



AT YOUR SERVICE !
**MONETARY POLICY AND RISK
MANAGEMENT IN 19TH CENTURY
FRANCE**

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THIS PRESENTATION DOES NOT NECESSARILY REPRESENT THE VIEW OF THE BANQUE DE
FRANCE OR THE EUROSYSTEM

MOTIVATION (1)

- Monetary policy trade-off in crisis management:
 - Income shocks better stabilize by wide access to discount window (Bignon and Jobst 2017)
 - Reduction of risk of being liquidity-constrained
 - at the risk of triggering moral hazard (Freixas et al, 2004)
 - If expectation of bailout fuels risk taking
- ⇒ Explains well pre-2007 consensus (Goodhart 2018)
- How had central banks of the past dealt with this issue?

- In fact, monetary policy implementation frameworks varied substantially in cross section & throughout history
 - Wider in 19th century Europe
 - Central banks looked like less “central” in the eyes of some economic historians : Goodhart and Capie, 1994
- But few detailed individual studies:
 - Made policy discussion very focus on current system (and on helicopter drops)
 - A couple of exceptions documented: Bank of England (Flandreau and Ugolini 2014; Anson Bholatal Kang & Ryland 2017) and Austrian National Bank (Jobst and Rieder 2018)
- We add Bank of France, late 19th century



WHAT WE DO, WHAT WE FIND

- Collect data on
 - Monetary policy framework: supervision of counterparty risk
 - A “sample” of counterparties in 1898 (7% or ~1,700 obs)
 - A time series of counterparties present at discount window in a district hit by productivity shock (1890-1905)
 - The three bank resolutions implemented in France in 1898
- Results
 - Access to the discount window was wide
 - BoF monetized different types of capital, i.e. swap CB reserves against debt securities guaranteed by various forms of capital



Moral hazard at the discount window fuels future crises

- 1) if agents anticipate wide and easy discount and the CB has imperfect information on credit risk
 - Checked by (Rochet & Tirole 1996, Chapman & Martin 2013)
 - Screening and collateralization protect central banks from imperfect information
 - Monitoring risk taking: harsh failure law, multiple guarantees & ability to seize them, conditioning refinancing on risk appetite...
- 2) if the central bank biases refinancing
 - E.g. political, sociological biases (Kang 2002, Johnson & Kwak 2011, Calomiris & Haber 2014)
 - Left CB exposed to (ex post) credit risk
 - It's principal agent problem within the central bank

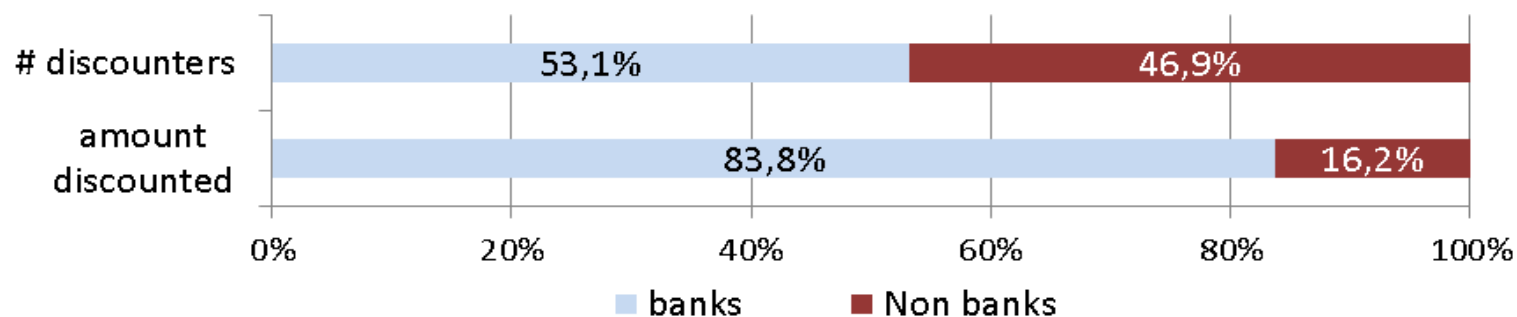
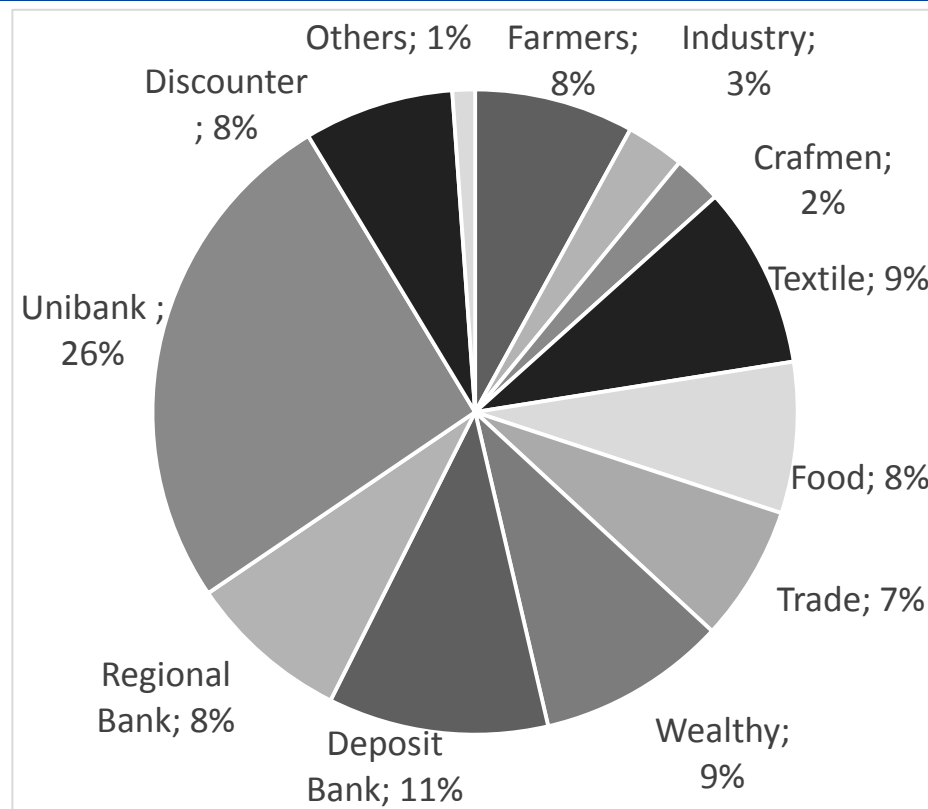
- Cross-section in 1898 from supervisory reports of counterparties
 - 94 branches or 1676 individuals with info on occupation, wealth, business activities, guarantees pledged with BoF
 - about 4% of 1898 BoF discount or 432 m Francs

	# obs.	Average In Francs	Median In Francs	Std. dev. In Francs	Min In Francs	Max In m Francs
Advances (credit)	324	194,423	70,000	693,917	2,500	10 m
Advances drawn	210	91,887	25,200	462,774	220	6.6 m
Discount (escompte)	1676	253,368	60,000	713,436	1,000	12.128 m

- Panel data: one branch, 1890-1905
 - 5 years of crises, 883 observations or 136 individuals (max 79/year) with info on occupation, wealth, business activities, guarantees pledged with BoF

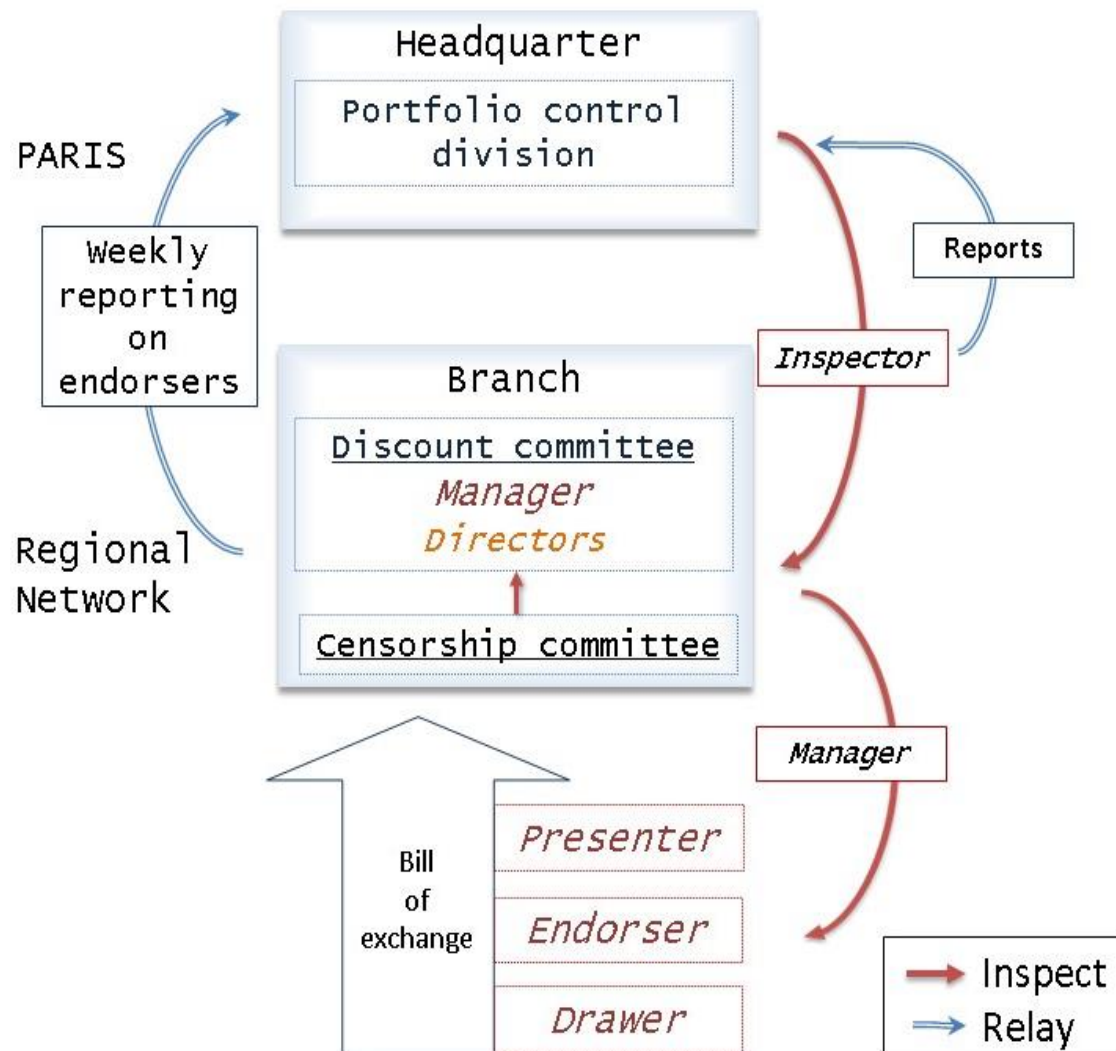
A WIDELY ACCESSIBLE DISCOUNT WINDOW

- In 1898, out of 1,676 counterparties screened by BoF
 - Half were not banks but farmers, food or textile producers
 - 26% were 1-branch bank
 - 11% a branch of a national deposit bank
 - 8% a branch of regional bank
- A third of the branch of each type of banks are counterparties



INTERNAL GOVERNANCE DISCOUNT AND CRONYISM

- To manage risk of cronyism in discounting decisions:
 - Very tight and centralized check of information
- Dual internal hierarchy
 - Scrivener (inspecteur)
 - Manager
- Discount ultimately decided by shareholders





MONITORING AND SUPERVISING COUNTERPARTY RISK

- Not a bank supervision but a monitoring of counterparties
- Very detailed information were collected

Name	Profession
	city
Discounted on Paris & branches: 421 mfs	
(with 22mfs 2 signatures bills) discounted in the city: 324 mfs.	
Value of pledged securities: 295.300 fcs.	
Current account: Loan granted: 634mfs. withdrawn: 169mfs.	
Description of the company and its capital	
Description of the character of courtois	
Description of the clients of courtois	

Courtois & Co Banque,
à Colbouse.

Paris Succ^{le}: 421 mfs.

Paris et mfs: 22mfs. Place 324 "

Valeurs en garantie d'escompte: 295.300 fcs.

Compt. Courtois: Prêt ouvert: 634 mfs. Prélève: 169 mfs.

Paris Succ^{le} - maison mené par F. Courtois,
Cousin du précédent; plus de 4 millions de fortune -
1^{re} banque de la place, opérant avec correction et
loyauté, et presque exclusivement avec ses seuls
Capitaux: une recherche très ardue des affaires
a gâté quelque peu la chose de sa clientèle -
Courtois & Co s'occupent à la Banque de France
une partie des effets de la Banque Populaire,
(cud: 25 mfs) et de la Banque toulousaine (p. 24)
(cud: 28 "). Les autres clients sont:

<i>Claire</i>	C ^{le} 25 mfs	(n. 31)
<i>Cramou</i>	" 20 "	(n. 32)
<i>Deltel (P.)</i>	" "	cud: 11 mfs n. 33)
<i>Demaux (G.)</i>	" 1 " 1 "	(n. 33)
<i>Dupuy (J.)</i>	" 2 " 23 "	(n. 36)

LITERARY ASSESSMENT OF RISK APPETITE (AND NOT RATING)

- The Bank is very precise on soft information on manager:
 - Business model attitude: « Ginet has too much long term credit and works only w/ deposits which can be very dangerous in case of panics »
 - Personality: « Just arrived, smart, active, related to the best families of Lorient. Keep a close eye on his clients, quite numerous » **on manager of Société générale branch in Lorient**
 - Personal history « This house badly began, he was condemned to the refund of 120,000 F, results of stock market transaction for a married woman. It seems that the lesson quietened down Herbulot who also speculated personally; but there is an indication to be held on the lightness of this bankers » **Herbulot bank in Sedan**
 - Risk appetite « they manage quite well the house but are arduous. They discount with 2 signatures –including to youngs – The bills that they presented therefore need to be selected » **Salzeda bank in Bayonne**
- We check whether these judgements influence BoF discount decisions



WHAT TYPE OF GUARANTEES WERE PLEDGED?

Type of capital	Definition	All (1676 individuals)	Non banks (777 individuals)
# endorsers _i	# of presenters with at least 1 endorser	676 (40%)	138 (18%)
	Avg # of endorsers	3579	204
Surety _i	# of presenters w/ 1 or multiple sureties	362 (22%)	261 (34%)
	Total value	4.2 m F	2.6 m F
Securities _i	# of presenters w/ securities	851 (51%)	459 (59%)
	Total value	9.2 m F	5.5 m F
Wealth _i	# of presenters w/ real estate & financial wealth.	1576 (94%)	702 (90%)
	Total	176.4 m F	66.8 m F
Rating _i	Rating of the risk appetite (positive/négative)	987 (808/179) (59%)	363 (340/23) (48%)

EXPLAINING THE DISCOUNT VOLUME OF BOF

- By what type of guarantee was discount guaranteed?
- Did that change during crises?

$$d_{i,s} = \beta_1 r_i + \beta_2 Dcrises_s + \beta_3 (Dcrises_s * r_i) + \beta_4 controls_{i,s} + \varepsilon_{i,s}$$

- Where d is the volume of discount by individual i at branch s ,
- r is the BoF rating of the individual i (varies btw -1, 0 and 1)
- $Dcrises$ is a dummy equal to 1 if there is a shock impacting a branch (disease, trade shock, bank run)
- Controls include individual variables such as individual wealth, sureties, value of pledged securities, # of endorsers, occupations, and being a director of a branch. We control for a branch level effect



MONETIZING CAPITAL

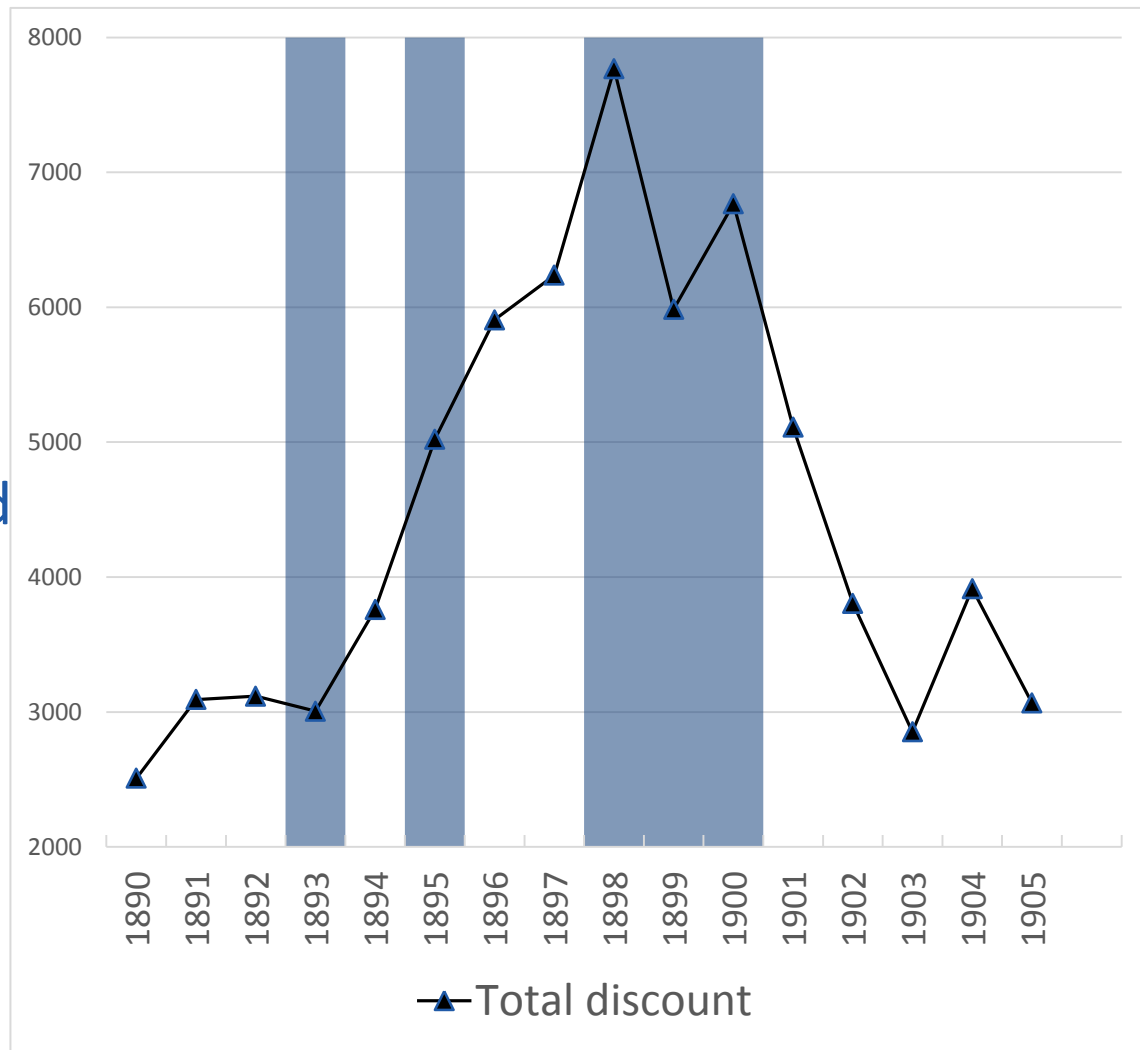
	(1)	(2)	(3)	(4)	(5)	(6)
	Discount	Discount	Exposure	Exposure	Collateral ratio	Collateral ratio
# endorsers	64.93*** 0.00	66.93*** 0.00	65.24*** 0.00	67.34*** 0.00	0.03* 0.08	0.03*** 0.00
share direct discount	31.44** 0.02	35.26*** 0.01	22.88* 0.10	26.99** 0.05	-0.10 0.13	-0.10 0.15
surety	0.52*** 0.00	0.50*** 0.00	0.51*** 0.00	0.49*** 0.00		
securities	0.30*** 0.00	0.29*** 0.00	0.31*** 0.00	0.29*** 0.00		
wealth	0.04*** 0.00	0.04*** 0.00	0.04*** 0.00	0.04*** 0.00		
rating	17.43* 0.06	35.98*** 0.00	18.78** 0.05	39.08*** 0.00	-0.14** 0.04	-0.11 0.15
fatteners crisis		22.12 0.33		29.67 0.20		0.25** 0.03
rating*crisis fatteners		-73.76*** 0.00		-77.58*** 0.00		0.02 0.85
#endorsers*crisis fat.		-19.62*** 0.01		-19.76*** 0.01		0.01 0.71
rating* industrial crises		-69.68* 0.05		-79.29** 0.03		0.21 0.50
#endorsers*other crises		24.90 0.10		25.11* 0.10		0.02 0.75
capital*other crises		-0.02 0.12		-0.03* 0.09		
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.708	0.714	0.708	0.714	0.032	0.032
Observations	1589	1589	1589	1589	1578	1578

WHAT MOVES DISCOUNT VOLUMES?

VarName	Coefficient	Mean	St Dev	Marginal effect
Exposure		285.7	1073.97	
Discount		258.25	716.7	
Reputation	17.43	0.375	0.67	+11.68
# endorsers	66.93	2.132	5.48	+399.4
securities	0.3	55.143	183.07	+54.9
Capital	0.04	1052.354	2383.12	+95.3
Surety	0.53	25.030	107.69	+57.1
Share direct discount	35.26	0.145	0.334	+11.78
Fatteners crisis*ratings	-73.76	0.05	0.26	-19.18
Fatteners crisis* #endorse	-19.62	0.199	1.26	-24.72
Other crises*rating	-69.7	0.026	0.21	-14.64

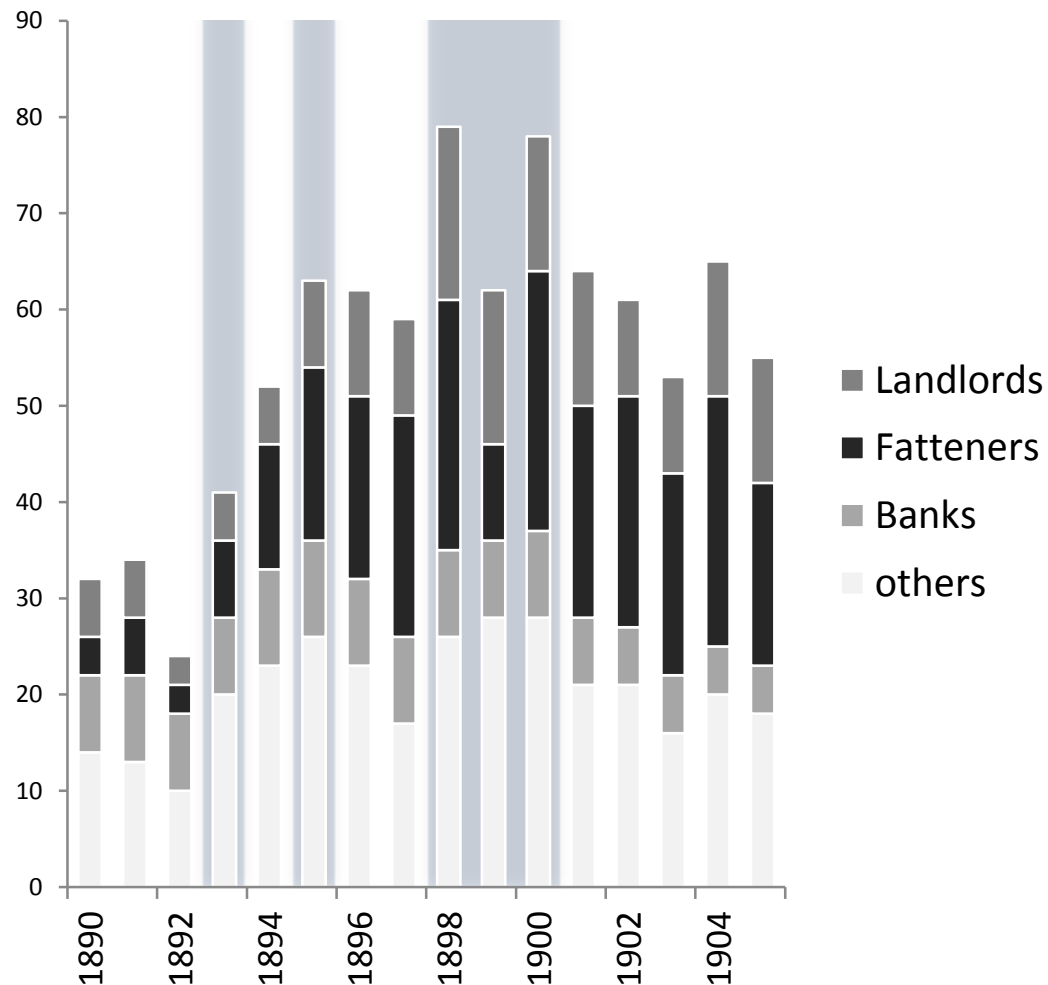
WHAT HAPPEN DURING A CRISIS?

- Moulins main activity:
Fattening of beefs
- => required capital to
purchase the young beefs
- Agricultural crises in the
zone of Moulins branch
caused by disease and bad
weather
- Increase of discount with
each shock
 - Increase of # of
discounters
 - And volume discounted



HOW WAS A CRISIS STABILIZED?

- Increase of discount by banks
- Direct discount: Increase of # of fatteners and landlords with mainly
 - Securities and surety as guarantee
 - 97% of fatteners have a surety as guarantee



Prudent behavior was rewarded in crisis

	(1) Baseline FE(profession) n)	(2) FE w/ Reputation	(3) FE w/ Crisis	(4) FE Crises x rating
securities	0.25**	0.25**	0.25**	0.28*
# endorsers	0.02	0.02	0.02	0.06
D.surety	27.67***	28.11***	28.34***	27.35***
L.capital	0.00	0.00	0.00	0.00
L.rating	102.97***	100.96***	101.74***	100.23***
D.crise	0.00	0.00	0.00	0.00
D.crise X L.rating	0.12***	0.13***	0.12***	0.11***
	0.00	0.00	0.00	0.00
		26.42**	28.14**	9.55
		0.04	0.03	0.49
			21.86*	3.48
			0.05	0.78
				66.02**
				0.04
R ²	0.431	0.437	0.441	0.451
Adjusted R ²	0.417	0.423	0.426	0.432
Observations	626	626	626	626

Reputation was downgraded

	(1) rating volatility	(2) rating FE (profession)
y.crisis	-0.455* (0.012)	-0.230*** (0.000)
# endorsers	0.0891* (0.021)	0.00252 (0.852)
D.surety	-0.638** (0.003)	-0.0280 (0.583)
securities	0.00123 (0.149)	-0.000330 (0.218)
capital	-0.0000580 (0.779)	-0.0000855 (0.050)
profession	0.00146 (0.137)	
discount		0.000271 (0.293)
discount X y.crisis		0.000227 (0.412)
Constant	-0.594** (0.009)	
Observations	747	883
Adjusted R-squared		0.081

p-values in parentheses

* p<0.05, ** p<0.01, *** p<0.001

CONCLUSIONS AND OPEN ISSUES

- With GFC, focus on variety of monetary policy implementation
 - Triggered increase in research on how CB policies cope w/ crises
- Our study:
- differences in implementation framework did not necessarily mean differences in centrality of central banks
 - Rather differences in design of LLR framework
- Counterparty management aimed at containing moral hazard
 - Involved lot of information gathering by the central bank to choose to which individual risk it is exposed
 - But allowed the CB to operate a wide discount window