

# Anatomy of Bank Contagion: Evidence From Helena, Montana During the Panic of 1893

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# Three important questions...

- Is there contagion among banks during crises?
- Does contagion amplify crises?
- How is contagion spread?

# Motivation...

- We test for contagion among four banks in Helena, Montana during the early 1890s.
- Period characterized by relative lack of regulatory intervention (no deposit insurance, no central bank, no modern-style reactionary fiscal or monetary policy)
- Why Helena? We have a dataset perfect for studying this question. More about the dataset and Helena's economy in a few slides...
- But first, we need to set this paper in the literature...Where does it fit? Why does it fit?

# Bank runs/contagion theory:

- Random-withdrawals theory:
  - Diamond-Dybvig (1983);
  - Waldo (1985);
  - Postlewaite and Vives (1987);
- Information-based theories:
  - Calomiris and Gorton (1991);
  - Chari and Jagannathan (1988);
  - Chen (1999), Gorton (1985), others...
- Financial Linkages:
  - Allen and Gale (2000, 2007), etc.
- “Hybrid” (strategic complementarity) theories:
  - Goldstein and Pauzner (2005);

# Empirical literature on Bank Contagion:

- Modern studies: look at asset correlations (Aharony and Swary, 1983, 1996, etc), depositor behavior in the aggregate (e.g. Schumacher 2000), and in individual bank runs (Iyer and Peydro, 2011; Iyer and Puri, 2012).
- Historical studies on bank contagion:
  - Friedman and Schwartz (1963)
  - Wicker (1996)
  - Calomiris and Mason (1997, 2003)
  - Gorton (1988)
  - O'Grada and White (2002)
  - Richardson (2007); Mitchener and Richardson (2016)
  - Saunders and Wilson (1996)
  - Dupont (2007)

# What's lacking?

- Virtually all papers that examine contagion in a historical setting use quarterly (and sometimes annual) data on bank deposits.
- It is difficult to detect contagion with low frequency data.
- But panics are, generally speaking, phenomena that takes place very quickly, in a matter of days (Davison and Ramirez, 2014; Calomiris and Mason, 2003).

# Example of a one-day contagion:

- From the *New York Times*, January 20, 1891:

“Kansas City, Mo., Jan. 19.-As a result of the failure of the **American National Bank** this morning a great deal of uneasiness has been created among the depositors of the **Kansas City Safe and Savings Deposit Bank**, which is in the **same building** with the American National Bank, and is supposed by many to be connected with it, and early in the day there was a tremendous run on that institution. The sidewalk was blocked and the doors of the bank were crowded with depositors anxious to recover their hard-earned savings. The bank paid all depositors promptly and the officials say that they can meet all obligations. **The bank is in no way connected with the American National.** It is the largest savings bank in the State and its officers are the most careful and conservative business men of the city. The run on the savings bank continued all day. At the hour of closing the crowd of depositors was, if anything, larger than in the morning.”

# Our Data

- We have the daily ledgers for 4 of the 7 banks that existed in Helena, Montana between 1890 and 1895.
- Ledgers are located in the Montana Historical Society Archives.
- We have data on daily demand deposits, time certificates, and demand certificates.

# A View of the Source Ledgers

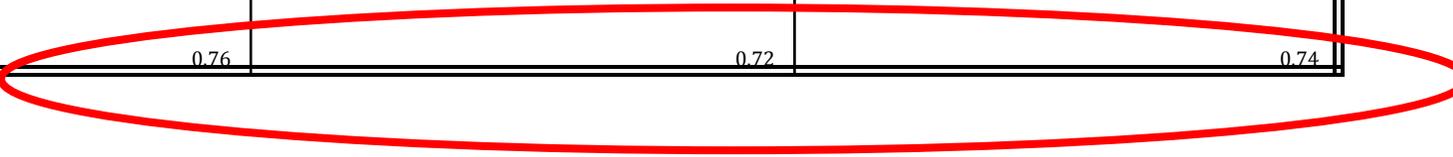


# Banks in Helena, MT and our Sample

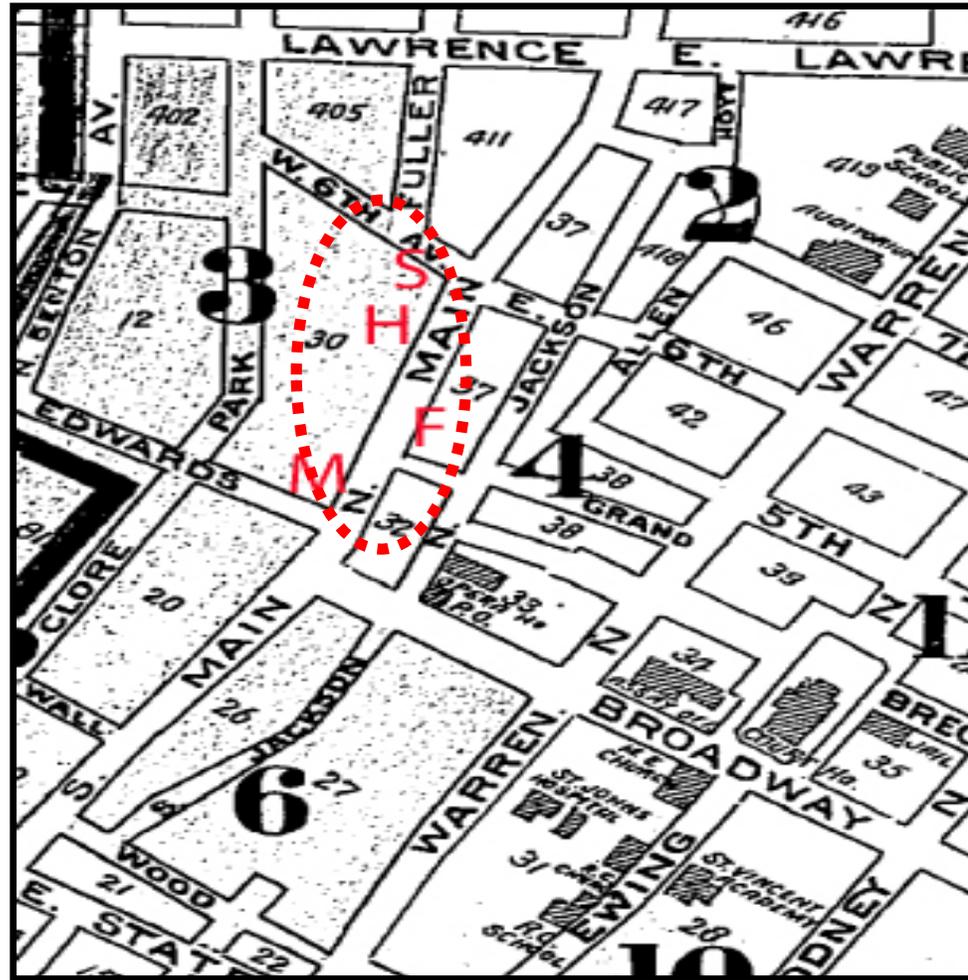
Bank Name	President	Vice-President	Cashier	Capital
American National Bank	Power, Thomas C.	Seligman, A.J.	Johnson, A.C.	\$200,000
First National Bank	Hauser, Samuel T.		Knight, E.W.	\$500,000
Helena National Bank	Murphy, John T.	Ashley, Shirley C.	Baird, Frank	\$500,000
Merchants National Bank	Hershfield, Lewis H.	Davidson, A.J.	Hershfield, Aaron	\$350,000
Montana National Bank	Broadwater, C.A.	Phelps, Louis G.	Atkinson, S.E.	\$500,000
Second National Bank	Edgerton, E.D.	Cole, C.K.	Child, George B.	\$75,000
Thomas Cruse Savings Bank	Cruse, Thomas	Cruse, W.J.	Sweeney, W.J.	\$100,000
Total for All Bank				\$2,225,000
Total for Sample Banks				\$1,425,000

# How representative is our sample?

Bank Name	Loans and Discounts	Individual Deposits	Total Assets
American National Bank	\$437,247	\$298,328	\$677,231
First National Bank	\$2,945,877	\$2,810,113	\$4,388,232
Helena National Bank	\$762,759	\$349,669	\$978,902
Merchants National Bank	\$1,448,607	\$1,547,664	\$2,531,278
Montana National Bank	\$1,250,463	\$1,085,808	\$2,168,269
Second National Bank	\$238,380	\$193,642	\$327,780
Total for All National Bank	\$7,083,333	\$6,285,224	\$11,071,692
Total for Sample Banks	\$5,396,346	\$4,543,918	\$8,212,634
Fraction of Sample to All N. Banks	0.76	0.72	0.74



How close were these banks? Very...



# A quick review of Helena's Economy

- Montana's economy at that time: Cattle (east), Mining (West)
- East part: flat, green pastures
- West part: mountains, lots of metals
- Mining phases in western Montana:
  - Late 1860s to 1880s: gold
  - Mid 1870s: silver
  - Mid/late 1890s: copper

# Importance of Mining: Occupation Distribution

<b>Variable</b>	<b>Percent</b>
Population 10+ years	0.23%
Farmers	0.15%
Farms	0.12%
Agriculture	0.17%
Manufacturing	0.24%
Mining	2.75%

# Silver related events:

- Gold standard was becoming more popular among countries starting in the 1870s.
- Coinage Act of 1873: puts U.S. on gold
- Bland-Allison Act of 1878, Sherman Silver Purchase Act of 1890: called for Federal government to buy silver at market prices.
- Gold reserves are slowly drained shortly after 1891.
- Feb/March 1893: clear U.S. was not buying silver.
- June 1893: India announces it was dropping silver too.
- Result: sustained decline in price of silver.

# Close price of silver in London



# Let's zoom into 1893:

- February: clear Congress decided not to buy silver for gold.
- Series of bank suspensions starting in the mid-west (Ohio, Kansas, etc).
- May 25: First bank run in Montana—Hayde, Freyschlag & Co.
  - FNB (Helena) announces a \$100,000 loan.
- June: India pulls out of silver
- Mining business severely affected.
- July: money becomes “tight”, more banks north of Helena suspend.
- July 27, 1893: FNB and Montana National Bank (in Helena) suspend.

Effect of silver on mining industry (NYT, July 1):

**GREAT FALLS, Mon., June 30.—A dispatch from Volhart, the chief mining town of the Belt Mountain Range, states that orders have been given for closing down the Moulton, Galt, and Nevada Mines. It is thought that unless silver advances no mines will be in operation at the end of the week.**

Timeline suggest three tests...

- An empirical test of how “fundamentals” and/or “contagion” may have affected depositor behavior.
- Event study using the suspension of FNB on July 27, 1893.
- Narrative evidence.

# Evaluating Contagion vs Fundamentals

- Contagion refers to the transmission or the spread of shocks from one financial institution to another.
- In the context of this paper, we look at how a “bank shock” affects depositor behavior in our sample of banks.
- We also include variables that measure “fundamentals”—stock prices, silver prices.

# First Test:

- $\Delta d(i,j,t) = a(0) + A(L)(\text{Bank Run}(t)) + B(L)X(t)$
- $i = \{\text{demand deposits, time certificates}\}$
- $j = \{\text{First, Merchants, Helena, Second}\}$
- $t = \{\text{Jan. 27, 1891, ..., July 26, 1893}\}$
- $A(L)$  = lag polynomial on “bank run” variable.
- $B(L)$  = lag polynomial on variables that capture “fundamentals” (silver prices, stock market returns).
- Test involves evaluating how a shock to “bank run” affects  $\Delta d$  over time.

# Measuring “Bank Shocks”

- We construct an indicator variable that tracks articles about bank runs.
- Source: Contemporary newspapers (WSJ, NYT, Wash Post, Chicago Tribune, Atlanta Constitution, LA Times, Boston Globe, etc)
- Variable = 1 if there was an article about a “bank run” or (“heavy withdrawals” and bank) on day  $t$ . It is equal to 0 otherwise.

# First National Bank: Time Certificates

<b>Bank</b>	<b>Stock Ret</b>	<b>Sig</b>	<b>Silver Price</b>	<b>Sig</b>	<b>Bank Runs</b>	<b>Sig</b>
First National Bank	Day 0	-0.021	-0.009	-0.051 *		
		(0.045)	(0.057)	(0.027)		
	Day 1	0.041	-0.028	-0.063 *		
		(0.066)	(0.072)	(0.036)		
	Day 2	0.059	0.097	-0.108 **		
		(0.081)	(0.083)	(0.047)		
	Day 3	0.03	0.085	-0.097		
	(0.086)	(0.105)	(0.081)			
Day 4	-0.014	0.107	-0.168 **			
	(0.098)	(0.129)	(0.081)			
Day 5	0.032	0.151	-0.264 ***			
	(0.099)	(0.139)	(0.089)			
Long Term	0.034	0.169	-0.301 ***			
	(0.111)	(0.15)	(0.1)			

# Merchants National Bank: Time Certificates

Bank	Stock Ret	Sig	Silver Price	Sig	Bank Runs	Sig
Merchant's National Bank	Day 0	-0.052	-0.017		-0.161 ***	
		(0.048)	(0.047)		(0.062)	
	Day 1	-0.061	-0.047		-0.148 **	
		(0.056)	(0.074)		(0.061)	
	Day 2	-0.014	-0.017		-0.113 *	
		(0.068)	(0.104)		(0.062)	
	Day 3	0.072	0.005		-0.201 ***	
		(0.081)	(0.123)		(0.069)	
	Day 4	0.041	0.075		-0.183 ***	
		(0.098)	(0.143)		(0.067)	
	Day 5	-0.015	0.062		-0.196 **	
		(0.116)	(0.16)		(0.077)	
	Long Term	-0.017	0.067		-0.211 ***	
		(0.126)	(0.174)		(0.081)	

# Helena National Bank: Time Certificates

<b>Bank</b>	<b>Stock Ret</b>	<b>Sig</b>	<b>Silver Price</b>	<b>Sig</b>	<b>Bank Runs</b>	<b>Sig</b>
Helena National Bank	Day 0	-0.059	-0.031	-0.071	***	
		(0.037)	(0.043)	(0.025)		
	Day 1	-0.031	-0.03	-0.097	***	
		(0.049)	(0.058)	(0.035)		
	Day 2	0.004	-0.018	-0.105	***	
		(0.071)	(0.064)	(0.034)		
	Day 3	0.03	-0.109	-0.121	**	
		(0.081)	(0.091)	(0.049)		
	Day 4	0.029	-0.091	-0.159	***	
		(0.09)	(0.099)	(0.056)		
	Day 5	0.031	-0.051	-0.161	***	
		(0.089)	(0.102)	(0.06)		
	Long Term	0.033	-0.053	-0.165	***	
		(0.094)	(0.107)	(0.063)		

# Second National Bank: Time Certificates

Bank		Stock Ret	Sig	Silver Price	Sig	Bank Runs	Sig
Second National Bank	Day 0	0.07	**	0.024		-0.098	
		(0.034)		(0.06)		(0.081)	
	Day 1	0.021		0.074		-0.198	**
		(0.047)		(0.077)		(0.089)	
	Day 2	0.013		0.109		-0.204	***
		(0.06)		(0.089)		(0.078)	
	Day 3	0.049		0.072		-0.177	***
		(0.077)		(0.099)		(0.067)	
	Day 4	0.085		0.107		-0.157	**
		(0.091)		(0.115)		(0.065)	
	Day 5	0.014		0.179		-0.115	*
		(0.086)		(0.131)		(0.066)	
	Long Term	0.02		0.157		-0.137	**
		(0.073)		(0.12)		(0.063)	

# First National Bank: DD

Bank	Stock Ret	Sig	Silver Price	Sig	Bank Runs	Sig
First National Bank	Day 0	0.084	**	0.017		0.091
		(0.040)		(0.046)		(0.044)
	Day 1	0.072		0.031		-0.019
		(0.051)		(0.052)		(0.052)
	Day 2	0.088		0.061		-0.039
		(0.060)		(0.053)		(0.058)
	Day 3	0.047		0.077		0.009
		(0.061)		(0.069)		(0.060)
	Day 4	0.111	*	0.023		0.058
		(0.066)		(0.072)		(0.070)
	Day 5	0.032		0.037		-0.055
		(0.069)		(0.083)		(0.082)
	Long Term	0.053		0.041		-0.026
		(0.061)		(0.075)		(0.065)

# Merchants National Bank: DD

Bank		Stock Ret	Sig	Silver Price	Sig	Bank Runs	Sig
Merchant's National Bank	Day 0	0.053		-0.042		-0.042	
		(0.042)		(0.057)		(0.049)	
	Day 1	0.115	**	-0.139		-0.098	
		(0.057)		(0.088)		(0.081)	
	Day 2	0.197	**	-0.132		-0.040	
		(0.080)		(0.105)		(0.101)	
	Day 3	0.163	*	-0.176		-0.083	
		(0.085)		(0.119)		(0.109)	
	Day 4	0.175	*	-0.090		-0.062	
		(0.091)		(0.126)		(0.112)	
	Day 5	0.200	**	-0.144		-0.165	
		(0.096)		(0.140)		(0.117)	
	Long Term	0.178	**	-0.127		-0.134	
		(0.083)		(0.118)		(0.102)	

# Helena National Bank: DD

Bank	Stock Ret	Sig	Silver Price	Sig	Bank Runs	Sig
Helena National Bank	Day 0	0.081	*	0.042		-0.027
		(0.045)		(0.050)		(0.054)
	Day 1	0.044		0.179	***	0.090
		(0.058)		(0.052)		(0.078)
	Day 2	0.048		0.110	**	0.031
		(0.071)		(0.052)		(0.068)
	Day 3	0.042		0.060		0.036
		(0.066)		(0.064)		(0.070)
Day 4	0.090		0.122	*	-0.056	
	(0.072)		(0.073)		(0.074)	
Day 5	0.025		0.034		-0.093	
	(0.085)		(0.079)		(0.100)	
Long Term	0.034		0.046		-0.067	
	(0.072)		(0.070)		(0.082)	

# Second National Bank: DD

Bank	Stock Ret	Sig	Silver Price	Sig	Bank Runs	Sig
Second National Bank	Day 0	0.062 *	0.039		-0.056	
		(0.036)	(0.059)		(0.058)	
	Day 1	0.058	0.009		0.045	
		(0.050)	(0.079)		(0.059)	
	Day 2	0.040	-0.034		0.055	
		(0.068)	(0.074)		(0.065)	
	Day 3	-0.031	-0.065		0.026	
	(0.069)	(0.092)		(0.068)		
	Day 4	-0.001	-0.009		-0.031	
		(0.083)	(0.099)		(0.074)	
	Day 5	-0.014	-0.011		-0.107	
		(0.085)	(0.106)		(0.070)	
	Long Term	-0.004	-0.011		-0.077	
		(0.071)	(0.094)		(0.062)	

Tentative conclusion from 1<sup>st</sup> test:

- “Bank shocks” appear to have affected depositor behavior (time certificates).
- “Fundamentals” appears to have affected demand deposits.
- But need to look at more disaggregated (individual) data.

# Second Test: "Event study" on July 27, 1893

PE. 3

## **TWO HELENA BANKS GO UNDER.**

**Oldest Institutions in the City Fail to Realize in Time.**

HELENA, Mont., July 27. -After standing a heavy drain for the last month two of Helena's oldest and strongest banks were compelled to suspend payment this morning. They were the First National and the Montana National.

The former is the oldest in the city, with ex-Gov. Hauser as President. Its capital and surplus are over \$1,250,000. The latter was founded by the late Col. Broadwater and had a capital and surplus of \$750,000, assets of \$1,750,000, and liabilities of \$900,000. Within the last week the First National paid out over \$1,000,000 and the Montana National nearly \$500,000 to withdrawing depositors. Both have ample assets, but could not realize fast enough to get cash to meet the run. Other banks are standing the run well, the heaviest being on the Merchants' National. The big depositors of this bank came to the rescue and money went in faster than it was paid out this morning. The excitement is subsiding.

C. W. Cannon, A. M. Holter, and S. C. Ashley, all leading capitalists, made personal assignments.

# “Event study” test:

- Withdrawals relative to previous day balance for demand deposit customers at Helena National Bank (HNB).
- Correlate their withdrawal behavior with the average deposit withdrawals at Merchant’s National Bank(MNB).
- These two banks were selected because they survived the July 27 run/panic.
- Correlation test is designed to avoid the Manski-reflection problem.
- $\Delta d(i,t,HNB) = a(0) + a(1)(\Delta D(t,MNB)) + \text{customer fixed effects}$
- Regression done for 3 periods: (1) Jan/Oct 1893 (entire sample period); (2) July 27-Aug 2 window; (3) Random window (falsification test).

# Regression Results

	(1)	(2)	(3)
	Jan-Oct	7/27-8/2	4/16-4/27
VARIABLES	Ind W/D	Ind W/D	Ind W/D
MNB W/D	0.051 (0.045)	1.631** (0.790)	-2.649 (1.948)
Constant	-1.791*** (0.078)	0.693 (0.997)	-7.835* (4.237)
Observations	4,218	63	86
R-squared	0.001	0.171	0.045
Depositor FE	YES	YES	YES

Robust standard errors in parentheses

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

## Third test: Narrative evidence

- Letters from individual depositors indicating worry or lack of knowledge about the affairs of FNB.
- Letters from FNB correspondents showing lack of knowledge and surprise.
- Letters from both FNB correspondents and MNB showing contagion.

Money become tight...

*Confidential*  
The Cascade Bank  
(INCORPORATED)  
Capital \$75,000, Surplus \$15,000  
J. H. Johnson, President.  
W. H. Johnson, Vice President.  
W. H. Johnson, Cashier.  
W. H. Johnson, Asst. Cashier.  
Great Falls, Mont. July 6<sup>th</sup> 1893  
E. D. Knight, Castro,  
Helena, Montana.  
Dear Sir: - If possible, please  
send us \$5,000. coin or  
currency, immediately on  
receipt of this letter. -  
Something serious is liable  
to happen here to one  
of our institutions if a  
powerful official does not  
come to their aid, and  
the matter is hanging in a  
balance. - Our account with  
you shows about \$3,000. only,  
for which you have the best  
security. - But if necessary you can  
send your New York exchange for  
this. - Kindly telegraph answer  
at once. Very truly yours, S. C. Johnson

# Money becomes tight: some evidence...

BUTTE, MONTANA  
July 24, 1893.

Mr. E. W. Knight,  
Cash'r, First Nat'l Bank,  
Helena, Mont.

Dear Sir-

We have your very kind letter of the 21st and note contents.

We find that money matters here are very close; collections by the merchants are very slow and maturing bills absorb about all of their deposits at present, so that we are unable to call in any loans and increase our currency reserves, which we so much desire to do. I suppose that all of the Banks are about in the same condition; and for this reason it will be impossible for us to comply with your request, which it would give us pleasure to do under ordinary circumstances.

Yours very respectfully,  
*W. A. Clark & Co.*

Butte City  
July 2/93

To E. W. Knight Esq  
Cashier Helena First  
National Bank

Dear Sir happening  
to look at the Butte  
Inter Mountain <sup>tonight</sup> I saw  
the Helena First National  
have closed its doors  
I trusting you as gentle  
men ~~you will~~ do the  
square business as I have  
between six & seven  
hundred Dollars there I  
like you to oblige me  
let me know if its safe  
are not although I have  
no idea of drawing it  
out at present I am a poor  
working man & I earned every

Many had NO idea...

cent of it by the sweat  
of my brow So I hope  
you will sympathize  
with me enough to let me  
know how I am standing  
My name is Charles Davis  
I renewed my certificate  
April 28/93 for \$666.25  
for one year on deposit  
at six per cent  
Hoping you will oblige  
me I remain Yours truly  
Charles Davis  
Corner Watson Avenue  
Madison Street  
Butte City  
S. D.

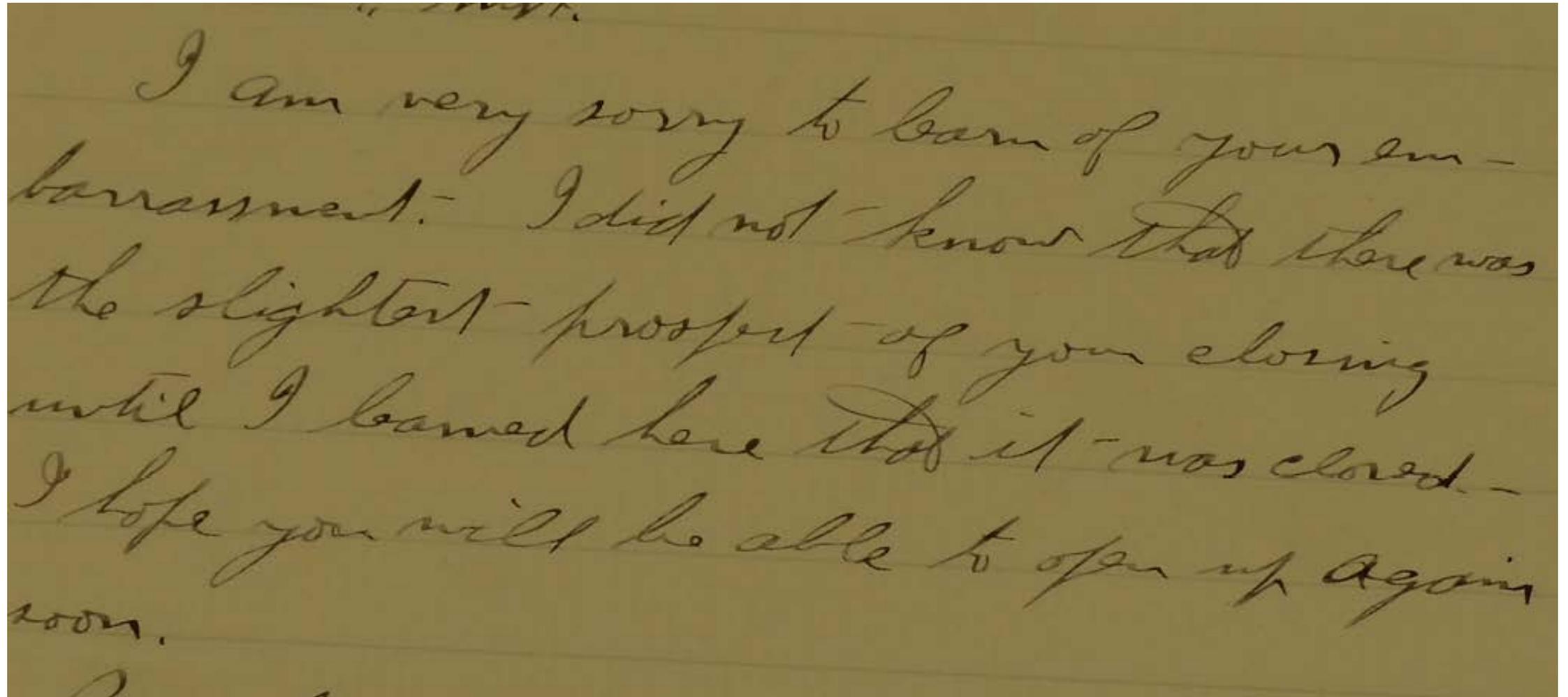
# Charles Davis Account at FNB...

410

## TIME CERTIFICATE. ✓

NO.	DATE. 1893.	DEPOSITOR.	TIME.	RATE.	AMOUNT.	DATE PAID.	AMT. PAID.	INTEREST PAID.
5610	Apr. 27	Leskey	AM	6 5	200.00			
		Justafson Peter	✓		100	July 22-94	100 -	250
5		Quintis Geo.	12	6	500 -	July 25-94	500 -	733
6		Davies Chas	✓		666.25	Apr 30-94	666.25	3996
7		Ludgate Alongo	6	5	286.80	July 2-94	286.80	717

But most letters indicate lack of knowledge...

A photograph of a handwritten letter on aged, yellowed paper. The text is written in a cursive script and is partially cut off at the top and bottom. The visible text reads: "I am very sorry to learn of your em-  
barrassment. I did not know that there was  
the slightest prospect of your closing  
until I learned here that it was closed.  
I hope you will be able to open up again  
soon."

Even correspondents...

A. B. HAMMOND, President  
A. G. ENGLAND, Vice President  
JOHN M. KEITH, Cashier  
No 2106  
**The First National Bank of Missoula.**  
CAPITAL STOCK \$ 150,000. SURPLUS & UNDIVIDED PROFITS \$ 285,000.  
Missoula, Mont. 189

I want you to write me just what I can depend upon in case of trouble. And if possible give me as much warning ahead as you can. You know that from the way you advertise in the Helena Independent the First Nat of Missoula as an associate Bank of the 1st Nat of Helena, that our fate is somewhat tied up with yours, and I have a right to protection from you as stockholders and depositors. This promise I had from Hausser, and if you are not in a position to carry it out notify me at once. Sincerely yours  
A. B. Hammond

FNB never told  
them...contagion  
on to other  
banks...

A. B. HAMMOND, President  
A. G. ENGLAND, Vice President  
JOHN M. KEITH, Cashier

No 2106

**The First National Bank of Missoula.**  
CAPITAL STOCK \$ 150,000 - SURPLUS & UNDIVIDED PROFITS \$ 285,000.

Missoula, Mont. July 27 1893

J. H. Klingenschield, Cashier  
Alecua

I was surprised  
that you closed your  
doors without giving  
us warning or a chance  
to protect our interests.  
You might and  
Kaiser have broken  
every promise you  
have made us in  
this matter. And if  
we had listened to  
you, you would have  
broke us. As we  
approached, a run  
was started on our  
bank as soon as  
the news of your failure  
was reported. We hope  
to pull through but

# Contagion to MNB...

Miss Hoge Procter & Co  
1 Pitt. Street  
July 29 93

5.  
Your esteemed letter of the 28<sup>th</sup> inst  
received and we thank you heartily for the  
kind expressions therein contained as well  
as for not drawing heavily against your  
account here just at this time.

The people seem to be frenzied and it is  
truly a terrible time but we hope that it  
will soon take a turn for the better. Like  
an epidemic the demon of distrust is stalking  
through the country. Thanking you again for  
your kind words and wishes I remain  
Sincerely yours  
A. W. H. Carter

Contagion rampant...

Henry Elling Esq. July. 30 93  
Virginia City - Montana

I am in receipt of your letter  
29. inst and note what you say in  
reference to the two G's sent to us.  
Your indulgence in not calling for the  
money you have with us is appreciated  
especially just now when there is so much  
excitement and distress and I hope that  
your nobility in the matter will reap its  
reward. You are certainly an exception in these  
times. I am sincerely  
A. Woodbury

Fourth Nat Bank (NY)  
ran...

August 1 93  
Mr. R. H. White. Pres  
Dillon. Montana  
My \_\_\_\_\_ I herewith send you our draft  
on the Fourth National Bank of N.Y. for \$5000<sup>00</sup>  
which is charge to your ac. We have been  
awaiting large shipments of currency and  
therefore delayed sending this until today. The  
currency was sent by Wells Fargo & Co through  
S.P. instead of the Northern Pacific and will  
not be here until tomorrow. This is an ex-  
traordinary time for us and I trust you  
will be lenient with us this time. Yrs

# MNB stop cashing C/Ds

## Merchants National Bank.

United States Depository.

Helena, Montana.

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Joseph Bryant Esq.

Great Falls, Mont.

Dear Sir:-

Your letter of 21st ult. received  
with enclosures as stated.

We have adopted a rule not to pay time  
Certificates of Deposit until due or until such  
time as the desire to pull money out of the bank  
ceases. This rule was put into effect to  
protect those who do not withdraw their money as  
well as depositors who are not frightened.  
Should the falling change for the better in a  
short time we will waive the time clause and  
pay the Certificates.

We have every reason to think confi-  
dence will be restored before long.

Hence we return the certificates  
amounting to \$1200. to you.

Yours truly

*C. J. Raymond*

# Final remarks and further work...

- Both fundamental factors and contagion seem to have propagated the Panic of 1893.
- Contagion was not limited to correspondent linkages.
- Depositor fears seems to have amplified the crisis.
- Work ahead:
  - Finish digitizing all demand deposit customers (a lot of work).
  - Look at time deposit customers.
  - Anything else?

THANK YOU!