

Clearing Arrangements in the United States Before the Fed

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Preliminary

Usual Fed disclaimer

Introduction

- “Facts”
 - Private media of exchange usually (always?) redeemable in some form of “lawful money” (demand liabilities)
 - With multiple private media of exchange, issuers usually accept (but do not redeem) the demand liabilities of others
 - Result: Issuers want to redeem and clear issues of others to increase their holdings of “lawful money”
 - Sometimes some type of organized clearing (settlement) arrangement arises

Introduction

- Will describe two such systems used in the U.S. prior to Fed
- Similarity: both net clearing systems
- But very different organization structures
 - Suffolk Banking System – run by single, profit-max entity
 - Clearinghouse – non-profit, just place for members to meet and clear
- Purpose: See what we can learn to apply to today's payment systems

Outline

- Monetary environment before the Fed
- Suffolk Banking System
- Clearinghouses (NY)
- Safety and Soundness (Failure rates)
- Behavior during banking panics (Act like Central Bank?)
- Lessons

Monetary Environment before the Fed

- Bimetallic commodity money system without a central bank
- Dual banking system: state banks and national banks (after 1863)
- Banks generally single location entities
- Each bank issued two types of demand liabilities: banknotes and demand deposits
- Most prevalent medium of exchange
 - Banknotes until late 1850s,
 - Demand deposits after that

- Note: after 1863 only national banks issued notes

Monetary Environment before the Fed



Monetary Environment before the Fed

- In course of business banks took in the notes and checks of other banks
- How notes usually cleared (prior to 1863)
 - sent notes back to issuing bank to be redeemed in specie
 - **Exception: Suffolk Banking System**
- How checks usually cleared
 - sent check back to issuing bank to be redeemed in specie
 - **Exception: Clear through clearinghouse**

Suffolk Banking System

- Banknote (no deposits) clearing system in New England, 1825 - 1858
- Operated by single bank – the Suffolk Bank in Boston
- Net clearing system
- Cleared notes at par
 - Result: Notes circulated against each other at par in New England
- Cleared large value of notes each month

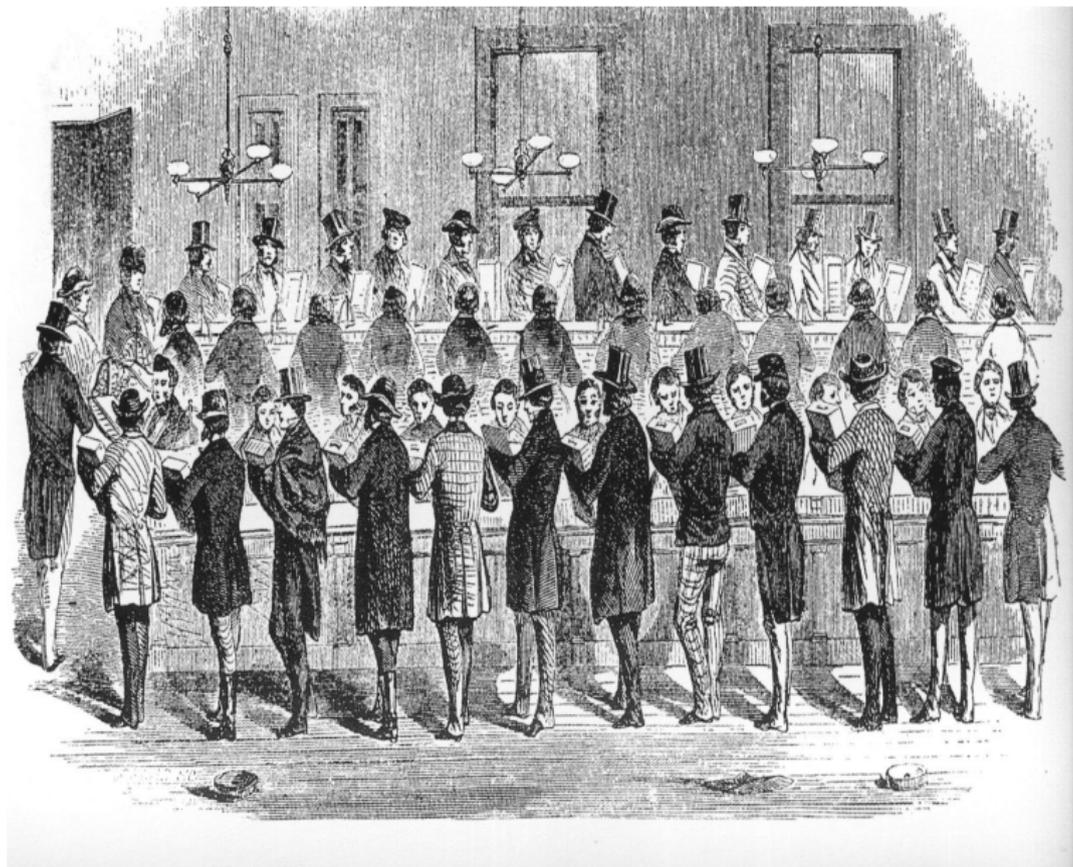
Suffolk Banking System

Assets	Liabilities
Specie \$30,000	Due to Bank A \$10,000
	Due to Bank B \$10,000
	Due to Bank C \$10,000

Suffolk Banking System

- Example – suppose:
 - Bank A receives \$5,000 of Bank C notes
 - Bank B receives \$22,500 of Bank A notes
 - Bank C receives \$2,500 of Bank A notes and \$2,500 of Bank B notes

- Result:
 - Bank A's account debited \$20,000
 - Bank B's account credited \$20,000
 - Bank C's account unchanged



Suffolk Banking System

Assets	Liabilities
Specie \$30,000	Due to Bank A -\$10,000
	Due to Bank B \$30,000
	Due to Bank C \$10,000

Suffolk Banking System

- Alternative 1: Send some of A's notes for redemption

Assets	Liabilities
Specie \$30,000	Due to Bank A \$0
Bank A notes \$10,000	Due to Bank B \$30,000
	Due to Bank C \$10,000

Suffolk Banking System

- Alternative 2: Provide “reserves” to Bank A through overdrafts

Assets	Liabilities
Specie \$30,000	Due to Bank A \$0
Overdrafts \$10,000	Due to Bank B \$30,000
	Due to Bank C \$10,000

- Like Fed’s discount window (not sure if banks required to post additional collateral against overdrafts)
- These “reserves” could only be used to redeem notes presented by other banks to the SBS

Suffolk Banking System

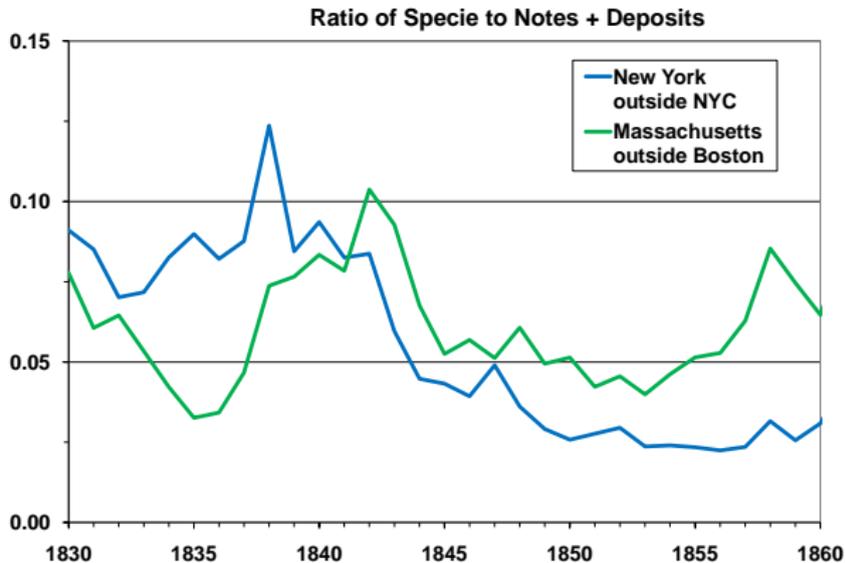
- Advantages of belonging to SBS:

- ① Permitted wider circulation of notes
- ② Provided insurance against note losses from failures of other banks (saved on monitoring costs)
 - once notes cleared, liability was Suffolk Bank's
 - insurance not complete since Suffolk could fail
- ③ Supposedly saved on banks' specie holdings ("reserves") – only needed initial deposit plus amount to cover expected redemptions by nonbanks

And could borrow from Suffolk to cover large redemptions by banks

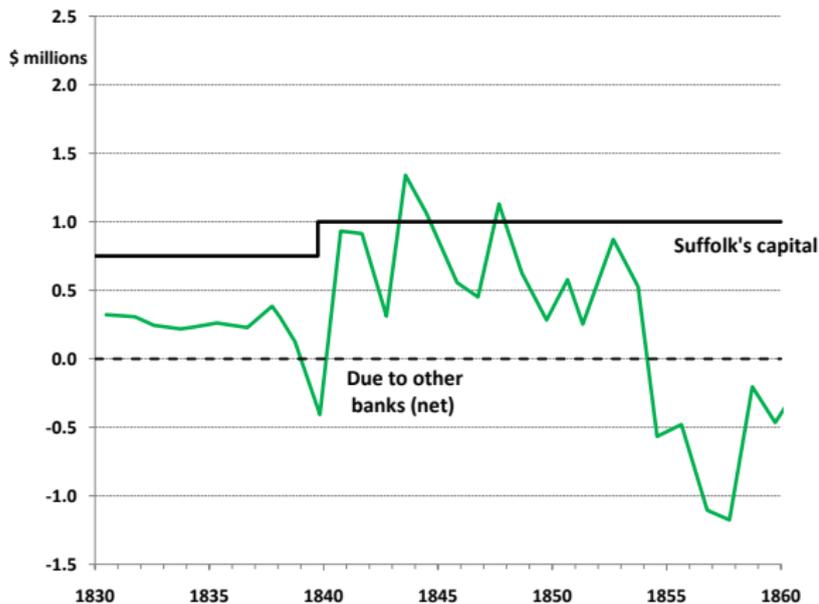
- Without Suffolk, would hold specie to cover expected redemptions by nonbanks **and banks**
- Not clear this reduction was achieved

Suffolk Banking System



Suffolk Banking System

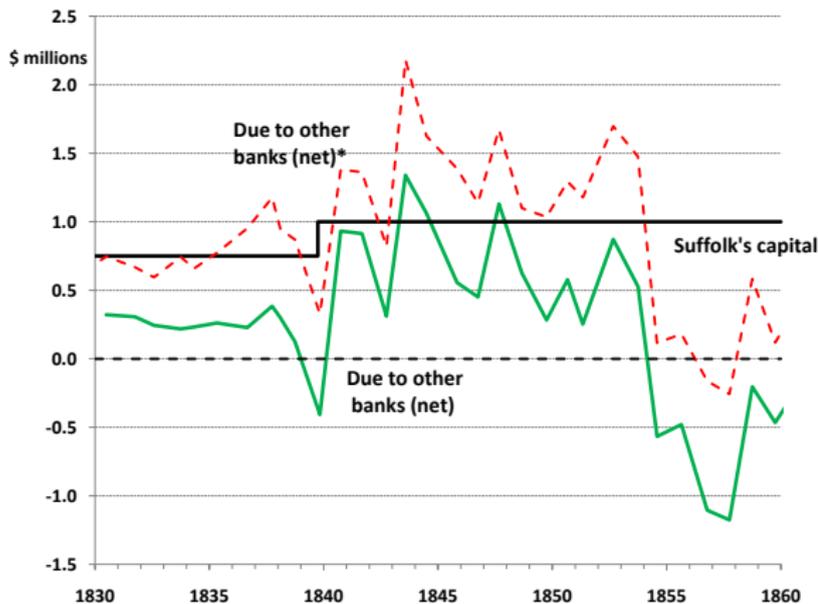
- Suffolk Bank had large incentive to monitor and “regulate” members



Due to banks (net) = due to banks - (due from banks + notes of other banks)

Suffolk Banking System

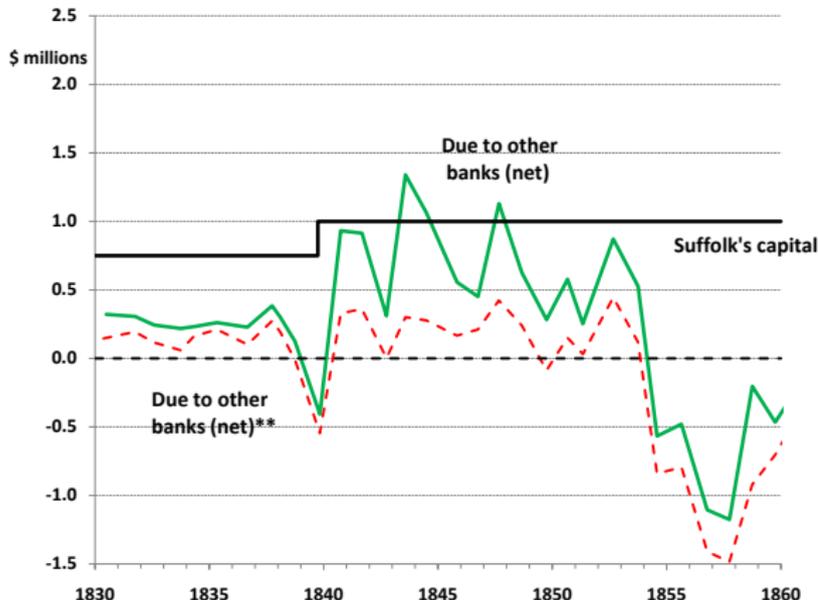
- Suffolk Bank had large incentive to monitor and “regulate” members



Due to banks (net)* = due to banks - 0.5(due from banks + notes of other banks)

Suffolk Banking System

- Suffolk Bank had large incentive to monitor and “regulate” members



$$\text{Due to banks (net)**} = \text{Due to banks (net)} + \text{specie}$$

- And it did monitor and “regulate”

It appears evident . . . that too large a portion of your loan is in accommodation paper, which cannot be relied upon at maturity to meet your liabilities. . . . [W]e hope you will take measures to change the character of your loan, and render it more available in case of need.

Clearinghouses

- First one established in New York in 1853, 52 members
- In 1900s, at least 115 cities had one
- Membership: banks (and trusts) in the city
- Owned by the members
- Net cleared deposits (and notes) of members
- Banks did not have to post collateral or deposit “lawful money”
 - No reserve accounts as with Fed or Suffolk Banking System

Clearinghouses (NY)

- How clearing occurred
 - Debtors first paid net amounts due to Manager of clearinghouse
 - Manager then paid creditor banks
 - These occurred at set times

- If debtor bank unable to pay balance at appointed time, all accounts adjusted to take this into account – complete “unwinding”
 - Losses borne by individual banks not clearinghouse

Clearinghouses (NY)

- Settlement by
 - “lawful money”
 - manager’s checks (stated Bank A owed \$x by Bank B)
called manager’s checks because signed by manager of clearinghouse
 - borrowing or lending with other banks
 - drafts on other cities
 - clearinghouse certificates

Clearinghouses (NY)

- Clearinghouse did some monitoring:
 - Member banks had to furnish weekly statement of condition
 - Any member could be expelled for “cause deemed sufficient” by a majority vote

Safety and soundness

- Suffolk had lower rate of bank failures
- Head-to-head January 1853 through December 1857

Location	Number of banks	Failures	Failure percentage
New York	52	6	11.5
Suffolk	224	14	5.7
Boston	32	2	6.3
MA, xBoston	105	1	1.0
Maine	44	7	15.9
New Hampshire	31	1	3.2
Vermont	32	3	9.4

Bank panics

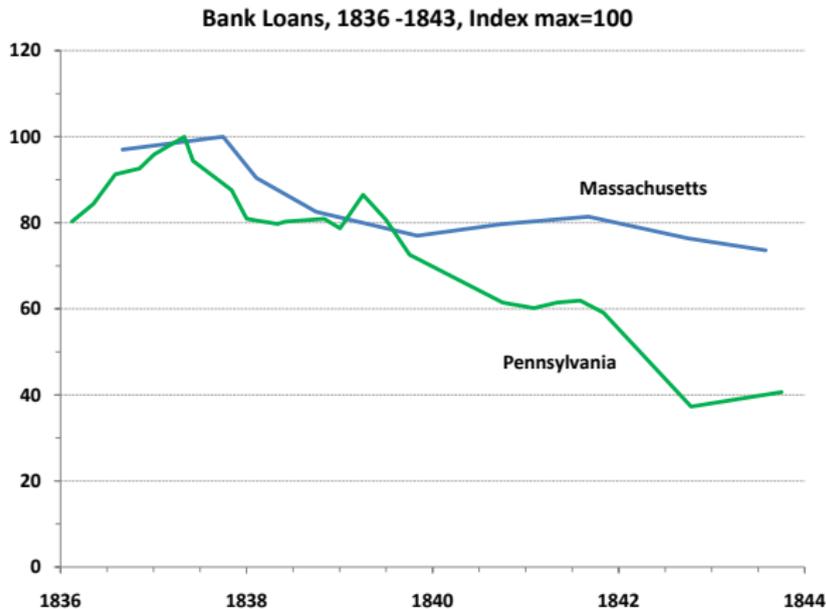
- People want to get specie for notes and deposits
- Banks would like to
 - ① get more specie (impossible in the aggregate)
 - ② reduce liabilities (call in loans)
 - ③ conserve specie (suspend)
- Problems:
 - ① disrupts economic activity
 - ② disrupts payments

SBS behavior during panics

- Nationwide bank suspension May 1837 through May 1838
- Suffolk's behavior motivated by conflicting objectives
 - ① Reduce liabilities to members
 - Attempted to reduce amounts of overdrafts but many banks unable to pay them off
 - ② Keep SBS in operation (hugely profitable)
 - Offered large amount of aid to some RI banks (Merchants' Bank had overdraft of \$350,000) to enable the system to continue
- Overall, did continue to provide reserves
- Amount due from other banks fell only slightly

SBS behavior during panics

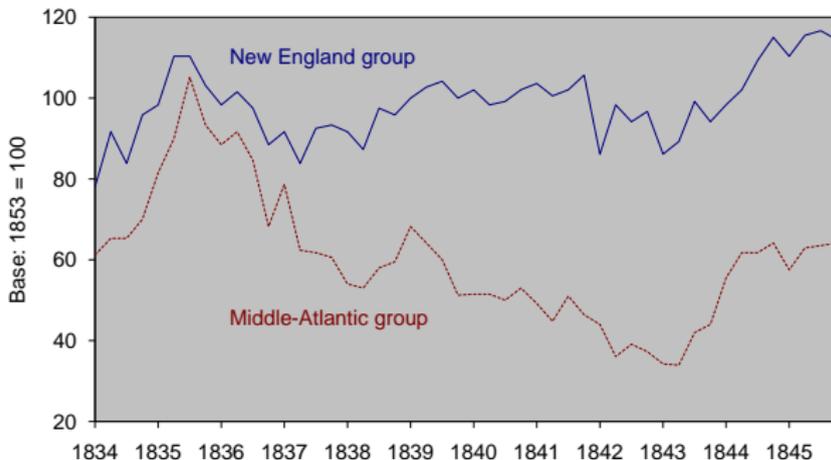
- May have lessened severity of downturn



SBS behavior during panics

- May have lessened severity of downturn

**Geographical Indices of Railroad-Stock Prices
Quarterly, 1834-45**



Clearinghouse behavior during panics

- Issued clearinghouse **loan** certificates

- Large denomination
- To be used only for settling balances within the clearinghouse

“This certificate will be received in payment of balances at the Clearing House for the sum of XXX Dollars, from any Member of the Clearing House”

- Backed by collateral: bills receivable, stocks, bonds, other securities
 - Meant that these could be used to settle balances between banks, although at a haircut
- Discounts on collateral and interest rate on certificates same for all banks
 - Interest rate high: 6 to 7%

Clearinghouse behavior during panics

- Major issuance in 4 panics
 - 1873 – 7 clearinghouses (\$41.5 million)
 - 1890 – 3 clearinghouses
 - 1893 – at least 9 clearinghouses (\$66.3 million)
 - 1907 – at least 42 clearinghouses (\$237.2 million)

Clearinghouse behavior during panics

- Innovation in 1907: Small denomination clearinghouse obligations intended for general circulation
- Went by various names
 - Clearinghouse loan certificates payable only through clearinghouse
 - 26 clearinghouses (\$41.5 million)
 - Clearinghouse checks payable only through clearinghouse
 - 4 clearinghouses (\$12.0 million)
 - Cashier's checks payable only through clearinghouse
 - 22 clearinghouses (\$11.5 million)
 - Pay checks payable to bearer only through clearinghouse
 - 4 clearinghouses (\$47.0 million)

Clearinghouse behavior during panics

- Example: Clearinghouse check from Chicago

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1-20

THIS CHECK IS PAYABLE ONLY THROUGH THE CHICAGO CLEARING-HOUSE AND MUST BE COLLECTED THROUGH A BANK.

THIS CHECK IS FOR TEN DOLLARS	CHICAGO, NOVEMBER 11TH 1907 N^o D 14800 1 Chicago Clearing-house Association PAY TO <u>CONTINENTAL NATIONAL BANK</u> OR BEARER \$10⁰⁰/₁₀₀ TEN AND ⁰⁰/₁₀₀ _____ Dollars
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MANAGER.

TO
THE FIRST NATIONAL BANK _____
OF CHICAGO ASSISTANT SECRETARY.

THIS CHECK IS PROTECTED BY SECURITIES DEPOSITED WITH THE CHICAGO CLEARING-HOUSE ASSOCIATION.

FORM OF CLEARING-HOUSE CHECK USED IN CHICAGO.

National Monetary Commission

Clearinghouse behavior during panics

- Accepted as media of exchange, at least locally
 - may have circulated at a discount to specie
- Potential problem if denomination too large
 - If small purchases made with them, “tradespeople were obliged to make change with cash, which soon exhausted their supply”

Lessons

- Examined two different clearing arrangements:
 - Profit-maximizing private entity
 - Non-profit collective
- Similarities:
 - Neither could prevent bank panics
 - Both could
 - fix exchange rates
 - act like a central bank and provide bank reserves
 - provide their own private media of exchange
- Seeming differences:
 - Private entity seemed to provide more monitoring
 - Collective seemed to provide more reserves during panics
 - (seeming because need more data)