

FDIC/JFSR Conference

Discussion of:

“Bailouts, contagion, and Bank risk-taking”
by Dell ‘Ariccia and Ratnovski

“Regulatory capture and banking supervision reform”
by Boyer & Ponce

“Capital Regulation and tail risk”
by Perotti, Ratnovski and Vlahu

By:

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Overview

- These are three papers that have the following common question uniting them:
 - What forms of microprudential and macroprudential regulation (including regulatory structure) are most effective in controlling bank risk taking?

Perotti-
Ratnovski-
Vlahu
(PRV)



Microprudential
regulation in the
form of capital
requirements.

Dell 'Ariccia-
Ratnovski
(DR)



Macroprudential
regulation in the
form of bailouts.

Boyer-Ponce
(BP)



Organization of
regulatory agencies.

- What is also common to all three papers is that each seeks to overturn conventional wisdom:
 - PRV: higher capital requirements may induce banks to take *more* risk.
 - DR: bailouts may induce banks to take *less* risk.
 - BP: having multiple regulators may lead to *better* regulation and *less* risk.

Capital Regulation and Tail Risk

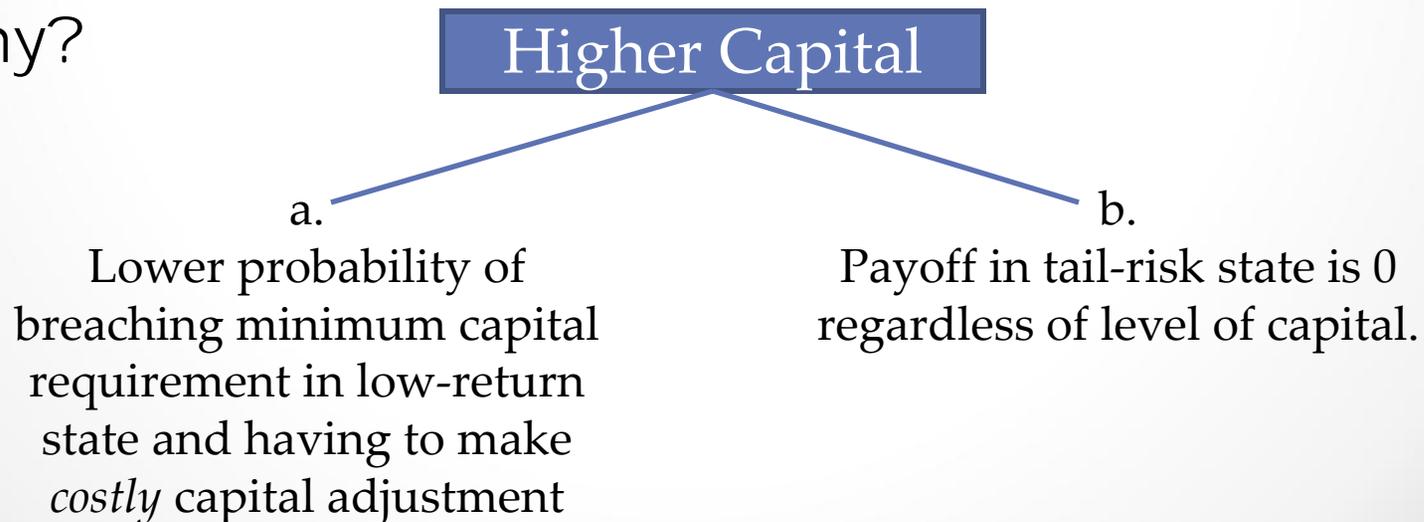
by: Perotti, Ratnovski, and Vlahu

Question: Does higher capital always lead to lower risk taking by the bank?

- Conventional wisdom says “yes”. The insight that higher capital induces banks to take lower risk goes back at least to Merton’s 1977 *JBF* paper: isomorphic correspondence between common stock put options and deposit insurance.
 - Banks can increase the value of the deposit insurance put by increasing risk and leverage.
 - To counter these incentives and rein in the risk-taking propensity of banks, we need regulatory capital requirements.

- This paper argues, however, that when banks can invest in “tail risk” projects (where a sufficiently adverse realization can wipe out *all* of the bank’s equity capital, regardless of the level of capital), then a bank with higher capital may take *more* risk.

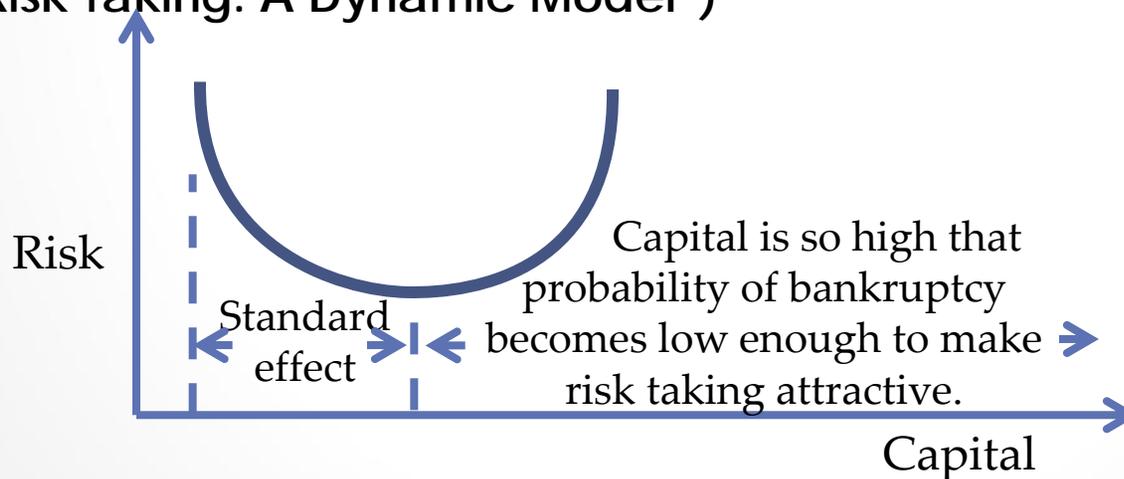
- Why?



- A bank – which is averse to state a – can “afford” to take greater risk with more capital since higher capital means lower probability of reaching state a, whereas capital does not affect state b.
- Paper argues that this is what happened in the recent crisis – banks with more capital took more tail risks.
- *Two key assumptions:*
 - i. Payoff to bank shareholders when tail risk event is realized is independent of capital level.
 - ii. Raising capital in low-return state in which minimum capital requirement is breached is costly for the bank because “...equity issues are viewed by new investors as negative signals”.
- Based on this, the paper prescribes that regulation should focus on monitoring tail risk in addition to capital regulation.

Comments:

- Interesting paper: Analysis is plausible. Paper is careful *not* to over-reach in regulatory prescriptions (e.g. does not prescribe upper bound for capital requirements).
- But, numerous issues to deal with:
 1. Paper should explain differences between its analysis and **Calem and Robb's *JFI* paper ("Impact of Capital-Based Regulation on Bank Risk Taking: A Dynamic Model")**



Main idea here seems quite similar!

2. The claim that there is anecdotal evidence that banks with higher capital took more risks prior to the crisis seems to be questionable. In fact, even though banks did have high capital in the early 2000s, many spent hundreds of millions of dollars in repurchasing stock to *reduce* capital...Prior to the crisis, capital ratios in investment banks were declining.

(Remember Bear-Stearns had the lowest capital ratio among the major investment banks.)

- There is also evidence that banks with higher capital actually did better in terms of surviving the crisis and also in gaining market share and financial performance (see **Berger and Bouwman, "How Does Capital Affect Bank Capital During Crises?"**, Wharton Fin. Inst. Center WP, 2011).

3. Similarly, the authors need to reconcile their argument with the evidence in **Mehran and Thakor, "Bank Capital and Value in the Cross-Section"**, *RFS*, April 2011-- bank capital and value are *positively* related in the cross-section!

4. The key assumption that raising additional capital would be costly for the bank due to adverse-selection-induced dilution is inconsistent with the empirical evidence. **Cornett and Tehranian, "An Examination of Voluntary versus Involuntary Security Issuances by Commercial Banks: The Impact of Capital Regulations on Common Stock Returns"**, *JFE* 1994, documents that when banks engage in "involuntary equity issues" (to meet capital requirements), the price reaction (announcement effect with a 2-day window) is *statistically insignificant*.

5. Paper may also benefit from a direct comparison to **Acharya, Mehran and Thakor, "Caught between Scylla and Charybdis: Regulating Bank Leverage When there is Rent-Seeking and Risk Shifting"** which highlights benefits and costs of having bank capital.

	← Appropriate range of leverage →	
←		→
<p>Bank leverage is so low that creditors lack sufficient skin in the game to threaten credible liquidation to discipline rent seeking by bank's manager.</p>		<p>Bank Leverage is so high that it invites risk shifting that increases bank shareholder value but is socially inefficient.</p>

6. Not at all clear that banks deliberately took tail risks. Rather, like everybody else, they were lulled into a false sense of security by a very long string of good outcomes.

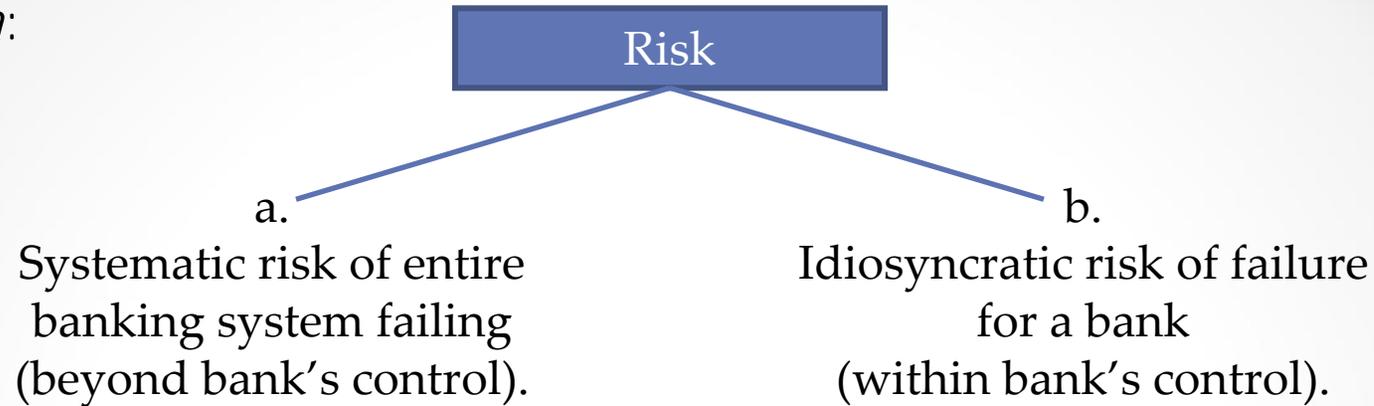
Evidence in **Fahlenbrach and Stulz (JFE, 2011)** militates against the notion of *deliberate* taking of tail risks.

Bailouts, Contagion, and Bank Risk

by: Giovanni Dell 'Arricia and Lev Ratnovski

- Common wisdom is that bailouts – especially those that do not impose any haircuts on creditors – increase incentives of banks to take more risks because they create moral hazard.
- This paper argues the opposite.

- *Idea:*



- Bailouts insure against state a and thus induce the bank to invest more prudently because the marginal return to being prudent is enhanced by insurance against state a.
- Intuition somewhat similar to principal-agent model in which insuring the agent against risks beyond his control (i.e. by not predicating his payoff on signals that are uninformative in the **Holmstrom (1979)** sense) helps to improve incentives.
- Bailouts are not a bad regulatory tool.
- Note that higher capital requirements cannot provide the same attenuation that bailouts can.

Comments:

- Very promising paper. Simple but neat idea.
- Its the first formal justification I have seen for bailouts based on *ex ante* efficiency grounds.

Here are some suggestions for improvements:

1. A big implementation problem for regulators is distinguishing between systemic and idiosyncratic failures. In real time, systemic failures do *not* all occur simultaneously – they occur sequentially.

So...when one or a few banks fail, how do you know if it is idiosyncratic or systemic?

2. A bigger issue (than the direct effect on bank risk taking) in bailouts is the adverse effect these bailouts have on *creditor* disciplining incentives, especially when creditors are spared haircuts in bailouts. This is *not* considered here.

See **Acharya and Thakor, "The Dark Side of Liquidity Creation: Leverage and Systemic Risk", 2011**, where this issue is considered.

...What would happen if this consideration was introduced in the model?

- Existing research (**Acharya and Thakor (2011)**) shows that this...
 - Induces banks to deliberately seek more correlated asset choices
 - Systemic risk is *not* exogenous, but is *endogenously increased* by bailouts

AND...

- **Farhi and Tirole (AER, forthcoming)** also show that bailouts
 - Induce banks to become more highly levered, further increasing system fragility.

Based on these papers...

- Difficult to conclude that bailouts are good for *ex ante* efficiency. The key is that interconnectedness/systemic risk is *not exogenous*, but is endogenously affected by bailouts.

3. It would be good if the authors were to carefully discuss the implications of these important issues.

Regulatory Capture and Supervision Reform

by: Pierre Boyer and Jorge Ponce

Question: Should there be consolidation of regulators into one single regulator or should we have multiple regulators?

Key Result: Two regulators are better than one!

KEY IDEA:

- Self-interested bank regulators who hide from financial stability committee supervisory information gathered via audits, in order to extort bribes from banks.

- With two supervisors, we reduce each supervisor's discretion by limiting the information at its disposal (each supervisor's information is private and not observed by the other)
 - Each supervisor is constrained to request bribes that can always be paid by the banker whatever her riskiness and given the bribe requested by the other supervisor.
 - $\text{Bribe}_1 + \text{Bribe}_2 \leq \text{Bribe}_{\text{single supervisor}}$
 - Lower cost for financial stability committee that must offer wages \geq bribes.

Comments:

1. Clever idea to model this essentially as a hold-up problem of sorts (based on proprietary access to supervisory information), so that the solution involves diminishing the regulator's information monopoly.

2. One thing the authors should do is to change the specification from bribes (unreasonable in many countries) to *reputational concerns*. They cite **Boot and Thakor (AER, 1993)** where the moral hazard is that a regulator may delay closing an economically insolvent bank because doing so would be an admission of previous monitoring errors.

...A similar reputational argument can apply to splitting regulators.

If one regulator is responsible for monitoring banks and another for deciding whether to close them, then what keeps the monitoring regulator from closing the bank in a timely manner would *not* apply to the closure regulator.

→ Efficient closures!

Conclusion

Paper	Common Wisdom	Paper's Explanation	Plausible Alternative in Reality
1) Capital Regulation and Tail Risk	Higher bank capital → less risk	Higher bank capital → more risk in the presence of tail risk	When times are good, banks experience an increase in capital and see risks as being low. Thus, increase risk and sometimes also decrease capital to increase ROE (see Stulz's JACF paper on ERM and LTCM). → Little protection when times get tough
2) Bailouts, Contagion, and Bank Risk-Taking	Bailouts increase moral hazard and risk	Bailouts induce banks to invest more prudently because they are protected against (exogenous) systemic risk	Bailouts endogenously increase systemic risk through correlated asset choices and higher leverage
3) Regulatory Capture and Banking Supervision Reform	Multiple bank regulators are inefficient	Multiple bank regulators are better than single regulator	Paper's story is probably true, but for more subtle reasons that may have more complex regulatory implications.