Shadowy Banking During the Great Depression

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Key Points

- Shadowy banks existed since the foundation of the Federal Reserve in 1913.
- Shadowy banks were a focus of the financial crisis of the 1930s.
- Shadowy banks transmitted financial shocks to Fed member institutions via interbank linkages.
- The Fed's reaction to the shadow-banking crisis shaped the course of the contraction.

Presentation Based on 4 Papers

- Working – Mitchener, Kris James, and Gary Richardson. 2013. “Shadowy Banks and the Interbank Amplifier During the Great Depression.” CAGE Working Paper.
- Forthcoming – Mitchener, Kris James, and Gary Richardson. 2013. “The Reserve Pyramid and Interbank Contagion During the Great Depression.” Cleveland Fed Conference Volume.
- Published – Mitchener, Kris James, and Gary Richardson. 2013. "Shadowy Banks and Financial Contagion during the Great Depression: A Retrospective on Friedman and Schwartz." *American Economic Review*, 103(3): 73-78.
- Published – Gary Richardson & William Troost, 2009. "Monetary Intervention Mitigated Banking Panics during the Great Depression: Quasi-Experimental Evidence from a Federal Reserve District Border, 1929-1933," Journal of Political Economy, University of Chicago Press, vol. 117(6), pages 1031-1073, December.

Shadow Bank – 2013

- Non-bank financial intermediary that provides services similar to traditional commercial bank
- Services => transformation of maturity, liquidity, credit
- Non-bank =>
  a) Lacks direct access to central bank
  b) Not regulated as an institution with access to central bank
  c) Not use contractual and corporate forms of institutions with access to the central bank (i.e. commercial bank/demand deposit)
- Financiers, creditors, and debtors choose in which sector to participate. This enables regulatory arbitrage.

Shadowy Bank – 1913

- Financial intermediary that provides services of commercial bank
- Services => transformation of maturity, liquidity, credit
- Difference =>
  a) Lacks direct access to central bank
  b) Not regulated as an institution with access to central bank
  c) Uses contractual and corporate form of institution with access to the central bank, but opt out of (a) and (b).
- Financiers, creditors, and debtors choose in which sector to participate. This enables regulatory arbitrage.

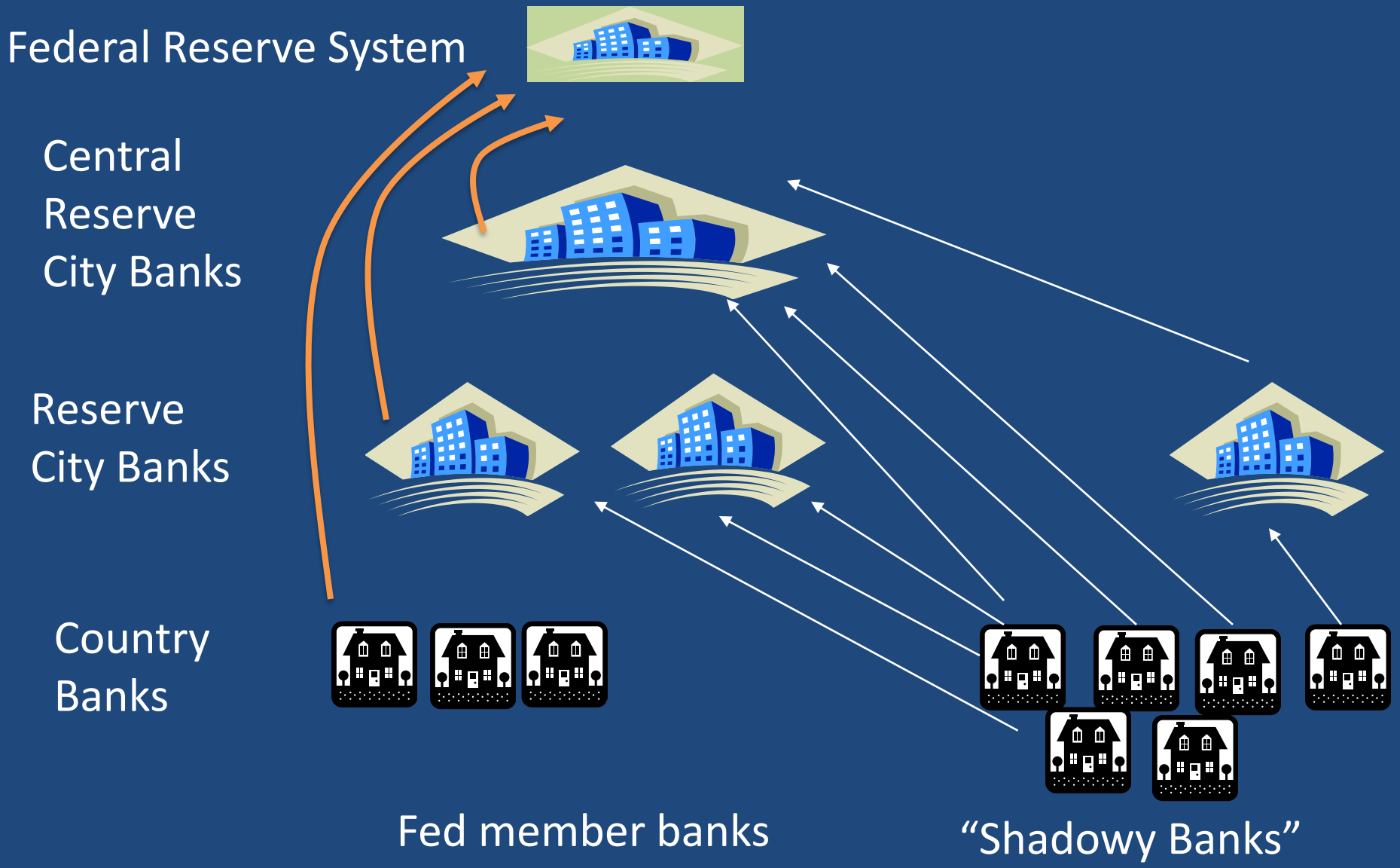
Evolution of Shadow Banks

- 1913 to ~1935. Banks and creditors choose …
  a) Direct access to central bank and stricter regulation
  b) Outside Fed system and looser regulation

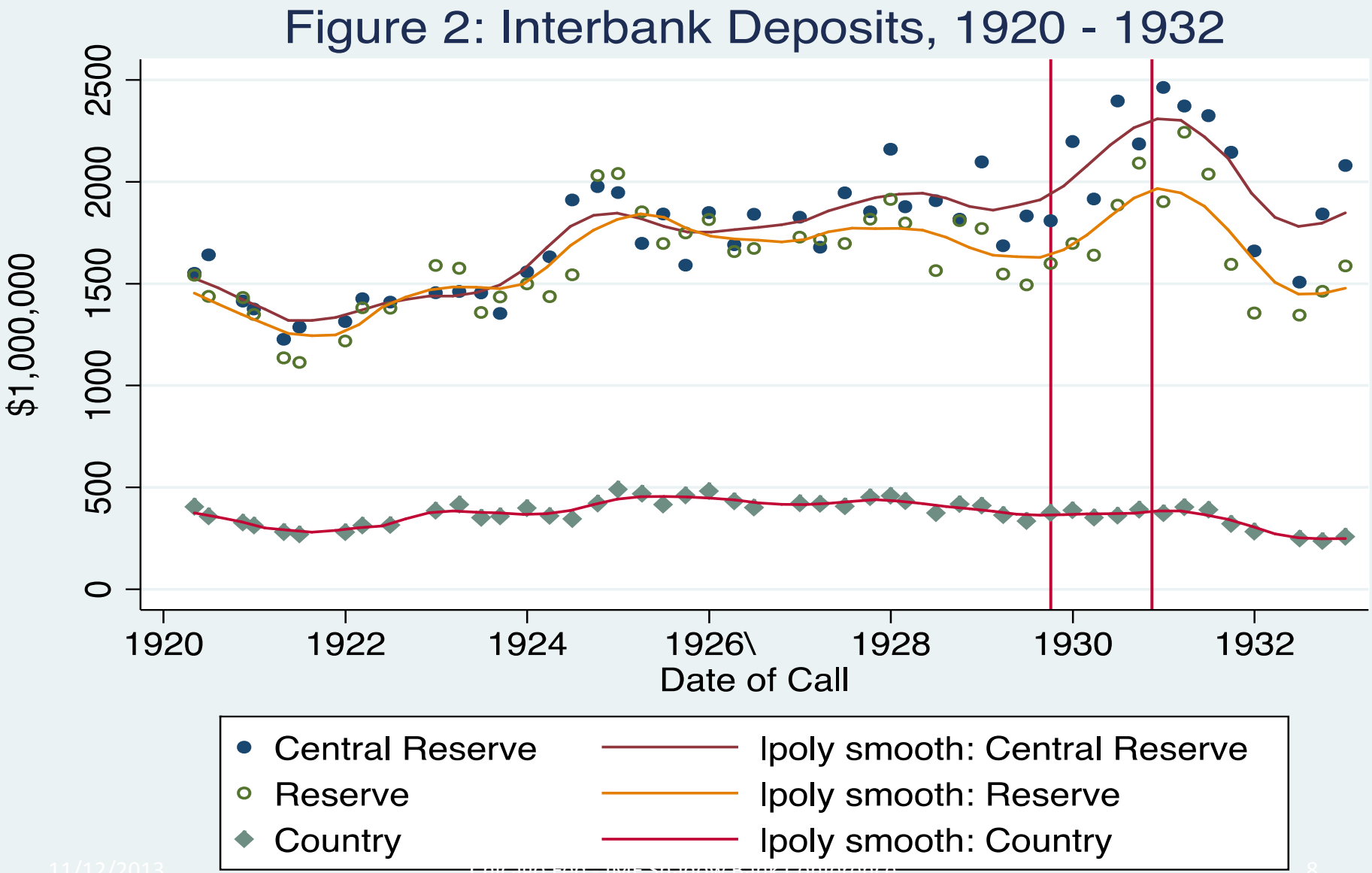
- ~1940 to ~1970s.

- ~1980s. Innovations in contractual and corporate forms resurrect choice of (a) or (b)
  - Commercial bank with direct access to central bank
  - Shadow bank: no direct access, different regulation

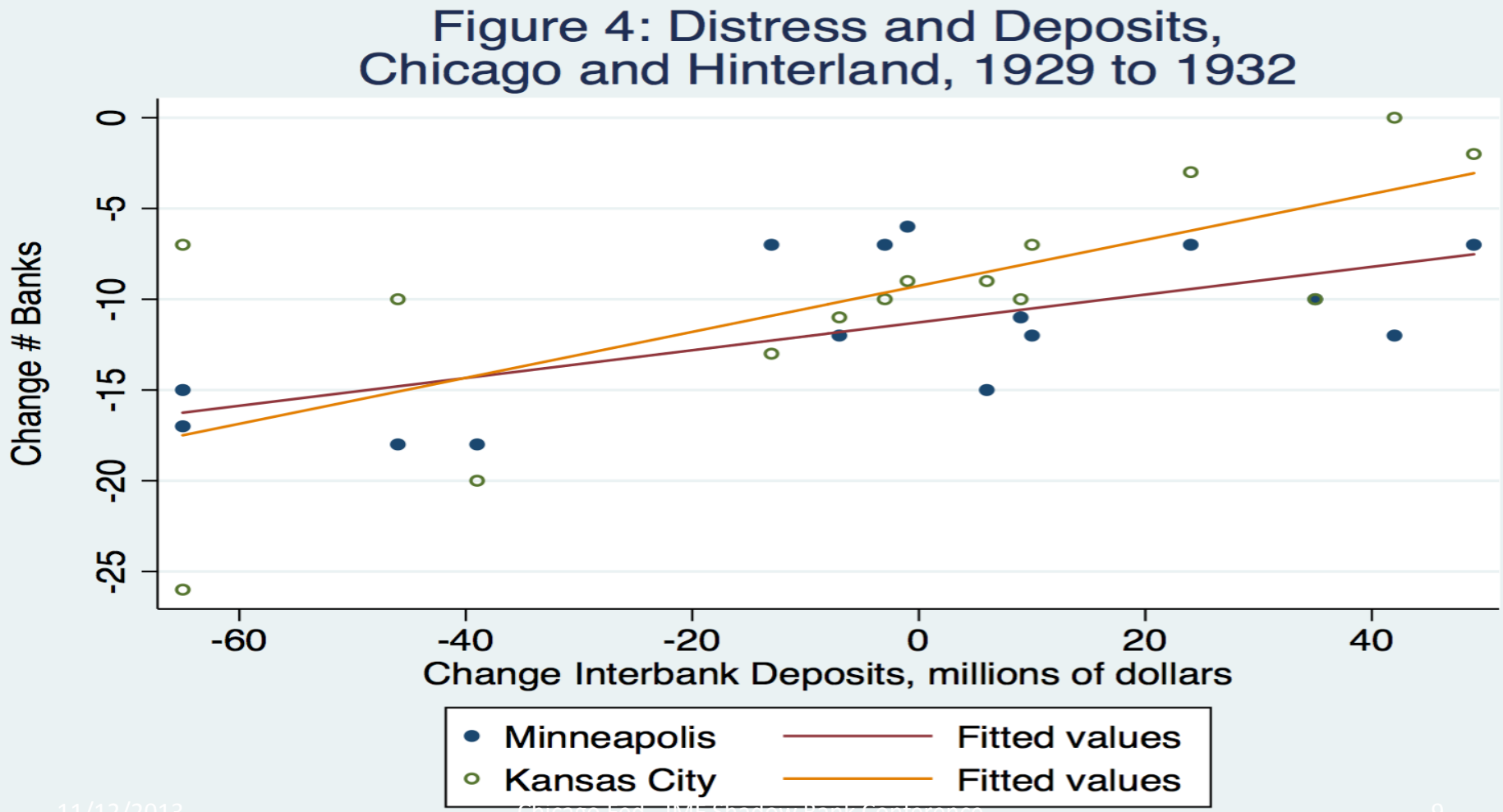
Interbank Network Circa 1930



Interbank deposits decline after banking panics begin



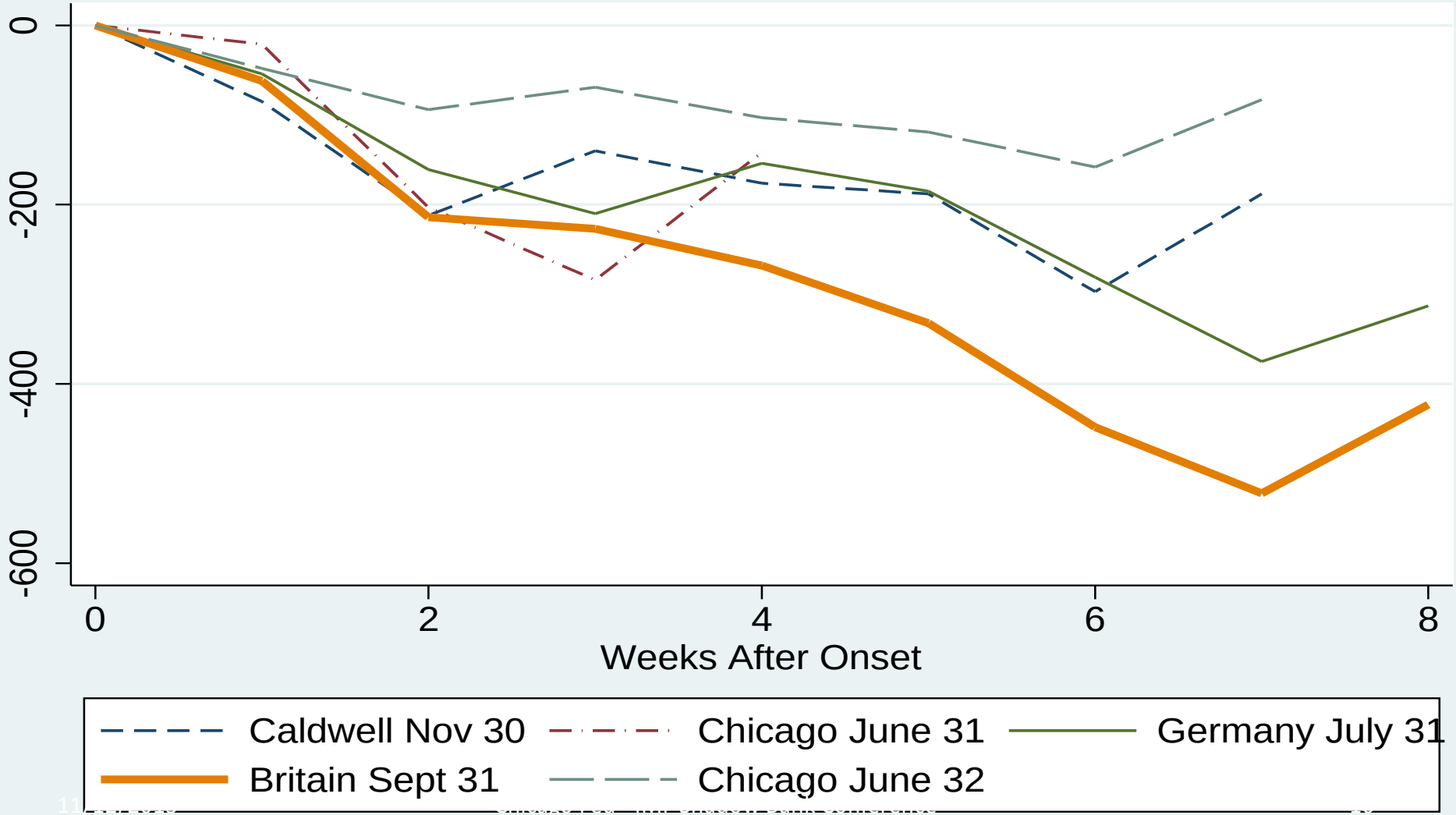
Distress and Interbank Deposits Correlated During 1930s



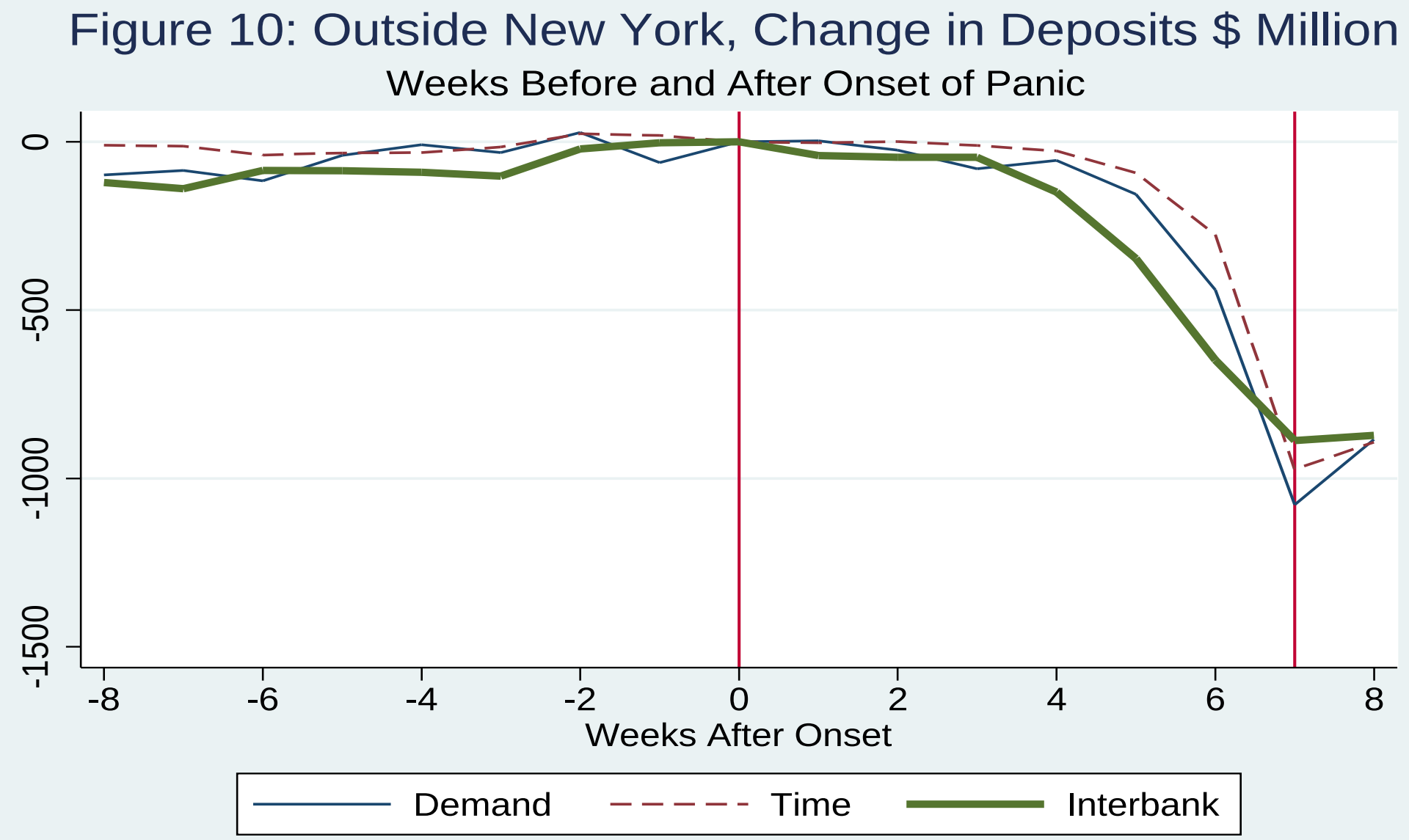
Interbank Deposits During Banking Panics

Figure 6: Interbank Deposits, Change $ Million

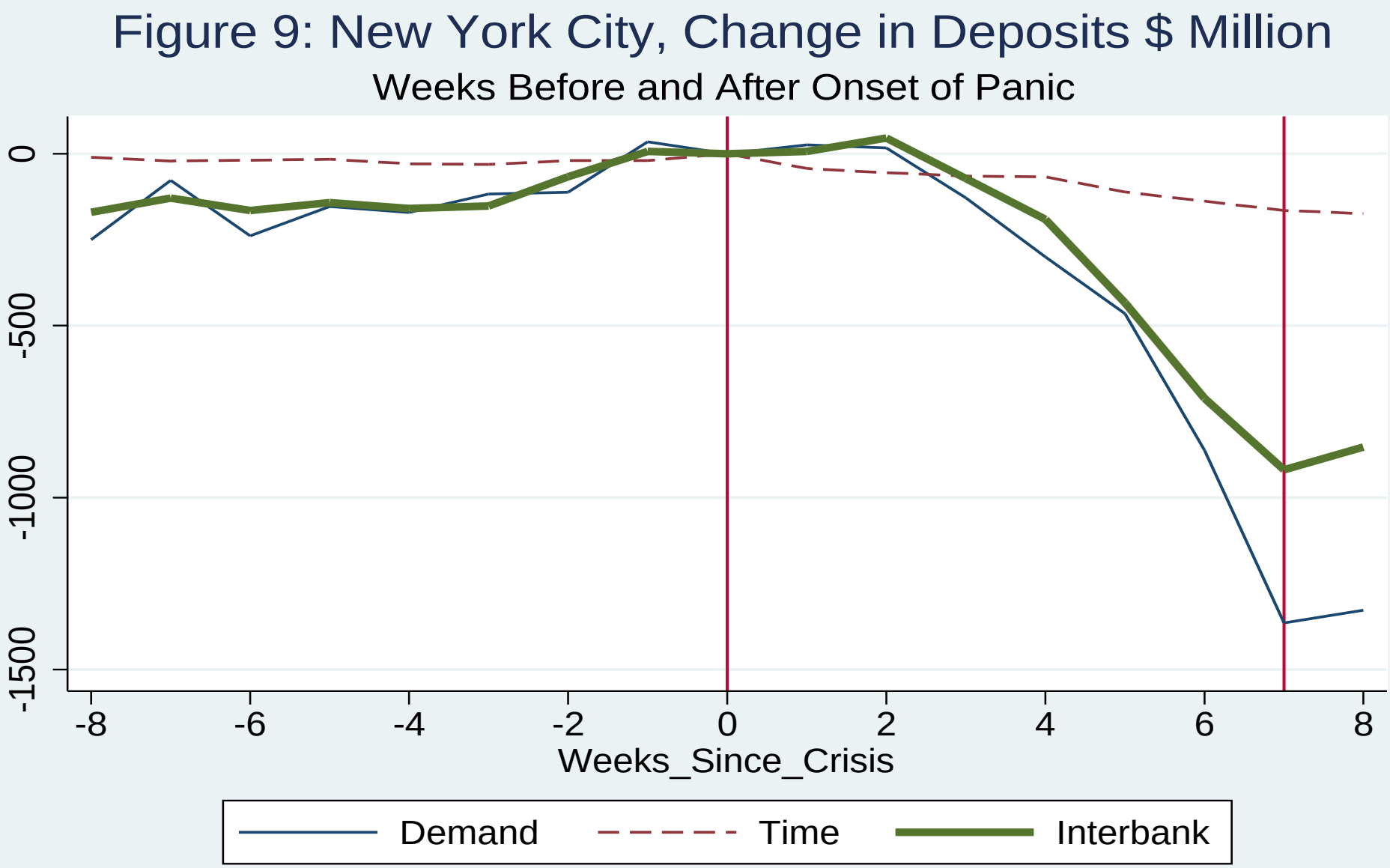
Reserve Cities Outside New York



Panic of Winter 1933



Panic of Winter 1933



Reserve Pyramid. During panics, banks in 100 reporting cities reduce their deposits in NY

Figure 8: Balances with Domestic Banks, Change $ Million

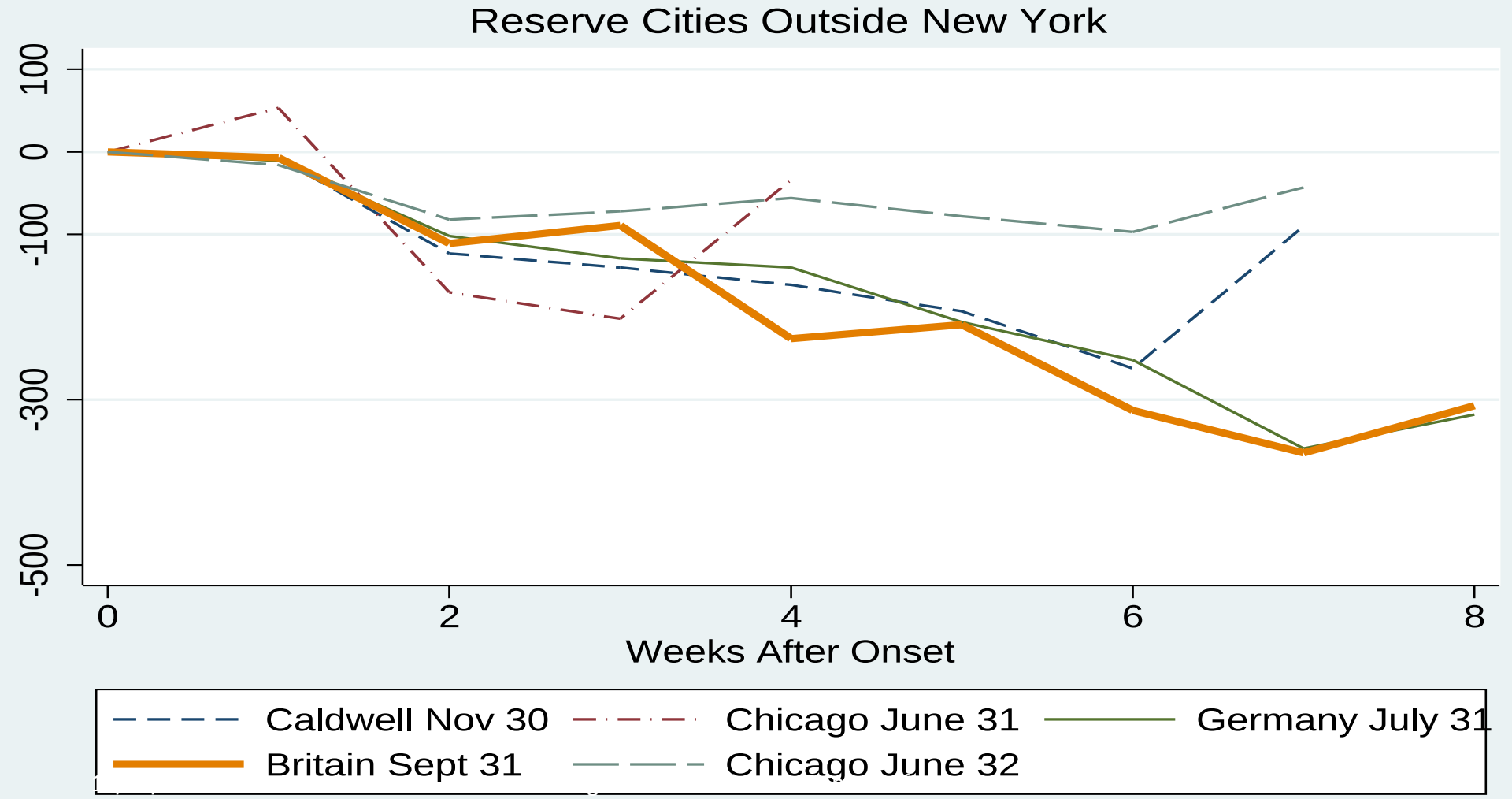
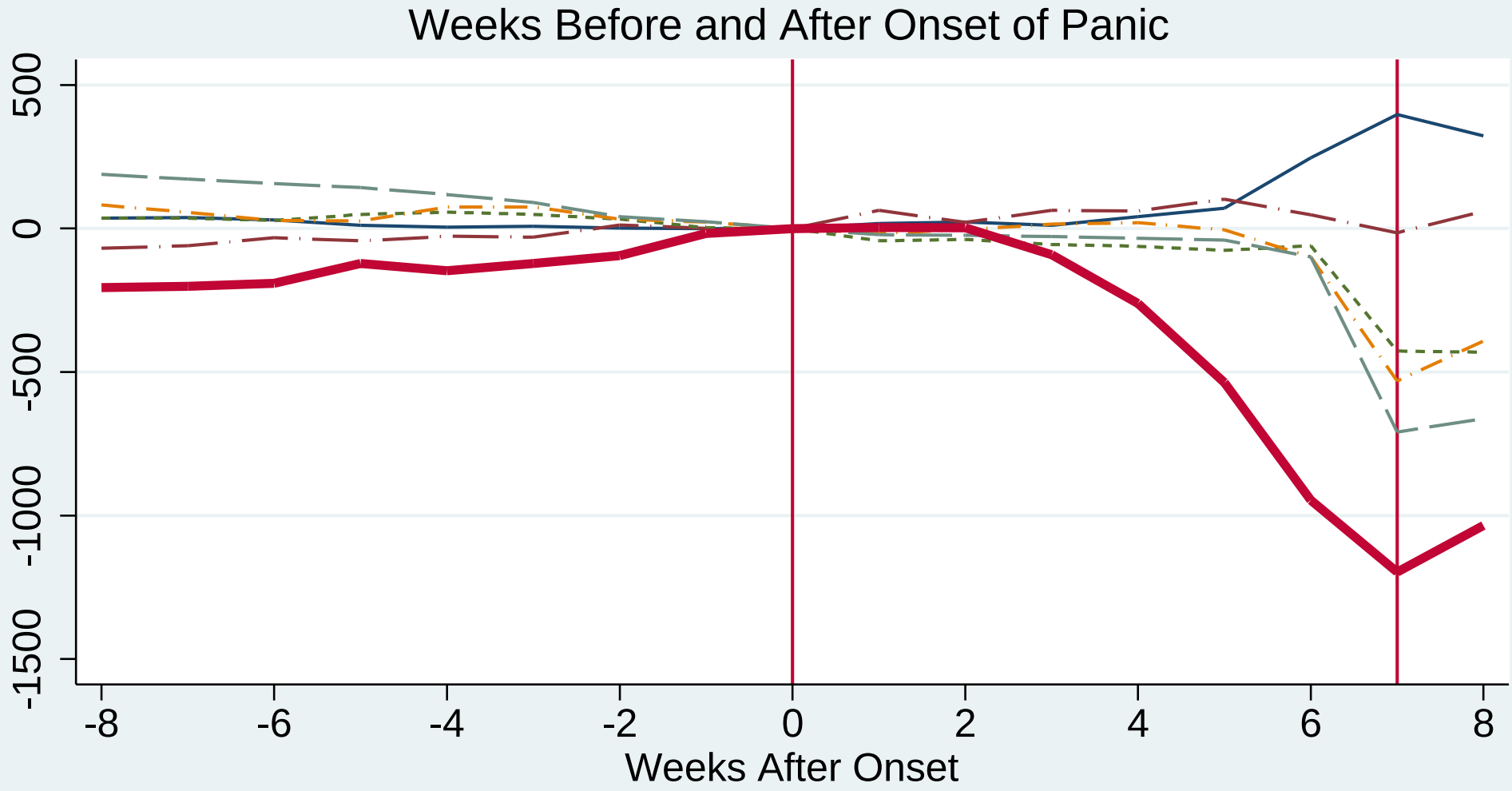
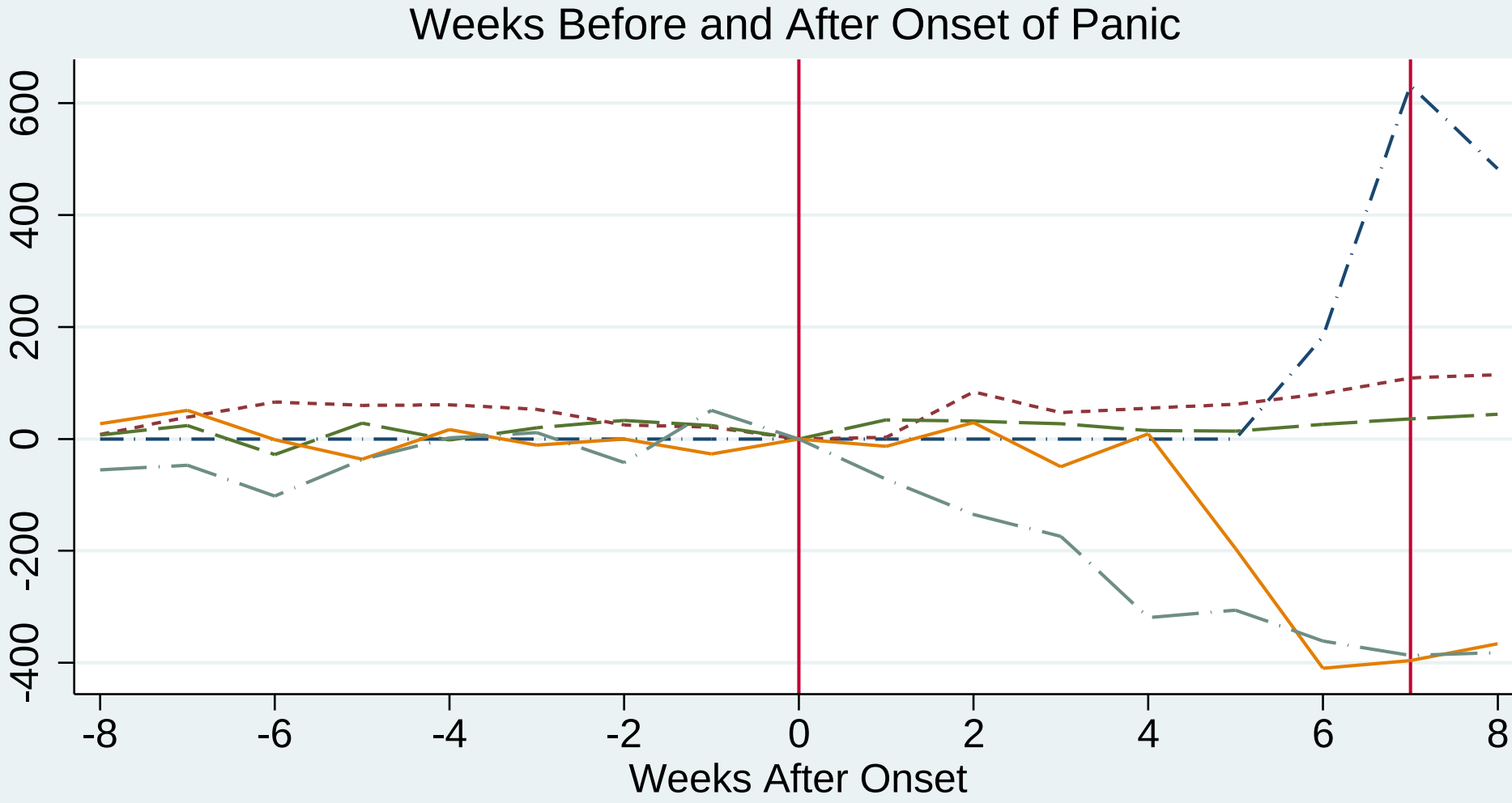


Figure 12: Outside New York, Change in Assets $ Million



Vertical lines: 18 January 1933 and 8 March 1933. Reserves = vault cash + Fed deposits

Figure 11: New York City, Change in Assets $ Million



Vertical lines: 18 January 1933 and 8 March 1933. Reserves = vault cash + Fed deposits

A run on a country bank ("liquidity shock") is associated with $119,000 decline in interbank deposits from reserve city banks in district

Table 2: Deposit Flows and Bank Distress, January 1929 to December 1932

	Dependent Variable and Estimation Procedure			
Independent Variable	Interbank Deposits (OLS)	Interbank Deposits (Fixed Effects)	Demand + Time Deposits (OLS)	Demand + Time Deposits (Fixed Effects)
Liquidity Suspensions	-0.103**	-0.119**	-0.399***	-0.481***
	(0.047)	(0.056)	(0.117)	(0.138)
Solvency Failures	-0.033	-0.065	-0.171	-0.326
	(0.081)	(0.101)	(0.199)	(0.246)
Constant	1.723	2.529	-4.562	-0.513
	(2.621)	(3.060)	(6.486)	(7.480)
R-squared	0.03	0.03	0.06	0.07
Observations	180	180	180	180

Note: Liquidity suspensions include all temporary bank suspensions and all permanent bank suspensions caused by runs, correspondent cascades, and other liquidity shocks. Solvency failures include all bank liquidations that involved losses to creditors due to declines and asset values and all other non-liquidity causes. See text for details. Standard errors are shown in parentheses. P values are indicated with asterisks as follows: ** $p<0.05$; *** $p<0.01$.

$$(3) \qquad y_{it} = \propto + \sum_z \delta_z X_{it_z} + \varepsilon_{it},$$

- y_{it} change in $ asset class i in year t.
- *z* indicates four deposit flow variables:
  - Interbank (1) inflows & (2) outflows
  - Public deposit (3) inflows & (4) outflows
- Indicator variables for
  - Fed Districts
  - Central reserve cities

Table 5: Deposit Flows and Asset Allocation, 1931-1932

	Asset				
Deposit Flow	Loans	Government Bonds	Corporate Bonds	Reserves	Interbank Deposits
Public Inflow	-0.17	0.01	0.03	-0.07	-0.04
	(0.24)	(0.23)	(0.06)	(0.15)	(0.07)
CR*PI	-0.22	0.36	-0.03	0.98***	0.07
	(0.28)	(0.26)	(0.07)	(0.18)	(0.08)
Public Outflow	0.53***	0.05	0.07**	0.09	-0.01
	(0.11)	(0.10)	(0.03)	(0.07)	(0.03)
CR*PO	0.01	-0.35***	-0.16***	0.77***	0.01
	(0.13)	(0.12)	(0.04)	(0.08)	(0.04)
Interbank Inflow	-0.11	0.92**	0.00	-0.34	0.61***
	(0.47)	(0.45)	(0.13)	(0.30)	(0.14)
CR*II	-0.03	0.16	0.25*	0.20	-0.80***
	(0.53)	(0.50)	(0.14)	(0.34)	(0.15)
Interbank Outflow	0.06	0.01	0.14	0.05	0.58***
	(0.43)	(0.41)	(0.12)	(0.28)	(0.13)
CR*IO	0.31	0.25	0.27**	-0.10	-0.52***
	(0.46)	(0.44)	(0.12)	(0.29)	(0.13)
CR	-4.37	-39.01	5.06	27.54	6.97
	(31.27)	(29.54)	(8.45)	(19.91)	(9.11)
Constant	-7.58	6.27	-0.50	4.55	0.29
	(10.02)	(9.47)	(2.71)	(6.38)	(2.92)
F-statistic	17.6	6.4	16.4	83.9	7.6
R-squared	0.53	0.29	0.51	0.84	0.33
Observations	140	140	140	140	140

Table 11: The Interbank Amplifier, Including the Panic of Winter 1933
($Millions)

	Interbank Amplifier	Public Response to Country Distress
Jan. 1929 to Dec. 1932 effect using call report data	279	950
Jan to March 1933 effect using weekly reporting data		
Due to deposit flows from New York City	219	389
Due to deposit flows from other reporting cities	527	1,355
Jan to March 1933 effect using weekly reporting, scaled		
Due to deposit flows from New York City	268	477
Due to deposit flows from other reporting cities	646	1,661
Aggregate Effect 1929-33, Unscaled	**1,025**	**2,694**
Aggregate Effect 1929-33, Scaled	**1,193**	**3,088**

Table 10: The Interbank Amplifier, 1930 to 1932
($Millions)

Year	Quarter	Interbank Amplifier	Public Response to Country-Bank Distress	Loans and Investments in Suspended Banks		
				Terminal All	Liquidity	Temporary
1929	Summer	3	26	40	21	3
	Fall	2	23	37	9	6
1930	Winter	4	37	78	18	13
	Spring	4	41	93	28	16
	Summer	3	32	72	33	10
	Fall	16	152	558	196	100
1931	Winter	22	56	147	62	23
	Spring	24	63	311	228	5
	Summer	32	82	496	251	41
	Fall	80	209	699	439	291
1932	Winter	40	103	297	145	39
	Spring	18	46	230	138	11
	Summer	15	38	99	45	18
	Fall	16	42	178	65	10
Total 1929-1932		**279**	**950**	**3,335**	**1678**	**586**