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"The American banking system before the FED"

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INTRODUCTION

The history of the American banking system is not well-known but it is very important, since it has shaped the current financial market of the country.

The U.S. have gone through both periods of free banking and central banking, since two main ways of thinking have collided and interchanged over the years.

As a matter of fact, several economists, businessmen and politicians have made researches and written hundreds of papers in order to find out the best way to structure an efficient banking system.

On the one hand, a central bank might be useless, since free banking could find an efficient and solid structure on its own, as any other market could, without external interferences. On the other hand, a central bank could be seen as necessary to prevent and smooth crisis, as well as to supervise the whole banking system. This is the main driving force of the economy, so it should be monitored in order to avoid widespread economic crisis.

In order to examine as much as possible these fascinating topics, I have chosen to divide my thesis in two chapters and in a brief final reflection.

As far as the first chapter is concerned, I have described the history of the American banking system chronologically, from the Independence War to the FED establishment in 1913.

In particular, I have analyzed three main topics:

1. the First and the Second Bank of the U.S., since they used to be the most important attempts to establish a single central bank in the country;
2. the decentralized banking system, a system without a central bank, in which banks could be chartered only by the various states, not by the federal government;
3. the National Banking System, a system of banks directly chartered directly by the federal government. It did not base on a single central bank, in fact, national banks were strictly linked one other through a system of pyramidal reserves.

As for the second chapter, it starts with a summary of the main judgements by the Supreme Court of the U.S.A., which solved debates on key banking issues. Such judgements are historically valuable because they set up principles that are still valid nowadays, since the U.S.A. have adopted a common-law system.
In the second part of this chapter I have examined the Suffolk system, that is an example of how the market could regulate itself in order to avoid over-emission of notes and bank runs, developing several interesting banking practices. It is one of the main arguments that support the free banking theory.
The last paragraph of the chapter deals with free banking and central banking.
Murray N. Rothbard, Walter Bagehot and Vera Smith are the main authors that I have taken into consideration in order to depict strengths and weaknesses of the two different banking systems.

The last part of my thesis is a brief personal reflection on the dispute between central banking and free banking, taking into consideration the current monetary system, that is a *de facto* fiat standard. As a matter of fact, all the theories I have depicted in the second chapter are conceived assuming a gold standard.

CHAPTER ONE

THE INDEPENDENCE WAR AND THE BANK OF NORTH AMERICA

Before the Independence War, the British colonies in North America had adopted the bimetallic monetary system of Great Britain, accepting both British and foreign silver and gold species.
At the time, bankers were wealthy people lending their own money, since banking, meant as lending out the savings of others, began in England in the middle of the seventeenth century.[1]
For this reason, very few private banks existed in Colonial America and they were short-lived due to the paper money issues.
Paper money was used for the first time by Massachusetts in 1690 to finance military expeditions against French colonies, but soon this method became very dangerous.
Initially, paper money was born to be an extraordinary lump-sum measure adopted by the colonies, which should have been redeemable in species and backed by the state tax revenues of the following years. However, further issues were used to cover the "redemption deadlines", causing a huge depreciation of new money in relation to species.
The colonies tried to face this depreciation giving paper money legal tender for all debts at par with species, but, doing this, they triggered the Gresham's Law[2], causing the disappearance of species as well as a big inflation wave.
In this situation, private banks began to issue their own banknotes, as alternatives to the paper money issued by the colonies. Banknotes were either redeemable in silver, in case they were issued by silver banks, or irredeemable in the case of issuance by land banks.
Private banks worsened the inflation crisis, forcing the British Parliament to outlaw them in 1741.
In 1751 Great Britain prohibited all further issues of legal tender paper money in New England and ordered a move to redemption of existing issues in species.
Finally, in 1764, the British Parliament extended the prohibition of new issues to the other American colonies and required the gradual retirement of outstanding notes.

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[1] Merchants used to deposit their savings in the Royal Mint until 1638, when King Charles I confiscated the gold in order to fund war. Even if the gold was given back, merchants started to deposit their surplus in private goldsmiths, using warehouse receipts as a sort of surrogate money. Goldsmiths started to lend receipts which were not entirely covered by gold after the British Civil War, in 1660s: fractional reserve banking began.

[2] Gresham's Law is the monetary principle according to which bad money drives out the good one.
People are indeed eager to keep the money whose intrinsic value is at par or higher than the nominal one, but to exchange it conversely.
Gresham's Law caused the failure of the bimetallic monetary systems.

The Independence War broke out in 1775, and the Continental Congress decided to finance military expenses by an emission of $2 million of paper money, which were to be initially retired in seven years through taxes levied pro rata by the separate states.

The issuance of these "Continental papers" rapidly escalated during the following years due to the big expenses for the war and the subsequent reconstruction: over $225 million were issued in five years, starting from an initial money supply of $12 million. As a result, a new inflation crisis stemmed by the various states with a new emission of their own paper money. Anyway, that paper money took little time to depreciate a lot too.

In the end, the "Continental papers" were not redeemed at all, while the "State papers" were redeemed at depreciating rates.

The same policy was not applied to loan certificates, another source of financing used by the Continental Congress and then by the various states. They were notes issued by government to pay for supplies and accepted by the merchants as currency. These notes were not redeemed at depreciating rates because of the considerable influence of two important men: Alexander Hamilton, the future Secretary of Treasure, and Robert Morris, a wealthy merchant and economic advisor of Congress.

Indeed, they wanted the redemption at par of all the public debt for two reasons:

- offering the businessmen who had bought these notes the chance to get their money back and reinvest it in a more productive way (trickle-down effect);
- building up agitation to modify the Articles of Association[3] that refused to allow to the federal government taxes power. Under the Articles, Congress was forced to rely on requisitions upon the governments of its member states. Without the power to independently raise its own revenues, Congress was steadily vulnerable to the discretion of the several State governments: each State used to make its own decisions as to whether to pay the requisition or not. Some states were not giving Congress the funds it asked for by either paying them only partially, or by altogether ignoring the requests from Congress. Without the revenue to enforce its laws and treaties, or to pay its debts and without an enforcement mechanism to compel the States to pay, the Confederation was basically rendered impotent and was in danger of falling apart.

Morris and Hamilton thought that the repayment of the public debt had to be realized using a sort of "federal tax revenues" in the following years indeed.

[3] In 1774, the Continental Congress adopted the Articles of Association in response to the "Intolerable Acts" the British government had imposed on the colonies. This document proposed a boycott on the import and export of goods from Britain and its other colonies, as well as clauses announcing a ban of the slave trade, severance of all economic ties with Britain and the intention to improve agriculture and industry in the U.S.

They achieved the result with the enactment of the article 1, section 8, clause 1 of the American Constitution of the 1787: *"The Congress shall have power to lay and collect taxes, duties, imposts and excises to pay the debts and provide for the common defense and general welfare of the United States; but all duties, imposts and excises shall be uniform throughout the United States."*

Robert Morris is important in the American banking history because he was the thinker and the head of the Bank of North America, the first privately owned central bank in U.S. which received its federal charter in 1782. It was also the first fractional reserve commercial bank in the country. The monetary system was indeed grounded on species, but with a controlled monetary inflation pyramiding an expansion of money and credit upon a reserve of specie.

The new bank had an initial capital of $400.000, payable in gold and silver, to be increased by new subscriptions from time to time, at the pleasure of the twelve directors, who were chosen by the shareholders and were to be entrusted with the management of the institution.

It received a monopoly license from the Congress: only its banknotes could be used as currency to pay duties and taxes all over the states governments and no other bank was allowed to operate in the country. In exchange, the bank was obliged to lend government a considerable amount of "fresh money", acquiring part of the public debt.

The Bank of North America became the depository of all congressional funds.

Despite Morris power and influence, the new banknotes depreciated early because of the market lack of confidence in the repayment at par with species. After a year, his political power came to an end and the rumors about conflict of interests between the bank and politicians, as well as the threat of the disappearance of the species due to Gresham's Law, caused his bank the loss of the leading role acquired, becoming a private commercial institution chartered by the state of Pennsylvania.

In 1783, all the federal government stocks in the bank were sold by Morris into private hands and all U.S. debt to the bank was repaid.

The first experiment of central banking in U.S. was very short-lived.

THE FIRST BANK OF THE UNITED STATES 1791 – 1811

In 1790 Alexander Hamilton, who became Secretary of Treasure of the young U.S., submitted four financial reports to Congress. The most important ones were *"The First Report on Public Credit"*, *"The Second Report on Public Credit"*, known also as *"Report on a National Bank"*, and *"The Report on the Establishment of a Mint."*[4]

The last report proposed that minting a U.S. dollar weighting almost as much as the Spanish peso would have been the simplest way to introduce a national currency. The Spanish currency was the most circulated one at the time indeed. Hamilton suggested adopting a bimetallic currency at a fixed 15:1 ratio of silver-to-gold. He desired the minting of small value coins to reduce the cost of living for the poor and wanted people to get used to handling money on a frequent basis. Hamilton's principles were adopted by Congress with the *"Coinage Act of 1792"*, that provided the basic framework which all subsequent coinage production was based on.

The Act authorized the construction of the U.S. Mint in Philadelphia and established the silver dollar as the unit of money, declaring it to be lawful tender, and created a decimal system for U.S. currency.

The first report analyzed the financial standing of the U.S. and recommended the reorganization of the national debt and the establishment of public credit. Hamilton divided public debt in federal and state debt giving an estimation of the combined burden, which amounted to $77 million. He suggested paying in full all government debts[5] as the foundation for establishing government credit, to create a favorable climate for investment in government securities and to transform the public debt into a source of capital.

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[4] The other was the Report on Manufactures, which proposed a series of subsidies to industry, tariffs, trade regulations and other government encouragements that would promote the growth of manufacturing and immigration, as well as expanding the applications of technology and science in all economic sectors.

Hamilton thought that those measures would secure the American independence, creating a sound economic system. The principal ideas of the Report became laws only in the first half of the nineteenth century, due to the initial opposition of Thomas Jefferson and James Madison.

[5] The other two debt repayment schemes proposed were the "repudiation" and the "discrimination" of public debt.

Repudiation meant defaulting of some portions of the domestic debt, while the foreign debt should have been repaid in full.

Schemes more in sympathy with the former-soldiers who had relinquished their certificates to speculators at reduced rates were termed "discrimination". These called for paying the original holder of the security at full value, and reimbursing the current holder of the security for its purchase price. The combined payments would have, however, exceeded the denomination of the original certificate.

Regular payments of interests and principals would allow Congress to safely increase federal money supply and to stimulate capital investments in agriculture and manufacturing.
With economic prosperity, the enterprises would carry their tax burdens and provide the revenue to service the national debt more easily.
"The key provision in this report was termed "assumption", called for the thirteen states to consolidate their outstanding debt of $25 million and transfer it to the central government for servicing under the general funding plan.
Hamilton's chief objectives were both economic and political. Economically, state securities were vulnerable to local fluctuations in value, and consequently, to speculative buying and selling activities that would threaten the integrity of a national credit system. Furthermore, with each state legislature formulating separate repayment plans, the federal government would be forced to compete with states for sources of tax revenue. Politically, Hamilton sought to tie the creditors to the new central government by linking their financial fortunes to the success of his economic nationalism. This would gradually cause decline in state authority, and a relative increase in Federal influence."[6]

"The Report on a National Bank" was linked to the previous one, since Hamilton argued that a new central bank was necessary to make loans to the government, to allow the public debt repayment, to act as custodian of federal funds, to collect tax revenues for the government, to create a common currency and thus to boost the whole American economy.
Hamilton's proposal was quickly accepted by the Congress, which chartered the First Bank of the United States on February 25th in 1791.
The bank was established in Philadelphia with an initial funding by the sale of $10 million in stocks, of which $2 million in shares purchased by the government through a loan of the bank itself that had to be paid back in ten equal annual installments.
The remaining $8 million were available to the public, both American and foreigners[7], with an additional requirement: one-quarter of the purchase price had to be paid in specie.[8]

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[6] Brock W.R., 1957. *"The Ideas and Influence of Alexander Hamilton in Essays on the Early Republic: 1789-1815."* Ed. Leonard W. Levy and Carl Siracusa. New York: Holt, Rinehart and Winston.

[7] Even if foreigner investors could buy the shares, they would have not got any voting right. Additionally, loans to foreigners had to be approved by the Congress, as well as loans to the single states.

[8] The First Bank of the United States could technically make loans up to $10 million, backed by only $2 million in species.

The bank structure was modelled on the Bank of England, but its chartered functions were actually different: the Bank acted as the federal government's fiscal agent, collecting tax revenues, securing the government's funds, making loans to the government, transferring government deposits through the bank's branch network and paying the government's bills.
The bank also managed the US Treasury's interest payments to European investors in U.S. government securities.
In addition to its activities on behalf of the government, it also operated as a commercial bank, which meant that it accepted deposits from the public and made loans to private citizens and businesses. Its banknotes most commonly entered circulation through the loan process. It extended more loans and issued more currency than any other bank in the nation because it was the largest financial institution in the U.S. and the only institution holding federal government deposits as well as possessing branches throughout the nation.
The bank had a twenty-years charter running, after which it was up to Congress to approve or deny renewal of the bank and its charter. However, during that time no other federal bank had to be authorized, while states were free to charter as many intrastate banks they wished.
The bank was forbidden to buy government bonds, issue notes and incur debts beyond its actual capitalization. Additionally, it had a mandatory rotation rule for the board of the twenty-five directors[9] and it was put under supervision of the Secretary of the Treasure, who was free to remove government deposits, inspect the books and require statements regarding bank's condition as frequently as once a week.
Thomas Willing, who had been president of the Bank of North America, accepted the job as the national bank's first president.
During the IPO, the largest and the second in the country after the Bank of North America one, the First Bank did not offer shares for immediate delivery, but rather subscriptions payable in specie, that acted as a down payment on the purchase of bank stock. Investors would have paid the balance due over the course of the next two years using specie for the 25% and debt securities for the remaining part.
A financial bubble began to grow soon, due to the high demand of subscriptions that more than doubled their price and pushed up also the price of U.S. debt securities.
One of the primary causes of the Panic of 1792 was the failure of a scheme created by some bankers in the winter of 1791.

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[9] Because of the great distances some board members had to travel to get to meetings in Philadelphia, the presence of at least seven directors was deemed sufficient to conduct bank business. The board members included lawyers, merchants, brokers as well as several senators and congressmen.

They planned to use large loans to gain control of the U.S. debt securities market because other investors needed those securities to make payments on stocks in the First Bank of the United States. These bankers were able to create their own credit by endorsing one another's notes, and did so hoping to create a new bank in New York in order to overtake the existing one.

On March 1792, a banker named William Duer stopped making payments to his creditors and simultaneously faced a lawsuit for illegal actions he had taken as first assistant of Secretary Hamilton in the 1780s.

As Duer defaulted on his contracts and found himself in prison, the price of securities fell more than 20% quite quickly. The failure of the Duer's bank caused a big bank run.

Hamilton saw the need for intervention as the earlier financial bubble kept collapsing: credit was becoming less available and the collapse of prices across the economy became increasingly a concern. He met the members of the Treasury's sinking fund commission[10], which decided to authorize purchases of government securities in the marketplace.

The relief was only temporary because new speculative waves hit the U.S. debt securities market during the year. The other factor that contributed to this wild speculation was the huge flood of loans and banknotes that the First Bank had caused both indirectly, as investor borrowed money from other banks to obtain the shares, and directly, making loans and issuing its own banknotes.

When in 1792 the First Bank suddenly slowed the over-expansion of loans and banknotes, other banks followed suit, creating another credit crunch.

Prices of U.S. government securities started to drop and speculators started to lose a lot of money. Some big speculators debt became so overwhelming and the number of people and companies they had borrowed from so large that their default led to a widespread financial contagion.

The Panic of 1792 was solved again by the Treasury's sinking fund that calmed the markets acquiring government bonds to smooth the price fall.

Unlike modern central banking, the First Bank of U.S. did not officially set monetary policy nor it regulated other banks. However, by managing its lending policies and the flow of funds through its accounts, the bank could alter the supply of money and credit in the economy and hence the level of interest rates charged to borrowers.

The First Bank of U.S. was one of the largest corporations in America, since eight branches were opened from 1792 to 1805[11] and it could influence the entire economy due to its dimension.

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[10] The federal sinking fund was a cash surplus that the Treasury could use to buy government securities in the open market to retire some of its debt before the maturity.

At the time, when a bank had to grant a loan, it used to give the borrower banknotes redeemable in species or it credited the borrower's account on the bank's book. Furthermore, deposits and loans were related, since banks with more deposits were able to make more loans and then to inject more money in the economy.

The First Bank of the U.S. used to receive all government deposits and therefore could make more loans than any other bank.

Since it used to accumulate also the notes of the state banks and held them in its vault too, it could indirectly influence the money supply. In case it wanted to slow the growth of money and credit, it would present the notes for redemption in gold or silver, thereby reducing state banks' reserves and their issue of banknotes and loans. To speed up the growth of money and credit, the First Bank held on to the state banks' notes, thereby increasing state bank's reserves.

In addition, the banknotes issued by the First Bank were widely accepted throughout the country and were the only ones accepted for payment of federal taxes. Its branches were located in the main port cities, making it easier for the federal government to collect customs duties and to sell U.S. securities to foreigners, while the Bank could easily finance international trade.

In 1800, there were 28 state banks in U.S., while in 1811 their number escalated to 117 due to the economic development, which recovered quickly from the Panic of 1792, and due to the great monetary expansion pursued by the First Bank of the U.S.

When the time of re-chartering the Bank came in 1811, the re-charted bill was defeated by one vote both in the House and in Senate.

The re-chartering process was fought and defeated by James Madison administration and the Democratic-Republicans, including the hard-money[12] Old Republican forces, which had always been in opposition with Alexander Hamilton principles.

Despite the support from the merchants, the chambers of commerce and the state banks, the First Bank of the U.S. era came to an end.

[11] Boston (1792) – New York (1792) – Charleston, SC (1792) – Baltimore (1792) – Norfolk, VA (1800) – Savannah (1802) – Washington, D.C. (1802) – New Orleans (1805).

[12] Hard money policies, opposed to fiat money policies, support a specie standard, usually gold or silver.

THE SECOND BANK OF THE UNITED STATES 1816-1833

The war of 1812-1815[13] caused serious consequences for the American monetary system.
The government encouraged the formation of new banks in the Mid-Atlantic, Southern and Western states, which printed huge quantities of new notes to purchase government bonds and therefore to finance military expenditures. From 1811 to 1815, the number of banks in the country increased from 117 to 212. Even 35 private unincorporated banks, which were illegal in most states but were allowed to function under war conditions, were established.
Only the banks of New England maintained a conservative position, since only a little part of public debt was purchased there to avoid an inflation crisis. However, the government was paying goods and services in New England with a mass of banknotes which came from the other regions and were clearly worthless.
New England banks called for redemption of the notes soon and in 1814 the government was forced to suspend specie payments, giving legal tender to the banknotes.
The number of banks and credit expanded rapidly during 1815: specie in all banks amounted to $13,5 million, while banknotes and deposits amounted to $79 million.

Another cause of the wartime inflation was the massive issue of Treasury notes, which were quickly used as currency, as during the Independence War. Their quasi-legal tender status brought once more Gresham’s Law into operation and specie started to flow out to the country.
The U.S. could not have continued indefinitely with the issue of fiat money by a poll of individual banks, which did not operate together.
The first solution was proposed by the Old Republicans and the Federalists: the federal government should have compelled the banks to redeem the notes, forcing the liquidation of those ones which could not have done it. In that way, the mass of depreciated notes and deposits would have been liquidated and specie would have come back.
The Democratic-Republican administration wanted to move the country toward a more uniform, stable paper currency establishing instead a new central bank, the Second Bank of the U.S. Congress passed a bill in 1814 to charter a second national bank, but Madison vetoed it.
In 1816, Congress passed another bill to charter the bank and Madison was forced to sign the act due to the need to solve the post-war financing distress of the country.

[13] The causes of the war between the U.S. and U.K. were mainly linked to the restrictions the U.K. imposed on maritime trade due to its war with France, the support given by the U.K to the natives, which were opposing to the American expansion towards the western regions, and the American interest for Canada, that was still a British colony.

The Second Bank of the U.S. was modelled as its forerunner. It acted as fiscal agent for the federal government, holding its deposits, making its payments and helping it to issue debt to the public.
It issued and redeemed banknotes and kept state bank's issue of notes in check as well as operating as commercial bank that accepted deposits and made loans both to business and individuals.
This Bank had a twenty-year charter too and its board consisted of twenty-five directors. Not all the directors were elected by the shareholders, since five of them had to be appointed by the President and confirmed by the Senate.
The capitalization of the bank was considerably higher than its forerunner: it amounted to 35$ million, of which 20% was held by the federal government.
Subscriptions went on sale in July 1816 and the sale period was set at three weeks. To make it easier for investors to buy them, sales were held in twenty cities. After the deadline, $3 million of subscriptions remained unsold and they were finally bought by Stephen Girard[14].
At last, four thousand private investors held 80% of the bank's capital, including one thousand Europeans, even if the bulk of the stocks were held by a few hundred wealthy Americans.
At the time, the institution used to be the largest monied corporation in the world.
The Second Bank reach was far greater than that of its predecessor, since its branches were twenty-five, compared to the only eight of the First Bank.
In that era of poor communications and high transportation costs, the tendency for a banknote was to depreciate in proportion to its distance from the home office of the issuing bank.
A class of professional money-brokers emerged. They bought up a mass of depreciated notes of nominally specie-paying banks and then travelled to their home offices asking for redemption. Banknotes detectors were monthly journals published by money-brokers helping people to evaluate the market rate of various banknotes in relation to specie.
"Wildcat banks" were banks located in "wildcat countries", where money-brokers found it difficult to travel, therefore they were less worried about the redemption of their notes.
The extensive branch network faced this issue and aided the country's westward expansion and its economic growth in several ways: the branches provided credit to businesses and farmers, helping to finance the production of goods and crops as well as the shipment of those ones to domestic and foreign destinations. Moreover, the network helped moving the money deposited in the branches to other parts of the nation, facilitating both the government's ability to make payments and the branches' ability to supply credit.

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[14] Stephen Girard was a French-born, naturalized American philanthropist and banker. His bank was the principal source of government credit during the War of 1812, since he underwrote up to 95% of the war loan issue enabling the U.S. to carry on the war. After the war, he became one the wealthiest people in the U.S. From an estimation based on the ratio of his fortune to contemporary GDP, Girard is considered one of wealthiest Americans of all time.

The Second Bank's capitalization and ramification allowed it to conduct a rudimentary monetary policy, as the First Bank used to.

The first president of the Second Bank of U.S., William Jones, actually failed to control properly paper money emission, due to the lack of courage to insist on payment of its notes from the state banks. *"So many influential people were interested in the state banks as stockholders that it was not advisable to give offense by demanding payment in specie, and borrowers were anxious to keep the banks in the humor to lend."*[15]

The Second Bank's attempt to provide a uniform currency throughout the U.S. floundered on the fact that the Western and Southern branches could inflate credit and banknotes, which would have to be redeemed at par by the more conservative branches in New York and Boston. Therefore, the conservative branches were stripped of specie, while the others could continue to issue notes without brakes.

The expansionary operations of the Second Bank, coupled with its laxity toward insisting on specie payments by the state banks, caused an increase of incorporated banks, from 232 in 1816 to 338 in 1818. Some of them were chartered for the express purpose of extending credit to speculators and to provide easy credit to high-risk debtors.

Exports rose from $81 million in 1815 to a peak of $116 million in 1818 and prices rose greatly in real estate, land, farm improvement projects and slaves. General boom conditions expanded stock trading so rapidly that traders, who used to buy and sell stocks on the curbs on Wall Street for nearly a century, found it necessary to open the New York Stock Exchange in March 1817, which was the first indoor stock exchange in the country.

In July 1818, the enormous inflation of money and credit, aggravated by frauds and corruption among Second Bank's branches and state banks, put the Second Bank in real danger to sustain specie payments. In January 1819, William Jones was replaced by Langdon Cheves.

Over the next year, the Second Bank began to cut loans, to acquire specie from abroad, to enforce state banks to redeem their debts in specie and to contract credit in the South and in the West, refusing to provide uniform national currency by redeeming their notes at par.

These choices saved the Second Bank, but contributed to bring the U.S. in its first widespread economic and financial depression: the Panic of 1819[16].

[15] Catterall C. H. Ralph, 1902. *"The Second Bank of the United States"* Chicago, Illinois: University of Chicago Press

[16] The Panic of 1819 was caused also by international events. For instance, the growth of crop yields and manufacturing in Europe after the Napoleonic Wars reduced the demand for American products.

The contraction of money and credit was massive: total money supply fell from $103,5 million in 1818 to $74,2 million in only one year.
A lot of banks started to fail and some others suspended specie payments in most parts of the country: the number of incorporated banks fell from 341 in mid-1819 to 267 three years later.
Many businessmen and manufacturers went bankrupt and unsound investments made during the post war boom were liquidated. Prices in general plummeted and both imports and exports of U.S. dropped.
In 1823, Langdon Cheves withdrew his name from consideration for reelection as president of the Second Bank of U.S. and Nicholas Biddle became the new leader.
The latter had served on the Bank's board of directors and with his guidance, the Bank contributed significantly to post-recession economic stability and growth. He increased the number of notes issued by the Second Bank and restrained the expansion of other banknotes by pressing state banks to redeem them in specie.
The charter of the Second Bank of the U.S. was up for renewal in 1836, but Biddle filed for renewal earlier, in 1831, before the re-election of Andrew Jackson, who had always been a detractor of central banking.
Indeed, president Jackson, who was elected in 1828, denounced the Second Bank in his first annual message, in 1829. The Jacksonians were hard-money libertarians: they favored free enterprise and free markets, but they strongly opposed special subsidies and monopoly privileges conveyed by government to businesses or to any other group, as the Second Bank and its forerunners.
Triumphantly re-elected in 1832, President Jackson lost no time in disestablishing the Second Bank as central bank.
In 1833, he removed the public Treasury deposits from the Second Bank and placed them in several state banks, known as “pet banks”, throughout the country. The original pet banks were 7, but since the President was not interested in creating another privileged oligarchy, the number increased to 91 by the end of 1836.
In the latter year, the Second Bank of the U.S. became a private corporation under Pennsylvania law and continued to operate until 1841, when it was liquidated.

THE DECENTRALIZED BANKING SYSTEM 1837 – 1863

From 1833 to 1837, total specie in the U.S. rose from $31 million to $73 million.
The enormous increase in specie was the result of both the large influx of silver coins from Mexico and the cut in the usual export of silver to the Orient.[17]
Banks in U.S. started to issue more notes and loans due to this plenty of specie, driving up prices.
The early 1830s boom was led also by the construction of the first railway network in the country, that started from the Eastern regions to arrive to the Western ones.
The federal government took advantage from the territory expansion selling millions of acres of public land in the western regions to speculators, who re-sold the land to the settlers once the railway arrived, gaining from the price improvement of the land.
The government was hoarding a huge budget surplus, therefore in 1836 President Jackson ordered to distribute it proportionately to the states, which re-invested the money in new investments in the West. The distribution was made in notes payable in specie.

In August 1836, Andrew Jackson decided to stop the speculation in Western public lands, decreeing that public land payments would have to be made only in specie (*"Specie Circular"*).
However, banks did not have enough specie to redeem all their notes and started to go bankrupt: the Panic of 1837 began.
As the previous financial crisis, the Panic of 1837 was compounded even by external factors.
The Bank of England, worried about the inflation in Britain and the outflow of gold, tightened the money supply and raised interest rates to draw gold and fill its monetary reserves.
As a result, credit contraction restricted the American cotton export[18] trade in London, exports declined, cotton prices fell and capital started to flow to England.
The major banks in the U.S. were forced to raise interest rates as well with damaging effects.

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[17] Mexican government issued a huge amount of paper money, which drove silver coins out of the country.
The American silver export to the Orient fell because China began to reduce the import of the valuable metal to increase the opium one.

[18] The U.S. economy, especially in the Southern states, was heavily dependent on stable cotton prices.
Receipts from cotton sales provided funding some schools, balanced nation's trade deficit, fortified the U.S. dollar and procured foreign exchange earnings in British pound sterling, the world's reserve currency at that time.
The U.S. was still a predominantly agricultural economy, therefore a collapse in cotton prices caused massive reverberations.

Throughout 1837, the outflow of specie from the country was reversed due to the higher interest rates, but the money supply fell from $276 million to $232 million and people started to distrust banks.
In 1838, Britain resumed easy credit, cotton prices rose and a short-lived recovery began, but in 1839 the Panic came back.
During the boom, state governments borrowed a lot of money issuing bonds to finance public works: $26,5 million in 1830; $66,5 million in 1835; $170 million in 1839.
The fall of money supply and prices, the crisis of credit banking and the higher level of interest rates brought these state debts into jeopardy.
The Contraction of 1839 lasted four years and it was basically a debt crisis.
The Federalists and British bankers asked the federal government to bail out the states and assume their debts, but the American people spurned federal aid, because they thought that the lack of help to the states would have the effect of cutting their spending, avoiding so the imposition of tax burden to pay for bonds interests and principals.
Without federal bailout, unsound investments were liquidated soon and many banks went bankrupt.
By 1847 Mississippi, Arkansas, Michigan and Florida had repudiated all or part of their debts, while Maryland, Illinois, Indiana, Louisiana, Arkansas and Pennsylvania had defaulted from three to six years before resuming payments.

From 1830s, Jackson administration enacted also some important provisions that affected the entire monetary system of the U.S.
The Jacksonians were determined to eliminate paper money, substituting it with specie or, at the most, with paper 100% backed by gold or silver. They were eager to eliminate small-denominated banknotes, substituting gold and silver coins for them.
Therefore, on federal level, they levied a tax on small banknotes, as well as prevented the federal government from issuing small-denominated notes as well as accepting them as taxes payments.
Furthermore, with the *"Coinage Act of 1834"* they raised the dollar silver-to-gold weight ratio from its 1792 level of 15:1 to 16:1, setting the mint price for silver at a level below its international market price to attract more gold.
To stimulate the circulation of both gold and silver, the Jacksonians legalized the circulation of all foreigner silver and gold coins.
They established new branches of the U.S. mint to coin gold discovered in Georgia and North Carolina and silver discovered in New Orleans.

However, in the early 1850s, Gresham's Law was triggered by the sudden discovery of gold mines in California, Russia and Australia, which increased gold production and pushed down its price relative to silver up to 15,3:1.
The market premium of American silver dollars over gold quickly rose above the estimated cost of shipping silver coins abroad and the result was a rapid disappearance of silver from the country. Gold coins were flowing into the country, but they were too valuable to be usable for small-denominated coins, therefore millions of dollars of illegal small denominated banknotes began to flood into circulation.
Congress decided to keep the *de jure* bimetallic standard in 1853, at the same time adopting a *de facto* gold standard, debasing by 7% the new silver coins with legal tender up to $5.
At that depreciated rate, silver was not overvalued in relation to gold anymore and remained in circulation.
In 1857, Congress decided to eliminate all legal tender power of foreign coins.[19]

The Jacksonians had no intention of leaving a permanent system of pet banks, because they wanted to keep federal funds safe in case of bank runs. Therefore, after Jackson's retirement at the end of 1836, Martin Van Buren tried to establish the Independent Treasury System. As a consequence, the federal government was not going to confer any special privilege on banks, since it was meant to keep its funds purely in specie in its own Treasury vaults or its sub-treasury branches.
However, the lobbying of state banks prevented the proposal from becoming law until 1840, when the Congress passed the *"Independent Treasury Act"*.
This law lasted only one year, because the Democrats lost the elections and the Republicans repealed the act. The Democrats took back their majority in the 1844 elections and President James Polk finally signed the act in 1846.
This act held that public revenues had to be retained in the Treasury building and in its branches in various cities. The Treasury could thus manage its own funds being completely independent from the banking and the financial system of the nation.
Moreover, all payments by and to the government were to be made in either specie or treasury notes.

The Treasury operations influenced strongly the money market, since specie payments to and from the government affected the amount of hard money in circulation.

[19] Only Spanish-American silver coins remained legal tender, even if they would have had to be received quickly by government offices and reminted into American coins.

From that moment on, the Treasury would have acted as a sort of central bank, becoming one of the major forces in the U.S. money market.

When the Second Bank of the U.S. was eliminated in 1830s, a period of free banking began.

This "free" banking concept is actually unrelated to the strictly economic one, since the latter is linked to a system where entering into banking must be totally free and where the bank must be neither subsidized nor regulated. Moreover, a bank must be forced to declare insolvency and close at the first sign of failure to redeem its banknotes in specie.

Before the Civil War, free banking was very different, since the government allowed periodic general suspensions of specie payments whenever the banks over-expanded[20] and got into trouble. Allowing those suspensions, federal and state governments were forced to accept taxes payments in banknotes. Moreover, the general prohibition of interstate branch banking greatly inhibited the speed by which one bank could demand payment in specie from the others.

Furthermore, banks were subject to regulations that cast some barriers to entry in the credit market, as the ones enacted with the *"Michigan Act"*, in 1837.

On the one hand, it granted an automatic charter to any person or group that satisfied established criteria, rather than requiring an act of the Michigan legislature each time a new group petitioned to open a new bank.[21]

On the other hand, the owners of a bank had to purchase state bonds at market value and then deposit them with the state auditor[22] as collateral. The bank could then issue banknotes up to the market value of the bonds, and it was required to redeem its notes on demand in gold or silver coin.

Failure to do so would have caused the closing of the bank and the liquidation of its assets.

In addition, depositors were granted a lien on bank assets.

Basically, the banking system of the U.S. before the Civil War was linked to the government bond market: the more public debt banks purchased, the more they could create money and lend it out.

In 1838, the State of New York enacted similar legislation with the *"Free Banking Act"* and other states followed soon until 1863.

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[20] State usury laws often made credit excessively cheap for the riskiest borrowers, encouraging inflation policies and thus speculative expansion of bank lending.

[21] Before 1837, a bank charter could be obtained only by a specific legislative act.

[22] State auditors (also known as state comptrollers or state controllers) are executive officers of the American states who serve as auditors and comptrollers for state funds. It's an office created by a state Constitution.

The U.S. economy expanded rapidly during the 1850s. The acquisitions of Western territories following the Mexican War[23] and the discovery of gold in California encouraged land speculation and railroads establishment.

Public land sales increased a lot during the Crimean War (1853-1856), since such event skyrocketed the European demand for crop.

The number of banks almost doubled from 1850 to 1857, providing easy credit to their clients. New York City became more and more important, since it was the headquarters of the Stock Exchange and the financial institutions in which banks across the country deposited their reserve funds.

As the number of banks grew, settlement procedures became more complex. Banks used to settle their accounts by employing porters to travel from bank to bank to exchange notes and checks[24] for specie. The official reckoning of accounts, however, took place on Fridays, often resulting in record keeping errors and encouraging abuses.

Furthermore, for buyers, checks were a more convenient, secure and verifiable payment instrument, while they were costlier and riskier for sellers and bank intermediaries, since they were exposed to a great default risk.

Checks required authorization for final settlement, which added several costly and time-consuming steps to the clearing process, and exposed the paying bank to greater uncertainty over the timing of large withdrawals and therefore to possible liquidity shortfalls.

Thus, in 1853, the first clearing house of the U.S. was established in New York City.

It accumulated offsetting credits and debits position of each member bank and then periodically (once or twice a day) settled their net positions.

The settlement was accomplished using certificates, to avoid the daily risk and cost of moving currency and specie around.

Other Clearing Houses were established soon, causing the disappearance of the money-brokers, since the former internalized what used to be an informative securities market for banknotes, implicitly transferring arbitrage profits.

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[23] Mexican War started in 1846, with the secession of Texas from Mexico and its annexation as 28th state of U.S. It lasted until 1848, when the Treaty of Guadalupe Hidalgo put an end to the war, granting Texas, California, Nevada, Utah, some regions of Colorado, Arizona, New Mexico and Wyoming to the U.S. in exchange for about $18 million.

[24] By the mid-nineteenth century, deposit banking rapidly spread in the largest commercial centers and check transactions became the preferred payments instrument in local wholesale trade.

In August 1857, the Ohio Life Insurance and Trust Company, a major banking institution, went bankrupt due to bad investments made especially in agricultural related business, which was dropping due to the end of the Crimean War and the subsequent resumption of farm production in Europe.
New York bankers were scared of not being able to meet their financial obligations and so they shifted immediately to hard credit policies, demanding immediate payment on all mature loans and refusing to accept promissory notes from merchants and other debtors who were short on money.
Stocks plummeted and depositors began to withdraw gold from banks forcing them to quickly suspend payments in specie.
Therefore, the leaders of the New York Clearing House decided to issue loan certificates that could be used to settle accounts and were, in effect, quasi-currency, backed not by gold but by state banknotes held by member banks. Bearing the words *"Payable Through the Clearing House"*, they were the joint liability of all member banks and thus, in lieu of specie, a safer form of payment.
The collapse of credit halted the construction of buildings and railroads, while the fall in crop prices and in land speculation programs enlarged the crisis even in the Western states, causing banks and railways bankruptcies.
Consequently, the federal government acted to repair the situation by declaring a bank holiday in October 1857, in order to cut the risk of further bank failures.
President James Buchanan thought that paper-money system was the root cause of the Panic, therefore he decided to forbid the use of all banknotes denominated under twenty dollars.
He wanted the state banks to follow the Independent Treasury, of which he trusted it a lot, as he said:
"Thanks to the Independent Treasury, the government has not suspended specie payments, as it was compelled to do by the failure of the banks in 1837. It will continue to discharge its liabilities to the people in gold and silver. Its disbursements in coin pass into circulation and materially assist in restoring a sound currency."
Additionally, the government sold revenue bonds[25] and Congress enacted the *"Tariff Act"* of 1857, that reduced the average tariff to about 20% and enlarged the list of duty-free items.

In 1859, the U.S. economy was slowly recovering, but the effects lasted until the start of the Civil War.

[25] A revenue bond is a special type of municipal bond distinguished by its guarantee of repayment solely from revenues generated by a specified revenue-generating entity associated with the purpose of the bonds, rather than from a tax. At that time, revenue bonds were linked mainly to railway projects.

CIVIL WAR FINANCING AND THE NATIONAL BANKING SYSTEM

The Civil War[26] led to an explosion of federal expenditures, which skyrocketed from $66 million in 1861, to $1,3 billion in 1865.

The Treasury initially financed the war through a $150 million bond issuance, which was purchased by the main banks in the country. Part of this bond issuance was composed by non-interest-bearing Treasury Notes, called Demand Notes because they were payable upon demand and redeemable in specie.

They were used mainly as currency to pay salaries of workers and military personnel.

The feasibility to redeem the Demand Notes in specie came under pressure in December 1861.

An increasing public demand for specie due to a lack of confidence in the banking system led to a general suspension of specie payments, even for Demand Notes.

In February 1862, Congress approved the *"First Legal Tender Act"*, which authorized the printing of $150 million in a new currency: the U.S. Note, known also as greenback.

It was not backed by gold or silver but by government credibility, however it was made legal tender for all debts, public and private, except that the Treasury would continue its legal obligation of paying the interests on its outstanding public debt in specie[27].

Greenbacks were also made initially convertible at par into U.S. bonds, which remained a generally unused option and was repealed a year later.

The first issuance of greenbacks should have been an emergency one, but a second $150 million one (*"Second Legal Tender Act"*) was authorized in July and still a third $150 million one in March 1863 (*"Third Legal Tender Act"*).

Greenbacks began to depreciate in relation to specie soon, so the Secretary of the Treasury Salmon Chase tried to stop the trend intervening on gold market. He persuaded Congress to levy a stamp tax on gold sales and to forbid loans on a collateral of coin above its par value.

Then he declared that importers would have been allowed to deposit greenbacks at the Treasury and receive gold in return at a premium below the market. Importers could use that gold to pay customs duties. He supposed that that incentive could have reduced greatly the necessity for importers to buy gold on the market and therefore the depreciation of greenbacks.

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[26] The American Civil War was fought from 1861 to 1865 between the Union States and the Confederate States, as a result of a long-standing controversy over slavery and states rights. It was the first industrial war, since railways, steamships, telegraph and automatic weapons were mass-produced and largely employed.

The war caused over 600.000 deaths, more than any other war in American history.

[27] Congress provided that customs duties would have to be paid in gold or silver because it had to pay interests on bonds in specie. In this sense, the Act did not make the greenbacks an unlimited legal tender.

With the failure of this first attempt, he sold $11 million in gold to drive down the gold premium on greenbacks, but the impact was insignificant because the public knew very well that the Treasury could have not pursued this policy indefinitely.
As a matter of fact, it had to keep enough gold in its vaults to pay interests on bonds.
In May 1864, Chase sold foreign exchange in London at rates below the market to drive down pounds in relation to dollars and so to replace some of the U.S. export demand for gold in England, but even this was a failure.
When, in June 1864, Congress approved of the *"Anti-Gold Futures Act"*, that prohibited the trading of gold futures and criminalized the sale of foreign exchange more than ten days in future, the gold market went in chaos, public confidence in the greenback plummeted and its depreciation got far worse than before. By the end of the month, the bill was repealed.
Initially, greenbacks were issued in denominations of $5; $10; $20; $50; $100; $500; $1000, but in 1863 the federal government introduced also notes of $1 and $2 because the depreciation was driving out of the country even the fractional silver coins.
As a matter of fact, as soon as the Treasury had suspended specie payments, Gresham's Law had triggered and coin almost disappeared from circulation.
State banks exploited the suspension of specie payments quickly, printing more and more notes: total money supply[28] amounted to $745 million in 1860, while by the end of the war it totaled $1.8 billion.
After 1863, the U.S. government stopped to issue greenbacks and began to finance the war solely through debt and increase in taxes.
The accumulated deficit piled up during the war was $2.6 billion, of which the printing of greenbacks only financed $430 million.
Taxes revenues increased from $52 million in 1862 to $333 million in 1865.

While the Union used as sources of financing both debt and greenbacks, as well as an increase in taxes, the Confederacy financed all its expenditures printing fiat paper, the Southern version of the greenback.
Its total money supply rose from $120 in 1861 to 1.09 billion in 1865.

[28] Total money supply included gold and silver coins, state banknotes and greenbacks.

In order to bring financial stability to the country, Congress enacted the *"National Banking Acts of 1863-1864"*, which shaped a new central bank system that would last until Federal Reserve system implementation in 1913.

The first purpose of the Acts was to allow the incorporation of national banks, which were essentially the same as state banks, except they received their charter from the federal government and not from a state one.
National banks had higher capital requirements and higher reserve requirements than their state chartered counterparts. The minimum capital requirement to open a national bank was indeed set to $50.000 for rural banks and $200.000 for the larger city banks.
To improve liquidity and safety they were restricted from making real estate loans and they could not lend to any single person an amount exceeding 10% of the bank capital.
The Acts also established the Office of the Comptroller of the Currency with the responsibility of chartering, examining and supervising all national banks, held Treasury securities deposited there by national banks and, via the Bureau of Engraving and Printing, it was also responsible for printing all national banknotes, in order to guarantee standardization and avoid counterfeiting.
The second purpose of the Acts was to create a uniform national currency; therefore, all national banks were required to accept at par the banknotes of other national banks.
The third objective of the Acts was to help finance Civil War, creating a more active market for Treasury bonds and lowering the cost of borrowing for federal government.
National banks were required to have one-third of their capital invested in U.S. government bonds, depositing them at the U.S. Treasury.
The volume of notes which a national bank could issue was based on the market value of the U.S. Treasury securities the bank held. A national bank was required to keep on deposit with the Comptroller of the Currency a sizeable volume of securities. In exchange, the bank received banknotes worth 90% of the market value of the deposited bonds.
To eliminate the possibility that national banks could buy Treasury bonds just to issue more banknotes to buy even more bonds, national banks were not allowed to buy government securities with their banknotes.
The Secretary of the Treasury Chase wanted national banks to replace state banks in order to create a uniform currency and to prevent Gresham's Law from working against the newly issued national banknotes. Since state banknotes were depreciating a lot, they were dominating the currency indeed.
To reduce the proliferation of state banks and their notes, Congress imposed a 10% tax on all outstanding state banknotes with the *"National Banking Acts of 1865-1866."*

Many state banks decided to convert to national bank charters soon, because the tax burden made state banking initially unprofitable.
By 1870 there were 1638 national banks and only 325 state banks.

The National Banking System created three sets of national banks: the central reserve city ones, which were initially located only in New York, then in Chicago and in St. Louis; the reserve city ones, located in other cities with over 500.000 population and the country ones, which included all other national banks.
Central reserve city banks were required to keep 25% of their notes and deposits in reserve of "lawful money", which included gold, silver and greenbacks.
Reserve city banks had to keep one-half of their 25% required reserve in its vault, while the other half could be deposited in central reserve city banks.
Finally, country banks had to keep a minimum reserve ratio of 15% and only the 40% of that reserve had to be kept internally. The other 60% could be deposited either at reserve city banks or at central reserve city ones.
Central reserve city banks could count the deposits of reserve city and country banks as part of their reserves; likewise, reserve city banks could count the deposits of country banks as part of their own reserve requirements.
The formation of a national and hierarchical banking system centered on New York City boosted the diffusion of checks even in the long-distance wholesale trade.

The problems that led to the establishment of the clearing houses across the U.S. were further simplified by the creation of the bank draft. The latter also required clearing and settlement, but with fewer steps and significantly lower risk. It was a liability of the payer's bank, and was authorized and settled by its correspondent, typically located in a more accessible commercial-financial center. Moreover, through the sale of drafts to customers, banks could more readily manage their portfolio of clearing reserves to avoid costly liquidity shortfalls.
After 1870, the spread of checking accounts and the lax restrictions of state government fueled the growth of state banks, since they had lower reserve and capital requirements, could make more type of loans and had fewer restrictions on bank branches.
Even the post-war reconstruction, the boom of the railways and again the speculation on land projects contributed to overheat the banking system: too much capital was involved in projects that offered no immediate or early returns.
As a matter of fact, the number of national banks increased from 1294 in 1865 to 1968 in 1873; while state banks rose from 349 to 1330 in the same period.

PANICS OF THE END OF THE CENTURY AND ROAD TO THE FED

Jay Cooke & Company failed in 1873. This important bank had been the first brokerage house, pioneering the use of telegraph messages to confirm securities transactions with clients.

It had helped sell many of the bonds issued by the government during the Civil War and then it had underwritten the financing of Great Northern Railway in exchange for bonds[29], overextending itself.

In September 1873, the bank found itself unable to market several million dollars in those bonds and declare bankruptcy, setting off a chain reaction of bank failures and a temporarily closure of the NYSE.

By November, 55 railroads failed and another 60 went bankrupt by 1874. Unemployment skyrocketed.

Many banks failed, except the ones members of the New York Clearing House.

During normal times, many papers related to banks stability were published by the NY Clearing House to provide as much information as possible to investors.

However, during the panics, lending programs in the form of loan certificates backed by safe collaterals were arranged between the Clearing House and the members that were in financial distress.

These programs were kept secret to the public and the publication of all individual banks information were suspended in order to avoid bank runs.

Moreover, the Clearing House put severe restrictions on deposits convertibility into cash.

In 1877, the market for lumber crashed due to the crisis of the railway industry that sent several lumbering into bankruptcy.

The Panic of 1873 and the following economic crisis eliminated unsound banks, industries and investments. The situation began to improve only in 1879, with the beginning of great waves of immigration which lasted until 1920s.

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[29] Railway industry used to obtain liquidity in two ways: through banking loans and through issuances of bonds, that were sold both to banks and to people.

Great Northern Railway was a common project financed by Jay Cooke and other investors, which then went bankrupt too. That pool of investors provided liquidity to build the railway in exchange for bonds that should have been placed by Jay Cooke in the market.

After the Panic of 1873, a group of 17 bankers of New York City planned the first convention of the American Bankers Association.
In 1875, the ABA was founded *"to promote the general welfare and usefulness of banks and banking institutions, and to secure uniformity of action, together with the practical benefits to be derived from personal acquaintance and from the discussion of subjects of importance to the banking and commercial interests of the country, and especially in order to secure the proper consideration of questions regarding the financial and commercial usages, customs and laws which affect the banking interests of the entire country, and for protection against loss by crime."*[30]
It was first headquartered in New York City and provided professional education via examinations and certificates, as an alternative path to careers in banking to collegiate training in finance and law. It organized its activities through sections focused on peculiar bank types: trust company section was organized in 1896, followed by one for clearing houses in 1899, savings banks in 1902 and state bankers' associations in 1908[31].

Another cause of the Panic of 1873 was the demonetization of silver.
After Civil War, Congress decided the time had come to face the problem concerning the resumption of the U.S. notes.
Supporters of the greenbacks were many manufacturers who desired cheap credit as well as gold speculators who were betting on higher gold prices and railroads, which realized that inflation benefits debtors.
However, the Democrats had a far greater proportion of congressmen devoted to hard money and to resumption than the fiat-money Republicans. Therefore, they began to propose resolutions to withdraw greenbacks and to restore the resumption of notes in specie.
Until that time, the price of silver used to be so high that a very small amount used to be presented at the U.S. Mint in exchange for coins. However, the discovery of new silver mines in Nevada as well as the decision of the German Empire and other European countries to cease minting silver coins, deciding to use currency backed only by gold, drove down the price of silver.

[30] Initial Constitution of the ABA.

[31] Nowadays, the ABA is headquartered in Washington D.C. and represents banks of all sizes and charters, including community banks, regional and money center banks, savings associations, mutual savings banks and trust companies. ABA principal activities include: lobbying, professional development for member institution, maintenance of best practices and industry standards, consumer education and distribution of products and services.
It is considered the largest financial trade group in the U.S.

If Gresham's Law had been triggered again, gold would have flowed out of the country and the resumption of the greenbacks would have become very complicated.

Therefore, Congress decided to prevent the worst-case scenario with the *"Coinage Act of 1873"*[32], moving the U.S. towards a gold standard. The government was not going to buy silver at a statutory price any longer and converted the silver acquired from people into silver coins.
It eliminated the two-cent piece, three-cent silver and half dime, which were still very used in Far West regions and authorized the U.S. Mint to create trade dollars, which were silver coins up to 5 dollars that had to be used only in trade with Far East only, especially with China.
The Act had the immediate effect of depressing silver prices, hurting Western mining interests and investments, but it mostly reduced the money supply, raising interest rates, hurting farmers and anyone else who normally carried heavy debt bargains, as railway industries.
The money supply declined also because of the restricting monetary policy adopted by the Ulysses Grant administration, that had raised interest rates even more and had begun to repay the public debt contracted during the Civil War.

In 1875, the *"Resumption Act"* was enacted. The Secretary of Treasure was required to redeem greenbacks in specie on demand starting from 1st January 1879. The act allowed the Secretary to acquire gold reserves using federal surplus or emissions of government bonds; abolished fees on coining gold and substituted silver for any still existing fractional currency.
Moreover, it set no limits on the quantity of the new national banknotes that could be issued, even though greenbacks had to be retired in a proportion of 80% of the new national banknotes issued.
The agitation for silver grew year by year, since the *"Coinage Act of 1873"* was considered the main cause of a contraction of the economy in 1873.
In 1878, the *"Bland-Allison Act"* was enacted as a result of the lobbying of "silver defenders."
It required the U.S. Treasury to buy from $2 million to $4 million of silver per month, putting it into circulation as silver dollars.

Money supply started growing in 1879 at a rate of about 6% per year until 1897 even due to the boom of the American economy.
After specie resumption in 1879, gold premium to greenbacks fell to par and the appreciating currency promoted confidence in gold-backed dollar. More foreigners were willing to hold dollars, resulting in an inflow of gold into the U.S. and in greater American exports.

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[32] The Act reformed also the organization of the U.S. Mint, that was moved from Philadelphia to Washington.

Banks began to increase deposits, from $2,15 billion in 1879 to $2,8 billion in 1882.
Another financial panic in 1884, coming during a mild contraction of the economy after 1882, lowered the money supply again.
This situation was triggered by the failure of the Marine National Bank of New York City[33], even if it was caused by an overflow of gold abroad too, since foreigners began to lose confidence in the willingness of the U.S. to remain on the gold standard.
This loss of confidence resulted from the *"Bland-Allison Act"*, since the shift in treasury balances from gold to silver struck a disquieting note in foreign financial circles.
Despite this contraction, American economy grew steadily in the 1879-1889 decade.
Inflation decreased year by year, soaring real wages, while long-term bond yields declined due to the National Banking System framework, entering the 3% long-term rate which characterized the economic giants of that years, like Great Britain.
The number of farms increased, business rose and new technological discoveries boosted their productivity[34].

In 1890, the agitation for silver returned. Farmers had immense debts that could not be paid off because of the deflation caused by the overproduction during the boom of the 1880s, while mining companies had extracted vast quantities of silver, driving down its price below the point at which it could be profitably extracted.
Their renewed wave of lobbying resulted in the *"Sherman Silver Purchase Act"* of 1890, which doubled the amount of silver the federal government was forced to purchase.
This act required the Treasury to buy silver using special emissions of Treasury notes that could be redeemed either in gold or silver.
Gresham's Law took over another time: the artificially overvalued silver drove the artificially undervalued gold out of circulation[35]. Foreigners lost confidence in the U.S. gold standard, causing a drop in capital imports and severe gold outflows from the country.
The outflow of gold thus reduced the potential economic growth during the early 1890s.
Banks began to insert clauses in loans and mortgages requiring payment only in gold coins.

[33] The bankruptcy was caused by the failure of risky investments in real estate financed mainly through indebtedness, which was almost wholly unsecured.

[34] In 1880, there were about 4000 farms. In 1890, they were over 4600.

[35] People began to exchange gold for silver, even sending it abroad, bringing silver to the Mint to obtain silver coins.

Gold exports intensified in 1892 and Treasury's gold reserve declined. In 1893, the Secretary of the Treasury persuaded the New York banks, which had drawn down $6 million on gold from the Treasury by presenting bonds for redemption, to return the gold and reacquire the paper.
In 1893, this monetary crisis, together with another crisis in railroad business, caused another financial panic.
When economy worsened, people rushed quickly to withdraw their money from their accounts causing many banks failures.
At the end of 1893, Grover Cleveland repealed the *"Sherman Silver Purchase Act"* and allowed the Treasury to buy gold from a syndicate of bankers headed by J. P. Morgan and August Belmont, restoring confidence in the gold standard.
Even if the administration mitigated the monetary crisis, the economic depression lasted until 1897: in total over 15,000 companies and 500 banks failed.

After the Panic of 1893, national banks, especially the central reserve city ones, were becoming increasingly unhappy with the National Banking System.
Centralization was only limited and there was no governmental central bank to coordinate inflation and to act as lender of last resort.
Basically, the national banking system did not provide an elastic money supply: banks were not able to expand money and credit as much as they wished, particularly in times of recession, when country banks responded to liquidity crises withdrawing their reserves, endangering the liquidity of also reserve city banks and central reserve city ones.

At the time, the economy of the U.S. was dominated by two main financial aggregations.
The first was the Morgan group, who began their activities by investment banking, then they expanded into commercial banking, railroads and mergers of manufacturing firms
The second was the Rockefeller group, who began their activities by oil refining and then moved into commercial banking, investment banking and even railroads thanks to an alliance with Kuhn, Loeb & Company, another important investment bank.
Even if they were competitors, they were eager to push and collaborate to obtain a banking reform.
As soon as William McKinley was elected[36], Morgan-Rockefeller forces began to organize a reform movement which focused in the Middle-West, to avoid the public suspicion of Wall Street centralization, and included both bankers, businessmen, economists and other academics as well.

[36] Morgan group supported McKinley for the presidential run.

In 1897, a convention was organized in Indianapolis. Representatives from 26 states and the District of Columbia were present.
The Indianapolis Monetary Convention resolved to urge President McKinley to continue the gold standard and to appoint a new monetary commission with the task to prepare legislation for a new revised monetary system.
The bill for a national monetary commission passed the House of Representatives but died in the Senate, thus the executive committee of the Morgan-Rockefeller movement decided to go ahead and select its own commission.
$50.000 were raised throughout the nation's banking and corporate community to finance the work of the Indianapolis Monetary Commission, that rented office space in Washington D.C. and set the staff for sending out and collating the replies to a detailed monetary questionnaire, which would have been sent to several hundred selected experts.
At the end of 1897, the Commission published a preliminary report in which they recommended to codify and enact a single gold standard, with silver reduced to the status of subsidiary token currency, as well as a structural banking reform that allowed greater elasticity of the money supply. Thus, bank credit could have been increased in recessions and whenever seasonal pressure for redemption by agricultural country banks had forced other national banks to contract their loans.
After the publication of the report, a second monetary convention was organized in Indianapolis. The second Indianapolis Monetary Convention was wider than the first one, since not only representatives of 31 states were present, but also top corporate leaders, as well as important economists.
The purpose of this latter convention was to mobilize the nation's leading businessmen into a mighty and influential reform movement.
At the beginning of 1898 a second, final report was published and distributed. Not only did it come out in favour of a broadened asset base to link the emission of banknotes, it also called explicitly for a central bank with the monopoly of such emission.
Meanwhile, the lobbying team of the monetary commission was extremely active.
It sponsored several bills which were vainly presented to Congress by the Secretary of Treasure Lyman Gage, who was a strong supporter of the reforming movement.

The first result of the monetary commission was achieved in 1900, when the *"Gold Standard Act"* was enacted after a huge mobilization of the national gold forces.
It established gold as the only standard for redeeming paper money, with no retention of silver money except as tokens.
This was only the first step on the path to a fundamental banking reform.

The American Bankers Association presented in 1902 the *"Fowler Bill"*, which contained three basic clauses. The first allowed the further expansion of national banknotes based on broader assets than government bonds. The second permitted national banks to establish branches at home and abroad, an illegal step under the existing system due to the opposition by the small country bankers. The third proposal was meant to create a three-member board of control within the Treasury Department to supervise the creation of new banknotes, as well as to establish clearinghouse associations under its aegis.
The bill was defeated in Congress due to the opposition of the multitude of country bankers, since they wanted to avoid the competition of bigger banks in the form of branch banking.
Therefore, bigger bankers decided to settle more modest goals, submitting the *"Aldrich Bill"*, which allowed the large national banks located in New York to issue emergency currency based on municipal and railroads bonds. However, even this bill did not pass.

After this, they decided to turn temporarily to the executive branch. In 1903, they convinced the Secretary of the Treasure Leslie Shaw to try to make the Treasury work like a central bank, particularly in making open market purchases in case of recessions and in using the Treasury deposits to bolster banks, expanding the money supply.
Basically, Shaw violated the statutory institution of the Independent Treasury System, which had tried to confine government revenues and expenditures to its own coffers.
He expanded the practice of depositing Treasury funds in big national banks, lowering interest rates and leading so to an artificial expansion of credit.
Even banking reformers denounced Shaw's actions, as the economist Alexander Purves said:
"The uncertainty as to the Secretary's power to control the banks by arbitrary decisions and orders, and the fact that at some future time the country may be unfortunate in its chief Treasury official led many to doubt the wisdom."
The defeat of the *"Fowler Bill"* in 1902, coupled with the failure of Shaw's attempts of 1903–1905 to use the Treasury as a central bank, led the big bankers and their economist allies to adopt a new solution: the imposition of a central bank in the United States.

Bank reformers established a new restricted commission of five members[37] and issued a new report that was presented to the New York Chamber of Commerce in 1906.
It proposed again a central bank establishment under the control of the government and denounced the Treasury for overinflating by keeping interest rates excessively low, arguing that a central bank would have much larger capital and undisputed control over the money market. It would be able to manipulate more efficiently the discount rate, keeping the whole economy under proper control.
In the meantime, short of establishing a central bank, the committee asked that national banks could issue notes using general assets as well as government bonds as collaterals.
In 1906, the committee, together with the ABA, presented the proposal to the public, the press and Congress, but just as the sentiment for a broader asset currency became prominent, the bank reformers began to worry about an uncontrolled adoption of such a currency. National banks credit and notes were going to be expanded and, in the existing system, small state banks were going to be able to pyramid and inflate credit on top of the national credit, using the expanded national banknotes as their reserves. The reformers wanted a credit inflation controlled by and confined to the largest national banks, not an uncontrolled state bank inflation that would have siphoned resources to small entrepreneurs and speculative marginal producers. The problem was aggravated by the accelerating rate of increase in number of small Southern and Western state banks after 1900.
By the summer of 1907, a decline in influential banker support for broadening asset currency focalized the attention and the efforts of the reformers only toward a central bank project.

A severe financial crisis, the Panic of 1907, struck in early October.
The Panic of 1907 was provoked mainly by three events.
The American money supply was put under pressure by both the reconstruction aids to San Francisco, after an earthquake hit the city in April 1906, and the Bank of England's rising of interest rates.
The *"Hepburn Act"*, which set maximum railroad rates, had become law by July 1906 and resulted in the depreciation of many railroad securities.
These events had depressed the NYSE of about 18% between September 1906 and March 1907.

[37] This commission was composed by: Frank Vanderlip, a Rockefeller's man; Jacob Schiff, head of the Kuhn, Loeb & Company; J. P. Morgan; George Baker of the First National Bank of New York, a Morgan's closest associate; the former Secretary of Treasure Lyman Gage.

The Panic was triggered by the failed attempt in October 1907 to corner the market on stock of the United Copper Company. When this bid failed, the banks that had lent money to the cornering scheme suffered runs that later spread to affiliated banks and trusts, leading, a week later, to the downfall of the Knickerbocker Trust Company, the third largest financial institution in New York. The central role of New York City trust companies distinguishes the Panic of 1907 from earlier panics. Trust companies were state-chartered intermediaries that competed with banks for deposits. However, trusts were not a central part of the payments system and had a low volume of check clearing compared to banks. As a result, they held a low percentage of cash reserves relative to deposits but, since trust-company deposit accounts were demandable in cash, trusts were just as susceptible to runs on deposits as banks.

Despite their minor role in the payments system, trusts were large companies and were extremely important for the financial system framework. As a matter of fact, trust companies loaned large sums directly in New York equity markets without requiring any collateral for these loans, which had to be repaid by the end of the business day. Brokers used that "fresh cash" to purchase securities for themselves or their clients and then used these securities as collaterals for a call loan[38] from a nationally chartered bank.

The proceeds of the call loan were then used to pay back the initial loan made by the trust companies.

Trusts were a necessary part of this process, because the law prohibited nationally chartered commercial banks from making uncollateralized loans or guaranteeing the payment of checks written by brokers on accounts without sufficient funds.

The extra liquidity provided by trusts supported the daily transactions on the NYSE floor.

Runs on trust company deposits, however, short-circuited their role as the initial liquidity provider to the stock market.

The federal government suspended specie payments soon.

The Treasury Department intervened with a $25 million deposit in New York banks and J. P. Morgan organized a pool of $10 million, but the efforts were insufficient to stop the panic. Public confidence needed to be restored somehow, since Morgan, the other banks and even the U.S. Treasury were low on funds.

Bankers talked to the press to persuade people that the worst was behind and, on October 26th, the New York Clearing House issued $100 million in loan certificates to be traded among banks to settle balances, while allowing them to retain cash reserves for depositors.

[38] An overnight loan that facilitate stock purchases.

These actions led to a return of stability in Wall Street, although specie payments did not fully resume until January 1908, after considerable imports of gold.

In November, a new set of crises emerged and J.P. Morgan played a critical role in each of them once again. By purchasing $30 million of bonds, Morgan precluded New York City from declaring bankruptcy[39], while by organizing a $25 million loan to the Trust Company of America and other weak financial institutions, he stopped another potential bank run, thus preventing another stock market crash.

By the end of the year, the Panic of 1907 had ended.

After the panic, bankers and businessmen's opinions consolidated stronger on behalf of a central bank: an institution that could have regulated the economy and served as a lender of last resort. During January 1908, the legislative lead in banking reform was taken by Senator Nelson Aldrich, who introduced the *"Aldrich Bill"* again, which focused on whether and on what basis the national banks could have issued special emergency currency.

A compromise was reached and the *"Aldrich-Vreeland Act"* was finally enacted.

This act allowed national banks to assemble national currency associations in groups of ten or more, with at least $5 million in total capital, in order to issue emergency currency. These banknotes were backed by government bonds, as well as any security banks held. The emergency currency had to go through a process of approval by the officers of the national currency associations and then distributed by the Comptroller of the Currency. A 5% tax on this emergency currency was placed for the first month it was outstanding, as well as a 1% percent increase for the following months.

The Act, then, established the National Monetary Commission, whose task was to investigate the currency question, suggesting proposals for a comprehensive banking reform.

The official members were made of an equal number of senators and representatives, but the real work was done by the staff appointed and directed by Aldrich, who determined that the Commission had to be run as an alliance of Rockefeller, Morgan, and Kuhn people.

The National Monetary Commission spent much time in Europe conferring on information and strategy with the heads of large European banks and central banks.

The Commission issued 30 reports from 1909 to 1912 that examined topics as U.S. financial laws; U.S. state banking statutes; Canadian banking history and the banking and currency systems of England, France, Germany and other European nations.

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[39] Since New York City was in financial distress, it tried to raise money through a standard bond emission. However, it failed to gather enough financing and risked to go bankrupt.

The academic organizations were particularly helpful to the Commission, since they lent expertise to the endeavor, while on September 22th 1909, Wall Street Journal took the lead beginning a front-page series on *"A Central Bank of Issue"*, which helped to widespread interest and discussion among a banking reform.
At the end of 1910, the theoretical and scholarly groundwork was laid thanks to the numerous research volumes and reports spread in the market. It was time to formulate a concrete plan.
In November 1910, a huge monetary conference was held, in conjunction with the New York Chamber of Commerce and the Merchants' Association of New York. Economists, monetary analysts and representatives of the top banks in U.S. took part too.
The formal sessions of the conference were organized around papers and related discussions. When the New York Monetary Conference ended, it was time for Aldrich and few other top leader of the financial elite[40] to draft the central bank bill.
Aldrich presented the plan to the full National Monetary Commission in January 1911. In the same year, even the National Board of Trade, the New York Chamber of Commerce, the Merchants' Association of New York, the American Bankers Association and the New York Produce Exchange[41] gave their endorsement to the banking reform.
The Aldrich Plan was introduced to Senate in January 1912, but died quite quickly due to the change of the political control of Congress, which became Democratic after the elections in 1912. However, the reformers dropped the Republican name of Aldrich, asking their senator Carter Glass to make some adjustments to turn the bill into a Democratic measure.
Finally, the *"Federal Reserve Act"* was signed by President Woodrow Wilson in December 1913.

It created a system of private and public entities. It also established twelve private regional Federal Reserve banks[42], each with its branches, board of director and district boundaries. The Federal Reserve Board, consisting of seven members, was created as the governing body of the FED. Each member had to be appointed by the President of the U.S. and confirmed by the Senate.

[40] The small work-group was composed by two Rockefeller men (Aldrich and Vanderlip), two Morgans (Davison and Norton), one Kuhn person (Warburg) and one economist friendly to both camps (Andrew).

[41] The New York Produce Exchange was founded in 1861 and served a network of produce and commodities dealers across the U.S. In the 1880s it had the largest membership of any stock exchange in the country.

[42] Boston; New York; Philadelphia; Cleveland; Richmond; Atlanta; Chicago; St. Louis; Minneapolis; Kansas City; Dallas and San Francisco.

The act created a new currency: the Federal Reserve Note, which could be issued by the Federal Reserve Banks at the discretion of the Federal Reserve Board. These notes are the banknotes currently used in the U.S. They are legal tender *"for all debts, public and private"* and they are backed by the assets of the Federal Reserve Banks, which serve as collateral[43]. Besides the Federal Reserve Note, the Act did not forbid the issuance of Federal Reserve Bank Notes, which differed from the former in that they were backed by only one of the twelve Federal Reserve Banks. They were backed using U.S. bonds, but they could not be issued by other national chartered banks. These notes are no longer issued, since the only U.S. banknotes still in production since 1971 have been the Federal Reserve Notes.
The Act also provided many other functions and financial services for the economy, such as check clearing and collection for all member of the FED, with the goal of creating a national monetary system and financial stability. Basically, it established a huge American clearing house. As soon as it enacted the *"Federal Reserve Act"*, Congress required that all nationally chartered banks became members of the FED. These banks were required to purchase specified non-transferable stock and to set aside an amount of non-interest-bearing reserves in their regional Federal Reserve banks.

About 200 amendments were approved during the subsequent years. The most important changes were enacted in 1933 by President Franklin Delano Roosevelt, who extended the charter of the FED, which had been originally granted for twenty years, and established the Federal Open Market Committee, which consists of the Federal Reserve Board and five representatives from the Federal Reserve Banks with the power to direct all the open-market operations.

[43] These assets are generally Treasury Securities which are purchased by the FED to modify the money supply through open market operations.

CHAPTER TWO

THE ROLE OF THE U.S. SUPREME COURT

The Supreme Court of the U.S. has always played a critical role in U.S. history, especially in the early decades, when some constitutional principles needed to be interpreted for the first time. The Supreme Court can deeply affect all American institutions through its landmark decisions, since they establish a significant new legal principle or concept that change the interpretation of existing law. Such decisions may settle the law distinguishing a new principle that refines a prior one, or establishing a measurable standard that can be applied by courts in future decisions.

The Supreme Court of each state of the federation may make such decisions too, particularly if the U.S. Supreme Court chooses not to review the case or if it adopts the holding of the lower court. Although many cases from state Supreme Courts are significant in developing the law of that state, only a few are so revolutionary that they announce standards that many other state courts choose to follow.

The establishment of a central bank in the U.S. caused a grave constitutional argument soon. When the federal government chartered the First Bank of the U.S., the *"Jeffersonians"*[44] argued that the Constitution did not give the federal government the power to establish such a bank. Hamilton defended its constitutionality using the *"Necessary and Proper Clause"*[45], that is a provision located at section 8, clause 18, in the Article One of the American Constitution: *"The Congress shall have Power ... To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government of the United States, or in any Department or Officer thereof."* Hamilton thought that the bank was a reasonable means of carrying out powers related to taxation and funds borrowing, claiming that the clause had to be applied to activities reasonably related to several constitutional powers, not just to those that were strictly necessary to carry out expressed powers.

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[44] The *"Jeffersonians"* were the militants of the Democratic-Republican Party, which used to fight strongly the economic decisions taken by the *"Hamiltonians"*, that were the militants of the Federalist Party.
The *"Jeffersonians"* came to power in 1801, with the election of Thomas Jefferson in the 1800 presidential election.

[45] The draft of this clause provoked controversy during discussions of the proposed Constitution.
While *"Jeffersonians"* and other Anti-Federalists expressed concern that the clause would have granted the federal government boundless power, *"Hamiltonians"* and other Federalists argued that the clause would only have permitted execution of power already granted by the Constitution.

Despite the *"Jeffersonians"* hostility to central banking, the Democratic-Republicans, under the control of quasi-Federalist moderates rather than militant Old Republicans, made no move to repeal the charter of the First Bank of the U.S. before its expiration in 1811. The Hamiltonian interpretation of the *"Necessary and Proper Clause"* won out officially in the decision taken by the Supreme Court of the U.S. in *"McCulloch vs. Maryland."*

This landmark decision was taken in 1819, following the attempt by the State of Maryland to impede operation of a branch of the Second Bank of the U.S., imposing a tax on all notes issued by banks not chartered in Maryland. As a matter of fact, state banks in Maryland didn't want to face the competition of the Second Bank of the U.S. branch, thus they put pressure on state government early on.

On February 1818, the General Assembly of Maryland passed the act, which provided: *"Be it enacted by the General Assembly of Maryland that if any bank has established or shall, without authority from the State first had and obtained establish any branch, office of discount and deposit, or office of pay and receipt in any part of this State, it shall not be lawful for the said branch, office of discount and deposit, or office of pay and receipt to issue notes, in any manner, of any other denomination than five, ten, twenty, fifty, one hundred, five hundred and one thousand dollars, and no note shall be issued except upon stamped paper of the following denominations; that is to say, every five dollar note shall be upon a stamp of ten cents; every ten dollar note, upon a stamp of twenty cents; every twenty dollar note, upon a stamp of thirty cents; every fifty dollar note, upon a stamp of fifty cents; every one hundred dollar note, upon a stamp of one dollar; every five hundred dollar note, upon a stamp of ten dollars; and every thousand dollar note, upon a stamp of twenty dollars; which paper shall be furnished by the Treasurer of the Western Shore, under the direction of the Governor and Council, to be paid for upon delivery; provided always that any institution of the above description may relieve itself from the operation of the provisions aforesaid by paying annually, in advance, to the Treasurer of the Western Shore, for the use of State, the sum of $15,000.*

And be it enacted that the President, cashier, each of the directors and officers of every institution established or to be established as aforesaid, offending against the provisions aforesaid shall forfeit a sum of $500 for each and every offence, and every person having any agency in circulating any note aforesaid, not stamped as aforesaid directed, shall forfeit a sum not exceeding $100, every penalty aforesaid to be recovered by indictment or action of debt in the county court of the county where the offence shall be committed, one-half to the informer and the other half to the use of the State..."

James McCulloch, head of the Baltimore Branch of the Second Bank of the U.S., refused to pay the tax and Maryland sued him. The state of Maryland argued that the Constitution did not explicitly give the federal government the authority to charter a bank, since this power was reserved only for the states. As a result, the Second Bank of the U.S. was deemed to be unconstitutional.

The Maryland Court of Appeals upheld the state's position and the case was appealed to the U.S. Supreme Court, who wondered whether Congress had the power under the Constitution to incorporate a bank even though that power is not explicitly granted in the Constitution;

Additionally, it wondered whether the State of Maryland, or any other one, have the power to tax an institution created by Congress as a result of congressional powers established by the Constitution.

The Court unanimously determined that Congress did have the power to create the Bank.

Chief Justice John Marshall supported this conclusion with four main arguments:

1. He argued that historical practice gave Congress power to create the Bank, since Congress had enacted the First Bank of the U.S. after great debate and it had been approved by a clever executive with very convincing arguments;

2. He held that the sovereignty of the Union lay with the people of the U.S., not with the individual states that comprised it. He saw the U.S. as a nation of *"constitutional sovereignty"* with its authority resting exclusively with the people who created and were governed by the Constitution. *"The government of the Union is a government of the people; it emanates from them; its powers are granted by them and are to be exercised directly on them, and for their benefit."* Maryland tax violated constitutional sovereignty because it acted as a levy against all people in the U.S. by a state accountable to only some of the people.

Stating that *"the power to tax involves the power to destroy*", Chief Justice Marshall said that the states *"have no power, by taxation or otherwise, to retard, impede or control the laws of the federal government."*

3. He admitted that the Constitution did not explicitly enumerate the power to create a central bank, but he said that this is not dispositive as to Congress power to establish such an institution. *"In considering this question, then, we must never forget, that it is a Constitution we are expounding."*

4. In liberally interpreting the *"Necessary and Proper Clause"*, the Court rejected Maryland's narrow interpretation of the clause. According to the Court, the word *"Necessary"* in the clause did not refer to the only way of doing something, but rather applied to various procedures for implementing all constitutionally enumerated powers.
Basically, the Court argued that Congress possessed implied un-enumerated powers not explicitly outlined in the Constitution; therefore, the Second Bank of the U.S. was appropriately related to the enumerated powers to tax and to spend, to borrow and coin money as well as to regulate interstate commerce.
"McCulloch vs. Maryland" remains today a fundamental and binding cornerstone of American constitutional law, as the court expanded Congress powers to include those implied by the Constitution, established the inferior status of the states in relation to the Union and set the constitutional sovereignty of the federal government.

After the end of the Civil War, the question of the constitutionality of legal tender of the greenbacks came before the courts of several states. In the large number of state court decisions before 1870, every Republican[46] judge upheld their constitutionality, whereas every Democratic[47] judge declared them unconstitutional. The greenback question reached the Supreme Court of the U.S. in 1867 and was decided in 1870, in the case of *"Hepburn vs. Griswold."*
The lawsuit originated when Mrs. Hepburn attempted to pay a debt to Henry Griswold. The debt had been made prior to the issuance of the greenbacks that the case questioned.
When Hepburn tried to pay the debt, she tendered to Griswold the amount in greenbacks, which had depreciated a lot in terms of specie, but they had been made legal tender by the *"Legal Tender Act."*
Griswold sued Hepburn, refusing Hepburn's tender of U.S. notes to satisfy his claim.
The case reached the Supreme Court of the U.S., that stated that while the federal government was authorized to coin money and emit bills of credit backed by specie, that power was distinct from the power to make paper legal tender, which was not authorized under the Constitution.
The court found out that the treatment of notes as legal tender represented an impairment to enforcing the obligations of contracts, which therefore violate the spirit of the Constitution.

[46] The Republican Party was founded in 1854 by anti-slavery activists, economy modernizers and other two minor parties, the Whigs and the Free Soilers. The Republicans dominated politics nationally and in the majority of the northern states for most of the period between 1860 and 1932.

[47] The Democratic Party is the oldest political party of the world. It was founded in 1828 by some supporters of Andrew Jackson. It was initially a conservative party, which used to back up slavery and then racial segregation.

The decision held by a vote of 5-3 and followed the California Supreme Court one in 1862, whose judges ruled that greenbacks could not be accepted in state or county taxes, since the state constitution prohibited any acceptance of paper money for taxes.
The state of Oregon followed California's lead immediately, since Oregon's Constitution had also outlawed banks of issue paper money not entirely backed by specie. In 1862, the Oregon Supreme Court ruled that greenbacks could not be received in payment of taxes.
The Grant administration was very upset by *"Hepburn vs. Griswold"*, as well as the railroads, that had accumulated heavy long-term debts, which had to be paid in more valuable gold. However, there were two vacancies in the Court, one of which was created by the retirement of one of the judges who had been favorable to the unconstitutionality of the *"Legal Tender Act."* President Grant appointed two Republican judges and the new Court reconsidered the question, reversing the previous judgement in 1871, when another debt repayment case reached the Court.
"Knox vs. Lee" was an important legal tender case, since the Supreme Court of the U.S. overruled *"Hepburn vs. Grinswold"*, holding that making paper money legal tender through the *"Legal Tender Act"* did not conflict with the Constitution.
Thus, the Court asserted that the *"Legal Tender Act"* had represented a justifiable use of federal power at a time of national emergency, as the Civil War was.

"McCulloch vs. Maryland" and *"Knox vs. Lee"* were the most significant cases concerning the monetary policy of the U.S.A.
Federal government was therefore allowed to establish a central bank or, as the *"National Banking Act"* provided, to charter national banks.
Moreover, the federal government was legally allowed to make notes legal tender from then on in case of emergency, as during financial panics.

THE SUFFOLK SYSTEM: A "FREE MARKET CENTRAL BANK"

During the free banking age, tons of different banknotes circulated in the American largest financial centers, like Boston. Focusing on Boston area, some notes were issued by Boston banks which were aware of being solvent, while others were issued by other state-chartered banks. The latter could be quite far away. Such distance impeded both general knowledge about their solvency as well as easy access in bringing the banknotes in for redemption.
Since these country banknotes were initially accepted in Boston at par value, some faraway banks began to issue notes which were not backed by specie.
Country banknotes began to be traded at discounts to par until city banks finally refused to accept country banknotes altogether.
This gave rise to the birth of money brokers, but it also caused a big issue for Boston merchants. As a matter of fact, they were supposed to accept country banknotes with uncertain real value. When they exchanged the notes with the brokers, they ended up assuming the full cost of discounting the bills they had accepted at par.
In 1814, the New England Bank of Boston announced it would have gone into the money broker business, accepting country notes from holders and turning them over to the issuing bank for redemption. However, the holders still would have had to pay the cost of the operation. In 1818, a group of merchants founded the Suffolk Bank to do the same thing. The enlarged competition brought the rate of discount of country-notes down up to bare one half percent in 1820, but country banks did not begin to behave more responsibly in their notes creation. By the end of 1820, the business became so unprofitable that both banks stopped competing with the private money brokers.

During the next several years, city banknotes represented an even smaller part of the total New England money supply. Country banks issued far more notes in proportion to their capital than were the Boston banks.
Since they were concerned about a forthcoming huge depreciation wave, both the Suffolk Bank and the New England Bank began to purchase country notes again in 1824. This time they did so not to make a profit on redemption, but to reduce the number of country notes in circulation in Boston.
They were certain that this action would have increased the use of their notes, boosting so their own loans and profits.

However, the more they purchased country notes, the more notes of even worse quality replaced them. Buying the latter involved more risk, so the Suffolk Bank proposed to six other city banks a joint fund to purchase and send these notes back to the issuing bank for redemption. The seven banks, known as the Associated Banks, raised $300,000 for this purpose. The operations began in March 1824, when the Suffolk Bank began acting as agent, buying country notes from the other six banks. The volume of country notes bought increased to $2 million per month until 1825.

By then, the Suffolk Bank felt strong enough to go it alone. Furthermore, it now had the leverage to pressure country banks into depositing gold and silver in order to become member of the so-called "Suffolk system" and thus to make note redemption easier.

By 1838, quite all New England's banks had redeemed their notes through the Suffolk Bank.

Each country bank had to maintain a permanent deposit of specie of at least $ 2,000, plus enough specie to redeem all its notes that the Suffolk Bank received, while city banks only had to deposit a fixed amount, which decreased to $5,000 by 1835. These gold and silver deposits did not need to be deposited necessarily in the Suffolk Bank, as long as they were at some place convenient to Suffolk, so that the notes would not have had to be sent home for redemption. Basically, nearly all reserves were deposited at the Suffolk Bank.

No interest was paid on any of these deposits, but in exchange the Suffolk Bank agreed to accept at par all the notes it would have received from banks, crediting the depositor banks accounts on the following day.

The Suffolk Bank, therefore, started acting as the first de-facto clearing house in the U.S., accepting, sorting and crediting banknotes. As a consequence, it was now possible for any New England bank to accept notes of any other bank, even if it was far away, at face value. The discipline enacted by the Suffolk Bank virtually made all banknotes in New England equal to their face value, thus creating a uniform currency.

Before the appearance of a uniform currency, not only did the large amount of different banknotes cause confusion on their value, but it also led many criminals to counterfeit banknotes creating an ever-present risk of accepting banknotes that was not worth what they claimed. After the system became in place, the role of counterfeiting in the New England area fell dramatically.

The practices of the Suffolk Bank led the New England area to succeed much better than the rest of the country even during bank panics.

These practices included lending reserves to other banks and keeping the payment system operating, as the New York Clearing House also would have done from the 1850s.

In the Panic of 1837, for instance, none of the Connecticut banks failed, nor did they suspended specie payments and, when in 1857 specie payment was suspended in Maine, all but three banks remained in business.

The biggest, most powerful weapon the Suffolk Bank owned to keep stability was the power to grant membership into the system. It accepted only banks whose notes were sound. While the Suffolk Bank could not prevent a bad bank from inflating, denying it membership ensured that its notes would not have enjoyed wide circulation.

Furthermore, the member banks that were mismanaged could be excluded from the list of Suffolk-approved New England banks in good standing. This could cause an offending bank notes to trade at a discount at once, even though the bank itself might still redeem its notes in specie.

The Suffolk Bank exercised a stabilizing influence on New England economy even controlling the use of overdrafts in the system.

If a member bank needed money, it could apply for an overdraft, that is, a portion of the excess reserves in the banking system. If the Suffolk Bank decided that a member bank's loan policy was not conservative enough, it could refuse to sanction that bank application to borrow reserves at the Suffolk Bank. The denial of overdrafts to wasteful banks forced those banks to keep their assets more liquid.

The Suffolk Bank could earn huge extra interest income profit by issuing overdrafts irresponsibly. However, if a member bank failed, the Suffolk Bank would be stuck with losses on its banknotes held on its balance sheet, as well as any overdraft granted to that bank. The losses would be borne by the Suffolk Bank alone, not mutually by all members as in a mutual guarantee system. Potential losses could have been quite substantial, so the Suffolk Bank used to maintain a conservative lending policy year after year.

In any case, the Suffolk Bank earned a lot loaning out the reserve deposits which Suffolk itself did not pay interest on. At its peak, in 1858, this income amounted to more than $1 million.

Not surprisingly, Suffolk stocks used to be the highest priced bank stocks in Boston and, by 1850, regular dividends used to be about 10%.

The Suffolk system was also able to provide notes redemption much more cheaply than the U.S. government would have done during the National Banking system.

Indeed, John Kay Knox, U.S. comptroller of the currency from 1872 to 1884, stated: *"In 1857 the redemption of notes by the Suffolk Bank was almost $400 million as against $140 million in 1875, the highest amount ever reported under the National Banking system. The redemptions in 1898 were only $66 million, at a cost of $1.30 per thousand.*

The cost of redemption under the Suffolk system was $0.10 per thousand, which does not appear to include transportation.
If this item is deducted from the cost of redeeming National banknotes, it would reduce it to about $0.95. This difference is accounted for by the relatively small amount of redemptions by the Treasury, the increased expense incident to the necessity of official checks by the Government and by the higher salaries paid.
However, allowing these differences, the fact is established that private enterprise could be entrusted with the work of redeeming the circulating notes of the banks, and it could thus be done as safely and much more economically than the same service can be performed by the Government."
The average volume of redemptions per year during Suffolk's existence (1825-1858) was about $230 million, while the national banking system one from 1863 to 1898 was only $54 million. At its peak in 1857, the Suffolk Bank was able to redeem $400 million, even if the New England money supply was only $40 million. This meant that the average note was redeemed ten times per year: once every five weeks.
Since the Suffolk system put limits on the amount of notes country banks could issue, they tried to hinder it, taking legal actions.
However, the Massachusetts Supreme Court upheld in 1827 Suffolk's right to demand gold or silver for country banknotes and the state legislature initially refused to charter a country banks clearing system, probably assuming that those banks would have run much less strict operations. However, after 30 years, the balance of power in the state legislature shifted outside of Boston, to country banks areas. Now, politicians were willing to support country banks desires. Furthermore, the extraordinary profits and power that the Suffolk Bank obtained year after year attracted in 1858 a big competitor: the Bank for Mutual Redemption.
Trying to force the new competitor out of the business, the Suffolk Bank refused to redeem notes of banks that had owned deposits in the newcomer. The Suffolk Bank began even to threaten any bank that withdrew deposits from it, but country banks rallied to the newcomer and, on October 1858, the Suffolk Bank announced it was going to stop clearing any country banknotes, thus becoming just another "normal" bank.
Although the Suffolk system was established privately, the system of centralizing reserves among only a small number of banks developed into modern American banking legislation. The Suffolk system was responsible for both creating strong banking techniques and making smaller banks responsible for all of their notes issued. It created a uniform currency throughout New England and, most importantly, it helped leading U.S. banking practices into what they are today.

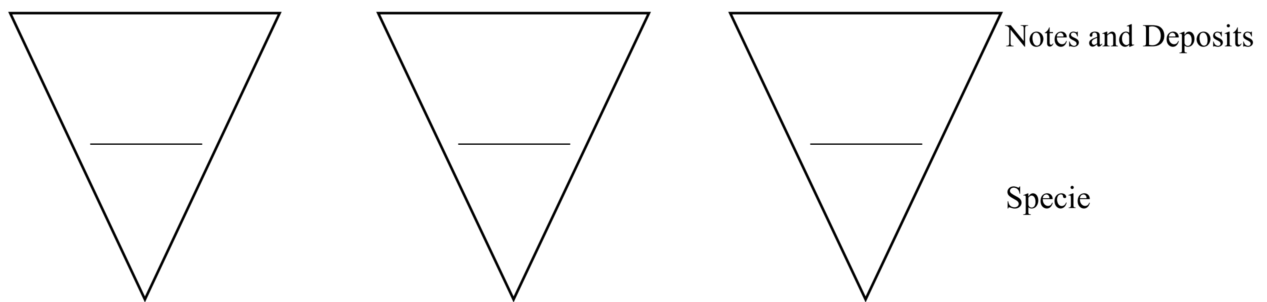
DO THE U.S. NEED A CENTRALIZED BANKING SYSTEM?

After the banking panics that hit the U.S. economy until the 1860s and during the Civil War liquidity crisis, the American financial establishment decided to create a more effective and reliable centralized banking system than the First and the Second Bank of the U.S. used to be.
The latter were short lived due to the conflict of interests scandals that crushed the boards of directors and the politicians involved, as well as the great political influence that the hard money approach gained year after year.
Even though the *"National Banking Acts"* laid the groundwork for the modern American system of central banking, several economists in the 19th and in 20th century, as Murray Newton Rothbard[48], called it into question.

In his book *"A History of Money and Banking in the United States before the Twentieth Century"*, Rothbard reasoned about the National Banking system, explaining that the outcome of this system was to create an inverted pyramid of country banks expanding on top of reserve city banks, which in turn expanded on top of few central reserve city banks.
Before the Civil War, every bank had to keep its own specie reserves, and any pyramiding of notes and deposits on top of that was limited by calls for redemption in specie by other competing banks as well as third parties, as the money-brokers.
However, with the *"National Banking Acts"*, reserve city banks could keep half of their reserves as deposits in the central reserve city banks, and country banks could keep most of theirs in one or the other, so that as a result, all national banks in the U.S. could pyramid in two layers on top of the relatively small base of reserves in the central reserve city banks.
Furthermore, those reserves could consist of inflated greenbacks as well as specie.

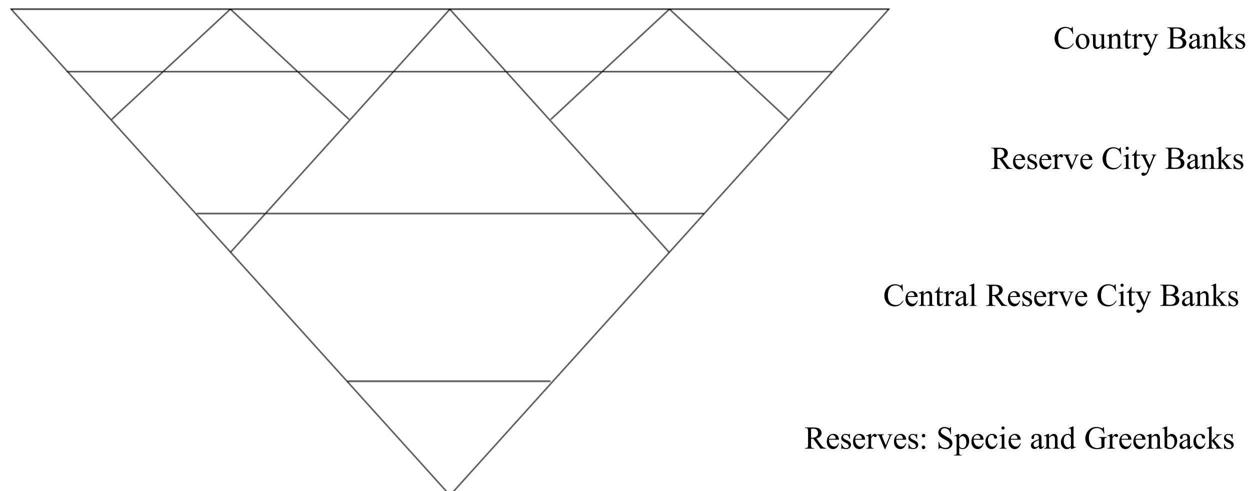
[48] Murray Newton Rothbard (1926 – 1995) was an American hard-money economist of the Austrian School, philosopher, political theorist and historian. He played a leading role in the development of modern libertarianism, asserting that all services provided by the states could have been provided more efficiently by the private sector. He strongly opposed central banking and fractional reserve banking, supporting a 100% reserve banking system.

A simplified schematic diagram can clarify Rothbard thinking:



In the system before the Civil War, every bank could pyramid notes and deposits on top of specie, but its room for such inflationary expansion was limited, since any bank's expansion would cause increased spending by its clients on the goods or services of other banks. Notes or checks on the expanding bank went into the coffers of other banks, which called on the expanding bank for redemption, at a certain point.

This put severe pressure on the expanding bank, endangering the redemption of all its liabilities, declining its reserve ratio and so forcing it to either contract its loans and liabilities or to go into liquidation.



The latter figure depicts the inverted pyramid of the National Banking System. Central reserve city banks pyramided notes and deposits on top of specie and greenbacks; reserve city banks pyramided their notes and deposits on top of specie, greenbacks and deposits at central reserve city banks; and country banks pyramided on top of both. This means that, for example, if central reserve city banks had inflated and expanded their notes and deposits, they would not have been checked by other banks calling upon them for redemption.

On the contrary, reserve city banks could expand their own loans and liabilities by pyramiding on top of their own increased deposits at central reserve city banks. In turn, country banks were able to inflate their credit by pyramiding on top of their increased deposits at both reserve city and central reserve city banks.

Basically, the whole nation could inflate uniformely and relatively unchecked by pyramiding on top of a few central reserve city banks.

National banks were not compelled to keep part of their reserves as deposits in larger banks, but they used to do it because, in the long run, they could expand uniformly on top of the larger banks; in the short run because of the advantages of having a line of credit with a larger bank as well as earning interest on demand deposits at that bank[49].

Rothbard brought another example to corroborate his theory: if country banks had begun with $1 million in vault cash as their reserves, with the National Banking System in place, they could have deposited three-fifths, or $600,000 of their cash reserves in reserve city banks, in return for interest-paying demand deposits at those banks.

Total reserves for the two sets of banks would not have changed. However, because the country banks could use as their reserves deposits in reserve city banks, the same total reserves could be used by the banks to expand their credit. For now, $400,000 in cash (what would remain in country banks vaults after depositing $600,000 in reserve city banks) would support the same number of notes and deposits that the country banks had previously backed by $1 million. If reserve city banks had started with $1.8 million in reserves, they could have expanded $2.4 million on top of the new $600,000 received by the country banks.

In short, country bank reserves would have remained the same, but reserve city bank reserves would have increased and they could have pyramided on top of that.

Furthermore, reserve city banks could deposit half of their reserves at central reserve city banks. After they had done that, the latter could have increased their total notes and deposit further.

In short, not only the national banking system allowed pyramiding the entire banking structure on top of a few large banks, but it also allowed a multiple expansion of all bank liabilities by centralizing a large part of the nation’s cash reserves from the individual little banks into the hands of the larger ones.

[49] Banks generally paid interest on demand deposits until the practice was outlawed in 1934.

Rothbard also criticized also the fact that every national bank's expansion of notes was tied strictly to its ownership of U.S. government bonds. Every bank could have issued notes if it had deposited an equivalent of U.S. securities as collateral at the U.S. Treasury,[50] so that national banks could have expanded their notes only to the extent that they purchased U.S. government bonds.

This provision tied the national banking system deeply to the federal government and, more particularly, to its expansion of public debt.

The federal government obtained an ever-present market for its debt, and the more the banks purchased the debt, the more the banking system could inflate. According to Rothbard, monetizing the public debt was not only inflationary, but it also provided the basis, when done by the larger city banks, for other banks pyramiding on top of their own monetary expansion.

Furthermore, every national bank was obliged to redeem the obligations of every other national bank at par. The federal government could not make the notes of a private bank legal tender until 1871, however it used to confer quasi-legal tender status on every national bank by agreeing to receive all its notes and deposits at par for dues and taxes.[51]

Rothbard stated: *"[…]it is interesting and even heartening to discover that despite these enormous advantages conferred by the federal government, national banknotes fell below par with greenbacks in the financial crisis at the end of the 1860s, and a number of national banks failed."*

In his opinion, even if national banks were required to redeem the notes and deposits of every other national bank at par, it was still difficult to them to do it.

One of the problems of the pre-Civil War state banking system was that interstate or even intrastate branches were illegal, thereby hindering the redemption process.

With the national banking system, branch banking continued to be prohibited[52]. As a matter of fact, a bank could have redeemed its notes only as its own counter in its home office.

Moreover, the redemption of notes was crippled by the fact that the federal government imposed a maximum limit of $3 million a month by which the amount of national banknotes could have been contracted and, thus, redeemed.

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[50] Originally national banks could issue notes to the value of 90% of their U.S. government bonds. This limitation was changed to 100% in 1900.

[51] Except, of course, for payment of customs duties, which had to be paid in gold, to build up a fund to pay interest on the government debt in gold.

[52] Congress eliminated federal restrictions on interstate banking and branching in September 1994, with the enactment of the *"Riegle-Neal Interstate Banking and Branching Efficiency Act."*

Rothbard has always criticized the banking policy of the U.S., whenever a system of central banking was taken into consideration by the legislator.
According to him, any system without a central bank is safer and more efficient.
As an economist of the Austrian School, he was firmly convinced that the private sector was indeed fully able to establish an efficient system of banking and clearing, as the Suffolk Bank actually did. As a matter of fact, the Suffolk Bank proved that private individuals acting outside of political were able to provide the same functions of a central bank, at lower costs.
In addition, a free banking system is safer because every bank is constrained first, by the fear of a bank run[53], but can also be constrained by the fact that, in a free market, the clientele of a bank is extremely limited. The more banks and the fewer the clientele of each, the less room exists for fractional reserve inflation, since any bank would be afraid of a call for redemption of its banknotes by the other ones.
Therefore, in this system, issuing banknotes not covered by specie could be very harmful.
For these reasons, free competition could and generally would result in banks voluntarily keeping higher reserve ratios. Free banking would be a regime of hard money and low inflation.

According to Rothbard, the essential purpose of central banking consists in using government privilege to remove the limitations placed by free banking on monetary and bank credit inflation.
The central bank receives from the government the monopoly privilege for issuing banknotes or cash, while other privately-owned commercial banks are only permitted to issue demand liabilities in the form of checking deposits.
If a client of a commercial bank wanted to cash his deposits for paper money, he could not obtain notes from his own bank, because that bank could not issue them. His bank would have to obtain the paper money from the central bank "buying" it, either by selling the central bank various assets or by drawing down its own checking account with the Central Bank.
According to Rothbard, the central bank would not be able to control properly the money supply. Under central banking, a demand for cash and the subsequent issue of new cash would have the paradoxical effect of lowering the money supply indeed, because of the bank's need to maintain their reserve/deposit ratios. How would it be possible?
Rothbard brought a clear example. If a customer of a commercial bank wanted to shift $500,000 of demand liabilities from deposits to notes, his bank should draw down by the same amount its fraction of reserve/deposits with the Central Bank to get the banknotes.

[53] Without a central bank or another institution operating as a lender of last resort, banks would be bound for liquidation in case of an uncontrollable bank run.

The immediate effect would be that nothing would change. The central bank would have $500,000 less owed to the bank, but it would print $500,000 of new Central Bank notes, which would be redeemable in gold to members of the public, who could cash them in through their banks or even at the offices of the central bank itself.
However, the bank fraction of reserves/deposits would be sharply lowered. Under central banking, any bank must maintain a certain fraction of reserves/deposits, because it is legally forced to do so.
Since the bank must remain at a specific fraction of reserves/deposits, it should meet this situation, for instance, failing to renew its loans or selling its bonds or other assets in the market.
In this way, it would contract the total money supply of the country.
Conversely, the deposit of cash by the public would have the opposite inflationary effect, for the bank's reserve/deposits ratio would rise and the banks would be able to expand their loans and issues of new deposits.
Total money supply only includes money held by the public: demand deposits and Central Bank notes[54]. It does not include demand deposits of the banks at the Central Bank or vault cash held by the banks. Including them in the money supply would be a mistake, just as it would be double counting to include both gold in the banks and warehouse receipts for gold as part of the money supply in gold standard systems.
According to Rothbard, if the public was or became unwilling to hold any money in bank deposits or notes and insisted on using only gold, even under central banking, the inflationary potential of the banking system would be severely limited. Even if the public insisted on holding banknotes rather than deposits, fractional reserve banking expansion would be limited.
Conversely, the more the public was willing to hold checking accounts rather than cash, the greater would be the inflationary potential of the central banking system.

The central bank, at least under the gold standard, could still go bankrupt if the public insisted on cashing in their deposits and Central Bank notes for gold.
However, such bankruptcy is very unlikely. As a matter of fact, the government confers to the Central Bank great prestige using it for its own deposits and conferring the monopoly privilege of note issue.
Furthermore, the government confers another privilege on the Central Bank. It makes its notes legal tender for all debts, even if, under gold standard, they had been incurred initially in specie.

[54] Even gold coin or bullion held by public must be counted in the total money supply, until a nation maintains a gold standard. However, in the example of Rothbard, the hypothetical nation is taken off this system.

Given these powers, the Central Bank can always intervene to bail out banks in trouble, providing them resources by purchasing their assets or lending them reserves.
Therefore, a moral hazard issue must be faced.
Economist Paul Krugman described moral hazard as *"any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly."*
As a matter of fact, financial bail outs of lending institutions by the Central Bank could encourage risky lending practices very often, since those who have taken the risks have come to believe that they would not have to carry the full burden of potential losses.
According to Rothbard, in a free banking system, one bank's expansion and risk-taking would meet a sever shock by other banks calling upon it for redemption, while under central banking, all banks could expand together, on top of new reserves that the Central Bank decided to pump in.
The Central Bank would eliminate hard and non-inflated money, creating a coordinated bank credit inflation throughout the nation.

In 1983, after depicting the problems of central banking, Rothbard proposed in his book *"The Mystery of Banking"* even his solution to restore a sound non-inflationary banking system in the U.S.
First, the country should have returned to a "true" gold standard, in which the dollar should have been redeemable on demand not only in gold bullion, but also in gold coin.
There should have not been any provision for emergency suspensions of redemption[55]. Otherwise, everyone would have lost confidence in the gold standard stability.
However, a crucial question remains: since the dollar should have been defined as a unit of weight of gold, what definition should have been chosen?
Rothbard proposed that the most convenient definition was the one that could enable, at one and the same time, to return to a gold standard, to denationalize gold and to abolish the system of central banking.

Private American citizens used to own gold until 1933, when President Franklin Delano Roosevelt outlawed the private ownership of gold coins, gold bullion and gold certificates forcing them to sell them to the Federal Reserve[56].

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[55] President Richard Nixon unilaterally suspended the convertibility of the U.S. dollar to gold in 1971. By that year, the Bretton Woods system was replaced *de facto* by a regime based on freely floating fiat currencies that remains in place to the present day.

Actually, the main rational of the *"Executive Order 6102"* was to remove the constraint on the FED which prevented it from increasing the money supply, since it had almost hit the limit of allowable notes that could have been backed by gold in its possession. If gold could not be legally owned, then it could not have been legally redeemed, thus it could not have constraint the Central Bank.

Rothbard has always considered this action a huge theft, so, in order to separate the government totally from money, he proposed to return to people its hoard of gold; that is, denationalization.

Then, he wrote: *"What better way to denationalized gold than to take every aliquot dollar and redeem it concretely and directly in the form of gold? And since demand deposits are part of the money supply, why not also assure 100% reserve banking at the same time by disgorging the gold at Fort Knox to each individual and bank holder, directly redeeming each aliquot dollar of currency and demand deposits?"*

The new dollar price of gold should have been defined so that there would have been enough gold dollars to redeem every note and demand deposit.

Then, the FED should have been liquidated, since it would have lost all gold reserves redeeming its notes and giving to banks enough gold to have 100% reserve behind their demand deposits, liquidating so all their deposits at the FED.

After that, Rothbard thought that a legislation which would have held fractional reserve banking as a fraud and would have enforced 100% reserve of gold would have not entailed any deflation or contraction of the money supply.

Once again, banks would have been free, as they were before the Civil War, to issue banknotes. Much of gold in the hands of the public after liquidation of FED notes would probably have found its way back to the banks in exchange for banknotes backed 100% by gold.

Moreover, Rothbard proposed two other useful things in order to complete entirely this process.

First, every kind of lender of last resort, as the Federal Deposit Insurance Corporation[57], should have been abolished, so that no government guarantee could have "protected" bank inflation, or tried to prevent bank runs assuring that banks would have remained sound and non-inflationary.

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[56] Since the gold held by the FED increased from $4 billion to $12 billion over the short term, the federal government needed a place to store it. In 1936, the U.S. Treasury Department established in Kentucky the United States Bullion Depository, known also as Fort Knox.

[57] The FDIC was created by the 1933 *"Banking Act"* during the Great Depression to provide deposit insurance to depositors in U.S. banks and to monitor the banks which were not supervised by the FED or the Office of the Comptroller of the Currency. It still operates nowadays.

Second, the U.S. Mint should have been abolished and the job of minting or melting down gold should have been turned over to privately competitive and more efficient firms.
Rothbard concluded that *"Only such a plan would totally separate money from the pernicious and inflationary domination of the State."*

Even if Rothbard's economic theories have been harshly criticized by other economists, as the Keynesians, he was one of the most important exponents of the Austrian School and the founder of the Anarcho-capitalism, a political philosophy that advocates the elimination of the state in favor of self-ownership, private property and free markets.
He was able to mix the economic approach with his philosophical one, facing both economic topics as central banking and fractional-reserve banking, and also history and politics.
He wrote over twenty books on political theory, revisionist history, economics and other subjects as civil rights and criminal justice, playing a seminal role in the development of modern libertarianism.
He was also the pupil of Ludwig Von Mises, another important economist of the Austrian School, and he mentioned Aristotle, John Locke, St. Thomas Aquinas, Lao Tzu, Gustave De Molinari, Frédéric Bastiat and Carl Menger as his sources of inspiration.
Rothbard built some of the most important exponents of current Austrian School and Anarcho-capitalism as Hans-Hermann Hoppe, Walter Block, Lew Rockwell, Justin Raimondo and David Friedman, the son of Milton Friedman.

By the enactment of the *"National Banking Acts"*, the American banking industry has been addressed towards a centralized system. Despite all the disapprovals concerning central banking issues, this system seems the only one that can work properly.
Initially, as depicted by Alexander Hamilton, the central bank was necessary only to make loans to the government, to allow the public debt repayment, to act as custodian of federal funds and to collect tax revenues for the government. Basically, it used to be the "operative arm" of the Treasury.
However, with the establishment the FED, the field of action of the central bank was officially enlarged.
Finally, it has been fully able to affect the money supply through both open market operations and changes in interest rates, as well as acting as lender of last resort during economic recessions.[58]
As Thomas Humphrey[59] stated: *"The primary function of the lender of last resort is to prevent credit crises from becoming monetary crises, i.e., to prevent credit/debt contraction from producing monetary contraction. Thus, while it should prevent system-wide runs on banks, large-scale collapses of asset prices, loans, and credit, its ultimate purpose is to prevent collapses of money to promote monetary stability."*
In his paper *"The Lender of Last Resort: A Historical Perspective"*, Humphrey summarized the theories of other two important defenders of the central banking system: Henry Thornton and Walter Bagehot.
The latter was a British journalist, businessman and essayist who wrote extensively about government, economics and literature during the Nineteenth Century. In his book *"Lombard Street: A Description of the Money Market"*, Bagehot clearly explained how a central bank should operate, concentrating mainly on its role as lender of last resort.
He provided very interesting arguments that could solve some of the issues of central banking as, for instance, moral hazard.

[58] Even if the previous central banks, as well as the Independent Treasury System, could manage the money supply as well, only the FED was implemented with the specific purpose of providing an elastic money supply, especially during economic recessions.

[59] Thomas Humphrey (1935 - …) is an American economist, considered one of the masters of the history of monetary economics. Until 2005, he has been a research advisor and senior economist in the research department of the Federal Reserve Bank of Richmond.

In his opinion, the central bank should bear the responsibility of guaranteeing the liquidity of the whole economy but not that of particular institutions. He prescribed last-resort lending as a remedy solely for pervasive general emergencies affecting the entire banking system. He did not prescribe the remedy for isolated emergency situations affecting an individual bank or a few specific banks, nor did he intend it to be used to prevent large banks from failing as a consequence of poor management and inefficiency. Basically, he emphasized that the task of the central bank was not to prevent initial failures, but rather to avoid subsequent waves of failures spreading through the system, in order to minimize as much as possible moral hazard.
The idea is that central banks could mitigate economic crises that might occur in any system, because of their legal privileges and the stronger confidence of the public in their notes.
If banks were forced to contract their lending in order to protect their reserves during bank runs, the central bank could step in and prevent a deflationary spiral, because its notes would be accepted without question. In the worst case, redemption could be suspended.
The central bank could thus prevent liquidity shortages and severe economic downturns.

Bagehot also refined Henry Thornton's[60] analysis, adding substance to his central bank doctrine.
First, he argued that the lender of last resort's duty should not stop with the provision of liquidity in times of crisis, but he also involved, making it clear in advance, that it would lend freely in all future crises. As he put it: *"[...] The public have a right to know whether the central bank, the holder of our ultimate bank reserves, acknowledge this duty and are ready to perform it."*
The assurance alone, he thought, would dispel uncertainty about and promote confidence in the central bank's willingness to act, thus generating a pattern of stabilizing expectations that would help to avoid future panics.

Secondly, he advocated that the central bank has a duty to lend, but it should extract a high price for its loans, requesting a penalty interest rate.
Such a penalty rate would ration scarce liquidity to its highest-value uses as a high price rations any scarce commodity in a free market. Moreover, it would encourage the importation and prevent the exportation of specie, thus protecting the nation's gold reserves. It would achieve this latter result by attracting short-term capital from abroad and by exerting a deflationary influence on the level of economic activity and domestic prices, thereby spurring exports and reducing imports and thus improving the external balance of trade.

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[60] Henry Thornton (1760 – 1815) was a British economists, banker, philanthropist and parliamentarian.
He is considered the father of modern central banking.

A penalty rate would also ensure the quick retirement of emergency expansions of the note issue once the emergency ends due to the very unprofitability of borrowing at the above-market interest rate.
The resulting loan repayment would extinguish the emergency issue so that the money stock would return to its noninflationary path.
Moreover, the high rate of interest would reduce the quantity of precautionary cash balances that overcautious people would want to hold. Without the high rate to deter them, these people might deplete the central gold reserve.
Last but not least, the penalty rate would provide an incentive for banks to exhaust all market sources of liquidity and even develop new sources before coming to the central bank.
By encouraging individual banks to develop better techniques of money management and the capital market to develop new channels to mobilize existing liquidity, the penalty rate would promote allocative efficiency in the financial system.
According to Humphrey, *"Bagehot analysis implies still another use for the penalty rate: providing test of the soundness of distressed borrowers. A penalty rate set a couple of percentage points above the market rate on alternative sources of funds would encourage illiquid banks to turn to the market first. Success in obtaining accommodation at the market rate would indicate that lenders judge these borrowers to be a sound risk. The borrowers and their assets would pass the market test. On the other hand, resort to the central bank would tend to indicate weaknesses in the borrowing institutions. The banks may be unable to borrow in the market at the lower rate. Fearing default, lenders may demand a risk premium in excess of the difference between the market and the penal rate. The risk premium would force the stockholders or the banks to make a decision either to close the banks, to arrange a merger with other banks, or to resort to the central bank's lending facility. Either way, the penalty rate will have provided a test of the banks' soundness."*

Bagehot's third contribution was his specification of the types of borrowers the central bank should accommodate, the kinds of assets it should lend on and the criteria it should use to determine the acceptability of those assets.
As far as the type of borrowers is concerned, Bagehot stated that the central bank should be willing to accommodate anyone, as its objective in time of panic is to satisfy the market's demand for liquidity. Therefore, it makes no difference, whether this objective is accomplished via loans to merchants, to bankers or to whomever.

As for the type of collateral on which the central bank would lend, Bagehot thought that it should stand ready to lend on any sound assets, not only on government securities. This consideration implies that the central bank should not be afraid to extend loans on normally assets whose current market value is temporarily below book value due to the economic crisis.
As he stated: *“The amount of the advance is the main consideration...not the nature of the security on which the advance is made, always assuming the security to be good.”*

Bagehot also provided a precise delineation of the extent of the lender of last resort’s responsibility to individual banks as distinguished from the banking system as a whole.
The central bank’s duty is not to rescue *“the ‘unsound’ people who constitute a feeble minority.”* Such businessmen, he said, “*Are afraid even to look frightened for fear their unsoundness may be detected. It is the sound people, the people who have good security to offer, who constitute the majority to be protected.”*
In short, the job of the central bank would not be to prevent failure at all costs but rather to confine the impact of such failure to the unsound institutions alone. Bagehot meant for his strictures to apply even to those key banks whose failure, in the absence of central bank action, could shatter public confidence and start a sequence of financial collapses.
The lender of last resort function should not be interpreted to mean that unsound banks should not be permitted to fail. Instead, it implies that failure should not be allowed to spread to sound institutions.
To Bagehot, this distinction is crucial. ln his words, “*No advances need to be made on assets on which the central bank will ultimately lose.”* He was firmly sure that if the lender of last resort refused bad bills or bad securities, it would not make the panic worse, since it would be sufficient for the central bank to guarantee liquidity to solvent merchants and bankers, who would comprise the great majority of the market.
Bagehot stated that the basic strength of the banking system should not rest on the availability of last resort accommodation, but rather on the resources and soundness of the individual banks.
“Under a good system of banking... a large number of banks, each feeling that their credit was at stake in keeping a good reserve, probably would keep one; if anyone did not, it would be criticized constantly, and would soon lose its standing, and in the end, disappear.”

In 1936, Vera Smith[61] published her book *"The Rationale of Central Banking and the Free Banking Alternative"*, written under Friedrich von Hayek at the London School of Economics.
The book covers the history of free banking in the Nineteenth Century and reviews the theoretical arguments both for and against the idea of free banking. In particular, Smith identified some main arguments that can justify the existence of a central bank in the market.
The first argument runs as follows. In a system of free banking, which might be stable as a whole, we can expect individual banks to fail from time to time, just like there are bankruptcies in other sectors of the economy. If some banks issued notes over and above their own gold reserves, they would risk going bankrupt. Furthermore, the notes would not stay exclusively in the hands of the clients of those banks but they would circulate in the market. Whoever held the notes at the point of bankruptcy would carry the loss.
It seems reasonable to assume that the risk would not be evenly spread over the economy.
Those individuals who, for whatever reason, would be least capable of bearing the additional cost of discriminating between notes from solvent and insolvent banks would be hit the hardest. Therefore, the government should introduce some uniformity in the note emission as well as the distribution of risk over market participants. This can be done by imposition of a legal monopoly, that is, by creating a central bank.

Historically, the most important argument for central banks has been the one about the dangers of over-emission of notes and thus excessive credit expansion. As a matter of fact, Smith stated that, in a free banking system, there would be strong incentives for any individual bank to constantly lower their discount rates and thereby expand credit in order to gain market share. At a certain point of the process gold reserves would start to drain, and banks would have to refrain from further credit expansion in order to protect their own reserves. This would lead to an economic crisis. Under free banking, the fluctuations in the money and credit supply would thus be much more violent, which would imply larger instability of the economy as a whole.
A central bank would serve the purpose of preventing excessive note issue and credit expansion as well as the resulting interplay of inflationary and deflationary episodes.

[61] Vera Constance Smith (1912 – 1976) was a British economist. She married Friedrich Lutz, a German economist. Together they published several researches as *"Theory of Investment of the Firm"* and *"Italy, a Study in Economic Development"*, which is focused on the differences between Northern and Southern Italy and the monopolistic behavior of Italian industry at the time.

Although the Suffolk system was a great regulator of unsound banking practices, it lacked the ability to properly administer the total volume of banknote circulation. The Suffolk system regulated how many banknotes could be issued by country banks, but it was ineffective regulating their circulation. It has been considered by some economists as Wilfred Lake a *"good regulator of a bad system."*[62]

Other arguments supporting the central bank existence are related to the monetary policy. According to Smith, it would be beneficial to pursue an active and rational monetary policy of controlling the volume of cash reserves and credit guided by "scientific criteria." A central bank would be indispensable for its implementation only if it was independent. If the central bank was put under government control, as in the past, politicians could be tempted to use its power to finance expenditures or to reduce public debt burden through inflation, not to keep the money supply under control.
Ceding power over monetary policy to a central bank with strong insulation from interference from the rest of the government would be a useful step to reduce the frequency and severity of destructive inflationary episodes.
Then, if any country had a central bank, it would be easier to cooperate with regard to international monetary policy decisions in order to prevent crises driven by external imbalances in the balance of payments, as rapid shifts in capital flows.

Since banks play a dominant role in the financial system, there are very strong reasons for independent central banks to act as lender of last resort, as well as to pursue a monetary policy that can try to stabilize as much as possible the financial market.
In the last decades, the central bank has acquired another important task that is still debated nowadays: banks supervision and regulations. [63]
Even if some economists think that this task should be entrusted to the government, some others think that the power to put regulations on banks has some synergies with the core monetary policy responsibilities of the central bank. As a matter of fact, for instance, the central bank can modify the money multiplier simply changing the reserve ratios banks must respect.

[62] Lake Wilfred. *"The End of the Suffolk System"*, on *"The Journal of Economic History*", volume 7, November 1947.

[63] Actually, in the U.S., banks are supervised by three federal regulators: the FED, the FDIC and the Office of the Comptroller of the Currency.

FINAL REFLECTIONS

"I never make the same mistake twice. I make it five or six times, just to be sure."

This funny quote of Bill Murray should be born in mind when examining the history of American banking, at least the years covered in the first chapter.

Clear recurring events can be noticed when examining all the main panics in the history of the U.S. until 1907. As a matter of fact, every recession was triggered by overextended banks and their bankruptcy, as well as the failures of fraudulent financial operations.

PANICS	TRIGGER EVENT
Panic of 1792	Failure of the scheme of some banks to control the U.S. government securities market and Duer's bank bankruptcy
Panic of 1819	Massive contraction of credit by the Second Bank of the U.S. due to credit overextension
Panic of 1837	Banks impossibility to redeem their notes in specie and subsequent bankruptcies
Panic of 1857	Bankruptcy of the Ohio Life Insurance and Trust Company
Panic of 1873	Bankruptcy of the Jay Cooke & Company
Panic of 1884	Bankruptcy of the Marine National Bank of New York City
Panic of 1907	Failure to corner the market by a pool of banks

The summary table shows an important thing. Before thinking about the existence of a central bank, a country should check if the legislation that avoids fraudulent operations and credit overextension is working properly or not.

According to Rothbard, this kind of legislation is useless in a free banking system, since free market frameworks can prevent these problems through the threat of a feasible bankruptcy.

As a matter of fact, a lender of last resort would not exist in this system, so banks should face liquidation whenever they could not assure the redemption of notes.

However, Rothbard did not take into consideration some important points.
Even if the Suffolk System and clearing houses almost eliminated the problem of the "wildcat banks"[64], during the American free banking period banks continued to grant risky loans and were forced to suspend specie payments several times.
As a matter of fact, during the railway boom in the nineteenth century, banks were so attracted to the growing market huge profits that they began to overextend credit and buy a lot of railway bonds, swelling financial bubbles.
Whenever people put pressure on the redemption of notes, banks either went bankrupt or suspend specie payments, creating a short circuit in the credit market. Afterwards, after the situation had stabilized, this cycle was going to start again.
To tell the truth, Rothbard proposed a legislation that would hold fractional reserve banking as a fraud and would enforce 100% reserve of gold. If this legislation had been enforced very effectively, it could have definitely solved the problem of notes redemption, since every banknote would have been backed by gold. However, I think that it could not solve the problem of credit overextension.
In my opinion, banks, like people, have a propensity for believing that when economy is booming, investments will have a tiny percentage to fail. Basically, they underestimate the magnitude and probability of potential losses. Banks are tempted to invest money in risky business just to obtain a higher profit. If these investments fail, they will have to face the specter of bankruptcy.[65]
The only way to solve this problem is to enforce a strong legislation that helps to monitor banks constantly. They should invest in a project only if the percentage of success is high enough to prevent the liquidation of the investments from causing the liquidation of the bank itself.
This first consideration leads to a second issue that Rothbard did not touch. The social costs of a bank failure.
Even if we assumed that year after year, free banking would learn from its errors, becoming solid and reliable, the costs of this process would be huge.
Whenever a bank failed, the contagion would spread to the entire credit market, causing several firms to go bankrupt too as well as widespread unemployment.

[64] They were banks which printed notes not covered by specie, exploiting the distance that people had to travel to redeem their notes.

[65] We can take as an example the crisis of the subprime mortgages in 2007, that caused the bankruptcy of the Lehman Brothers Holdings Inc. and the Great Recession that hit the U.S. and the European economies.

The potential growth lost during the economic recessions cannot be recovered anymore in the future. Basically, people should bear economic crisis and years of wasted growth in order to allow the free banking system framework to work properly.
Is a central bank necessary to solve these problems? I think no.
Theoretically, governments could establish an administrative agency with the task of preparing a properly legislation. The office could work together with the judiciary in order to enhance its influence and its power to enforce such a legislation.
Despite all the regulations, in a free market a bank could fail anyway, as a firm in any other business can. Since the financial market is the driving force of the whole economy, a lender of last resort is necessary to smooth the crisis. However, the lender of last resort could be the government itself or a specific administrative agency, not necessary a central bank. Additionally, it should operate respecting fully the *"Bagehot Dictum"*, to limit as much as possible moral hazard. [66]
In short, we are imaging a banking system without a central bank, but with strong and efficient regulations as well as a lender of last resort that operates following the principles of Bagehot.
If we supposed that banks were obliged to maintain a 100% reserve ratio, the system could operate efficiently.

Anyway, the monetary system in which this banking system would operate must be taken into consideration.
In a gold standard, every banknote would be covered by gold, but the money supply would depend on the amount of gold in circulation, not on the path of the economy. In this way, the main problem would be deflation in periods of shortage of gold. Deflation damages debtors, causing borrowers to cut spending to service their debts or to default. If borrowers decided to reduce the demand of loans, the whole banking system would be in trouble.
Additionally, cyclical economic downturns are unavoidable. However, the lender of last resort could not smooth such crises in case it had not enough gold. This would be a severe issue, since Bagehot stated that the lender of last resort should make it clear in advance that it would lend freely in all future crisis. Otherwise, it would be meaningless.
In the past, the American government used to solve this situation allowing specie suspensions periods or printing banknotes not backed by gold, as greenbacks during the Civil War.
Basically, it used to move the gold standard towards a fiat standard.

[66] The FED has not always acted respecting such principles. For instance, during the *"Great Recession"*, it accepted also junk bonds as collaterals for liquidity injections.

In the latter monetary system, the redemption of banknotes in gold is officially suspended. Economic recessions could be faced in a more efficient way because the lender of last resort could provide liquidity very quickly. As a matter of fact, it should only print notes and, then, put them into circulation. However, fiat money has a big drawback.
In this regime, the problem would be inflation. Since every bank would have no limit on the emission of notes, the money supply could easily get out of control without properly supervision. Inflation damages creditors, so the banking system would be in trouble once again.
The government could solve the problem giving temporary legal tender only to the banknotes printed by the lender of last resort, turning it into a central bank.
The central bank should be an independent institution and could also assume also the role of banking regulator in order to manage the money supply in every possible way, even working on some restrictions like reserve requirements.
In short, I think that in the system depicted by Rothbard an independent central bank would be useful in order to manage the money supply in case of big liquidity injections and then to help returning to a gold standard.
During the Civil War, a big monetary crisis happened because the government acted as a sort of central bank, issuing greenbacks and suspending specie payments, but it also failed to do two important things:
1. in those years, every bank could issue notes, so a massive quantity of worthless paper circulated in the market. Gresham's Law triggered and gold began to flow out of the U.S.;
2. greenbacks were backed by government credibility, which became very low soon, since it began to finance war expenditures mainly through emission of notes whose redemption was postponed several times.
In this situation, a credible central bank would have been very useful to solve the crisis faster as well as to prevent the over-emission of notes pursued by banks.

Nowadays, there are still big debates on central banking and free banking pros and cons.
I think that a central bank is essential nowadays too, because the global monetary system has been a regime based on freely floating fiat currencies since 1973.
Moreover, the quantity of money in the system is huge and must be monitored as much as possible in order to persevere price stability.
However, the money supply can get out of control, despite central banks presence.
As a matter of fact, they have not always respected Bagehot principles as well as set monetary policies properly.

In any case, central banks have to face thousands of variables every time they have to set a bespoke monetary policy. Timing, for example, is crucial.

If the FED injected billions of dollars in the market to face an economic recession, after several months, it should decide when to reduce or to stop this injection of money.

If the FED decided to act to soon, it could revive the crisis. Conversely, it could cause a big inflation wave. Central banks are led by human beings, and humans can make mistakes sometimes.

Some economists argue that the central bank should not act as lender of last resort, as well as contribute to enact and then enforce banking regulations.

Even if these functions could be reasonably executed by other institutions, I think that a central bank can pursue them in the best way because they are strictly correlated.

As a matter of fact, efficient regulations can contribute both to manage better the money supply and to prevent bank crises, that will have to be solved by the central bank itself.

Finally, I think that central banks should have all the instruments to analyze the market in which they operate day after day. In this situation, they would be able to know the essential market in which it must operate better than the market itself.

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