When Bank Competition Turns Bad:
U.S. Evidence on Bank Risk Taking and Real Economy Impact

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Theory: Competition, Risk, and Liability Guarantees

- "**Gamble-for-Redemption**" incentive as all deposits are *insured* (a well-established agency problem in banking theory)
- High bank competition lowers profit margin, so banks like asset return *volatility* even more.

Experiment: U.S. Local Housing Risk as Nice Example

- County housing price volatility determined by land topology **Housing Supply Elasticity (HSE)**
- Boom-bust volatile in inelastic areas, flat in elastic areas.

How have bank responded to housing price surge 00-06?

Regional Diff. in Bank Competition in U.S. Counties

Regional Diff. in Exogenous Housing Risk (HSE)

I. Theoretical Framework

- Two periods $t = 0,1$. Loan issued in $t = 0$, repaid in $t = 1$.
- Loan default risk: $\theta = f(H_1 - L)$, where H_1 is future house price with volatility σ, L is loan granted, $f' < 0$.
- Bank manager maximizes

$$\max_L \int_{H_1} max\{f(H_1 - L)r(h)L - L, 0\} dG_\sigma(H_1)$$

where h is bank concentration and $r'(h) > 0$.

Theoretical Implications: "Gamble for Redemption"

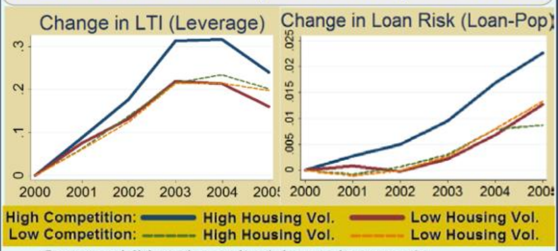
Suppose all bank liabilities are guaranteed. With high competition, banks receiving high volatility shock should increase the riskiness of their loan portfolio, essentially relying on housing price to continue to grow.

Remarks: Monetary policy that lowers bank profitability can have a similar effect as high bank competition.

II. Risk Taking: Pre-Crisis Evidence

Pre-Crisis Risk Taking Results (2000-2005)

Lending standards lowered and borrower leverage (LTI) increased as volatile house price hit in competitive counties.



Some additional results (shown in paper):

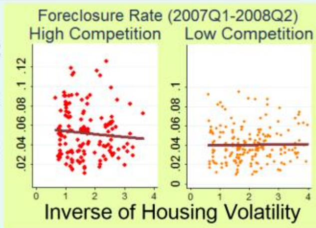
1. Banks in competitive environments increased their exposure to housing risk.
2. Small banks were more aggressive in lowering lending standards and taking risk.

III. Impact on Real Economy: Post-Crisis

Worse economic outcomes associated with pre-crisis risk taking, e.g., foreclosure, bank failure, employment.

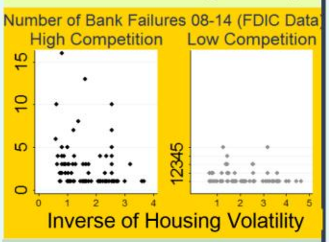
1. Worse Foreclosure

- High bank competition: Foreclosure rate 1% higher for volatile-price U.S. counties.
- Low bank competition: No such differential.



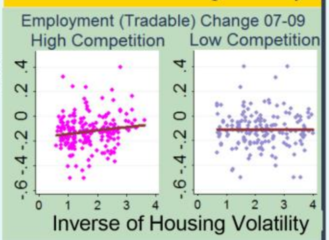
2. Worse Bank Failures

Bank failures concentrated in high-competition, volatile-price counties.



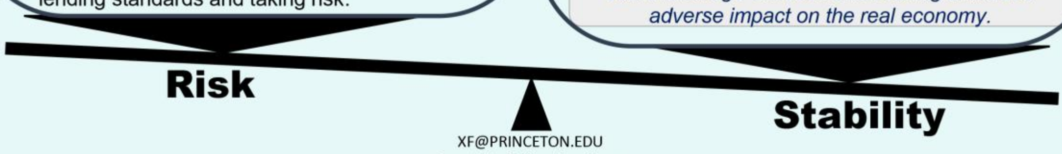
3. Worse Employment

- High bank competition: Financial distress spilled over to real sectors; job rate 2-3% lower in volatile-price counties.
- Low bank competition: No such differential.



IV. Policy Implications

A competitive banking sector with liability guarantees can encourage excessive risk taking and have adverse impact on the real economy.



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