Money and Banking Before the Civil War


REAL ESTATE BANK OF THE STATE OF ARKANSAS

Exchange for $1.500

No. 72

Little Rock. Dec 15, 1838

Thirty days after date of this SECOND of Exchange, first and third unpaid, Pay to the order of W R Gibson one thousand five hundred dollars

Value received, and charge the same to account of

To Cashr. N. A. Trust & Banking Company

New York

C A Harris Cashr

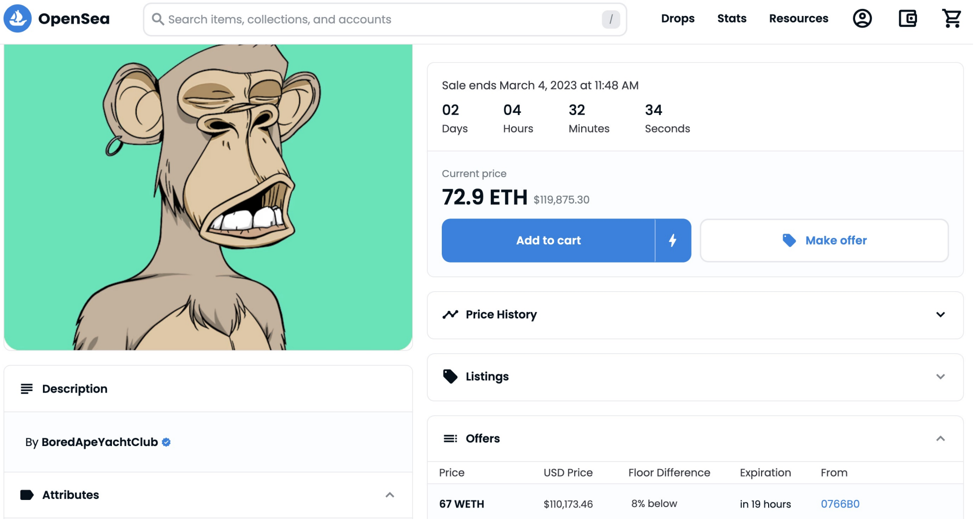
What is Money?

- Money is anything used as a medium of exchange, a store of value and a unit of account
- It can range from promises (checks, bank notes, etc.) to goods (tobacco, furs, precious metals, etc.)
- Reliance on goods as money suffers from the problem of requiring a "double coincidence of wants"
- Money in the form of promises (bank notes, paper currency, bills of exchange) is needed to drive a large economy
- We are going to trace the development of money and banking and its role in promoting (and occasionally hindering) economic growth
- Before we do that, let's start with thinking about modern money...to https://pollev.com/jmparman

What is Money?

The Daphne “Am I Money?” NFT collection (invaluable).

What is Money?



A Brief History of Money

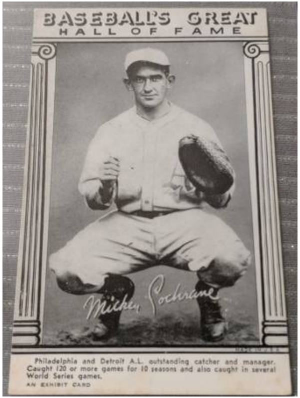
 $\Longleftrightarrow$ 

Bartering has been around for ages. It involves exchanging goods directly with another person and suffers from the double coincidence of wants problem. Not particularly useful once your economy starts growing.

Double Coincidence of Wants - A Craigslist Example

From a recent Richmond Craigslist posting:

Looking to trade the pictured cards for a decent short scale bass...



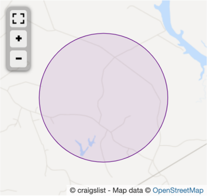
Double Coincidence of Wants - A Craigslist Example

From a recent Richmond Craigslist:

reply favorite hide flag Posted 12 days ago print

Brand new potbelly woodstove (New Kent)

image 2 of 2



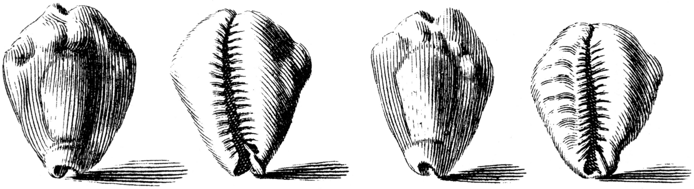
Never used and comes with feet and damper to use in the pipe. Brand new.
Trade for:
Pressure washer
Kayak
Fishing gear
Lawn trailer
Cord of seasoned hardwood
Drone

Double Coincidence of Wants - A Craigslist Example

From a Sacramento Craigslist posting:

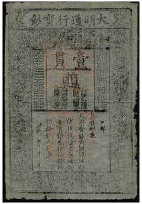
> *I'm looking for the big picture book edition of the Pilgrim's Progress. Must be in good condition and must be the edition I'm looking for. I have many items and services to trade/barter with as well as some cash. I fabricate go carts, I'm a welder, and make special occasion custom DVDs and photo albums for a few examples. Thanks.*

A Brief History of Money



People began using shells as currency around 1200 BC.

A Brief History of Money



Paper bank notes first begin to appear in the seventh century in China. The first European bank notes were issued by a Swedish bank in the 1600s.

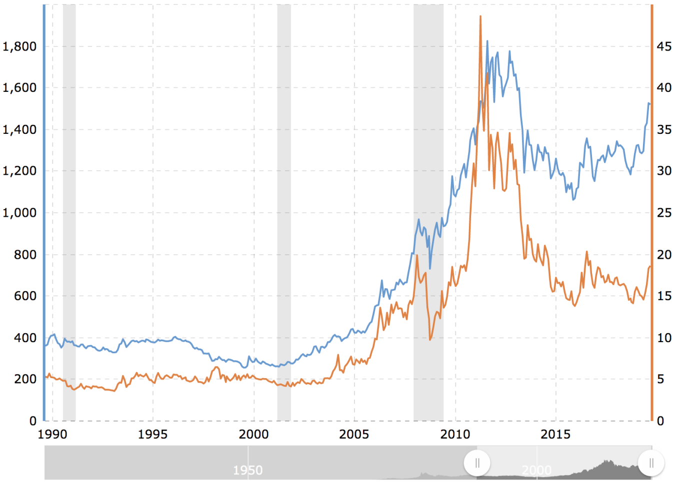
Money and Banking in the United States

- By the time the United States is setting up its banking system, all sorts of money and financial instruments exist
- During the colonial period, colonists used the British pound sterling, foreign coin, personal IOUs, and colonial paper money
- During the transition to independence, the Continental dollar and state-issued paper currency entered the mix
- As we've discussed, these paper currencies were plagued with problems and led to a major revamping of money after the Constitution

The Federal Government's Approach to Currency

- After the Constitution, the federal government had to decide how to issue currency
- Hamilton opted for a bimetallic currency (minting both gold and silver coins)
- Both US minted coins and foreign minted coins were accepted as legal tender
- The value of a gold coin was fixed to be 15 times the value of a silver coin which created some serious problems

The Bimetallic Standard and Arbitrage



The Bimetallic Standard and Arbitrage

Suppose that the value of gold coins is set to 15 times the value of silver coins but an ounce of gold is worth 17 ounces of silver on the world market.

Start with 15 ounces of silver coins

Trade them for 1 ounce of gold coins from the US government

Take that 1 ounce of gold to London and trade it for 17 ounces of silver coins

Trade those 17 ounces of silver coins to the US government for 1.13 ounces of gold

Take the gold to London and keep going through the process until the US mint runs out of gold

The Bimetallic Standard and Arbitrage

- The bimetallic standard led to either gold or silver coins being overvalued
- Initially, gold was undervalued leaving only silver coins in circulation
- When the government revised the gold/silver ratio, gold became overvalued
- This revision of the ratio plus the effects of the gold rush led to silver disappearing from circulation
- By 1900, the United States finally dropped the bimetallic standard and went with the gold standard
- Now we are no longer on the gold standard

The Bimetallic Standard and Arbitrage

Bank Money

- Not all money was in the form of US currency
- While the constitution explicitly said the federal government could mint currency and individuals states could not, it did not prevent states from indirectly creating currency in the form of bank notes
- States could charter banks which could issue their own notes
- These bank notes could be redeemed in full for legal tender upon presentation to the bank of issue
- Banks and bank notes became a huge portion of the country's financial system (by the Civil War there were over 9,000 kinds of bank notes in circulation)

The Role of Banks as a Financial Intermediary

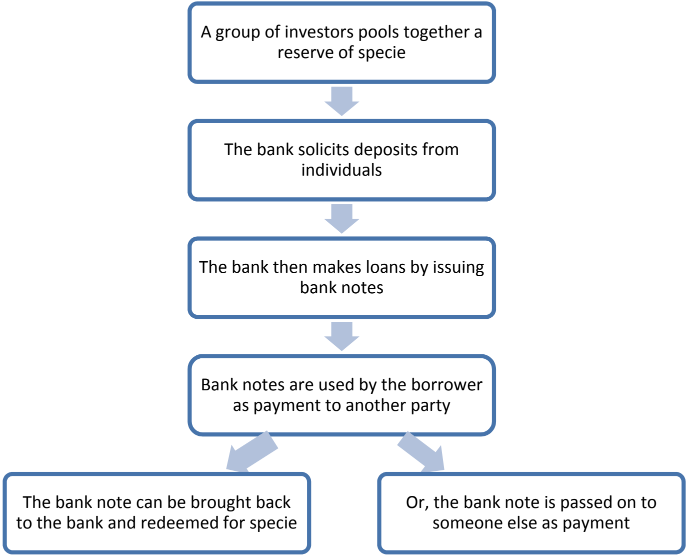
- Banks serve as an important link between savers and borrowers
- They take in deposits from savers that are looking for interest, security and a certain level of liquidity
- They make loans to borrowers who are willing pay interest in exchange for access to money that can be repaid in the future
- Banks greatly reduce the transaction costs involved in matching savers and borrowers, mobilizing greater amounts of capital and facilitating economic growth

The Role of Banks in the Creation of Money

Money Creation with a 10% Reserve Ratio

Event	Total Deposits	Total Reserves
Person A deposits $1,000	$1,000	$1,000
Bank lends out $900	$1,000	$100
Person B deposits $900	$1,900	$1,000
Bank lends out $810	$1,900	$190
Person C deposits $810	$2,710	$1,000
Bank lends out $729	$2,710	$271
…	…	…
…	…	…
Final	$10,000	$1,000

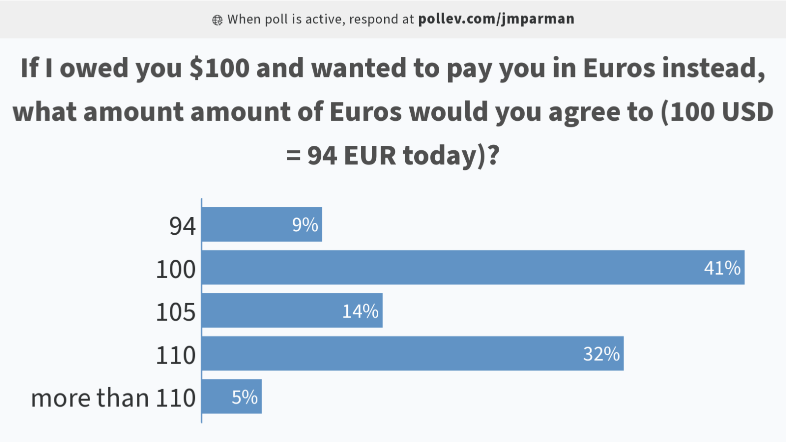
State Chartered Banks



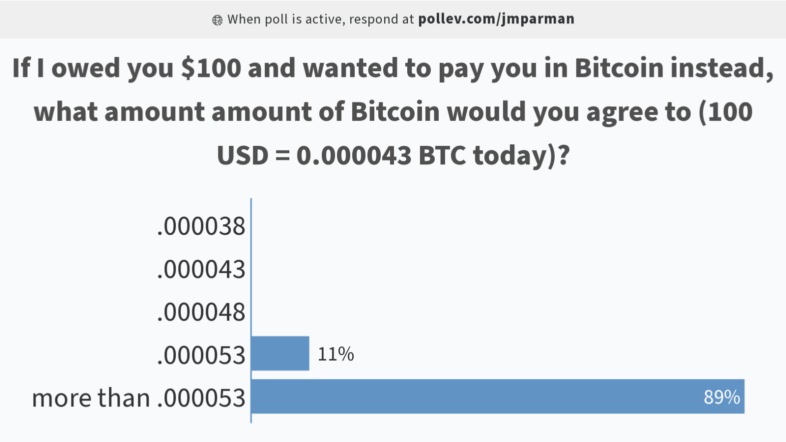
What Happened When Bank Notes Circulated as Currency?

- If notes started passing from one person to another without being taken back to the bank, they served as paper currency
- The market value of a note wasn't necessarily the face value
- Face value did mean something, it was the amount of specie you could collect from the bank
- Market value takes this into account but gets lowered by several factors:
  - transaction costs (traveling to the bank)
  - the risk that a bank will not be able to cover the note
  - the willingness of others to accept the note as currency

The Market Value of Bank Notes



The Market Value of Bank Notes



The Market Value of Bank Notes

BANK NOTE TABLE.

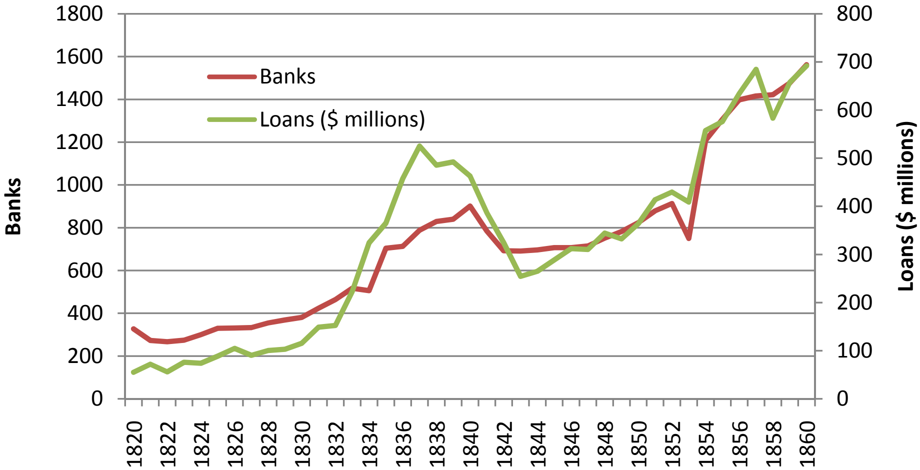
CORRECTED FOR THE MICHIGAN FARMER.

Michigan.	
Far & Mec bk Mich	par
do payable at St Jo	par
Bk of St Clair	par
Mich insurance Co	par
B'k of River Raisin	par
Oakland County b'k	par
Merch'ts bk of Jackson	par
B'k of Michigan	75 dis
Mich State Scrip	unc
All other banks	no sale
Ohio.	
Belmont of St Clair	1 dis
B'k of Cincinnati	broke
Chilicothe	12 1-2 dis
Circleville	I dis
Circleville c'd 1818	broke
Cleveland	60 dis
Clinton bank	1 dis
Columbiana	1 dis
Com bk of Cincinnati	1 dis
Com bk Scioto	—
Com bk Lake Erie	25 dis
Dayton	1 dis
Ex bk Cincinnati	broke
Far bk Canton	50 dis
F & M Steubenville	1 dis
Franklin bk Cincin	1 dis
Frank'n bk Colum's	1 dis
Germ'n bk Wooster	broke
Geauga	1 dis
Gallipolis	broke
Granville	80 dis
Hamilton	40 dis
Lebanon M bk co	failed
Lancaster	20 dis
Lafayette Cincinnati	1 dis
Marietta	10 dis
Massillon	1 dis
Mec & Tr bk Cin	10 dis
Manhattan	85 dis
Mount Pleasant	1 dis
Muskingum	1 dis
Miami Exp'ng co	70 dis
Norwalk	1 dis
Ohio Railroad Co	—
Ohio Life and T co	—
Sandusky	1 dis
Steubenville	—
Urbana banking co	65 dis

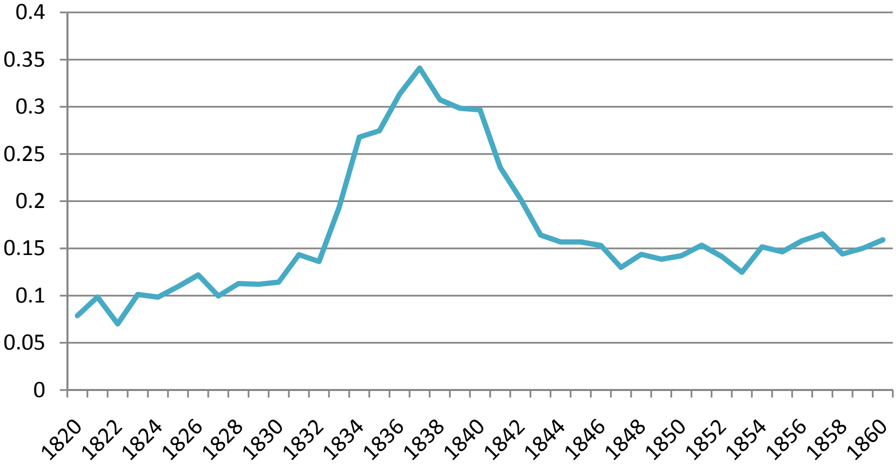
Ia state scrip $5	50 dis
Ia state scrip $50	60 dis
Illinois.	
State bk & branches	65 dis
Bk Ill Shawneetown	70 dis
Bank Cairo	—
Illinois state scrip	—
Illinois savings bk	closed
Ill & Mich canal bks	—
Pennsylvania.	
Specie paying bks	par
Erie	5 dis
Erie relief notes	25 dis
Pittsburg do	10 dis
County do	10 to 20 dis
Others	unc
New York.	
Safety fund	par
Bk of Buffalo	10 dis
Clinton bk	60 dis
Watervliet bk	60 dis
Com bk Buffalo	50 dis
Com bk Oswego	50 dis
Lewis county bank	40 dis
Bk of Lyons	60 dis
Security Banks.	
Allegany co bank	75 dis
St Lawrence bk	75 dis
State bk Buffalo	75 dis
Washington bk	5 dis
Staten Island bk	60 dis
Bk of Olean	5 dis
Am bk of Buffalo	50 dis
Binghampton bk	50 dis
Bk of Com Buffalo	50 dis
Cattaraugus co bk	50 dis
Erie co bk Buffalo	50 dis
Fr bk Seneca co	80 dis
Bank of Lodi	25 dis
Mer Ex bk Buffalo	50 dis
Millers bk Clyde	15 dis
Mech bk Buffalo	50 dis
Phoenix bk Buffalo	50 dis
Tenth Ward bk	15 dis
Tonawanda bk	50 dis
U S bk Buffalo	50 dis
Union bk Buffalo	50 dis
Western N Y bk of	50 dis
All others	par

The Michigan Farmer and Western Agriculturalist, 1843

The Growth of State Chartered Banking



Loans as a Fraction of GDP



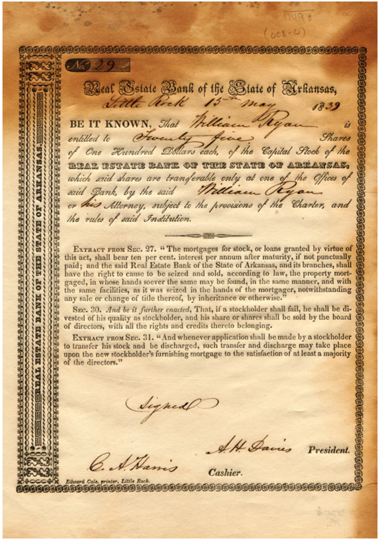
The Good That Came From Banks

- Bank loans were clearly a significant part of the economy and benefited consumers and producers in a variety of important ways
- Banks monetized the economy in a way that specie alone could not
  - Transaction costs were reduced
  - Consumption could be smoothed over time
  - Production could be smoothed over time
- Through providing credit, banks encouraged entrepreneurship
- Banks provided an efficient way for people to liquidate assets in difficult times

When Banks Aren't That Good

- Banks have a lot of benefits, but antebellum banking wasn't a strictly positive experience
- One problem with state chartered banks was that many didn't lend money in a socially efficient way
- Many banks tended to make big loans to their own presidents or to family and friends
- This creates problems: loans aren't going to the most efficient ventures, the public loses confidence in the bank, big loans to a few insiders can carry extra risk

Shady Banking Practices


REAL ESTATE BANK OF THE STATE OF ARKANSAS.

No. 29

Real Estate Bank of the State of Arkansas,

Little Rock 15th May 1839

BE IT KNOWN, *That* William Ryan *is entitled to* Twenty five *Shares of One Hundred Dollars each, of the Capital Stock of the* **REAL ESTATE BANK OF THE STATE OF ARKANSAS,** *which said shares are transferable only at one of the Offices of said Bank, by the said* William Ryan *or* his *Attorney, subject to the provisions of the Charter, and the rules of said Institution.*

EXTRACT FROM SEC. 27. "The mortgages for stock, or loans granted by virtue of this act, shall bear ten per cent. interest per annum after maturity, if not punctually paid; and the said Real Estate Bank of the State of Arkansas, and its branches, shall have the right to cause to be seized and sold, according to law, the property mortgaged, in whose hands soever the same may be found, in the same manner, and with the same facilities, as it was seized in the hands of the mortgager, notwithstanding any sale or change of title thereof, by inheritance or otherwise."

SEC. 30. *And be it further enacted*, That, if a stockholder shall fail, he shall be divested of his quality as stockholder, and his share or shares shall be sold by the board of directors, with all the rights and credits thereto belonging.

EXTRACT FROM SEC. 31. "And whenever application shall be made by a stockholder to transfer his stock and be discharged, such transfer and discharge may take place upon the new stockholder's furnishing mortgage to the satisfaction of at least a majority of the directors."

Signed

A. H. Davies *President.*

C. A. Harris *Cashier.*

Edward Cole, printer, Little Rock.

The Wilson-Anthony Duel

Banks and Default

- The problems with antebellum banking weren't restricted to inefficient loans
- Another problem was banks not being able to pay their depositors
- Remember that banks only keep a fraction of total deposits as reserves
- If too many people try to claim their deposits at once, the bank runs into trouble
- If too many of the bank's loans go into default, they won't be able to pay depositors
- There are a few consequences to all of this: devaluation of circulating banknotes that can ultimately lead to bank runs and direct loss of deposits if banks go bankrupt

Banks and Default

Banks and Default

Lydia Lobsiger, first person to be paid by FDIC, Fond du Lac State Bank, Peoria Illinois, 1934

Banks and Default

http://www.thisamericanlife.org/radio-archives/episode/377/scenes-from-a-recession?act=2

Banks and Default

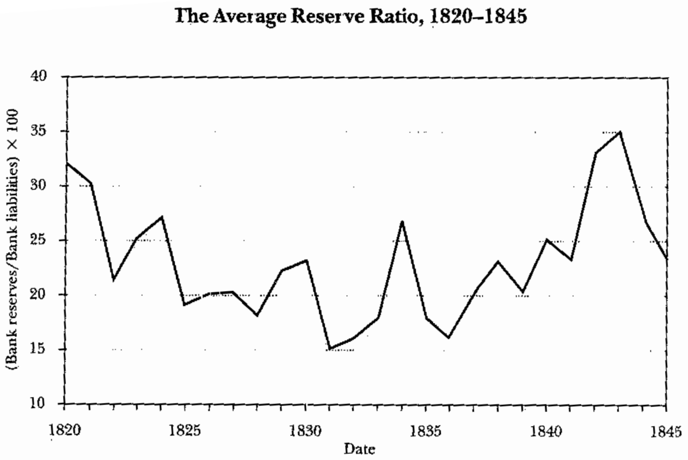
The Panic of 1837

- Banks were at the mercy of public confidence
- This is demonstrated by the Panic of 1837
- Through the 1820s there was increasing confidence in bank money (meaning more deposits, loans, and notes)
- The traditional view holds that unregulated banks behaved irresponsibly
- They increased note issues without sufficient reserves to back them up
- Eventually, people panic and make a run on the banks

The Panic of 1837

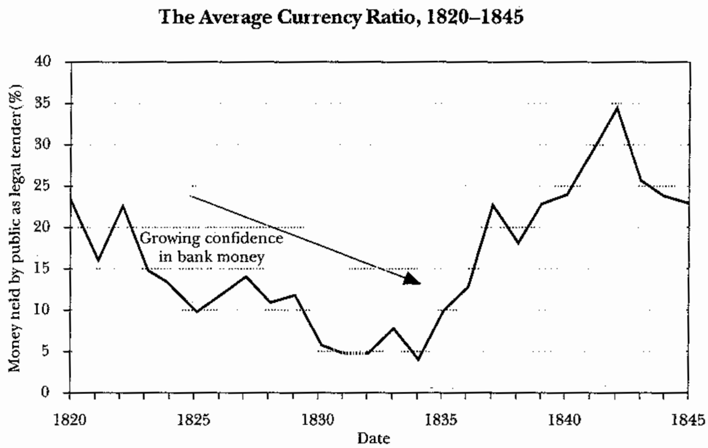
- Temin (1968) is going to raise a problem: the facts don't quite match
- Banks weren't dropping their reserve ratio in the years leading up to the panic
- People weren't getting irrationally confident in the banks (currency ratio was rising)
- What was primarily driving changes in the money supply was an increase in the stock of specie
- When the inflow of specie stopped, trouble ensued

Jacksonian Inflation and the Panic of 1837



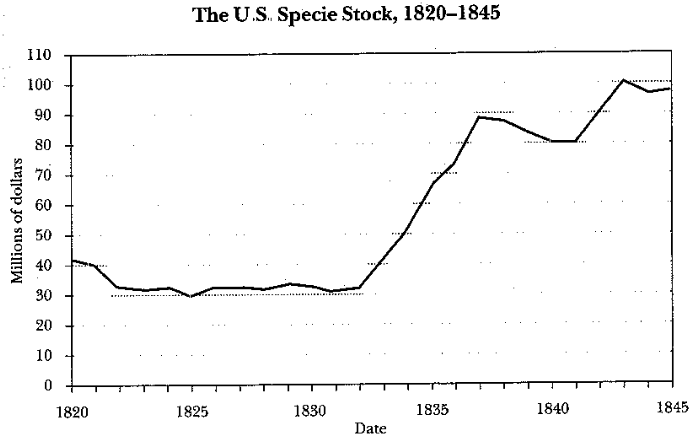
Source: Reserve ratio data from Peter Temin, *The Jacksonian Economy* (New York: W. W. Norton, 1969): 71, 159.

Jacksonian Inflation and the Panic of 1837



Source: Currency ratio data from Peter Temin, *The Jacksonian Economy* (New York: W. W. Norton, 1969): 71, 159

Jacksonian Inflation and the Panic of 1837



Source: Specie estimates from Peter Temin, *The Jacksonian Economy* (New York: W. W. Norton, 1969): 71, 159.

The Panic of 1837

- Specie stopped flowing into the country, having a big impact on the money supply
- Why did the gold stop coming in?
- Let's think about two possibilities:
  - The Specie Circular issued by Jackson in 1836
  - British interest rate policies that changed dramatically, also in 1836

The Panic of 1837

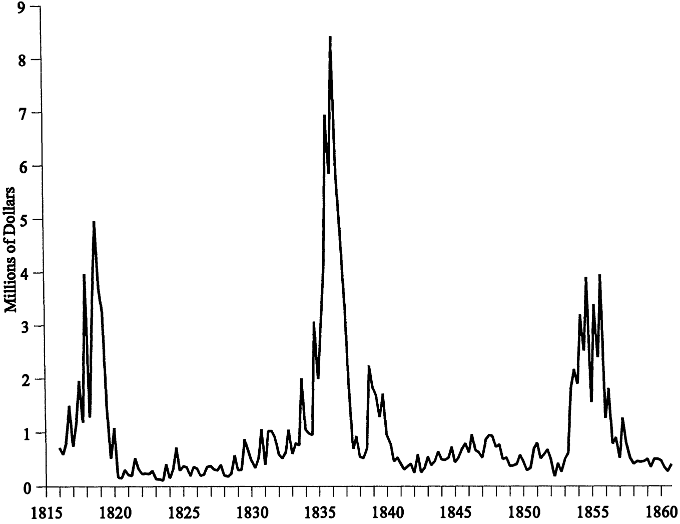
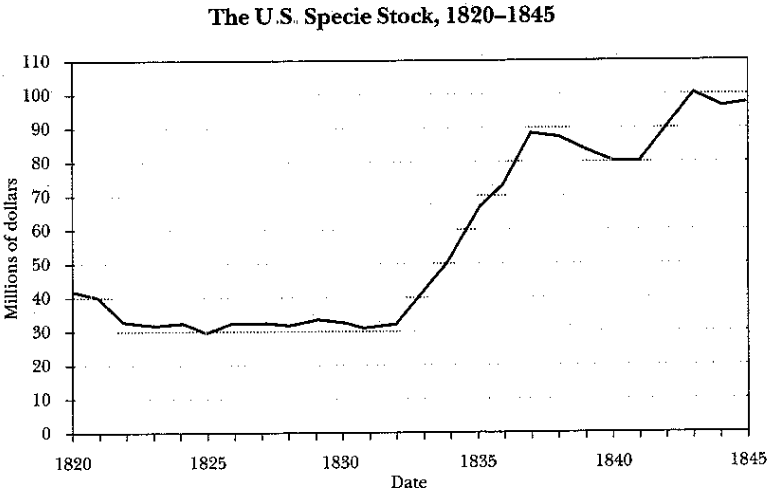


FIGURE 2
RECEIPTS FROM SALES OF PUBLIC LANDS, QUARTERLY 1816–1860

The Panic of 1837

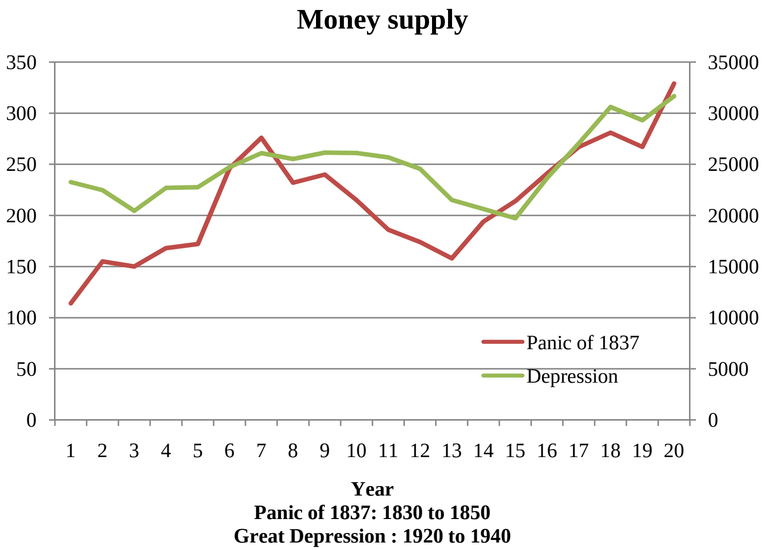


Source: Specie estimates from Peter Temin, *The Jacksonian Economy* (New York: W. W. Norton, 1969): 71, 159.

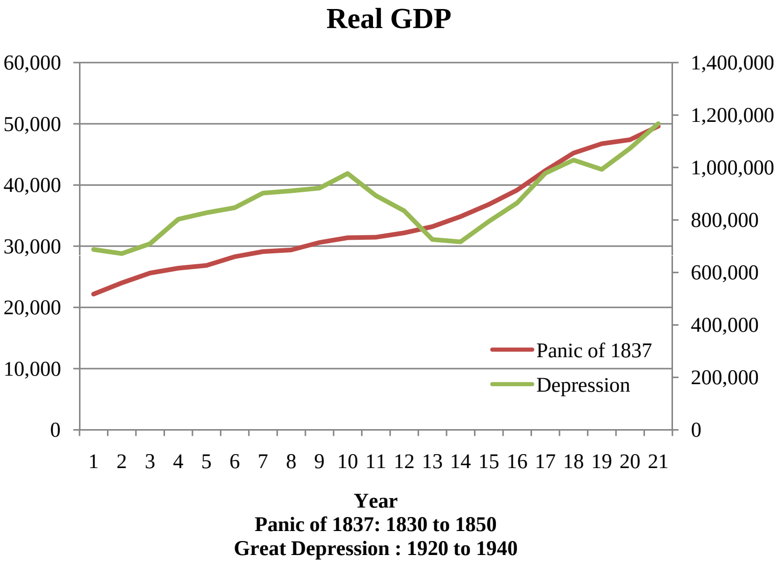
The Panic of 1837

- When specie stopped flowing into the country (partly because of British policies) people changed their mind about the security of deposits
- People rushed to cash in bank notes
- Banks had to suspend payments temporarily, another panic a couple years later led to many bank failures
- The money supply contracted and a period of deflation began

The Effects of Bank Runs



The Effects of Bank Runs



The Effects of Bank Runs

So how badly did the bank panics and the resulting contraction of the money supply hurt the American economy? Not as badly as similar bank runs hurt the economy during the Great Depression. To see why, we can use some simple economic theory:

$$MV = PT$$

M: money in circulation
V: velocity (how quickly money circulates)
P: price level
T: real output

The Effects of Bank Runs

$$MV = PT$$

- So the initial problem is a drop in M
- In the 20th century, prices are fairly sticky so a fall in M is balanced by a fall in T (think union contracts, large fixed debts)
- In the 19th century, prices adjusted quickly so the fall in M was balanced by a fall in P, output actually grew during the slump
- What was different about the 19th century? Agriculture was big and manufacturers trimmed costs rather than output

Jackson and the Panic of 1837

- Back to Temin contesting traditional views of the Panic of 1837
- Traditionally, a decent amount of blame was placed at the feet of Andrew Jackson
- Some of this has to do with Jackson's attitudes toward the other big type of banking we haven't talked about yet: federally-chartered banks and central banking
- Digging into the politics of Jackson and banking will give us a chance to talk about the appearance, disappearance, and reappearance of federally-chartered banking

Jackson and the Panic of 1837

Federally Chartered Banking

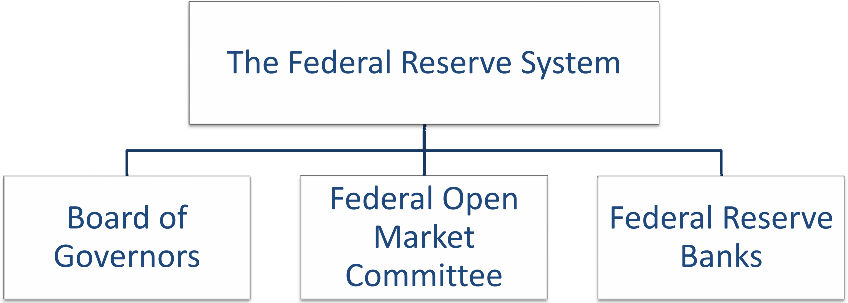
- We've been discussing the role of state-chartered banks
- These state banks made up the vast majority of the commercial banking system
- One other type of commercial bank that emerged (and disappeared, re-emerged and then disappeared again) was federally-chartered central banking
- Federally-chartered banking was similar to state-chartered banking (printing banknotes and making loans) but had the US federal government as both an owner and a customer

Modern Central Banking in the United States

- Today we're used to having a fairly strong central bank, the Federal Reserve
- The Fed was only created in 1913 in response to a bad financial panic in 1907
- The Federal Reserve Act was passed by Congress to:

  "provide for the establishment of Federal reserve banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes"

The Structure of the Fed



The Purposes of the Fed

The Board of Governors has the following responsibilities:

- Set monetary policy (the board makes up the majority of the FOMC)
- Set reserve requirements
- Set discount rate policy (shared responsibility with the Reserve Banks)
- Regulate and supervise member banks and US activities of foreign-owned banks

The Purposes of the Fed

The Federal Open Market Committee has the following responsibilities:

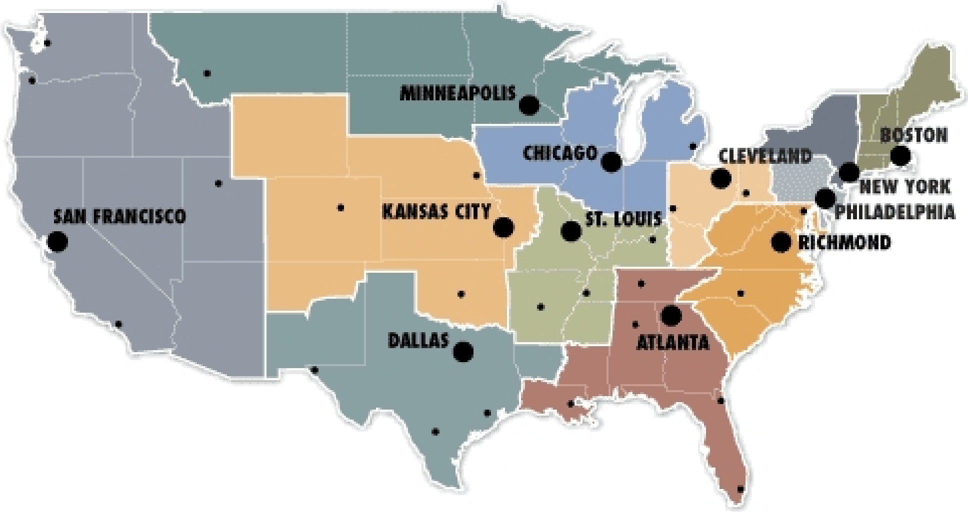
- Formulate policy for national economic growth
- Purchase and sell US government and federal agency securities
- Direct Federal Reserve System operations in foreign currency

The Purposes of the Fed

The Federal Reserve Banks have the following responsibilities:

- Set the discount rate (subject to Board approval)
- Hold cash reserves of depository institutions
- Make loans to depository institutions
- Move currency in and out of circulation
- Process checks
- Act as the fiscal agent for the US government (provides checking accounts for the Treasury, issues and redeems government securities)
- Supervise member banks

The Federal Reserve Banks



The Founding of the First Bank of the United States

- The first national bank was the brainchild of Alexander Hamilton
- Hamilton's plan for the US economy included a national bank to stimulate the economy and enhance the shaky credit of the new government
- Modeled in part on the Bank of England
- The bank had plenty of opposition (from Jefferson, Madison, and even Washington's own attorney general)

Why the Resistance to a National Bank?

- Many people opposed big government, they wanted as small a central government as possible
- Southerners feared that a national bank in Philadelphia would mean the capital stayed in Philadelphia
- People questioned whether the Constitution allowed the federal government to charter a bank
- This became one of the first tests of "implied power" in the Constitution

The Founding of the First Bank of the United States

The three main advantages of a national bank, according to Hamilton:

"First. The augmentation of the active or productive capital of a country...Secondly–Greater facility to the Government in obtaining pecuniary aids, especially in sudden emergencies...Thirdly–The facilitating of the payment of taxes."

The Structure of the First Bank

Seed Capital for the Bank

$2 million from the government

$8 million from private investors

- Bank was authorized to issue $10 million in notes
- This would equal roughly one third of bank notes in circulation

How the First Bank was Different from State Banks

- Served as fiscal agent for the government (it held government receipts and paid government bills)
- It could operate in multiple states (total of 8 branch banks)
- It's notes could circulate nationwide
- It's size was unprecedented (because it handled the government's accounts)
- It had some power to regulate other banks through calling in their bank notes (it was a net creditor to the private banking system)

Problems with the First Bank

- The script bubble during the initial stock offering
- The Panic of 1792 - the bank first flooded the market with banknotes and then reversed course leading to a liquidity crisis
- Hamilton handled both events as a modern banker would: he injected money into the economy by buying back government securities
- The biggest problem with the bank was that people still didn't like the idea of a national bank
- Ultimately, its initial 20-year charter was not renewed and the bank closed in 1811

Problems with Closing the First Bank

- Immediately after closing the First Bank, the number of commercial banks shot up, the quantity of outstanding banknotes more than doubled but the specie held by banks declined
- The banking system was growing too rapidly and was looking less and less stable
- Ultimately there was a run on the banks in 1814 and Congress had to reconsider a national bank
- By 1816, the Second Bank of the United States is chartered

Another National Bank

First Bank of the United States	Second Bank of the United States
Initial Seed Capital	
$2 million from government $8 million from private investors	$7 million from government $28 million from private investors
Year Chartered	
1791	1816
Year Closed	
1811	1836
Precendents	
Hamilton argues 'implied powers'	Supreme Court confirms 'implied powers'

Another Failure to Get a Renewed Charter

Brown University Library Center for Digital Initiatives, Print, Drawings & Watercolors from the Anne S. K. Brown Military Collection,ID 1198177787962500

Another Failure to Get a Renewed Charter

Lithograph by Edward W. Clay, http://commons.wikimedia.org/wiki/File:1832bank1.jpg

Another Failure to Get a Renewed Charter

I have read the scriptures, gentlemen, and I find that when Moses ascended the mountain, the children of Israel rebelled, and made a golden calf and worshipped it, and it brought a curse upon them. This bank will be a greater curse. I have no hostility to the bank; I am willing it should expire in peace; but if it does persist in its war with the government, I have a measure in contemplation which will destroy it at once, and which I am resolved to apply, be the consequences to individuals what they may. - Andrew Jackson, 1834

Some Noes on the First Attempts at Central Banking

- Both were killed at the end of their initial charter period (with the Second Bank losing its power well before the end of its charter)
- Failure wasn't the result of the central bank failing to meet its own goals
- The banks did seem to have some ability to regulate the banking industry and the way in which they exercised that power was consistent with maintaining stability
- The banks weren't necessarily mismanaged but they were definitely unwanted

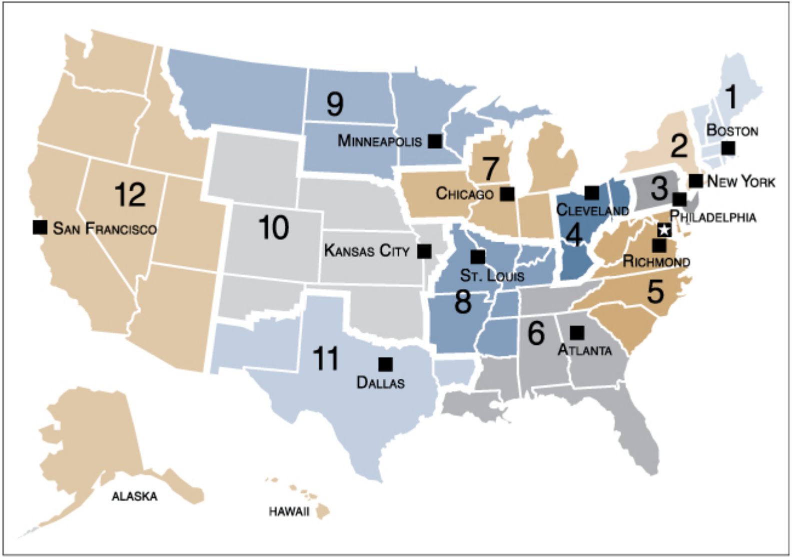
Thinking About Causality

- The First and Second Bank could exert some influence on other banks
- Doing away with the Second Bank did away with any chance for influence, hence some of the talk of irresponsible lending leading up to the Panic of 1837 and its bank runs
- We saw the impacts these bank runs on inflation and output but we're looking at correlations
- But how do we really get at causal impacts?

Thinking About Causality

- As Temin showed us, there's a lot going on, a lot of endogenous and exogenous things interacting with one another during the Panic of 1837
- So how can we isolate a causal channel? It's pretty hard to run controlled experiments during a bank panic
- Let's take a quick look at one paper that basically tries to do this
- Ziebarth, "Identifying the Effects of Bank Failures from a Natural Experiment in Mississippi during the Great Depression", *American Economic Journal - Macroeconomics* (2013)

Thinking About Causality



Thinking About Causality

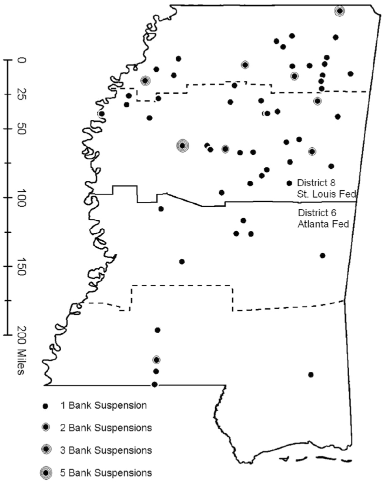
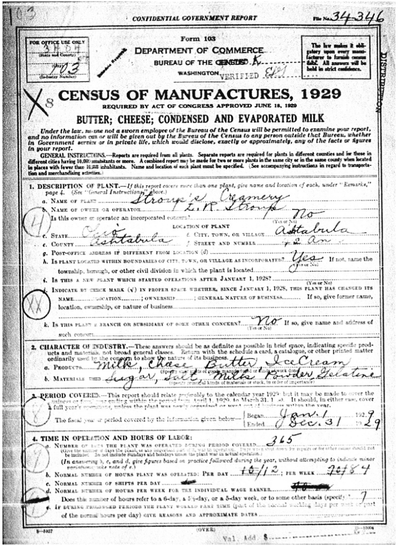


FIG. 1.—Mississippi's division into Federal Reserve districts and bank suspensions between October 1930 and March 1931. Source: See Section II. The solid line represents the Federal Reserve district border. The dotted lines enclose the counties for which at least half the area lies within 1 degree latitude of the district border.

Thinking About Causality



103

CONFIDENTIAL GOVERNMENT REPORT

File No. 34-346

FOR OFFICE USE ONLY
3404 (State and County)
(City)
103 (Industry Number)

Form 103
DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
WASHINGTON
VERIFIED

The law makes it obligatory upon every manufacturer to furnish census data. All answers will be held in strict confidence.

DISTRIBUTION

X 8

CENSUS OF MANUFACTURES, 1929

REQUIRED BY ACT OF CONGRESS APPROVED JUNE 18, 1929

BUTTER; CHEESE; CONDENSED AND EVAPORATED MILK

Under the law, no one not a sworn employee of the Bureau of the Census will be permitted to examine your report, and no information can or will be given out by the Bureau of the Census to any person outside that Bureau, whether in Government service or in private life, which would disclose, exactly or approximately, any of the facts or figures in your report.

GENERAL INSTRUCTIONS.—Reports are required from all plants. Separate reports are required for plants in different counties and for those in different cities having 10,000 inhabitants or more. A combined report may be made for two or more plants in the same city or in the same county when located in places with fewer than 10,000 inhabitants. Name and location of each plant must be specified. (See accompanying instructions in regard to transportation and merchandising activities.)

1. DESCRIPTION OF PLANT.—*If this report covers more than one plant, give name and location of each, under "Remarks," page 4. (See "General Instructions" above.)*

a. Name of plant: Stroup's Creamery
b. Name of owner or operator: L. R. Stroup
Is this owner or operator an incorporated concern? No (Yes or No)

LOCATION OF PLANT

c. State: Ohio
d. City, town, or village: Ashtabula
e. County: Ashtabula
f. Street and number: 42 Av.
g. Post-office address if different from location (d)
h. Is plant located within boundaries of city, town, or village as incorporated? Yes (Yes or No) If not, name the township, borough, or other civil division in which the plant is located
i. Is this a new plant which started operations after January 1, 1928? (Yes or No)
j. Indicate by check mark (√) in proper space whether, since January 1, 1928, this plant has changed its name ...... location ......; ownership ......; general nature of business ...... If so, give former name, location, ownership, or nature of business
k. Is this plant a branch or subsidiary of some other concern? No (Yes or No) If so, give name and address of such concern

2. CHARACTER OF INDUSTRY.—These answers should be as definite as possible in brief space, indicating specific products and materials, not broad general classes. Return with the schedule a card, a catalogue, or other printed matter ordinarily used by the concern to show the nature of its business.

a. Products: Milk, Chase Butter, Ice Cream (Specify chief kinds of goods manufactured or kinds of work done)
b. Materials used: Sugar, Salt, Milk Powder, Gelatine (Specify principal kinds of materials or stock, in order of importance)

3. PERIOD COVERED.—This report should relate preferably to the calendar year 1929, but it may be made to cover the business or fiscal year ending within the period from April 1, 1929, to March 31, 1930. It should, in either case, cover a full year's operations, unless the plant was newly organized or went out of business within the year.

The fiscal year or period covered by the information given below— Began: Jan. 1 1929; Ended: Dec. 31 1929

4. TIME IN OPERATION AND HOURS OF LABOR:

a. Number of days the plant was operated during period covered: 365
(Give the number of days the plant, or any important part of it, was in operation. Days when shut down for repairs or for other causes should not be included. Do not include Sundays and holidays unless the plant was in actual operation.)
(In answering b, c, and d, give figures based on practice followed during the year, without attempting to indicate minor variations; take note of e.)
b. Normal number of hours plant was operated: Per day ~~10~~/12; per week ~~70~~/84
c. Normal number of shifts per day
d. Normal number of hours per week for the individual wage earner
Does this number of hours refer to a 6-day, a 5½-day, or a 5-day week, or to some other basis (specify) 7
e. If during prolonged periods the plant worked part time (part of the normal working days per week or part of the normal hours per day) give reasons and approximate dates

8—5927 (OVER)

Val. Add. $

Thinking About Causality

TABLE 2—EFFECTS ON OUTPUT VARIABLES

	Revenue				Physical output		
	Within (1)	Balanced (2)	Unbalanced (3)	County (4)	Within (5)	Balanced (6)	Unbalanced (7)
St. Louis Fed 1931	−0.24***	−0.21***	−0.18**	−0.28*	−0.37***	−0.53**	−0.43**
	(0.06)	(0.08)	(0.09)	(0.16)	(0.11)	(0.19)	(0.17)
St. Louis Fed	—	−0.12	−0.15*	—	—	−0.18	0.20
		(0.11)	(0.08)			(0.20)	(0.28)
Observations	1,226	635	1,224	148	479	282	479
Adjusted R^2	0.57	0.61	0.56	0.94	0.64	0.81	0.79

Notes: All dependent variables are in logs. The within specification includes plant fixed effects. All the regressions include industry-specific time trends though the coefficients are excluded for clarity. The price and quantity effects are only for plants producing one good. Plant-clustered standard errors are reported in parentheses. County-level regressions include full set of county fixed effects with standard errors clustered at the county level and observations weighted by number of plants in a given county. Note there is no St. Louis Fed coefficient for the county estimates because I estimate a full set of county fixed effects.

***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

Thinking About Causality

TABLE 4—EFFECTS ON LABOR INPUTS

	Total wage earners				Hours per wage earner		
	Within (1)	Balanced (2)	Unbalanced (3)	County (4)	Within (5)	Balanced (6)	Unbalanced (7)
St. Louis Fed 1931	−0.02	0.03	−0.00	−0.39*	−0.13**	−0.11*	−0.09**
	(0.07)	(0.07)	(0.08)	(0.25)	(0.07)	(0.06)	(0.05)
St. Louis Fed	—	−0.20**	−0.22***	—	—	0.04**	0.03**
		(0.10)	(0.07)			(0.02)	(0.02)
Observations	1,224	640	1,223	146	1,109	590	1,108
Adjusted R^2	0.32	0.49	0.53	0.89	0.15	0.16	0.18

Notes: All dependent variables are in logs. The within specification includes plant fixed effects. All the regressions include industry-specific time trends though the coefficients are excluded for clarity. Standard errors are clustered at the plant level and reported in parentheses. County-level regressions include county and year fixed effects and standard errors are clustered at the county level. County-level observations are weighted by number of plants in a given county. Note there is no St. Louis Fed coefficient for the county estimates because I estimate a full set of county fixed effects.

***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

Other Ways to Bankrupt a Bank

Luke Lea, 1879-1945

Kaiser Wilhelm II, 1859-1941

Other Ways to Bankrupt a Bank

- The bank runs we've talked about weren't necessarily the fault of the banks
- There were instances where bankruptcies were very much the bank's fault
- This is usually discussed in the context of the free banking era
- The basic idea is that states allowed anybody who met certain requirements to set up a bank anywhere they wanted
- Some of these banks were good, some were bad
- The bad ones put up worthless collateral to set up the bank, paid themselves dividends as people starting making deposits and taking out loans, then declared bankruptcy when people came to take their money out

Wildcat Banks

Losses From Free Banking

Losses Suffered by Holders of Free Bank Notes from the First Year of Free Banking through 1860*

State	First Year	Loss (dollars)	State	First Year	Loss (dollars)
Vermont	1851	24,500	Michigan	1857	—†
Massachusetts	1851	0	Wisconsin	1852	0
Connecticut	1852	0	Minnesota	1858	96,900
New York	1838	394,700	Iowa	1858	—
New Jersey	1850	6,000	Georgia	1838	3,000
Pennsylvania	1860	0	Florida	1853	—
Ohio	1851	77,600	Tennessee	1852	0
Indiana	1852	227,900	Alabama	1849	—
Illinois	1851	21,300	Louisiana	1853	0
Michigan	1837	1,000,000		Total	1,851,900

Losses From Free Banking in Context

The Impact of Free Banking Losses

Noteholder Losses under Free Banking	$1,851,600
Nominal GDP (1860)	$4,350,000,000
Noteholder Losses as a % of GDP	0.04%
Outstanding Subprime Loans	$1,344,000,000,000
Nominal GDP (2007)	$13,807,500,000,000
Subprime Loans as a % of GDP	9.73%

Losses From Free Banking in Context

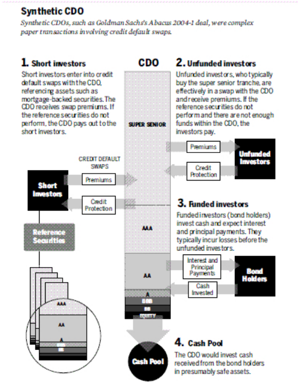


Figure 8.2, Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States

Announcements

- Make certain you are working on your first referee report, due October 10th
- Feel free to stop by office hours with any and all questions or email me
- Also remember that I am happy to look at full or partial drafts (but count on that taking longer than answering direct questions)
- Money and banking will be the last topic for the midterm, Ziebarth (2013) is the last required reading for it

Announcements

- Referee reports are due by 5pm, just submit them by email to me
- Money and banking will be the last topic for the midterm, Ziebarth (2013) is the last required reading for it
- The midterm is on October 24th, we'll do a review in class on Thursday, October 19th
- Remember that the exam is open notes, so think about how to take useful notes as you study