Comments by Rafael Repullo on

Weighted Noise:

Discretion in Regulation

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Introduction

- Banking supervision combines hard with soft information

  → Hard coming from (objective) accounting statements

  → Soft coming from (subjective) supervisory assessments

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- Outcome is summarized in a "rating" of the bank

  → In US CAMELS' a number between 1 (best) and 5 (worst)

- Characteristics of bank supervisors (examiners) in US

  → Are rotated periodically among banks

  → Exercise wide discretion

Research questions

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- Does examiner discretion matter for bank behavior?
  - → Ex-post: in subsequent decisions on capital and lending
  - → Ex-ante: in prior decisions on capital and lending
- Does examiner discretion predict deterioration of performance?
  - → In terms of non-performing or delinquency ratios

Institutional setting (i)

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  → Disagreement across agencies can then be observed

Institutional setting (ii)

- Outcome of examinations is a CAMELS rating from 1 to 5
  - → **C**apital adequacy
  - → **A**sset quality
  - → **M**anagement
  - → **E**arnings
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- Ratings for each of the six components and the composite rating

Data (i)

- National Information Center of the Federal Reserve
  - → Sample period: 1998-2020
  - → Bank identity, lead examiner identity, exam date
  - → CAMELS rating (together with its components)

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- Reports on Condition and Income: Call Reports
  - → Capital and leverage ratios
  - → Return on assets
  - → Non-performing and delinquency ratios

Data (ii)

- Final (cleaned) sample contains
  - → 2,407 lead examiners and 14,679 examinations
  - → Average of six exams per lead examiner

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- Distribution of ratings
  - → Rating 1: 27%
  - → Rating 2: 60%
  - → Rating 3: 10%
  - → Ratings 4 and 5: 3%

Main results (i)

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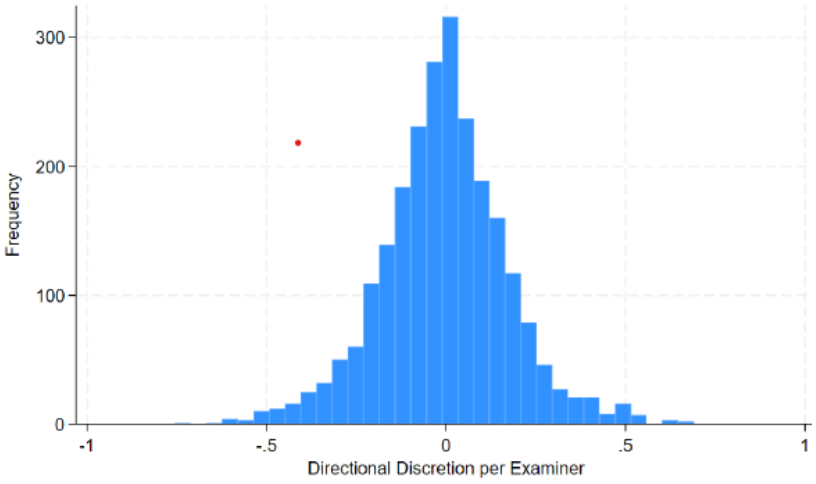
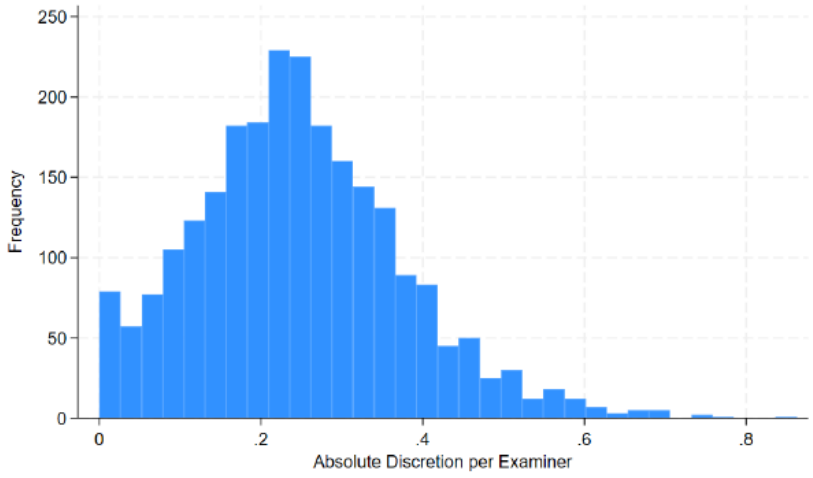
- These measures can be aggregated at examiner level

Main results (ii)

- Distribution of examiner discretion



DD_i



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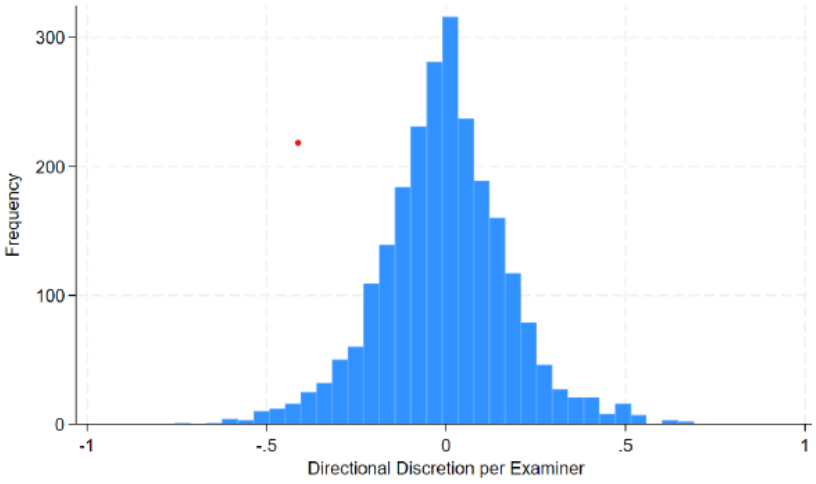

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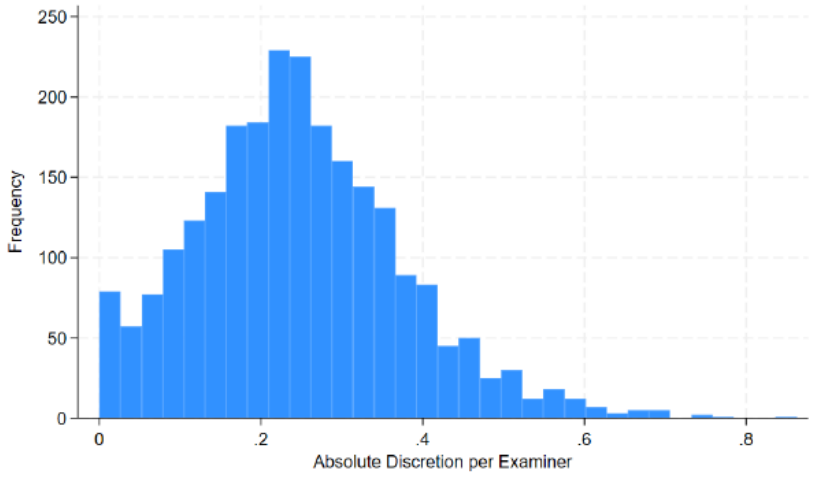

AD_i

→ Examiner discretion has large variance

Main results (iii)

Does examiner discretion matter for ex-post bank behavior?

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- Examiner directional discretion leads (after 4 quarters) to

  → Higher Tier 1 capital ratio

  → Lower loan growth

Main results (iv)

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- Need a proxy of examiner uncertainty (at the state level)

  → Average of absolute discretion over last 5 years

  → SD of directional discretion over last 5 years

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- Both proxies lead to

  → Higher Tier 1 capital ratio

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Main results (v)

Does examiner discretion predict future performance?

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- Exam directional discretion leads to

  → Higher ratings (bad)

  → Higher non-performing loan ratios

  → Higher delinquency ratios

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  → The most subjective component

Other results (ii)

- For smaller sample of concurrent (state and federal) ratings

  → Disagreement is common (28% of cases)

  → Especially in the Management rating (31%)

Structure of paper

- Introduction
- Institutional background
- Conceptual framework
- Results
- Conclusion

This discussion

- Two parts
  - → Review of conceptual framework
  - → Comments on the empirical results

Part 1

Conceptual framework

Comments on conceptual framework (i)

- Goal: “Distinguish between informative variation arising from soft information and unproductive variation arising from noise”

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- Claim: This is not possible, since soft information is noisy signal of safety and soundness

Comments on conceptual framework (ii)

- Reference to an “unobserved optimal rating decision”

  → What do you mean by optimal?

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- Reference to an “unobserved optimal rating decision”

  → What do you mean by optimal?

- Examiner rating as a random deviation from this decision

  → How is soft information incorporated into this framework?

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An alternative framework (i)

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  Z = Underlying state of the bank (a latent variable)

  X = Hard information on the state of the bank

  S = Soft information on the state of the bank

- Let us assume (after suitable normalization)

$$\begin{bmatrix} Z \\ X \\ S \end{bmatrix} \sim N\left(\begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 1 & \rho_{ZX} & \rho_{ZS} \\ \rho_{ZX} & 1 & \rho_{XS} \\ \rho_{ZS} & \rho_{XS} & 1 \end{bmatrix} \right)$$

An alternative framework (ii)

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  → Bank rating

$$R = E[Z \mid X, S]$$

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→ As shown in previous figure

An alternative framework (iv)

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  → where $B \in \{B_L, B_H\}$ is the examiner's bias (with $B_L < B_H$)

- If $\rho_{XB} = 0$, then one can show that

$$E[DD_L] < E[DD_H]$$

Summing up

- Alternative setup provides a simpler (and better) framework for understanding the empirical results in the paper

Part 2

Comments on empirical results

Comment 1

- CAMELS ratings are discrete (1−5)

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  → Determinants of 1 → 2 different from those of 2 → 3

  → Determinants of 2 → 3 different from those of 3 → 2

  → Better use discrete choice models

Comment 2

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  → Correlation with observables (beyond State vs Federal)

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  - → Correlation with observables (beyond State vs Federal)
  - → Federal Reserve, FDIC, OCC
  - → Date and state dummies
  - → Macroeconomic variables

Comment 3

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- Also note that noise encourages prudent bank behavior

  → Higher capital and lower loan growth

  → See Repullo (2025) for a theoretical model

Concluding remarks

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- Paper addresses novel issue with an amazing database

  → Many interesting results

  → More work can be done along these lines

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- Final goal for policy

  → Conduct welfare analysis of bank supervision

Concluding remarks (ii)

- Minor suggestion for the title of the paper

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  → Start exploiting SSM data on bank supervision

  → Effect of the composition of the Joint Supervisory Teams