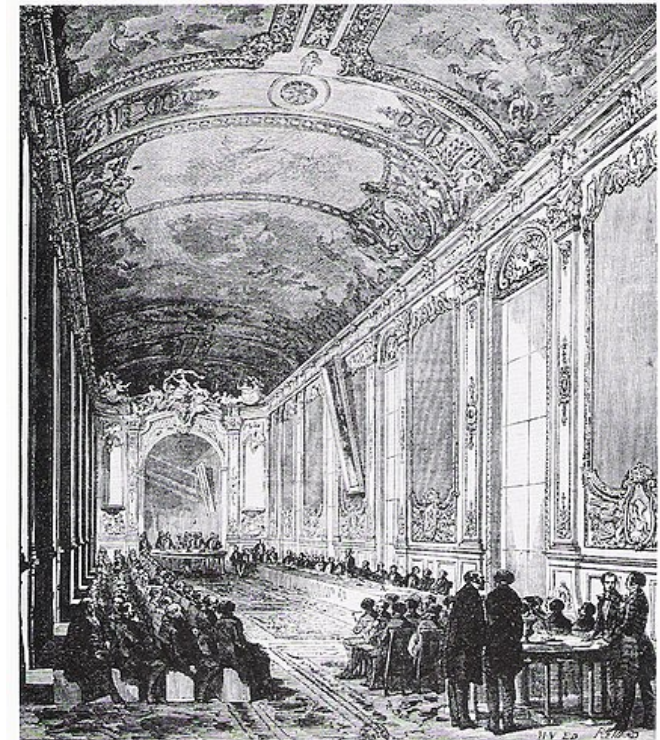
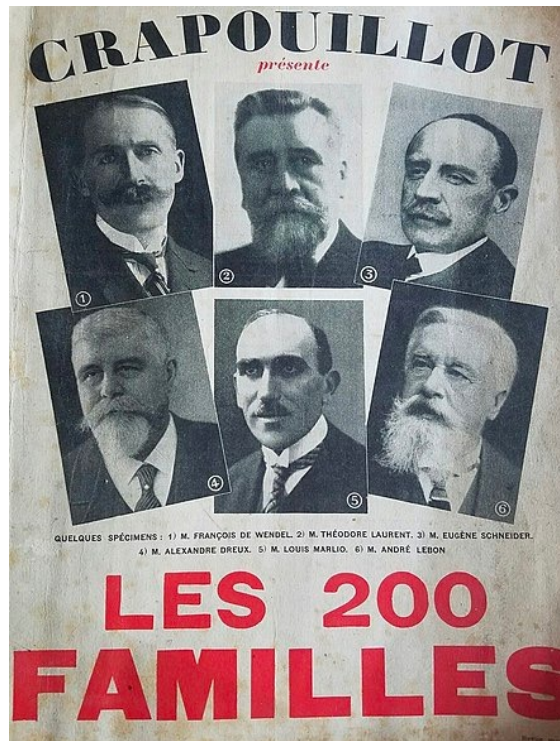


Connected Lending of Last Resort?

Kris James Mitchener
Santa Clara University
& CEPR

Eric Monnet
Paris School of Economics
EHESS & CEPR



Central Bank “Design”

- Growing interest in understanding how institutional design shapes central bank decision making and outcomes (Reis 2013)
- Large literature focusing on independence and stance of MP and inflation (e.g., Barro and Gordon, 1983)
 - Commitment, transparency, and accountability
- Considerably less is known about how design and governance might affect central banks’ role as lenders
 - In theory, it’s only about collateral and solvency
 - Types of operations specified in charters
 - In practice?

Other factors also might affect CB lending or asset purchases

- Personal connections
- Heterogenous quality of information on banks
- Fear of losses (Goncharov et al., JF 2021)
- Political economy of relationship with government (Drechsler et. al., JF 2016)

- What aspects of design might matter for CB lending – composition of boards, capital ownership, ethics rules?

Hard to fully insulate central bankers

- Political pressures about bank bail-out (Ball 2018)
- Influence of past private-sector experience (Mishra and Reshef 2019)
- Perhaps even use personal or professional relationships with commercial bankers to obtain *better information* about who to lend to, especially during a crisis when informational problems are heightened
 - In other lending contexts, it can be optimal to rely on private personal information and relationships (Cohen et al. 2008; Engelberg, Gao, and Parsons 2012; Fisman, Paravisini, and Vig 2017; Lamoreaux 1994)

Our research question

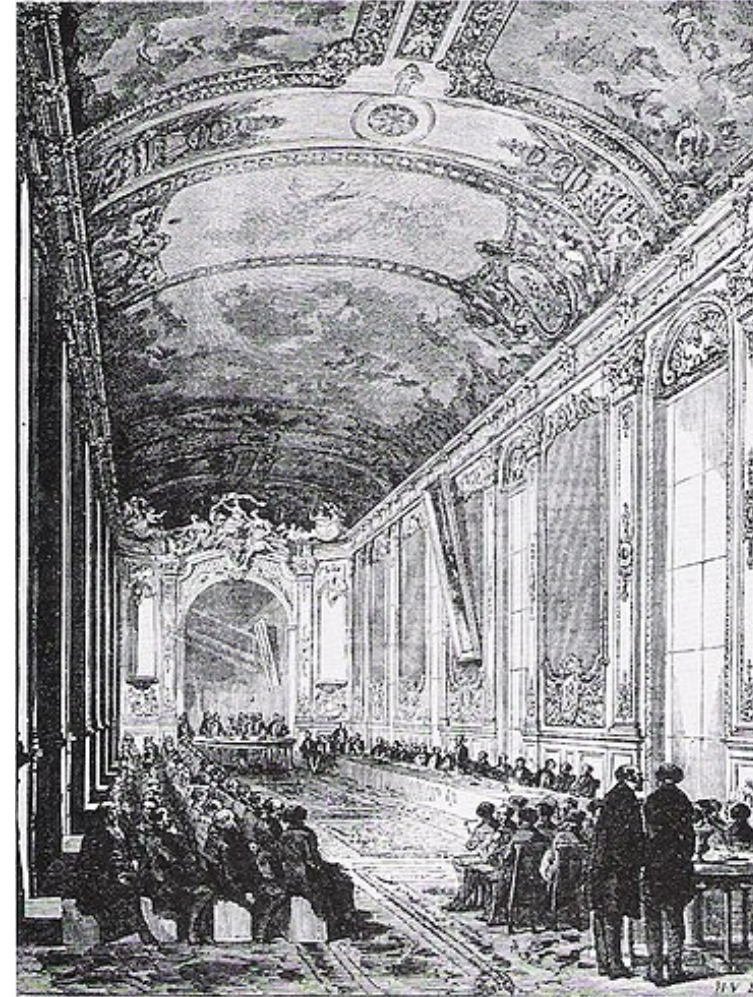
- Do central bankers draw on personal connections during lender of last resort (LOLR) operations and what, if any, are the consequences of doing so?
 - Recent literature explores *connected lending*
 - Khwaja and Mian 2005; Faccio et al. 2006; Duchin and Sosyura 2012; Haselmann et al. 2017; Schoenherr 2019, etc.
 - But less is known about central bankers

Empirical Challenge

- Need detailed and non-anonymous central bank lending data to observe personal relationships
- But quite difficult to obtain from recent LOLR operations (privacy concerns, fear of stigma)
- We unearthed historical ledgers from archives of the Banque de France that record daily, discount-window lending amounts and names of commercial banks it lent to before and during a crisis

Empirical Setting

1. Banque de France (BdF): 1930-1931
 - Shareholder-owned central bank since 1800
 - 40,000 shareholders, but only 200 had voting power to select Board of Directors (*Regents*)
2. Largest banking panic ever in France (but BdF's role in crisis never studied!)
3. Merge novel, daily data CB discount-window (DW) data from BdF with new data on commercial bank connections to these 200 largest shareholders



Findings: *selective* LOLR

- Once the panic started, BdF drew on its personal connections and lent disproportionately more to “connected banks” – commercial banks with ties to BdF’s 200 largest shareholders:
 - On average, **received 30-40% more during the panic**
 - 65% more when SIFIs are excluded
- No statistical difference between “connected” and “unconnected” lending to banks before the panic
- Why selective lending?
 - Acted in interests of shareholders (“connected”)
 - Paid record dividends even with ballooning losses from DW lending
 - Consistent with using personal connections to screen borrowers and limit CB losses from DW lending
 - Ulterior motives (“pure corruption”) possible
 - Not constrained by the gold standard (ample free gold)

Consequences of selective LOLR policy

1. Exacerbated and prolonged the panic through fall 1931.
 - Credit rationing not optimal for LOLR (Gorton-Ordóñez 2020)
 - Because of spillovers, even “connected” banks eventually suffered!
2. BdF realized large losses on discount window lending to connected banks
 - Government bailed out a bank to rescue the BdF (first government bailout of a bank in French history)
3. Change in governance in 1936: end voting power of the 200 shareholders + new appointment process of the board

Why didn't the BdF follow Bagehot's dictum and lend widely to halt the panic of 1930-31?

- Hypothesis: Central bankers drew on personal connections
 - Rely on private connections to obtain information or guarantee, in times of high uncertainty to avoid losses (including to shareholders)
 - Wanted to pay dividends to shareholders and help their banks survive
- Irrespective of the motive, BdF favored connected lending, and did so independent of ex ante bank characteristics
 - But it failed to internalize the risk of negative spillovers from unconnected to connected banks
- Test: Use Diff-in-Diff empirical design to examine whether shareholder links explain BdF lending during the crisis (everything else equal)
- Important for identification: BdF lending was secret (no stigma, no signal for depositors) + underdeveloped interbank market

Banking Panic of Autumn 1930

Spark (before recession begins in France):(Nov. 3): failure of Oustric, a modest and recently chartered bank (1919)

Contagion (Nov. 4-5): run on Banque Adam – old (1784) and major regional bank in the north – because Oustric had become its main shareholder in 1929

“Lehman moment” (Nov 5-11): the BdF let Banque Adam fail. Minor participant in a syndicate of banks in order to liquidate Adam, **but didn't provide liquidity when facing run**

- Social protests in port city of Boulogne – traders relied on this bank for credit
- Runs on banks throughout France in December: included banks in Paris and a nationwide bank, Banque Nationale du Crédit (BNC)

BdF on the Panic (Nov. 27): “the failure of *Banque Adam* had repercussions, not only in the north, but throughout France, on the public mind, and especially on small depositors”

2nd wave of panic starting summer 1931

Data

- Daily loans of the BdF to ‘major’ banks: Jan. 1930 - Dec. 1931.
 - Discount lending (+ advances on securities)
 - *Comptes Principaux*. A summary of operations made by the BdF for these 2 years only.
 - Original ledgers do not exist
- Similar to recent studies using confidential Fed & ECB data (Drechsler et al. 2016, Acharya et al. 2017)
 - But our data are historical, so no anonymity concerns
- Focus on 65 commercial banks that borrowed (97% of DW borrowing)
 - These banks constitute 85% of all assets in the French banking system prior to the panic.
 - Balance sheet information (Baubeau et al. 2021)
 - N.B: Other 217 institutions listed were foreign banks or non-bank financial institutions, for which we have no other information.

BdF Discount Window Lending

- Market participants viewed BdF as “the bankers’ bank” and as the “regulator of the money market”
- DW a primary revenue stream of BdF
- Employed risk-management practices very similar to those of a private bank to manage its lending portfolio
- A single unified discount rate was a pillar of BdF policy. Should the BdF encounter a need to screen borrowers, charging different discount rates to different borrowers was not an option: it would only ration on quantity, using either the quality of collateral or the identity of the borrower to do so.
- BdF lending policy and quantity of lending were highly discretionary and secret
 - Not constrained by gold cover ratio in our sample period

Connected lending to preserve shareholder value

- During panics, asset prices are more volatile, counterparty solvency risk rises, and heightened asymmetric information makes it costly for a central bank to discern the quality of collateral presented. Screen based on who you know and trust.
- Alternatively, central bankers may simply lend to “insiders” to confer advantages.
- Market may clear, but total lending may be insufficient in aggregate to stop a panic
 - Commercial banks that are liquidity constrained may default, resulting in losses to the central bank
 - Could lower shareholder value in two ways: (1) reduced dividend payments to shareholders and (2) losses at connected commercial banks due to contagion effects.
- Ultimately, an empirical question whether it lent sufficiently to stop the panic

Connections between Shareholders and BdF

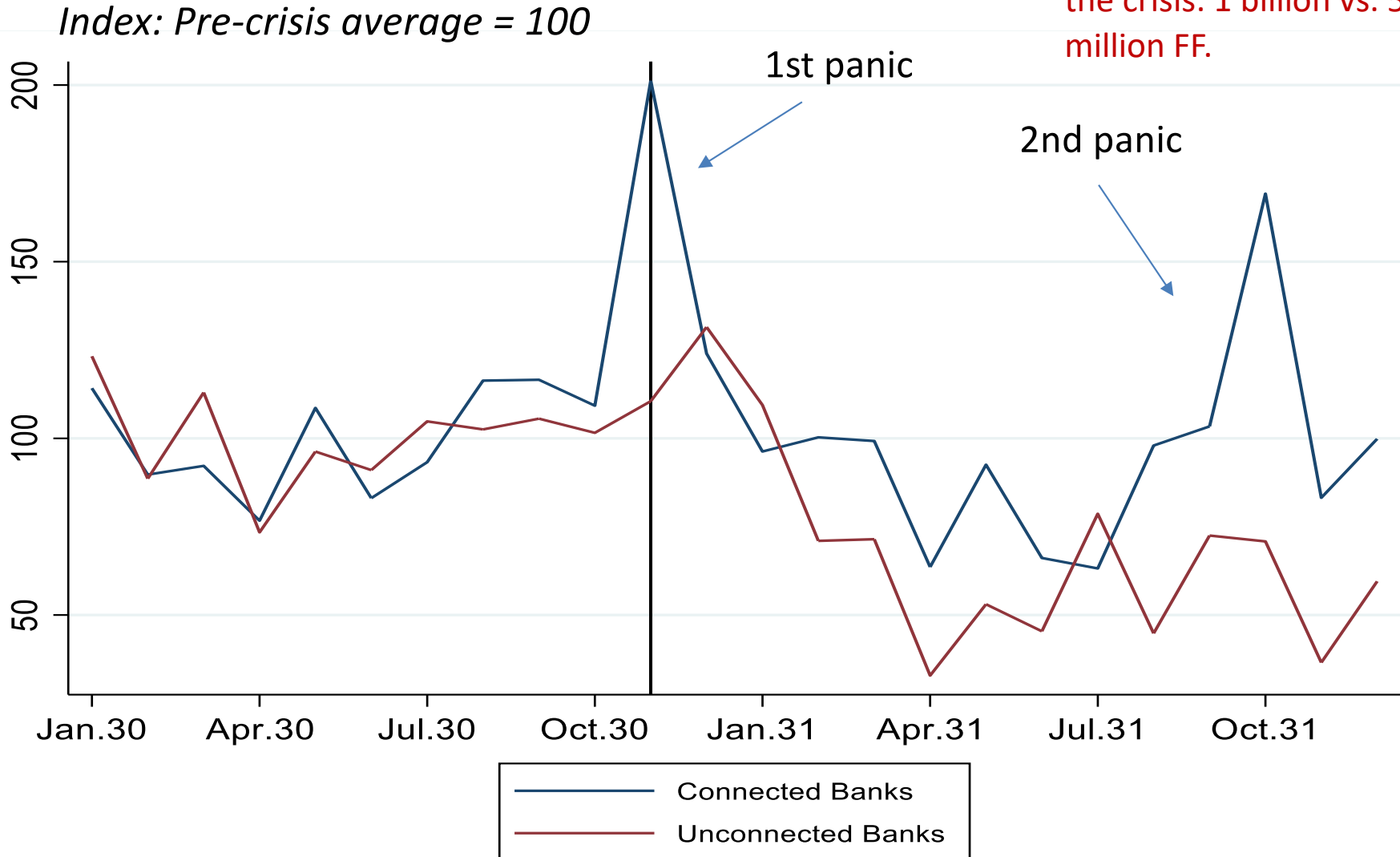
1. Information on board members of banks & BdF 200 voting shareholders (*Assemblée Générale*), hand collected from annual reports & *Annuaire Desfossés*, which published information on all firms listed in the stock market in Paris.
 - The 200 voted on dividends, key appointments within bank such as who served on the discount window lending committee and on the Banque's Board of Directors
2. Shareholder ties ("connected"): at least one board member of a commercial bank is a voting shareholder of BdF (26%), the bank is corporate shareholder of the BdF (5%), or family ties to BdF board members (13%)

Pre-crisis: Connected and Unconnected banks look similar (1929)

Bank Attributes	Unconnected (45 banks)	Connected (20 banks)	Difference (UC-C)	p-value
Assets	1499.4 (440.8)	1231.6 (525.2)	267.7 (749,1)	0.72
Growth of assets (%)	15.2 (3.3)	11.1 (3.3)	4.1 (5.5)	0.46
Deposits	1196.4 (379.8)	1016.9 (461.3)	179.4 (648.2)	0.78
Deposit/Assets (%)	69 (2.4)	68.4 (5.3)	0.5 (5.1)	0.91
Capital Ratio	12.3 (1.2)	16.3 (4.2)	-4 (3.3)	0.23
Liquidity Ratio	49.1 (2.8)	48.8 (4.4)	.3 (5.1)	0.95
Return on assets (ROA)	1.4 (0.1)	1.8 (0.3)	-0.4 (0.3)	0.20
Return on equity (ROE)	14.5 (1.5)	13.9 (1.5)	0.6 (2.5)	0.81
Regional bank	44.4 (7.4)	45 (11.4)	-0.1 (0.13)	0.96

Lending to connected and unconnected Banks

In terms of quantities, lending to unconnected vs. connected banks was twice as large in the year prior to the crisis: 1 billion vs. 500 million FF.



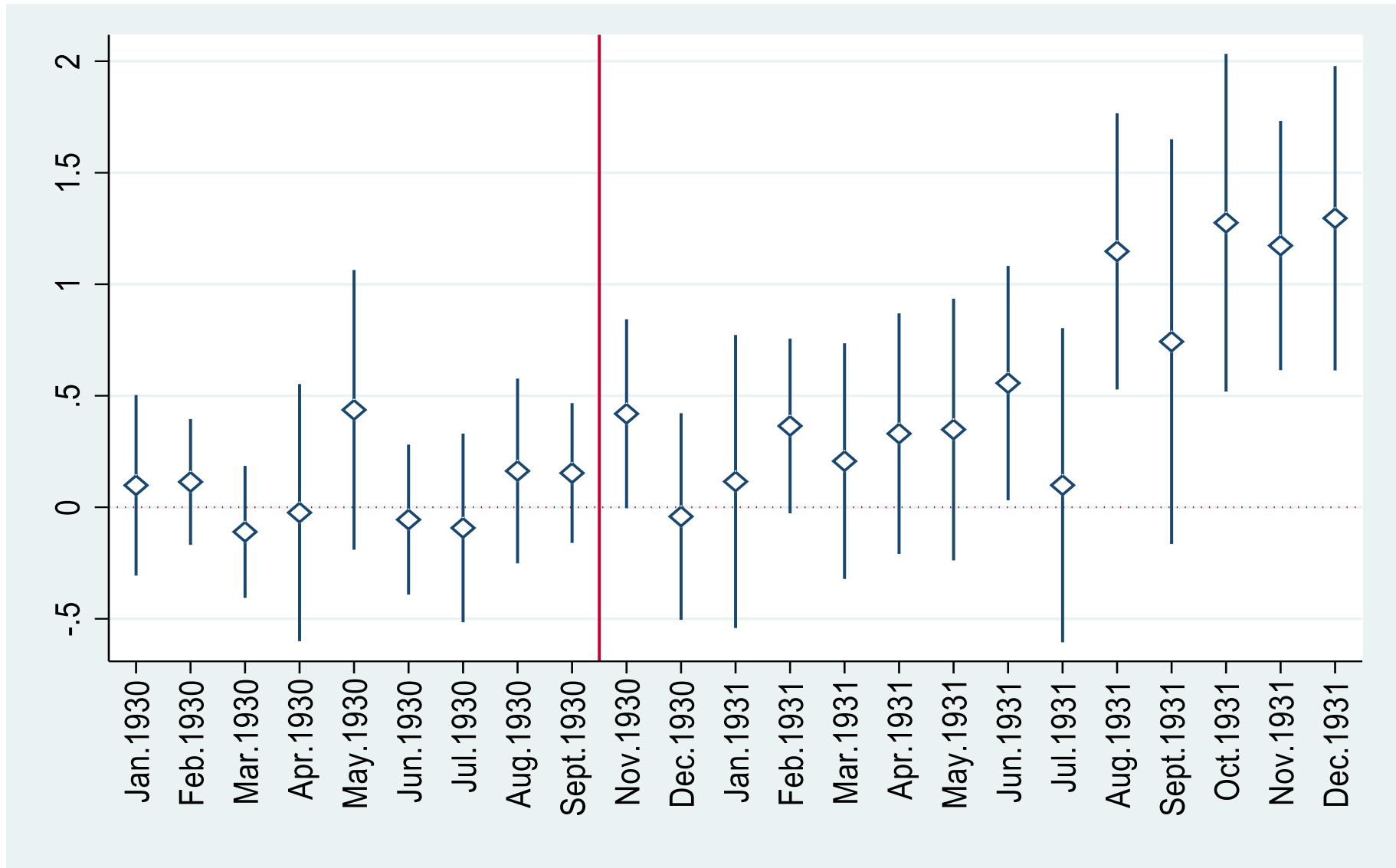
Difference-in-Differences Estimates

- Compare connected and unconnected before and after the crisis starts by estimating:

$$\log(Y_{i,t}) = \alpha + d_t + b_i + \beta(\text{Connected}_i * \text{Panic}_t) + \gamma X_{i,t} + \epsilon_{i,t},$$

- Connected_i indicator =1 if bank_i linked to BdF through shareholding
- Panic_t indicator variable
- d_t , time fixed effects (day, week, month)
- b_i , bank fixed effects
- X_{it} , time varying controls: interact bank characteristics (log of assets, liquidity ratio, capital ratio) with either crisis dummy or time-fixed effects
- Standard errors clustered at the bank level
- **Zero-inflated Poisson (ZIP) regressions**, because excess of zeros (40% of monthly data, 63% weekly, 85% daily), i.e., banks didn't borrow every day, week, or month. Corrects for "overdispersion"

Event Study Results



- $\log(Y_{i,t}) = \alpha + d_t + b_i + \sum_{\tau=-q}^{-1} \beta_{\tau} (\text{Connected}_i * \text{Panic}_{\tau}) + \sum_{\tau=1}^m \delta_{\tau} (\text{Connected}_i * \text{Panic}_{\tau}) + \gamma X_{i,t} + \epsilon_{i,t},$

DiD Estimates using Weekly Data

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	All	All	All	Excl. SIFIs	Excl. bankrupt	Excl. SIFIs & bankrupt
Connected*Panic	0.411* (0.214)	0.398** (0.195)	0.377** (0.177)	0.658*** (0.165)	0.632*** (0.0960)	0.579*** (0.146)
Constant	15.28*** (0.172)	14.58*** (0.465)	12.90*** (2.529)	18.56*** (2.465)	13.61*** (3.129)	19.55*** (2.497)
Observations	6,708	6,708	6,708	6,292	5,876	5,564
Week FE	YES	YES	YES	YES	YES	YES
Bank FE	YES	YES	YES	YES	YES	YES
Post-crisis interactions	NO	YES	NO	NO	NO	NO
Weekly interactions	NO	NO	YES	YES	YES	YES

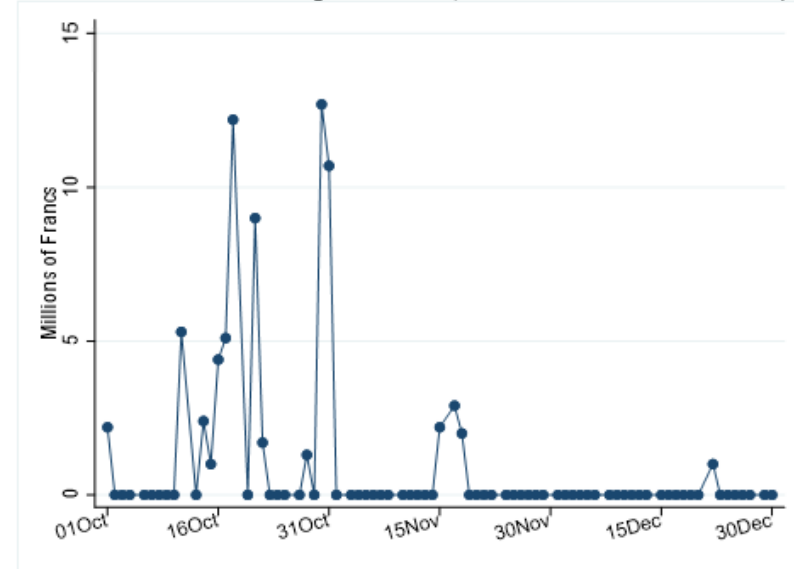
Standard errors clustered at the bank level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

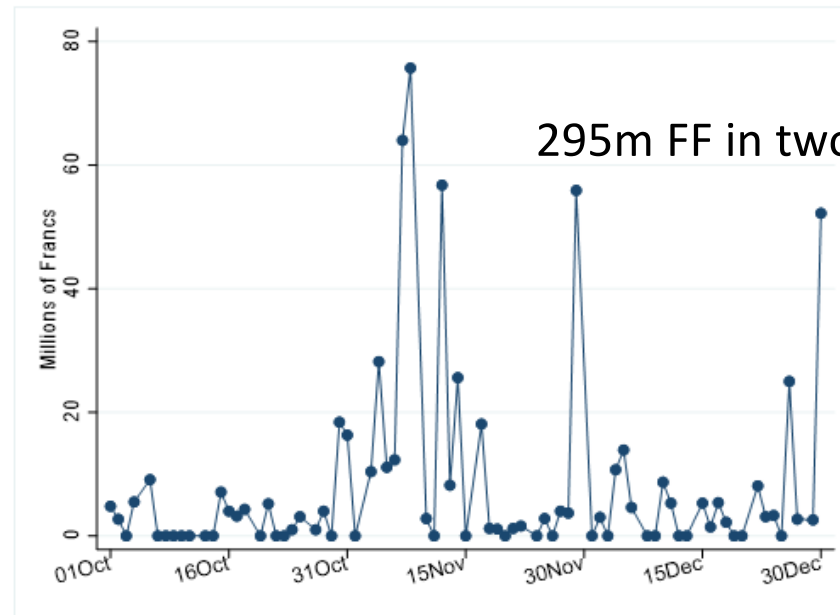
A tale of two (regional) banks

- **Banque Adam** (as well as Oustric) were frequent borrowers at BdF before the crisis. The BdF stopped lending & let them fail
- But, during the panic, BdF lent massively to another major regional bank, **Banque d'Alsace et de Lorraine (BAL)**. It also suffered from runs immediately after Oustric failure (because of financial ties with Oustric)
- **Banque Adam** and **BAL** were very similar (capital, liquidity ratio; 24th vs. 17th in asset size) and had long relationship with BdF (“widely trusted”)...
- Key difference: **BAL's board of directors had two BdF shareholders**

Panel A. Loans to Banque Adam (October-December 1930)



Panel B. Loans to Banque d'Alsace et Lorraine (October-December 1930)

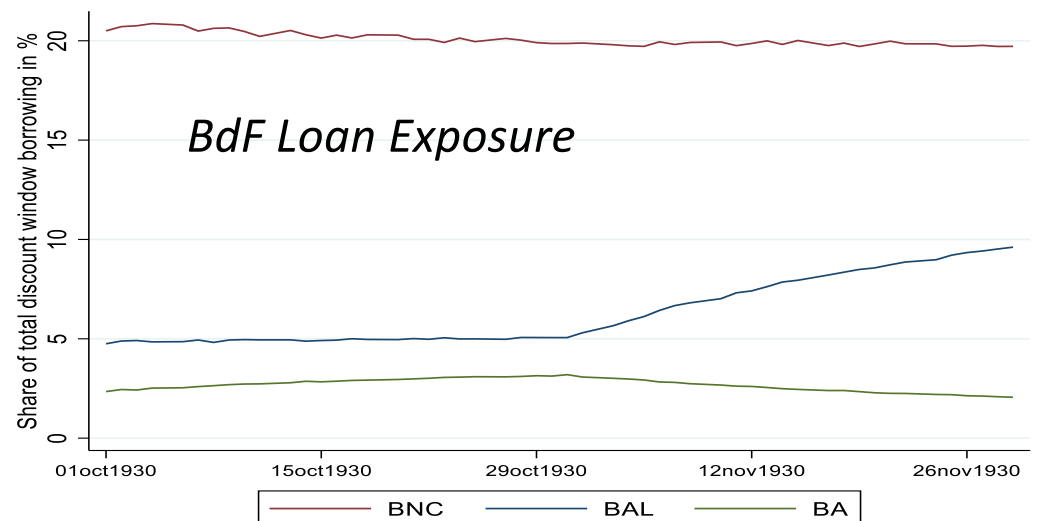
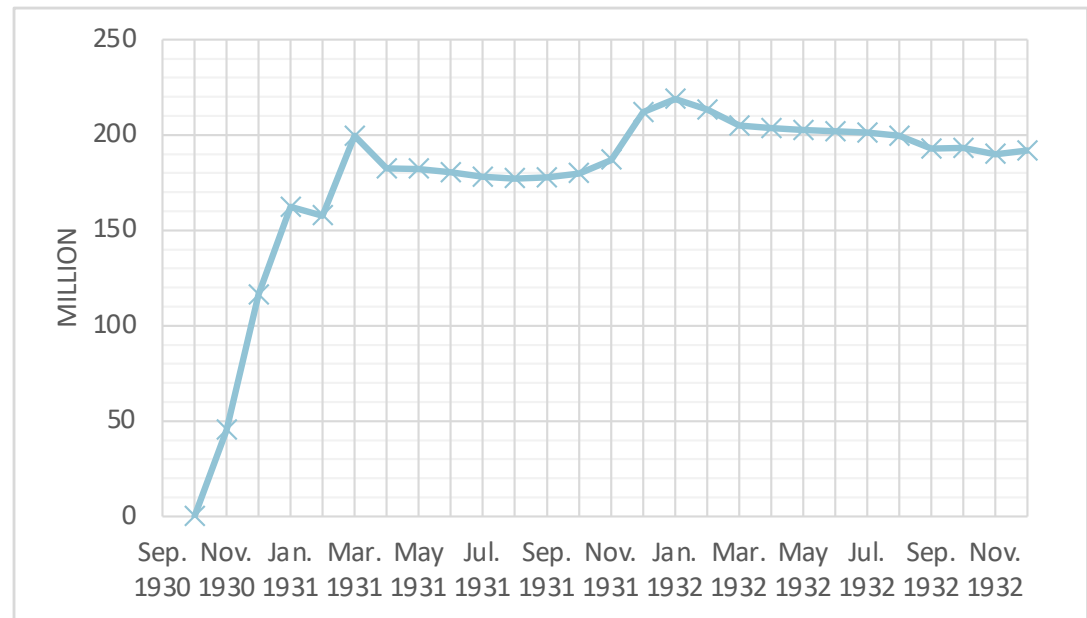


Bailing out the central bank

BdF non-performing loans: problem by December 1930

- Published figure 130m FF (excludes BAL). Internally 178m FF (37% larger)
- End of 1930
 - Reserves: 46m FF
 - Capital: 182m FF
- And BAL owed BdF it could not pay: 760 million FF as of 12/30
- Including BAL losses would have wiped out BdF's capital and reserves

BdF Non-performing loans increase massively (unpublished amount)



But BdF raises its dividend from 6 to 10% of revenues! How?!?!

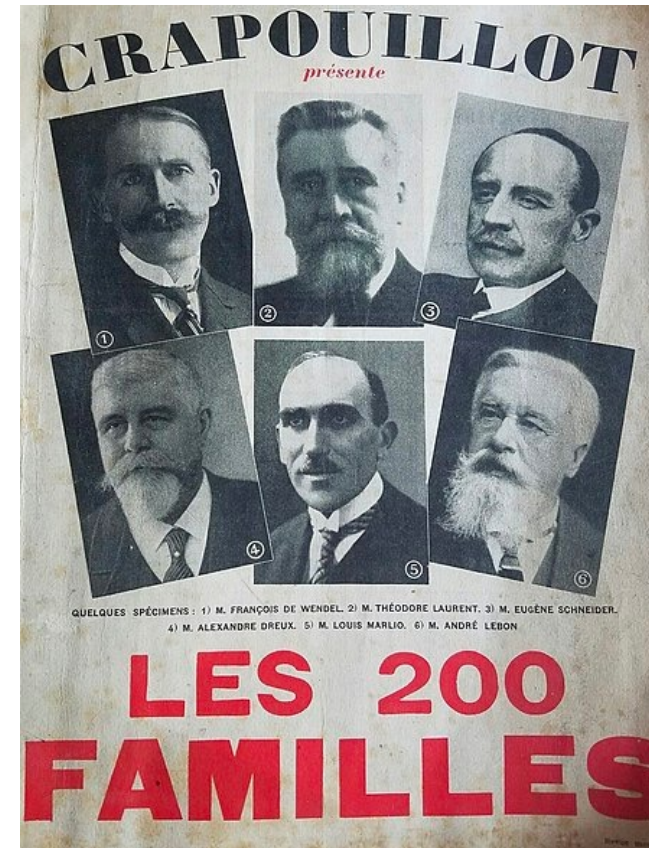
- Secret 12/24/30 agreement with Ministry of Finance removes NPL of BAL from BDF's balance sheet
- Press announced 2 days later that BAL had been bought by the Crédit Industriel et Commercial (CIC) but, in truth, government arranged a bailout (ABF, PFCG 26 December 1930)
- 1933 report shows government eventually realized 700 million FF losses from its purchase of BAL assets from BdF
 - Instead of allowing equity holders of BdF to absorb losses, they were socialized
 - Ex post fiscal backing

Consequences of Connected Lending

- Failure to lend unconditionally in the autumn of 1930 led to France's most severe banking crisis
 - Sent an implicit signal to depositors could not be counted on to act as a LOLR. Panic spread.
 - After one month, 11 commercial banks had failed, four in Paris, including connected banks.
 - Did not internalize the externality (contagion costs to connected banks)
- Prolonged the crisis when uncertainty over bank health re-emerged in summer 1931 –BdF could not be counted on to lend broadly
 - Indeed, it lent selectively again
 - Runs continued until government bails out BNC (5th largest bank)

Overhaul of BdF Governance

- Voters blamed the BdF for not acting in the public interest -- let many regional banks fail
- 200 voting shareholders became the symbol of “financial elite” Criticism of BdF met conspiracy theory, populism, and antisemitism:
- Daladier October 1934:
 - *The empire of two hundred families weighs on transports and on credit. You know it, you, who since the disappearance of the small local and regional bankers, are obliged to count on the modern lord. The current fact is that the industrialist has become the vassal of the financier*
- Popular Front (new left wing gov'n't), May 1936: abolishes the voting power of the 200, changing the voting structure to a one-share, one-vote model, and reforms the selection of the board of directors and policy committees so they operated in the public's interest.



Conclusions

- Central bank response to French banking crises of the Great Depression: not absent but *selective LOLR*
 - Not based on bank characteristics (liquidity, solvency) nor random
 - Responded to incentives. Reflected personal links of banks to the BdF through shareholders
- Economic consequences: France's most severe banking crisis (30 failures)
 - BdF became “overexposed” to connected banks: first bank in French history to be bailed out – secret agreement set dubious precedent

Implications

- In real time, CB actions might have led to a potential “double dividend” for shareholders
 - At least for those whose banks survived as CB failed to account for negative externality of panics
- *Governance crisis* crucial for explaining a shift to “public” central banking with banking supervision.
- Modern central banks are not completely immune from loss considerations (Goncharov et. al., 2021) nor to concerns about conflicts of interest.

Thanks!!

- kmitchener@scu.edu