



When Banks Fail: Depositor Attention and the Cost of Funding for Survivors

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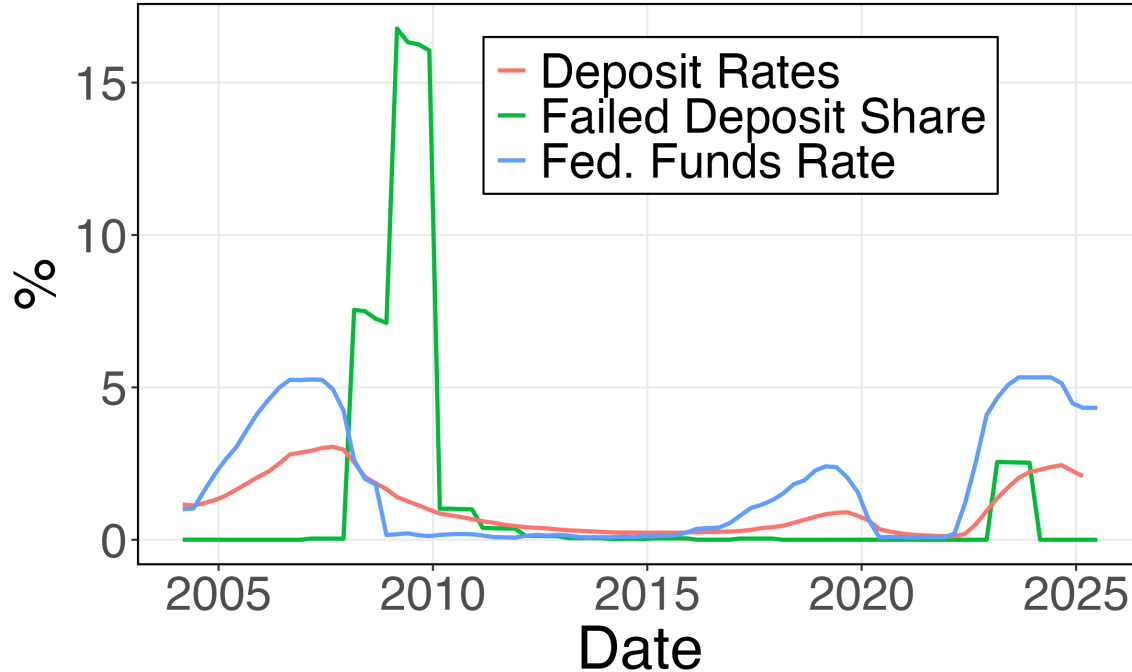
- **This paper:**
 - Motivation:
 - Bank failures are costly and significant
 - Depositors play a central role in banking yet difficult subject to study
 - Research question:
 - How do bank failures affect deposits in neighboring banks?
 - Findings:
 - Deposit rates of competitor banks rise significantly
 - Lending growth falls, but lending by nonbanks unaffected
 - Similar effect for banks with higher leverage, and for uninsured deposits
 - Stronger effect for bank failures receiving higher public attention





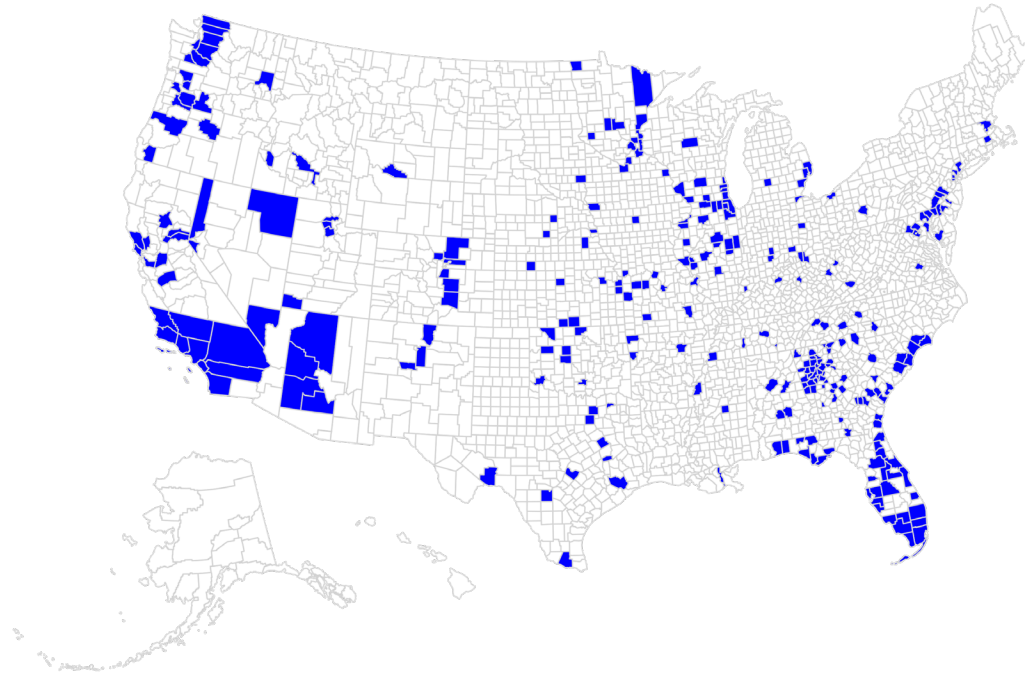
Setting the Scene





- Deposit rates are slow to fall after interest rates go to zero during GFC
- Contemporaneous prevalence of bank failures





- Bank failures occur broadly across regions
- Visible enough but not pervasive

Has failed bank ☐ 0 ☒ 1





- Bank failures generate public attention
- Media, FDIC outreach





Findings

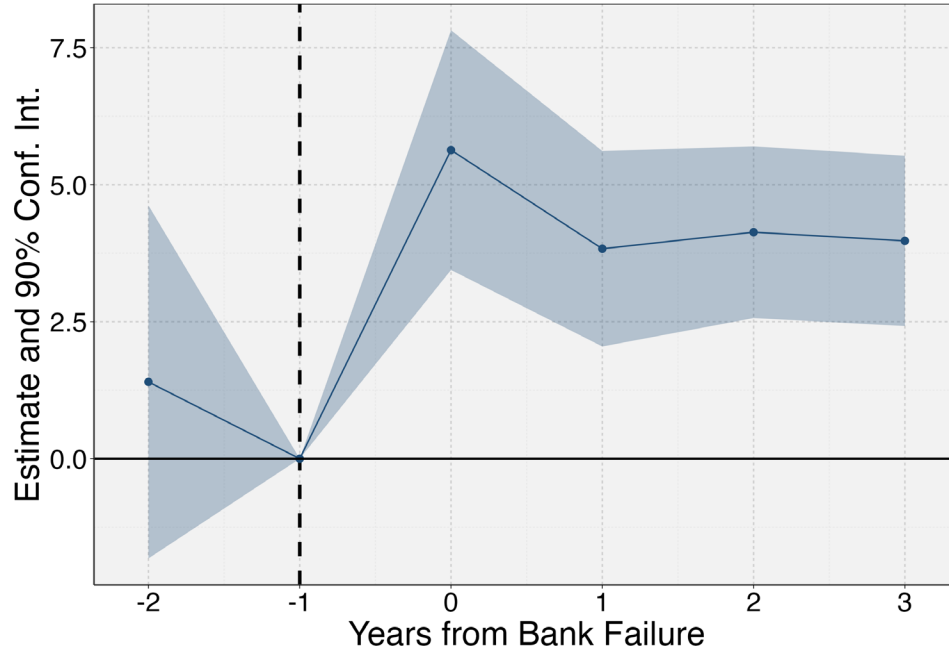




- **Empirical specification**

- Estimate the effect of bank failure on same-county neighbor bank's deposit rates
- Control for county-level economic variables (unemployment rate, house price change) as well as control for bank-level deposit rate
- Plain English: If bank X has branches in counties A, B, and C, and a bank fails in county C, does bank X's branch in C change deposit rates, after accounting for bank X's branches in A & B?
- Data: FDIC, CRA, HMDA, Call reports, BLS, branch-level deposit rates by product type





- 100K CD rates in neighboring banks rise by around 4 b.p.
- Effect is immediate and persists up to 3 years





- **Is the effect robust?**
 - Effect robust to alternative measures and various specifications
- **Beyond the deposit rate effect**
 - Deposit volume growth declines by 4.5%
 - Small business lending declines by 2%





- **Is the lending effect driven by local demand for loans?**
 - Mortgage lending in the local economy declines only for bank lenders (borrowers switch to nonbank lenders)
- **Is the main effect driven by neighbor banks who are in distress?**
 - Main effect is driven by well-capitalized banks
 - No evidence of bank failure contagion in our sample
- **Is the main effect due to panic-induced bank runs?**
 - Same effect for insured (100k CD) vs. uninsured (500k CD) deposits
- **Is the main effect stronger for certain bank failures?**
 - Main effect is stronger for highly-publicized bank failures





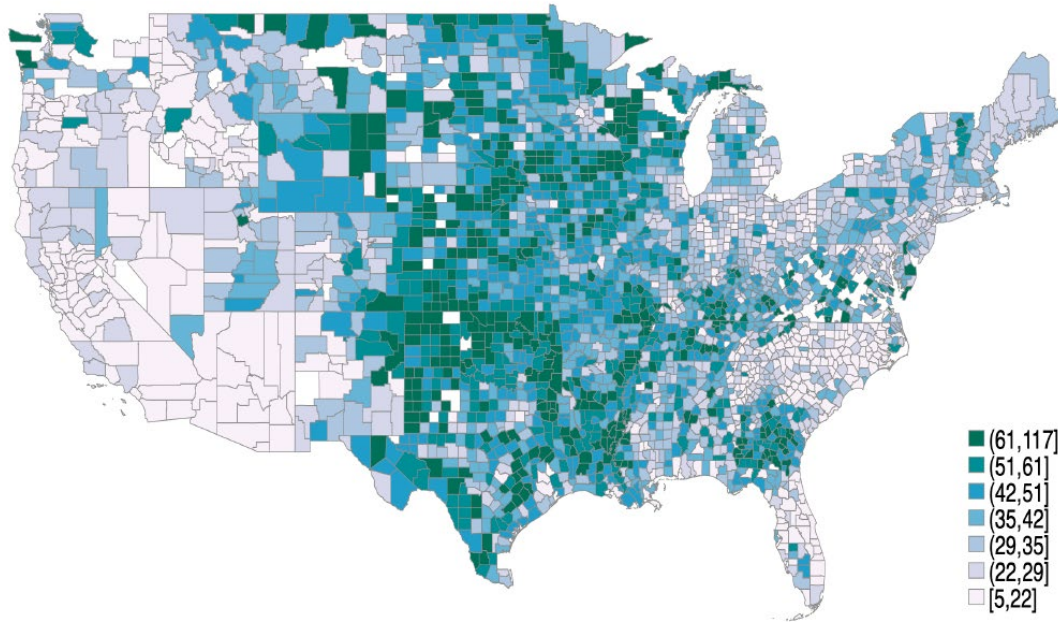
- **Summary**
 - Bank failures generate significantly costly spillovers
 - Higher deposit rates for neighboring competitor banks
 - Which leads to lower lending (small business lending, mortgages)
 - Not driven by risk compensation
 - Stronger effect for bank failures generating more public attention





Appendix





**A. Failed banks**

	N	Mean	SD	P25	P50	P75
Cost (million \$)	486	133	618	18	42	95
Assets (million \$)	486	1351	14077	102	211	498
Deposits (million \$)	486	980	8672	94	195	446

B. All bank branches

	N	Mean	SD	P25	P50	P75
CD 100K (%)	51136	0.37	0.26	0.17	0.33	0.51
CD 500K (%)	51136	0.37	0.27	0.19	0.33	0.51
Deposits (million \$)	51136	98.59	1821.01	21.28	40.42	73.34





$$R_{ibcdt} = \beta \text{Bank Failed}_{ct} + \gamma X_{ct} + \alpha_{bt} + \alpha_c + \varepsilon_{ibcdt}$$

- ▶ Deposit rate R of product type d , at bank b 's branch i in county c year t
- ▶ $\text{Bank Failed} = 1$ if failed bank's HQ in county c in year t
- ▶ X_{ct} : time-varying county-level controls
- ▶ α_{bt} : bank-year fixed effects





	r_{100K}	
	(1)	(2)
Bank Failed	4.46*** (1.03)	4.11*** (0.95)
Unemployment rate		0.72*** (0.23)
House Price Change		-0.63 (1.36)
County FE	Yes	Yes
Bank-Year FE	Yes	Yes
Num. obs.	338055	317345
R ²	0.98	0.98





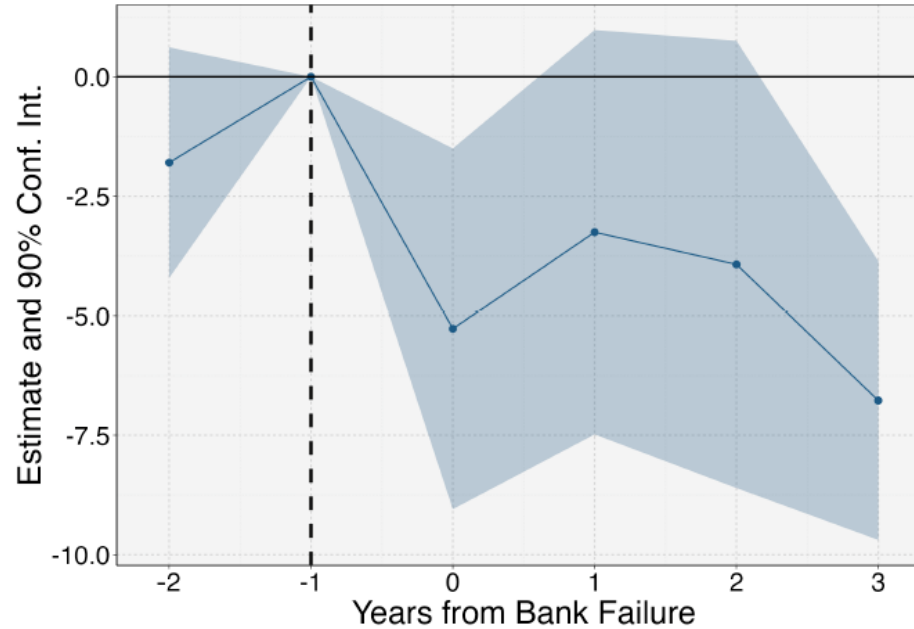
	r_{100K}	r_{500K}
	(2)	(4)
Bank Failed	4.11*** (0.95)	1.41* (0.72)
Unemployment rate	0.72*** (0.23)	0.76*** (0.23)
House Price Change	-0.63 (1.36)	-3.69* (2.01)
County FE	Yes	Yes
Bank-Year FE	Yes	Yes
Num. obs.	317345	319000
R ²	0.98	0.99





	Δ Deposits
Bank Failed	-4.52** (2.29)
Unemployment rate	-0.77*** (0.18)
House Price Change	7.90*** (2.92)
County FE	Yes
Bank-Time FE	Yes
Num. obs.	271498
R ²	0.19







	Log Count	Log Count	Log Volume	Log Volume
Bank Failed	0.01 (0.04)	0.23*** (0.09)	0.01 (0.05)	0.22** (0.10)
Bank Failed × Bank Lender		-0.53*** (0.12)		-0.53*** (0.12)
Unemployment Rate	-0.01** (0.01)	-0.01** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)
House Price Growth	0.15 (0.13)	0.16 (0.14)	0.23 (0.15)	0.24 (0.15)
County FE	Yes	Yes	Yes	Yes
Lender-Year FE	Yes	Yes	Yes	Yes
Num. obs.	829075	829075	829037	829037
R ²	0.40	0.40	0.45	0.45





	r_{100K}	r_{500K}
Bank Failed	1.55 (1.13)	-1.17 (0.91)
Bank Failed $\times$ High Capital	5.96** (2.82)	6.37** (2.80)
Unemployment rate	0.73*** (0.24)	0.74*** (0.24)
House Price Change	-0.90 (1.38)	-4.35** (2.10)
County FE	Yes	Yes
Bank-Time FE	Yes	Yes
Num. obs.	308613	310248
R ²	0.98	0.99





	(1)	(2)
	Failure within 1 year	Failure within 2 years
Bank Failed	0.004 (0.003)	-0.005 (0.004)
Observations	339,644	339,644
R^2	0.007	0.012
County FE	Yes	Yes
Year FE	Yes	Yes
Controls	Yes	Yes





	r_{100K}	r_{500K}
	(1)	(2)
Bank Failed	2.381*** (0.904)	-0.065 (0.295)
Bank Failed $\times$ High Search	3.352** (1.496)	3.173*** (1.046)
Observations	306,889	308,537
R^2	0.984	0.987
County FE	Yes	Yes
Bank-Year FE	Yes	Yes
Controls	Yes	Yes





	r_{100K}	r_{500K}
	(1)	(2)
Bank Failed	4.164*** (0.957)	1.388* (0.722)
Observations	137,325	138,853
R^2	0.985	0.988
County FE	Yes	Yes
Bank-Year FE	Yes	Yes
Controls	Yes	Yes

