Trade Shocks Through Banking Lending Channel

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Overview

- Traditional banking lending channel: banks can transmit financial shocks and cause spillover effects through lending relationships
  - (Bernanke & Gertler 1989; Kiyotaki & Moore 1997;)
- Previous papers: bank-driven shocks are passthrough to real sectors
  - (Peek & Rosengren 1997 2000 ; Khawaja & Mian 2008; Hubbard, Kuttner & Palia 2002;)
- Research questions:
  - How are real sector-driven shocks transmitted to the banks?
  - How do banks respond to those shocks and pass them back to real sectors?
- We construct a fully-specified banking lending channel
  - From affected sectors, through banks, to non-affected sectors
- Identification challenge
  - A general macro shock affects all sectors simultaneously
  - A general macro shock affects firm's fund demand and bank's fund supply simultaneously

Overview

- A natural experiment: the US granting China Permanent Normal Trade Relation Status in 2001 (PNTR shock)
  - Affected real sectors: trade sectors VS Non-affected real sectors: Non-trade sectors
  - PNTR shock does not shift bank's fund supply directly

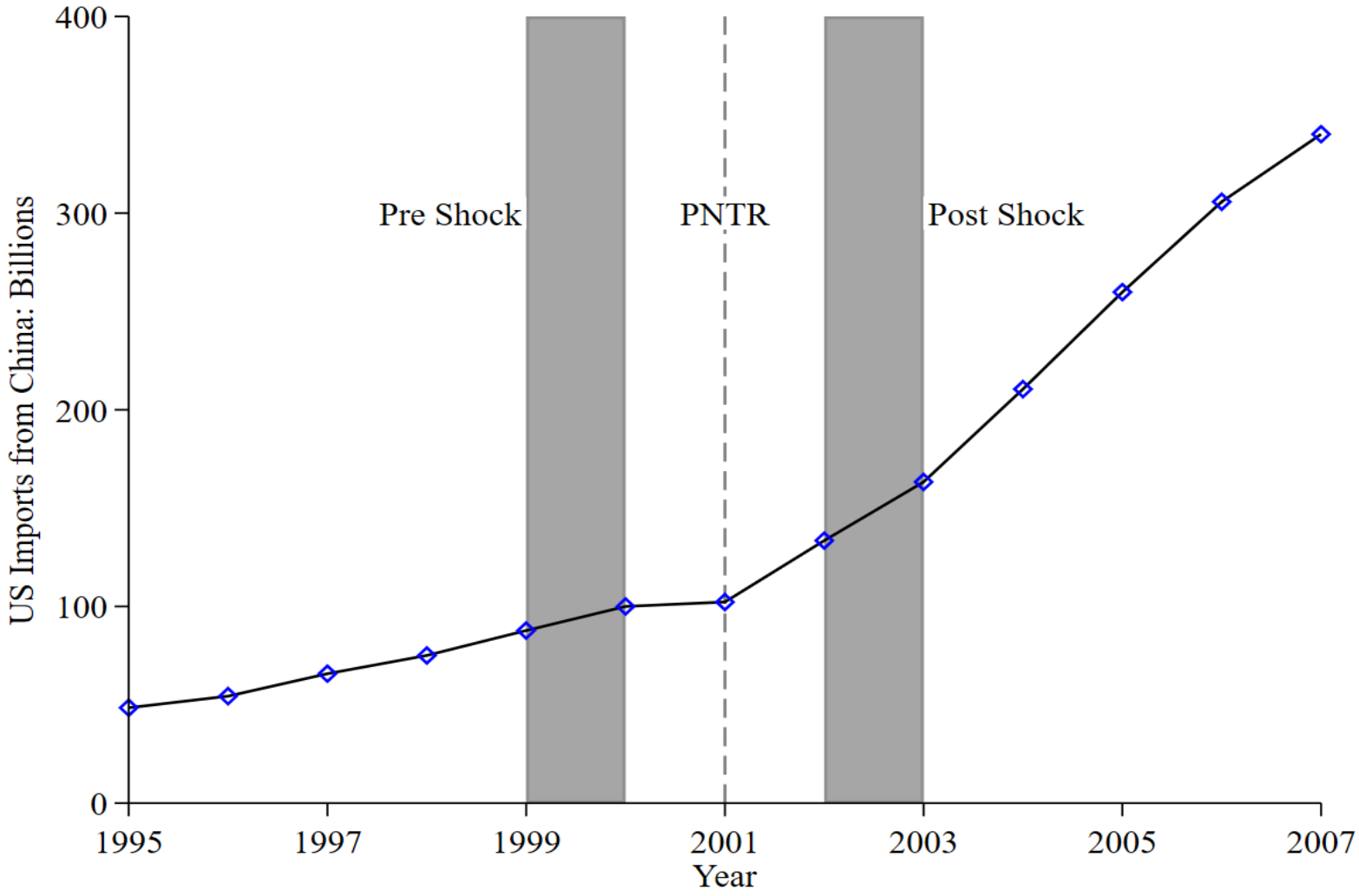
- In this paper, we trace a fully-specified banking lending channel using the PNTR shock
  - The direct impacts of PNTR shock on lending outcomes between banks and trade-sector firms
  - The impact of PNTR shock on banks via lending relationships
  - The pass-through impacts of PNTR shock on Non-trade sectors firms

Contribution and Related Literature

- Banking lending channel
  - Extend the length of the shock transmission route and construct a fully-specified banking lending channel
  - Highlight a bank's special role as the inter-industry shock transmitter
  - (Khwaja and Mian 2008; Chodorow-Reich 2014; Kim 2020; Costello 2020; Greenstone et al 2020)
- Trade shocks from China
  - Quantify the effects of trade shock from China on the US banks
  - Quantify the pass-through effects on the US non-trade sector
  - (Autor et al 2013; Pierce & Schott 2016; Hombert & Matray 2018; Federico et al 2020)
- Granular instrument variable approach
  - Applies the GIV in the US loan market setting with an exogenous shock
  - (Gabix and Koijen 2020; Galaasen et al 2020)
- Empirical macro finance
  - This paper uses micro evidence to infer the aggregate effect of the US commercial loan loss
  - (Mian & Sufi 2011, 2014; Verner & Gyongyosi 2020)

PNTR Shock and Imports from China

- Pre shock Period
  - 1999-2000
- Post shock period
  - 2002-2003
- The law was effective in 2001
- Imports from China rose sharply after 2001



Timeline of PNTR

Framework

a fully-specified banking lending channel

↑ trade shocks ⟹ ↓ trade sector firms ⟹ ↓ banks ⇒ ↓ non-trade sector firms

Direct effects of PNTR shock on trade-sector firms

Effects of PNTR shock on banks via lending relationships

Pass-Through effects of PNTR shock on non-trade sector firms

Identification: Firms in the Trade Sector

- Identification challenge
  - PNTR shock shifts the firm's fund demand curve and bank fund supply curve simultaneously Validity Check
    - Solution: within-bank estimator at bank-firm pair
      - Compare outcomes of different firms within the same bank
- Identification assumption
  - Normal trade relation tariff rate in 1999 is predetermined and independent of PNTR shock
  - Cross variation in trade-sector firm's industry level tariff
- Main specification

$$\Delta y_{b,f} = \alpha + \beta \times NTR\ Tariff\ 1999_f + '\gamma X_f + \delta_s + \delta_b + \epsilon_{b,f} \quad (1)$$

  - Key fixed effects: bank fixed effects
  - Δy is the change or log change of outcome variables between pre shock period and post shock period
    - Our specification depends on cross-section variation
    - First difference of y absorbs the time invariant omitted variables
  - Standard error clustered at firm's four digit SIC code level

Firms in the Trade Sector: Lending Relationship

	Lending Relationship Exist,1999-2003			
	(1)	(2)	(3)	(4)
NTR Tariff,1999	0.012***	0.012***	0.012***	0.013***
	(0.003)	(0.004)	(0.004)	(0.003)
Firm Size,1999		-0.004	-0.004	-0.011
		(0.012)	(0.012)	(0.014)
Firm Tang,1999			0.042	0.049
			(0.135)	(0.133)
Firm Age, 1999				0.001
				(0.002)
Observations	651	651	651	651
R^2	0.09	0.09	0.09	0.09
SIC1 FE	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes

- NTR Tariff in 1999 ↓ 1% lending relationship ↓ 1.3 %
- NTR Tariff in 1999 Δ 1 S.D lending relationship Δ 6.49 % (16.53% S.D)

Firms in the Trade Sector: Loan Terms

	Lending Relationship Sample			
	Growth in Loan Amount,1999-2003		Change in Loan Spread,1999-2003	
	(1)	(2)	(3)	(4)
NTR Tariff,1999	0.042***	0.044***	-2.942**	-2.819**
	(0.010)	(0.012)	(1.179)	(1.191)
Firm Size,1999		0.032		-4.400
		(0.132)		(11.350)
Firm Tang,1999		0.671		-43.287
		(0.697)		(111.803)
Firm Age, 1999		0.009		-0.171
		(0.010)		(1.366)
Observations	119	119	101	101
R^2	0.23	0.26	0.26	0.27
SIC1 FE	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes

Placebo

- NTR tariff in 1999 ↓ 1 % loan amount ↓ 4.4 % and loan spread ↑ 3 bps
- NTR tariff in 1999 Δ 1 S.D loan amount ↓ 22 % (21.3 % S.D) and loan spread ↑14 bps (10.2 % S.D)

Channel Outcomes in the Trade Sector

	Lending Relationship Sample			
	Change in Firm ROA,1999-2003		Growth in Firm Sales,1999-2003	
	(1)	(2)	(3)	(4)
NTR Tariff,1999	0.002***	0.002***	0.008**	0.010**
	(0.001)	(0.001)	(0.004)	(0.004)
Firm Size,1999		-0.005		-0.051**
		(0.005)		(0.023)
Firm Tang,1999		0.003		0.539*
		(0.042)		(0.278)
Firm Age, 1999		0.000		0.001
		(0.000)		(0.003)
Observations	511	511	516	516
R^2	0.16	0.17	0.26	0.29
SIC1 FE	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes

- NTR tariff in 1999 ↓ 1 % change in firm ROA ↓ 0.2 % and growth in firm sales ↓ 1 %
- NTR tariff in 1999 Δ 1 S.D change in firm ROA Δ 1 % (9.8 % S.D) and growth in firm sales Δ 5 % (8.6 % S.D)

Identification: Bank Sample

- Main Variable Construction

$$\text{NTR Tariff in Bank } 1999_b = \sum_f L_{b,f} \times \text{NTR Tariff } 1999_{f,b} \quad (2)$$

  - $L_{b,f}$ is the loan weight ratio between bank and firm in the trade sector during pre shock period
  - NTR Tariff $1999_{f,b}$ is the normal trade relation tariff in 1999 for firm in the trade sector
- Main Specification

$$\Delta Y_b = \alpha + \beta \times NTR\ Tariff\ in\ Bank\ 1999_b + {}'\gamma X_b + \epsilon_b \ (3)$$

  - ΔY_b is the change or log change of bank outcome variables between pre shock and post shock period
    - First difference of outcome variable absorbs the time-invariant omitted factors

Identification: Bank Sample

- Identification challenge
  - Banks with good risk management can control lending risk to some degree when faced with shocks
    - Solution: granular instrument variable approach
      - We exploit granular loans in bank loan portfolios in our sample to construct the instrument variable
- Granular instrumental variable approach

$$NTR\,Tariff\,1999_{b,f} = \eta_b + \upsilon_{b,f} \quad (4)$$

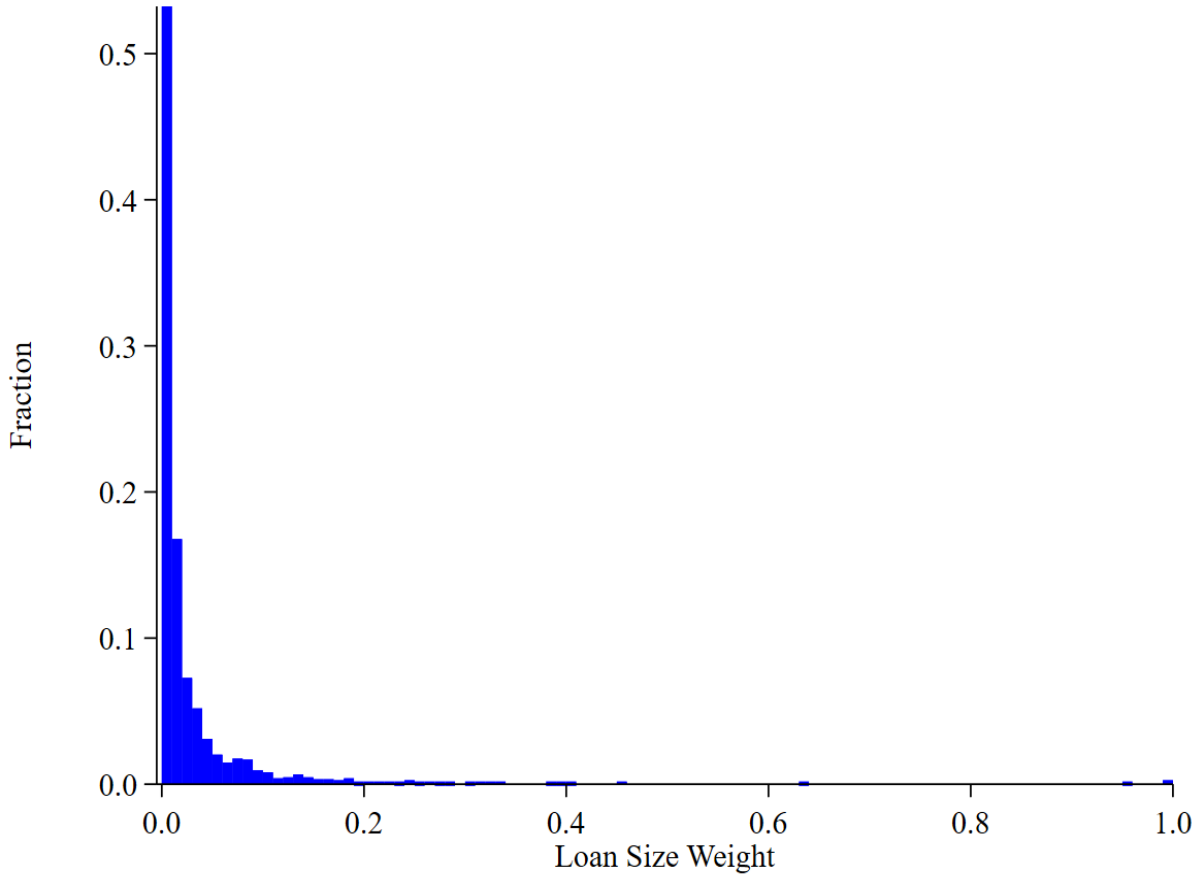
- η_b: unobserved factors of bank, such as bank risk management and bank loan specialization
- $\upsilon_{b,f}$: idiosyncratic factor of the bank

$$\text{Granular Firm Shock}_b = \sum_f L_{b,f} \times NTR\ \text{Tariff}\ 1999_{b,f} - \sum \frac{1}{N_f} \times\ \text{NTR Tariff}\ 1999_{b,f}$$

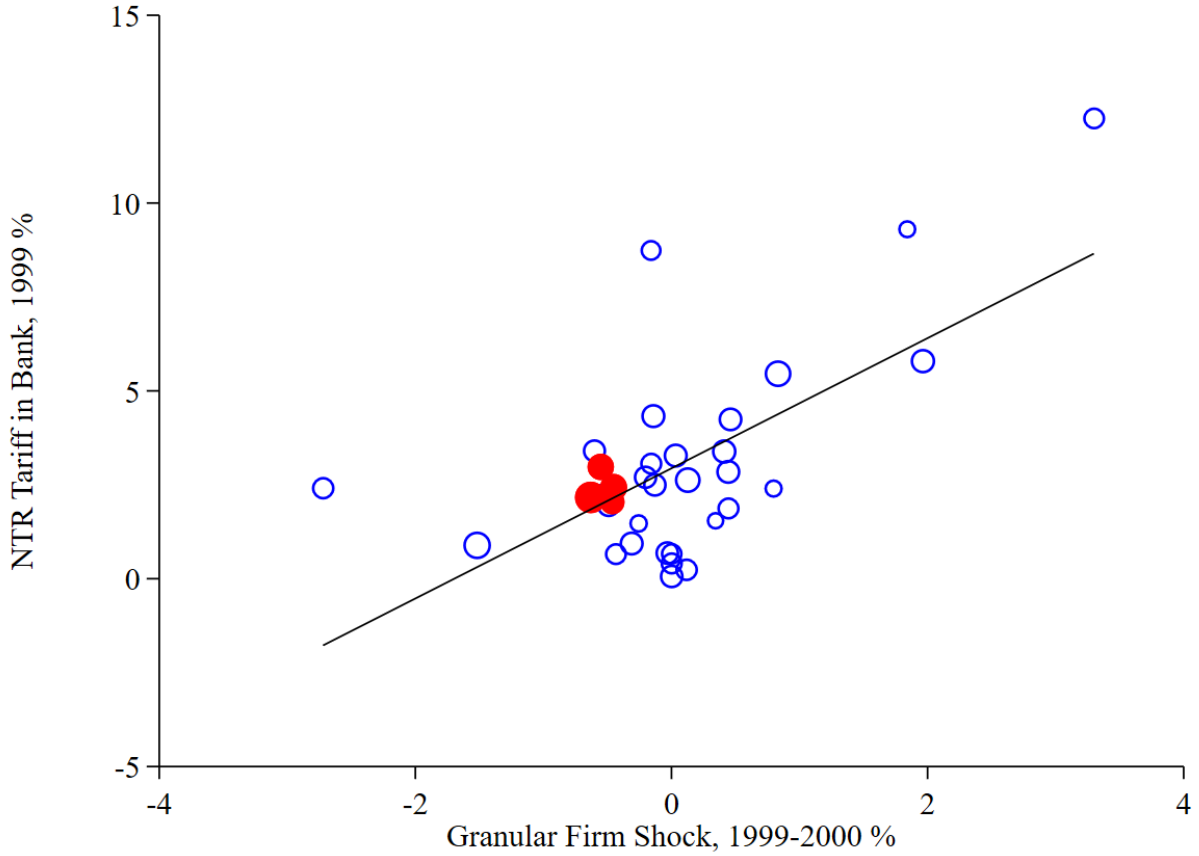
$$= \sum_f L_{b,f} \times \upsilon_{b,f} - \sum \frac{1}{N_f} \times \upsilon_{b,f} \quad (5)$$

Granular IV Validity

Distribution of Loan Size



Scatter Plot of Granular IV



Change in Bank ROA,1999-2003

	Bank Sample			
	OLS	OLS	OLS	IV
	(1)	(2)	(3)	(4)
NTR Tariff in Bank,1999	0.088*	0.131**		0.222**
	(0.047)	(0.055)		(0.095)
Bank Size,1999		-0.214**	-0.234**	-0.251**
		(0.101)	(0.092)	(0.109)
Bank Capital,1999		16.567	17.428	18.369
		(16.982)	(15.842)	(13.986)
Number of Loan in Trade Sector,1999-2000		0.004	0.006*	0.005*
		(0.003)	(0.003)	(0.003)
Granular Firm Shock,1999-2000			0.387**	
			(0.173)	
Constant	-0.660**	1.612	2.224	1.814
	(0.262)	(1.740)	(1.598)	(2.207)
Observations	31	31	31	31
R^2	0.06	0.27	0.28	0.20

- OLS results: NTR tariff in bank, 1999 ↓ 1 % (1 S.D change) Bank ROA ↓ 0.13 % (36.0 % S.D)
- IV results: NTR tariff in bank, 1999 ↓ 1 % (1 S.D change) Bank ROA ↓ 0.22 % (61.0 % S.D)

Change in Bank Outcome, 1999-2003

Back

	Bank Sample			
	Change in Bank NPL,1999-2003		Change in Bank Security Ratio,1999-2003	
	(1)	(2)	(3)	(4)
NTR Tariff in Bank,1999	-0.055***	-0.047**	0.018***	0.018**
	(0.014)	(0.018)	(0.005)	(0.008)
Bank Size,1999		0.084		-0.011
		(0.052)		(0.010)
Bank Capital,1999		4.327		-0.248
		(4.560)		(1.487)
Number of Loan in Trade Sector,1999-2000		-0.001		0.000
		(0.001)		(0.000)
Constant	0.600***	-1.193	-0.026	0.192
	(0.067)	(0.911)	(0.021)	(0.214)
Observations	25	25	25	25
R^2	0.17	0.31	0.24	0.27

- NTR tariff in bank,1999 ↓ 1 %(Δ 1 S.D) change in bank NPL ↑ 0.047 % (43.3 % S.D)
- NTR tariff in bank,1999 ↓ 1 %(Δ 1 S.D) change in bank security ratio ↓1.8 % (58.5 % S.D)

Identification: Firms in the Non-Trade Sector

- Identification challenge
  - Confounding factors from firm side
    - Solution: within-firm estimator (Khwaja and Mian 2008)
      - Compare outcomes of different banks within the same firm
- Main specification

$$\Delta Y_{b,c} = \alpha + \beta \times Granual\ Firm\ shock_b + {}' \gamma X_b + \delta_c + \epsilon_{b,c} \quad (6)$$

- Key fixed effects: firm fixed effects δ_c
- Subscript b denotes the bank and subscript c denotes firms in the non-trade sector
- $\Delta Y_{b,c}$ is the change or log change of loan outcomes between pre shock and post shock period
- Standard error clustered at bank level

Lending Relationships in the Non-Trade Sector

	Lending Relationship Exist,1999-2003			
	Non-Trade Sector		Local Industry	
	(1)	(2)	(3)	(4)
Granular Firm Shock,1999-2000	-0.073***	-0.059**	-0.083***	-0.067**
	(0.023)	(0.026)	(0.027)	(0.032)
Bank Size,1999		0.013		0.009
		(0.015)		(0.017)
Bank Capital,1999		-0.391		-0.598
		(1.085)		(1.271)
Number of Loan in Trade Sector,1999-2000		0.000		0.000
		(0.000)		(0.000)
Observations	674	674	564	564
R^2	0.70	0.70	0.69	0.69
Borrower FE	Yes	Yes	Yes	Yes

- Granular Firm Shock, 1999-2000 ↓ 1 % lending relationship ↑ 5.9 %
- Granular Firm Shock, 1999-2000 Δ 1 S.D lending relationship Δ 5.9 % (14.4 % S.D)

Identification: Firm in the Non-Trade Sector

- Aggregate the data at firm level

$$\text{Granular Bank Shock}_c = \sum_b L_{b,c} \times Granular\ Firm\ Shock_{b,c} \quad (7)$$

  - $L_{b,c}$ is the loan size weight between bank and non-trade sector firm during the pre shock period
- Main specification

$$\Delta Y_c = \alpha + \beta \times Granular\ Bank\ Shock_c + '\gamma X_c + \delta_s + \epsilon_c \quad (8)$$

  - ΔY_C is the change or log change of firm outcome in the non-trade sector between pre shock and post shock period
  - Key fixed effects: one-digit SIC sector fixed effects δ_s
    - Exclude the confounding factor at the sector level

Bank Shock on Firm Outcomes in Non-Trade Sector

	All industries in Non-Trade Sector			
	Change in Firm ROA,1999-2003		Growth in Firm Sale,1999-2003	
	(1)	(2)	(3)	(4)
Granular Bank Shcok	0.077**	0.067**	0.554**	0.477*
	(0.034)	(0.031)	(0.274)	(0.262)
Firm Size,1999		-0.011*		-0.034
		(0.007)		(0.029)
Firm Tang,1999		0.030		0.330*
		(0.025)		(0.182)
Firm Age,1999		-0.000		-0.015***
		(0.000)		(0.003)
Constant	0.014	0.154*	0.507***	1.053***
	(0.014)	(0.093)	(0.093)	(0.398)
Observations	309	309	312	312
R^2	0.04	0.06	0.09	0.16
SIC1 FE	YES	YES	YES	YES

- Granular bank shock ↓ 1 % (Δ 1 S.D) change in firm ROA ↓ 6.7 % (15.4 % S.D)
- Granular bank shock ↓ 1 %(Δ 1 S.D) growth in firm sales ↓ 47.7 %(19.0 % S.D)

Aggregate Results

- Counterfactual experiment
  - Micro estimates to infer macro effects
  - Partial equilibrium effect
  - Assume that PNTR shock should not happen
    - The event is equivalent to the increase in NTR tariff rate
- Counterfactual growth rate of loan

$$g_{i,t,t+h}(\tau) = E\left[g_{i,t,t+h} \middle| NTR + \tau\right]$$

$$= \widehat{g_{i,t,t+h}} + \hat{\beta} \times \tau$$

  - $g_{i,t,t+h}(\tau)$: counterfactual growth rate of loan for firm in the trade sector
  - $\widehat{g_{i,t,t+h}}$: fitted growth rate of loan
  - $\hat{\beta}$: is the coefficient estimate
  - τ: the increase in hypothetical tariff rate

Aggregate Results

- Counterfactual end level of loan

$$V(x) = (1 + x) \times y_{i,t}$$

  - V(x): end level of loan
  - X: the loan growth rate
  - $y_{i,t}$: start level of loan

- Loan loss ratio

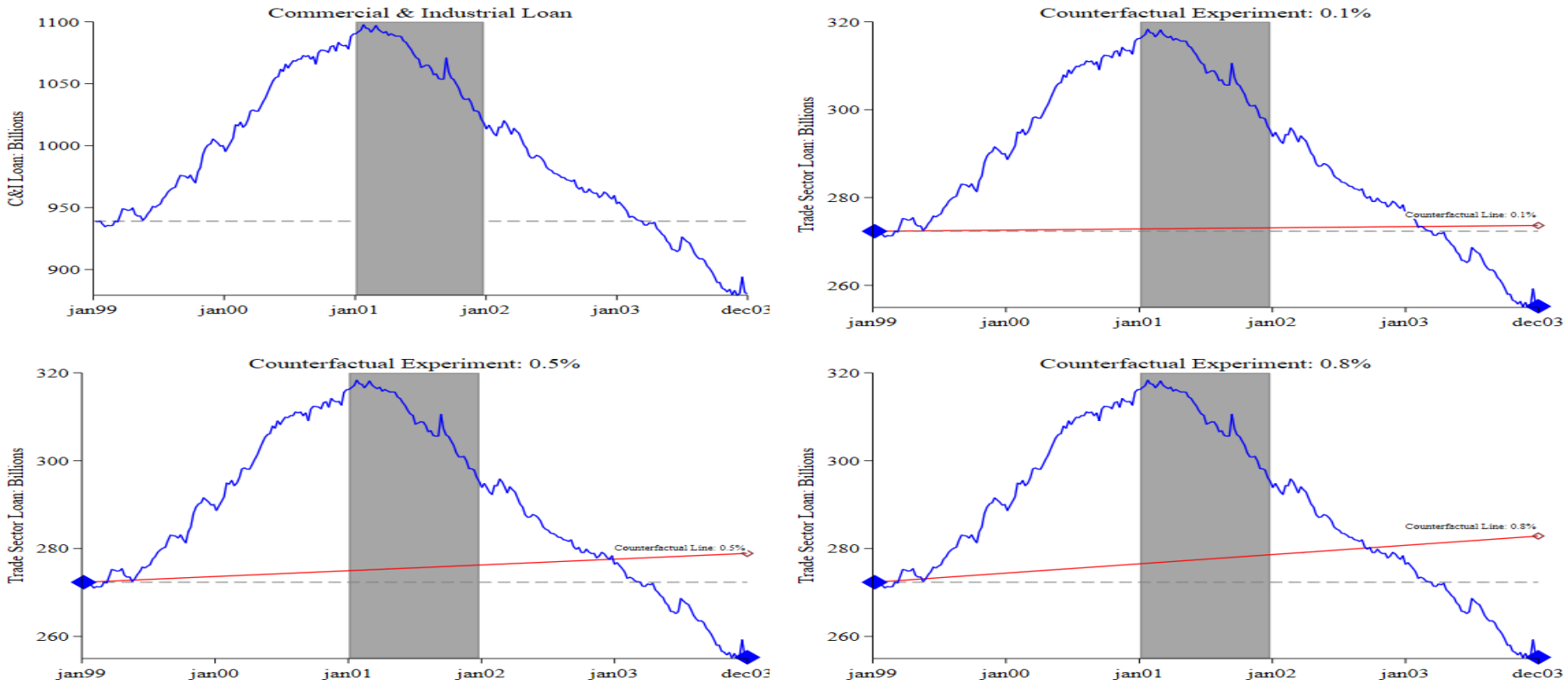
$$Loan\ Loss\ Ratio = \frac{\sum_i y_{i,t+h}(\tau) - \widehat{y_{i,t+h}}}{\sum_i y_{i,t} - y_{i,t+h}}$$

Aggregate Implication of Loan Loss for PNTR

$$Loan\ Loss = Loan\ Loss\ Ratio \times Trade\ Sector\ Loan\ Ratio \times Change\ in\ Total\ C\&I\ Loan\ 1999 - 2003$$

Hypothetical Tariff Change: %	Share of Loan Loss of Shock: %	Trade Loan Ratio in 1999	Change in Total C&I Loan 1999-2003: Billions	Loan Loss of Shock in Economy: Billions
0.1	7.69	0.29	-58.79	-1.29
0.5	38.44	0.29	-58.79	-6.46
0.8	61.51	0.29	-58.79	-10.33

Aggregate Effect of PNTR



- Red line shows counterfactual line with given hypothetical tariff rate
- Gray shape indicates the year 2001

Conclusion

- We use the PNTR shock in 2001 as a natural experiment to construct a fully-specified banking lending channel
- PNTR shock causes banks to adjust stricter loan contract terms with firms in the trade sector
- PNTR shock impacts the bank's operating performance negatively by raising the non-performing loans
- Banks pass the PNTR shock to firms in the non-trade sector
- We assess the aggregate effect of PNTR shock and share of loan loss due to shock is 38.44%, which is equivalent to 6.46 billion dollars loss of total commercial and industrial loan in the United States

Appendix for Tables and Figures

Main Findings

- Trade shocks impact firms in the trade sector
  - NTR tariff in 1999 falls by 1 %
    - Bank reduces by 1.3 % to renew the lending relationship with firms in the trade sector (1999 to 2003)
    - Bank reduces loan amount by 4.4 % and raises the loan spread by 3 bps (1999 to 2003)
  - Performance channel test: NTR tariff in 1999 falls by 1 % (Lian and Ma 2020)
    - Change in firm ROA falls by 0.2 % (1999 to 2003)
    - Growth in firm sales falls by 1 % (1999 to 2003)
  - Long term effect: NTR tariff in 1999 falls by 1 %
    - Growth in firm R&D increases by 7.5 % (1999 to 2003) and increases by 13.3 % (1999 to 2005)
      - (Hombert & Matray 2018)
    - Growth in firm employment falls by 0.9 % (1999 to 2003) and falls by 1.4 % (1999 to 2005)
      - (Autor et al. 2013)

Main Findings

- Trade shocks impact banks via lending relationships
  - NTR tariff in bank in 1999 falls by 1 %
    - Change in bank ROA decreases by 0.22 % (1999 to 2003)
  - Shocks affect the bank's performance, but do not impact the bank risk
    - Shocks affect bank's performance by the rise in non-performing loan
    - Banks hedge trade shock by holding more security assets.
- Banks pass shocks to firms in the non-trade sector
  - Granular firm shock falls by 1 %
    - Banks raise by 5.9 % to keep the old lending relationship with firms in the non-trade sector (Darmouni 2020)
  - Granular bank shock falls by 1 %
    - Change in firm ROA falls by 6.7 % and growth in firm sales falls by 47.7 %
- Aggregate effects (back-of-the-envelope calculation)
  - NTR tariff in 1999 decreases by 0.5 % the share of loan loss due to PNTR shock is 38.44 %
  - Loan loss due to PNTR shock in the US Economy:6.46 billion dollars

PNTR Shock

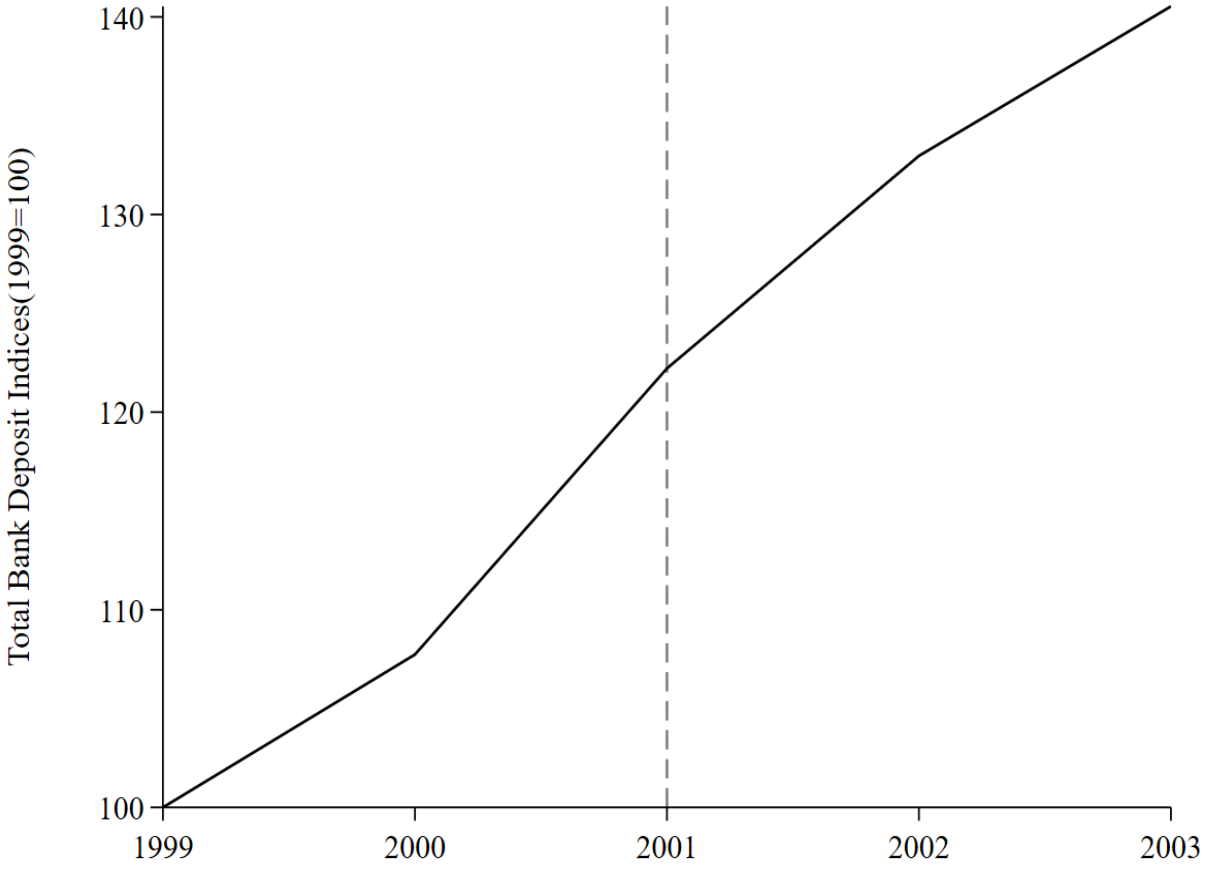
- Two types of tariff in the United States
  - Column 1 tariff: goods imported from market-oriented economies (normal trade relation tariff)
  - Column 2 tariff: goods imported from non-market-oriented economies (non-normal trade relation Tariff)

- Tariff relation between China and the United States
  - From 1980, the US granted China normal trade relation status and this grant was renewed year by year, approved by the US Congress
  - On May 15, 2000, the US House introduced the bill proposed to grant the China the Permanent Normal Trade Relation Status
  - On May 24, 2000, the US House voted to approve this bill
  - On July 27, 2000, the US Senate voted to cloture motion of this bill
  - On September 19, 2000, the US Senate voted to approve this bill
  - On October 10, 2000, President Clinton signed this law
  - In December 2001, the law was effective

Back

PNTR Shock and Bank Deposits

Annual Total Deposits in Our Sample



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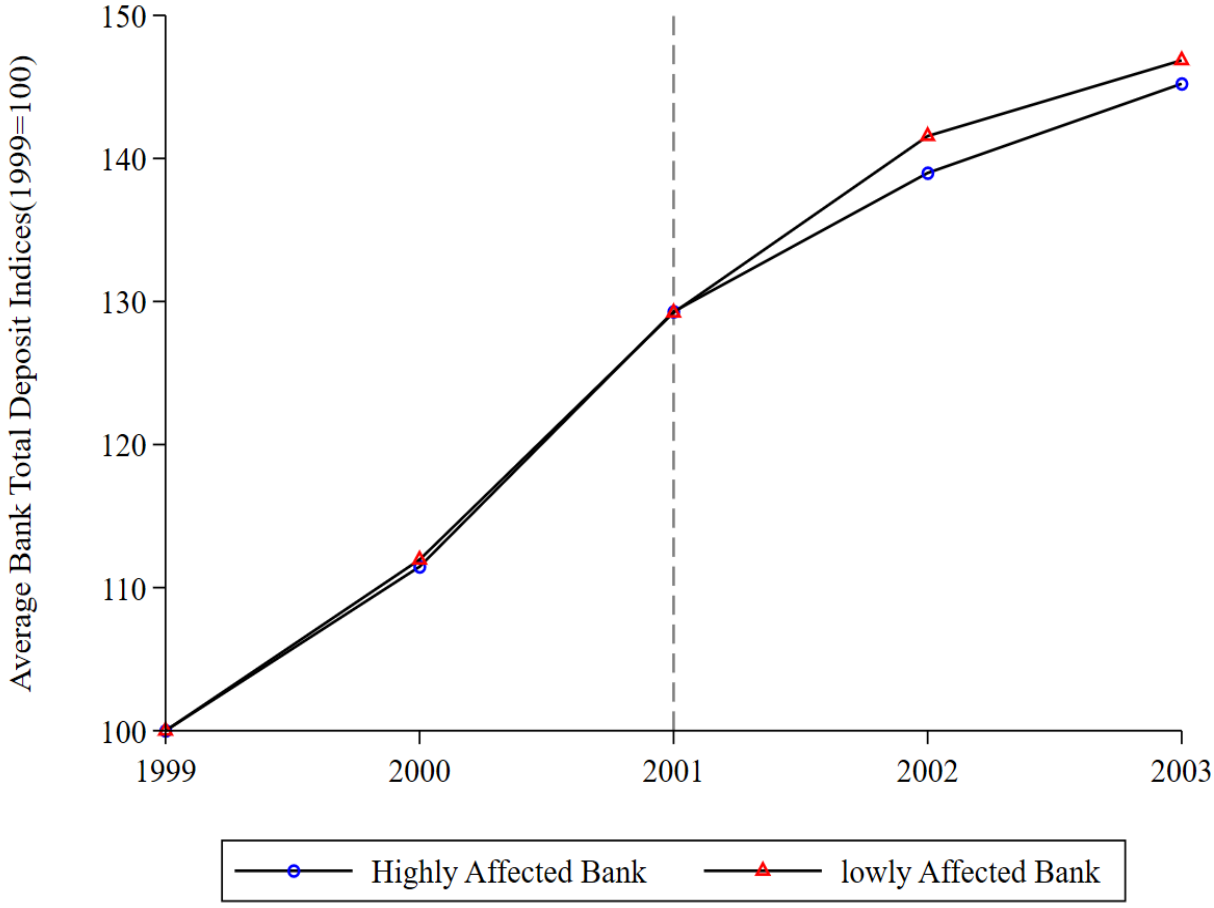
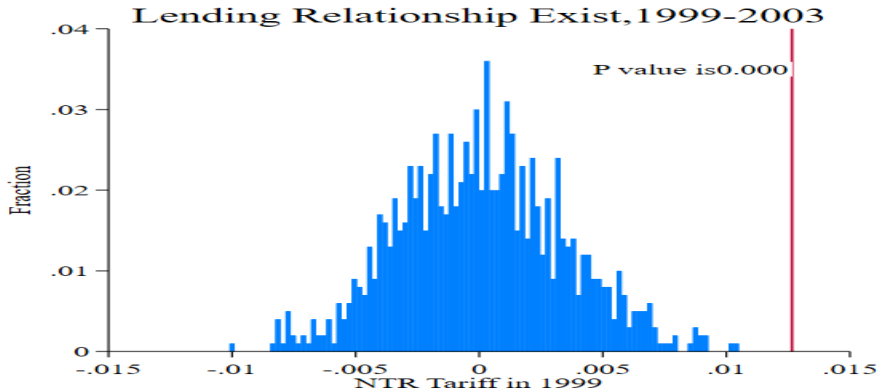
Yearly Average Deposits by Two Group

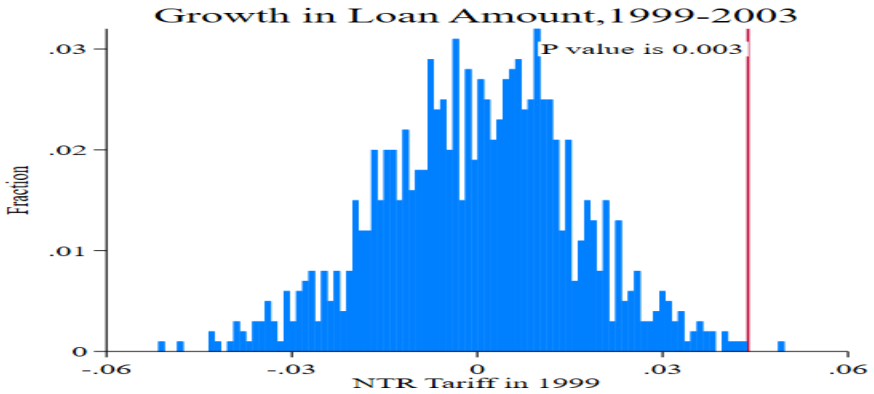


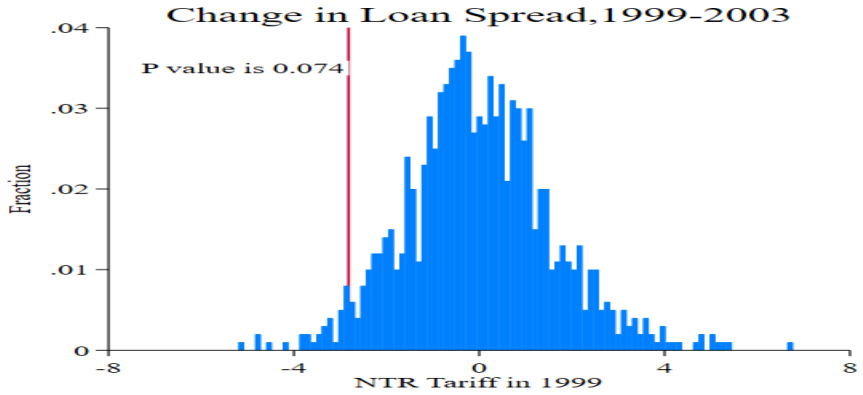
Data

- Loan contract information
  - Dealscan
    - Keep term loan and loan revolver
- Banking holding company information
  - Compustat database and Federal Reserve's FR Y-9C report
- Borrowing firm information
  - Compustat database
- Trade and Tariff information
  - Trade information is from the United Nations Comtrade Database
  - Tariff information is from the Peter Schott's webpage
- Merging table
  - Dealscan borrowers and Compustat: Chava and Roberts (2008)
  - Dealscan lenders and Compustat: manual construction

Placebo Tests of PNTR shock

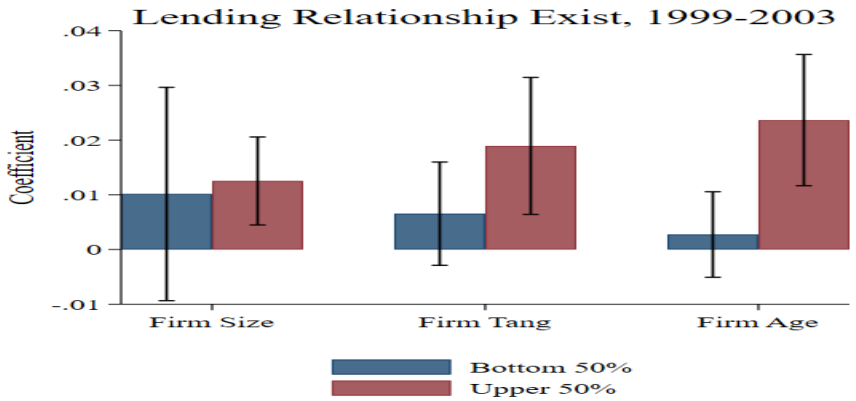


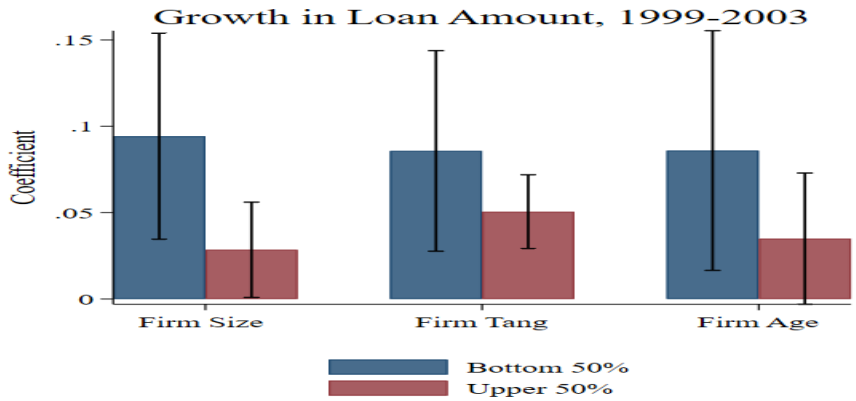


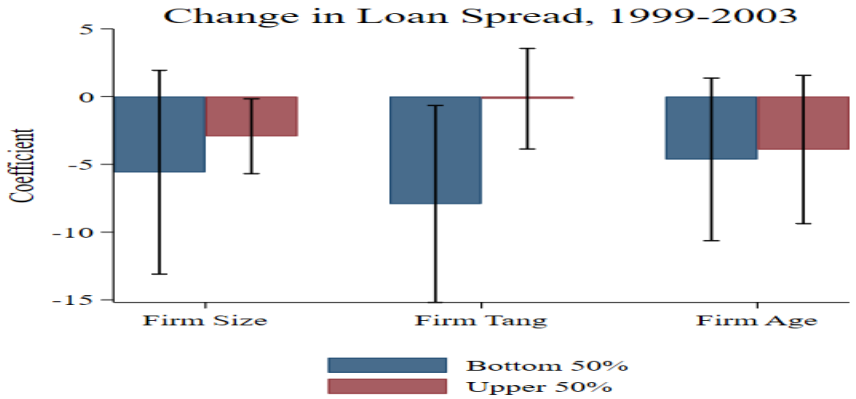


- Null hypothesis: the coefficient of NTR tariff in 1999 is 0 (1000 times of the experiment)
- P values show that treatment effects are larger than placebo effects

Heterogenous Results of PNTR Shock





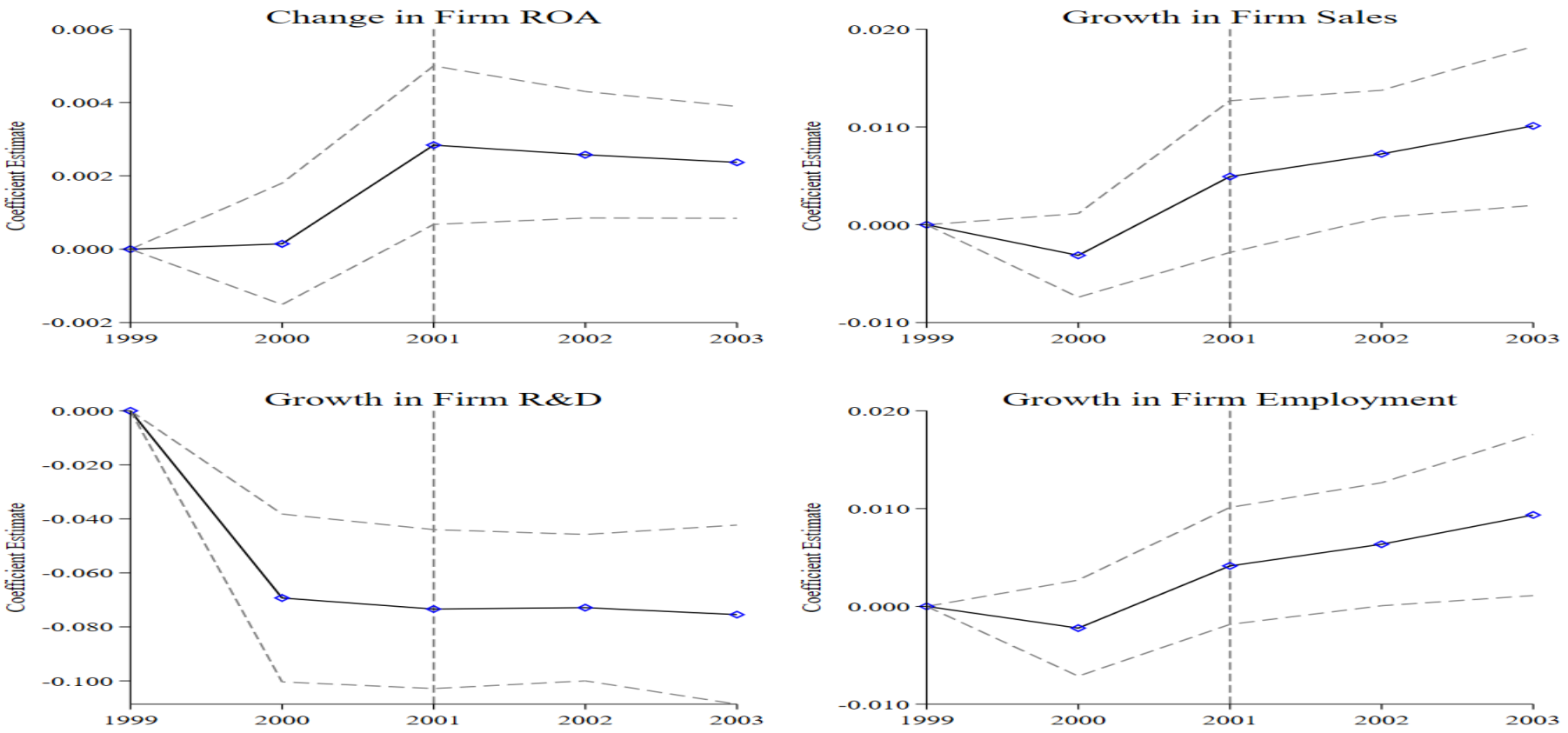


- Smaller, less tangible, younger firms are affected more by the PNTR shock compared with their counterparties

Back

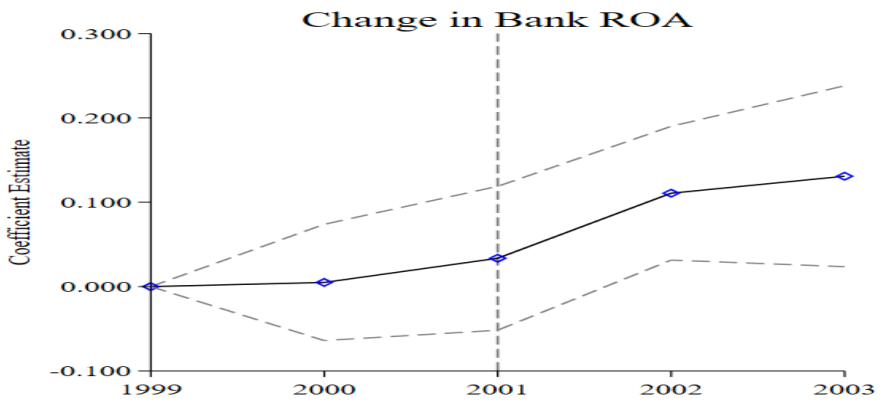
Cumulative Effect of PNTR Shock on Firm Outcome

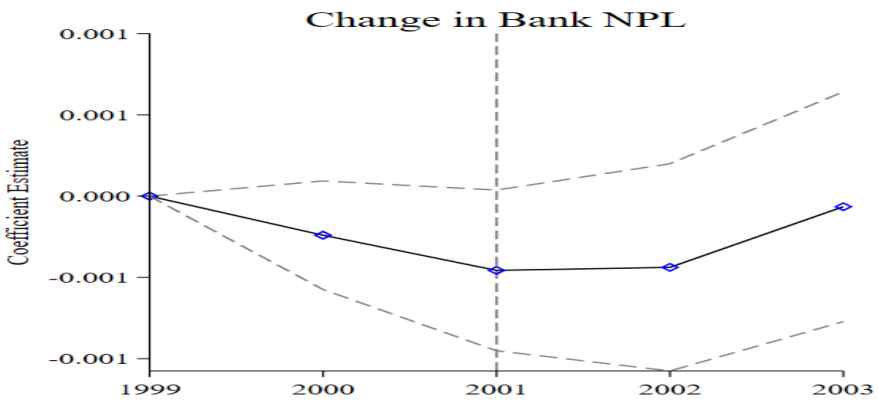
$$\Delta_h Y_{b,f,1999+h} = \alpha^h + \beta^h \times NTR\ Tariff\ 1999_f + \gamma^{h\prime} X_f + \delta_s^h + \delta_b^h + \epsilon_{b,f,}^h \quad h = 1,2,3,4$$

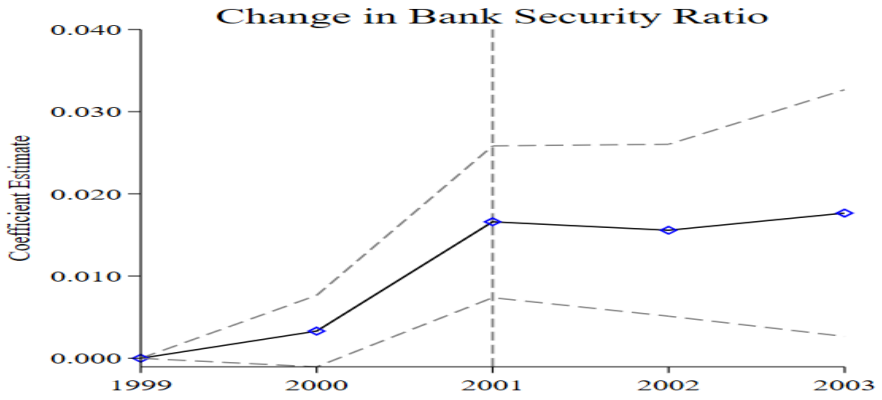


Cumulative Effect of PNTR Shock on Bank Outcome

$$\Delta_h Y_{b,1999+h} = \alpha^h + \beta^h \times NTR\,Tariff\,in\,Bank\,1999_b + \gamma^{h\prime} X_B + \epsilon_b, h = 1,2,3,4$$

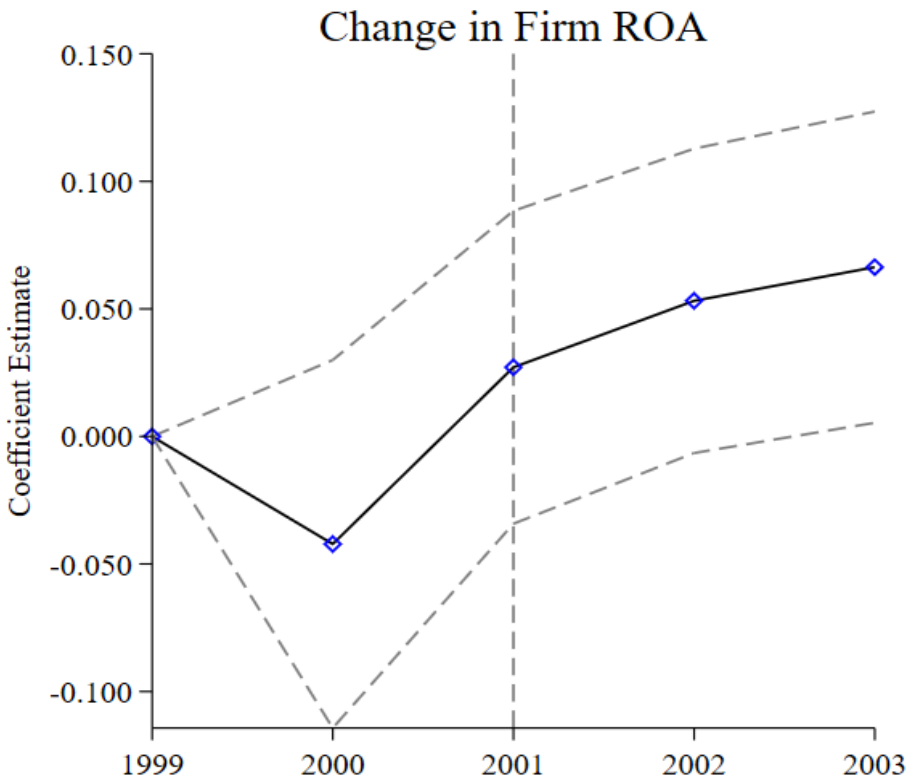


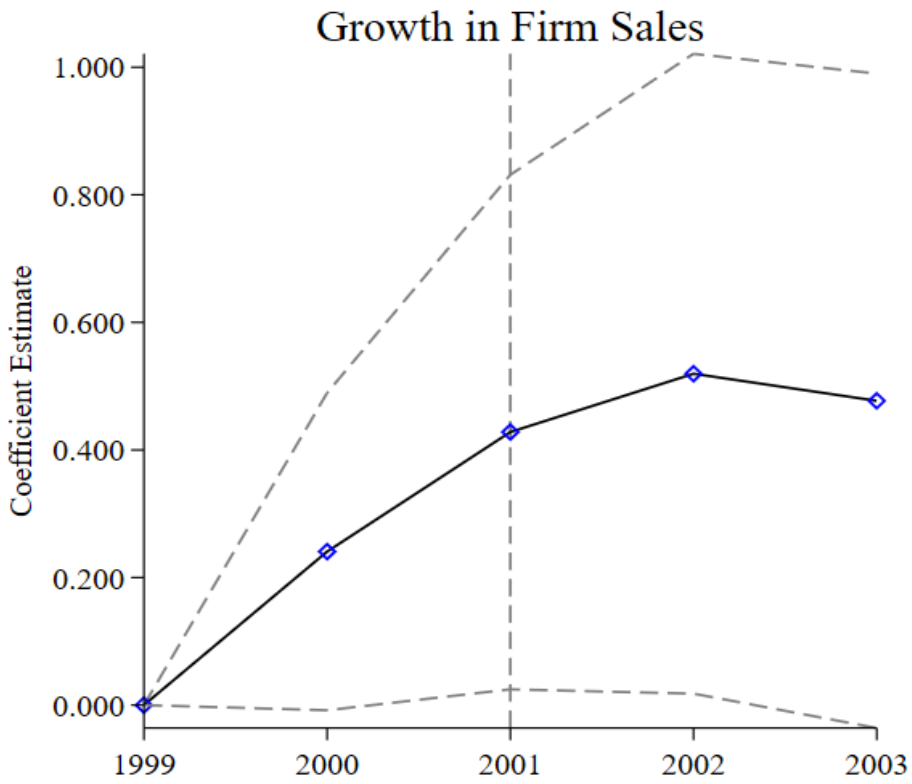




Cumulative Effect on Firm in the Non-Trade Sector

$$\Delta_h Y_{c,1999+h} = \alpha^h + \beta^h \times Granular\ Bank\ Shock_c + \gamma^{h\prime} X_c + \delta_s^h + \epsilon_c^h,\ h = 1,2,3,4$$





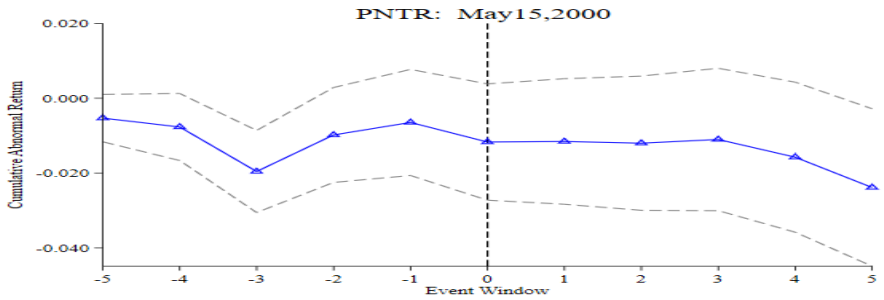
Identification: Event Study

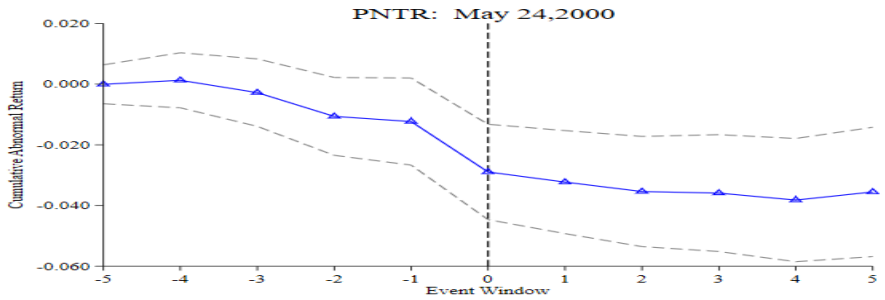
- Identification concern
  - The industry-level measure of shock might have measure error and firms in our sample might not be affected by the PNTR shock
  - Solution: event study to calculate the abnormal stock return of firm
- Five big events related to Event Study
  - On May 15, 2000, the US House introduce the bill
  - On May 24, 2000, the US House voted to approve the bill
  - On July 27, 2000, the US Senate voted closure motion of bill
  - On September 19, 2000, the US Senate voted to approve the bill
  - On October 10, 2000, President Clinton signed the law
- Abnormal return definition

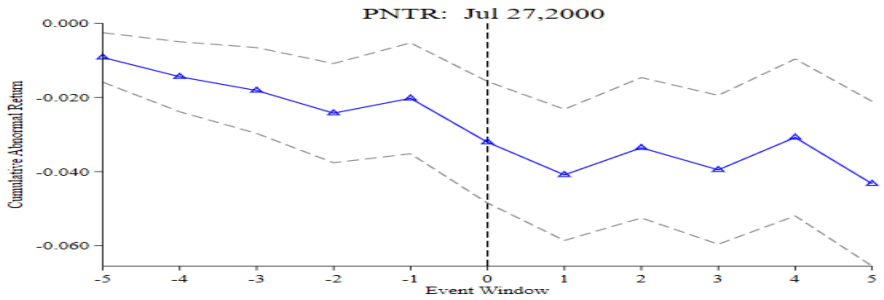
$$AR_{it} = R_{it} - E(R_{it}|X_t)$$

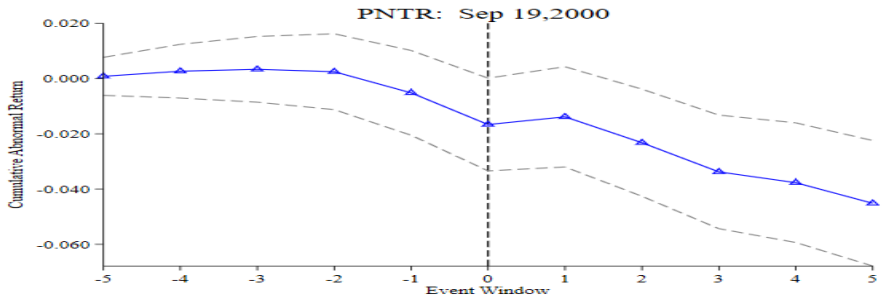
$$CAR_{i,t_1,t_2} = \sum_{t=t_1}^{t_2} AR_{it}$$

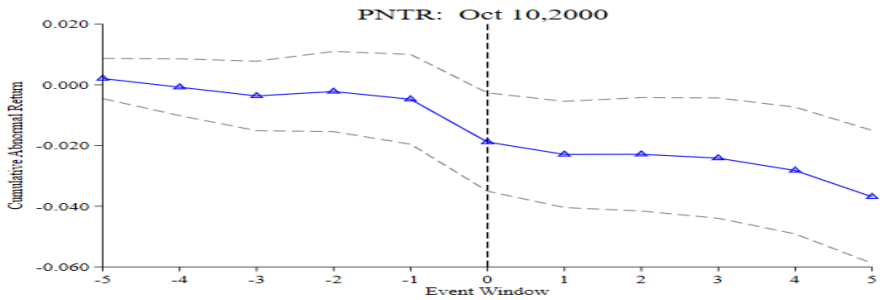
Event Study: Firms in the Trade Sector





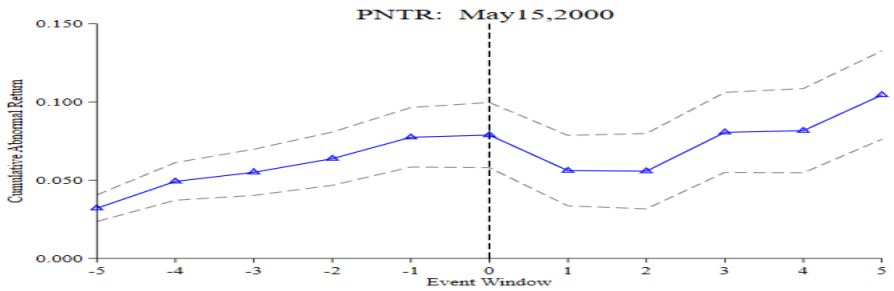


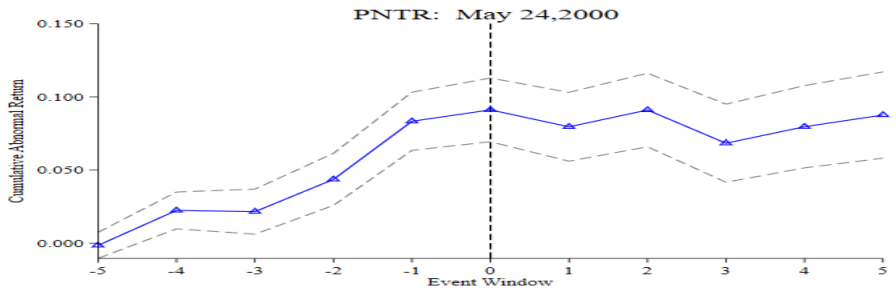


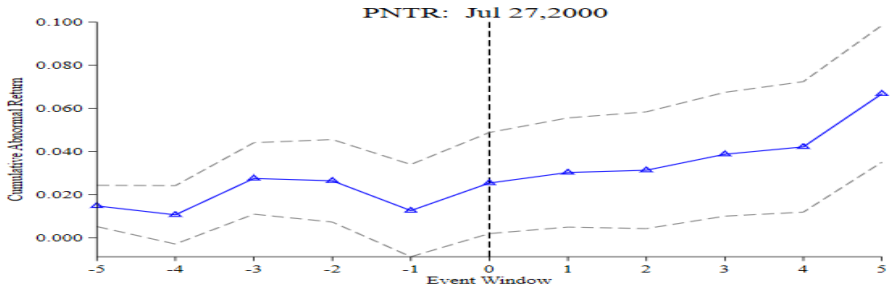


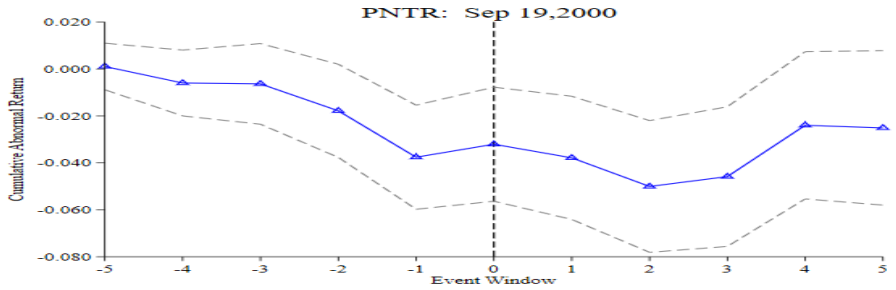
- The stock market reacts negatively to firms in the trade sector for five big events
- When President Clinton signed law, the cumulative AR for two trading days is 1.93%

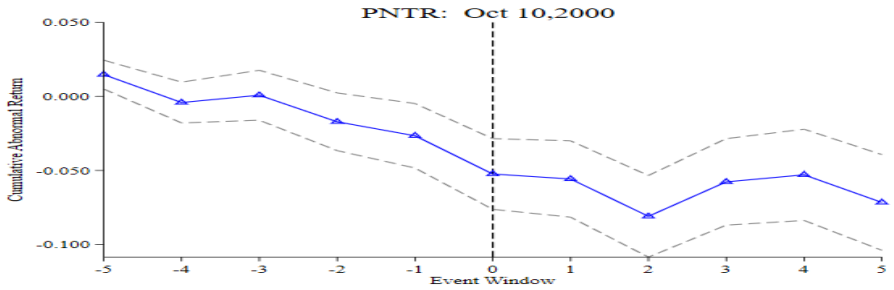
Event Study: Banks





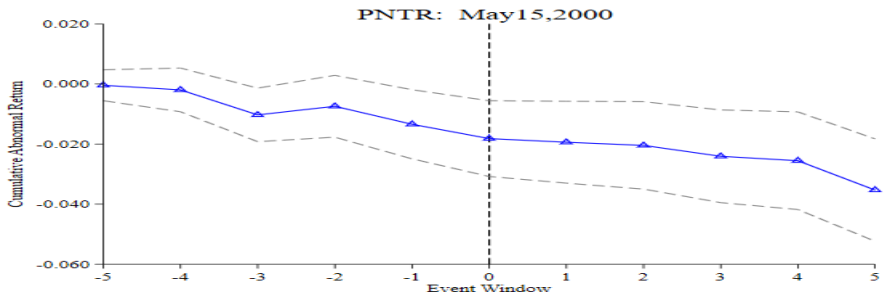


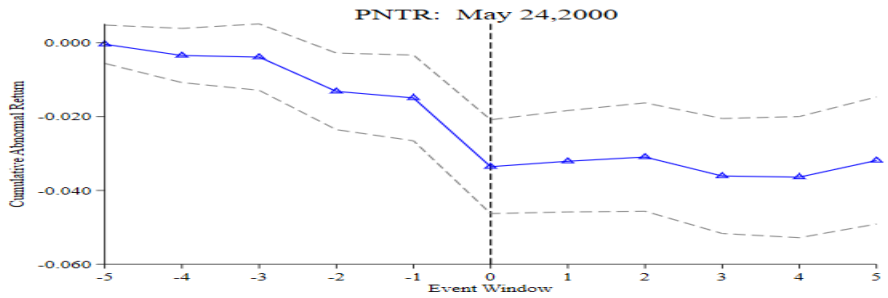


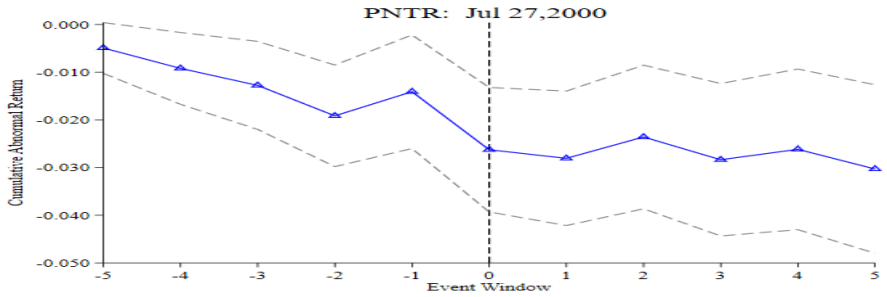


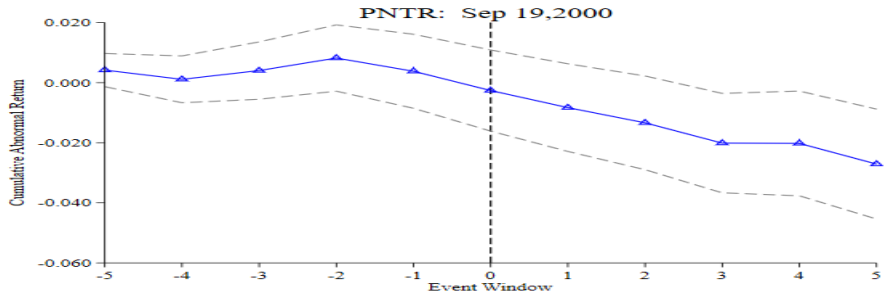
- The stock market response to the PNTR shock for banks is mixed in five big events

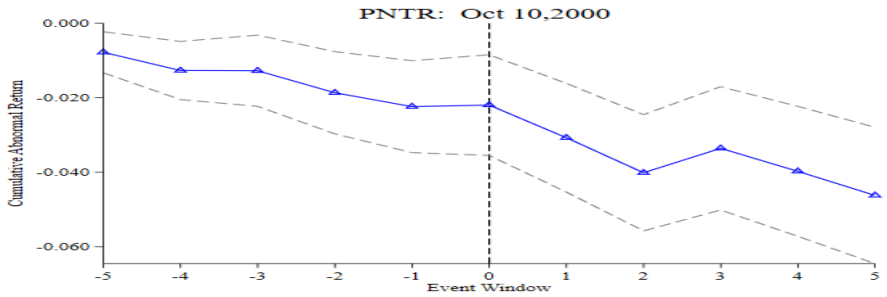
Event Study: Firms in Non-Trade Sector











- The stock market reacts negatively to firm in the non-trade sector for five big events
- When President Clinton signed the law, the cumulative AR for two trading days is 0.87%

Long-term Effects in the trade Sector: R&D

	Lending Relationship Sample			
	Growth in Firm R&D,1999-2003		Growth in Firm R&D,1999-2005	
	(1)	(2)	(3)	(4)
NTR Tariff,1999	-0.074***	-0.075***	-0.129***	-0.133***
	(0.018)	(0.017)	(0.039)	(0.039)
Firm Size,1999		-0.028		0.038
		(0.037)		(0.077)
Firm Tang,1999		-0.038		-0.712
		(0.331)		(0.509)
Firm Age, 1999		-0.005		-0.008
		(0.004)		(0.005)
Observations	517	517	463	463
R^2	0.27	0.29	0.26	0.28
SIC1 FE	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes

- 1999-2003: NTR tariff in 1999 ↓ 1 % (Δ 1 S.D) change in firm R&D ↑ 7.5 % (46.2 % S.D)
- 1999-2005: NTR tariff in 1999 ↓ 1 % (Δ 1 S.D) change in firm R& D ↑ 13.3 % (59.3 % S.D)

Long-term effects in Trade Sector: Employment

	Lending Relationship Sample			
	Growth in Firm Employment,1999-2003		Growth in Firm Employment,1999-2005	
	(1)	(2)	(3)	(4)
NTR Tariff,1999	0.008**	0.009**	0.013**	0.014*
	(0.004)	(0.004)	(0.006)	(0.008)
Firm Size,1999		-0.028		-0.046
		(0.024)		(0.038)
Firm Tang,1999		0.524**		0.062
		(0.251)		(0.389)
Firm Age, 1999		0.001		-0.003
		(0.003)		(0.004)
Observations	506	506	452	452
R^2	0.11	0.13	0.13	0.16
SIC1 FE	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes

Back

- 1999-2003: NTR tariff in 1999 ↓ 1 % (Δ 1 S.D) growth in firm employment ↓ 0.9 % (8.2 % S.D)
- 1999-2005: NTR tariff in 1999 ↓ 1 % (Δ 1 S.D) growth in firm employment ↓ 1.4 % (9.5 % S.D)

Exogenous Test of Our Variables in Bank Sample

	Bank Sample					
	Bank Distance Default,1999		Bank Distance Default,2000		Change in Bank Distance Default,1999-2000	
	(1)	(2)	(3)	(4)	(5)	(6)
NTR Tariff in Bank,1999	-0.022	-0.031	-0.018	-0.033	0.002	0.003
	(0.039)	(0.028)	(0.024)	(0.022)	(0.034)	(0.034)
Bank Size,1999		0.054		0.057		0.011
		(0.056)		(0.058)		(0.028)
Bank Capital,1999		-10.724***		-10.650***		1.145
		(2.787)		(2.841)		(2.666)
Number of Loan in Trade Sector,1999-2000		0.001		0.001*		0.000
		(0.001)		(0.001)		(0.001)
Constant	0.508***	0.331	0.426***	0.177	-0.079	-0.364
	(0.126)	(1.043)	(0.111)	(1.120)	(0.109)	(0.492)
Observations	33	33	32	32	32	32
R^2	0.01	0.32	0.01	0.37	0.00	0.01

Change in Bank Risk, 1999-2003 in the Bank Sample

	Bank Sample			
	OLS	OLS	OLS	IV
	(1)	(2)	(3)	(4)
NTR Tariff in Bank,1999	-0.063	-0.120		0.063
	(0.170)	(0.259)		(0.294)
Bank Size,1999		-0.538	-0.619	-0.630
		(0.626)	(0.584)	(0.565)
Bank Capital,1999		-62.859	-58.430	-57.635
		(50.439)	(53.670)	(51.485)
Number of Loan in Trade Sector,1999-2000		-0.015	-0.013	-0.013
		(0.011)	(0.011)	(0.010)
Granular Firm Shock,1999-2000			0.110	
			(0.570)	
Constant	-2.041*	13.148	13.782	13.721
	(1.037)	(12.364)	(12.512)	(11.870)
Observations	30	30	30	30
R^2	0.00	0.11	0.11	0.10

Bank Shock On Firm Outcome in the Local Industry

	Local Industry in Non-Trade Sector			
	Change in Firm ROA,1999-2003		Growth in Firm Sale,1999-2003	
	(1)	(2)	(3)	(4)
Granular Bank Shcok	0.113**	0.099**	0.669*	0.556
	(0.045)	(0.043)	(0.377)	(0.368)
Firm Size,1999		-0.011		-0.048
		(0.007)		(0.036)
Firm Tang,1999		0.021		0.298
		(0.029)		(0.205)
Firm Age,1999		-0.000		-0.015***
		(0.000)		(0.004)
Constant	0.026	0.162	0.550***	1.284***
	(0.017)	(0.105)	(0.121)	(0.468)
Observations	244	244	247	247
R^2	0.06	0.07	0.10	0.18
SIC1 FE	YES	YES	YES	YES