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DEVELOPMENT OF FINANCIAL MARKETS AND INSTITUTIONS

IV. Origins of Central Banking

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IV. ORIGINS OF CENTRAL BANKING

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1. IS BANKING INHERENTLY CRISIS-PRONE?

BANKING AS RISKY BUSINESS

Banks Are Inherently Risky

- Common argument – Goodhart (1987), Diamond & Dybvig (1983)
- The structure of bank balance sheets the source of riskiness

Bank Assets

- Bank assets are fixed loans to borrowers
- They are not valued on the market and hard to estimate for outsiders

Bank Liabilities

- Bank liabilities are deposits – not matched in maturity to assets
- If perceived risk increases, deposits can drain from the bank – bank run
- However, if the bank is otherwise sound, it's in the interest of other banks to support it

THE GOLDEN RULE OF BANKING

MISES (1953, 263) CITING KNIES (1876, 242):

For the activity of the banks as negotiators of credit the golden rule holds, that an organic connection must be created between the credit transactions and the debit transactions. The credit that the bank grants must correspond quantitatively and qualitatively to the credit that it takes up. More exactly expressed, 'The date on which the bank's obligations fall due must not precede the date on which its corresponding claims can be realized.' Only thus can the danger of insolvency be avoided.

MATURITY MISMATCHING

Nature of Mismatching

- The maturity of assets not matched to the maturity of liabilities
- This violates the golden rule – risky, but necessarily a recipe for disaster?
- It's not inherently wrong in borrowing short and lending long (Bagus & Howden 2009)

Credit and Risk

- The volume of credit is determined by the volume of savings and the relative attractiveness of lending versus other forms of investment
- Banks can attract business by offering good terms on deposits
  - Higher rates of return, shorter duration of loans etc.
  - This is risky, but does not increase the volume of savings
- Higher risk is reflected in higher rates on deposits

MATURITY MISMATCHING AND CRISES

"Risky" Banks

- Maturity mismatching can lead to problems
- Depositors remove their deposits at greater rate than foreseen by the banks
- Banks cannot liquidate assets to honour depositors' demands

But No Necessary Crisis

- Depositors may become more risk-averse and move to less risky banks
  - Offering lower rates, longer terms
- These banks will have more funds available for investment
- Risky banks can borrow from them to cover the shortfall, or will be taken over
- Overall, the result is a restructuring of the risk profile of the financial system

BANKING AND A CHANGE IN SAVING

Reduction of Savings

- A relative increase consumption spending causes a shorter structure of production
- Less capital is available for investment, leading to rising rates – across the economy
- If the amount of savings suddenly shrinks, some investment projects will be unviable

Restructuring of the Economy

- Longer-term, more risky projects likely the first to be abandoned, put on hold
- Especially high-risk, mismatching banks likely to suffer – is this a banking crisis?
- Rising rates and a smaller banking sector are simply the consequences of a change in "fundamentals"
- It is simply the natural adjustment to the changing conditions

IS CENTRAL BANK INTERVENTION NECESSARY?

Why Should the Central Bank Intervene?

- If depositors want to move to less risky banks, banks need to restructure
  - Central bank support would frustrate the necessary adjustment of the financial structure
- If there is a drop in savings, less funds are available
  - Central bank intervention only delays adjustment
  - It keeps now unsustainable banks and firms in operation

The Most Common Argument for Central Banking

- But there's no need for any "lender of last resort" here
- Goodhart (1987) and Diamond & Dybvig (1983) deals with maturity transformation
- Their argument does not address banking and the money supply

2. CENTRAL BANK MONEY PROVISION

WHAT IS A CENTRAL BANK?

Lender of Last Resort (LoLR)

- The central bank is the necessary "backstop" to the banking system
- Needed to avoid "contagion" from failing banks to sound banks (Goodhart 1987)

Provision of "central bank money"

- Risk-free "financial" money (Bindseil 2019)

Two Core Functions

- These two functions are historically and necessarily combined
- Central banks are monopoly issuers of bank notes, this allows them to be LoLR (Smith 1936)
- Because they can create money at will, central banks can recapitalize banks in a crisis

CENTRAL BANK MONEY PROVISION

Central Bank Money (Bindseil 2019)

- Defined as financial money of the highest possible credit quality
- Accepted in settlement of any other financial claim on the same level as specie
- Financial money of this kind a natural monopoly according to Bindseil (2019)

Three Problems

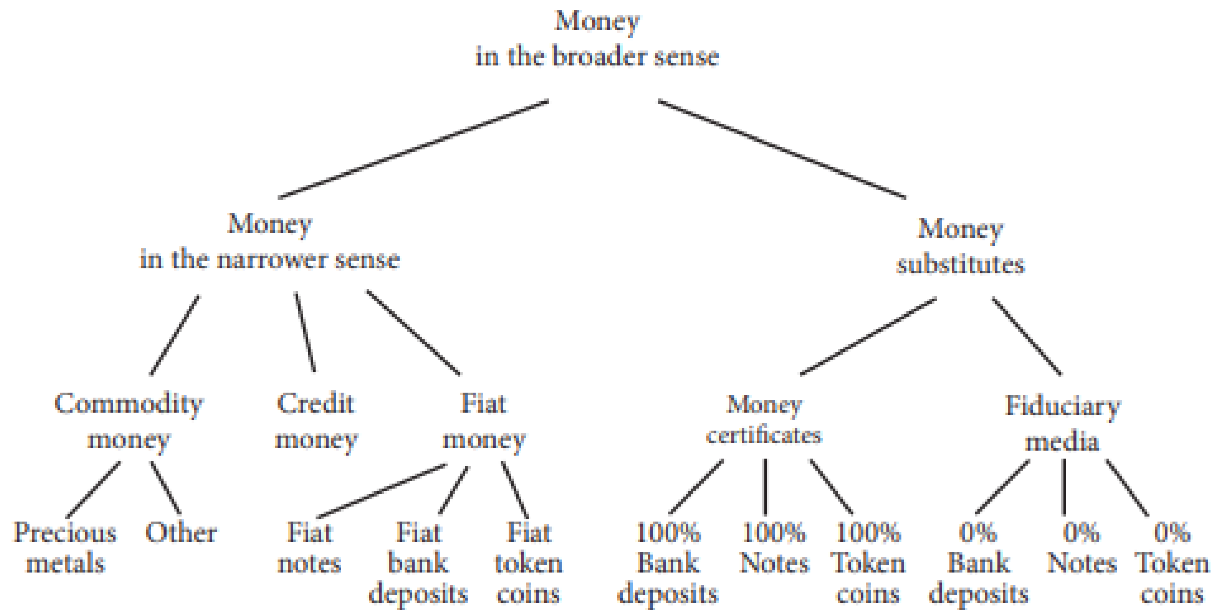
- Why is CB money necessary? What can it do that specie (gold and silver) cannot do?
- What is the connection between CB money and fractional reserve banking?
- Why assume provision of financial money is a natural monopoly?

A NOTE ON TERMINOLOGY

Different Terms, Same Phenomenon

- Financial money (Bindseil)
- Inside money (Selgin)
- Money substitutes / fiduciary media (Mises)
- "Credit money" is also sometimes used – but can be confusing
- Make sure to be clear what the author means by his terms!

MISES'S CLASSIFICATION OF MONEY (HÜLSMANN 2012, 34)



FINANCIAL MONEY VS. SPECIE

Advantage of Commodity Money

- (Or nowadays: fiat paper money)
- One clear advantage over financial money: there is no counter-party risk
- With any fiduciary media, there is always the risk that the issuer will not be able to pay

The Risk of Fractional-Reserve Banking

- If all the holders of fiduciary media demand redemption, the issuer will be bankrupt
- At best, notes and deposits will circulate at a discount, at worst they will not circulate at all. Result: credit crunch
- This risk does not exist with specie

VIABILITY OF FIDUCIARY MEDIA

[P]eople only demand money-substitutes, not fiduciary media, and their demand exists only when they have confidence in full redemption based on the issuers' practice of full redemption. People could not demand fiduciary media because they cannot distinguish between a money-substitute that is a money-certificate and one that is a fiduciary medium. If they could make such a distinction, then fiduciary media would not be viable.

- Herbener (2002, 83)

THE SERVICES OF MONEY SUBSTITUTES

Lower Costs

- The transfer of specie can be costly over great distances.
- Money substitutes make such transfers cheaper and faster
- Wiring money from one bank to another virtually instantaneous (or overnight)
- Bills of exchange also used for this purpose

Recent Phenomenon

- Only since the 20th century have CB and other financial money become dominant
    - E.g., international transfers between checking accounts
- Fiduciary media always only used in the area of the bank's clientele
    - Payments "abroad" in the form of specie, bills

FRACTIONAL RESERVE BANKING

"Savings" From Fractional Reserves

- Banks "economize" on their specie/cash reserves
  - It is not necessary to keep a 1:1 relationship between reserves and deposits/notes
- Classical economists (Smith, Ricardo) thought paper money would reduce costs
  - It is much cheaper to use paper than precious metals as money

Credit Expansion

- Banks extend credit in the form of fiduciary media
- They can lend to business without previous savings by depositors
- Creation of new money (bank notes, demand deposits) in the act of lending

FINANCIAL MONEY AS A NATURAL MONOPOLY?

- Why assume the provision of high-quality financial money is a natural monopoly?
- Historical experience contradicts this view:
- Scottish banking (White 1984)
- Neapolitan banking (Bindseil 2019, 204-5)
- Even if it is a natural monopoly, why make it a legal monopoly?
- New York Clearinghouse, a proto-central bank, was a private association (Gorton 1985)

3. CENTRAL BANKING AND FRACTIONAL RESERVE BANKING

CENTRAL BANKS SUPPORT FOR THE BANKS

Two Functions: LoLR and Money Creation

- The central bank crucial to the banking system
- It provides the necessary reserves for banks to extend loans and create money
- Modern financial money supply is elastic: it expands with credit expansion and contracts when credit dries up

Money Creation Key

- Fractional reserve banks periodically get into trouble (bank runs)
  - Credit expansion unsustainable, leads economic and financial crisis -> credit contraction
- Credit contraction fatal for banks – the central bank there to bail them out
- Money creation, not maturity transformation, is the central problem!

LENDER OF LAST RESORT

Central Bank "Solution"

- The CB creates new reserves and lend to the banks in a crisis
- Under a gold standard or similar, the suspension of CB obligations is necessary
- CB gold reserves would flow out if the CB did not contract

Central Bank on Fiat Money

- Under a fiat standard, the CB does not face the constraint of gold outflows
- A central bank on a fiat standard can keep the banking system from collapsing
- It mixes money creation and the provision of credit

THE INVERTED MONEY PYRAMID

- The result is a stock of money that can be visualized as an inverted pyramid
- The base is the reserve of specie in the central bank
- The next, broader layer is the central bank notes and deposits
- The final, broader layer is constituted by commercial bank deposits and notes
- The higher we go up the pyramid, the greater the risk of default

CONSEQUENCES

Expansion of the Fractional Reserve Banking System

- Enabled by the central bank
- Without a LoLR, banks would have to be much more conservative in credit expansion
- With a LoLR, banks are more immune from the adverse consequences of easy credit

The Money Supply and the Business Cycle

- The supply of money increases, especially in the form of fiduciary media
- A greater proportion of money held as fiduciary media than otherwise
- Periodic booms and lower rate of interest
  - As banks lend out a multiple of voluntary savings
- Credit expansion precisely what many central bank founders were aiming at!

4. THE ORIGINS OF THE BANK OF ENGLAND

THE IMPORTANCE OF BRITISH BANKING

British Banking a Model for other Countries

- Peel's Act 1844
- The development of banking in GB therefore important

Three Important Episodes

- Bank Restriction, 1797-1819
- Country Banking, 1825
- Peel's Bank Act, 1844

The Era of Classic Business Cycles

- Links between the banking system and malinvestment and crisis
- Great debates on these issues at the time

BANK OF ENGLAND AS PROTOTYPE

Evolution of the Bank of England

- Private bank with monopoly privileges
- Provider of "central bank money" to the banks
- Lender of last resort in crisis

Bank of England as Prototype

- Banking and central banking developed in other countries on the British model
- But not all central banks followed the British model – e.g., the U.S. Fed did not

ORIGINS OF BOE

Before the Bank of England

- London goldsmiths had issued banknotes (Selgin 2012)
- Ruined 1672 by the Stop of the Exchequer
- Set back banking development in England
- 1690s, the English king again sought new ways to finance his government

William Paterson's Scheme 1694

- The Bank of England chartered:
  - In return for lending £1,200,000 to the king, was authorized to issue similar amount of notes
- 1697 all payments to government through the Bank
- The Bank turned into limited liability company 1697 – only llc bank until 1858

THE BOE IN THE EIGHTEENTH CENTURY

Accumulation of Privileges

- Bank Charter renewed 1709
- All firms with more than six partners prohibited from issuing notes payable on demand or within six months
- Private note issue abandoned in London by 1780
- Smaller banks began keeping balances with the BoE

Financing Government

- The Bank's charter renewed seven times before 1800
- Each time the BoE was rechartered, it lent money to the Treasury
- 1751 the Bank was entrusted with administering the national debt

BANK RESTRICTION

Expansion of the Money Supply in the 1790s

- Both by the BoE and country banks
- Money printing financed the war with France from 1793

Consequences

- Price inflation, gold outflow, balance-of-payment deficit
- Panic in 1797: run on the Bank of England
- Parliament suspended redemption – renewed until 1821 every year
- Money creation fueled speculation, inflation
- Financed ongoing war effort

Murder! murder! Rape! murder!
O you Villain! what have I kept my Honor
untainted so long, to have it broke up, by you at last?
O Murder! Rape! Ravishment! Ruin! Ruin! Ruin!!!
BANK of ENGLAND
LOANS
POLITICAL-RAVISHMENT, or, The Old Lady of Threadneedle-Street in danger!

BANK RESTRICTION

Increasing Strength of the BoE

- People in general began expecting the government to come to the aid of the Bank
- Small notes: bank notes down to £1 legalized in 1790s
- BoE notes formally legal tender from 1812 on (repealed 1819)
  - Before that accepted in payment by the government

Growing Role as Reserve Bank

- Country banks became accustomed to keep BoE notes as reserves
- Tried to persuade customers to take notes instead of gold
- Very little gold outside the BoE by the 1820s

BANK RESTRICTION

End of Restriction

- Discussed from 1810 on
- Return to par value of the pound agreed 1816 for 1819
- Finally redemption resumed, pound sterling on gold again 1821

Results

- Contraction of paper issue
- General deflation of prices – about 10 percent
- Business depression ensued
- Short-term unemployment

COUNTRY BANKING

Great Expansion of Country Banking

- During era of bank restriction
- Provided half the circulating medium (Presnell 1956, 160)
- Crisis of 1825 blamed on the country banks – but BoE also expanded its issue greatly

Credit Expansion: Bank Notes and Deposits

- New money created by banks lent to businesses
- Made capital appear abundant, lowered interest rates
- But unsustainable boom: the capital did not exist

Crash of 1825

- Many bankruptcies, country banks declined after 1825, outcompeted by BoE

CENTRAL ROLE OF THE BOE

Private or Central Bank?

- Governors of BoE protested it was a private bank
- But the BoE central to British banking by the 1820s on

Supplier of Reserves

- When gold was needed, the only supply was the Bank stockpile
- Gold needed for "internal" and "external" drain – both resulting from inflation

Towards Bank Note Monopoly

- BoE notes increasingly accepted, also in crisis, on par with coins
  - £1 notes issued 1825 to deal with crisis (blamed on banks issuing small-denomination notes)
- BoE notes made legal tender for sums above £5 1833, except at the Bank
- Reform of 1826: small notes prohibited, join-stock companies allowed outside London (65 mile radius). Allowed in London 1833, limited liability first in 1858

THE BANK OF ENGLAND AND DEPOSIT BANKING

Expanding Deposit Banking

- Reform of 1826: small notes prohibited, join-stock companies allowed
  - Outside London (65 mile radius). Allowed in London 1833, limited liability first in 1858
- Private note issue declined in importance, deposit banking expanded instead
- Boom in joint-stock banks 1826-36

Bank of England as Central Bank

- The new deposit banks kept virtually their whole reserve with the Bank of England
- Gold further centralized in the Bank
- The 1844 Bank Act led in practice to a single reserve CB system
- Note issue monopolized by BoE; deposit banking expanded

SMITH'S SCHEMA (1936, 10-11)

Four-phase schema of development of banking

- In the first period, banks are free to form without oversight
- This is followed by a period of monopoly
- Monopoly is followed by freer conditions and greater plurality of banking
- The final phase witnesses a return to restriction and monopoly, absolutely or in a mixed system with central control
- This schema applies, mutatis mutandis, to England, France, and Germany, but not the U.S.

5. THE BRITISH BANKING DEBATES

THE GREAT BANKING DEBATE (SMITH 1990, CHAP. 7)

- Great debate over banking issues in the 1830s-40s

Currency School

- Desired an inflexible, stable money supply – currency principle
- New banknotes could only be issued against deposit of gold in the BoE

Banking School

- The amount of banknotes in circulation cannot exceed the needs of trade
- Banking automatically adjusts the money supply to demand – banking principle
- Real Bills Doctrine: when bankers lend to business against short-term bills representing real goods, the money supply simply reflects real economic activity
- A flexible money supply good, so long as it is "endogenous" to the commercial system

PEEL'S BANK ACT OF 1844

Bank Reform 1844

- BoE received monopoly on note issue
- Private bank notes gradually withdrawn
- Apart from £14 million of existing notes, BoE could henceforth only issue notes against deposited gold – the currency principle

Apparent Victory of the Currency School

- But Peel's Act deficient – it failed to regulate bank deposits
- British banks continued to expand credit in the form of deposits
- Boom-bust cycle continued in GB
- BoE requirement to redeem in specie regularly suspended in crises

SIR ROBERT PEEL

- Author of the Bank Act
- (And other important reforms in the period)

BANK OF ENGLAND AS CENTRAL BANK

- "A monarchy in any trade is a sign of some anomalous advantage, and of some intervention from without" - Bagehot

The Bank of England as Lender of Last Resort

- In a crisis, it stepped in to save banks
- First time in 1857 and 1866 (including suspension of Peel's Act)
- Theorized by Walter Bagehot in *Lombard Street* 1873 as the role of the central bank

Central Bank Orthodoxy

- In crisis, the BoE should lend freely at a high, above market rate, against good collateral
- Quickly became central bank orthodoxy (Fetter 1965)
- But not without opposition: e.g., Thomson Hankey, former Governor of the Bank

RUN ON THE SEAMEN'S SAVINGS' BANK DURING THE PANIC.

THOMSON HANKEY ON BANKING, 1873

Ready money is a most valuable thing, and cannot from its very essence bear interest; every one is therefore constantly endeavouring to make it profitable and at the same time to retain its use as ready money, which is simply impossible. Turn it into whatever shape you please, it can never be made into more real capital than is due to its own intrinsic value, and it is the constant attempt to perform this miracle which leads to all sorts of confusion with respect to credit.

(…)

The Bank of England has been long expected to assist in performing this miracle; and it is the attempt to force the Bank to do so which has led to the greater number of the difficulties which have occurred on every occasion of monetary panics during the last twenty years.

6. THE FEDERAL RESERVE

“FREE” BANKING IN THE U.S.

- From 1837 on, there was no central bank in the U.S.
- Government still heavily regulated, supported banks
- Before the Civil War: free banking – decentralized, but highly regulated banking
- Periodic suspensions
- Notes accepted in tax payment
- After the Civil War: National Banking System
- Federal regulation and sponsorship
- Fractional reserve banks centred on New York banks as the source of reserves

FREE-MARKET CLEARINGHOUSES

- Associations of bankers organized their own clearinghouses to prevent bad banks and stabilize their own note circulation
- Suffolk System 1825-58 (Rothbard 2008, 216-8)
- Private bankers in New England developed clearing system centered on the Suffolk Bank
- Almost every banker in New England kept specie deposits in the system by 1838
- Banks in the system almost always kept up payments – even in periods of suspension
- New York Clearinghouse set up 1853 (Gorton 1985)
- Set up to clear interbank payments
- Similar to the Suffolk System – but more accommodating of banks
- In crises, individual balance sheets secret, loan certificates issued, and convertibility suspended

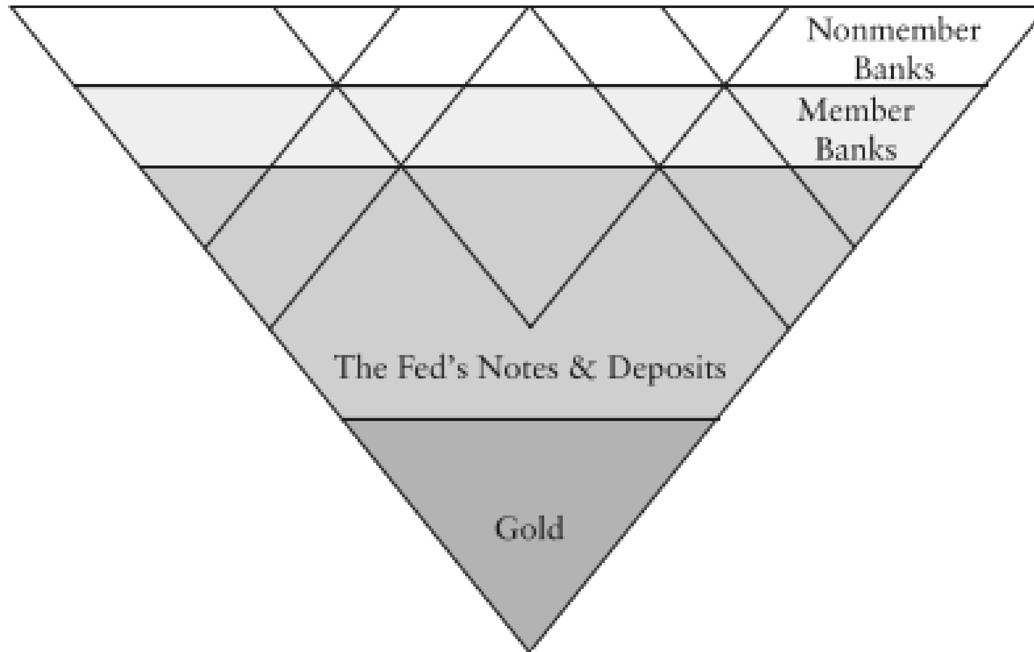
ORIGINS OF THE FEDERAL RESERVE SYSTEM

- The Panic of 1907 is the backdrop to introducing central banking (Rothbard 2008, 229-41)
- Bankers wanted support, politicians an end to crises
- Economists said an elastic money supply necessary/desirable
- Discussions and meetings for a few years afterwards
- Notorious Jekyll Island conference
- Federal Reserve Act of 1912, system started operatin in 1913
- A system of Federal Reserve Banks across the U.S.
- Governed by the Board of Governors in Washington, D.C.
- In reality, New York the dominant Reserve Bank

STRUCTURE OF THE SYSTEM

- Only Federal Reserve Banks allowed to print notes
- Federal notes backed 40 percent by gold
- Federal deposits backed 35 percent by gold
- Member banks could obtain notes by drawing down their deposits at the Fed
- National banks forced to become members, state banks could choose
- All banks controlled through the system!
- Nonmember banks had to have accounts with member banks to get cash for their customers
- Centralized system imposed: gold at the bottom, then FR notes/deposits, then member deposits, then nonmember deposits

STRUCTURE OF THE SYSTEM (ROTHBARD 2008, 236)



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