Discussion of
"The effects of bank capital buffers on bank lending and firm activity: what can we learn from five years of stress-test results?"

By Jose M. Berrospide and Roehelle M. Edge

Mitsuru Katagiri

Bank of Japan

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Main questions in this paper

* Does the capital buffer required in Federal Reserve's CCAR affect banks' loan supply?

* If yes, does it affect non-financial firms' total debt, investment, and employment?

* Can we use the estimation result for assessing the policy effects of CCyB?

Backgrounds

* The regulatory capital reform after the GFC has (probably) contributed to enhancing resilience of banking sector…

* …but, the adverse effects of the reform on loans supply and economic activity is still an open question.

* The CCAR capital buffer is the most binding capital standard for large US banks from 2012 to 2016.

  – The paper focuses on the periods until 2016 to avoid the effects of Basel III capital buffers

Identification issue

* An analysis on the relationship between bank capital and loan supply always faces an <u>identification issue</u>.

* Imagine that we estimate β by bank-level data:

$$\textit{Loan growth} = \boldsymbol{\alpha} + \boldsymbol{\beta} \textit{ ST Capital buffer} + \varepsilon$$

* Does statistically significant β<0 implies that higher ST capital buffer constrains loan supply? **"No."**

* Another interpretation: *"Banks which need to have more capital buffers have borrowers whose loan demand is low."*

Empirical Approach (1)

* The paper uses **bank-firm level data** for C&I loan volume in the quarterly regulatory report (FR Y-14)

* The bank-firm matched data between a specific bank and a specific firm can overcome the identification issue.

  Loan growth (bank X to firm A) = α_A + β *ST Capital buffer$_X$* + ε

  Loan growth (bank Y to firm A) = α_A + β *ST Capital buffer$_Y$* + ε

* Since the fixed effect α_A absorbs the loan demand effects, β is the effects of the ST capital buffer on loan supply.

Empirical Approach (2)

* The impact of capital buffers on firm outcome:

    Firm outcome = α *+* β *Firm ST buffer exposure +* ε

* "Firm ST buffer exposure" is the average ST capital buffers weighted by loan volume from each bank.

* "Firm outcome" includes total debt, investment spending, and employment

    − The effects on employment is assessed by county level data due to the data limitation.

Main results

* Larger ST buffers reduce bank C&I lending…
  – 1%pt increase in ST buffers decreases the growth rate of utilized loans by 2%pt and committed loans by 1.5 %pt

* …but, they have **no** adverse effects on firms' total debt growth, investment spending and employment.

* The tighter capital requirement does not negatively affect real economy thanks to substitution of funding sources.

Comment 1: Do the firm–level results depend on firm characteristics?

* The paper examine only the difference between private and public firms…

* …but, the results may depend on other firm characteristics such as size, leverage ratios, profitability, etc.

* How about splitting the sample (e.g., small firms vs. large firms) to examine the difference in firm characteristics?

* E.g., Small firms may be more difficult to find another funding sources due to the limited access to capital markets

Comment 2: Is there non-linearity in the effects of ST buffers?

* The paper assumes the effects of ST buffers are linear and independent of capita ratios

* But, banks with lower capita ratios are probably more concerned about ST buffers

* If we ignore such possibility of non-linearity, we may have imprecise policy implications

Comment 2: Is there non-linearity in the effects of ST buffers?

* To capture the non-linearity, <u>how about incorporating the interaction term with capita ratios?</u> That is,

  Loan growth = **α** + **β** *ST Capital buffer*

  $\quad\quad\quad\quad\quad$ + **γ** Capital ratios · *ST Capital buffer* + **ε**

* Now, the marginal effect of ST capital buffers on loan growth is "**β** + **γ** Capital ratios"

* It is expected to have **γ <0**

Comment 3: Why does the firm-level analysis focus on multibank firms?

* On Page 11, "*We look only at multibank firms; that is, firms that borrow from at least 2 banks, with at least one bank in the low-capital decline group and the other on in the high-capital decline group.*"

* Why is it necessary to look only at multibank firms in the firm-level analysis? Any identification issues here?

Concluding remarks

* This is a great empirical paper on the cost of regulatory reforms in the US:

  – Clear empirical strategy to overcome the identification issue

  – Interesting policy implications

* Maybe, the authors can do more analyses to deepen our understandings about the effects of ST capital buffers by firm characteristics and the non-linearity.