

Discussion of  
***Bailouts, Bail-Ins, and Banking Industry Dynamics***  
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# Outline

Recap

Comments

# Overview: 2 types of resolution for failed banks

1. **bailouts:** government equity injections
2. **bail-ins:** conversion of uninsured debt into new equity

**Question:** how does each of these affect efficiency, financial stability?

**Approach:** quantitative model with bank heterogeneity w.r.t. size and risk. Keys:

- uninsured debt prices respond to bank risk  $\implies$  too big to fail (TBTF) subsidy
- banks internalize size-dependence of resolution relief  $\implies$  eqm shifts given policy

**Punchline:** replacing bailouts with bail-ins leads to less concentrated, safer, more efficiently allocated banking sector with only modest contraction in lending.

# Context: Too Big To Fail policies in quantitative macro-banking

**Too Big**  $\implies$  need well-defined size distribution, dynamic problem for growth

**To Fail**  $\implies$  need endogenous failure, resolution margin upon failure

**Policies**  $\implies$  need response to state-dependent policies along the equilibrium path

**A lot of (quantitatively demanding) moving parts!** Different approaches in the literature:

- Corbae-D'Erasmus (21): non-atomistic “lead” bank  $\implies$  idiosyncratic = aggregate
  - *benefits*: spillovers, market power, aggregate dynamics
  - *costs*: tractability, scope to consider thresholds
- **this paper**: atomistic banks responding to idiosyncratic-state-dependent policies
  - *benefits*: tractability (steady state analysis), intensive margin adjustment w.r.t. “big”
  - *costs*: systemic importance, correlated / aggregate shocks (*possible!*)

# Model highlights

**Bank state:** net worth (endogenous), insured deposits and loan risk (exogenous)

- persistent, uninsurable, exogenous shocks  $\implies$  “incomplete markets” structure

**Bank choices:** risky loans, securities, **uninsured deposits**, divs / equity issue, and **exit**

- free entry clears loan market, deep pocket lenders price uninsured debt; partial eqm besides

**Key frictions:** liquidation costs, limited liability, equity issuance costs, corporate tax, capital requirements, **moral hazard associated with gov't subsidies in resolution**

**Baseline (1992-2006):** big banks **bailed out** with probability  $\bar{\rho} = 0.9$  if assets  $\geq$  \$100B

**Counterfactual (2008-present):** big banks **bailed in** at same likelihood, threshold

# Main results

## Relative to bailouts, bail-ins:

- contract total lending by 3.3%
- cut average bank asset size by 23.9%
- shift banks below \$100B asset threshold
- nearly halve bank failures
- virtually eliminate big bank failures
- slash resolution costs

**How?** Cut TBTF subsidy 85%! (2.5 pp → 0.4 pp)

- induces reduction in uninsured debt

	Bailout	Bail-in
<b>A. Capital structure</b>		
total lending (\$T)	4.61	4.46
total bank assets (\$B)	34.3	26.1
share of big banks (%)	17.6	10.2
bank asset Gini	0.43	0.46
uninsured leverage	0.45	0.36
<b>B. Distress</b>		
failure rate (%)	0.82	0.45
big bank failure rate (%)	0.41	0.03
bailout / bail-in rate (%)	2.88	1.00
resolution costs (\$B)	44.8	8.3

# Mechanism: debt prices and resolution of big banks

Taking liberties with notation, **discount price of uninsured deposits** responds to **policy**:

$$q(b'; x) = \frac{1}{1+r} \mathbb{E} \left[ \underbrace{1 - d(b', x')}_{\text{repayment}} + \underbrace{d(b', x') \left( \overbrace{(1 - \rho(x')) R_L(b', x')}^{\text{liquidation}} + \overbrace{\rho(x') R_B(b', x')}^{\text{bailout or bail-in}} \right)}_{\text{resolution}} \right]$$

**Bailouts:** equity injection repays deposits, original shareholders wiped out:  $\bar{R}_B = 100\%$

**Bail-ins:** uninsured debt  $\rightarrow$  equity, repays insured depts, original shareholders junior:  $\bar{R}_B = 55.8\%$

3 substantive benefits to this setup:

1. **realism:** banks (particularly biggest) mix debt financing  $\rightarrow$  key for bank growth
2. **measurement:** TBTF subsidy computed via counterfactual price schedule with  $\rho = 0$
3. **decomposition:** hold prices fixed across resolution schemes to disentangle forces

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# Overview of comments and critiques

## Positives / areas to emphasize

1. extremely thorough discussion and implementation of resolution schemes → learned a lot!
2. exposition of main mechanism: particularly like “decomposition” showing debt primacy
3. smooth integration of key elements from across the literature

## Negatives / areas to address

1. empirical discipline on the main results / validation of mechanism
2. focus policy analysis (*is this one paper?*)
3. clarify implications for welfare

# Comment 1: provide more empirical validation

In terms of ingredients, this paper builds a better mouse trap.

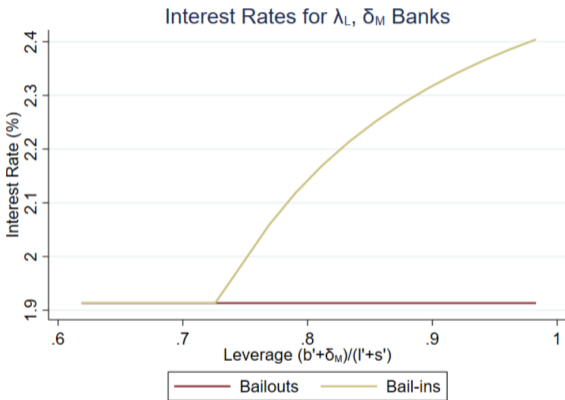
But, uptake depends on how well it describes the world.

**My suggestion:** let us know!

2 key questions to defend, in my view:

1. Is change in TBTF subsidy plausible?
2. Do size patterns w.r.t. uninsured deposits match the data?

**I suspect:** (1) – no, (2) – yes. How to address any gaps? Others (e.g. big failure rate, equity values)?



## Comment 2: focus policy analysis

This paper addresses 2 related but distinct questions:

1. What are the aggregate and industry-level effects of bailouts vs. bail-ins?
2. How to implement bail-ins? How do *ex ante* policies compare?
  - non-targeted (i.e. size-independent) bail-ins
  - comparison to basic or size-dependent capital requirements
  - resilience to aggregate shock
  - extensive discussion of frictionless Hopenhayn (1992) benchmark

**My suggestion:** focus this paper entirely on (1).

- plenty to internalize and examine more deeply, e.g. implications for equity valuations
- better to work to empirically defend the core predictions of the model, hence...

## Comment 3: what about welfare?

I know, I know...

Positive analysis and allocative efficiency results in this paper are useful, but

- how to weight each attribute which changes? (e.g. loan volume, risk, sectoral concentration)
- problem compounds when each assumption must be tweaked a little

Moreover, seems fairly simple to go normative in this environment

- e.g. rep HH, financing of resolution policies with taxation

**My suggestion:** do it! Will help unify lots of disparate threads in the paper and provide robustness to alternative experiments / sets of assumptions