1. **A History of U.S. Money & Banking**
   A Story of Self-Interest & Unintended Consequences

2. **Our Checkered Monetary History**
   - **Currency Acts (1751 and 1764)**
     - Restricted emission of paper money ("bills of credit") by colonies to pay for military expenditures in French & Indian War
     - Fear if more $ issued than taxed out of circulation ⇒ inflation
     - 1751 Act allowed existing bills to pay public but not private debts
     - 1764 Act removed legal tender status for all debts (public or private)
     - Lead to tight money conditions (persistent shortage of specie)
   - **Stamp Act (1765)**
     - Required stamps on documents (stamps to be paid for in gold or sliver)
       - Playing cards, dice, magazines, newspapers, pamphlets, attorneys licenses, land grants, college enrollments, etc.
     - Further tightened money ⇒ boycotts of British imported goods
     - Repealed one year later, under pressure from British merchants, but damage was done

3. **"Not Worth a Continental"**
   - Popular slang for worthlessness
   - Continental Congress Issued paper money in “anticipation of tax receipts” to pay for War expenditures
   - Easily counterfeited and easily over-issued

4. **Antagonists of History**
   Thomas Jefferson
   
   "...spending money to be paid by posterity under the name of funding is but swindling futurity on a large scale."
   - Favored periodic repudiation
     - Inter-generational debts = undemocratic
     - 1 generation cannot bind another
   - Debt facilitates war
   - Farmer
   - Virginia already repaid most of her debts

5. **Compromise of 1790**
   - Compromise brokered by Jefferson
   - Assumption (Funding) Act  assumption of States’ War Debts at Par
   - Residence Act  move US capital south of Mason-Dixon line
   - Establish the Bank of the United States

6. **Jefferson on Debt**
   "We believe--or we act as if we believed--that although an individual father cannot alienate the labor of his son, the aggregate body of fathers may alienate the labor of all their sons, of their posterity, in the aggregate, and oblige them to pay for all the enterprises, just or unjust, profitable or ruinous, into which our vices, our passions or our personal interests may lead us. But I trust that this proposition needs only to be looked at by an American to be seen in its true point of view, and that we shall all consider ourselves unauthorized to saddle posterity with our debts, and morally bound to pay them ourselves; and consequently within what may be deemed the period of a generation, or the life of the majority."
To preserve [the] independence [of the people,] we must not let our rulers load us with perpetual debt. We must make our election between economy and liberty, or profusion and servitude. If we run into such debts as that we must be taxed in our meat and in our drink, in our necessaries and our comforts, in our labors and our amusements, for our callings and our creeds, as the people of England are, our people, like them, must come to labor sixteen hours in the twenty-four, give the earnings of fifteen of these to the government for their debts and daily expenses, and the sixteenth being insufficient to afford us bread, we must live, as they now do, on oatmeal and potatoes, have no time to think, no means of calling the mismanagers to account, but be glad to obtain subsistence by hiring ourselves to rivet their chains on the necks of our fellow-sufferers.

--Thomas Jefferson to John Wayles Eppes, 1813.

--Thomas Jefferson to Samuel Kercheval, 1816.

**Early US Banking**

- Private (state legislature-chartered) banks
  - Obtaining a charter depended on political connections
  - Charters (and often part-ownership) by states provided sources of revenue
  - No Interstate branching
  - Net: Limited Competition among chartered banks
- First Bank of the US
  "...to facilitate the marketing of government debt, to facilitate the collection of government revenues, and to make loans to the government in times of need at subsidized interest...the government also owned a substantial stake in the bank and profited greatly from it."
  - Could expand/contract money supply through its redemption policies
    - Press for redemption of private bank notes ⇒ contractionary
    - Hold off on collection of private bank notes ⇒ expansionary
    - Also, a competitor to privately-chartered banks in some respects
  - Federal government owned 20% of BUS (sold in 1803)
  - Most owners were foreign (e.g., Barings Brothers in England)
    - The British "re-invasion"
    - Opponents succeeded in letting 20-year charter lapse, branding it a "British Bank"
      - Also eliminated a competitor to private state-chartered banks

**War of 1812**

- First Bank of US charter lapses in 1811
  - 1811, 88 private state-chartered banks
  - 1816, 250 private state-chartered banks
- "Coincidentally," Second War for Independence begins in 1812
- Specie redemption suspended (exc. in New England)
- US Government needed a mechanism to float large amounts of debt
- Second Bank of the US given a 20-year charter in 1816

**Jacksonian Era**

- 1828, Jackson campaigned against the "Viper Bank"
  - Upon election, he eliminated 2,000 of 11,000 govt. employees (bank representatives, mostly)
- Bank supporters pushed a charter renewal bill 4 years early (1832)
  - Jackson vetoed it (as he promised to do)

**Demise of the 2nd Bank**

- Jackson ordered removal UST deposits, placing them with "pet" banks
Jackson's first Treasury Secretary refused and was sacked
- Bank of US had to call loans and discounts to meet redemption
  - Crop failures in England ⇒ higher British (then US) interest rates
  - Credit contraction ⇒ Panic of 1837 ⇒ Depression
- In the "Panic Session of 1837," Congress passed a Resolution of Censure against Jackson
  - Biddle openly boasted over the Censure and the credit contraction/depression
    - Aroused Congressional ire and investigations
    - Spent the rest of his life fighting off lawsuits
- Assassination attempt against Jackson
- The answer to the Panic and subsequent depression (this time) was to remove monopoly privileges for banking

**Free Banking Era**

**Free Banking**
- Some US Treasury paper (Demand Notes) circulated as "near" money
  - Constitution only allows gold and silver as money (never repealed or amended)
- But mostly, private banks issued paper currency (private banknotes) against specie (gold and silver) reserves
  - Excessive note issue ⇒ run ⇒ discipline
  - Remote banks ("wildcat banks") might over-issue
  - Wildcat bankers addressed by tightening eligible collateral & capital
- 10,000 different notes, traded at discounts, dep. on issuer qualities
  - Circulars ("currency detectors") published the discounts
  - Information as the antidote to risk
  - Besides distance, can also slow redemption by issuing soundly-backed notes
- Though competitors, incentives existed to coordinate among banks
  - Process payments; redeem notes
  - Prevent contagion by managing liquidity better

**Geography of Coordination**
- North—Clearinghouse
  Instead of each bank establishing a transactional relationship with all other banks, every bank sends a representative to one place—the clearinghouse—where its debt items are cleared against its credit items. Then the balance is struck, and payment is due from debtor banks to creditor banks. Originally, one bank in the association was assigned the 'central' administrative role for clearing the other member banks' accounts. Each bank kept part of its specie (and later greenbacks) reserve as a deposit with this bank, which in turn issued clearinghouse certificates of an equivalent amount to be used in settlement of daily balances. Failure to settle promptly meant expulsion and an immediate call on the defaulting bank's notes.
- South—Intra-state branching
  "...formal clearinghouses never developed in the branching South during the antebellum period. Understandably, the small number of branching banks had a lesser need to coordinate clearing and were able to respond to panics effectively without the formal rules and enforcement mechanisms of the clearinghouse." Klebaner (1990: p. 51) also provides evidence that banks in South Carolina and Virginia (two states that permitted and had well-developed bank branching) experienced no failures during the Panic of 1837.

**War Between the States**
- Wars are exceptionally costly (and risky to lenders)
Country’s 1st income tax raised just $79M against $319M in expenditures.
In 1861, the federal government tried to float a short-term note issue carrying a coupon of 5%. Only $7 million of the $10 million principal was subscribed. Another $10 million offering successfully floated shortly thereafter, but only after the coupon was raised to 12%.

Lincoln devised a clever 2-pronged scheme to finance his war:
- The National Currency Act (NCA)
  Created the OCC (inside the Treasury Dept.) to issue Greenbacks—irredeemable paper money that was to circulate alongside already existing state banknotes and specie. Inflationary finance.
  - Gresham’s Law—“bad” money drives out “good” iff allowances for quality differences can NOT be taken into account. Gresham’s law does not mean Greenbacks would not circulate, only that they would do so at progressively steeper discounts as more are issued.
  - Lincoln addresses Gresham’s Law with a tax on SBNs (first 2% then 10%)
- The National Bank Act (NBA)
  1. Required nationally-chartered banks “…to purchase government bonds in an amount equal to one third of its capitalization, or at least $30,000.”
  2. Bonds then deposited w/OCC that then issued Greenbacks = 90% of their face value.
- Combined, the 2 Acts created (1) a ready market for federal debt, and (2) a mechanism for getting greenbacks into circulation.
- Ominously (for Lincoln), the NCA obviates the need for private banks to issue currency.

State- vs. Federally-chartered banks

Fragility & Branching

- Differences in INTRA-state branching laws:
  - California: statewide branching
  - Virginia: regional branching
  - West Virginia: branching w/in 200’ of main office
  - Texas: unit banking

“...the failure rate for branch[ing] banks was roughly 4% ...[while] for the country as a whole was upwards of 20%.”
—Calomiris (1993)

- Poor Branching ability limits diversification of Loans AND Deposits and also changes financing methods that are economical
  - Default AND Liquidity risks ⇒ Fraility (i.e., more susceptible to failure)
  - Britain (nationwide branching): branches could mobilize large amounts of capital for local needs ⇒ consolidation via merger/acquisitions
  - US (limited branching): for big financing, firms issued stocks & bonds (via inv. banks) securities traded nationwide ⇒ consolidation via merger/acquisitions (“Trusts”)

2 New Gilded Age Actors

1. JP Morgan
2. John D. Rockefeller
3. Industrialist & Banker
   - Standard Oil
   - City National Bank
• Republican

20 Panic of 1907
• Collapse of the Knickerbocker Trust
  – Based on a rumor
  – Failed bid to corner United Copper Co. stock
  – Bank runs become widespread panic—contagion
• JP Morgan engineers plans to stem the panic
  – In doing so, furnishes a public good
  – Morgan also benefits in a number of ways
• Congress sets up the National Monetary Commission (Aldrich-Vreeland Act, 1908) to “study” the money and banking systems of the US & Europe

21 Federal Reserve Plan
• Private Cartel of Banks (National Reserve Assn.), drafted in secret
  – Sen Aldrich (Rockefeller father-in-law); Henry Davison (Morgan man); Paul Warburg (Kuhn-Loeb); Jacob Schiff (Rothschild); Col. House (Rockefeller)
• Response to previous “Panics”
  – To furnish an “elastic” Currency that would expand and contract w/the needs of trade (currency provided by the private banks at interest)
  – Lender of Last Resort Function
    • Lend against good collateral to illiquid, but not to insolvent banks
    • Re-discount trade bills (but not government paper as FRN backing)
• Draft Bill (Federal Reserve Act) considered in election year 1912
  – Opposed strongly by President Taft (and many Congressmen)
    • Taft (Ohio) had also filed suits to bust Morgan Trusts in Int’l Harvester & US Steel
      – Payback for TR’s earlier busting of Standard Oil Trust
    • Suddenly, a 3rd Party appears (Progressive Party ⇒ Bull Moose Party w/Teddy R.)
      – Financed by Judge Gary (USS); McCormicks (IH), and other Morgan interests
  – Wilson wins w/a plurality and signs the Bill, 12/23/1913 (as he promised)

22 He kept us out of war (ca. 1916)"
• Wilson campaigned in 1916 to keep US out of European War
  – US was officially neutral. US citizens overwhelmingly opposed to US involvement—had no beef with Germans or central powers.
  – Despite official neutrality, from 1915 to April 1917, Allies received 85 times the dollar amount loaned to Germany.
• Upon re-election in fall 1916, met w/bankers from Morgan, et. al.
  – Total dollars loaned to all Allied borrowers = $2.6 B
    • Bankers realized if Germany won, their loans to combatants unlikely to be repaid.
  – By 1916, the War had been fought to a stalemate (Truce would have been equally disastrous for the bankers—both sides were financially exhausted)
    • US only remaining large source of capital left untapped
• Germany pursued unrestricted submarine warfare Jan. 31, 1917 in response to UK blockade
  – Rationalization: sinking of “neutral” US Ships
    • Some mistakenly cite sinking of Lusitania (ca. 1915)
  – US War Declaration April 6, 1917
    • The “Worst” (most unnecessary) War

24 A Bankers’ War?
"During 1915 and 1916, Woodrow Wilson kept faith with the bankers who had purchased the White House for him [in 1912], by continuing to make loans to the Allies. His Secretary of State, William Jennings Bryan, protested constantly, stating that "Money is the worst of all contraband."
—Mullins (1983)

- Wilson broke his 1916 campaign promise in spring 1917
  - In < 2 years US Federal Debt ↑ from $1.2B to $25B (> 20-fold increase)
  - Through the Federal Reserve, more than $25 billion floated through various loans and payments to Allies AND Central Powers
- Short-term US loans used to finance US war effort
  - Eventually rolled over with Gold-claused Liberty Bonds
  - Proceeds of 1st Liberty Bond ($400 million) went to House of Morgan

Federal Reserve in Practice
- Volatile mix of moral hazard and credit expansion
  - Centralized and lowered reserve requirements
  - Decentralized reserve and clearing operations into 12 districts
- Sharp post-WW I recession (Fed did not interfere w/unwind)
  - Painful post-war readjustment, but ended in < 2 years
- 1920s Expansion of Credit ⇒ ignited a boom
  - New Sources of Collateral + Lower reserves
  - New forms of Consumer Finance & Real Estate lending (Fla.)
  - The "Roaring 20s"

Great Depression
- When 1920s Credit expansion slowed, a vicious debt deflation began
  - Sell bonds/stocks to service debts ⇒ ↓ securities’ prices
  - ↓ securities’ prices impairs collateral and bank assets ⇒ ↑ selling
- 1930-33—5,000 US bank failures (another ~5,000 merged)
  - Canada suffered no bank failures (just closed branches)
  - 3 Great Waves of US Bank Failures
    - 1930—Failure of Bank of the US (inaptly named NY bank)
    - 1931—Creditanstalt collapse in Austria then England left gold standard
    - 1932—RFC Troubled Banks List (and FDR dithering on gold std.)
- The response (differed significantly from the 1920/21 depression):
  - Bank Holiday (only solvent banks allowed to reopen; seized bank-held gold)
  - Abandoned Gold Standard (attempt to ignite inflation/arrest deflation)
  - More Regulation

Banking Acts of 1930s
- Formally authorizes US Treasuries as FR Note Backing
- Federal Deposit Insurance
  - FDR initially opposed as a subsidy to poorly-run banks
  - Creates additional moral hazard
    - Removes depositor monitoring as key leg of bank safety
- Regulation Q
  - Interest Ceiling on Savings Deposits
  - Interest Prohibition on Demand Deposits
• Separates Deposit (Commercial) Banking from Investment Banking (Glass-Steagall)

28 **Fast Forward to 1970s**
• ↑ Inflation & ↑ Market Interest Rates
• Reg Q ceilings not adjusted fast enough
    • Pays Money Market Interest Rates
    • Allows limited check-writing
  – Result: Commercial Bank Disintermediation
• DIDMCA (1980)
  – Lifted most of the interest rate ceilings
  – Raised FDIC Insurance Limit to $100,000
• S&Ls given greater latitude in assets and deposits

29 **Seeds of the S&L Crisis**
• Despite regulatory relief, S&Ls still had lots of low-yielding assets (mortgages) acquired in earlier years
• Aggressive pushes into non-mortgage lending tested the limited experience of S&L managers
  – Shopping Malls
  – Oil Wells
  – Consumer Loans
  – Checking Accounts (NOW accounts)
• Many S&Ls aggressively bid for deposits to fund expansions
• Losses continued to mount through late 1980s
  – First significant losses appeared in Texas (1986 to 1992, # TX banks, −45%)
  – California suffered least in S&L Crisis (1986 to 1992, # CA banks, −4%)

30 **Zombies & Vampires**
• Forbearance: regulators allowed insolvent institutions to keep operating, creating “Zombie” institutions (walking dead)
  – Zombies have little to lose by making additional risky loans
  – Zombies also pay higher rates to attract (insured) deposit funding
  • Solvent institutions pay higher rates too, or face loss of deposits
  • Thus, Zombies turn into Vampires as they suck the deposit life-blood out of otherwise sound institutions
  – Predictably, losses grow even larger
• Why Forbearance?
  – Some “too big to fail” ⇒ exhaust deposit insurance fund
  – Regulatory “Capture”
  – Regulators did not want to admit a mistake
• Two 1990s Reforms:
  – Riegle-Neal Interstate Banking and Branching Efficiency Act
  – FDICIA: Regulators must take Prompt Corrective Action for undercapitalized banks
    • Should mean no more forbearance, no more “too big to fail”

31 **The Roaring 2000s**
• 1999 Repeal of Glass-Steagall
  – Citicorp (illegally) merged w/Travelers Ins. (validated *ex post* by repeal)
  – Create a “Universal Financial Services” firm (1-stop shopping vs. specialization)
• Steady dilution of capitalization (↑ Leverage) at Investment Banks
  – Derivatives could spread risks
    • Bulk of derivatives held in just 4 banks
  – Securitization could unload risk
    • Banks ended up holding a lot of their own securitized products
    • FNMA and FHLMC also held a lot of their own MBS (concentrating risk)
    • Non-linear failures in daisy-chained securities
• Despite >$25 trillion in bailouts and > 5 years, banks still not lending
• 5 Years after S&L crisis in 1990s >1,000 S&L executives sent to prison
  – As of 2014, no major prosecutions despite far larger fraud (TBTJ?)
  – Only a handful of fines, all paid by shareholders not the offending officers

Conclusions
• Self interest operates (on all levels) despite regulations
  – Innovation continues along non-regulated margins
  – Regulators and policymakers are self-interested too
  – Self-interest can be harnessed to achieve safe/sound outcomes
• Regulations often generate unintended consequences
  – Can Not Anticipate every eventuality/innovation
  – Do the rules hold when they’re most needed? (PCA, FASB 157)
• NET: We still have a Highly Regulated but somewhat less fragile system
  – 3 Critical Stabilizers effectively removed or otherwise mooted:
    • Depositor Discipline
    • Bankruptcy Discipline (i.e., removal of assets from those w/a demonstrated incapacity
      to employ them responsibly)
    • Prosecutorial Discipline  TBTF = Above the Law?