"Business Cycles, Monetary Policy, and Bank Lending: Identifying the Bank Balance Sheet Channel with Firm-Bank Match-Level Loan Data"

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1. Introduction & Motivation

■ **Bank lending view** E.g., Stein (RAND 1998)

☐ Bank variables
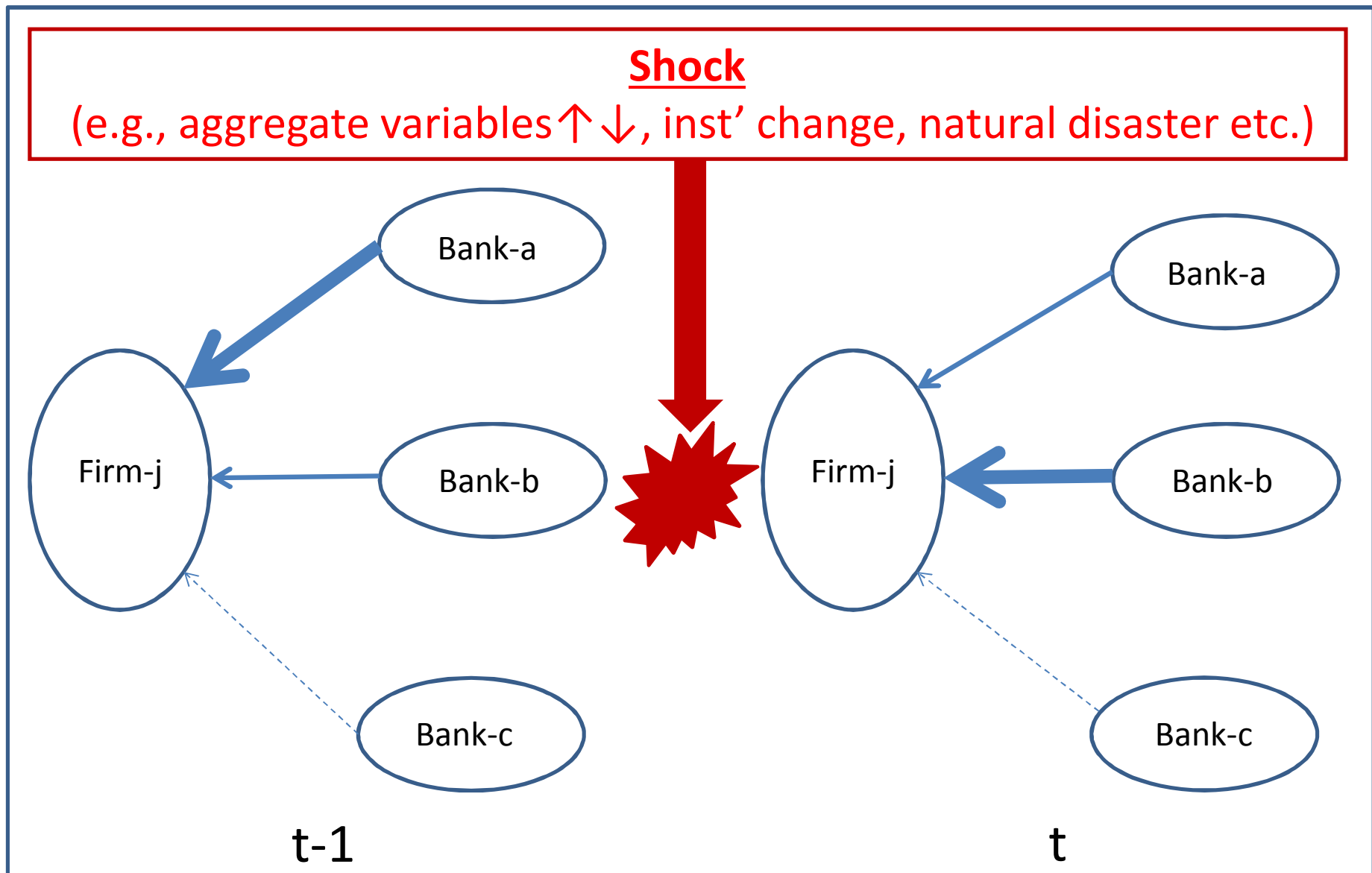
☐ Firm variables

☐ Aggregate variables

Identification problem!

■ An Empirical Strategy: **"Within-firm estimator"**

☐ Take advantage of multiple loan relations b/w firm & banks

☐ Control for unobservable change in loan demand

☐ Khawaja & Mian (AER 2008), Jimenez et al. (AER 2012)

Shock
(e.g., aggregate variables↑↓, inst' change, natural disaster etc.)

Bank-a

Bank-a

Firm-j

Firm-j

Bank-b

Bank-b

Bank-c

Bank-c

t-1

t

Panel data could be used as far as the "shock" is cleanly identified

2. <u>This paper</u>

- Identify **banks' balance sheet channel**
  - ☐ Impact of the changes in business cycle & monetary policy through banks w/ different liquidity and capital ratio
- With controlling for…
  - ☐ Firm: Time-variant observable/unobservable characteristics
    - ⇔ E.g., <u>loan demand</u>（★）
  - ☐ Bank: Observable characteristics
  - ☐ Firm-bank match: Time-invariant unobservable characteristic
    - ⇔ E.g., <u>assortative matching</u>
- Subsample analysis based on firms' characteristics
- Size of bias originating from missing（★）

- Also, impact on **Firm-Level Borrowing and Investment**
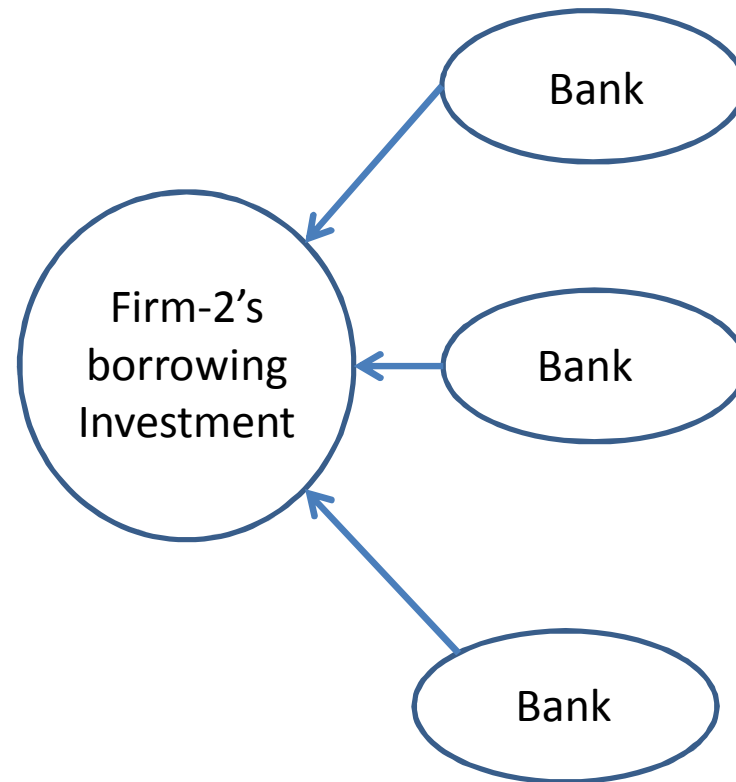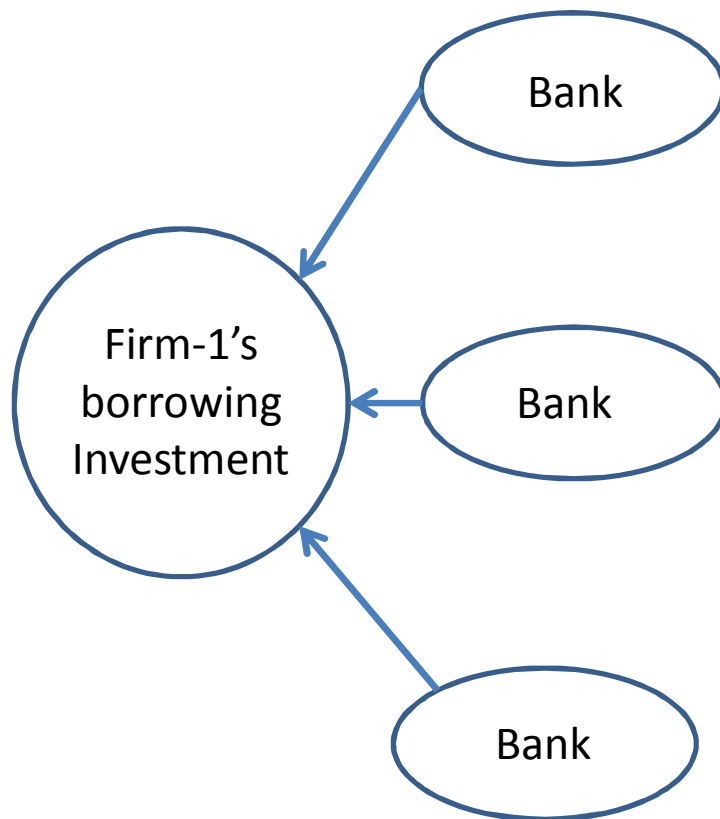
3. Literature (1): Khawaja and Mian (AER 2008)

■ Data: Loan-level data (i.e., match-level data) in Pakistan

■ Regressions

(1) $\Delta L_{ij} = \beta_j + \beta_1 \Delta D_i + F_j + \varepsilon_{i.j}$ (lending channel)

$\triangle L_{ij}$: change in loans from bank i to firm j

$\triangle D_i$: change in deposits at bank i

F_j : firm-level fixed effect

> In the wake of the test of the nuclear device

(2) $\Delta Y_j = \beta_1^F \Delta \overline{D}_j + \eta_j$ (borrowing channel)

$\triangle Y_j$: firm j's default rate (i.e., outcome variable)

$\Delta \overline{D}_j$: average change in deposits for the banks that lent to firm i

■ Results

     $\beta_1 > 0$, $\beta_1^F > 0$ (for small firms)

■ **Our paper: Using <u>extended panel data</u>**

3. Literature (2): Jimenez et al. (AER 2012)

■ Data: Granted / rejected loan applications in Spain (discrete var)

■ Regression:

Dep var: Probability(Application by firm i to be granted by bank j)

Indep var: Bank char, firm char, Macro variables (i.e., short-term interest rate, GDP), Interaction between macro variables & bank char, Firm-month (or loan-level) fixed effect

■ Results:

☐ Higher short-term interest rates or lower GDP growth reduce the probability that a loan application is granted

☐ This tendency is stronger for banks with low capital (in periods of higher short-term interest rates and lower GDP growth) or low liquidity (in periods of higher short-term interest rates)

■ **Our paper: Studying quantitative implication**

3. Data (1): Match & Bank

- **NEEDs-FQ**: Firm-bank match-level panel data in Japan from 1981FY to 2010FY including…

  - ☐ Firm-Bank match-specific loan outstanding

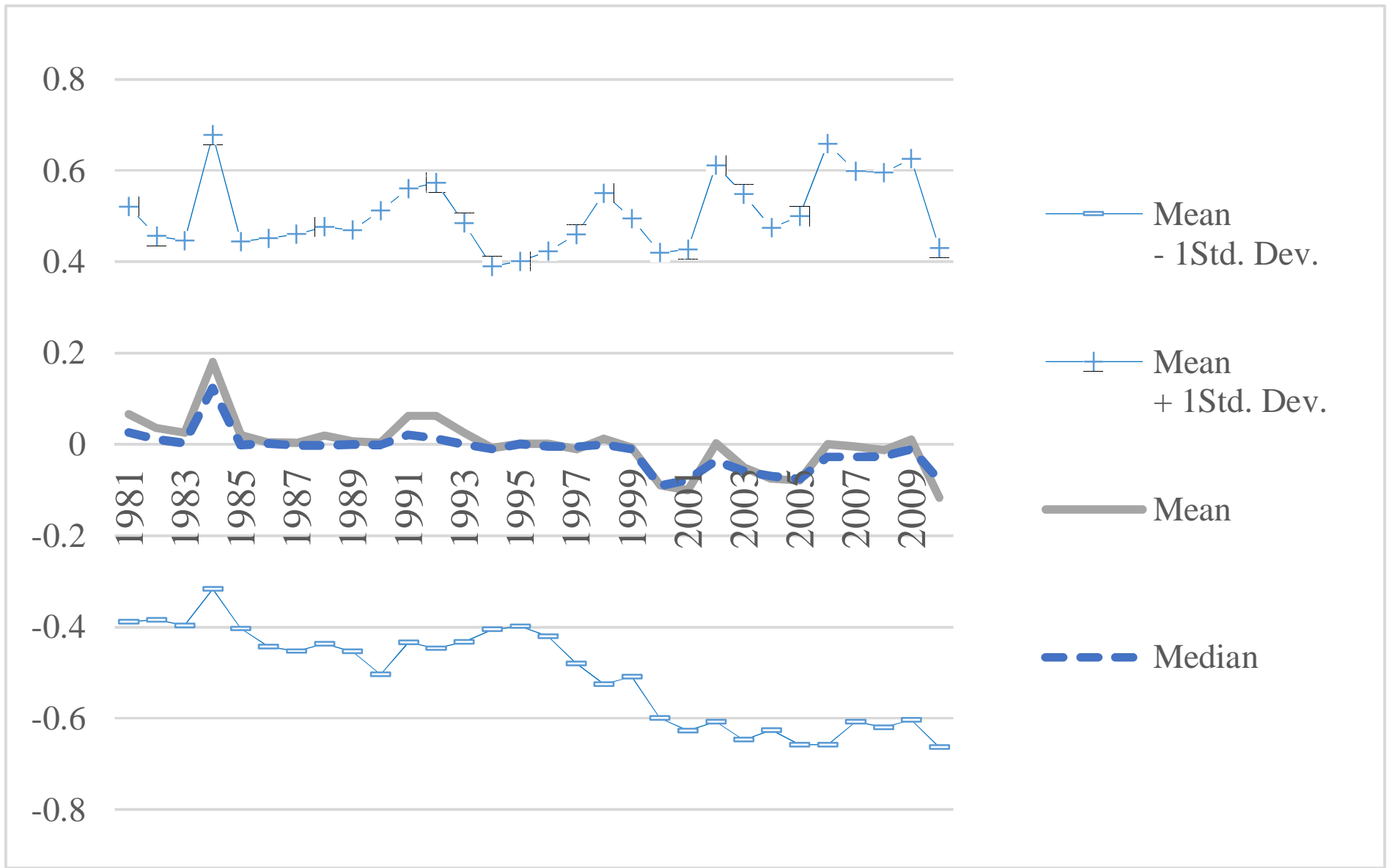   - ˝ Long-term, short-tem loan outstanding, and total loan outstanding (we use this)

  - ☐ Bank's financial statement information

    - ˝ SIZE (BSIZE), ROA (BROA), JGB/Total Asset (BJGB), Local Bond/Total Asset (BLOCALBOND), Loan-to Deposit Ratio (BLTD)

Distribution of the Change in Firm and Bank Match-Level Loans Outstanding

Legend:
- Mean - 1Std. Dev.
- Mean + 1Std. Dev.
- Mean
- Median

3. Data (2): "Key" Bank Variables

˝ Capital ratio (BCAP):

⇔Either Total Equity/Total Asset (BTETA: 1981-2010FY) or

Capital Adequacy Ratio (REGCAP: 1993-2010FY from JBA)

Subtract 4% or 8%

˝ Liquidity (BLIQ):

⇔The ratio of (i) the sum of banks' cash and deposits, loans outstanding in the call market, securities for selling, and JGBs and local bonds minus <u>required current deposits</u> at the BOJ to (ii) total assets.

(i)   Current deposits at the BOJ until FY 1997
(ii)   Multiplying the required reserve ratio by the amount of deposits of each type from FY 1997 to FY 2010

3. Data (3): Firm

☐ <u>Firm</u>'s financial statement information

　˝ PBR, total assets, ROA, liquidity ratio, fixed assets to total assets ratio

　˝ Debts to total assets ratio, the ratio of short-term to long-term liabilities, the ratio of bank borrowing to total liabilities, and

　˝ Number of lender banks

> We use the firms with at least two lender banks

☐ <u>Sample size</u>: Observations on between 907 firms (in FY1982) and 1,666 firms (in FY2008) and 109 banks (in FY2010) and 153 banks (in FY1981) in any particular year

3. Data (4): Policy

- Real GDP growth rate (GDPGROWTH)
- Variables related to monetary policy (POLICY)
  - ☐ Change in policy-rate
    - ˝ Koteibuai or O/N call rate
    - ˝ POLRATE_UP, POLRATE_DOWN
    - ˝ Base=no change, QE period
  - ☐ Change in quantitative easing policy
    - ˝ QE_LOOSENING, QE_TIGHTENING
    - ˝ Base=no change, pre-QE period

  - ☐ Combined indicator
    - ˝ MPLOOSENING
    - ˝ MPTIGHTENING

We use these separately
(due to potential multicollinearity)

Structure of "POLICY"

FY	Growth rate of real GDP	Policy Rate Koteibuai: %	Policy Rate O/N call rate %	Policy Rate from previous FY: %	QE target (Weight Average): Trillion Yen	POLRATE_UP	POLRATE_DOWN	QE_RELAX	QE_TIGHT	MP RELAX	MP TIGHT
1981	0.0394	6.0000	n.a.	-2.0000	0	0	1	0	0	1	0
1982	0.0314	5.5000	n.a.	-0.5000	0	0	1	0	0	1	0
1983	0.0353	5.2500	n.a.	-0.2500	0	0	1	0	0	1	0
1984	0.0476	5.0000	n.a.	-0.2500	0	0	1	0	0	1	0
1985	0.0628	4.8333	6.7010	-0.1667	0	0	1	0	0	1	0
1986	0.0189	3.2083	4.4424	-1.6250	0	0	1	0	0	1	0
1987	0.0610	2.5000	3.5403	-0.7083	0	0	1	0	0	1	0
1988	0.0640	2.5000	3.9572	0.0000	0	0	0	0	0	0	0
1989	0.0457	3.6875	5.7432	1.1875	0	1	0	0	0	0	1
1990	0.0620	5.7500	7.7656	2.0625	0	1	0	0	0	0	1
1991	0.0234	5.2500	6.8928	-0.5000	0	0	1	0	0	1	0
1992	0.0071	3.2500	4.1228	-2.0000	0	0	1	0	0	1	0
1993	-0.0048	2.0625	2.7596	-1.1875	0	0	1	0	0	1	0
1994	0.0150	1.7500	2.1819	-0.3125	0	0	1	0	0	1	0
1995	0.0228	0.7083	0.7746	-1.0417	0	0	1	0	0	1	0
1996	0.0288	0.5000	0.4800	-0.2083	0	0	1	0	0	1	0
1997	-0.0002	0.5000	0.4683	-0.0117	0	0	1	0	0	1	0
1998	-0.0148	0.5000	0.3008	-0.1675	0	0	1	0	0	1	0
1999	0.0073	0.5000	0.0267	-0.2742	0	0	1	0	0	1	0
2000	0.0255	0.4667	0.1533	0.1267	0	1	0	0	0	0	1
2001	-0.0079	0.1625	0.0080	-0.1453	7.1	0	0	1	0	1	0
2002	0.0108	0.1000	0.0019	-0.0061	15.0	0	0	1	0	1	0
2003	0.0211	0.1000	0.0011	-0.0008	28.7	0	0	1	0	1	0
2004	0.0198	0.1000	0.0009	-0.0002	32.5	0	0	1	0	1	0
2005	0.0228	0.1000	0.0011	0.0002	32.5	0	0	0	0	0	0
2006	0.0230	0.3833	0.2186	0.2175	0.0	0	0	0	1	0	1
2007	0.0182	0.7500	0.5047	0.2861	0	1	0	0	0	0	1
2008	-0.0408	0.5583	0.3627	-0.1420	0	0	1	0	0	1	0
2009	-0.0242	0.3000	0.1022	-0.2605	0	0	1	0	0	1	0
2010	0.0240	0.3000	0.0909	-0.0113	0	0	1	0	0	1	0

4. Empirical Strategy (1)

- Model choice depends on our <u>identification assumption</u>

  - ☐ Change in loan amount depends on firm's loan demand, bank's loan supply, and aggregate-level variables

  - ☐ ε: (i) Error term, (ii) error & bank-FE, **(iii) error & match-FE**

Accounting for loan demand

Account for assortative matching up to some extent

$$\Delta \text{LOAN}_{i,j,t} = \boxed{\eta_{j,t}} + \beta_1 \text{BSIZE}_{i,t-1} + \beta_2 \text{BROA}_{i,t-1} + \beta_3 \text{BJGB}_{i,t-1}$$
$$+ \beta_3 \text{BJGB}_{i,t-1} + \beta_4 \text{BLOCALBOND}_{i,t-1} + \beta_5 \text{BLTD}_{i,t-1}$$
$$+ \beta_6 \text{BCAP}_{i,t-1} + \beta_7 \text{BLIQ}_{i,t-1} + \text{YEAR}(t)$$
$$+ \gamma_1 \text{BCAP}_{i,t-1} \text{GDPGROWTH}_{t} + \gamma_2 \text{BLIQ}_{i,t-1} \text{GDPGROWTH}_{t}$$
$$+ \gamma_3 \text{BCAP}_{i,t-1} \text{POLICY}_{t} + \gamma_4 \text{BLIQ}_{i,t-1} \text{POLICY}_{t} + \varepsilon_{i,j,t}$$

<u>Main interest</u>

Two key variables

4. Empirical Strategy (2)

■ Additional analyses

□ Subsample based on firms' characteristics

˝ Balance sheet channel interacts w/ firm characteristics?

. Different loan provision to firms with different size?

. Different loan provision to firms with dispersed (i.e., weak) loan relations?

□ Results from wrong model

˝ Omit η(j,t)

˝ Include firms' characteristics

˝ Compute the difference in predicted change of ΔLOAN(I,j,t)

4. Empirical Strategy (3)

■ Firm-level estimation

☐ FIRM(j,t) = Δloan(j,t) or ΔINVESTMENTRATIO(j,t)

$$FIRM(j,t) = \boxed{\alpha_1 \overline{BCAP}(j,t-1) + \alpha_2 \overline{BCAP}(j,t-1)GDPGROWTH(t)}$$

$$\boxed{+\alpha_2 \overline{BCAP}(j,t-1)POLICY(t)} + YEAR(t) + \boxed{\lambda F\_CHAR(j,t-1)} + \epsilon(t)$$

Accounting for
e.g., loan demand

Main interest

$$FIRM(j,t) = \boxed{\alpha_1 \overline{BLIQ}(j,t-1) + \alpha_2 \overline{BLIQ}(j,t-1)GDPGROWTH(t)}$$

$$\boxed{+\alpha_2 \overline{BLIQ}(j,t-1)POLICY(t)} + YEAR(t) + \lambda F\_CHAR(j,t-1) + \epsilon(t)$$

5. <u>Empirical Analyses (1)</u>

■ Three hypotheses

☐ **<u>Hypothesis 1</u>**: *Banks with a higher* **BTETA, REGCAP, or BLIQ** *provide larger amounts of loans*

☐ **<u>Hypothesis 2</u>**: *The positive marginal impact of BTETA, REGCAP, and BLIQ becomes smaller (larger) when* **GDPGROWTH** *is higher (lower)*

☐ **<u>Hypothesis 3</u>**: *The positive marginal impact of BTETA, REGCAP, and BLIQ becomes smaller (larger) when* **POLRATE_DOWN, QE_LOOSE,** *and/or* **MPLOOSE** *take a value of one (***POLRATE_UP, QE_TIGHT,*** or* **MPTIGHT** *take a value of one)*

5. Empirical Analyses (2): Baseline Estimation

Dependent Variable: LOANS(t)	BCAP = BTETA (iii) Coef.	SD	BCAP = REGCAP (iii) Coef.	SD
BSIZE(t-1)	0.124	0.007 ***	0.164	0.012 ***
BROA(t-1)	1.354	0.177 ***	1.416	0.190 ***
BJGB(t-1)	-0.352	0.057 ***	-0.717	0.084 ***
BLOCALBOND(t-1)	-0.353	0.119 ***	-0.133	0.187
BLTD(t-1)	0.020	0.008 **	0.016	0.015
BCAP(t-1)	1.759	0.511	0.016	0.005
BLIQ(t-1)	0.213	0.095	0.382	0.186
BCAP(t-1)×GDPGROWTH(t)	-14.452	5.557	-0.216	0.055
BCAP(t-1)×POLRATE_UP(t)	-1.201	0.519 **	0.002	0.005
BCAP(t-1)×POLRATE_DOWN(t)	-1.221	0.501	-0.014	0.005
BCAP(t-1)×QE_LOOSENING(t)	-0.858	0.545	-0.009	0.005
BCAP(t-1)×QE_TIGHTENING(t)	-1.382	0.639	-0.029	0.005
BLIQ(t-1)×GDPGROWTH(t)	-7.395	0.881	-5.781	1.728
BLIQ(t-1)×POLRATE_UP(t)	-0.065	0.089	-0.208	0.186
BLIQ(t-1)×POLRATE_DOWN(t)	-0.073	0.086	-0.198	0.182
BLIQ(t-1)×QE_LOOSENING(t)	-0.276	0.110 **	-0.298	0.182
BLIQ(t-1)×QE_TIGHTENING(t)	0.513	0.204	0.504	0.244
CONSTANT	0.032	0.005 ***	0.087	0.016 ***
Year Effect	Yes		Yes	
Firm Time-Variant FE	Yes		Yes	
Bank-Level Time-Invariant FE	Yes		Yes	
Match-Level Time-Invariant FE	Yes		Yes	
Number of Obs.	299,196		156,722	
Number of Groups	52,109		40,374	
F-Value	13.03		14.34	
R-Squared (Overall)	0.0009		0.0018	

H1 supported

H2 supported

H3 supported

Not robust in other specification

H2 supported

H3 supported (Exit from QE)
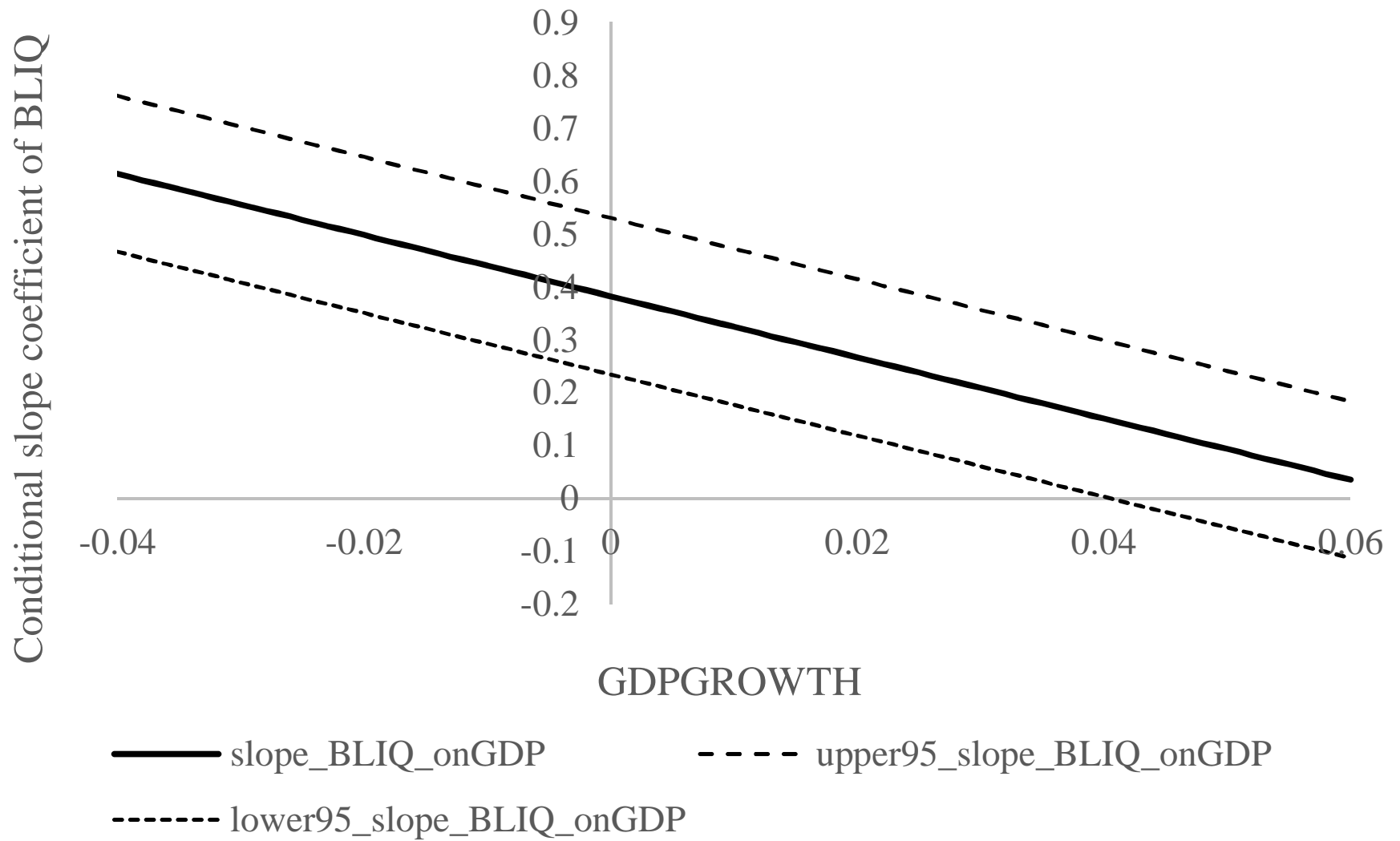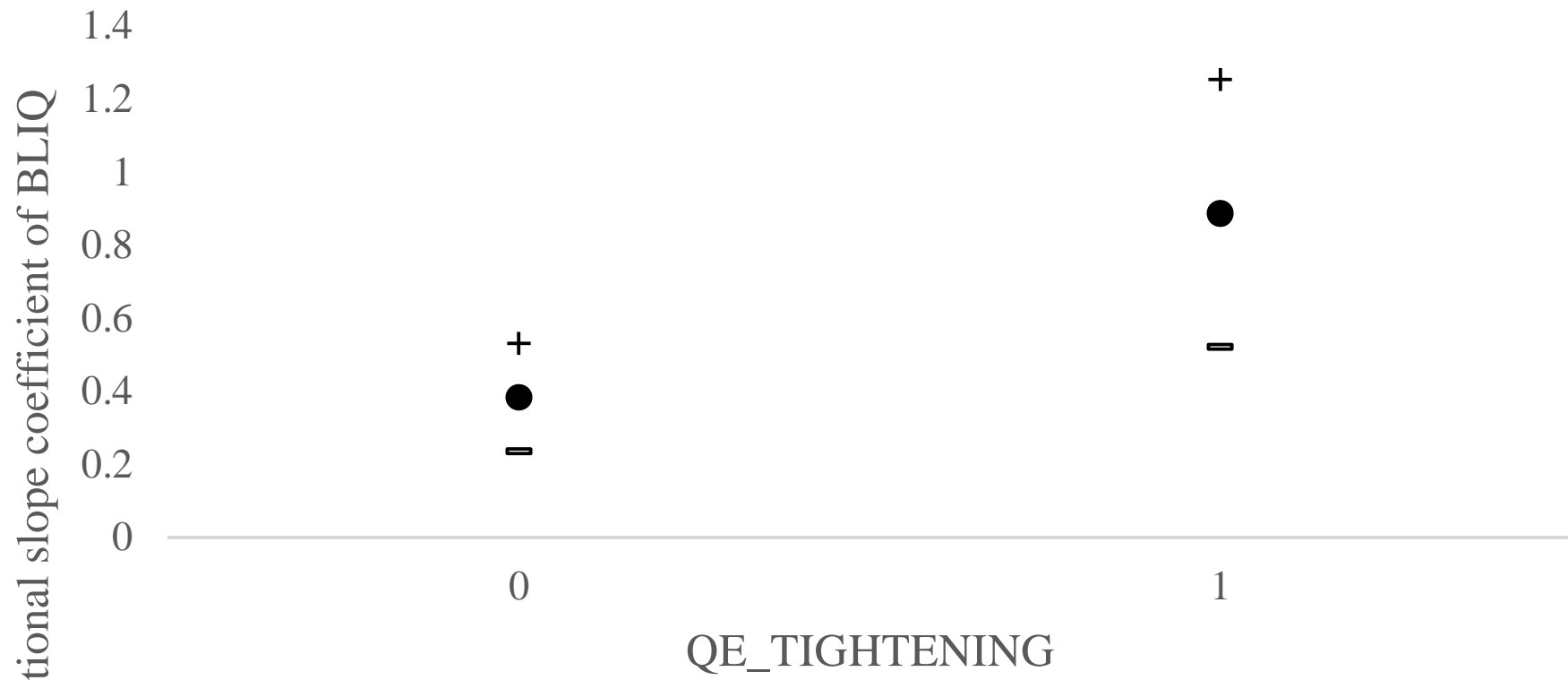
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5. Empirical Analyses (3): Quantitative Impacts

■ BLIQ↓ by 1 Std. (0.068) in t-1

    ☐ **GDPGROWTH = 0** & **No Change in monetary policy** in year t

       ˝ ΔLOAN(i,j,t) is smaller by 0.382 × (0.068) = **2.6%**

          ⇔ Sample mean of ΔLOAN(i,j,t) is -0.3%

          ⇔ 7% of the standard deviation of ΔLOAN(i,j,t) (48.4%)

    ☐ **GDPGROWTH = -0.02** & **No Change in monetary policy** in t

       ˝ ΔLOAN(i,j,t) is smaller by **3.4%**

    ☐ **GDPGROWTH = -0.02** & **QETIGHT=1** in t

       ˝ ΔLOAN(i,j,t) is smaller by **6.0%**

    ☐The impact of bank liquidity **more than doubles** when quantitative easing is exited under economic downturns

5. Empirical Analyses (3)': Quantitative Impacts

◾ REGCAP↓ by 1 Std. (2.671%) in year t-1

    ☐ **GDPGROWTH = 0** & **No Change in monetary policy** in year t

       ˝ ΔLOAN(i,j,t) is smaller by **4.3%**

       ˝ The quantitative impact of bank capital is economically sizable and comparable to that of bank liquidity

    ☐ **GDPGROWTH = -0.02** & **No Change in monetary policy** in t

       ˝ ΔLOAN(i,j,t) is smaller by **5.4%**

5. Empirical Analyses (4): Quantifying the Bias

■ Our model vs. Wrong model

  ☐ Comparing the impact of 1 STD↓ (-0.068) in bank liquidity

  ☐ Zero GDP growth and BOJ tightened monetary policy

  ⇔ True model: 0.695 × (-0.068)+0.288 × (-0.068) × 1 = △**6.7%**

  ⇔ Wrong model: 0 × (-0.068)+0.375 × (-0.068) × 1 = △**2.6%**

BCAP = REGCAP	Not Controlling for Loan Demand		Controlling for Loan Demand	
Dependent Variable:	With Firm Characteristics		(From Table 6)	
LOANS(t)	Coef.	SD	Coef.	SD
BLIQ(t-1)	0.102	0.111	0.695	0.128 ***
BLIQ(t-1)×GDPGROWTH(t)	-1.413	2.023	-1.849	2.523
BLIQ(t-1)×MPTIGHTENING(t)	0.378	0.120 ***	0.288	0.146 **

5. Empirical Analyses (5): Firm-Level Results

■ Average levels of BLIQ and BCAP among lender banks

BCAP = REGCAP	(i) Δ Borrowing (t)		(iv) Investment Ratio (t)	
	Full sample Coef.	FPBR>Median Coef.	Full sample Coef.	FPBR>Median Coef.
BLIQ(t-1)	0.062	0.237 *	0.100	0.281 *
BLIQ(t-1)×GDPGROWTH(t)	-5.959 ***	-8.247 ***	-1.484	-6.412 **
BLIQ(t-1)×MPTIGHTENING(t)	0.172	0.311 *	-0.015	0.102
FPBR(t-1)	3.14E-03 ***	2.07E-03 **	3.92E-03 ***	2.64E-03 **
FPBR_SQ(t-1)	-4.12E-06 ***	-3.15E-06 ***	-3.32E-06 **	-2.10E-06 *
FSIZE(t-1)	-0.187 ***	-0.283 ***	-0.315 ***	-0.492 ***
FROA(t-1)	0.832 ***	1.350 ***	0.482 ***	0.913 ***
FTANGIBLE(t-1)	0.177 **	***	-1.611 ***	-2.121 ***
CONSTANT	1.898 ***	0.206	4.159 ***	6.294 ***

6. <u>Summary</u>

- **Banks' characteristics matter**
- **Banks' balance sheet channel exists**
- **Sizable endogeneity bias**

- Firms whose banks are less well capitalized or less liquid
  - ☐ Obtain <u>fewer loans</u> in a recession
  - ☐ Pronounced for firms w/ better investment opportunities

- **Firms w/ better investment opportunities tend to <u>invest more</u>**
  - ☐ **When their lender banks are more liquid**
  - ☐ **This link is stronger during an economic downturn**

  ⇔ <u>Bank balance sheet channel</u> has a significant impact

7. <u>What's Next?</u>

■ Future studies:

□ Study the extensive margin of relations (i.e., initiation and termination) in the same framework?

□ How about **unlisted firms** (e.g., BSBSA with COSMOS2)?

□ Other financial relations (e.g., **Venture Firm & VC**)?

Appendix

X1. Empirical Analyses: MP Variables

Dependent Variable: LOANS(t)	BCAP = BTETA (iii) **RELAX**		BCAP = REGCAP (iii)		BCAP = BTETA (iii) **TIGHT**		BCAP = REGCAP (iii)	
	Coef.	SD	Coef.	SD	Coef.	SD	Coef.	SD
BSIZE(t-1)	0.123	0.007 ***	0.168	0.012 ***	0.124	0.007 ***	0.167	0.012 ***
BROA(t-1)	1.373	0.176 ***	1.476	0.189 ***	1.372	0.176 ***	1.474	0.189 ***
BJGB(t-1)	-0.374	0.056 ***	-0.667	0.081 ***	-0.378	0.056 ***	-0.655	0.080 ***
BLOCALBOND(t-1)	-0.366	0.119 ***	-0.139	0.186	-0.370	0.119 ***	-0.151	0.186
BLTD(t-1)	0.021	0.008 ***	0.022	0.014	0.022	0.008 ***	0.023	0.014
BCAP(t-1)	0.530	0.277 *	0.006	0.003 ***	0.642	0.174 ***	0.005	0.001 ***
BLIQ(t-1)	0.204	0.058 ***	0.373	0.091 ***	0.118	0.034 ***	0.156	0.051 ***
BCAP(t-1)×GDPGROWTH(t)	-12.200	5.645 **	-0.160	0.051 ***	-8.514	5.450	-0.121	0.050 **
BCAP(t-1)×MPLOOSENING(t)	0.057	0.261	-0.001	0.002	-0.516	0.267 *	-0.002	0.002
BLIQ(t-1)×GDPGROWTH(t)	-7.346	0.872 ***	-6.103	1.732 ***	-7.100	0.828 ***	-5.901	1.707 ***
BLIQ(t-1)×MPLOOSENING(t)	-0.086	0.046 *	-0.220	0.080 ***	0.081	0.048 *	0.221	0.086 **
CONSTANT	0.032	0.005 ***	0.074	0.015 ***	0.032	0.005 ***	0.068	0.015 ***
Year Effect	Yes		Yes		Yes		Yes	
Firm Time-Variant FE	Yes		Yes		Yes		Yes	
Bank-Level Time-Invariant FE	Yes		Yes		Yes		Yes	
Match-Level Time-Invariant FE	Yes		Yes		Yes		Yes	
Number of Obs.	299,196		156,722		299,196		156,722	
Number of Groups	52,109		40,374		52,109		40,374	
F-Value	14.36		14.77		14.42		14.71	
R-Squared (Overall)	0.0009		0.0016		0.0009		0.0016	

X2. Empirical Analyses: Subsample by Periods

BCAP = REGCAP Dependent Variable: LOANS(t)	(i) t= 1993-2004				(ii) t= 2001-2010			
	Coef.	SD	Coef.	SD	Coef.	SD	Coef.	SD
BSIZE(t-1)	0.180	0.014 ***	0.180	0.014 ***	0.232	0.026 ***	0.225	0.026 ***
BROA(t-1)	1.422	0.200 ***	1.422	0.200 ***	2.348	0.379 ***	2.321	0.379 ***
BJGB(t-1)	-0.582	0.096 ***	-0.582	0.096 ***	-1.279	0.146 ***	-1.265	0.146 ***
BLOCALBOND(t-1)	-0.365	0.218 *	-0.365	0.218 *	0.194	0.373	0.164	0.373
BLTD(t-1)	0.000	0.016	0.000	0.016	0.083	0.052	0.075	0.052
BCAP(t-1)	0.006	0.004	0.000	0.002	0.017	0.004 ***	0.015	0.002
BLIQ(t-1)	0.159	0.112	0.032	0.057	0.937	0.166 ***	0.695	0.128
BCAP(t-1)×GDPGROWTH(t)	-0.031	0.088	-0.031	0.088	-0.312	0.058	-0.262	0.056
BCAP(t-1)×MPLOOSENING(t)	-0.006	0.004			-0.003	0.003		
BCAP(t-1)×MPTIGHTENING(t)			0.00634	0.004			-0.003	0.003
BLIQ(t-1)×GDPGROWTH(t)	-5.800	2.179 ***	-5.800	2.179 ***	-2.211	2.640	-1.849	2.523
BLIQ(t-1)×MPLOOSENING(t)	-0.127	0.100			-0.249	0.130 *		
BLIQ(t-1)×MPTIGHTENING(t)			0.127	0.100			0.288	0.146
CONSTANT	0.046	0.010 ***	0.046	0.010 ***	0.092	0.015 ***	0.088	0.015 ***
Year Effect	Yes		Yes		Yes		Yes	
Firm Time-Variant FE	Yes		Yes		Yes		Yes	
Bank-Level Time-Invariant FE	Yes		Yes		Yes		Yes	
Match-Level Time-Invariant FE	Yes		Yes		Yes		Yes	
Number of Obs.	121,977				65,592			
Number of Groups	31,771				24,415			
F-Value	14.92		14.92		14.19		14.17	
R-Squared (Overall)	0.0014		0.0014		0.0017		0.0017	

X3. Empirical Analyses: Subsample by Firm Char

BCAP = REGCAP Dependent Variable: LOANS(t)	(i) LN(Total Assets) <= Median				(ii) LN(Total Assets) > Median			
	Coef.	SD	Coef.	SD	Coef.	SD	Coef.	SD
BCAP(t-1)	0.012	0.004 ***	0.009	0.002 ***	0.004	0.003	0.001	0.002
BLIQ(t-1)	0.473	0.141 ***	0.237	0.082 ***	0.242	0.121 **	0.087	0.067
BCAP(t-1)×GDPGROWTH(t)	-0.247	0.076 ***	-0.191	0.074 ***	-0.137	0.068 **	-0.109	0.066 *
BCAP(t-1)×MPLOOSENING(t)	-0.003	0.004			-0.003	0.003		
BCAP(t-1)×MPTIGHTENING(t)			-0.0023	0.004			0.001	0.003
BLIQ(t-1)×GDPGROWTH(t)	-4.499	2.592 *	-4.102	2.549	-6.937	2.333 ***	-6.946	2.297 ***
BLIQ(t-1)×MPLOOSENING(t)	-0.243	0.123			-0.156	0.106		
BLIQ(t-1)×MPTIGHTENING(t)			0.225	0.134			0.169	0.111
CONSTANT	0.074	0.019 ***	0.071	0.019 ***	0.103	0.021 ***	0.098	0.021 ***

BCAP = REGCAP Dependent Variable: LOANS(t)	(i) No. of Lender Banks / LN(Total Assets) <= Median				(ii) No. of Lender Banks / LN(Total Assets) > Median			
	Coef.	SD	Coef.	SD	Coef.	SD	Coef.	SD
BCAP(t-1)	0.007	0.004 *	0.007	0.002 ***	0.006	0.004	0.003	0.002
BLIQ(t-1)	0.328	0.124 ***	0.178	0.070 **	0.475	0.136 ***	0.145	0.076 *
BCAP(t-1)×GDPGROWTH(t)	-0.107	0.069	-0.086	0.067	-0.248	0.077 ***	-0.187	0.075 **
BCAP(t-1)×MPLOOSENING(t)	0.000	0.003			-0.004	0.004		
BCAP(t-1)×MPTIGHTENING(t)			-0.002	0.003			-0.002	0.004
BLIQ(t-1)×GDPGROWTH(t)	-6.280	2.325 ***	-5.500	2.294 **	-6.485	2.597 **	-6.874	2.561 ***
BLIQ(t-1)×MPLOOSENING(t)	-0.158	0.108			0.327	0.119		
BLIQ(t-1)×MPTIGHTENING(t)			0.092	0.117			0.399	0.126
CONSTANT	0.054	0.021 ***	0.051	0.021 **	0.060	0.018 ***	0.058	0.018 ***

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