*Discussion of*

# The state-dependent impact of changes in bank capital requirements

J.H.Lang and D. Menno

Mauricio Calani
Banco Central de Chile

Banking and Financial Stability Workshop – Central Bank of Chile
September 11, 2024

# Paper in a nutshell

- **Motivation**: Empirical evidence points out to moderate effects on credit of raising CCyB and considerable effects during release
- **Research question**: How can we rationalize this conflicting evidence?
- **Model**: Partial equilibrium model of bank credit supply with two OBC
- **Findings**: Can succesfully generate state-dependent effects

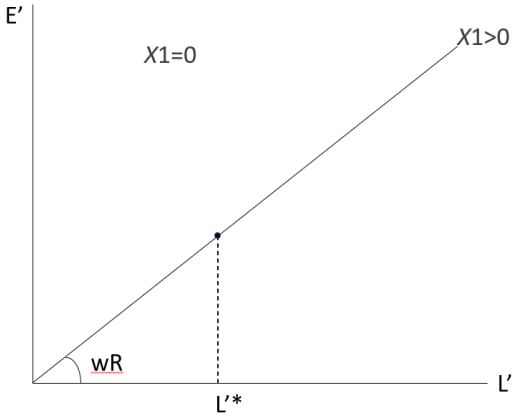
# Quick overview

- Given a loan demand schedule, problem of the bank

$$
\begin{aligned}
V(\theta, L, E, L^A) = \max_{L', E'} \quad & d + \beta \mathbb{E}[V(\theta', L', E', L^{A'})] \\
s.t. \quad & E' = E + \pi(\theta, L, E, L^A) - d \\
& E' \geq R' \omega L' \qquad (\chi^1) \\
& d \geq 0 \qquad (\chi^2)
\end{aligned}
$$

# Quick overview

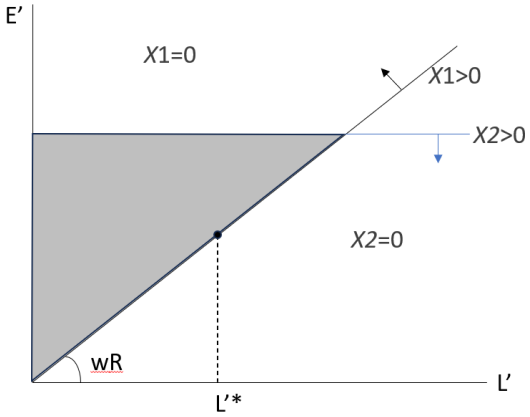
- Oversimplification of the model (in particular solution for $L'$)
- If only capital requirement constraint $\rightarrow$ optimal to minimize equity funding



# Quick overview

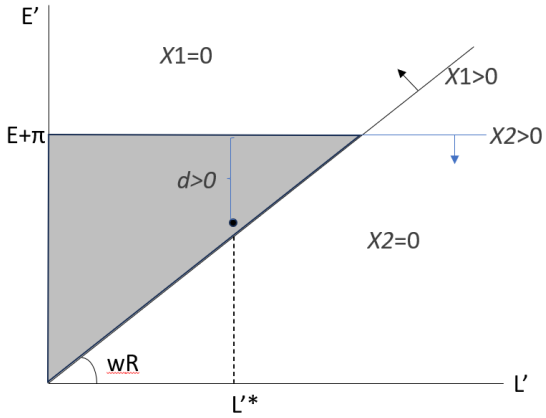
- Consider constraint $d \geq 0$ which implies

$$E' \leq E + \pi$$



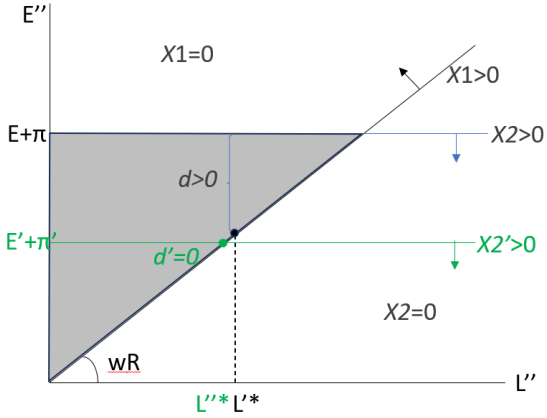
# Quick overview

- Large positive dividends **today**
- Positive but small capital headroom



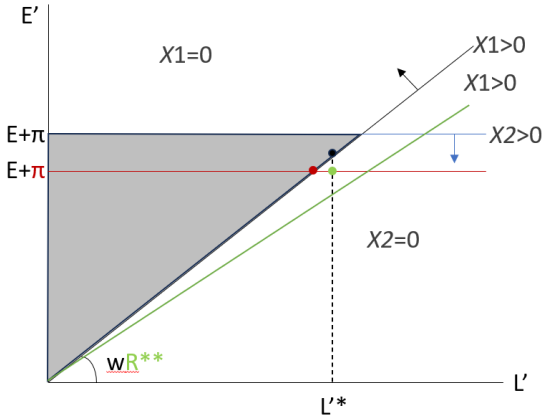
# Quick overview

- Large positive dividends **today**
- Profits tomorrow may reduce capital available. If no issuance, need to deleverage
- Loan decline is actually large
- Better not to give such large dividend ⇒ more voluntary capital!



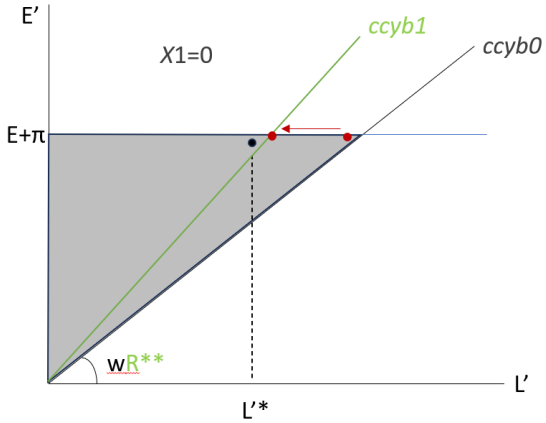
# Quick overview

- A releasable capital buffer can avoid deleverage
- If no bad shock ●
- Profit realization is low ⇒ ●
- Release of *R* to accommodate ⇒ ●



# Quick overview

- If initial condition in ● with ample voluntary capital, increasing CCyB has moderate effect in credit (pricing channel)
- If initial condition in ● then increase of CCyB has strong effect in lending
- (AGAIN: lending is endogenous in model))



# General comments

The paper is really nice

1. Simple model but it can speak to several empirical evidence papers. Exploit that
2. Is there another way to generate state-dependence? How can we choose?
3. Minor questions on performance of the model

# 1. Beef up empirical results section

- Main contribution is theory, but starts from empirical observation.
- Main reference to Jimenez et al. (2017): Increasing capital in good times has (much) lower effects than releasing in bad times
- Empirical evidence has more to say
  - When capital requirements are raised, banks with smaller capital headroom contract credit more (Gropp et all 2019; Berrospide and Edge 2019; Juelsrud and Wold 2020; Fang et all. 2022; Behn et al. 2024; Bedayo and Galan 2024)

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... and not inconsistent with predictions of this model

# 2. Modeling state-dependence

- This model uses two OBC

$$E' \geq \omega R L' \qquad \checkmark \qquad (1)$$

$$E' \leq E + \pi \qquad (d \geq 0) \qquad (2)$$

- OCB (2) : Elaborate on how this model compare to other modeling choices that generate state-dependence?

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- These models can generate voluntary capital and large crisis with standard shocks, can they generate asymmetric effects of CCyB?

# 3. Minor issues

- Proposition 2: *in the absence of an equity issuance constraint, equilibrium loans respond to changes in bank capital requirement through a pricing channel*
  - If $d$ unconstrained, banks can always go to the market to raise new equity. Because both $E'$ and $L'$ are choice variables

$$E' \geq \omega R L'$$

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- Quantitative predictions
  - Benchmark model: 0.5% RWA voluntary capital, "q-event" every 12.5 years and $Pr(d = 0) = 0.3$.
  - Voluntary capital can be **a lot higher** $\longrightarrow$ Can the model accommodate frequency of q-events and empirical frequency of zero dividends?

# Final comments

- Useful and timely paper. Enjoyed it very much.
- This paper convinces me that our models for capital requirements need to consider dividend-policy and constraints
- This paper provides a tractable and intuitive framework to motivate key implementation ideas: graduality, size of increases, timing of increase/release.
- I hope I helped polish the distinguishing aspects for publication.
- Good luck in publication :)

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