

Discussion of

**“Deposit Insurance and Bank Risk-Taking”**

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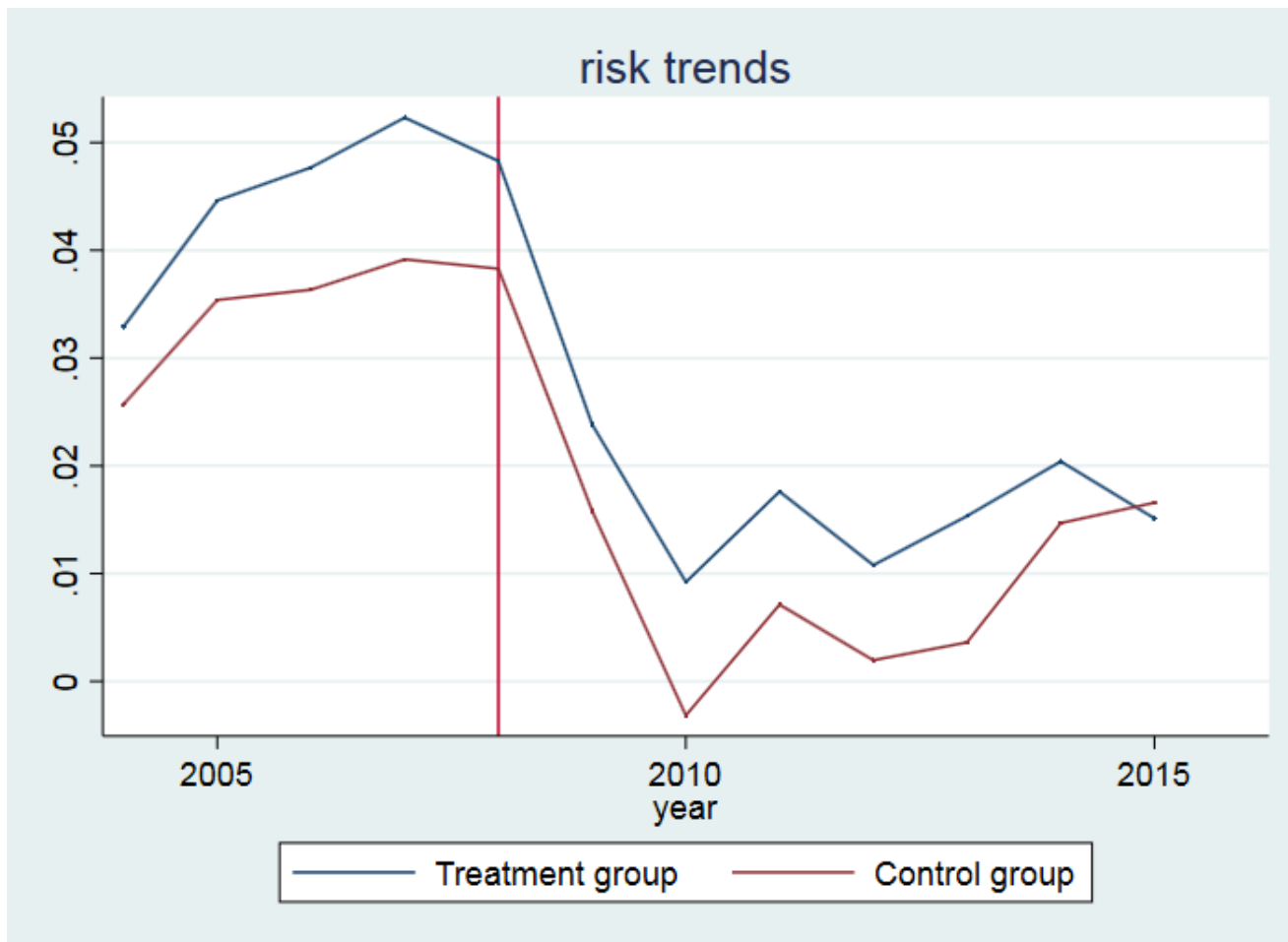
**Q.**

(How) does deposit insurance affect banks' risk-taking?

- **A.** It does not.
- **A.** Increasing FDIC coverage from \$100,000 to \$250,000 does not cause savings banks to issue riskier mortgages.
- Loan Application Register, HMDA, 2004-2012
- Quarterly bank balance sheets, FDIC, 2002-2016
- DiD setup & risk-taking = propensity to lend

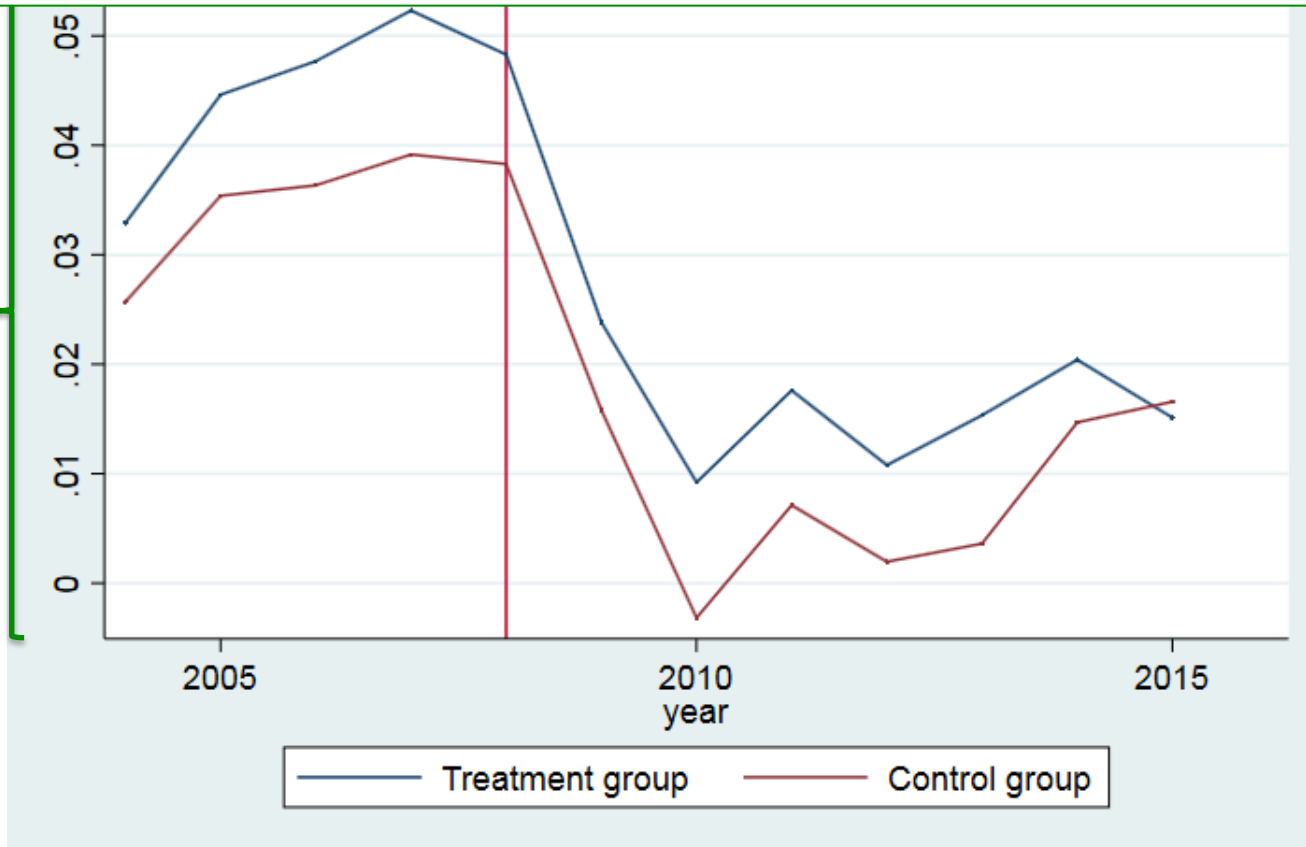
- question continues to be open & relevant
  - risk-taking ↗: insured depositors monitor less (Grossmann, 1992; Demirguc-Kunt & Detragiache, 2002; Ioannidou & Peñas, 2010; ...)
  - risk-taking ↘: explicitly uninsured creditors monitor more (Karels & McClatchey, 1999; Gropp & Vesala, 2004)
  - credibility matters (Bonfim & Santos, 2016)
- interesting experiment
  - curious that it has not been analysed
  - existing work on MA savings banks analyses rate ceilings & ownership (Taggart, 1978; Wheelock, 1995; Murphy & Salandro, 1997)

The paper in one picture:



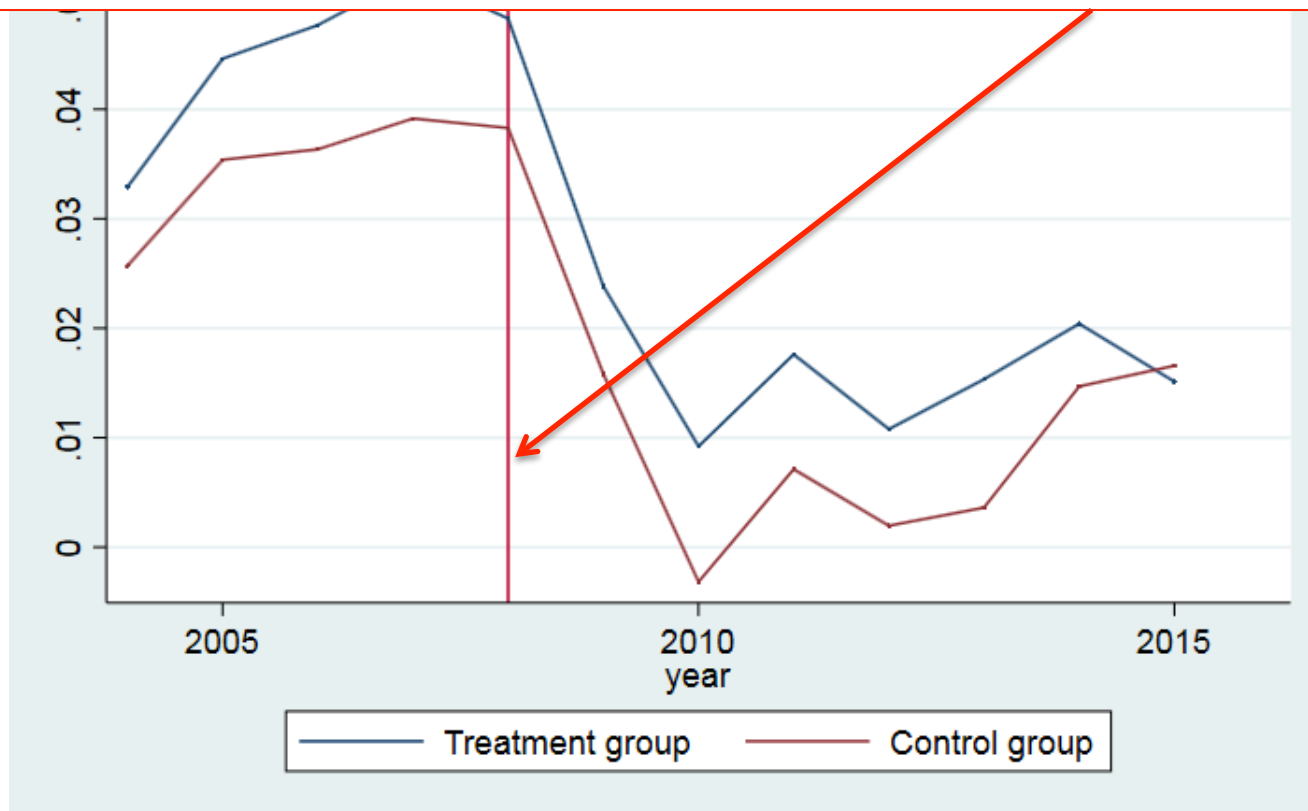
## Risk = Elasticity of new mortgage issuances wrt. LTI

- not unusual to consider ex-ante risk (e.g., credit scores)
- captures a different dimension of risk than z-score
- Why abstract from additional borrower/loan/bank controls?  
(gender, ethnicity, secured by first lien, credit/employment history, ...)



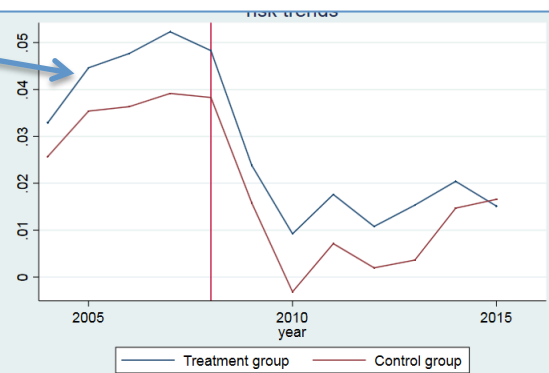
# Experiment: FDIC raises coverage limit to \$250,000

- temporary from Oct 2008; permanent from 2010
- permanence anticipated in DIF's Annual Report 2008
- private DIF coverage drops from  $[\$100,00; \infty)$  to  $[\$250,00; \infty)$
- confounding events: e.g. Lehman failure in Oct 2008



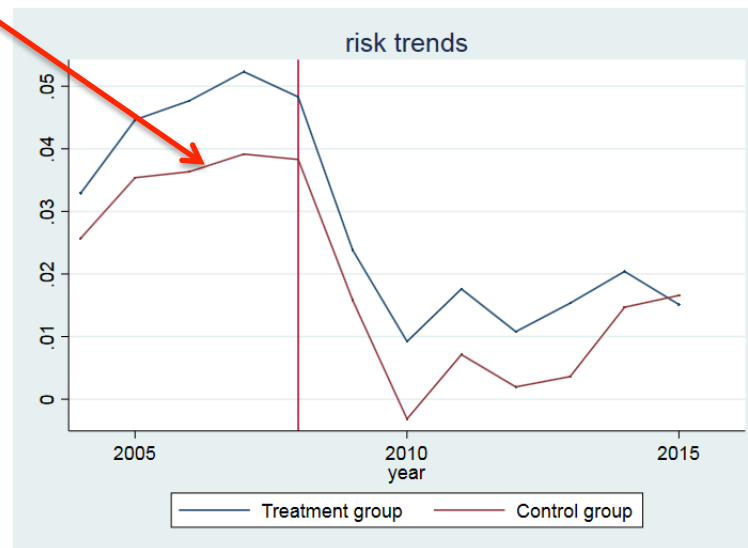
# Treatment Group: savings banks not chartered in MA

- only FDIC insured (other state charters & national charters?)
- NN exact matching on pre-treatment avg.'s (size, D/E, E/TA, D/L);
  - seems like a good setting for synthetic matching (Abadie et al., 2010)
- states might differ wrt.
  - creditor protection & incentives to securitize (McGowan & Nguyen, 2018), ownership of state-chartered banks (Murphy & Salandro, 1997), market structure & rate ceilings (Taggart, 1978),
  - customer base, trust in banks, fiscal situation, labour market, ...
- differences might induce differential responses to Lehman failure, increased insurance coverage, new regulation, ...



# Control Group: state-chartered savings banks in MA

- unlimited deposit insurance from FDIC & DIF (private)
- DIF: risk-sensitive premiums, dividends, monitoring
  - higher FDIC limit is a positive shock for DIF (dividends > premiums in 2008)
  - How does DIF monitoring compare to FDIC monitoring?
    - DIF is one of few state funds that has survived. Why?
- Higher FDIC limit reduces monitoring incentives for DIF & increases them for the FDIC.





# Identification

*Some caveats of your setup.*

- Increasing FDIC limit affects DIF-covered banks:
  - dividends to member banks (DIF Annual Reports of 2008/09)
  - DIF can afford less scrutiny, while FDIC increases its liabilities
  - competition of savings banks might be differently affected in MA vs. other states (e.g. because of different market shares/structure)
- not implausible that fully insured banks respond differently to confounding events than partially insured
- time-varying attention to dep. insurance (Bonfim & Santos, 2016)
  - could be different: reimbursements for advertising with DIF logo

# Identification

*Some caveats of your setup (continued).*

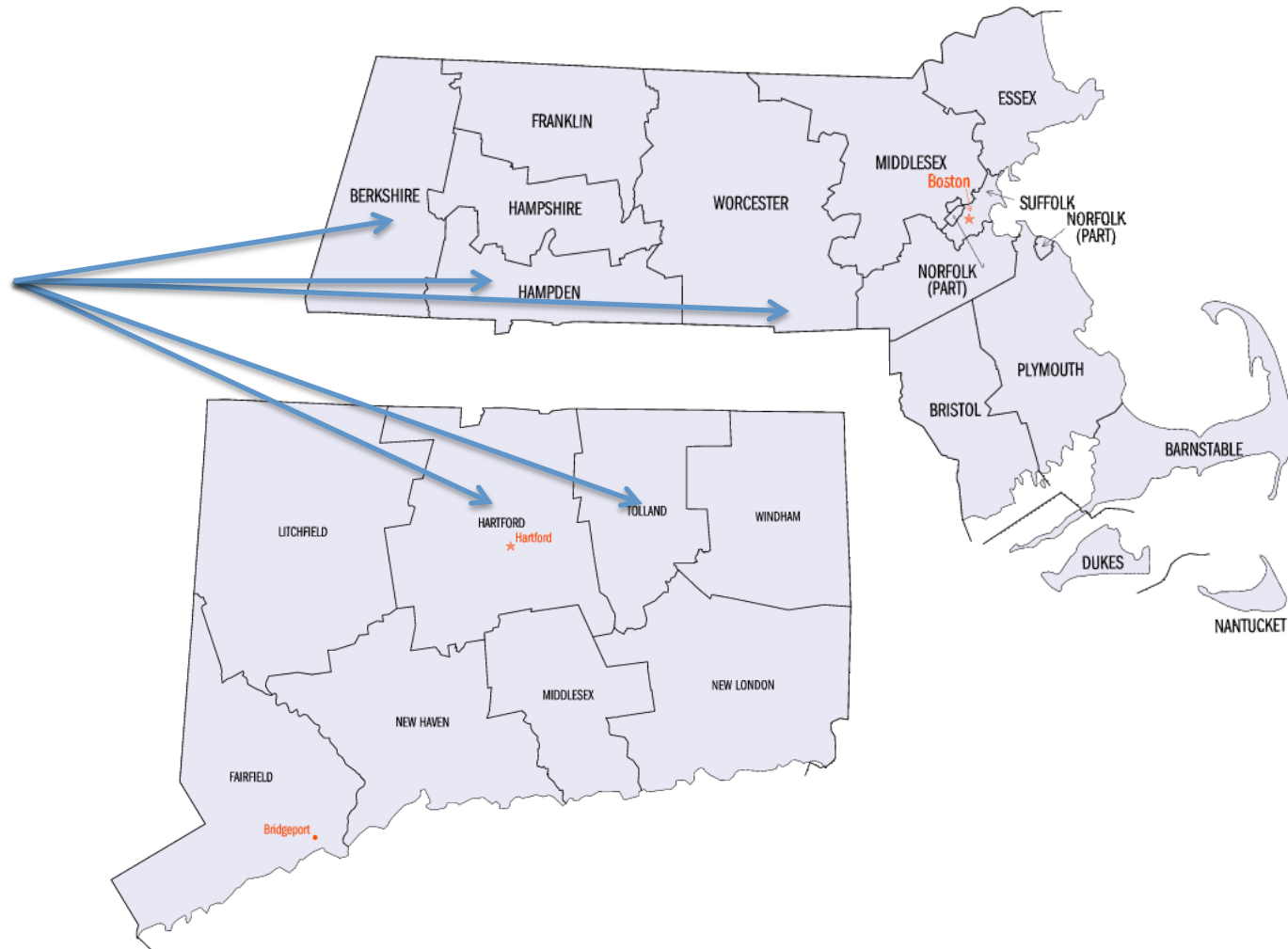
- some banks opt into MA-charter after Lehman
- event is not exogenous
  - Motivated by banks with too much pre-crisis risk-taking?
- ultimately not sure if you identify
  - effect of additional federal insurance
  - differential response of partially vs. fully insured to Lehman
  - differential response of privately vs. publicly insured to Lehman
- even if I take the results at face value, not sure if:
  - no effect or offsetting effects:
    1. over time (Grossmann, 1992)
    2. monitoring of insured (↘) vs. explicitly uninsured (↗)

## Identification – Suggestion

*You might be able to get more out of your experiment.*

- issuances around state border + RDD (McGowan & Nguyen, 2018)
- identifies the effect of unlimited coverage in MA
  - potentially larger than effect of a marginal increase
  - less sensitive to confounding from the crisis
  - mitigates concerns about different market characteristics
  - does not solve: private vs. public (Indiana), no vs. offsetting effects
- marginal effect of changing FDIC coverage as an extension
- subsample analyses to separate mechanisms (differential effects for different banks/counties/loans)

# Identification – Suggestion



## Identification – Suggestion

*State-chartered savings banks in MA & CT counties.*

– Elasticities wrt. LTI:

Year = 2016	MA	CT
State-Chartered	0.09	0.00
Not State-Chartered	0.17	0.15

– loan origination in border counties (2016)

- state-chartered MA banks are less likely to issue loans (after controlling for LTI, and borrower and loan characteristics)
- high ROA is associated with more permissive lending standards for state banks in CT – not in MA

– state-chartered savings banks in MA seem to be more prudent (variation wrt. to loan type)

$$Origin_{i,j} = \gamma^0 + \gamma^1 LTI_{i,j} + \gamma^2 MA_i + \gamma^3 State_i + \gamma^4 MA_i \times State_i + \gamma^5 X_j + \varepsilon_{i,j}$$

	(1) Origin	(2) Origin	(3) Origin	(4) Origin	(5) Origin	(6) Origin	(7) Origin	(8) Origin	(9) Origin	(10) Origin
LTI	-0.00*** (0.000)	-0.00*** (0.000)	-0.13*** (0.040)	-0.07*** (0.021)	-0.10*** (0.016)	-0.07*** (0.027)	-0.07*** (0.019)	-0.01* (0.006)	-0.07*** (0.021)	-0.01* (0.006)
MA	0.01*** (0.003)	0.01 (0.012)	0.11* (0.064)	0.06* (0.037)	0.01 (0.042)	0.06 (0.042)	0.06 (0.038)	0.07* (0.038)	-0.25** (0.118)	-0.18* (0.111)
State-chartered	0.13*** (0.009)	0.13*** (0.029)	0.93*** (0.324)	0.51*** (0.183)	0.11 (0.077)	0.52*** (0.195)	0.51*** (0.189)	0.49*** (0.190)		
MA*State-chartered	-0.07*** (0.011)	-0.07*** (0.012)	-0.56** (0.224)	-0.30** (0.120)	-0.16 (0.097)	-0.30** (0.134)	-0.27** (0.117)	-0.24** (0.115)		
High ROA									-0.53*** (0.185)	-0.51*** (0.191)
MA*High ROA									0.31** (0.123)	0.25** (0.118)
Obs.	87,503	87,503	87,503	87,503	39,847	68,015	76,652	76,652	87,503	76,652
(Pseudo) R2	0.018	0.018	0.0234	0.0228	0.0114	0.0245	0.0265	0.0456	0.0228	0.0457
Cluster	no	Bank & State	Bank	Bank	Bank	Bank	Bank	Bank	Bank	Bank
Year	2016	2016	2016	2016	2016	2016	2016	2016	2016	2016
Borrower Controls	no	no	no	no	no	no	yes	yes	no	yes
Model	Linear	Linear	Logit	Probit	Probit	Probit	Probit	Probit	Probit	Probit
Sample	All	All	All	All	Home Purchase Loans	Convention al Loans	All	All	State- Chartered	State- Chartered

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Minor Comments – Crisis Effect

*“treatment effect of deposit insurance during the crisis”*

– What you do:

$$\gamma_{it}^1 = \beta_0 + \beta_1 D_T + \beta_2 D_{after} + \beta_3 D_T D_{after} + \beta_4 D_{crisis} + \beta_5 D_T D_{crisis} + \varepsilon_{it}$$

– What I think you should do:

$$\gamma_{it}^1 = \beta_0 + \beta_1 D_T + \beta_2 D_{after} + \beta_3 D_T D_{after} + \beta_4 D_{crisis} + \beta_5 D_T D_{crisis} + \beta_6 D_{after} D_{crisis} + \beta_7 D_T D_{after} D_{crisis} + \varepsilon_{it}$$

– not if crisis started after Oct 2008 (you identify Oct 2008 as “the peak of the financial crisis”)

## Minor Comments

- Trend in avg. deposit account balances for banks far from state border or with fewer non-MA branches?
  - Higher likelihood to move to non-MA banks after FDIC change?
- calculation of elasticities is not clear (to me)
- link z-score and ex-ante results more clearly to literature
- explore evolution of effect over time (Grossmann, 1992)
- application data takes care of some demand variation, but discouraged borrowers could still be an issue
- subsample analysis could help to distinguish between potentially offsetting effects (e.g., effect for banks with few deposits above \$250,000 to test for Gropp & Vesala, 2004)



## Minor Comments – Literature

*Current references seem somewhat selective.*

- The FDIC offers an annotated bibliography:  
<https://www.fdic.gov/deposit/deposits/international/bibliography/>
- Nice starting point (at least up to 2003).

## Minor Comments – Descriptives

*Not overly transparent on some important descriptives.*

- How many banks do you examine overall/treatment?
- From which states do you draw the matched sample?
- What is the exact period for the main sample?
- precise variable definitions (e.g., car vs. leverage)
- background information:
  - market characteristics, market shares, competition,
  - institutional details,
  - DIF & FDIC insurance schemes,
  - insurance premiums, etc.

## Conclusion

- very nice experiment
- some work to be done to clarify/nail the identification, **but** this can become a very nice paper on an interesting & relevant question
- I learned a lot and look forward to the next draft