore, some aggregation was necessary.
- This aggregation essentially limited our sample to the big four lenders
- Three major categories for households and non financial corporations (secured, unsecured, and mortgages)

Methodology

Building on Fang *et al.* (2020):

$$\Delta LOAN^{i}_{t,t-s} = \beta \Delta KR^{i}_{t,t-1} + \lambda \Delta KS^{i}_{t,t-1} + \alpha \Delta Demand^{i}_{t,t-1} + \gamma' \boldsymbol{X}^{i}_{t-s} + \phi^{i} + \tau_t + \varepsilon^{i}_{t}.$$

- ^{i} refers to the four banks
- $\Delta LOAN^{i}_{t,t-s}$ is the log difference of lending
- $\Delta KR^{i}_{t,t-1}$ is the change in the minimum capital requirement
- $\Delta Demand^{i}_{t,t-1}$ is the lending demand proxy represented
- $\boldsymbol{X}^{i}_{t-s}$ is a bank level controls set at month $t-s$.
- The fixed effects (ϕ^{i}) estimate other unobserved differences in bank characteristics.
- To account for other factors, such as changes in the macroeconomic environment, we employ time-fixed effects (τ_t).
- ε^{i}_{t} using bank clustered standard errors

Results Household Secured Credit (Example)

	Household secured credit				
	(1)	(2)	(3)	(4)	(5)
$\Delta KR_{t,t-1}$	-0.1185	-0.1941	-0.3583	0.3135	0.0831
	(0.1152)	(0.2621)	(0.2719)	(0.3298)	(0.3021)
$\Delta KS_{t,t-1}$		-0.0815	-0.0355	-0.0102	0.0281
		(0.1587)	(0.1773)	(0.1248)	(0.1390)
$\Delta Demand_{t,t-1}$			0.0032		0.0031
			(0.0042)		(0.0052)
ROA_{t-1}				0.2672	0.1810
				(1.3378)	(1.3242)
ROE_{t-1}				-0.0900	-0.0816
				(0.1107)	(0.1170)
$Liquidity_{t-1}$				-0.0081	-0.0076
				(0.0068)	(0.0085)
Num.Obs.	372	372	369	368	365
Test of equality (p-value)	0.35	0.65	0.18	0.11	0.95
Adj.R squared	0.28	0.28	0.28	0.31	0.31

Note:

The dependant variables in loan growth at bank level at a monthly frequency, calculated as the log difference at t and t -1.

Standard errors are clustered at a bank level.

All equations include both bank and monthly effects. A test for equality p-value of < 0.1 is significant.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$)

Conclusion

- While our set up is similar to Fang et al. (2020), we find very much weaker evidence of an impact of capital requirements on the supply of bank lending.
- We investigate the impact three categories of lending for both household and corporate borrowers.
- Only in the case of secured credit for non-financial corporations do we obtain a statistically significant and economically sensible coefficient estimates and the coefficient is relatively small.
- Exploring alternative dynamic estimation similarly yields little evidence of any.

References

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