

Fighting Failure: The Persistent Real Effects of Resolving Distressed Banks

Ivan Ivanov and Stephen Karolyi

Discussion by Alistair Milne
Loughborough University

International Association of Deposit Insurers

2021 Biennial Research Conference

May 10th , 2021

Summary

- Research question: how does bank resolution affect economic outcomes?
 - Bank level accounting and county level economic data, quarterly for US from 1992- 2020
- Exploits a feature of 1991 FDICIA act
 - “least cost” resolution policy: *if* bank’s tangible equity ratio < 2% referral to FDIC for administration process that can end in resolution
 - Consequence: a jump in probability of resolution when this threshold is crossed
 - While resolution is endogenous (deterioration in local economy increases resolution), this threshold jump can be viewed as exogenous
 - Ergo: regressing local economy outcomes on the threshold jump suggests a causal link
- Technical approach: two stage “regression discontinuity” estimator
- Estimation reveals substantial and statistically highly significant impacts
 - on county employment (down about 4% after 3 years)
 - enterprise numbers (down about 6% after 5 years)
 - Impact stronger in smaller counties where bank process
- Their results suggest an externality in resolution:
 - -ve local economy impact, may justify departure from least cost resolution.
 - Resolution typically is takeover by a larger bank, loss of capability amongst smaller banks to use ‘soft’ information and assess risk of otherwise opaque borrowers, hence reducing in the supply of credit,

The threshold effect

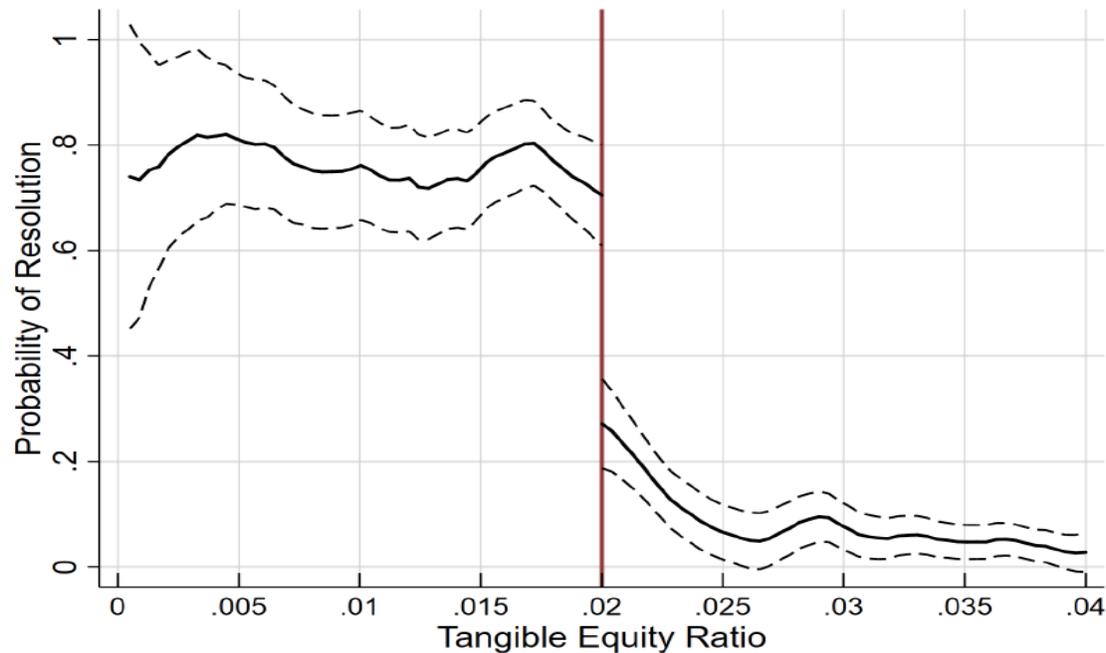


Figure 2: Probability of resolution and tangible equity. This figure presents the kernel-weighted average probability of resolution over the distribution of the tangible equity ratio within the $[0,0.04]$ interval. We use a triangular kernel to compute the conditional mean probabilities and present error bands that correspond to a 95% confidence interval.

- Three variables of interest: bank capitalisation, resolution, state of local economy which all interact
- Can potentially resolve causation through lagging bank variables, but fails when dynamics in state of local economy
- This discontinuity offers an identification strategy for the effect of resolution that partially unties this knot.

Empirical setting

- ▶ Estimate two equation system following recent applied econometrics literature — Calonico et al `14, `20; Cattaneo & Vazquez-Bare `16; Gelman & Imbens `19; Imbens & Kalyanaraman `12

First stage:

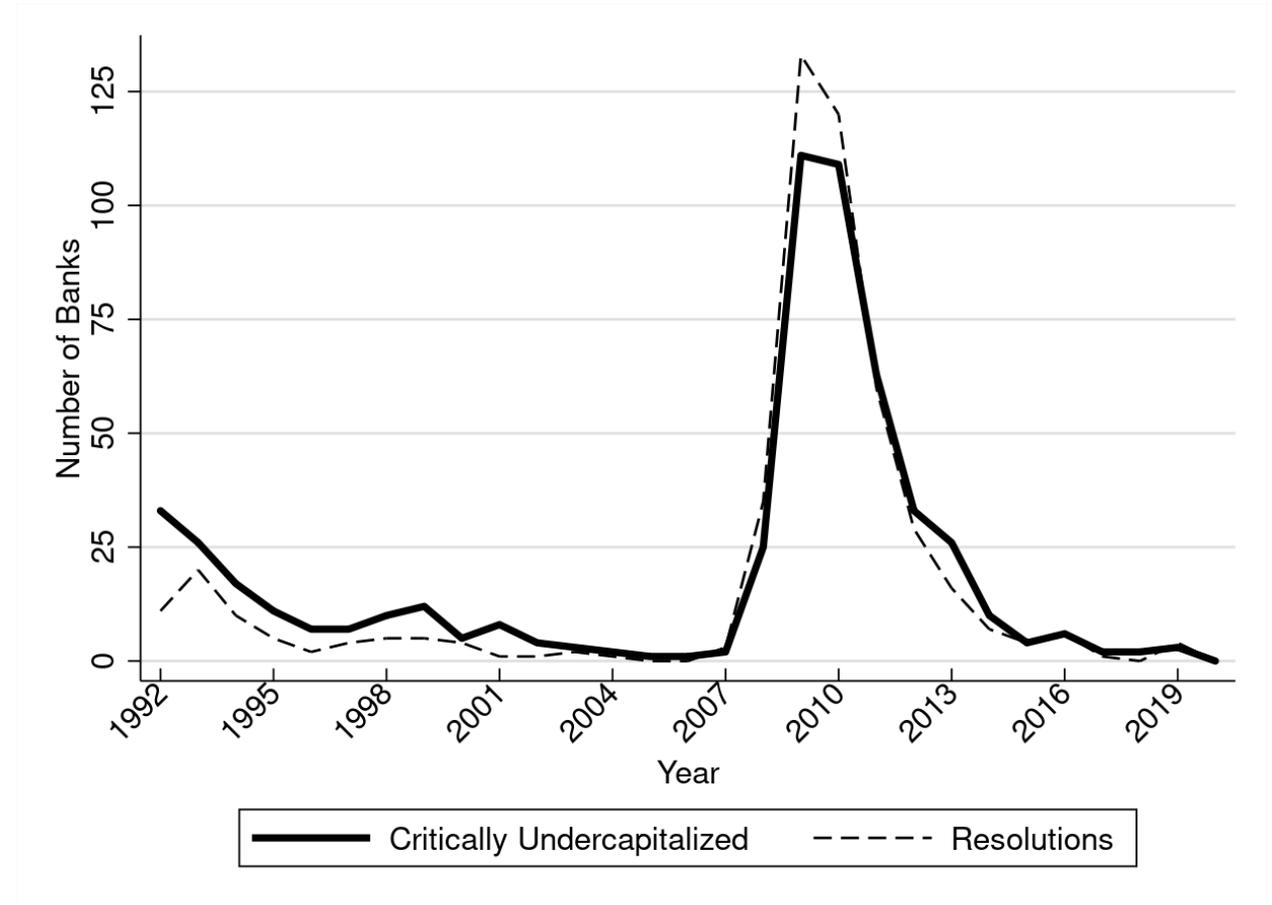
$$Resolution_{it} = \alpha_0 + \alpha_1 1 \{TE > 2\%\}_{it} + f(TE_{it}) + \Gamma X_{it} + \varepsilon_{it}$$

Second stage:

$$Y_{it} = \beta_0 + \beta_1 \widehat{Resolution}_{it} + g(TE_{it}) + \Delta X_{it} + \epsilon_{it}$$

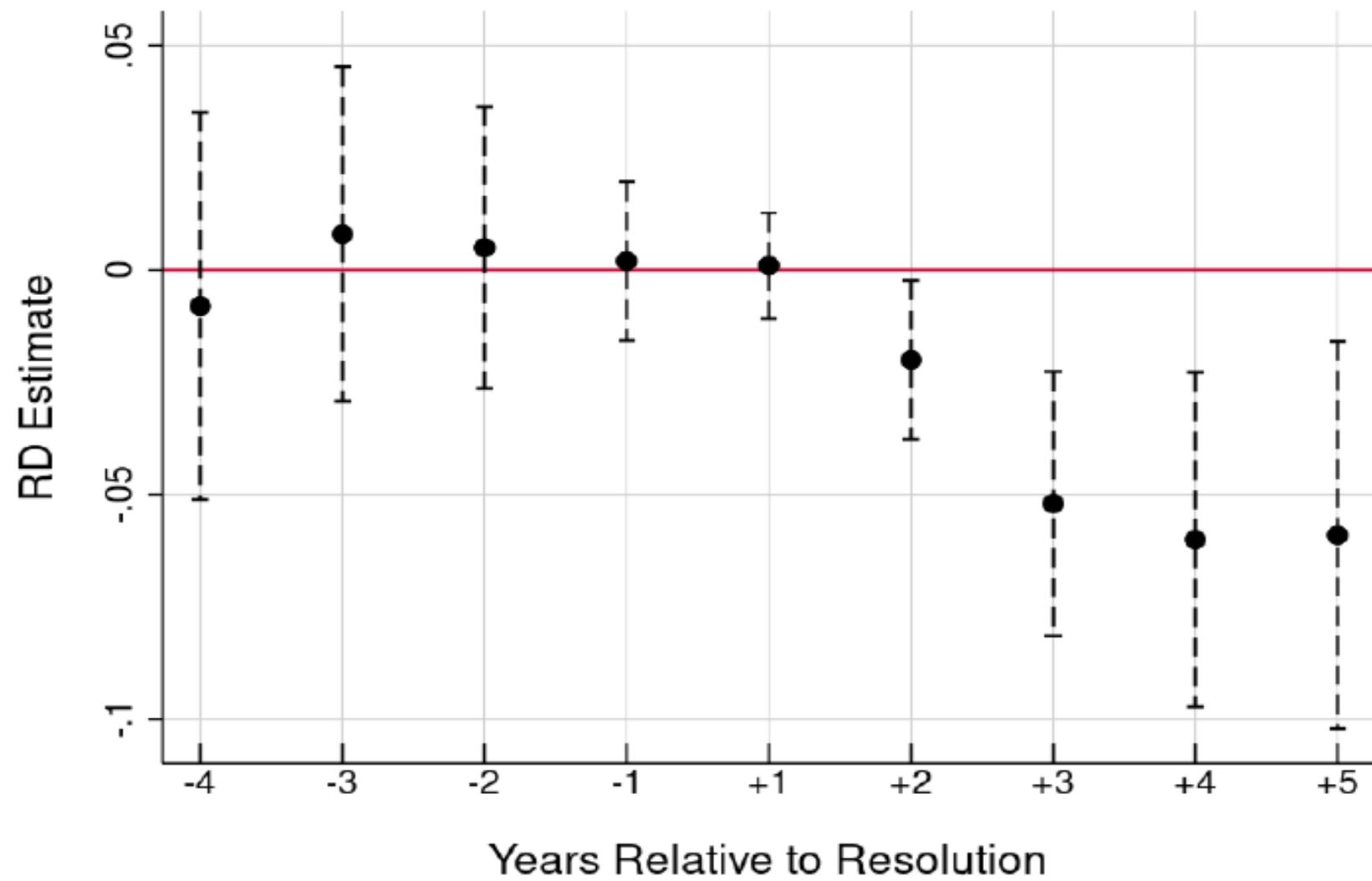
Data

- 158,000 bank quarter observations
- 446 bank quarter observations “critically undercapitalized”
Mostly triggered by the sub-prime crisis
- About 3,000 US counties
- Critically undercapitalized minus resolutions = forbearance
- “excess resolutions” in wake of sub-prime crisis, presumably because of inability to obtain wholesale funding

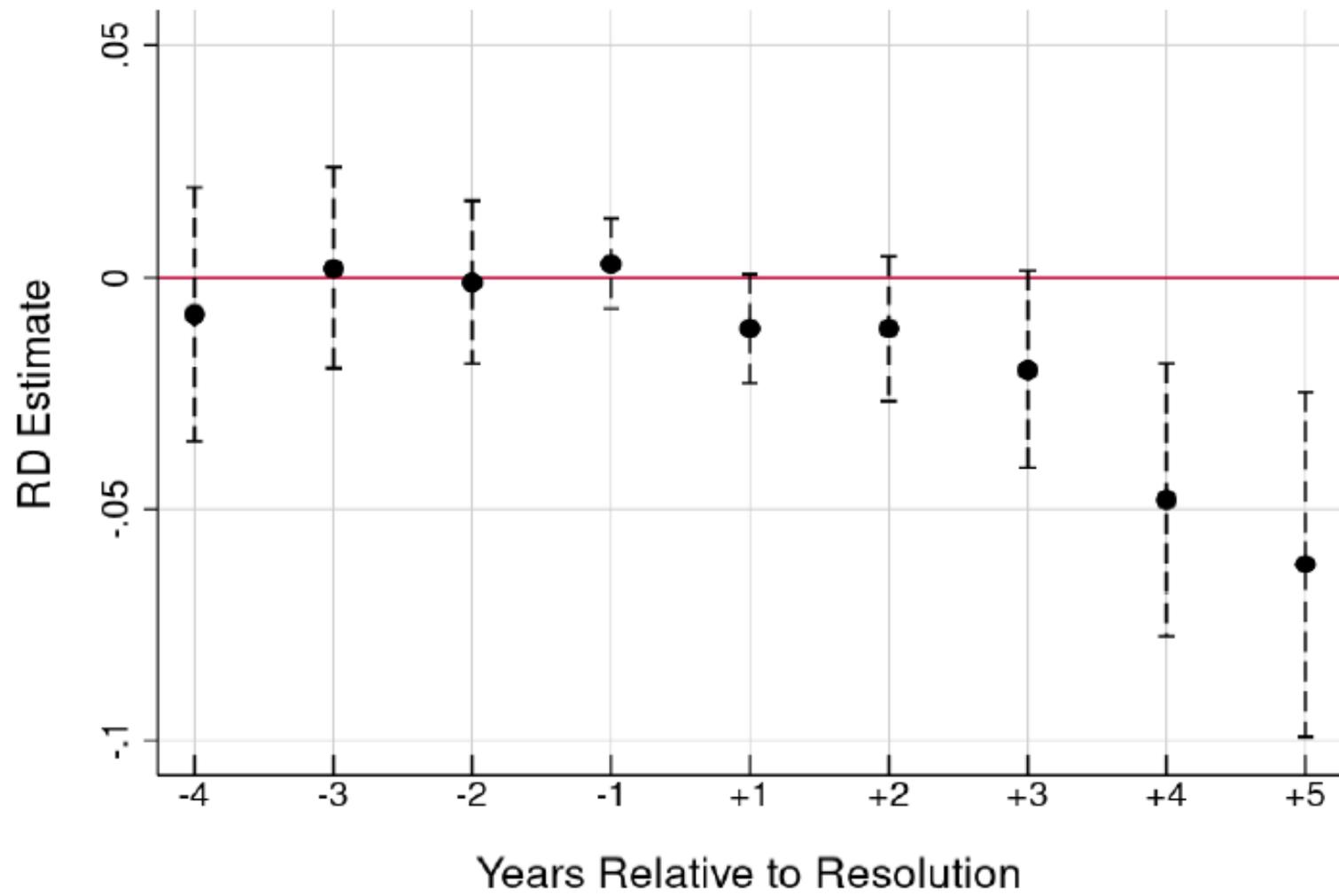


B. The Effect of Bank Failures on Local Employment

Dependent variable:	$\Delta Employment_{0 \leq t \leq 3}$					
	(1)	(2)	(3)	(4)	(5)	(6)
RD Estimate	-0.041*** [0.012]	-0.035*** [0.012]	-0.032*** [0.012]	-0.050*** [0.016]	-0.036*** [0.012]	-0.038*** [0.013]
N	158081	158040	158040	158081	158040	158040
N Left of Cutoff	447	446	446	447	446	446
N Right of Cutoff	157634	157594	157594	157634	157594	157594
Order Loc. Poly. (p)	1	1	1	2	2	2
Bank Controls	N	Y	Y	N	Y	Y
Local Economy Controls	N	N	Y	N	N	Y



(a) *Employment*

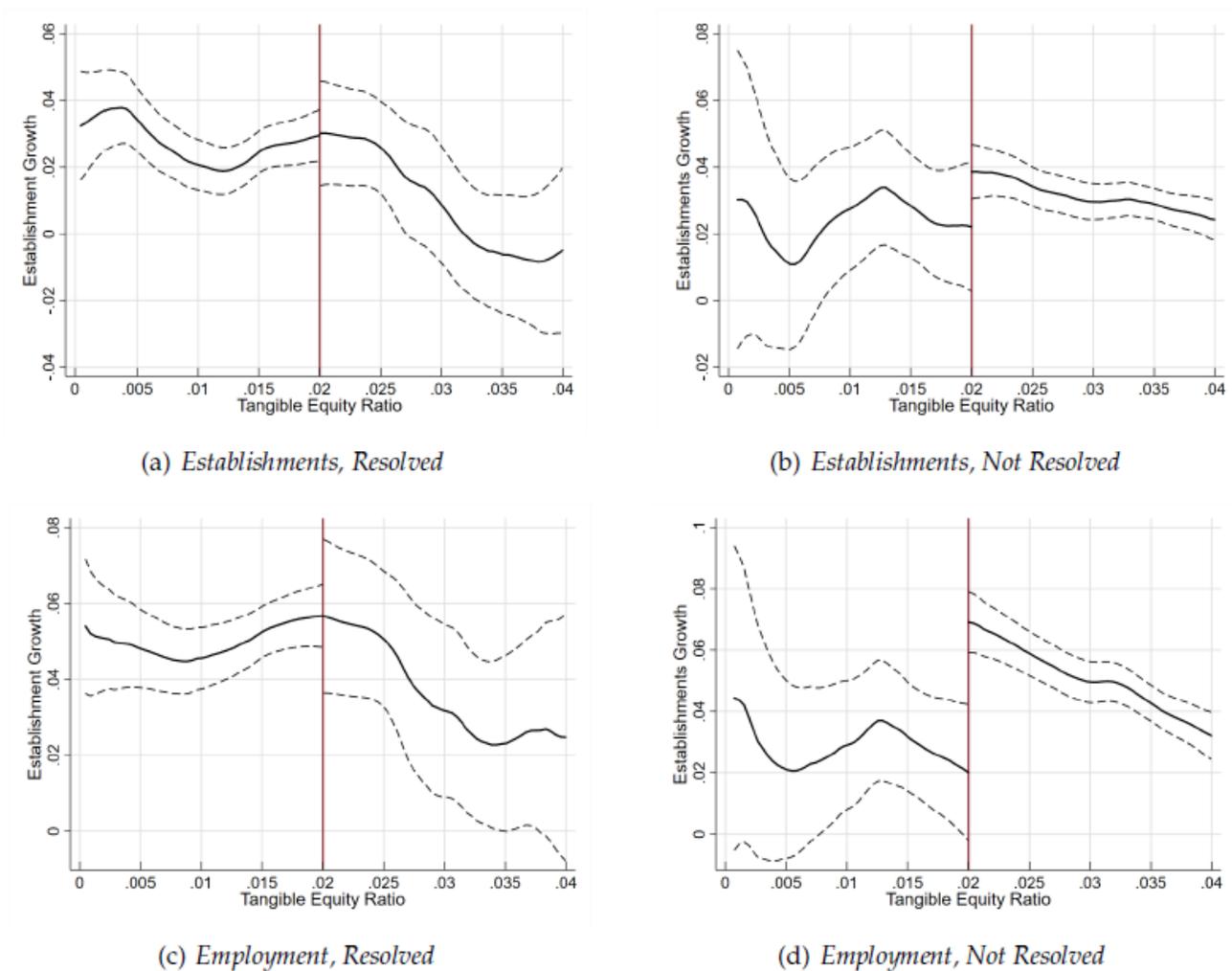


(b) *Establishments*

Some suggestions/ concerns

- Dependent variable $Y_{i,t}$: should i be bank or county?
 - In the paper i is for bank and the dependent variable (employment, enterprises) is unweighted average across all the counties where bank is present
 - In second stage is it not better to have j for county and construct: $\widehat{\text{Resolution}}_{j,t}$ based on predicted resolution for branches of banks in the country?
 - This will increase number of relevant observations & allow more investigation of how county characteristics affect outcomes
- Contamination by economy wide macro-developments over the period 2007-2013?
 - Further robustness tests: include quarterly time dummies (maybe you do this), cluster standard errors by time period.
- Relevant literature on bank credit supply e.g. identifying impact of bank capital by focussing on multi-branch banks/ holding companies (e.g. Strahan, Froot and Stein)
 - How do magnitude and dynamics you report relate to the findings of this literature?
- Parameterisations on the quadratic polynomial on equity are of independent interest, a further driver of the supply of credit
 - could be reported more fully, even if endogeneity is not addressed.
 - (?) opportunity (further work) on (a) resolution; (b) credit supply; (c) county economic impact

Some insightful further exploration...



Here, starting to look at effects of capital and resolution jointly

“forbearance” even with FDICIA

Also, reports that unresolved, critically undercapitalized banks (RHS of RHS of plot) are on average a lot larger than resolved, critically undercapitalized banks, suggesting the complexity may inhibit resolution

Figure 8: Forbearance around the critically-undercapitalized cutoff. This figure presents local polynomial plots of the (potential) discontinuity in outcomes for resolved and unresolved groups around the 2% tangible equity ratio cutoff.

Contribution

- Paper technically impressive and makes a valuable contribution, presenting evidence of a local economy externality from bank resolution
 - Is this is a welfare problem? Possibly yes, especially if it reflects a loss of capacity in relationship lending, especially as larger banks takeover smaller ones
 - But this must be weighed against the costs (moral hazard, public purse) of forbearance
- I also take away the following (but merits further research)
 - some evidence (previous slide) that forbearance is used appropriately, for banks with greater growth of employment/ enterprises in their local markets; therefore can grow out problems.
 - Other evidence, this is ‘too complex to fail’ in which case costs of forbearance still a concern
- Loss of capacity in relationship lending a broader issue, resolution not only cause
 - Eroding anyway driven by technological, factor price and socio-economic changes
 - My own view (technology perspective) use of technology to unbundle (insured) deposits and local lending, can help restore some “market place” capacity for relationship based lending

A pleasure to read. Thank you!

(& Here are some minor comments)

- Typo in Table 4 Notes state “establishments (Panel A) and employment (Panel B)”, but panel headings are the other way around !!
- Tables , I guess ***= 0.1% significance, **= 1%, *10% significance but this is not stated in the notes to tables. Please confirm.
- I would consider presenting the findings of Figure 8 and Table 10, currently in Section 6, in Section 4 instead as part of robustness tests. This will substantially shortening the Section 6 policy discussion (as currently presented this combination of estimation results and policy analysis is off-putting for the non-technical reader).
- Introduction, summarising policy implications, mentions (c) possibly “political frictions from lobbying by FDIC-auction participants) may “lead to a misallocation”. I struggled to understand this and could find not mention of this again later in the paper. Either expand or delete
- Eqns 3 and 4 are ugly, (picky point), better if all the English words, Resolution etc, are in a text font not a math font.