

Financial Innovation for Rent Extraction

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Motivation

Observation 1:

Financial losses during crises magnified by financial innovation:

- Numerous “innovations” to leverage bailouts from deposit insurance:
 - ▶ rise of repos
 - ▶ effective seniority through short-term liabilities
 - ▶ ...
- “Innovations” to circumvent capital adequacy requirements
- “Innovative” types of mortgages
- Role of CDSs in the demise of AIG
- ...

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Observation 2:

Unprecedented losses have led to unprecedented bailouts

Key Message of the Paper: this is not by coincidence, but by design

- Financial innovation massively increases the scope for rent extraction from government guarantees

→ understanding this mechanism allows us to better counteract it

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Key Considerations

- Study an economy with two agents:
 - ▶ bankers (risk-takers)
 - ▶ households (enablers)
- Analyze two mechanisms to transfer resources between the two:
 - ▶ market [created by financial innovation]
 - ▶ bailouts

Key Results

- 1 insurance markets and bailouts are close substitutes:
 - ▶ both can allocate resources to agents who really need them
 - *bailouts reduce incentive for beneficial innovation*
- 2 if both are present, however, arbitrage opportunities arise
 - *bailouts induce financial innovation for rent extraction*
- 3 aggregate implications:
 - ▶ large bank profits in good times, large losses in bad times
 - ▶ redistribution from households to bankers
 - ▶ higher output volatility and negative NPV investments
 - ▶ increased consumption volatility
 - ▶ increased risk premia
- 4 delineate policy lessons

Benchmark Model

Benchmark model:

- two types of agents: households (enablers) and bankers (risk-takers)
- two states of nature $s \in \{L, H\}$
- three dates:
 - ▶ date 0: collect endowments
 - ▶ date 1: payouts from insurance market and/or bailouts
→ determine net worth that is carried into next period
 - ▶ date 2: production and consumption
→ sufficient banker net worth is *essential* for economic activity
- observe: if banker net worth is low, workers benefit (ex-post) from providing bailouts to support economic activity and wages
→ endogenous model of bailouts

Walrasian Market Vs Transfer Allocation

1) Consider Walrasian market to trade states L and H in period 0:

- agents equate their MRS to the ratio of market prices
- gains from trade

2) Consider transfer to bankers when period 1 net worth low:

- similar effect: bankers receive resources when social marginal value of their net worth is high
- gains from “bailout” transfers

→ illustrates that insurance markets and bailouts are close cousins
→ market-provided vs. government-provided insurance

Combining Walrasian Market and Transfers

Assume a Walrasian market *followed by* a transfer rule
(with lack of commitment by households)

Bankers can follow two strategies:

- 1 **Insurance regime:** trade in the market to optimally insure
- 2 **Rent extraction regime:** trade to maximize transfers

→ choose strategy that maximizes utility

→ rent extraction more likely:

- ▶ the lower banker wealth
- ▶ the lower the probability of low state
- ▶ the higher the endowment e of households

→ rent extraction increases output volatility and risk premia

Market Structure and Financial Innovation

Assume bankers can create market between $s = L, H$ at a fixed cost f (see e.g. Allen and Gale, 1988, 1991)

Proposition (Financial Innovation for Rent Extraction)

Bankers are willing to pay a higher fixed cost f to create a market if they do so for rent extraction than if they do so for insurance.

Note: financial innovation directed at creating an arbitrage opportunity

- bailout \approx Arrow-Debreu security at zero (underpriced) cost
- traded securities sell at a positive price

→ modern financial markets extremely efficient at arbitrage

Market Structure and Financial Innovation

Proposition (Reduced Incentives for Beneficial Innovation)

If bailouts are available, bankers are willing to pay a lower fixed cost f to create a market for insurance.

Intuition:

- bailouts are substitutes for markets
- less incentive to create a market if substitute already exists

→ bailouts increase incentives for “bad” innovation

→ reduce incentives for “good” innovation

Production Economy

Production in an economy with rent extraction:

- bankers only care about payoffs in high state
- fund projects with highly pro-cyclical profits even if negative NPV (e.g. housing bubble)
- aggregate wealth is reduced

Policy Measures against Rent Extraction

Taxonomy:

- 1 Financial market interventions (ex-ante):
 - ▶ Taxes/quantity limits on state-contingent trades:
 - ★ Low state: limit short positions (risk-taking)
 - ★ High state: limit long positions (growth)
 - ▶ Limits on financial innovation
- 2 Limiting the bounty at stake (ex-post, but ex-ante implications):
 - ▶ Low state: limits on bailouts:
 - ★ maximize losses on bankers/risk-takers (“skin-in-the-game”):
→ ensures owners do not receive rents in state L
 - ★ limited liability: maximize losses on claim holders (“enablers”):
→ ensures owners cannot shift rents into state H
(but this, of course, conflicts with goal of forestalling runs)
 - ▶ High state: progressive taxation lowers bounty obtained

→ difficult to implement so we want a combination of all of these

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Policy Measures against Rent Extraction

Focus: Price-based instruments on risk-taking (e.g. deposit insurance premia):

On the face of it, they seem like an effective measure

BUT: two significant caveats:

- small mis-pricing of premium allows for large rent extraction: bankers are very efficient at arbitrage
 - arbitrage between underpriced bailout “security” and market
- market price of low state in rent extraction regime differs from market price in insurance regime
 - purely price-based instruments cannot solve the problem!
 - need discrete jump once a certain level of risk is surpassed

Cat-and-Mouse Game of Bankers and Regulators

With multiple states of nature: Ranking of states by scope for rent extraction

- 1 bankers focus innovation on highest-bounty state to extract rents
- 2 regulators [should] limit risk-taking in that state
- 3 if successful, bankers focus on next-highest bounty state
- 4 regulators [should] limit risk-taking there too
- 5 etc.
- 6 ...

Conclusions

- 1 Bailouts play a dual role:
substituting for missing markets versus rent extraction
- 2 Financial innovation:
 - ▶ shifts the balance of the two
 - ▶ is most profitable if directed at rent extraction
- 3 Rent extraction equilibria:
 - ▶ redistribute surplus to bankers *in good states*
 - ▶ increase volatility and reduce efficiency
 - ▶ may lead to negative NPV investments
- 4 Cat-and-mouse game