

THE TREND TOWARDS THE DEBASEMENT OF AMERICAN CURRENCY

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ABSTRACT

THE TREND TOWARDS THE DEBASEMENT OF AMERICAN CURRENCY

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This dissertation examines the 98.3% debasement of American currency from 1792 until the present time. The thesis is that the trend towards debasement occurred subtly due to ten discrete events, none of which were primarily intended to induce currency debasement, and many of which occurred more than one hundred years before the actual debasement occurred. This dissertation presents a monetary economic history of these years and presents arguments to how these ten events resulted in the massive debasement that we see today.

Chapter 1: Introduction

The Federal Coinage Act of April 2, 1792 defined the American dollar to be equal to 24.75 grains (1.6 grams) of pure gold. On October 16, 2009, the American dollar can purchase approximately 0.45 grains (0.03 grams) of gold.¹ This is equivalent to a drop in value of the United States dollar of 98.3%, manifesting itself as a 54-fold increase in the price of a troy ounce of gold from \$19.39 to \$1050.70 (see Figure 1 on next page). Of this 98.3% decline in value, only 6% occurred during the 141 years from 1792 until 1933, while the remaining 92.3% occurred in the 75 years from 1934 until 2009.

In the 18th and 19th centuries, the United States mostly had a hard-money, market-based philosophy summarized by Thomas Jefferson in an 1813 letter to John Eppes:²

“The trifling economy of paper, as a cheaper medium, or its convenience for transmission, weighs nothing in opposition to the advantages of the precious metals...it is liable to be abused, has been, is, and forever will be abused, in every country in which it is permitted.”

In the 20th and 21st centuries, the United States transitioned to a soft/fiat money philosophy in which the federal government has a monopoly on legal tender and the gold standard was considered to be, famously quoting Keynes, a “barbarous relic.”

¹On October 16, 2009, the October 2009 futures contract closed at \$1050.70/troy ounce. (Chicago Mercantile Exchange Group: Gold Futures, 2009)

² (Lipscomb & Bergh, 1903)

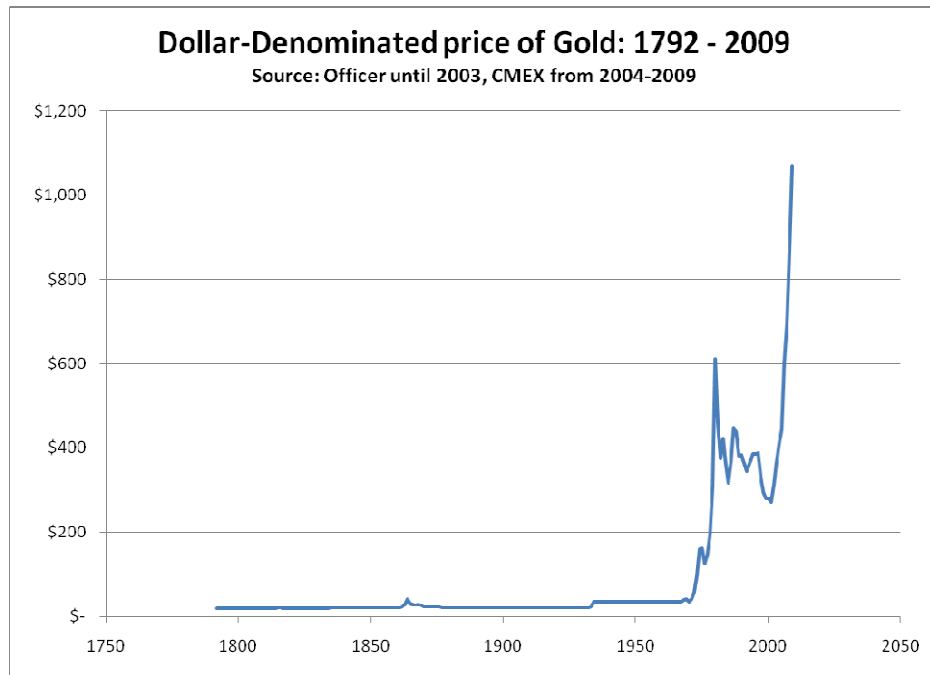


Figure 1: Dollar-denominated price of gold from 1792 until 2009

This dissertation examines the debasement of American currency beginning in 1792, focusing on this national transition from hard to soft currency. The thesis is that this transformation did not happen overnight, but, instead, through ten discrete events, none of which were primarily intended to induce currency debasement, and many of which occurred more than one hundred years before the actual debasement occurred.

Metaphorically, this is a “rising dam story” in which each event builds up a little more water behind the dam with no immediately visible downstream effects on debasement; eventually, the water level surpasses the dam height and the final event results in an unchecked “flood of debasement.” The ten identified events are:

1. U.S. Constitution (Article 1, Section 8): The lack of a clear and explicit hard-money restriction on the Federal government, combined with the non-adoption of Madison's proposed legal tender clause, provided the legal framework for eventual debasement.
2. Federal Coinage Act of 1792: Established precedent for legal tender laws (applied to specie) and for government-fixed mint ratios
3. Allowance of specie suspension in 1814: Established that banks can suspend specie payments (and thus violate contracts) at will without legal ramification
4. 1815 zero-interest Treasury Notes: First issuance of paper money not backed directly by specie
5. Federal Coinage Act of 1834: Established precedent for overnight devaluations
6. Introduction of the 3-cent "trime" in 1851: Established precedent for subsidiary coinage
7. Legal Tender Act of 1862: Established precedent for legal tender of bills of credit
8. Legal Tender Cases of 1869-1871: Established constitutionality of Legal Tender Act
9. Gold Reserve Act of 1934: Established that it is illegal for private citizens to own gold and eliminated gold coinage as a form of American currency
10. Act of March 18, 1968: Eliminated all gold reserve requirements on Federal Reserve Notes and thus established a limitless upper bound for note issuance.

These ten events, nine of which occurred in or before 1934, were the enablers for the massive American currency debasement. They established a legal framework where monetary debasement was left both legal and unchecked, which inevitably resulted in the manifestation of said debasement.

In the academic literature, there have been several detailed accounts of American monetary history, including Perkins (1700-1815), Studenski (1690- 1950), and Friedman (1867-1960). These books, as well as most academic papers, mention many acts of American monetary debasement. However, to my knowledge, there is no comprehensive work which gives a focused and comprehensive historical account of the chain of events which made it possible.³ Given the importance of money as a store of wealth for all Americans, it is surprising that a full account has not been written and is thus the impetus for my selection of monetary debasement as my dissertation topic.

This dissertation is divided into three conceptual sections:

- *Introductory Section:* This includes Chapters 1 and 2 and includes both the introduction and a description of terms used throughout the dissertation.
- *History Section:* This includes Chapters 3 through 13 and is the main core of the dissertation. This section traces the history of monetary debasement and defines the ten events as detailed above.
- *Analysis Appendix:* This is Appendix 1 and uses the large data set generated to write the History Section as an input for several regression analyses.

³ A 2010 JSTOR database search for “debasement” in the article title reveals only 16 results, of which only three refer to currency and none of which were written about the United States. A search for “devaluation dollar” yields only 8 results with all of them applying to post-1933 events. A search for “devaluation” yields 252 results, of which only a handful discuss events relevant to monetary debasement.

Chapter 2: Definitions and Preliminary Comments

Hard Money versus Soft Money Systems

Historically, monetary units were explicitly defined as a certain weight in specie, typically gold or silver. Examples include the British Pound (1 troy pound of silver), the German Thaler (29.2 g of 93.75% pure silver), the Spanish Peso (25.561 g of pure silver), the French Franc (one “tours pound” or 3.87 grams of gold), and the British Guinea (129.4 grains of pure gold). Thus, there was no distinction between the weight of the metal contained in the coin and the monetary unit describing the coin itself. This is known as a hard money system.

In a soft money system, the monetary unit is divorced from the weight units such that the monetary units become abstract and linked to no physical quantity of specie. This officially occurred in America in 1971, although the two had been implicitly divorced since permanent specie suspension in 1933. Once specie is suspended, the currency is known as fiat currency and is backed by nothing but government edict (“fiat” is derived from the Latin “fiat” meaning “let it be done”).

Types of Debasement

Monetary debasement is defined as the “active decrease in value of currency,” which can only be accomplished by increasing the number of monetary units without a corresponding increase in the weight units. Debasement is performed in three distinct ways, usually in the following order:

1. **Physical Debasement:** Metal coins are physically clipped, which reduces their metal content while maintaining their monetary value. The clippings can then be used as a source of government revenue (seignorage). In a fiat money system, the equivalent is to print additional paper notes or increase bank deposits. Both clipping and printing have the effect of eroding the purchasing power of the *monetary unit* of currency.
2. **Explicit Redefinition:** The monetary unit is redefined as lesser amount of specie weight. As an example, the Roman Emperor Nero redefined the silver denarius to be 1/93 pound of pure silver (from 1/84), which amounts to a 10% debasement.⁴ Likewise, the Coinage Act of 1834 redefined the U.S. dollar from 24.75 grains to 23.2 grains of pure gold. In a fiat money system, there is no metal with which to redefine a currency’s value. However, a government can reduce the value of its currency in terms of foreign fiat currencies, which is called a devaluation.
3. **Implicit Redefinition:** In a bimetallic currency system, a redefinition of the mint ratio (see below) has the implicit effect of debasing the undervalued currency. See the next section for further detail.

⁴ (Bartlett, 1994)

Mint Ratio Versus Market ratio

The mint ratio is defined as the ratio of the prices of two metals, typically gold and silver, as codified by the government. This ratio is set by the government and defines the price ratio in terms of the nation's unit of account. For example, the United States initially defined the dollar as 371.25 grains of silver and 24.75 grains of gold, hence establishing a mint ratio of 15-to-1. Thus, if a mint ratio exists, then a bimetallic (as opposed to a monometallic) standard exists. Since a mint ratio is a *legal ratio*, *the currencies are legal tender at the rate defined by the mint ratio*.

The market ratio is defined as the ratio of the prices of two metals, as determined by the free market. This ratio is independent of the mint ratio and implies nothing about legal tender status.

Thus, there is a general phenomenon, as described by Gresham's Law, which occurs when the mint and market ratios diverge. In this case, one metal becomes undervalued, meaning that its legal value is less than the underlying metal value and the coin vanishes from circulation. Simultaneously, the other currency becomes overvalued and floods into circulation. This latter overvalued currency is known as *subsidiary coinage*, as the metal's legal value is greater than its market value. *The existence of subsidiary coinage is simply a legalized form of monetary debasement and is a "fancier way" of debasing*

through redefinition. Thus, as a product of Gresham's Law,⁵ the combination of a bimetallic standard and declared legal tender for both metals inevitably leads to the circulation of implicitly debased subsidiary coinage.

A solution to this scenario would be to explicitly switch to a monometallic standard. There are drawbacks, however. First, with regards to gold and silver, it is physically infeasible to coin large-denomination silver coins (a 10-oz coin would be enormous). Therefore, it is convenient to have a second, more valuable metal, such as gold, for higher denominations. Likewise, small-denomination gold coins are infeasible as they would be tiny. The second issue is that, if two metals are both "popular," with a floating market ratio would result in two units of account and thus two sets of prices, two sets of deposits, etc. While both of these scenarios are drawbacks, there are several solutions, including warehouse receipts/gold certificates, which do not necessarily involve debasement.

Bills of Credit versus "Notes in Evidence of a Loan"

A bill of credit is a non-interest bearing paper note issued exclusively on the credit of the government, which is backed by nothing more than the faith of the government (such as today's Treasury Notes). A bill of credit is different than "a note in evidence of a loan" (or NEL), which is a promissory note for future payment, which may or may not be

⁵ Gresham's Law is typically stated as "bad money drives out good money." However, this is only valid when both monies have legal tender status. If neither have legal tender status, vendors will not accept the bad money and only good money will circulate. Thus, without legal tender laws, an inverse of Gresham's Law applies: "good money drives out bad money."

backed by specie. For example, a U.S. Treasury Note is “a NEL and is then paid/redeemed in either Federal Reserve Notes (a bank note) or, until 1971, in United States Notes (bills of credit). If one keeps asking the question “What is this note/bill/bond backed by,” the answer will eventually return to either “specie” or “nothing,” with the step before “nothing” usually being “bills of credit.”

Congressional Stock

Issues of government debt in the 18th and 19th centuries were referred to as “stock.” As an example, Congress issued bonds paying 6% interest in 1790. This issuance is formally known as the “6% stock of 1790.” Additionally, many assets in the course of American monetary history (such as the 1815 Treasury Notes), were “convertible into stock,” meaning that the asset could be exchanged for Congressional stock of the same value. There is no connection between this “stock” and the more general definition of “stock” or “equity.”

Fractional Reserve Banking and the Pyramid Ratio

Throughout American history, banks engaged in fractional reserve banking, meaning that only a fraction of their liabilities (notes or deposits) were held in reserves for redemption. Through issuing notes or extending loans beyond the amount of deposits/reserves, this practice is inflationary and results in increases in the general money supply and price levels. The percentage of reserves relative to total deposits and/or issued notes is the

reserve ratio, while its reciprocal is referred to as the pyramid ratio. A full-reserve banking system would thus have a reserve ratio of 100% and a pyramid ratio of 1.

Units

There are several units of mass used throughout this dissertation which are summarized in Table 1. The United States has historically defined their currencies in terms of grains of gold or silver.

Table 1: Unit conversions

Unit	Grains	Grams
Avoirdupois pound (16 Av ounces)	7,000.00	453.5924
Troy pound (12 troy ounces)*	5,760.00	373.2417
Troy ounce (20 pennyweights)	480	31.1035
Avoirdupois ounce	437.5	28.3495
Pennyweight	24	1.5552
Grain	1	0.0648
*The troy system was the basis for the British system of coinage introduced by Henry II of England, in which the penny was literally one pennyweight of silver. One pound sterling was equal to twenty shillings, with each shilling equal to twelve pennies. Thus, one pound sterling equals 240 pennyweights, or one troy pound of sterling silver.		

Context-Only Events

There are several historical events which are indirectly related to debasement and thus, during the course of this dissertation, are briefly summarized in order to provide context. These sections are labeled “context-only.”

Chapter 3: Currency in Colonial America (1690 – 1785)

During the pre-colonial years, there were six types of currency which circulated in America: foreign specie, state-issued bills of credit, private bank notes, public bank notes, commodities,⁶ and Revolutionary War Issues (Continentials and Loan Certificates). Within each of these categories, there could be dozens of individual currency issues, such that the colonial era was characterized by a lack of currency standardization. Looking at a selection of these currencies:

Foreign Specie: Spanish Milled Dollars

In the 16th and 17th centuries, the two most commonly circulated coins in Europe were:

1. German Thaler: named for the town of Joachimsthal, where it was originally minted.
2. Spanish Peso: literally means “unit of weight.” The peso consisted of eight real’s or “bits” and was hence sometimes referred to as pieces of eight. This is also the origin of the American quarter being referred to as “two bits.”

In 1690, the silver content as reduced in the Thaler (early debasement) such that it was very similar to the peso. In doing so, the coins became almost interchangeable and English merchants soon started referring to the peso as a “Spanish Dollar,” thus

⁶ In 1640, Massachusetts enacted legislation giving legal tender status to Indian corn, summer wheat, rye, barley and peas (Weiss, 1974, p. 580).

bestowing a German name on the Spanish coin.⁷ While several coins, including the gold French guinea, the gold Portuguese joe, the gold Spanish doubloon and the silver French crown, circulated in colonial America, the Spanish Dollar emerged as the dominant foreign currency due to its consistently maintained pure silver content of approximately 387 grains.⁸



Figure 2: Obverse and reverse of Spanish Dollar (also called the “Pillar Dollar”)⁹

State-Issued Bills of Credit

There is a vast academic literature regarding colonial state-issued paper money, most notably by Ferguson, Hall, Grubb, Brock, Michener, and Wright. Summarizing from Ferguson:¹⁰

⁷ (Pond, 1941)

⁸ (Rothbard, 2002, p. 49)

⁹ (New World Treasures, 2010)

¹⁰ (Ferguson, 1961)

Bills of credit in the colonies began with an issue of £7,000 (shortly increased to £40,000) in Massachusetts in 1690. This was followed by similar actions by New Hampshire, Rhode Island, Connecticut, New York, South Carolina, and New Jersey before 1711, North Carolina in 1712, Pennsylvania in 1723, Maryland in 1733, Delaware in 1739, Virginia in 1755, and Georgia in 1760. In most cases the bills were issued to excess and depreciated sharply in value. Parliament finally prohibited such paper currency in New England in 1751 and in the other colonies in 1764.

Bills of credit became very popular by the colonies as an “easy” way to fund both wars and exploration missions. Their value relative to specie was determined by whether the government was likely to raise future tax revenue to redeem them. Thus, in the pre-Revolution timeframe, bills of credit stayed near par in middle colonies (no war or large deficits), but depreciated in the extreme northern/southern colonies, such as Massachusetts and Georgia; once the Revolution started, all outstanding bills of credit depreciated to near worthlessness. While it is not necessary to cite data colony-by-colony, it is useful to use Massachusetts as a representative case study to show the typical path of state-issued bills of credit. After the initial issuance of paper money, there was very little initial depreciation, as measured by the market silver price. This was due to the relatively small amount of outstanding notes, the 1692 decree that the bills of credit were legal tender, and the 5% premium given to the notes when used for taxes. However, by 1749, there were more than £2 million in fiat money, which had depreciated by 89% despite the legal tender law and tax incentive (see Figure 3).¹¹ Additionally, through Gresham’s Law, the fiat currency had driven silver out of circulation, creating the well-known 18th century colonial specie shortage. On June 10, 1751, British Parliament passed the Currency Act of 1751, or officially “An Act to regulate and restrain Paper

¹¹ (Weiss, 1974, pp. 586-7)

Bills of Credit in his Majesty's Colonies or Plantations of Rhode Island and Providence Plantations, Connecticut, the Massachusetts Bay, and New Hampshire in America; and to prevent the same being legal Tenders in Payments of Money.”¹² This Act prohibited the New England colonies from issuing bills of credit, a prohibition which was extended to all of the colonies in the Currency Act of 1764. In response to the Currency Act, Massachusetts returned to a specie standard and began to finance their expenditures through borrowing by issuing interest-bearing bonds, known as Treasurer’s Notes (see Figure 3). By 1759, £578 million had been issued with a large portion of the bonds being hoarded as financial assets as opposed to circulating as money.¹³ This established an early distinction between circulating depreciating fiat money and non-circulating non-depreciating bonds (a type of NEL), only the latter of which can be issued under a specie standard. Weiss points out that “the specie system was maintained in spite of heavy borrowing by the colonial treasury and the inflation of prices,” which is contrary to the popular modern argument that a specie standard does not allow for emergency financing.¹⁴

¹² (Great Britain Statutes at Large, 1751)

¹³ (Wright, *One Nation Under Debt*, 2008, p. 46)

¹⁴ (Weiss, 1974, p. 589)

<i>Year</i>	<i>Bills of credit outstanding £,000</i>	<i>Silver price s. per oz.*</i>	<i>Implicit sterling exchange†</i>
1700		7	135
1701		7	135
1702		7	135
1703	5	7	135
1704	26	7	135
1705	36	7-8	155
1706	32	8	155
1707	50	8	155
1708	60	8	155
1709	70	8	155
1710	116	8	155
1711	138	8-8.33	158
1712	233	8.5	165
1713	236	8.5	165
1714	228	9	174
1715	245	9	174
1716	206	9-10	194
1717	285	10-12	213
1718	262	11	212
1719	241	12	232
1720	230	12-12.24	236
1721	268	13	252
1722	287	14	271
1723	334	15	290
1724	375	16	315
1725	424	15-16	300
1726	483	16	310
1727	486	16	310
1728	452	16.5-18	334
1729	468	19-22	416
1730	476	19-21	387
1731	480	18.75	364
1732	500	20	386
1733	495	21	406
1734	574	26.5	514
1735	577	27.5	532
1736	578	26.75	515
1737	588	26	504
1738	609	27	
1739	593	28.5	
1740	576	28.5	
1741	581	28.25	550
1742	607	28	540
1743	573	31	600
1744	434	30	580
1745	544	36	698
1746	1,445	36-41	725
1747	1,973	50-60	1060
1748	2,135	56.5	1100
1749	2,120	60	1160
1750	1,820	53	1030
	<i>Bills of credit £,000</i>	<i>Treasurers' notes</i>	
1750	600	27	
1753	600	12	
1754	600	24	
1755	600	109	
1756	600	231	
1757	600	260	
1758	600	396	
1759	600	578	

Figure 3: Massachusetts Paper Money and Silver Prices (see Footnote 11 for source)

Revolutionary War Issues: Continentals and Loan Certificates

In 1775, the Continental Congress was in need of a financing mechanism for the Revolutionary War. Under the Articles of Confederation, Congress had no power of taxation. This lack of taxation power thus made Congress an unsafe borrower, making debt unfeasible. Therefore, Congress decided to print the necessary funds and, on June 22, 1775, issued \$2,000,000 in Continental Currency (the “Continental”), which was to be backed by State-provided gold and silver.¹⁵ The logic was succinctly summarized by one congressman: “Do you think, gentlemen, that I will consent to load my constituents with taxes, when we can send to our printer and get a wagon load of money, one quire of which will pay for the whole?”¹⁶ A scan of the original resolution is shown in Figure 5. The two most telling clauses of the resolution are:

That a sum not exceeding two millions of Spanish mill'd dollars be emitted by the Congress in bills of credit for the defence of America.

And the treasurers whenever they have silver or gold in their hands, for the redemption of continental bills, shall advertise the same, signifying that they are ready to give silver or gold for such bills, to all persons requiring it in exchange.

The first quote again establishes that the monetary unit in America at the time was the Spanish milled dollar. Additionally, it acknowledges that the Continentals are “bills of credit” and thus not backed by any actual specie. The second quote claims that they will eventually be redeemable for specie (collected through taxation), but this was neither provable nor enforceable.¹⁷ The Continentals did not begin to depreciate immediately.

¹⁵ (Documents from the Continental Congress and the Constitutional Convention, 1775)

¹⁶ (Bolles, 1884, p. 38)

¹⁷ Benjamin Franklin, a staunch supporter of paper currency, recommended backing the Continentals with land-based assets as opposed to future tax revenue, but his plan was rejected by Congress (Grubb, 2007).

Instead, although the state emitted bills of credit had failed, the colonists still “had faith in a currency issued by Congress upon pledge of payment by all Colonies.”¹⁸ However, the issuance of Continentals increased dramatically from 1775-1779, resulting in a runaway depreciation:

Table 2: Continental issues and depreciation¹⁹

Year	Continental Issued (Single Year)	Continental Issued (Cumulative)	Continental/specie Exchange Rate	Percent of Specie
1775	\$6 million	\$6 million	1.0	100%
1776	\$19 million	\$25 million	1.4	70%
1777	\$13 million	\$38 million	-	-
1778	\$63 million	\$101 million	-	-
1779	\$140 million	\$241 million	-	-
1780	-	\$241 million	42	2.4%
1781	-	\$241 million	168	0.6%



Figure 4: Example of a Continental \$3 bill²⁰

¹⁸ (Bolles, 1884, p. 37)

¹⁹ (Studenski, 1952) and (Rothbard, 2002)

²⁰ (Department of Special Collections, 2010)

In Congress, Thursday, June 22, 1775.

RESOLVED, That a sum not exceeding two millions of Spanish mill'd dollars be emitted by the Congress in bills of credit for the defence of America.

That the twelve confederated colonies be pledged for the redemption of the bills of credit now directed to be emitted for the defence of America.

June 23. *Resolved*, That the number and denomination of the bills to be emitted be as follows, viz.

40,000 bills of 8 dol. each	320,000
40,000 do. 7 do.	280,000
40,000 do. 6 do.	240,000
40,000 do. 5 do.	200,000
40,000 do. 4 do.	160,000
40,000 do. 3 do.	120,000
40,000 do. 2 do.	80,000
40,000 do. 1 do.	40,000
11,800 do. 20 do.	236,000
<hr/>	<hr/>
403,800	2,000,000

That the form of the bill be as follows,
Continental Currency,

N
Dollars.

This bill entitles the bearer to receive Spanish milled dollars, or the value thereof in gold or silver, according to the resolution of the Congress, held at Philadelphia, on the 10th of May, A. D. 1775.

Resolved, That Mr. Adams, Mr. Rutledge, Mr. Duane, Dr. Bar. Franklin, and Mr. Wilson be a committee to get proper plates engraved, to provide paper, and to agree with printers to print the above bills.

July 21. *Resolved*, That Mr. Richard Bache, Mr. Stephen Pafibal, and Mr. Michael Hilligan, be appointed to superintend the press, and to have the oversight and care of printing the bills of credit ordered to be struck by this Congress.

July 25. *Resolved*, That a further sum amounting to the value of one million of Spanish milled dollars in bills of thirty dollars each be emitted.

As the signing of great a number of bills as has been directed to be issued by this Congress, will require more time than the members can possibly devote to that business, consistent with the attention due to the public service.

Resolved, That the following gentlemen be appointed and fully authorized to sign the same, viz. Luke Morris, Samuel Meredith, Judah Poulter, Samuel Morris, Frederick Kuhl, Robert Sheris, James Thomas, Ebenezer Lewis, John Moxie, Thomas Lawrence, Daniel Cyster, Thomas Barclay, John Maxwell N. Pitt, John Bayard, William Craig, Thomas Barlow, John Stier, Isaac Hazenbush, Robert Roberts, Anthony Morris, Merdcai Lewis, George Miffin, Robert Tuckniss, Andrew Basser, William Jackson, Joseph Sims, James Hilligan, and James Reed.

That each of the Continental Bills be numbered and signed by two of the above gentlemen.

That each gentleman, who signs the Continental bills, be allowed and paid out of the Continental Treasury one dollar and one third of a dollar for each and every thousand bills signed and numbered by him.

That the gentlemen appointed to number and sign the bills do give this receipt for the same, expressing the number and denomination of them, and after numbering and signing them shall deliver the same to the Continental Treasurer, taking their receipts for the bills so delivered.

July 29. *Resolved*, That Michael Hilligan and George Cyster, Esq's, be, and they are hereby appointed joint-treasurers of the United Colonies: That the treasurers reside in Philadelphia; and that they shall give bond with surety for the faithful performance of their office in the sum of one hundred thousand dollars to John Hancock, Henry Middleton, John Dickinson, John Ship, Thomas Lynch, Richard Henry Lee, and James Wilson, Esq's, and the signers of them, in trust for the United Colonies.

That the Provincial Assemblies or Convent-

ive colonies, and take sufficient security for the faithful performance of the trust.

That each colony provide ways and means to sink in proportion of the bills ordered to be emitted by this Congress, in such manner as may be most effectual and best adapted to the condition, circumstance, and usual mode of levying taxes in such colony.

That the proportion or quota of each colony be determined according to the number of inhabitants of all ages, including negroes and molattoes, in each colony. But as this cannot, at present, be ascertained, that the quotas of the several colonies be settled for the present as follows, to undergo a revision and correction, when the list of each colony is obtained.

New Hampshire,	124069½
Massachusetts Bay,	434444
Rhode Island,	71959½
Connecticut,	248139
New York,	248139
New Jersey,	161290½
Pennsylvania,	372208½
Delaware,	37219½
Maryland,	310174½
Virginia,	496278
North Carolina,	248139
South Carolina,	248139
	<hr/>
	3,000,000

That each colony pay its respective quota in four equal annual payments, the first payment to be made on or before the last day of November, which will be in the year of our Lord one thousand seven hundred and seventy nine, the second on or before the last day of November 1780, the third on or before the last day of November 1781, and the fourth and last, on or before the last day of November 1782.

And that for this end the several provincial assemblies, or conventions, provide for laying and levying taxes in their respective provinces or colonies, towards sinking the continental bills: That the said bills be received by the collectors in payment of such taxes, and be by the said collectors paid into the hands of the provincial treasurers with all such other monies, as they may receive in lieu of the continental bills, which other monies the said provincial treasurers shall endeavour to get exchanged for continental bills; and where that cannot be done, shall send to the continental treasurers, the deficiency in silver or gold, with the bills, making up the quota to be sunk in that year, taking care to cut, by a circular punch, of one inch diameter, a hole in each bill, and to cross the same, thereby to render them unpassable, though the sum or value is to remain fairly legible: And the continental treasurers, as far as they receive the said quotas, shall, with the assistance of a committee of five persons, to be appointed by the Congress, if sitting, or by the assembly or convention of the province of Pennsylvania, examine and count the continental bills, and in the presence of the said committee, burn and destroy them. And the silver and gold sent them, to make up the deficiencies, of quotas, they shall retain in their hands until demanded in redemption of continental bills, that may be brought to them for that purpose, which bills so redeemed, they shall also burn & destroy, in presence of the said committee. And the treasurers whenever they have silver or gold in their hands, for the redemption of continental bills, shall advertise the same, signifying that they are ready to give silver or gold for such bills, to all persons requiring it in exchange.

The provincial treasurers and collectors are to have such allowances for their respective services, as shall be directed by the several assemblies or conventions, to be paid by their respective province or colony.

That the continental treasurers be allowed for their services, this year, five hundred dollars each.

A copy from the minutes,

Charles Thompson, Sec^{ry}.

Figure 5: Act of June 22, 1775 issuing \$2 million in paper Continentals¹⁵

As the Continentals depreciated, merchants soon wouldn't accept them, a natural example of Gresham's Inverse Law (see Footnote 5). However, to force their circulation, Congress adopted legal tender laws for the Continental Currency on January 11, 1776, declaring anyone who refuses to accept the fiat currency as an "enemy of the country." From the January 11, 1776 session of Congress (*italics added by author*):²¹

. Resolved, Therefore, *that any person who shall hereafter be so lost to all virtue and regard for his country, as to refuse to receive said bills in payment, or obstruct or discourage the currency or circulation thereof, and shall be duly convicted by the committee of the city, county or district, or in case of appeal from their decision, by the assembly, convention, council or committee of safety of the colony where he shall reside, such person shall be deemed, published, and treated as an enemy of the country and precluded from all trade or intercourse with the inhabitants of these Colonies.*

The result of the first national fiat money legal tender legislation was to drive all specie out of white-market circulation. In March 1780, Congress officially devalued the Continentals by a factor of forty, meaning that each \$1 Continental was legally equivalent to 1/40 of a Spanish Milled dollar. As the first incident of debasement by redefinition of a fiat currency, the public saw this act as "a shocking breach of public faith," which made "an impression on the minds of the people extremely unfavorable to paper credit in general."²² In May 1781, Congress repealed the legal tender status of the Continentals.

As the Continentals were depreciating to almost worthlessness, Congress adopted a new type of financing: loan certificates. Congress issued \$600 million in loan certificates (more than twice the Continentals issue). From Ferguson:²³

²¹ (Hepburn, 1915, p. 14)

²² (Wright & Michener, 2005, p. 687)

²³ (Ferguson, 1961, p. 57)

The role played by certificates has escaped notice, mainly because the record of their existence was dissipated in the obscurity of state accounts and does not figure largely in the federal documents upon which scholars have usually relied. But as the money revenues of Congress dwindled in the later stages of the war, certificates became the chief means of sustaining the army. Certificates were drafts which federal officers drew upon their respective departments. They were issued by all the departments in lieu of money, but the Quartermaster and Commissary departments used them in overwhelming numbers. At first merely hand written notes, they later became printed forms. From the beginning they were connected with impressment.

Due to lack of options and the fact that they bore interest, the loan certificates were mildly more appealing than the Continentals and circulated as fiat currency. By 1779, they had depreciated to 24:1 with respect to specie and are yet another example of the effects of fiat currency. The loan certificates are especially important with regards to their treatment at the end of the war in 1781. At that time, there was vastly more paper than backing specie; thus, to remain on a hard-currency standard, a large monetary contraction occurred in the form of either no redemption (the Continentals) or depreciated redemption (state-issued loan certificates and some federal loan certificates), occurring at rates up to 1000-to-1 (Virginia and North Carolina certificates; see Figure 6).²⁴ The remainder of the loan certificates remained in circulation and eventually became the basis for the first public debt.

²⁴ (State of North Carolina Office of Archives and History, 2002)

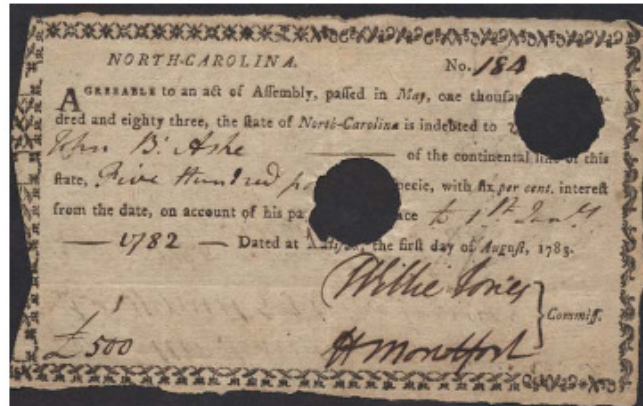


Figure 6: Example of a state-issued loan certificate. The holes are the indentations used to help prevent against counterfeit certificates.

Chapter 4: Monetary Legislation from 1785 – 1793

Following the monetary chaos of the Revolutionary War, the Congress of the Confederation moved towards establishing and codifying the American currency system. On May 13, 1785, the grand committee of the Continental Congress met to discuss such questions as currency divisions (decimal versus non-decimal), the role of gold and silver, the unit of account, and the potential establishment of a national mint. In holding this meeting, two documents were used as the official references for the committee's recommendations: a 1782 report by Robert Morris and a 1785 report by Thomas Jefferson.

Robert Morris' 1782 Report

On January 15, 1782, Robert Morris, as acting Superintendent of Finance, published *Propositions Reflecting the Coinage of Gold, Silver, and Copper*.²⁵ While this report is most well-known for suggesting a decimal currency notation (as opposed to the popular 12 pence/shilling and 20 shilling/pound accounting), it also made two other critical recommendations with regards to the unit of account and mint ratio.

²⁵ (Morris, 1782)

Morris suggests that the national unit of account should be the dollar, which will be defined as a certain weight of silver (Morris suggested 362 grains). This is the origin of hard money in America, as Morris took it as given that the dollar would be inextricably linked to a weight of silver and it simply became a question of “how much silver.”

Morris cites his suggested value of 362 grains as one which will “hardly be thought of as too little” relative to the 365 – 385 grains found in the Spanish milled dollar. Whether he was correct or not, Morris was supporting an explicit monetary debasement which would have likely removed heavier foreign specie from circulation in favor of his lighter 362-grain silver coins.

Morris then moves on and suggests a 15-to-1 mint ratio, hence placing America on a bimetallic monetary standard. As mentioned earlier, a fixed mint ratio results in the undervaluation of one currency, which is driven out of circulation while the overvalued currency effectively becomes debased. Morris was well aware of this effect:

In France, 1 grain of pure gold is counted worth 15 grains of silver. In Spain, 16 grains of silver are exchanged for 1 of gold, and in England 15 and three fifths. In both of the kingdoms aft mentioned, gold is the prevailing currency because silver is undervalued. In France, silver prevails. Sundry advantages would arise to us from a system by which silver might become the prevailing money....Silver is not exported as easily as gold and is a more useful metal.

Thus, Morris was a “fan of silver” and recommended a low mint ratio as to knowingly drive gold out of circulation and silver into America. Additionally, his suggestion of an American silver dollar with 362 grains would represent a debasement of the “international dollar standard” and thus drive foreign specie out of America to be

replaced by domestically minted silver coins. This report is the earliest formal recommendation in America for a legalized mint ratio and a bimetallic currency standard, two key instruments which eventually led to monetary debasement in America.

Thomas Jefferson's 1785 Report

In May, 1785, Jefferson published his *Notes on the Establishment of a Money Mint and of a Coinage for the United States*.²⁶ Jefferson's primary recommendations were:

1. The adoption of the Spanish-milled dollar as the standard unit of currency due to its widespread usage, relatively consistent silver content, and consistency with the decimal system "to facilitate the money arithmetic."
2. The adoption of a decimal currency notation
3. The adoption of simple decimal coin denominations (Morris had recommended a much more complex system featuring a coin which was 1/1440 of a dollar)
4. A bimetallic standard with the dollar defined as a given weight of silver and a fixed mint ratio then dictating the weight in gold of a ten-dollar gold coin.

Like Morris, Jefferson also presented explicit plans for selecting the amount of silver in the dollar and the mint ratio. With regards to the former, Jefferson bashed the inconsistent metal content of the pound in America and acknowledged the discrepancies of the currently circulating dollar:

²⁶ (Jefferson, 1785)

I know of no unit which can be proposed in competition with the dollar but the pound; but what is the pound? 1547 grains of fine silver in Georgia, 1289 grains in Virginia, Connecticut, Rhode Island, Massachusetts, and New Hampshire; 1031 grains in Maryland, Delaware, Pennsylvania, and new jersey, 966 grains in North Carolina and New York. Which of these shall we adopt?...If we determine that a dollar shall be our unit, we must then say with precision what a dollar is. This coin as struck at different times, of different weight and fineness, is of different values.

Jefferson also agreed with Morris on the establishment of a mint ratio. However, while Morris wanted to intentionally overvalue silver, Jefferson saw that as outside of government's realm, suggesting a consistent dollar based upon the average of the silver content in the existing silver dollars:

We should examine the quantity of pure metal in each, and from them form an average for our unit. This is a work proper to be committed to the mathematicians as well as merchants...Just principles will lead us to disregard legal proportions altogether; to enquire into the market price of gold in the several countries with which we shall principally be connected in commerce and to take an average from them.

This is an explicit statement of the hard-money proposition that the mint ratio, if implemented, should be set at the market ratio in order to avoid currency misevaluation, as opposed to being used as a tool for monetary manipulation. Interestingly though, Jefferson "softens" his position in the very next sentence, suggesting that "perhaps we might with safety lean to a proportion somewhat above par for gold" when selecting the legal mint ratio (see Figure 7).

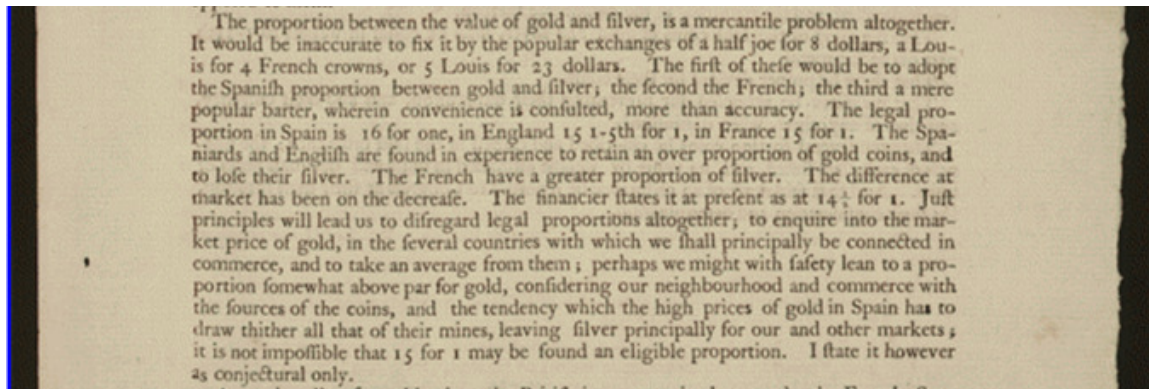


Figure 7: 1785 notes by Thomas Jefferson recommending a market-based mint ratio and then subtly softening on that position (see Footnote 26)

In most literature, Morris and Jefferson are seen as presenting similar proposals, with Jefferson "approving of Mr. Morris' general views"²⁷ and merely simplifying the unit of account away from Morris' 1/1440-dollar. However, the author believes that, while both Morris and Jefferson were clearly hard-money advocates, the two are polar opposites with regards to the role of government within the hard money system. Morris wanted to use the dollar's silver content and legally imposed mint ratio as tools for government monetary manipulation while Jefferson believed that these values should be determined by market averages. Thus, the subtly opposing viewpoints of Morris and Jefferson can be seen as the predecessor to the eventual hard-money/soft-money debates.

²⁷ (Curtis, 1860, p. 443)

Acts of July 6, 1785, August 8, 1786, and October 6, 1786

Following the recommendations of Morris and Jefferson, the dollar was established as the money unit of the United States of America by the Continental Congress, on July 6, 1785.

The three resolutions on that date were:²⁸

- *Resolved*, That the money unit of the United States of America be one dollar.
- *Resolved*, That the smallest coin be of copper, of which 200 shall pass for one dollar.
- *Resolved*, That the several pieces shall increase in a decimal ratio.

However, it wasn't until August 1786 that Congress defined the meaning of a "dollar."

The Act of August 8, 1786 declared that:²⁹

- The standard for coinage of gold and of silver should be eleven parts fine and one part alloy³⁰
- The dollar should contain 375 and 64/100 grains of fine silver.
- American silver coins should consist of the dollar, half dollar, double dime, and dime
- American copper coins should consist of the cent and half cent
- American gold coins should consist of a \$10 Eagle and a \$5 half eagle
- The Eagle shall contain 246 and 268/1000 grains of fine gold

Thus, while defining the dollar in terms of silver which is suggestive of a monometallic standard, the Continental Congress was in fact enacting a bimetallic standard with an implicit mint ratio of $375.64/24.6268 = 15.25$.

²⁸ (Journals of the Continental Congress, 1785)

²⁹ (Documents from the Continental Congress and the Constitutional Convention, 1786)

³⁰ This 11-to-1 ratio is derived from the 22-karat "crown's gold" used in England for coinage since 1526.

This act was followed by the Ordinance of October 6, 1786 for the establishment of a mint to produce the coinage specified in August, 1786 (although the first U.S. Mint was not constructed until 1792) This Act also re-affirmed the definition of standard gold and silver to be 11 parts fine metal and 1 part alloy (i.e. 91.66% fine).

By the UNITED STATES in CONGRESS assembled.

AUGUST 8, 1786.

On a Report of the Board of Treasury :

RESOLVED, That the standard of the United States of America, for gold and silver, shall be eleven parts fine and one part alloy.

That the money unit of the United States, being by the resolve of Congress of the 6th July, 1785, a dollar, shall contain of fine silver, three hundred and seventy-five grains, and sixty-four hundredths of a grain.

That the money of account, to correspond with the division of coins, agreeably to the above resolve proceed in a decimal ratio, agreeably to the forms and manner following, viz.

Mills.--The lowest money of account, of which one thousand shall be equal to the federal dollar, or money unit,	0.001
Cents.--The highest copper piece, of which one hundred shall be equal to the federal dollar,	0.010
Dimes.--The lowest silver coin, ten of which shall be equal to the dollar,	0.100
Dollar.--The highest silver coin,	1.000

That betwixt the dollar and the lowest copper coin, as fixed by the resolve of Congress of the 6th July, 1785, there shall be three silver coins, and one copper coin.

That the silver coins shall be as follows: One coin containing one hundred and eighty-seven grains, and eighty-two hundredths of a grain of fine silver, to be called *A Half Dollar*: One coin containing seventy-five grains, and one hundred and twenty-eight thousandths of a grain of fine silver, to be called *A Double Dime*: And one coin containing thirty-seven grains and five hundred and sixty-four thousandths of a grain of fine silver, to be called *A Dime*.

That the two copper coins shall be as follows: one equal to the one hundredth part of the federal dollar, to be called *A Cent*: And one equal to the two hundredth part of the federal dollar, to be called *A Half Cent*.

That two pounds and a quarter avoirdupois weight of copper, shall constitute one hundred cents.

That there shall be two gold coins: One containing two hundred and forty-six grains, and two hundred and sixty-eight thousandths of a grain of fine gold, equal to ten dollars, to be stamped with the impression of the American eagle, and to be called *An Eagle*: One containing one hundred and twenty-three grains, and one hundred and thirty-four thousandths of a grain of fine gold, equal to five dollars, to be stamped in like manner, and to be called *A Half-Eagle*.

That the mint price of a pound troy weight of uncoined silver, eleven parts fine and one part alloy, shall be nine dollars, nine dimes and two cents.

That the mint price of a pound troy weight of uncoined gold, eleven parts fine and one part alloy, shall be two hundred and nine dollars, seven dimes and seven cents.

Figure 8: Photograph of the original Act of August 8, 1786 (see Footnote 29)

Constitution of the United States

The initial American legislation regarding currency can be found in Article 1 (“The Legislative Branch”) of the United States Constitution, ratified on June 21, 1788.

- Section 8 (Powers of Congress): “Congress shall have power...to borrow money on the credit of the United States...to coin money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures.”
- Section 10 (Powers prohibited of States): “No state shall...coin money; emit bills of credit; make anything but gold and silver coin a tender in payment of debts; pass any...law impairing the obligation of contracts.”

Thus, the Constitution established a very important precedent: it imposed very strict hard-money monetary measures on the States by forcing it to pay debts with specie and prohibiting it from issuing fiat money (i.e. bills of credit). However, the Constitution seemingly exempted the Federal government (i.e. Congress) from these monetary constraints. This disparity is one of the most widely written about in the historical monetary literature and will thus only be briefly summarized here.

Comments on Section 10

As previously discussed, a pattern had emerged well before the Revolutionary War of States issuing fiat money which rapidly depreciated relative to specie. This pattern was continued during the Revolutionary War both on a federal level (the Continentals and loan certificates) and state level (state-issued loan certificates), which, for a large portion of the War, were declared to be legal tender. In creating legal tender fiat currency, many

citizens lost a vast majority of their wealth and established a hatred of legal tender laws and paper money. Thus, the hard-money constraint in Article 10 is not surprising.

However, it would be remiss to ignore the academically neglected fact that the constraints of Article 10 are very similar to the constraints enacted by Britain in the Currency Acts of 1751 and 1764. The States were outraged by the Currency Acts, which were fundamental causes leading to the Revolutionary War. Nash states that³¹:

{The Currency Act} produced such great inconvenience and misery to the people, that it was the principal cause of the Revolution. A far greater reason for a general uprising, than the Tea and Stamp Act, was the taking away of the paper money.

While Nash's statement is impossible to prove, and probably exaggerated due to the omission of the Currency Act from the Declaration of Rights and Grievances, the Olive Branch Petition, and the Declaration of Independence, the over-arching point is that the Currency Act was viewed as a negative by the Colonists. Therefore, given that Article 10 is a self-imposed State Currency Act, it is probable that the outrage to the Currency Act was due more to the principal of tyranny than the actual legislation itself.

Rationale Behind Section 8

If this distaste existed for paper money, why was the Federal Government not subject to the same restriction, especially given that it was the originator of the much-maligned Continental? Most academic literature answers this question by denying the exemption; in other words, most scholars, including Hammond and Bork,³² believe that the Founders

³¹ (Nash, 1986)

³² (Excerpts From Questioning of Judge Bork by Senate Committee Chairman, 1987)

intended for the Federal Government to be subject to the same hard-money laws as the States. Quoting Hammond:³³

Was it intended that though the states might not issue paper money, establish other legal tender, and impair contracts, the government might do so?...The question is historical and is not answered by jurisprudence or by subsequent practice. Was the power *intended*? The answer, according to the records of the convention, seems clear enough: it is no.

Reasons often cited are either philosophical or empirical (i.e. from the minutes of the Constitutional Convention and the published notes of the attendees). Philosophical reasons include:

1. The use of the word “coin” in Article 8 implies metal
2. The immediate adoption of a hard-money currency in 1792 under the Federal Coinage Act
3. The absence of any reference to legal tender and the only reference to “tender” at all being with regards to gold and silver.
4. The power to “regulate the value” of coin does not mean the power to “create legal tender fiat currency.” Since the word “regulate” is applied to both domestic and foreign coin, the only common definition can be set mint ratios between precious metals and to set exchange rates between domestic and foreign coinage.
5. The Federal Government only has the powers enumerated to it in the Constitution; hence, the absence of a prohibition is not an argument in favor of its legality. In other words, since the Constitution does not explicitly say that Congress can print paper money and declare it legal tender, then it cannot.

³³ (Hammond, 1957, pp. 92-3)

Empirical examples include:

1. An initial draft of Section 8 of the Constitution, consistent with Article IX of the Articles of Confederation, contained the words “and emit bills” such that it read: “To borrow money and emit bills on the credit of the United States.”³⁴ There was harsh opposition to this wording and *the three words were deleted*, thereby eliminating the conference [sic] of this power to Congress. In his notes, Madison wrote that “Mr. Langdon had rather reject the whole {Constitution} than retain the three words” and “Mr. Read, thought the words, if not struck out, would be as alarming as the mark of the Beast of Revelations.”³⁵
2. James Madison, in his notes on the deliberations, declared that one of the defects they were assembled to remedy was that “In the internal administration of the States, a violation of contracts had become familiar, in the form of depreciated paper made a legal tender.”
3. Edmund Randolph, in the introductory remarks preceding the presentation of the Virginia Plan to the convention, declared that when the Articles of Confederation, by allowing federal bills of credit, had been written with “the havoc of paper-money had not been foreseen.”

There are two commingled issues being debated here:

1. Whether Congress has the power to issue bills of credit
2. Whether Congress has the power to declare these bills legal tender

³⁴ Thus, from March 1781 (ratification of Articles of Confederation) until June 1788 (ratification of Constitution), Congress had the authority to emit bills of credit. However, they had no power to make said bills legal tender.

³⁵ (Madison, 1787)

In most writings, these issues are combined into one as it is assumed that any federally issued paper would be made legal tender. However, Madison notes that, in the debate over the words “and emit bills,” it was actually unnecessary to strike these words. He suggested “that it would suffice to prohibit making such bills legal tender, which would have removed the element of coercion.”³⁶ This is an insightful point which is ignored in the “can Congress issue paper money” debate. The fundamental problem with paper money is not its existence, but its legal tender status which is a tool of coercion and contract violation. Thus, if Madison’s wording had passed, Congress would have eventually emitted the same bills of credit that we see today, but the Constitution would have strictly prohibited their legal tender status and the market would most likely have depreciated them out of existence.

Instead, the striking of the three words was actually an unknown defeat for the hard money camp, as the resultant terminology was not codified in an explicit enough manner to prohibit the eventual legality of soft money in the Knox and Parker cases of the 1870’s (discussed later).³⁷ Not surprisingly, this legal loophole was predicted by one of the Framers. From Trask:³⁸

“Elbridge Gerry of Massachusetts was so alarmed by the prospect of the federal government having this {legal tender} power that he wanted an explicit prohibition, but the other delegates thought it unnecessary. Experience soon vindicated Gerry's apprehension and desire for additional safeguards.”

³⁶ (Madison, 1787)

³⁷ Some scholars believe that this clause was intentionally left vague to allow the Federal Government more “flexibility.” Madison described George Mason’s position: “Though he had a mortal hatred to paper money, yet as he could not foresee all emergencies, he was unwilling to tie the hands of the Legislature.”

³⁸ (Trask, 2003)

The combination of the non-adoption of Madison's legal tender clause and the lack of a clear and explicit hard-money restriction on the Federal government in Section 8 is *Event One* in the eventual 200-year debasement of American currency. As will be shown in subsequent sections, this *Event* is the catalyst for the majority of 19th Century Congressional debates on currency.

The First Public Debt: Issuance of Sixes, Deferred Sixes, and Threes of 1790

On September 21, 1789, the House of Representatives asked Alexander Hamilton, America's first Secretary of the Treasury, to formulate a plan for dealing with America's remnant Revolution debt. Hamilton responded on January 9, 1790 with "Report Relative to a Provision for the Support of Public Credit," more famously known as The First Report on Public Credit. In the report, Hamilton recommends that the Federal Government assume all outstanding state debt and thus develop one all-encompassing federal public debt. While initially rejected, the Funding Act (sometimes referred to as the Assumption Act) was passed on August 4, 1790 as part of the "Compromise of 1790"³⁹ with the federal government assuming \$21.5 million in state debt.⁴⁰ The assumption would thus pay off the foreign debt (\$12 million) at par, domestic debt (besides Continentals) at par, and the Continentals at 100-to-1 (market value in April

³⁹ (Cooke, 1970) The "Compromise" was the agreement to pass both the residence act and the Funding Act. The Residence Act placed the national capital in Washington DC, which was surrounded by two slave states (Maryland and Virginia) and hence was pro-South. The Funding Act cleared state debts, which was favorable to certain Northern states, such as Pennsylvania and Massachusetts. The Act eliminated state debts for the next century, with the exceptions of the war of 1812, the panic of 1819, and the construction of the New York Canal.

⁴⁰ (Ratchford, 1941, p. 60)

1781 before legal tender was repealed). To fund the assumption, Hamilton created the first public debt, which, for every \$100 of principal of state debt assumed, issued:

- \$44.44 in 6% bonds paying interest beginning in 1791 (the “Sixes”)
- \$22.22 in 6% bonds paying interest beginning in 1801 (the “Deferred Sixes”)
- \$33.33 in 3% bonds paying interest beginning in 1791 (the “Threes”)⁴¹

The package of bonds (known as the “stock of 1790”) has an effective interest rate of 4.4% (assuming a 6% discount rate). Additionally, the bond issues contained a limited redemption clause (i.e. the government could pay down the principal at its discretion before bond maturity), which, if exercised, would allow the nation to pay off its debt within 24 years.⁴² This was consistent with the general national sentiment of fiscal responsibility, best expressed by Jefferson who held that “one generation had no right to burden the next with debt.”⁴³ Most importantly, the interest payments were to be made in specie or, starting in 1791, in credits to bank accounts at the First Bank of the United States, where deposits were {theoretically} backed by specie.

First Bank of the United States (FBUS)

On February 25, 1791, amongst much political controversy, Congress chartered the First Bank of the United States, the first post-Constitution central bank. There is a vast literature on FBUS, most of which is not relevant here. However, three features of FBUS are noteworthy:

⁴¹ (Wright, *One Nation Under Debt*, 2008, p. 144). Note that federal debts were converted into these same bond issues, but with a different assumption ratio (2/3 Sixes and 1/3 Deferred Sixes) for implicit interest rate of 5.1%.

⁴² (Swanson & Trout, 1992, p. 112)

⁴³ (Swanson & Trout, 1992, p. 114)

1. FBUS was initially capitalized with \$10 million. \$2 million was funded by the U.S. government (through a loan from the bank itself) and the other \$8 million was funded privately. Of that \$8 million, \$2 million was in specie while \$6 million was in bonds (mostly Sixes, Deferred Sixes, and Threes). Thus, only 20% of the FBUS' initial deposits were backed in specie.
2. FBUS was able to use the interest-bearing bonds as reserves (in addition to specie). Thus, the 20% specie/capital ratio along with the ability to hold paper bonds as reserves vastly contributed to FBUS' inflationary power (see former section on fractional banking).
3. All bondholders of public debt were depositors at FBUS, and interest was paid by crediting their accounts. Then, the bondholders could withdraw the money by check, FBUS notes, or specie (if available).

By combining these points, it is clear that the United States public debt was thereby not backed immediately by specie (in the same way that the deposits at any fractional reserve bank cannot be backed by specie). However, since the congressional stock were NEL's and backed by specie eventually to be collected in taxation, these bonds are not a form of fiat currency. It is simply interesting to note that, by using FBUS as the distributor of interest, there was no guarantee that a creditor could, upon demand, receive the interest in specie due to him.

Federal Coinage Act of 1792

The Federal Coinage Act, signed into law by George Washington on April 2, 1792, can be considered the “birth of the dollar” and the formalization of the bimetallic hard-money standard. Under Section 9 of the Act, the newly authorized and constructed Philadelphia mint would produce gold eagles, half eagles, and quarter eagles (respectively worth \$10, \$5, and \$2.50), silver dollars, half dollars, quarter dollars, dismes, and half dismes, and copper cents and half cents. Additionally, under Section 14, any U.S. citizen could bring gold and silver bullion to the Mint and have it coined free of charge. The metal contents of each of the authorized coins are shown in Table 3, and the four implicit dollar definitions are shown in Table 4.

Table 3: Approved minted coins by the 1792 Coinage Act⁴⁴

Coin	Value	Metal	Pure		Standard	
			<i>Grain</i>	<i>Gram</i>	<i>Grain</i>	<i>Gram</i>
Eagles	\$ 10.00	Gold	247.500	16.000	270.000	17.500
Half Eagles	\$ 5.00	Gold	123.750	8.020	135.000	8.750
Quarter Eagles	\$ 2.50	Gold	61.875	4.010	67.500	4.370
Dollars or Units	\$ 1.00	Silver	371.250	24.100	416.000	27.000
Half Dollars	\$ 0.50	Silver	185.625	12.000	208.000	13.500
Quarter Dollars	\$ 0.25	Silver	92.813	6.010	104.000	6.740
Dismes	\$ 0.10	Silver	37.125	2.410	41.600	2.700
Half Dismes	\$ 0.05	Silver	18.563	1.200	20.800	1.350
Cents	\$ 0.01	Copper	11.000*	17.100	-	-
Half Cents	\$ 0.01	Copper	5.500*	8.550	-	-
*For copper, the left-hand mass is in pennyweights as opposed to grains						

⁴⁴. (United States Statutes at Large, 2 April 1792, p. 246)

Table 4: Tabular view of the dollar assignments of the 1792 Coinage Act

Metal	Definition	Rationale
Pure Gold	24.75 grains	Fixed mint ratio of 15-to-1
Standard Gold	27.0 grains (24.75 pure gold, 2.25 alloy)	Defined as 11 parts pure gold and 1 part copper alloy. (Precedent from Act of August 8, 1786; 91.6% pure gold is “British “crown gold”)
Pure Silver	371.25 grains	Mass of a Spanish Dollar of average wear. Value is smaller than the 375.64 grains as defined in Acts of 1785 and 1786
Standard Silver	416.0 grains (371.25 pure silver, 44.75 alloy)	Defined as 1485 parts pure silver and 179 parts copper alloy. No precedent for this 8.3:1 ratio (89.24% pure)

These definitions of the dollar were very similar to those established in the Act of August 8, 1786, with the following differences:

- The mint ratio was lowered from 15.25-to-1 to 15-to-1. This was based on Hamilton’s recommendation in his 1791 *Report on the Subject of a Mint*. Quoting Hamilton, “this proportion of 1 to 15 is recommended by the particular situation of our trade, as being nearly that which obtains in the market of Great-Britain, to which nation our specie is principally exported”.^{45,46}
- The weight of pure silver in a dollar was decreased from 375.64 to 371.25 grains.
- The ratio of silver-to-alloy was lowered from 11-to-1 to 8.3-to-1.

Besides being the first post-Constitution codification of the American hard-money system, the Act has significance for several other reasons:

1. **Legal Tender:** In Section 16 of the Act, the aforementioned coins became “lawful tender in all payments whatsoever.” This is the first legal tender law enacted post-

⁴⁵ (Hamilton, 1791, p. 4)

⁴⁶ The market ratio was actually slightly higher, estimated at 15.05 in 1791 and 15.17 in 1792. (Officer, 2009)

Constitution, setting an important precedent for the constitutionality of legal tender laws in general. As mentioned previously, Madison and others were harshly opposed to legal tender of paper money due to its coercive nature. However, the legal tender status of hard money was entirely uncontroversial and unopposed.⁴⁷ Because most monetary histories focus on the adverse effects of legal tender laws with regards to fiat currency issues, this clause is ignored in the academic literature. However, the allowance of legal tender laws is just as important *as the allowance of fiat currency with respect to the progression of monetary debasement.*

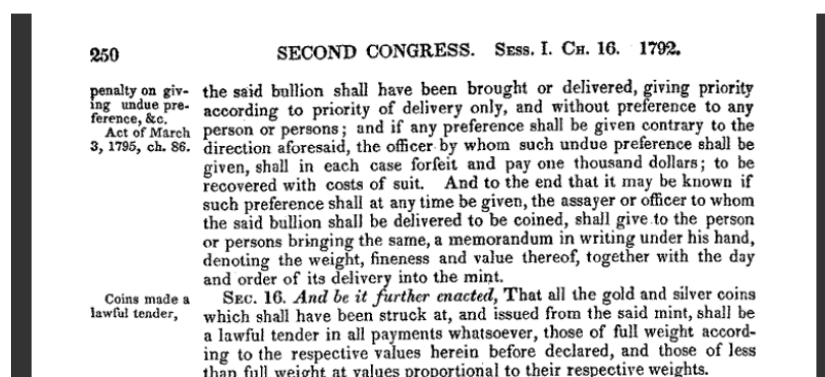


Figure 9: Text from 1792 Coinage Act establishing legal tender⁴⁸

2. **Fixed Mint Ratio:** The establishment of a fixed mint ratio is the first post-Constitution example of debasement in the form of fixed mint ratios driving out bad currency. This effect was described in an earlier section, and was illustrated in reality when gold prices subsequently rose relative to silver. Foreign nations used

⁴⁷ A literature search in the Library of Congress revealed no discussion or opposition to this clause. Most of the debate seemed focused on which graphic should be placed on the coins. (Annals of Congress, March 1792, p. 483)

⁴⁸ (United States Statutes at Large, 2 April 1792, p. 373)

overvalued (i.e. debased) silver to buy cheap gold, which was driven from circulation (either through export or domestic hoarding).

3. **Death Penalty for Debasement:** Section 19 establishes that if “any of the gold or silver coins...shall be debased or made worse as to the proportion of the fine gold or silver therein...every such person who shall commit the said offences shall be deemed guilty of felony and shall suffer death.”⁴⁹
4. **Foreign Specie:** Even though Congress had authorized American-minted coinage in 1786, a mint had never been constructed. Thus, the entire supply of American coinage was composed of foreign specie. David Martin notes that, in the discussions of the bill, “Hamilton had proposed to terminate the lawful status of all foreign coins after three years.”⁵⁰ However, this proposal of monetary nationalism was rejected and not included in the Coinage Act. Its exclusion promoted the maximum circulation of all types of specie and established the hard metal principal that “gold is gold.”
5. **Spanish milled dollar as unit of measurement:** In Section 9, the “dollar or unit” is defined “to be of the value of a Spanish milled dollar...and to contain 371 grains and 4/16 parts of a grain of pure...silver.” This is academically interesting as it shows the prevalent and engrained nature the Spanish dollar in early America. More importantly, it defines a dollar as equal to both the value of the Spanish dollar as well as equal to 371.25 grains of silver. Since several Spanish dollars contained more than

⁴⁹ The Act of April 21, 1806 reduced this penalty to 3-10 years imprisonment and a maximum \$5000 fine for counterfeiting and 0-2 years imprisonment and a maximum \$2000 fine for “impairing, diminishing, falsifying, scaling, or lightening the gold or silver coins” of the United States (United States Statutes at Large, 21 April 1806, p. 404)

⁵⁰ (Martin, *The Changing Role of Foreign Money in the United States, 1782-1857*, 1977, p. 1010)

371.25 grains of fine silver, this created a small “bimetallic silver standard” where the often heavier Spanish dollars became undervalued relative to American dollars, hence encouraging the circulation of the latter.⁵¹

6. **Decimal System:** Section 20 of the Coinage Act had imposed the decimal system on both the coinage issues and on all federal accounts.

Due to Points 1 and 2, the 1792 Federal Coinage Act is *Event Two* in the history of monetary debasement. Legal tender and fixed mint ratios are both key concepts which eventually allow the dollar’s debasement, and they can both trace their legislative history back to this Act.

Foreign Specie: Act of February 9, 1793

Despite the passing of the Federal Coinage Act in 1792, the first silver coins were not minted in America until 1794 (gold in 1795). Thus, foreign specie remained the dominant hard money in the early 1790’s. On February 9, 1793, Congress conferred dollar values to foreign coins in circulation in the United States, specifically naming Great Britain, Portugal, Spain, and France and declared the foreign coins to be “a legal tender for the payment of all debts and demands.” An illuminating discrepancy in the bill was:

⁵¹ The standard in Spain was 377 grains per Spanish milled dollar, but Hamilton reports that there is an “old Seville piece” of 386 grains (Hamilton, 1791, p. 2).

- The Spanish milled dollar retained legal tender status as long as “the actual weight whereof shall not be less than 17 pennyweights and seven grains {415 grains}.”⁵² A weight threshold was also given for the French Silver Crown.
- Gold coins from France, Spain, Portugal, and Great Britain were given dollar values *in accordance with the actual weight of the coin*. This is the only example the author was able to find of currency values legally floating in America.

Thus, the value of foreign gold coins floated with the weight of the coin (eliminating the adverse effects of debasement) while the value of silver coins was rigid as long as they weren’t debased below a certain threshold. This provides complete protection against gold coin debasement and moderate protection against silver coin debasement, but still fixes the mint ratio of the metals and thus does not protect against changes in market prices. Additionally, the “rigidity in silver” is consistent with keeping the definition of the dollar wholly based in silver.

Section 2 of the Act states that, after three years, “all foreign gold coins and all foreign silver coins, except Spanish milled dollars, shall cease to be legal tender.” While this section was later repealed through legal tender extensions in 1798, 1802, and 1806, it is clear that Hamilton’s monetary goal was a system in which American coinage and the basis for American coinage (the Spanish milled dollar) were the only circulating coins.

⁵² (United States Statutes at Large, 9 February 1793, p. 300)

The author deliberated for a long time on whether the introduction of a precedent to give legal tender to American currency and withhold it from foreign currency should count as a key event. The logic would be that in denying legal tender status to foreign coins, the domestic coinage would hold a monopoly and thus, when debased, would not have any competitors (in the form of foreign specie). However, the author decided against this because the driver of debasement is the legal tender status of the debased currency; once a debased currency has legal tender status, Gresham's Law states that it will drive the non-debased currency out of circulation *whether or not it has legal tender status*. Thus, the legal tender of foreign specie is not actually critical within the regime of debasement.

Table 5: Legal tender status of foreign specie from 1793 until present

Start Year	End Year	Spanish Milled Dollar	Other Silver	Other Gold	Comment
1793	1797	X	X	X	Act of February 9, 1793
1797	1798	X		X	July 1797 Proclamation by Adams
1798	1802	X	X	X	Act of February 1, 1798 (extension of 1793 Act)
1802	1806	X	X	X	Act of April 30, 1802 (extension)
1806	1809	X	X	X	Act of April 10, 1806 (extension)
1809	1816	X			Expiration of Act of April 10, 1806
1816	1819	X	X	X	Act of April 29, 1816 (restored LT status)
1819	1821	X	X	X	Act of March 3, 1819 (extension)
1821	1823	X	X	X	Act of March 3, 1821 (extension)
1823	1827	X	X	X	Expiration of Act of March 3, 1821
1827	1834	X			Act of March 3, 1823
1834	1834	X	X		Act of June 25, 1834
1834	1843	X	X	X	Act of June 28, 1834
1843	1857	X	X	X	Act of March 3, 1843 (adjusted coin values)
1857	Present				Act of February 21, 1857

Act of March 3, 1795 (arbitrary authority to reduce weight of copper coin in S8)

The Act of March 3, 1795 is a little-known supplementary act to the Coinage Act of 1792.⁵³ While its primary purpose was to codify additional details of the mint operations, there are two aspects of the bill relevant to monetary debasement:

1. In Section 8, the President was given the authority to “reduce the weight of the copper coin of the United States.” This authority can be used “whenever he shall think it for the benefit of the United States,” which is simply another way of saying “arbitrarily.” While this Section only applies to copper, it is the first example of explicit {and subjective} debasement power being given to the President.

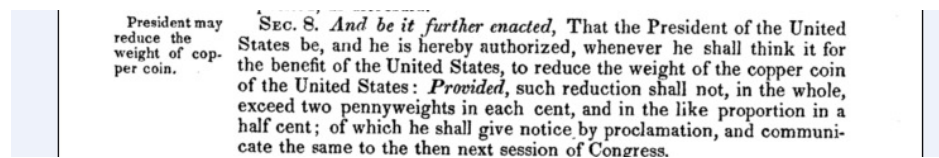


Figure 10: Section 8 of the Act of March 3, 1795

2. Interestingly, the original House version of the Bill (presented on February 23, 1795) included a section which suggested redefinition a standard silver troy ounce as 10.8-oz pure and 1.2 oz copper (90% fine) as opposed to the then-current 89.4% fine silver.⁵⁴ Had it passed, this would have been the first change in the specie content of an American coin, as it would slightly appreciate the value of silver coinage and slightly decrease the mint ratio. However, this text was struck from the final Act and the original 1792 silver content remained unchanged.

⁵³ (United States Statutes at Large, 3 March 1795, p. 439)

⁵⁴ (Journal of the House of Representatives of the United States, 1795, p. 339)

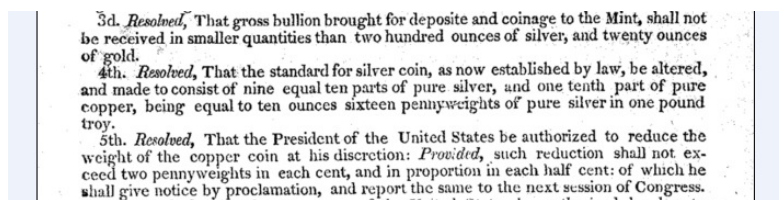


Figure 11: Portion of the original version of what became the Act of March 3, 1795

Prices and Banking from 1791-1811 (context only)

The years 1791-1811 were characterized by circulating specie coinage (both domestic and foreign) and a manageable public debt (Sixes, Deferred Sixes, and Threes), which is conducive to a stable price level. However, these years saw enormous increases in price levels, which is entirely attributable to the vast issuance of bank notes by both FBUS and the rapidly growing number of commercial state banks. As mentioned in Chapter 2, fractional reserve banking is an inflationary practice, as bank notes are issued far in excess of the bank's specie reserves. Quoting Rothbard:⁵⁵

The Bank of the United States engaged in massive temporary lending to the government, which reached \$6.2 million by 1796. The result of the outpouring of credit and paper money...was an inflationary rise in prices. Thus wholesale prices rose from an index of 85 in 1791 to a peak of 146 in 1796, an increase of 72 percent. In addition...aggravating the paper money expansion and the inflation was a flood of newly created commercial banks.

The quantity of state banks ballooned from 5 in 1791 to 32 in 1801 to 117 in 1811.⁵⁶ The state banks typically had pyramid ratios between 2.9 and 5.6.⁵⁷ Meanwhile, FBUS held pyramid ratios between 1.9 and 4.4⁵⁸ and did not even reach their required \$2 million

⁵⁵ (Rothbard, 2002, p. 69)

⁵⁶ (Van Fenstermaker, 1965, p. 401)

⁵⁷ (Van Fenstermaker, 1965, pp. 405-6)

⁵⁸ (Friedman & Schwartz, Monetary Statistics of the United States, 1970)

specie requirement until 1797, six years after the initial charter.⁵⁹ As shown graphically in Figure 12, the bank could clearly not cover its liabilities with its small specie reserves. However, this is not a source of debasement, as state bank notes were not legal tender and deposits were voluntary. When bank failures did occur, their bank notes became worthless and the relevant portion of the money supply would revert back to the bank's specie holdings.

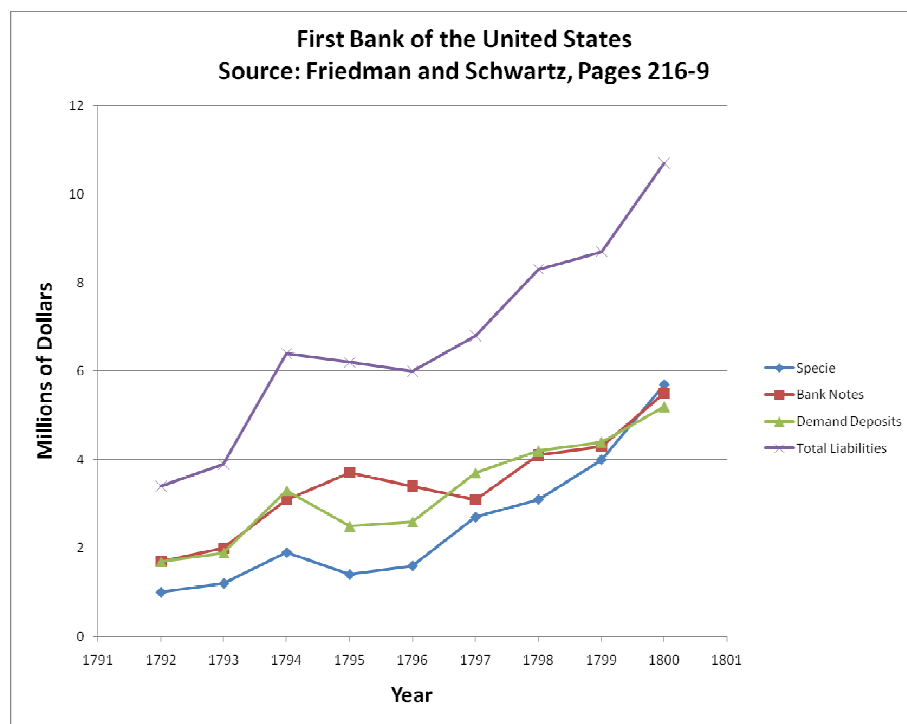


Figure 12: First Bank of the United States Specie and Liabilities

⁵⁹ Pyramid ratio is simply the inverse of the reserve ratio. Thus, a loose bank with a low reserve ratio will have a high pyramid ratio.

Chapter 5: The War of 1812 and its Aftermath (1812 – 1816)

The War of 1812 is a much-analyzed financial period due to the combination of the expiration (and lack of renewal) of the charter of the First Bank of the United States in 1811 followed immediately by the need for the government to {eventually} raise more than \$40 million to fund the war. However, with regards to monetary debasement, there were two other key events during the War which are rarely discussed: specie suspension in 1814 and the fifth Treasury Note offering in 1815.

On March 4, 1812, upon request of Treasury Secretary Albert Gallatin, Congress authorized an \$11 million loan to be funded by 6% long-term bonds (known as the “stock of 1812”) to be repaid through a sinking fund, which was to collect \$8 million per year. While the bond issue was eventually fully subscribed, they sold slowly due to “New England's manifest lack of sympathy for the war coupled with Congress's failure to provide adequate means to pay interest.”⁶⁰ In 1810, Gallatin had recommended Treasury Notes as an alternative to traditional loans and taxes:⁶¹

Treasury notes bearing interest, and payable to order one year after day, may be annually issued, to a moderate amount, and be put in circulation, both through the medium of banks and in payment of supplies.

⁶⁰ (Kagin, 1984, p. 71)

⁶¹ (Kagin, 1984, p. 72)

Gallatin thus recommended these same Treasury Notes in 1812 and made them more desirable by suggesting they be legal tender *for public debt only* (i.e. taxes and duties) and fully convertible into the stock of 1812.

The suggested Treasury Notes, especially given Gallatin's use of the word "circulation," implies a fiat currency and thus there was a long debate in Congress about whether the Notes were a fiat currency or an NEL, with several comparisons made to the 1775 Continentals. Eventually, they were determined to be NEL's, as summarized by Representative McKim:⁶²

Mr. Speaker, the Treasury Notes proposed by the bill to be issued, will operate as a loan to the Government; and however we may perplex ourselves with the name, they are nothing more nor less than a loan. The Government issues these notes, payable at a future day and bearing interest

Thus, Congress authorized the first ever issue of Treasury Notes for \$5 million on June 30, 1812, which paid 5.4% interest. Many scholars see this issuance as a loss for the hard-money camp and the Notes issue as an unconstitutional act. However, the author does not believe this is the case and instead looks at the Treasury Notes as shorter term versions of the long-term stock of 1812 (which is Constitutional under Congress' power to borrow). Instead of being backed by "nothing," these notes were backed by future collections of specie, identical to the long-term bonds. To be more specific, the Treasury Notes possessed the following features, which are not characteristic of fiat currency:⁶³

⁶² (Annals of Congress, June 1812, p. 1495)

⁶³ (United States Statutes at Large, 30 June 1812)

- The notes paid interest, which makes them difficult to circulate as currency (Section 2 of the Act of June 30, 1812).
- The notes were not payable to bearer, but, like any bond, had to be transferred by written endorsement (Section 5).
- The notes were legal tender for “duties and taxes” but not legal tender for private debts (Section 6).
- The notes were not reissued once collected by the government: “All notes, except for a few \$100s, were redeemed by the end of 1814 and withdrawn from circulation.”⁶⁴
- The lowest denomination was \$100, not indicative of circulating paper money.

The third point alone is the “showstopper” as their lack of legal tender clause immediately allows the market to dictate their rate by the probability of eventually receiving specie payment (in the same way the market prices a bond). The other four points are aesthetic and just show how the Notes were not designed to circulate as fiat currency. Instead, they were hoarded as financial assets, especially by banks for use as interest-bearing reserves, and accomplished the goal of raising war funds. Interestingly, the first issuance of Treasury Notes sold at par.

Following this initial loan, the trend occurred where Congress would authorize a loan, the loan would not be fully subscribed, and Congress would “fill the gap” by issuing another round of Treasury Notes. On February 8, 1813, Congress authorized a \$16 million loan.

⁶⁴ (Kagin, 1984, p. 74)

This loan also pledged to repay principal and interest through the initial \$8 million/year sinking fund *but did not allocate any additional funds*. Instead, it “double-dipped” into the sinking fund and then enacted that:⁶⁵

And the faith of the United States is hereby pledged, to establish sufficient revenues for making up any deficiency that may hereafter take place in funds hereby appropriated for paying the said interest and principal sums.

While the words “faith of the United States” typically rings alarm bells for those looking for signs of fiat currency, this act is not an example of a switch to soft currency and monetary debasement. This act is an example *of a bad loan*. By not provisioning smarter terms to repay the \$16 million, the loan became riskier and the government was forced to sell the bonds at 88.33% of par. Most likely, Gallatin predicted this would happen as Congress removed the “must buy bonds at par” clause that had been present in the initial offering. Put simply, everyone knew that a loan to a warring nation was risky.

Following the loan authorization, Congress issued \$10 million in Treasury Notes on February 25, 1813 on the same terms as the first issue. In March of 1814, Congress authorized a \$25 million loan (which sold at 85% of par) and then made a third Treasury Note issue for \$10 million (same terms except it included a \$20 denomination). A fourth Treasury Note issue for \$10.5 million was made in December 1814, again under terms consistent with the Constitution. One indicator of Congress’ compliance with the Constitution can be found during the discussion leading up to the fourth Treasury Note

⁶⁵ (United States Statutes at Large, 8 February 1813, p. 798)

issuance. Representative Hall (Georgia) submitted five resolutions to be included with the issue. The second resolution stated:⁶⁶

“Resolved, that the Treasury notes...shall be legal tender in all debts due...between the citizens of the united states or between a citizen of the United States and a citizen or subject of any foreign State or Kingdom.”

The Congressional Annals report that the House agreed to consider Hall’s other four resolutions, but “refused to consider the second” by a vote of 95-42 (see Figure 13).

⁶⁶ (Annals of Congress, November 1814, p. 557)

NOVEMBER, 1814.

Treasury Notes.

H. OF R.

permanent funds shall, during the present session of Congress, be provided and appropriated for the payment of the interest, and reimbursement of the principal of said stock created by this act.

"Sec. 7, *And be it further enacted*, That an adequate and permanent sinking fund, gradually to reduce, and eventually to extinguish the public debt, contracted and to be contracted during the present war, shall also be established during the present session of Congress."

The report having been read, it was, on motion of Mr. EPPES, ordered to lie on the table, until the bill should be returned from the Senate. It was subsequently taken up, and the report agreed to.

TREASURY NOTES.

The following resolutions were submitted for consideration by Mr. HALL.

1. *Resolved*, That the Committee of Ways and Means be directed to inquire into the expediency of authorizing the Secretary of the Treasury to issue notes convenient for circulation, to the amount of — millions of dollars, under such checks as may be thought best calculated to detect counterfeits, in which alone, and gold and silver, shall all taxes, duties, imposts, or debts due, or which hereafter become due to the United States, be paid.

2. *Resolved*, That the Treasury notes which may be issued as aforesaid, shall be a legal tender in all debts due, or which may hereafter become due, between the citizens of the United States, or between a citizen of the United States and a citizen or subject of any foreign State or Kingdom.

3. *Resolved*, That the Secretary of War, under the direction of the President, shall cause to be purchased, in each State and Territory, and in each collection district thereof, as nearly as circumstances will permit, supplies for the Army and Navy of the United States, to the amount of taxes to be collected in each State, Territory, and collection district.

4. *Resolved*, That any individual, or body corporate or politic, at the expiration of twelve months from the date of the Treasury notes, by them held, and annually thereafter at their option, may fund the same, and receive in lieu thereof six per cent. stock.

5. *Resolved*, That, after paying the annual amount of principal and interest of the existing public debt, and the interest which may accrue on the stock created, by funding the Treasury notes to be issued by the Secretary of the Treasury, the whole amount of taxes, duties, imposts, and sales of public lands, shall be pledged for the redemption of the notes which may remain in circulation.

Upon each of these resolutions Mr. H. made a number of remarks. He said they embraced, together, a system, he verily believed was the only one which would relieve the United States from their present difficulty, and support the public credit in future. The want of a circulating medium was generally felt; and, indeed, without it, the people in the interior would be unable to pay their taxes, deprived as they were of a market for their surplus produce. Bank paper of one section of the country was in a state of depreciation in another; and unless some medium of general credit was immediately established, incalculable evils would result, &c.

The question on consideration of these resolves was taken separately, at the instance of Mr. OAKLEY.

The House agreed to consider the 1st, 3d, 4th, and 5th, but refused to consider the 2d, by the following vote, as taken by yeas and nays—for considering it 42, against it 95, as follows:

YEAS—Messrs. Alexander, Alston, Anderson, Avery, Bard, Barnett, Bowen, Burwell, Butler, Cannon, Clark, Comstock, Condict, Conard, Crawford, Davis of Pennsylvania, Desha, Earle, Forney, Franklin, Gholson, Glasgow, Goodwyn, Gourdin, Griffin, Hall, Harris, Hubbard, Kerr, Kershaw, Kilbourn, Macon, McCoy, Parker, Pickens, Rea of Pennsylvania, Rhea of Tennessee, Roane, Robertson, Shipperd, Stanford, and Williams.

NAYS—Messrs. Archer, Baylies of Massachusetts, Bayly of Virginia, Bigelow, Boyd, Bradbury, Bradley, Brigham, Brown, Caperton, Caldwell, Calhoun, Champion, Chappell, Cilley, Clopton, Cooper, Cox, Creighton, Crouch, Culpeper, Cuthbert, Dana, Davenport, Duvall, Ely, Fisk of Vermont, Forsyth, Gaston, Geddes, Grosvenor, Hale, Hasbrouck, Hawes, Hawkins, Hopkins of Kentucky, Humphreys, Hungerford, Hulbert, Ingersoll, Irwin, Johnson of Virginia, Kennedy, Kent of New York, Kent of Maryland, King of Massachusetts, King of North Carolina, Law, Lewis, Lowndes, Lyle, Markell, McKee, McKim, McLean, Moore, Moseley, Newton, Oakley, Ormsby, Pearson, Piper, Pitkin, Pleasants, John Reed, William Reed, Rich, Ruggles, Scvier, Scybert, Sharp, Sheffield, Sherwood, Skinner, Smith of New York, Smith of Pennsylvania, Smith of Virginia, Stuart, Sturges, Taggart, Tallmadge, Taylor, Telfair, Thompson, Udree, Vose, Ward of Massachusetts, Webster, Wheaton, Wilcox, Wilson of Massachusetts, Wilson of Pennsylvania, Winter, Wright, and Yancey.

The question having been stated on agreeing to the other resolutions—

Mr. GASTON, of North Carolina, said, that, in the absence of the Chairman of the Committee of Ways and Means, he should assign reasons, which he hoped would appear satisfactory, for the motion he was about to make. The resolutions, so far as they were directory to the committee, enjoined on it no other duties than it had already performed. To establish a circulating medium, the Committee of Ways and Means had proposed, in their report, at an early day in the session, to issue Treasury notes, in many respects resembling the species of paper embraced in the motion of the gentleman from Georgia. Soon after the committee made this report, a correspondence had been opened through the chairman, between the committee and the new Secretary of the Treasury, which correspondence had been already laid before the House. The Secretary of the Treasury, believing that the emission of Treasury notes could only be made with advantage to a certain extent, had thought proper to suggest a proposition for supplying a circulating medium of general confidence, by establishing a National Bank. After receiving and reporting this correspondence, the Committee of Ways and Means had thought proper to report, in general terms, a resolution that it is expedient to establish a National Bank; which resolution had received the

Figure 13: The Congressional Annals of November 1814 showing the defeat of the application of legal tender status to the Treasury Notes

Treasury Notes of 1815 (big notes at 5.4%; small notes at 0%)

The fifth Treasury Note issue of February 24, 1815 is *Event 3* in the history of monetary debasement. This issue was divided into two sub-issues. The large notes were issued in denominations of \$100 and greater, paid 5.4% interest, and were largely similar to the previous Treasury Note issues, with the main difference being that they were only redeemable in United States 6% stock. The small notes, however, were very different than the previous notes and could be considered the United States' first fiat currency.

The Notes could be considered a “currency” because, unlike previous issues:

- **Small denominations (Section 3):**⁶⁷ The denominations were left to the discretion of the Secretary of the Treasury (Alexander Dallas). Dallas issued denominations of \$3, \$5, \$10, \$20, and \$50, which were much more suitable to circulate than the large bills. This is consistent with Dallas' political leanings, as, in a letter to {Chairman of the Ways and means Committee} John Eppes, Dallas “urged the use of small Treasury Notes in preference to state bank notes as the national medium of exchange.”⁶⁸
- **Paid no interest (Section 3):** Without interest, Treasury Notes could no longer be viewed as a financial asset (like U.S. bonds), as their only utility was one of circulation.
- **Payable to bearer:** Unlike previous issues, there was no explicit clause calling for transfer solely by endorsement. This obviously enabled more convenient use of the Notes as currency.

⁶⁷ (United States Statutes at Large, 24 February 1815, p. 213)

⁶⁸ (Kagin, 1984, p. 81)

- **Were re-issued:** Previous Treasury Notes, when redeemed, were retired (i.e. burned).

However, the fifth issue Treasury Notes, when redeemed for stock or for use in tax payments, were re-issued and placed back in circulation, which is characteristic of a currency (as opposed to a bond). While only \$3.4 million of small Treasury Notes were sold, \$9.1 million were actually disbursed.⁶⁹

The Notes could be considered “fiat” because:

- **Redeemable only into 7% stock (Section 4):** Kagin comments that “these notes were not chargeable upon the sinking fund, nor were they payable out of any money in the Treasury not otherwise appropriated as in the previous Act of December 26, 1814. Instead, they rested entirely upon the provision making them fundable into stock.”⁷⁰ Thus, the link to specie became more tenuous, as the Notes were directly backed by additional government paper.^{71,72}
- **Not backed by specie or by any definitive account (Section 4):** Like the previous four issues, this Note issue was again backed by “the faith of the United States.”

On October 10, 1814, John Eppes reported the “State of the Finances” to the House of Representatives. In this report, he explicitly recommends Treasury Notes “to answer the

⁶⁹ (Kagin, 1984, p. 82)

⁷⁰ (Kagin, 1984, p. 82)

⁷¹ When citizens held Treasury Notes or Congressional stock, interest was typically paid by crediting their bank account. In doing so, the creditor could then withdraw the funds in specie. Thus, when specie was suspended in 1814 (see next section), the link between Treasury Notes and specie actually was severed (as opposed to just being tenuous), as one would convert the Notes to Stock receive interest in their account, and could not withdraw specie. This is additional supporting evidence for the 1815 Treasury Notes as the nation’s first fiat currency.

⁷² Because the non-interest-bearing notes were convertible into interest-bearing stock, most of the small notes were immediately converted immediately. There are only two surviving uncanceled notes in existence today (Friedberg, 2005)

purposes of a circulating medium” and then calls for the notes to possess five features: the four given above with regards to making the Treasury Notes into a currency plus the redemption in specie given six months notice.⁷³ Thus, only the four soft-money attributes were adopted and the 1815 Treasury Notes were indeed the first bills of credit or fiat money issued by the federal government, which is why their issue has been selected as *Event 3*. Amazingly, the Notes’ Constitutionality was never formally challenged.

Kagin illustrated that the small notes traded at par outside of New England and depreciated 8%-10% in New England, which he touts as the “success” of the notes.⁷⁴ Their “success” was also quoted by several politicians later in history in support of a fiat currency. Thus, it is useful to examine why they did not depreciate similarly to the Continentals.

Specie Suspension of 1814

As mentioned in the previous section, there was a proliferation of state banks and currency inflation through 1811, which continued through the war. The inflation was most rampant in the southern states (pyramid ratio of 18.7 in Virginia), while was controlled in New England (1.96).⁷⁵ In 1814, several banks faced insolvency and suspended their specie payments. In a free banking market, these banks would simply go bankrupt due to their mismanagement. Instead, the government permitted the specie

⁷³ (American State Papers, 10 October 1814)

⁷⁴ The difference in value within and outside of New England is explained in the next section.

⁷⁵ (Rothbard, 2002, p. 74)

suspension in what Rothbard proclaimed as “one of the most flagrant violations of property rights in American history” as the “banks were permitted to waive their contractual obligation to pay in specie while they themselves could expand their loans and operations.”⁷⁶ Only New England banks maintained specie payments. Thus, outside of New England, 1815 boasted an enormous expansion in the number of state banks (increased from 208 to 246) and thus in the number of state bank notes (see Figure 14). With no specie backing these bank notes, they depreciated rapidly. Now, enter the small-denomination Treasury Notes in early 1815. The fact that the Notes were not backed directly specie did not make undesirable *because none of the bank notes were backed by specie either*. Thus, since the Treasury Notes were legal tender in public dues and backed by interest-bearing stock, the Treasury Notes were much more desirable than unbacked bank notes. This explains why they were able to trade at par outside of New England and why they depreciated 10% in New England (where specie-backed notes still existed). Thus, the Treasury Notes trading at par is not because they are inherently good, but because of the initial government failure of allowing specie suspension. The government’s decision to allow the specie suspension without legal consequence is *Event 4* in the history of monetary debasement. Besides the abandonment of property/contract rights with regards to currency, this precedent also allowed for the severing the bank note-specie link thus calling into question the convertibility of any specie-backed notes.

⁷⁶ (Rothbard, 2002, p. 74)

The government's 1814 allowance of specie suspension is what allowed the "success" of the 1815 Treasury Notes. The theme of "government failure eliciting more government action" is a common theme in monetary history and is applicable to the Treasury Notes in another manner. In the aforementioned *State of the Finances* report, Eppes wrote:⁷⁷

The want of some local medium which, resting on a firm and solid basis, may unite public confidence, and have a general, instead of local circulation, is now universally acknowledged. The stoppage of specie payments...confined the circulation of {state bank} notes to the limits of the States within which they are issued.”.

In other words, Eppes sought to use the Treasury Notes as a national currency, but this was only necessary because the government's allowance of specie suspension, as Eppes explicitly admits, eliminated the use of bank notes in the first place.

As mentioned by Eppes above, the allowance of specie suspension also had the disastrous effect of localizing all of the state bank notes. Quoting Catterall:⁷⁸

Since the state banks would neither pay specie nor accept each other's notes at par, the country was left without any common medium of exchange. To discharge a debt in New England, it must offer specie or New England notes...while in New York no one would accept anything of less value than specie, New England notes, or New York notes. In Pennsylvania, New York notes would not be received at par and in the rest of the country neither New York nor Pennsylvania notes were acceptable.

Thus, the "market failure" of the lack of generally acceptable currency was used as ammunition for a national bank. However, had Congress enforced property rights and disallowed specie suspension, the resultant currency depreciation would not have

⁷⁷ (American State Papers, 10 October 1814)

⁷⁸ (Catterall, 1903, p. 5)

occurred (much like the New England currency) and the bank would not have been needed.

Table 6: Loan authorizations and Treasury Note Issues of the war of 1812

ID	Type	Date	Auth.	Issued	Sold	Rate	Active Congress			Statutes at Large	
							Cong	Sess	Chap	Volume	Page
L1	Loan	March 14, 1812	\$11	-	\$11	6%	12	1	41	2	694
T1	TNote	June 30, 1812	\$5	\$5	\$2.8	5.40%	12	1	111	2	766
L2	Loan	February 8, 1813	\$16	-	\$16	6%	12	2	22	2	798
T2	TNote	February 25, 1813	\$10	\$5		5.40%	12	2	27	2	801
L3	Loan	August 2, 1813	\$7.50	-	\$7.50	6%	13	1	51	3	75
T3	TNote	March 4, 1814	\$10	\$10		5.40%	13	2	18	3	100
L4	Loan	March 24, 1814	\$25	-	\$16	6%	13	2	29	3	111
Specie Suspension Outside New England on August 31, 1814											
L5	Loan	November 15, 1814	\$3	-	\$1.50	-	13	3	4	3	144
T4	TNote	December 26, 1814	10.5	8.318	-	5.40%	13	3	17	3	161
T5	TNote	February 24, 1815	\$25	-	4.969	5.40%	13	3	56	3	213
				-	3.392	0%					
L6	Loan	March 3, 1815	18.46	-	-	7%	13	3	87	3	227
R	Repeal	March 3, 1817	-	-	-	-	14	2	69	3	377
Specie Resumption in February 1817 and Treasury Notes repealed and retired on March 3, 1817 (remained in effect for 20 years)											

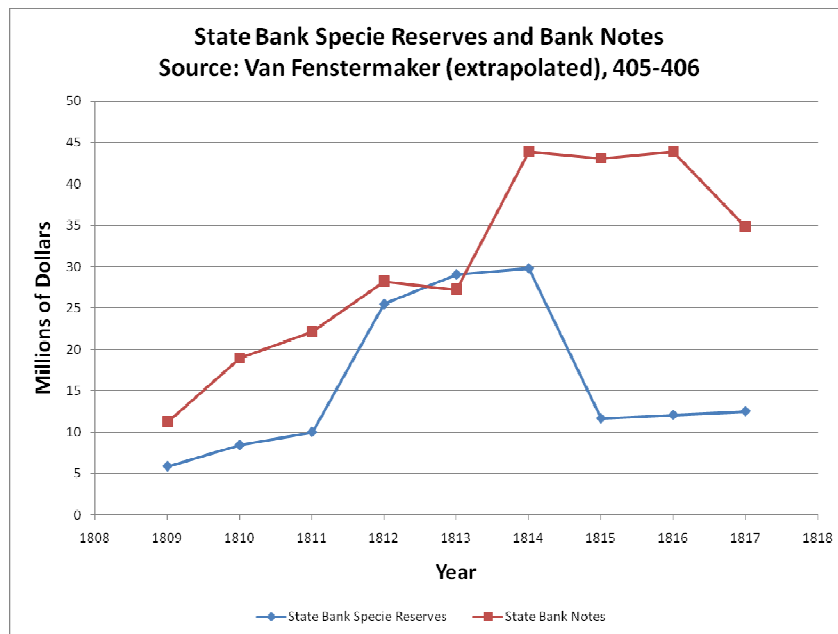


Figure 14: State specie bank reserves and notes from 1809 until 1817⁷⁹

⁷⁹ (Van Fenstermaker, 1965, pp. 405-406)

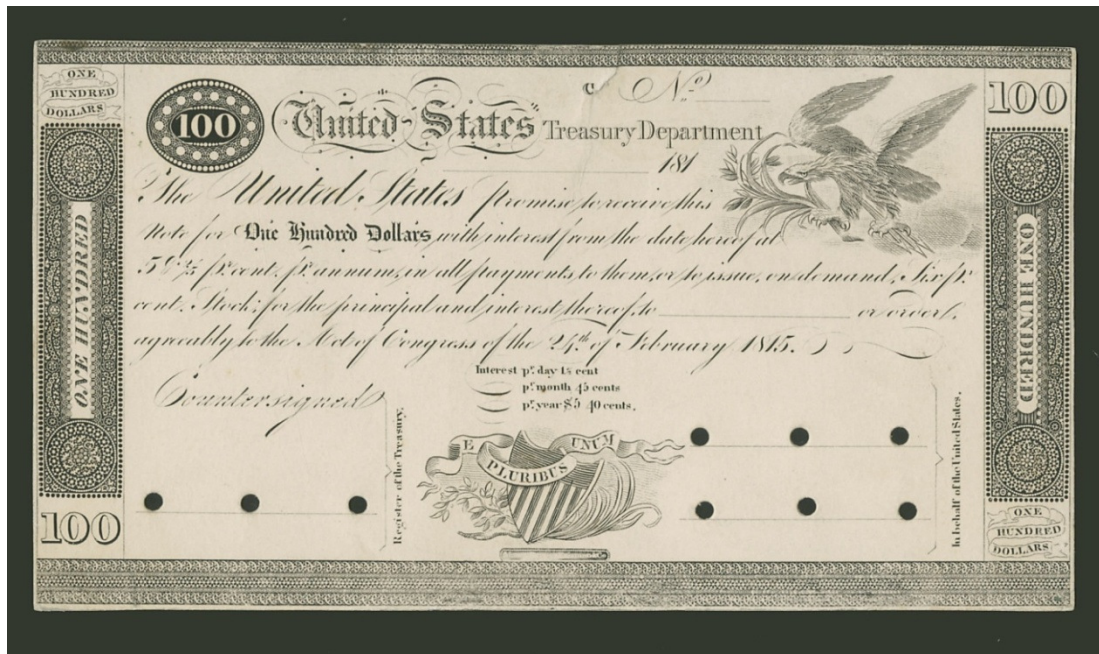


Figure 15: \$100 Treasury Note from 1815⁸⁰

⁸⁰ (Heritage Auction Galleries, 2005)

Chapter 6: Post-War Centralized Banking (1816 – 1833)

Second Bank of the United States

The United States ratified the Treaty of Ghent on February 23, 1815, officially ending the War of 1812.⁸¹ Upon the end of the war, the major national monetary topic was whether a Central Bank should be re-chartered. The main arguments in favor of the Bank were as a source of loans to the federal government (such that they could avoid the “embarrassing” Treasury Notes) and as a source of a uniform national currency. It is important to note that the issues of central banking and hard money were considered *separate* at the time. The inflationary effect of fractional reserve banking was rarely disputed and it was simply a matter of whether it should occur at a state or national level. Most of the proponents of central banking, including Dallas, also favored a specie-backed currency. While this is not a dissertation on central banking, the push for a Central Bank had important consequences for specie, and will thus be summarized here.

After the expiration of the charter of the First Bank of the United States in 1811, the first reference in the Annals of Congress to a Second Bank was in March of 1814 due to the financing struggles of the War of 1812. The constitutionality of a government-sponsored corporation within the states was questioned, but Senator John Calhoun suggested that

⁸¹ This is one week *before* the fifth issuance of Treasury Notes. Despite the war being over, the notes were still issued, presumably to help pay of the remnant war debt.

the “constitutional objection might be obviated by establishing the bank in the District of Columbia.”⁸² Representative Fisk responded that “he was alarmed by such a construction that Congress might within this district do the most unconstitutional acts.”⁸³ The Bank bill was defeated, possibly on constitutional reasons, but more likely because a DC-located bank could not issue a national currency.

On October 6, 1814, Alexander Dallas was appointed to the Secretary of the Treasury; “Dallas’ appointment was understood by everyone to mean a national bank.”⁸⁴ The initial proposal for a Bank was one which was capitalized with \$50 million, of which only \$6 million was in specie, and the “President of the United States was empowered to suspend specie payments when such suspension seemed necessary.”⁸⁵ This was the first national call for a “fiat bank” and it was attacked by the hard-money proponents.

Senator Daniel Webster, in a 10-page speech against the bank, stated:⁸⁶

“It will be utterly impossible for the bank to pay its notes. No such thing is expected of it. The first note it issues will be dishonored on its return.”

Webster was also one of the few politicians who connected central banking with soft-money, stating that it is a “system which must inevitably lead us, through depreciation of currency, paper money, tender laws...to complete and entire bankruptcy in the end.”⁸⁷

⁸² (Catterall, 1903, p. 7)

⁸³ (Annals of Congress, 1814, p. 1862)

⁸⁴ (Catterall, 1903, p. 9)

⁸⁵ (Catterall, 1903, p. 11)

⁸⁶ (Annals of Congress, 1815, p. 1014)

⁸⁷ (Annals of Congress, 1815, p. 1023)

The bill was revised without a specie suspension clause and passed in January, 1815. However, the bill was vetoed by Madison, not on constitutional grounds, but because he believed that it wouldn't effectively provide a circulating currency or sufficient loans. Thus, no bank was established during the war and Dallas issued the controversial small-denomination Treasury Notes.

After the war, the need for emergency loans disappeared, and the national bank question became one of a national currency. Madison stated that "If the operation of the State banks cannot produce {the establishment of a general medium of exchange}, the probable operation of a National Bank will merit consideration."⁸⁸ Of course, as explained earlier, this statement occurred during a period of specie suspension, which itself caused the chaos of fiat currency. On April 10, 1816, the charter was officially enacted for the Second Bank of the United States (SBUS).⁸⁹ The important features of the bank were:⁹⁰

- Sections 1 and 2: SBUS was capitalized at \$35 million, of which \$7 million was to be in private specie, \$21 million in private specie or stock (3%, 6%, or 7%), and the final \$7 million to be purchased by the government.
- Section 17: Deposits are redeemable in specie. If SBUS refused to redeem in specie, it pays a 1%/month penalty issued in the form of a "note of obligation." However, the Act states that "Congress may at any time hereafter enact laws enforcing and

⁸⁸ (Catterall, 1903, p. 17)

⁸⁹ The Constitutionality of the bank continued to be debated throughout the charter process. The issue was legally put to rest in 1819 with the case of McCulloch vs. Maryland. Maryland placed a tax on banks not chartered in Maryland, including the SBUS branch. The Supreme Court nullified the tax saying Congress had the authority to charter a national bank under the Constitution's Necessary and Proper Clause. Interestingly, Daniel Webster defended McCulloch (head of Baltimore SBUS branch), again showing that the issues of hard money and central banking were separate.

⁹⁰ (United States Statutes at Large, 10 April 1816, p. 266)

regulating the recovery of the notes...of which payment shall have been refused...as they may deem expedient.” Thus, while deposits were theoretically redeemable in specie, *the Bank could refuse redemption and issue paper notes* and the laws regarding the redemption of those notes could be changed in the future by Congress.

- Implicitly, the government deposits of \$8.8 million would be removed from the 90-plus state banks and deposited in the deposited at SBUS.

The chartering of the bank eliminated the need for the previously issued Treasury Notes and Secretary Dallas moved to retire them. In the State of Finances report in December, 1816, Dallas noted the “disordered state of the currency” which made it difficult to pay interest on Treasury Notes in several local currencies. Dallas states that there will be “no further embarrassment until the next quarterly payment of interest {on the Treasury Notes}” and recommends that “the reissue of Treasury notes of all descriptions should be discontinued.”⁹¹ On March 3, 1817, Congress prohibited the re-issue of Treasury Notes and enacted that all “treasury notes which become the property of the United States shall be cancelled or destroyed.”⁹²

Joint Resolution and Specie Resumption

On April 30, 1816, Congress passed the Joint Resolution of 1816, or “A Resolution Relative to the More Effectually Collection of the Public Revenue,” which stated:⁹³

⁹¹ (American State Papers, 20 December 1816)

⁹² (United States Statutes at Large, 3 March 1817, p. 377)

⁹³ (United States Statutes at Large, 30 April 1816, p. 1919)

"...that the Secretary of the Treasury be required and directed to adopt measures to cause all duties, taxes, debts, or sums of money, accruing or becoming payable to the United States, to be collected and paid in the legal currency of the United States, or treasury notes, or notes of the bank of the United States, or in notes of the bank of the United States, or in notes of banks which are payable and paid on demand in the said legal currency of the United States."

This resolution is an implicit commitment to hard money as it separates paper money (SBUS notes, other bank notes and Treasury notes) into a different category than "legal currency." Hence, these paper notes were not actually legal currency. By process of elimination, this resolution implies that the only legal currency in the United States is specie, although it is rather curious that specie is not explicitly called out. The Joint Resolution was introduced and pushed through by hard-money advocate Daniel Webster. He gave a remarkable "10-page speech" on the dangers of fiat currency with the following points:⁹⁴

With a perfectly sound legal currency, the national revenues are not collected in this currency, but in paper of various sorts, and various degrees of value.

Before the war, the business of this country was conducted principally by means of the paper of different state banks. As these were in good credit and paid their notes in gold and silver on demand. No great evil was experienced from the circulation of their paper. Not being, however, a part of the legal money of this country, it could not, by law, be received in payments of duties, taxes, or other debts to Government. But being payable, and hitherto regularly paid on demand, the collectors and agents of Government had generally received it as cash.

During the war, this state of things changed. {State bank loans to Government} threw into circulation an immense quantity of bank paper, in no degree corresponding with the mercantile business of the country and resting on nothing for its payment and redemption but the Government stocks...The excess of paper which was found everywhere, created alarm. Demands began to be made on banks and they all stopped payments. The depreciation of bank notes was the

⁹⁴ (Annals of Congress, 1816, pp. 1439-1450)

necessary consequence of a neglect or refusal on the part of those who issued them to pay them.

{ The depreciation of bank notes } has not been, and is not now, uniform throughout the United States. In New England, the banks have not stopped payment in specie and of course their paper money has not been depressed at all. But the notes of banks which have ceased to pay specie have, nevertheless, been and still are, received for duties and taxes. The consequence of all this is, that the people of the United States, pay their duties and currencies of different values in different places.

Webster goes on to cite the example that Massachusetts bank paper is valued 25% higher than District bank paper and, “by the Constitution of the Government, it is certain that all duties, taxes and excises ought to be uniform throughout the United States...can a greater injustice than this be conceived?” Thus, Webster is using the varying rates of depreciation as a violation of the Constitution and the purpose of the Joint Resolution is to establish uniformity through the objectively uniform “legal currency” (i.e. specie). He even calls “the evils of a debased coin, a depreciated paper currency, or a depressed and falling public credit” as the “most certain destroyers of national prosperity.”

As Webster predicted, Joint Resolution’s passage created high incentives to resume specie payments. The Government and SBUS needed banks to resume specie payments such that they could collect revenue; the state banks needed to resume such that their notes retained demand and could be used by depositors as tax payments. Resumption occurred on February 20, 1817.⁹⁵

⁹⁵ The negotiations behind resumption were complex and very political and very favorable to the state banks. As an example, the state banks did not have to transfer the \$8.8 million of government specie

Chapter 7: Andrew Jackson's Metallist Crusade (1833 – 1837)

Context of Jackson's Reelection

While Daniel Webster was an example of an opponent of fiat money and a proponent of central banking, Andrew Jackson was the quintessential hard-money advocate and violently opposed both entities. In the four years of his second term (1833-1837), he implemented the “hardest” monetary system in the history of the United States (as well as fully paying off the national debt in 1834 for the only time in American history). The central issue in Jackson's 1832 presidential reelection campaign was the rechartering of the Second Bank of the United States. The recharter bill passed the Senate in July 1832 and was then immediately vetoed by Jackson, who stated that “the powers and privileges possessed by the existing bank are unauthorized by the Constitution, subversive of the rights of the States, and dangerous to the liberties of the people.”⁹⁶ Thus, when Jackson defeated Henry Clay (a proponent of the vetoed recharter bill) in November 1832, it was clear that the Second Bank would expire with its charter in 1837.

Upon reelection, Jackson immediately began his crusades both against SBUS and in favor of a hard money currency. His first major action was {through Secretary of the

deposits to SBUS until July 1, 1817 (Catterall, 1903, p. 27). Additionally, after specie resumption, specie traded at premium due to recent high inflation and thus banks were “pretending” to resume. (Catterall, 1903, p. 38)

⁹⁶ (Jackson, 1832)

Treasury Taney) to remove the national deposits from SBUS and deposit them in several state banks.⁹⁷ His second main action is what became the Coinage Act of 1834 and, due to Jackson's complete devotion to hard money, is ironically *Event 5* in the history of monetary debasement.

The Coinage Act of 1834

From 1820 until 1833, the market ratio of gold to silver prices was steady between 15.6 and 15.8 (see Figure 16), well above the mint ratio of 15 set by the Coinage Act of 1792. Thus, gold's undervalued status resulted in the lack of gold circulation (it was either hoarded or exported), and the United States was essentially on a silver standard. From Martin:⁹⁸

Between 1826 and 1833, a net total of \$21 million {of silver} was imported into the United States while \$10 million of gold was exported...It is likely that Spanish silver still predominated the specie in circulation. The circulating media was apparently devoid of gold. By early 1834, the Bank of the United States had only 15 percent of its reserves in gold. This represented almost all the American gold coin then in existence.

⁹⁷ Initially, the deposits were placed in seven state banks. By 1836, this number had grown to 91, consistent with Jackson's hatred of a banking monopoly. (Rothbard, 2002, p. 93)

⁹⁸ (Martin, Bimetallism in the United States before 1850, 1968)

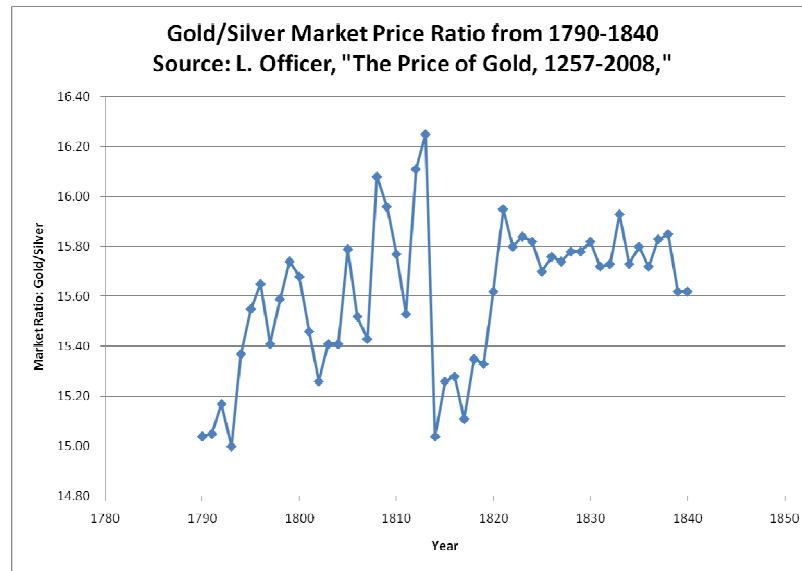


Figure 16: Gold-to-Silver Market Ratio from 1790 - 1840⁹⁹

The Congressional Select Committee on Coins Congress (the “White Committee”) had been recommending since 1830 to adjust the mint ratio to 15.625 in order to align it with the market ratio and return to the bimetallic standard. However, as the war on SBUS escalated in the early 1830’s, the impending coinage legislation changed its focus. From O’Leary:¹⁰⁰

But in each successive report, the {White} committee placed increasing emphasis upon the evils of small denomination bank notes and upon the desirability of enacting monetary legislation which would strike down the currency of such notes, replacing them with metallic coins.

More specifically, the White Committee began to suggest a mint ratio higher than the market ratio: 16-to-1. If this mint ratio was adopted, both Jackson and the White Committee believed that gold would flow back into circulation and replace the small denomination bank notes. Additionally, due to the need for small change, silver would

⁹⁹ (Officer, 2009)

¹⁰⁰ (O’Leary, The Coinage Legislation of 1834, 1937, p. 83)

remain in circulation as subsidiary small coinage. Thus, the coinage legislation now became a “club of gold” used to bring upon the “ultimate extinction of all bank notes up to the denomination of twenty dollars.”¹⁰¹

On June 27, 1834, the Coinage Act of 1834 was passed, which redefined the composition of American-minted coins (see Table 7).¹⁰² The Act redefined the dollar as 23.2 grains of fine gold; this is an effective 6% debasement of the dollar and resulted in the predetermined fixed mint ratio of 16:1.¹⁰³ Thus, the dollar-denominated price of gold instantaneously increased from \$19.39 to \$20.69. No change was made in the silver or copper coinage.

Table 7: Approved minted coins by the 1834 Coinage Act¹⁰⁴

1834 (mint ratio = 16)	Coin	Value	Metal	Pure			Standard*		
				Grain	Oz Tr	Gram	Grain	Oz Tr	Gram
	Eagles**	\$ 10.00	Gold	232.000	0.483	15.000	258.000	0.538	16.68
	Half Eagles	\$ 5.00	Gold	116.000	0.242	7.500	129.000	0.269	8.340
	Quarter Eagles	\$ 2.50	Gold	58.000	0.121	3.750	64.500	0.134	4.170
	Dollars or Units	\$ 1.00	Silver	371.250	0.773	24.100	416.000	0.867	27.000
	Half Dollars	\$ 0.50	Silver	185.625	0.387	12.000	208.000	0.433	13.500
	Quarter Dollars	\$ 0.25	Silver	92.813	0.193	6.010	104.000	0.217	6.740
	Dismes	\$ 0.10	Silver	37.125	0.077	2.410	41.600	0.087	2.700
	Half Dismes	\$ 0.05	Silver	18.563	0.039	1.200	20.800	0.043	1.350
	Cents	\$ 0.01	Copper	11.000***	-	17.100	-	-	-
	Half Cents	\$ 0.01	Copper	5.500***	-	8.550	-	-	-
*Pure/Standard = 90% for gold and 89.2% for silver									
**1 oz of gold = \$20.69									
*For copper, the lefthand mass is in pennyweights as opposed to grains									

¹⁰¹ (O’Leary, The Coinage Legislation of 1834, 1937, p. 86)

¹⁰² By 1834, the only two American minted gold coins were the half eagle (\$5) and quarter eagle (\$2.50). Following the Coinage Act, these two coins were re-issued and became the first debased coins in American history. The debased gold eagle (\$10) was not minted until 1838.

¹⁰³ To be precise, the ratio was officially 16.002, which was then adjusted to 15.988 in 1837

¹⁰⁴ (United States Statutes at Large, 28 June 1834)

The newly introduced legislation had the predicted effect: the amount of gold coinage increased rapidly and gold replaced silver as the “standard of value.” In 1834, more than \$4 million of gold coin was minted while the annual average was typically around \$400,000. Gold coin in circulation rose from near zero to more than \$60 million, while total specie in circulation doubled (due to this gold coinage) in the two years following the legislation (see Figure 17). The \$20 million in SBUS bank notes were retired in the next 4 years, while state bank notes in circulation stayed relatively constant at approximately \$75 million.¹⁰⁵

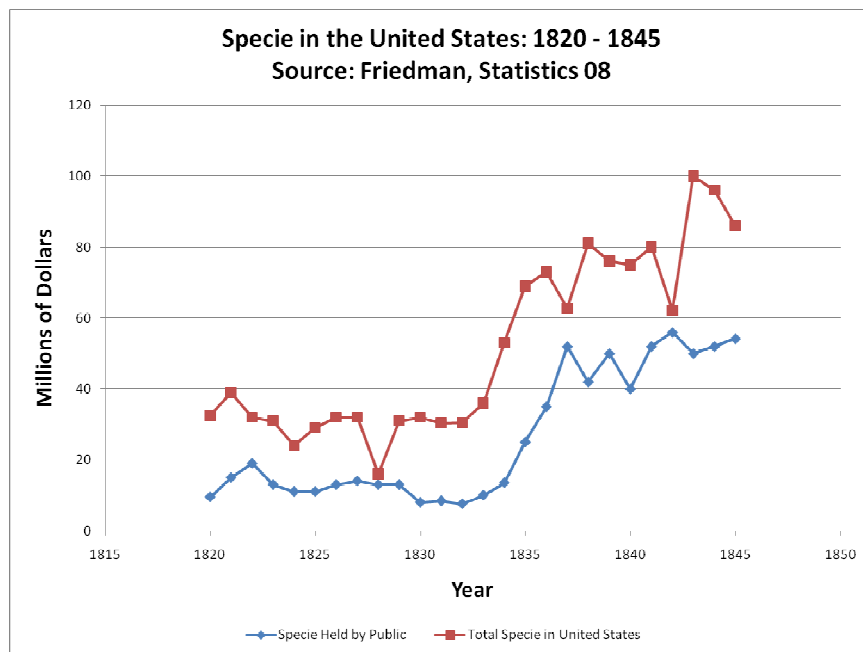


Figure 17: Publicly-held and total specie in America from 1820 until 1845

This was an enormous hard-money victory for Jackson and Taney, as they had successfully implemented a gold standard, eliminated the central bank, and decreased the

¹⁰⁵ (Friedman & Schwartz, Monetary Statistics of the United States, 1970)

nation's proportional use of paper bank notes. It is thus ironic that this Coinage Act, for three distinct reasons, is *Event 5* in setting precedent for monetary debasement:

1. This Act sets precedent for overnight devaluations of U.S. Currency. Any citizen holding silver instantly lost 6% of their gold-denominated wealth (i.e. a silver dollar could now be exchanged for 23.2 grains of gold as opposed to 24.75 grains).
2. The placement of the mint ratio above market ratio sets precedent for using the mint ratio as a political tool as opposed to a reflection of market conditions.
3. In changing the mint ratio, Jackson could have advocated the increase in silver content of silver coinage as opposed to the debasement of gold coins. Thus, this Act set precedent for debasement as the tool for adjusting the mint ratio.

The first point is the especially crucial one, as overnight devaluations place the value of the currency in the hands of the government. It is clear that Jackson's intent was pro-hard-money and the debasement was mostly in aligned with the market conditions.

However, if the government can debase the currency by 6%, it has equal right to debase it by 60%. Forty years later, this precedent was used as intellectual ammunition for the soft money camps in the Legal Tender Cases of the 1870's (see later section).

Additional Hard-Money Legislation

Besides the 1834 Coinage Act, Jackson's administration pushed hard-money legislation in several other areas. The purpose of inclusion of these events is for both context and to further demonstrate Jackson's commitment to hard money:

1. *Appropriations:* In the 1834 General Appropriations Act (approved on June 27), Congress specified that “Nothing herein contained shall be construed to make anything but gold and silver a tender in payment, of any debt due from the United States to individuals.”¹⁰⁶ This constraint had never been specified previously in a general appropriations act.
2. *Foreign Specie:* From 1827 until 1834, the only foreign specie which was legal tender in the United States was the Spanish Milled dollar. Jackson believed this was an act of monetary nationalism and worked to bring legal tender status to all specie.¹⁰⁷ On June 25, 1834, silver coins from Mexico, Peru, Chile, Brazil, Central America, and France were declared "current as money within the United States, by tale, for payments of all debts and demands" without an expiration date.¹⁰⁸ On June 28, 1834, legal tender status was granted to gold coins from Great Britain, Portugal, Brazil, France, Spain, Mexico, and Colombia.^{109,110}
3. *Public land:* In 1836, Jackson passed the Specie Circular, restricting all purchases of public land to be made in specie. This was issued in response to

¹⁰⁶ (United States Statutes at Large, 27 June 1834, p. 699)

¹⁰⁷ It is interesting to note that Jackson had been consistently advocating the legal tender status of foreign specie for his entire political career. Quoting from the 1805 Annals of Congress (Annals of Congress, 1805, p. 299): Representative Jackson of Virginia, asserted that "all economical writers agree that the wealth of nations was intimately connected with the quantity of the circulating precious metals. For this reason . . . it [would be] impolitic to restrict the circulation of foreign coins in the United States.

¹⁰⁸ (United States Statutes at Large, 25 June 1834, p. 681)

¹⁰⁹ (United States Statutes at Large, 28 June 1834, p. 699)

¹¹⁰ Thus, when combined with the Coinage Act of 1834 and the General Appropriations Act, the three days from June 25 – June 28 were probably the most successful week in the history of the hard-money movement.

the real estate speculation made possible by enormous credit expansions of state banks (and was repealed in 1838).

4. *Paying off the Public Debt:* In 1834, Jackson's administration eliminated the public debt for the first and only time in American history and distributed the treasury surplus back to the individual States. The debt remained at or near zero until an 1837 Treasury Note offering.

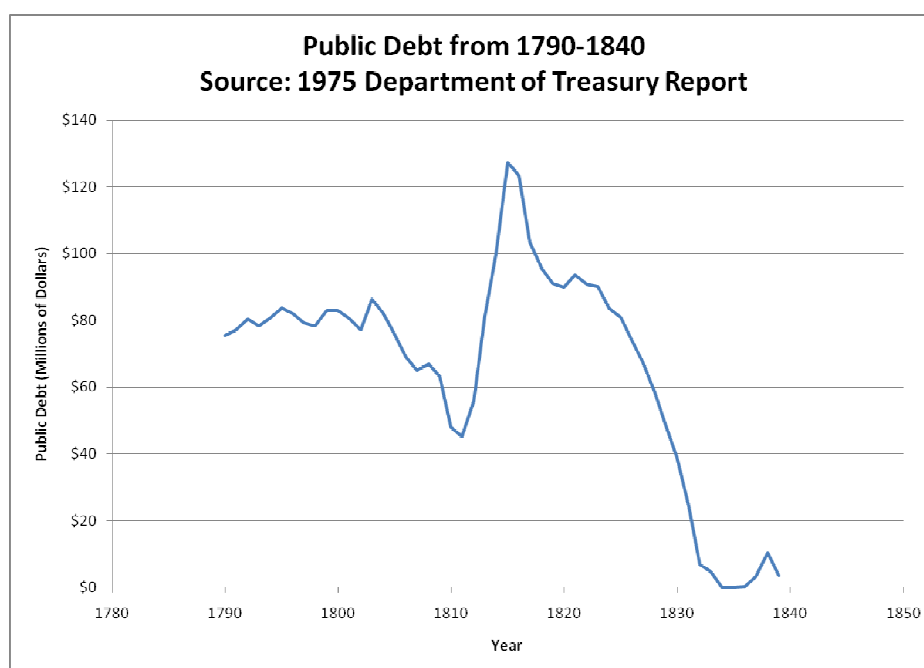


Figure 18: Public Debt from 1790 until 1840

Coinage Act of 1837

The act of January 18, 1837, was passed to make the fineness of the gold and silver coins uniform at 90%. Thus, the weight of silver coins was decreased slightly in order to increase its fineness from 89.2% to 90.0%. This negligibly debased the silver coins, lowering the mint ratio from 16.002 to 15.988 (and decreasing the price of gold from \$20.69 to \$20.67), but was altogether a minor event in the history of debasement.¹¹¹ It is included here for context only.

Table 8: Approved minted coins by the 1837 Coinage Act¹¹²

1837 (mint ratio = 15.988)	Coin	Value	Metal	Pure			Standard*		
				Grain	Oz Tr	Gram	Grain	Oz Tr	Gram
	Eagles**	\$ 10.00	Gold	232.000	0.483	15.04	258.000	0.538	16.72
	Half Eagles	\$ 5.00	Gold	116.000	0.242	7.52	129.000	0.269	8.36
	Quarter Eagles	\$ 2.50	Gold	58.000	0.121	3.76	64.500	0.134	4.18
	Dollars or Units	\$ 1.00	Silver	371.250	0.773	24.06	412.500	0.859	26.73
	Half Dollars	\$ 0.50	Silver	185.625	0.387	12.03	206.250	0.430	13.37
	Quarter Dollars	\$ 0.25	Silver	92.813	0.193	6.02	103.125	0.215	6.68
	Dismes	\$ 0.10	Silver	37.125	0.077	2.41	41.250	0.086	2.67
	Half Dismes	\$ 0.05	Silver	18.563	0.039	1.20	20.625	0.043	1.34
	Cents	\$ 0.01	Copper	11.000***	-	17.100	-	-	-
	Half Cents	\$ 0.01	Copper	5.500***	-	8.550	-	-	-
*Pure/Standard = 90% for gold and 90% for silver									
**1 oz of gold = \$20.69									
*For copper, the lefthand mass is in pennyweights as opposed to grains									

¹¹¹ It is more significant to coin collectors, as a new issue of silver coins was minted in 1837 in order to comply with the new Act (the “Seated Liberty” coins).

¹¹² (United States Statutes at Large, 18 January 1837, p. 136)

Chapter 8: Introduction of Subsidiary Coinage (1837 – 1861)

Notable Events from 1837 – 1851 (context only)

Three other notable events occurred after Jackson's presidency and before the crucial Cheap Postage Act of 1851.

1. *Specie Suspension in 1837 and in 1839:* Following the "Panic of 1837," state banks suspended specie payments. Most state banks resumed payments in 1838, but suspended again in 1839. Specie payments were resumed once again in 1842 and remained intact until the Civil War. The particular details of these suspensions were not critical per se; the important point is that the banks could simply announce the suspensions when they came under financial distress. The suspensions became simply a "state of the economy during hard times" as opposed to a violation of contract rights subject to litigation. As mentioned earlier, this key precedent was set in 1814.
2. *Establishment of the Independent Treasury System:* As mentioned in the previous section, Jackson had removed the federal deposits from the Second Bank of the United States and placed them in a series of state banks. After the Panic of 1837, there was a desire to completely sever the link between government deposits and the banking system. After a series of political battles, whose details are not relevant here, the Independent Treasury System

was established in the Act of August 6, 1846, which established a list of “fire-proofs vaults and safes...for the keeping of public moneys in the possession and under the immediate control of {the Treasurer}.”¹¹³

3. *Treasury Notes Issues from 1837 – 1844*: In response to the Panic of 1837, Congress issued Treasury Notes at various times between 1837 and 1843. All of these issues were similar to the first four issues during the War of 1812 and the Notes were simply NEL’s as opposed to fiat money with legal tender status. In 1844, there was a Treasury Note issue very similar to the 1815 Act where the notes resembled a fiat currency. However, the details of these issues will not be examined here, as they are a “historical repeat” of the War of 1812 financing and no new precedents were set which contributed to future debasement.

Introduction of 3-cent Coin in 1851

The introduction of the subsidiary 3-cent piece in 1851 was a fascinating confluence of random events and resulted in *Event 6* in the history of monetary debasement.

In January, 1850, Congress considered options on how to satisfy complaints of businessmen with regards to the accounting aggravation due to the non-decimal nature of foreign silver. One bill, introduced by Senator Dickinson, recommended a subsidiary 3-

¹¹³ (United States Statutes at Large, 6 August 1846, p. 59)

cent coin which contained only 2.5 cents worth of silver (16.7% debasement), which would drive the foreign money out of circulation. The bill stalled in committee.

In 1850, the United States Postage Service charged 5 cents for delivering a single-page letter weighing less than a half-ounce by land. However, the USPS was losing business to private carriers, who were delivering mail between major cities for 2 cents a letter.¹¹⁴

In December 1850, Congress agreed to lower the base postage rate from 5 cents to 3 cents and drafted the “Cheap Postage Bill.” In deliberating this change, the question of monetary indivisibility was broached. At the time, the smallest silver coin was the half-dime. Copper pennies did exist, but were in short supply. Thus, as part of the Cheap Postage Bill (Section 3), Congress allowed for the mint to create a three-cent coin, which would eventually become known as the trime. The text of Section 3 *was taken verbatim from Dickinson’s original foreign silver bill*. From that point on, the subsidiary coin was taken as given with very little debate. Martin notes that “The postal aspects of the bill were extensively discussed on five occasions before the subsidiary three cent coin was attacked as an improper debasement.”¹¹⁵ The “attack” Martin is referring to is a short statement by Senator Duer:¹¹⁶

There is another little matter upon which I will say a word. It is proposed to alloy these coins, so as to debase them below the standard of other silver coins. There is no necessity for this...I think, therefore, that that part of the bill, which proposes alloying the new coin so as to make it baser than other silver coins should be amended.

¹¹⁴ (Bryan, 2004)

¹¹⁵ (Martin, 1853: The End of Bimetallism in the United States, 1973, p. 836)

¹¹⁶ (Congressional Globe, 13 January 1851, p. 227)

This statement's lack of both length and substance indicates that debasement was not a consideration in this debate. For comparison, during the same session, Senator Duer actually spoke for five times longer on the subject of changing the coin to a 2.5-cent coin to be more consistent with the decimal system (independently of the debasement topic). The original language remained in the bill and, as described by Martin:¹¹⁷

In this casual manner, 'one of the most significant measures in American currency history' was adopted. After resisting no less than eleven different fiduciary coinage proposals in fifty years, Congress accepted on March 3, 1851 the precedent of a subsidiary coin with limited legal status 'to fulfill a special purpose – the purchase of the three cent postage stamp.'

The use of the word "casual" is apropos. As mentioned above, the debasement saw essentially zero opposition and the clause was considered unimportant with regards to postal reform. The actual coin legislation is the 11th and final section of the Cheap Postage Act, and is approximately one quarter page in length (entire bill is 4.5 pages).

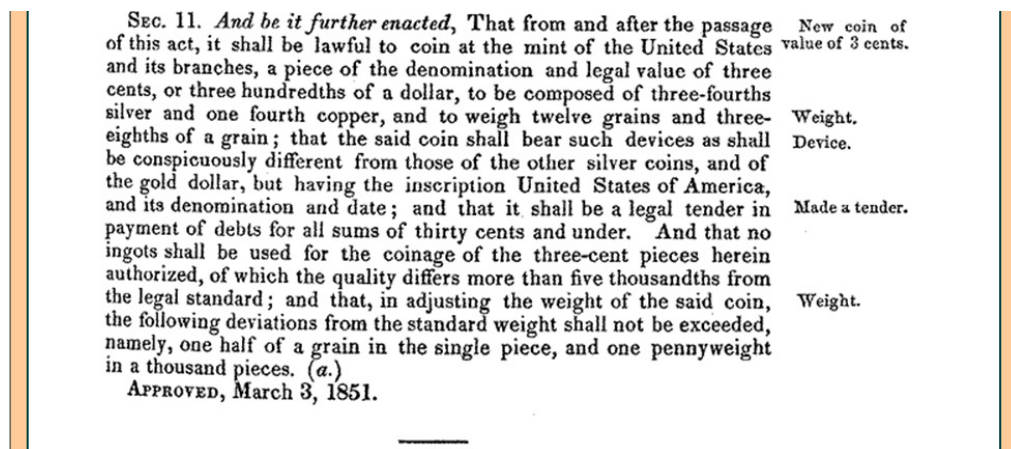


Figure 19: Text legalizing the minting of a three-cent coin on March 3, 1851¹¹⁸

¹¹⁷ (Martin, 1853: The End of Bimetallism in the United States, 1973, p. 836)

¹¹⁸ (United States Statutes at Large, 3 March 1851, p. 591)

Thus, the 75% silver/25% copper three-cent coin was the first example of subsidiary coinage in the United States, which is the predecessor to fiat money. Unlike the previous coinage acts which redefined the definition of the dollar, the metal of the three cent piece was worth less than three cents *under the current monetary definitions*. Thus, “Congress also crossed into rather uncharted and controversial monetary ground by authorizing a legal tender that had value based on their say-so and not on its metal content.”¹¹⁹ The concepts of “money” and “specie weight” became legally divorced for the first time in American history, which is why the advent of the trime has been selected as *Event 6*.



Figure 20: Obverse and reverse views of an 1859 Trime¹²⁰

Coinage Act of February 21, 1853

The California Gold Rush began in early 1848, greatly increasing the American supply of gold and driving down its price. Thus, the gold-to-silver market ratio fell, averaging

¹¹⁹ (Bryan, 2004)

¹²⁰ (The Fun Time Guide to Coins, 2010)

approximately 15.4 between 1850 and 1855. Silver was further driven from circulation, and the silver coinage which did circulate sold at a premium from 1.5% to 3.75%.¹²¹

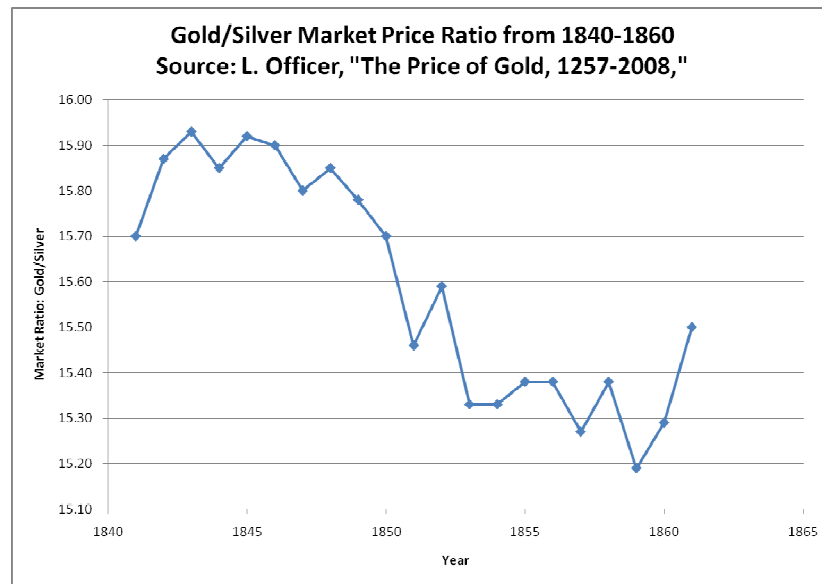


Figure 21: Market price ratio of gold to silver from 1840 until 1860

A Coinage Act was introduced to Congress which recommended reducing the amount of silver in the half dollar, quarter, dime, and half dime by 6.9% while leaving the silver dollar unchanged. This bill would establish a “small change mint ratio” of 14.9, below the market ratio of 15.4, and would result in a large circulation of overvalued silver.

Unlike the “trime bill” in 1851, the new coinage bill was protested vehemently on the grounds of the evils of debasement. One Representative recommended increasing the weight of the gold coin (i.e. appreciating the currency), but this suggestion was not taken any further. The largest opposition came from future President and then-Representative Andrew Johnson, who “looked upon {the bill} as mere quackery – as the veriest

¹²¹ (Martin, 1853: The End of Bimetallism in the United States, 1973, p. 834)

charlatanism – so far as the currency of the country is concerned.”¹²² He then gave an impassioned speech questioning both the logic and Constitutionality of the bill.¹²³

“Congress cannot regulate the value of the coin. It may place a stamp upon it, and that stamp may indicate that it contains a certain number of grains of gold or silver, but that is all the Government can do and all that the Constitution designed it should do...Now where is the power to fix the value of that dollar? Do you not see that it is with the commercial world? Do you not see that it is a thing to be agreed upon between parties and between nations dealing in the commodity we call money?”

Johnson then made one of the most sarcastically insightful rants that I found in my research, taunting the “alchemy” of depreciation, and implying the runaway depreciation that would occur if this magic remedy was adopted as standard:

The bill before the House assumes that while your present dollar contains four hundred and twelve and a half grains of standard silver, you can, by law, make another, containing only three hundred and eighty-six grains, worth just as much as the other. Now, if you will take the pain to subtract the amount of standard silver contained in one from that contained in the other, you will find that one contains about seven cents more than the other. If we can then, by law, reduce the present standard seven per cent, and make the value of the reduced standard equal to the other, I ask the House and the country if the philosopher’s stone has not been discovered? If we can, by law, make one hundred and seven dollars out of one hundred dollars, we can, by the same process, make it worth one hundred and fifty dollars. Why, sir, of all the problems that have come up for solution, from the time of the alchemists down to the present time, none can compare with that solved by this modern American Congress. They alone have discovered that they can make money – that they can make one hundred seven dollars out of one hundred dollars. If they can increase it to that extent, they can go on and increase it to infinity; and thus, by the operations of the Mints, can the Government supply its own revenues. The great difficulty with mankind is solved; the idea that so much money is wanted all over the world is at length at an end. The problem is at last solved. That Congress, in the plenitude of its power, in its wisdom, can, whenever it chooses, by a single stroke of legislation, change the currency of the country into any amount desirable. Sir, I repeat again that this is all quackery.

¹²² (Congressional Globe, 2 February 1853, p. 475)

¹²³ In the same speech, Johnson also noted that the pre-1834 gold dollars (270 grains) appropriately sell for a premium in the market relative to the post-1834 gold dollars (258 grains) independently of the fact that they are both dollars. He then concluded that, in depreciating the currency, all previous contracts are violated as tradesmen are now obliged to accept less specie than they originally contracted for.

Johnson clearly understood the concept of precedent and wanted to avoid the slippery slope of debasement. Despite his arguments, the Coinage Act passed on February 21, 1853. Its key features were:

- Section 1: The metal content of the half dollar, quarter, dime, and half-dime was reduced by 6.9% such that a half dollar contained 172.8 grains of pure silver (reduced from 185.625). The silver dollar remained at 371.25 grains of silver (such that two half dollars summed to less silver than one silver dollar).
- Section 2: The coinage is legal tender for all debts up to a maximum of \$5.¹²⁴

The resultant authorized coins are shown in Table 9.

Table 9: Approved minted coins by the 1853 Coinage Act

1853 (mint ratio = 15.988 and 14.898)	Coin	Value	Metal	Pure			Standard*		
				<i>Grain</i>	<i>Oz Tr</i>	<i>Gram</i>	<i>Grain</i>	<i>Oz Tr</i>	<i>Gram</i>
	Eagles**	\$ 10.00	Gold	232.000	0.483	15.03	258.000	0.538	16.72
	Half Eagles	\$ 5.00	Gold	116.000	0.242	7.52	129.000	0.269	8.36
	Quarter Eagles	\$ 2.50	Gold	58.000	0.121	3.76	64.500	0.134	4.18
	Dollars or Units	\$ 1.00	Silver	371.250	0.773	24.06	412.500	0.859	26.73
	Half Dollars	\$ 0.50	Silver	172.800	0.360	11.20	192.000	0.400	12.44
	Quarter Dollars	\$ 0.25	Silver	86.400	0.180	5.60	96.000	0.200	6.22
	Dimes	\$ 0.10	Silver	34.560	0.072	2.24	38.400	0.080	2.49
	Half Dimes	\$ 0.05	Silver	17.280	0.036	1.12	19.200	0.040	1.24
	Cents	\$ 0.01	Copper	11.000***	-	17.10	-	-	-
	Half Cents	\$ 0.01	Copper	5.500***	-	8.55	-	-	-
*Pure/Standard = 90% for gold and 90% for silver **1 oz of gold = \$20.67 *For copper, the lefthand mass is in pennyweights as opposed to grains									

¹²⁴ The five dollar legal tender limit was designed such that the coins would circulate, but would not displace interrupt gold's circulation due to the lower mint ratio.

The Coinage Act of 1853 is the first widespread use of subsidiary coinage. It combined the precedents of overnight devaluation from the Coinage Act of 1834 with the precedent of subsidiary coinage from the Cheap Postage Act of 1851. Thus, while this is one of the largest debasements in American history, it is not an event as it was simply capitalizing on previous precedents.

From this point on, subsidiary coinage became a normal part of American society, continuing with the 1866 subsidiary nickel and culminating in the removal of all silver from American coinage in 1965.¹²⁵

Year	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873
Half Cents	Braided Hair (100% copper, 84 G)																																	
1-cent	Braided Hair (100% Copper)																		IH (88% Cu, 12% Ni, 72 G)															
3-cent silver													3-cent silver (90% silver, 10% cu, 11.6 G, 14 mm dm, \$0.025 metal)																					
3-cent nickel																											3-cent nickel							
Half-Dime	Seated Liberty (90% Silver, 20.6 G, 1.34 g)												Seated Liberty (90% Silver, 10% Copper, 19 G, 1.24 g)																					
Nickel													Shield Nickel (75% copper, 10% nickel, 5 G)																					
Dime	Seated Liberty (90% Silver, 10% Copper, 41.3 G)												Seated Liberty (90% Silver, 10% Copper, 38 G, 17.9 mm dm)																					
Quarter	Seated Liberty Quarter (90% silver, 103.1 G)												Seated Liberty Quarter (90% silver, 96 G)																					
Half Dollar	Seated Liberty Half Dollar (90% silver, 206 G)												Seated Liberty Half Dollar (90% silver, 10% copper, 192 G)																					
Silver Dollar	Seated Liberty Dollar (90% silver, 412.5 G)																																	

Figure 22: Coin circulation (sans gold) in the United States from 1840 until 1873. A change in color indicates a debasement of that coin.

¹²⁵ The most “visual” example of debasement through subsidiary coinage is through comparison of the nickel and dime. Under a true hard-money standard, the size of the coin was proportional to its value. On May 18, 1866, the first nickel was coined, which was a subsidiary coin of 75% copper and 25% nickel. The nickel, while twice the surface area of a silver dime, was worth half as much. This disparity of sizes can still be seen in modern coinage.

Other Notable Events from 1853 – 1861 (context only)

Two other notable events which occurred between 1853 and the outbreak of the Civil War in 1861 were:

1. *Specie suspension in 1857*: The panic of 1857 was triggered by the failure of the Ohio Life Insurance and Trust Company on August 24, 1857. Beginning with the Philadelphia Bank on September, 25 1857, banks suspended specie payments (in all states other than Ohio, Indiana, Kentucky, and Louisiana). However, the Panic was brief, and specie payments were resumed as soon as December (in New York).¹²⁶ Like the past suspensions (1814, 1837, and 1839), there were no legal ramifications to the suspension. Historian James Huston noted that although “most states...had laws making it illegal for their banks to suspend specie payment, legislators quickly yielded to the undeniable needs of the economy and passed laws that momentarily permitted banks to forego payments of their notes.” Thus, there was an illusion of legal enforcement of the contract rights of the depositor, but these rights were eliminated when “times were tough.” This is not surprising, as a fractional reserve banking system makes it impossible to defend all property/deposits, since a large portion of the deposits are illusory.
2. *Act of February 21, 1857*: This Act stated that “all former acts authorizing the currency of foreign gold or silver coins, and declaring the same a legal tender in payment for debts, are hereby repealed”¹²⁷ Thus, only American-minted coinage remained legal tender. This monetary nationalism reversed the “gold is gold”

¹²⁶ (Huston, 1987, pp. 17, 23, 24)

¹²⁷ (United States Statutes at Large, 21 February 1857, p. 163)

philosophy set forth by Jackson in his Acts of June 25, 1834 and June 28, 1834. The effect of the legislation was to drive foreign coins out of circulation, either to be hoarded or melted. From Martin:

Mint Director Snowden noted on February 6, 1857 "that the bare anticipation of a law" to reduce the tale rates of foreign coins "has already had the effect of throwing them out of the currency to a great extent and sending them here for recoinage."¹²⁸

As discussed earlier, however, while this Act did give the United States Mint a monopoly on coinage, the legal tender status of a non-debased currency does not matter as, in either case, it will not circulate. This Act is of special symbolic importance though, as it is the first Act eliminating the legal tender status of the Spanish Milled Dollar (see Table 5), which was the very standard of a dollar as referenced in the Constitution and codified in the Federal Coinage Act of 1792.

¹²⁸ (Martin, *The Changing Role of Foreign Money in the United States, 1782-1857*, 1977, p. 1024)

Chapter 9: The Civil War (1861 – 1865)

Summary

From a monetary perspective, the Civil War was the most complex event the United States had ever faced. Expenditures increased from \$66 million in 1861 to \$470 million in 1862 and peaked at \$1.3 billion in 1865.¹²⁹ The national debt, which had never been greater than \$127 million (War of 1812) and had oscillated between \$0 and \$60 million in the thirty previous years, exploded to greater than \$2 billion in 1865.¹³⁰ Thus, the magnitude of federal revenue generation had to increase dramatically. New taxes were levied on spirits, tobacco, and stamps, and, in 1863, the first American income tax was implemented.¹³¹ However, the sum of all war tax revenue was less than \$550 million, less than half of the war spending in 1865 alone; in short, taxes were a minor part of war financing. Instead, as in previous wars, the government attempted to borrow the necessary capital. The Civil War borrowing structure was much more complex than that of previous wars, which had typically consisted of long-term bonds and Treasury Notes. Civil War borrowing consisted of those two entities, as well as demand notes, certificates of deposit, certificates of indebtedness, legal-tender notes, coin certificates, and

¹²⁹ (Studenski, 1952, p. 152)

¹³⁰ (Statistical Appendix to Annual Report of the Secretary of the Treasury on the State of the Finances, 1976)

¹³¹ (Studenski, 1952, p. 151). The initial tax was progressive, with rates of 3% on income between \$600 and \$10,000 and 5% on income above \$10,000.

compound-interest notes, which cumulatively totaled approximately \$5 billion.¹³² This section will focus only on the demand and legal-tender notes.

The Demand Notes of 1861

The first such borrowing was initiated on July 17, 1861, when Congress authorized a loan of \$250 million, the largest loan authorized in America's history to that point. The loan could be issued in a combination of 7%/20-year Bonds, 7.3%/3-year Notes, 3.65%/1-year Notes, or 0%/redeemable Notes. In the text of the loan authorization, the four issues were divided into two issue types. The former two securities were simply standard Congressional stock, as had been often issued for the previous 70 years¹³³. However, the latter two Notes were quite different, and closely resembled the 5th issue of Treasury Notes from the War of 1812, the closest approach to a fiat currency up to this point in time. Since the 3.65% Note was not heavily utilized, I will focus on the 0% Note, whose key features were:¹³⁴

1. **Public Expenditures (Section 1):** The loan authorization act states that this issue can be used to “pay for salaries or other dues from the United States.”
2. **No Interest Payments (Section 1):** The Note did not pay interest.
3. **Small Denominations (Section 1):** They were limited to denominations between \$10 and \$50
4. **Transferrable on delivery (Section 2):** Self-explanatory

¹³² (Studenski, 1952, p. 156)

¹³³ For this loan, however, there was not even an attempt at establishing a sinking fund to start paying off the debt; instead, the “faith of the United States” was “solemnly pledged.”

¹³⁴ (United States Statutes at Large, 17 July 1861, p. 259)

5. **Re-issued (Section 6):** Like any fiat currency, the Notes could be re-issued at the discretion of the Secretary of Treasury
6. **Redeemable on Demand (Section 1):** They could be redeemed for specie on demand.
7. **Maximum Issue (Section 1):** No more than \$50 million could be issued.

Based on points 1-5, the 1861 demand notes were actually a paper currency and circulated as so; Secretary of the Treasury Chase immediately began using these notes to pay government salaries. However, the major difference between these notes and the 1815 Notes were that the 1861 issues were “payable on demand” in specie. Thus, the “demand notes” were not a fiat currency for three reasons: they were {theoretically} backed by specie, they did not have legal tender status, and they were not receivable for public dues. These three features would be eliminated within nine months.

On August 5, 1861, a supplementary Act was passed modifying the July Act in several ways. Two modifications were relevant to the demand notes:¹³⁵

1. The smallest denomination was lowered from \$10 to \$5.
2. The demand notes were receivable for public dues.

These features are characteristic of a paper currency, as they encourage hand-to-hand circulation.

¹³⁵ (United States Statutes at Large, 5 August 1861, p. 313) This was also the Act which suspended portions of the 1846 Independent Treasury Act by allowing the money obtained by these loans to be kept in “such solvent specie paying banks as {the Secretary of the Treasury} may select.”

Specie Suspension of 1861

In accordance with the loan authorized in July, 1861, the Treasury issued \$150 million in the 7.3%/3-year bonds, which were to be purchased state banks in specie. Additionally, the Treasury had issued \$50 million in Demand Notes, redeemable in specie by the Treasury, which itself was receiving specie from the banks. As the banks only held \$63 million in specie at the time of agreement,¹³⁶ the risk of default on both deposits and demand notes was high. Five months later, on December 30, 1861, state banks suspended specie payments. The government suspended specie payments the next day. In doing so, the Demand Notes lost their connection to specie and reverted to the form of the 1815 Treasury Notes: a fiat currency. Like the previous specie suspensions of 1814, 1837, and 1839, this suspension was permitted with no legal consequences.

Legal Tender Act of 1862

In February, 1862, with the Treasury low on funds, Congress approved the issue of \$150 million in United States Notes, which were also known as Legal Tender Notes and soon to become known as “greenbacks.” This issuance is *Event 7* in the history of monetary debasement, not for the issue of greenbacks per se, but because this was the first example of a fiat currency being made legal tender in the United States since the Constitution was ratified. Before examining this crucial event, it is useful to compare the Demand Notes with the U.S. Notes. Looking at Figure 23, five differences can be seen:

¹³⁶ (Studenski, 1952, p. 141)

1. The words “On Demand” found on the Demand Note were removed on the U.S. Note. Thus, the United States government was fully acknowledging that this was a fiat currency, as there was no connection with a specie payment. However, this was more symbolic in nature since the Demand Notes couldn’t be redeemed for specie due to the suspension.
2. The reverse side of the U.S. Note states that it was exchangeable for 6% United States Bonds which were “redeemable at the pleasure of the United States.” This is a very clear indication that there was no direct link to specie.
3. The Demand Note is “receivable in payments of all public dues,” while the U.S. Note (on the reverse) is “legal tender for all debts public and private except duties on imports and interest on the public debt.” While this seems like an enormous difference, Demand Notes were also granted complete legal tender status in a separate act on March 17, 1862. At that point, the primary difference between the notes was that only the Demand Notes could be used to pay import duties.
4. The U.S. Notes contained the seal of the Treasury while the Demand Note does not.
5. The applicable Acts are printed on the bills and are clearly different (July 17, 1861 for the Demand Note and February 25, 1862 for the U.S. Notes).

Thus, the Demand Note, through specie suspension and the legal tender laws, regressed into fiat currency; once that happened, the Treasury logically issued explicit fiat currency in the form of the U.S. Notes.



Figure 23: Comparison of 1861 Demand Note (top) with 1862 United States Note¹³⁷

¹³⁷ Demand Note Image: (Whitney Numismatics, 2004); U.S. Note Image: (Arcade Currency Palace, 2010)

The true significance of this event is the precedent for legal tender to be applied to a fiat currency. This marks all the way back to the Constitutional Convention, when, as detailed earlier, Madison had recommended simply prohibiting bills of credit from having legal tender status. Had his wording been adopted, the Legal Tender Act could not have been passed as its unconstitutionality would have been undeniable. However, the vague Constitutional wording resulted in fiery Congressional debate, as well as several critical court cases. Besides the Constitutional Convention, this debate is probably the most important in American monetary history and is detailed below.

The debates started after the issuing of \$10 million in Demand Notes on February 12, 1862. That issuance brought the total issue to \$60 million, which was the legislated limit on Demand Notes. Thus, on February 13, 1862, Congress began deliberating how to raise an additional \$150 million. The first objection the legal tender clause was made by Senator Jacob Collamer from Vermont who simply asked to strike the words “and private” from the bill’s proposed language of “shall be lawful money and a legal tender in payments of all debts, public and private.”¹³⁸ Senator Wilson immediately recognized the importance of this amendment stating that “the fate of the measure itself is involved in the decision.” Wilson declared that he would “vote against the bill in any and all circumstances” if the amendment was adopted because it would be “wickedly unjust” to “do nothing to protect the credit of that currency when in {the soldiers’ and government employees’} hands.” Wilson then steered the debate away from the constitutionality of the legal tender:

¹³⁸ (Congressional Globe, 13 February 1862, p. 788)

It is not my purpose to say anything in regard to a constitution question. Senators of eminent ability differ upon that question...and when the most eminent constitutional lawyers of the country differ in regard to a question of that importance and of that character, it seems to me that those of us who choose to do so may exercise our own judgments in regard to the constitutionality of the measure. Passing by the question of the constitutional power and coming to it simply as a practical question..."

Had Madison's original language been used, Wilson would have been unable to do "pass by" the constitutionality of the bill. But instead, he was able to do so with no objections. Senator Collamer made no objections and Senator Sherman acknowledges that "{ Senator Collamer } does not present the constitutional question but doubts whether { legal tender status } is necessary." Senator Sherman then makes the practical case:¹³⁹

Where will the purchaser of your bonds get the gold and silver coin? It is now driven out of circulation....The very moments the banks suspended in new York, that moment gold and silver ceased to be the circulating medium of this country...It is easy to criticize this bill. I dislike to vote for it. I prefer gold to paper money; but there is no other resort...If you strike out this tender clause, you do it with the knowledge that these notes will fall dead upon the money market of the world; that they will be a subordinate, disgraced currency.

Senator James Simmons of Rhode Island responded with one of the most concise demonstrations of the intent of the Constitution with regards to paper currency:¹⁴⁰

If the legal tender clause is out, these are not bills of credit, according to my notion, but mere evidence of debt, and the Government has a right to pass them anywhere; and if it owes a man ten dollars, it has a right to say on paper it promises to pay it when it gets ready. But in the contemplation of the Constitution, the old-fashioned bills of credit were promises to pay, with a State law enforcing their passage against the will of those who were to take them....it was the precise description of paper that the framers of the Constitution intended to prohibit.

¹³⁹ (Congressional Globe, 13 February 1862, p. 791)

¹⁴⁰ (Congressional Globe, 13 February 1862, p. 793)

Simmons then went on to read aloud a letter from Constantinople, Turkey, showing the “results of the {fiat currency} experiment” as ones of “astonishing” increases in prices. He comments that “as far as my knowledge extends, there never was an effort made by legislation to make paper pass as money that did not produce a disastrous depreciation of it.”

This argument continued sporadically for two weeks and, on February 25, 1862, the bill was passed. Upon the passage of the bill, Senator Stevens stated “I have a melancholy foreboding that we are about to consummate a cunningly-devised scheme which will carry great injury and great loss to all classes of the people throughout the Union except one {banks and brokers}.”¹⁴¹ Section 1 of the bill, containing the critical legal tender clause, can be seen below in Figure 24.

The passage of the Legal Tender Act is *Event 7* in the history of monetary debasement. The intent of the Framers was {most likely} a system in which the government could not issue bills of credit and one in which paper currency is not legal tender. This piece of legislation implemented both of these policies and is the legislative precedent for the legal tender fiat currency we see today.¹⁴²

¹⁴¹ (Congressional Globe, 20 February 1862, p. 900)

¹⁴² U.S. Notes continued to be issued by the Treasury until 1971

CHAP. XXXIII. — *An Act to authorize the Issue of United States Notes, and for the Redemption or Funding thereof, and for Funding the Floating Debt of the United States.* February 25, 1862.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury is hereby authorized to issue, on the credit of the United States, one hundred and fifty millions of dollars of United States notes, not bearing interest, payable to bearer, at the Treasury of the United States, and of such denominations as he may deem expedient, not less than five dollars each: *Provided, however,* That fifty millions of said notes shall be in lieu of the demand Treasury notes authorized to be issued by the act of July seventeen, eighteen hundred and sixty-one; which said demand notes shall be taken up as rapidly as practicable, and the notes herein provided for substituted for them: *And provided further,* That the amount of the two kinds of notes together shall at no time exceed the sum of one hundred and fifty millions of dollars, and such notes herein authorized shall be receivable in payment of all taxes, internal duties, excises, debts, and demands of every kind due to the United States, except duties on imports, and of all claims and demands against the United States of every kind whatsoever, except for interest upon bonds and notes, which shall be paid in coin, and shall also be lawful money and a legal tender in payment of all debts, public and private, within the United States, except duties on imports and interest as aforesaid. And any holders of said United States notes depositing any sum not less than fifty dollars, or some multiple of fifty dollars, with the Treasurer of the United States, or either of the Assistant Treasurers, shall receive in exchange therefor duplicate certificates of deposit, one of which may be transmitted to the Secretary of the Treasury, who shall thereupon issue to the holder an equal amount of bonds of the United States, coupon or registered, as may by said holder be desired, bearing interest at the rate of six per centum per annum, payable semi-annually, and redeemable at the pleasure of the United States after five years, and payable twenty years from the date thereof. And such United States notes shall be received the same as coin, at their par value, in payment for any loans that may be hereafter sold or negotiated by the Secretary of the Treasury, and may be re-issued from time to time as the exigencies of the public interests shall require.

\$150,000,000 treasury notes authorized.

Denominations, how payable, interest. \$50,000,000, to be in lieu of demand notes. *Ante*, p. 259.

Treasury notes receivable in payment of dues to United States, except duties on imports, and interest on federal bonds and notes which shall be paid in coin, and to be legal tender except for duties and interest. To be convertible in sums of not less than \$50, &c. into United States 6 per cent stock, &c.

Figure 24: Section 1 of the Legal Tender Act of February 25, 1862¹⁴³

March 17, 1862. CHAP. XLV. — *An Act to authorize the Purchase of Coin, and for other Purposes.*

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury may purchase coin with any of the bonds or notes of the United States, authorized by law, at such rates and upon such terms as he may deem most advantageous to the public interest; and may issue, under such rules and regulations as he may prescribe, certificates of indebtedness, such as are authorized by an act entitled "An act to authorize the Secretary of the Treasury to issue certificates of indebtedness to public creditors," approved March first, eighteen hundred and sixty-two, to such creditors as may desire to receive the same, in discharge of checks drawn by disbursing officers upon sums placed to their credit on the books of the Treasurer, upon requisitions of the proper departments, as well as in discharge of audited and settled accounts, as provided by said act.

SEC. 2. *And be it further enacted,* That the demand notes authorized by the act of July seventeenth, eighteen hundred and sixty-one, and by the act of February twelfth, eighteen hundred and sixty-two, shall, in addition to being receivable in payment of duties on imports, be receivable, and shall be lawful money and a legal tender, in like manner, and for the same purposes, and to the same extent, as the notes authorized by an act entitled "An act to authorize the issue of United States notes, and for the redemption or funding thereof, and for funding the floating debt of the United States," approved February twenty-fifth, eighteen hundred and sixty-two.

SEC. 3. *And be it further enacted,* That the limitation upon temporary deposits of United States notes with any assistant treasurers or designated depositaries, authorized by the Secretary of the Treasury to receive such deposits, at five per cent. interest, to twenty-five millions of dollars, shall be so far modified as to authorize the Secretary of the Treasury to receive such deposits to an amount not exceeding fifty millions of dollars, and that the rates of interest shall be prescribed by the Secretary of the Treasury not exceeding the annual rate of five per centum.

SEC. 4. *And be it further enacted,* That, in all cases where the Secretary of the Treasury is authorized by law to re-issue notes, he may replace such as are so mutilated or otherwise injured as to be unfit for use with others of the same character and amount; and such mutilated notes, and all others which by law are required to be taken up and not re-issued, shall, when so replaced, or taken up, be destroyed in such manner and under such regulations as the Secretary of the Treasury may prescribe.

APPROVED, March 17, 1862.

Secretary of Treasury may purchase coin.

may issue certificates of indebtedness, &c.

1862, ch. 35. *Ante*, p. 352.

Demand notes made a legal tender.

1861, ch. 5. *Ante*, p. 259. 1862, ch. 20. *Ante*, p. 338.

1862, ch. 32. *Ante*, p. 345.

Temporary deposits of not over \$50,000,000 of United States notes may be made with Assistant Treasurer at not over 5 per cent. interest.

1862, ch. 23, § 4. *Ante*, p. 346.

Secretary of Treasury in re-issuing notes may replace mutilated ones.

Figure 25: Act of March 17, 1862 making Demand Notes legal tender (Section 2)¹⁴⁴

¹⁴³ (United States Statutes at Large, 25 February 1862, p. 345)

¹⁴⁴ (United States Statutes at Large, 17 March 1862, p. 370)

Additional Greenback Issuances

In arguing for the Legal Tender Act, Senator Sherman had cautioned against the continued issuance of U.S. Notes:

“The only objection to the issue of this paper money is that too much may be issued. I know very well that if you continue to follow this issue of demand notes by others, you depreciate and break down the whole system. There is the only danger in it. I do not believe the issue of \$150,000,000 will do any harm; but if you continue to issue other sums, you will at once depreciate the credit of these demand notes and destroy their value. If you confine it to the amount limited by this bill, I believe it will be healthy in all the business relations of the country.”¹⁴⁵

As Rothbard famously says, “printing money is a heady wine,”¹⁴⁶ and, as Civil War expenditures grew, additional U.S. Note issues were made:

- Second Legal Tender Act of July 11, 1862: Authorization of an additional \$150 million in U.S. Notes, some of which could take on denominations as low as \$1 (reduced from \$5). Thus, this Act authorized the first American \$1 bill, which was required since the U.S. Notes naturally drove silver coins out of circulation.¹⁴⁷
- Third Legal Tender Act of March 3, 1863: Authorization of additional \$150 million in U.S. Notes as part of authorized loans for \$300 million in 1863 and \$600 million in 1864 loans.¹⁴⁸

Mitchell notes that “when the greenbacks became the sole circulating medium of the country, the prices of all articles were necessarily quoted in terms of the paper currency,

¹⁴⁵ (Congressional Globe, 13 February 1862, p. 791)

¹⁴⁶ (Rothbard, 2002, p. 124)

¹⁴⁷ (United States Statutes at Large, 11 July 1862, p. 532)

¹⁴⁸ (United States Statutes at Large, 3 March 1863, p. 709)

as before they had been expressed in terms of specie.”¹⁴⁹ Thus, combined with the depreciation (see Figure 26), prices rose rapidly. Mitchell documents increases in prices between 62% to 510% from 1861 until 1865 in beans, beef, coffee, molasses, sugar, tea, and 11 other staples. As an example, a bushel of beans cost \$1.49 in 1861 and \$3.22 in 1865 *when denominated in greenbacks*.¹⁵⁰ The average increase was 246%. This is actually a nice demonstration of the neutrality of money and the clear effects of debasement. Given that, in 1861, there was approximately \$280 million in specie and \$180 million in state bank notes in circulation,¹⁵¹ a \$450 million greenback issuance approximately doubles the money supply. This is fully consistent with the 246% increase in staple prices and the 216% percent increase in greenback-denominated gold prices.¹⁵² Additionally, the depreciation occurred in spite of Salmon Chase’s 1864 “war on gold” in which he tried to artificially lower the greenback-denominated price of gold.¹⁵³

Figure 26 also gives a good sense of the volatile nature of a fiat currency, as well as the ability of a government to affect/manipulate prices. As bills requesting additional greenback issues pass through the legislative process, the price of gold spikes at every sign of progress and falls if the bill starts to languish. These changes are on the order of several percentage points and accumulated to more than a 100% change. In comparison,

¹⁴⁹ (Mitchell, *Greenbacks and the Cost of the Civil War*, 1897, p. 125)

¹⁵⁰ (Mitchell, *Greenbacks and the Cost of the Civil War*, 1897, p. 129)

¹⁵¹ (Friedman & Schwartz, *Monetary Statistics of the United States*, 1970, p. 224)

¹⁵² (Mitchell, *Greenbacks and the Cost of the Civil War*, 1897, p. 131)

¹⁵³ (Rothbard, 2002, p. 125). Chase implemented a gold sale tax, banned gold from being used as above-par collateral, and sold \$11 million in gold to raise the supply. When those measures failed, he drove through Congress “a truly despotic measure to prohibit under pain of severe penalty all futures contracts in gold as well as all sales of gold by a broker outside his own office.” The result was the opposite of his intent: an additional 20% depreciation of the greenback.

the market price for gold had never varied by more than 10% since 1793, with the largest increase being during the war of 1812.¹⁵⁴

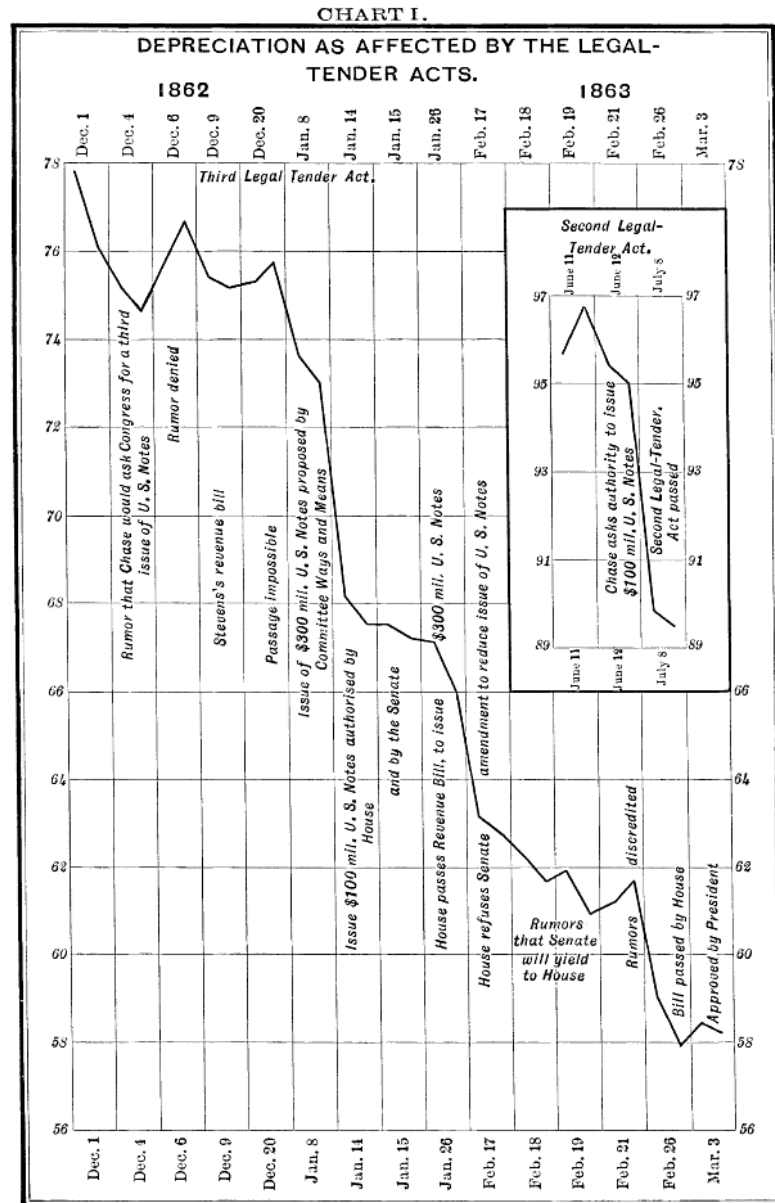


Figure 26: Depreciation of greenback during Civil War. The Y-axis is measured in the gold value of \$100 in greenbacks. The lowest value during the war was \$35 in July, 1864.¹⁵⁵

¹⁵⁴ (Officer, 2009)

¹⁵⁵ (Mitchell, The Value of the "Greenbacks" During the Civil War, 1898, p. 145)

Revocation of Bond Convertibility: The First Official Fiat Currency

As can be seen in Section 1 of the Legal Tender Act (Figure 24), the U.S. Notes were convertible at par into United States 6% stock. Thus, since these 6% bonds theoretically paid interest in specie and would eventually pay principal in specie, “the country could be said to rest on a ‘6 per cent gold bond standard.’”¹⁵⁶ This is a very weak link to gold since it is two stages of paper away from the metal and the government can suspend specie payments at will (as it did in December 1862). This convertibility of the U.S. Notes is to that the 1815 Treasury Notes; they are both fiat currencies, but at least there is a semblance of a link to specie. The first occurrence of a completely severed link occurred in a minor and obscure in the Third Legal Tender Act of March 3, 1863. The main purpose of this Act was to authorize a loan for \$300 million in 1863 and \$600 million in 1864, of which \$150 million could be U.S. Notes. However, the last sentence of Section 3 states:¹⁵⁷

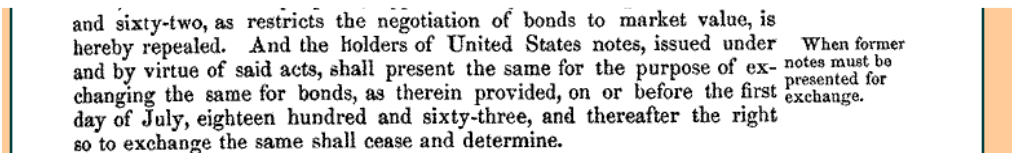
The image shows a snippet of text from a historical document, likely the Act of March 3, 1863. The text is presented in a two-column format, with a vertical orange bar on the left and right sides. The text is: "and sixty-two, as restricts the negotiation of bonds to market value, is hereby repealed. And the holders of United States notes, issued under and by virtue of said acts, shall present the same for the purpose of exchanging the same for bonds, as therein provided, on or before the first day of July, eighteen hundred and sixty-three, and thereafter the right so to exchange the same shall cease and determine." To the right of this text, there is a smaller, partially overlapping text: "When former notes must be presented for exchange."

Figure 27: Text from the Act of March 3, 1863 eliminating the legal ability to redeem greenbacks for U.S. bonds

This is not a “big enough event” to count as a trigger for monetary debasement, especially since the Secretary did continue to redeem Notes, albeit mostly for short-term

¹⁵⁶ (O’Leary, Repeal of the Greenback Conversion Clause, 1963, p. 507)

¹⁵⁷ (United States Statutes at Large, 3 March 1863, p. 709)

(1 and 2 year) Treasury Notes.¹⁵⁸ However, it is a pivotal event in U.S. monetary history which is almost completely unknown. After much searching, I found one wonderful 1963 five-page paper written by Paul O’Leary which was dedicated to this topic. O’Leary’s conclusions are mainly taunting of Congress, stating that the deliberations were “the most amazing colloquies since Alice in Wonderland sat down with the Mad Hatter” and “important American monetary legislation has not always been based on considerations of the highest intellectual level.” However, O’Leary does reference one quote by Representative Horton in favor of the bill:

The law of February and the law of July gave the option to the holder of those legal tender notes of funding them whenever he pleased, and that option took away from the Secretary practically the power of disposing of them according to his view of the public interest. This gives to the Secretary of the Treasury that option which, under the two other acts, was placed in the hands of the holders of the legal tender currency.¹⁵⁹

In other words, the clause was to allow more “flexibility” of the greenback currency (a theme which will come up often) and is executed by the arbitrary standard of the “public interest.” Thus, with the passage the Third Legal Tender Act, the verbiage on the back of the U.S. Note had to be changed. The original 1862 text (as shown in Figure 23) stated:

This note is a legal tender for all debts public and private, except duties in imports and interest on the public debt and is exchangeable for U.S. Six per cent and twenty year bonds, redeemable at the pleasure of the U. States after five years.

The new 1863 text (Figure 28) instead stated:

This note is legal tender for all debts public and private except duties on imports and interest on the public debt and is receivable in payment of all loans made to the United States.

¹⁵⁸ (O’Leary, Repeal of the Greenback Conversion Clause, 1963, p. 507)

¹⁵⁹ (O’Leary, Repeal of the Greenback Conversion Clause, 1963, p. 511)

Thus, the U.S. Notes of 1863 and onwards were the first true American fiat currency, as they were literally backed by nothing.



Figure 28: Reverse side of an 1863 U.S. Note¹⁶⁰

Legal Tender Cases: Hepburn v. Griswold

The legal tender cases were a series of U.S. Supreme Court cases which would forever determine the constitutionality of granting legal tender status to paper money.¹⁶¹ The fact that the cases were so long and complex is a verification of the vagueness of the Constitution with regards to paper money, which, as mentioned several times, could have been avoided if Madison's language had been adopted.

The first case was *Hepburn v. Griswold*, decided by the Supreme Court in 1870. The question in this case was whether "the {legal tender} statutes of 1862 and 1863 which make United States notes a legal tender...apply to debts contracted before as well as to

¹⁶⁰ (Teletrade Certified Coin Auctions, 2010)

¹⁶¹ The combined cases of *Knox v. Lee* and *Parker v. Davis* were the "Legal Tender Cases" based on the Supreme Court Case name. Over time, the four referenced cases have collectively adopted the name.

debts contracted after enactment.”¹⁶² The case specifics were that Mrs. Hepburn signed a contract to pay \$11,250 to Henry Griswold on February 20, 1862. She was late on the payment and, five days after the payment date, the first Legal Tender Act was passed. In March, 1864, Hepburn paid Griswold \$12,720 (principal plus interest) in U.S. Notes, which was refused by Griswold. The Court held 5-3 (only eight justices at the time) in favor of Griswold with the 20-page Majority Opinion written by Chief Justice Salmon Chase, who ironically was the Secretary of the Treasury who initially issued the U.S. Notes. Thus, he ruled his own issuance to be unconstitutional! Giving more detail, Chase spent all of two pages to quickly rule in favor of Griswold, commenting that all contracts written before the Legal Tender Act implied specie payments and the depreciated greenbacks were not a substitute.¹⁶³ Chase then spends the next 18 pages looking at the Constitutionality of the U.S. Notes in general: “It becomes our duty, therefore, to determine whether the Act of February 25, 1862, so far as it makes United States notes a legal tender in payment of debts contracted prior to its passage, is constitutional and valid or otherwise.” Chase first concluded that that there was no Constitutional basis for the legal tender laws:

“Indeed, we are not aware that {the Supreme Court} has ever been claimed that the power to issue bills or notes has any identity with the power to make them a legal tender.

On the contrary, the whole history of the country refutes that notion... {legal tender} carries the doctrine of implied powers very far beyond any extent hitherto given to it.”

¹⁶² (Hepburn v. Griswold, 1869)

¹⁶³ Note that, while Hepburn is the much more famous case, its substance is very similar case to Bronson v Rodes in 1868. In that case, Chase’s Court ruled that “express contracts to pay coined dollars are not debts which may be satisfied by the tender of U.S. Notes.” Thus, Bronson established that U.S. Notes were not legal tender when coin was explicitly called out, while Hepburn established the same when coin was implied. Of course, the Hepburn case then includes the famous declaration against the U.S. Notes in general. (Bronson v. Rodes, 1868)

Chase then examined the consequence of the unconstitutional Act, which he isolated to be a violation of the Fifth Amendment, since the requirement to accept depreciated currency deprives creditors of property without due process by “impairing the obligation of contracts.”

Legal Tender Cases: Knox v Lee and Parker v Davis

On February 7, 1870, the same day as the release of the Hepburn decision, President Grant appointed two additional Justices to the Supreme Court: William Strong and Joseph Bradley, both Republicans. He was able to do so due to the resignation of Justice Grier (majority in Hepburn case) and the passage of the Judiciary Act of 1869 increasing the number of justices to nine. This changed the composition of the court from 5 Democrats/3 Republicans to 5 Republicans/4 Democrats.¹⁶⁴ There has been much written about the political controversy of this switch which will be ignored here. The new Republican court voted to re-open two outstanding legal tender cases: Knox v. Lee and Parker v. Davis. These cases were decided in the same Supreme Court decision and explicitly overruled the Hepburn decision with newly appointed Justices Strong and Bradley writing the majority opinions. Justice Strong stated that, without legal tender status, “the government is without those means of self-preservation which, all must admit, may, in certain contingencies, become indispensable.”¹⁶⁵ While the majority opinion was the standard case for constitutionally implied powers (dating back to Justice Marshall in *McCullough v Maryland* in 1819), there was one oft-ignored passage which

¹⁶⁴ (Dam, 1981)

¹⁶⁵ (Legal Tender Cases, 1870), p. 529

deserves more attention. Recall that, in the Hepburn case, Chief Justice Chase used the unfairness of using depreciated currency to pay debts as an example of the unconstitutionality of the Legal Tender Act. In Knox, Justice Strong observes:

It is said, however, now that the act of 1834 only brought the legal value of gold coin more nearly into correspondence with its actual value in the market or its relative value to silver. But we do not perceive that this varies the case or diminishes its force as an illustration. The creditor who had a thousand dollars due him on the 31st day of July, 1834 (the day before the act took effect), was entitled to a thousand dollars of coined gold of the weight and fineness of the then existing coinage. The day after, he was entitled only to a sum six percent less in weight and in market value, or to a smaller number of silver dollars. Yet he would have been a bold man who had asserted that because of this the obligation of the contract was impaired or that private property was taken without compensation or without due process of law. No such assertion, so far as we know, was ever made. Admit it was a hardship, but it is not every hardship that is unjust, much less that is unconstitutional; and certainly it would be an anomaly for us to hold an act of Congress invalid merely because we might think its provisions harsh and unjust.¹⁶⁶

And, with that, the precedent of overnight devaluations set in 1834 (*Event 5*) destroys Chase's argument and ushers in the constitutionality of legal tender notes (*Event 8*).

For completeness, it should be noted that, in the dissenting opinion, Chief Justice Chase addressed the 1834 devaluation, stating that "The changes in the quantity of alloy in the different coins has been made from time to time not with any idea of debasing them, but for the purpose of preserving the proper relative value between gold and silver."¹⁶⁷

While this is true, the point is not why the debasement occurred; the point is simply that *the debasement happened*.¹⁶⁸ Chase concludes his dissent with a quote ushering in a new

¹⁶⁶ (Legal Tender Cases, 1870), p. 552

¹⁶⁷ (Legal Tender Cases, 1870), p. 676

¹⁶⁸ While this was a weak portion of Chase's dissenting opinion, his overall opinion was incredible. He quoted impassioned Webster's 1836 specie circular speech that there "can be no legal tender in this country, under the authority of this government or any other, but gold and silver." He also {naively}

monetary era where the standard of value will transition away from gold to government-issued notes:

The present majority of the Court say that legal tender notes "have become the universal measure of values," and they hold that the legislation of Congress substituting such measures for coin by making the notes a legal tender in payment is warranted by the Constitution.

Legal Tender Cases: Julliard v. Greenman

This 1884 case firmed up the Knox v Lee decision by establishing that “Congress has the constitutional power to make the Treasury Notes of the United States a legal tender in payment of private debts, in time of peace as well as in time of war.”¹⁶⁹ In Knox, the majority opinion emphasized the “necessity” of the legal tender act due to the Civil War. Julliard generalized the constitutionality of legal tender notes *in all cases* by deriving the power from the Constitutional power to borrow money and to provide a national currency. The majority opinion, written by Justice Gray, makes the standard loose constructionist argument that the Constitution “is not to be interpreted with the strictness of a private contract...and does not undertake, with the precision and detail of a code of laws, to enumerate the subdivisions of those powers.” Gray also cited the Necessary and Proper clause, as interpreted in McCullough, makes the issuing of legal tender notes “a

looked at America as an exception to those countries that allowed their governments to debase the currency: “Arbitrary and profligate governments have often resorted to this miserable scheme of robbery, which Mill designates as a shallow and impudent artifice, the ‘least covert of all modes of knavery, which consists in calling a shilling a pound, that a debt of one hundred pounds may be cancelled by the payment of one hundred shillings.’ In this country, no such debasement has ever been attempted, and I feel confident that none will ever be tolerated.”

¹⁶⁹ (Legal Tender Cases, 1870)

political question to be determined by Congress...and not a judicial question.”¹⁷⁰ The majority opinion did not rigorously examine the Constitution and its intent; Kenneth Dam states that “the majority's analysis of this {legal tender} issue in both *Juilliard* and *Knox* was superficial at best and even indifferent to the Framers' intent.” (Dam, 1981, p. 382)

Justice Field, the one dissenting Judge performed a very rigorous constitutional analysis, starting with:^{171,172}

If there be anything in the history of the Constitution which can be established with moral certainty, it is that the framers of that instrument intended to prohibit the issue of legal tender notes both by the general government and by the States; and thus prevent interference with the contracts of private parties.

But, like Justice Chase, Justice Field was unsuccessful and Legal Tender Notes have remained a Constitutional entity to this day. The Legal Tender Cases are *Event 8* in the history of monetary debasement, as they legally upheld the legislative precedent set by the 1862 Legal Tender Act. Therefore, the very monetary entity that the Framers wished to be unconstitutional (bills of credit with legal tender status) was now deemed to be strictly constitutional.

¹⁷⁰ Since the loose constructionist and Necessary and Proper clause precedents were set by *McCullough v Maryland*, it is tempting to cite this case as a key event for monetary debasement. However, I believe this is superseded by the ambiguous nature of the Constitution.

¹⁷¹ Justice Field went into incredible detail with regards to the Framers' intent, including a description of the aforementioned Constitutional debate reported by Madison with regards to the omission of the words “and emit bills” in the Constitution Convention.

¹⁷² (*Legal Tender Cases*, 1870), p. 451

National Banking Acts of 1863 and 1864

On February 25, 1863, Congress passed what eventually became known as the National Banking Act and is most famous for establishing the still-existent national banking system. At the time of passing, however, the focus of the Act was to establish a national currency in order to assist the federal government in its war financing. The actual name of the bill was the “An Act to provide a national Currency, secured by a Pledge of United States Stocks, and to provide for the Circulation and Redemption thereof.”¹⁷³ Section 1 of the Act “established in the Treasury department a separate bureau, which shall be charged with the...issue and regulation of a national currency secured by United States bonds.” Instead of establishing a single central bank, this Act established a new entity: a federally-chartered national bank, which could then issue national bank notes which would be accepted by every other national bank at par. Critically, the national bank notes were not backed by specie, but by government bonds. While this allowed the government to raise war revenue (banks used specie deposits to buy bonds), *it created the first bank note which was not explicitly backed by specie*. An example note can be seen in Figure 29. The text on the bill reads:¹⁷⁴

This note is secured by bonds of the United States deposited with the U.S. Treasurer in Washington...The [bank of issue] will pay the bearer on demand – dollars.”

This note is receivable at par in all parts of the United States, except duties on imports,
And also for all salaries and other debts and demands owing by the United States to
Individuals, corporations and associations within the United States except interest on the
Public debt.

¹⁷³ (United States Statutes at Large, 25 February 1863, p. 665)

¹⁷⁴ (New World Economics, 2010)



Figure 29: A 1910 \$10 national bank note

Because reserves were now held in U.S. bonds, the federal government now had the power to determine whether national bank notes were backed in specie. If Congress suspended specie payments on bonds, then national bank notes would immediately transform to a fiat currency. As Rothbard observes, the bill architects “drove the new system through under the cover of war necessity, but it was designed to alter the banking

system permanently...this tied the nation's banks with the federal government and the public debt in a close symbiotic relationship.”¹⁷⁵

It is unsurprising that there was fierce opposition to the Bill. In the debate, Senator Davis from Kentucky stated:¹⁷⁶

It has been one of the fundamental principles of currency for the last five hundred years that gold and silver are the basis of all wholesome and sound circulation... wherever paper entered into it at all, it should be a paper convertible into gold and silver at the will of the holder...Mr. President, the greatest departure from these principles of currency that I have ever known is the measure now proposed. What is to be the basis of this banking system? The bonds of the United States. What are those bonds now worth in the market in gold and silver?...It takes \$153 in these bonds to buy \$100 in gold and silver {in New York City}

The bill narrowly passed by a vote of 23-21, which established the first precedent in American history that banks can legally hold an entity other than specie as their default reserves.

The Act had other consequences critical to monetary debasement. By establishing a federal competitor to the state bank notes, the Act was described by Senator Davis as “bold and daring attack on the state banks.” Senator Howard from Michigan described the bill as one which “contemplates a general revolution in the banking and currency system of the country; and it is admitted by its advocates as being intended to bring about an extinguishment of all the State banks for the purpose of supplying a currency.” While

¹⁷⁵ (Rothbard, 2002, p. 135)

¹⁷⁶ (Congressional Globe, 11 February 1863, pp. 878-9)

this was denied by many of the Bill's supporters,¹⁷⁷ the purpose became quite clear on March 3, 1865, when a 10% annual tax was levied on "the amount of notes of any state bank or state banking association" on March 3, 1865.¹⁷⁸ This Act was then deemed constitutional as "as an instrument to put out of existence such a circulation in competition with notes issued by the government."^{179,180} The tax drove state bank notes out of circulation, decreasing from \$238 million in 1862 to \$3.2 million in 1868.¹⁸¹ Simultaneously, national bank notes became prevalent, increasing from \$0 in 1862 to \$294 million in 1868.¹⁸² In doing so, monetary power was increasingly centralized in the federal government and circulating currency (in the form of national bank notes) was increasingly unbacked by specie.

The 1863 Act was eventually replaced by the 1864 "Act to provide a National Currency," which laid out a much more detailed structure for the national banking system (which has not changed to the current day), whose structure was described in Sections 31 and 32.¹⁸³

¹⁷⁷ Senator Wilson from Massachusetts "eloquently" argued "A war upon the banks? Not so. I know that it is not so intended. I have no faith whatever in these declarations that it is and must be a war upon the banks." (Congressional Globe, 11 February 1863, p. 880)

¹⁷⁸ (United States Statutes at Large, 3 March 1865, p. 484)

¹⁷⁹ The case cited is (Veazie Bank v. Fenno, 1869). The quote is cited from (Legal Tender Cases, 1870)

¹⁸⁰ Veazie was then used by Justice Strong as precedent in the Legal Tender Cases, stating that "it is the constitutional right of Congress to provide a currency for the whole country; that this might be done by coin, or United States notes, or notes of national banks, and that it cannot be questioned Congress may constitutionally secure the benefit of such a currency to the people by appropriate legislation". (Legal Tender Cases, 1870).

¹⁸¹ (Anderson, 2003)

¹⁸² (Anderson, 2003)

¹⁸³ (United States Statutes at Large, 3 June 1864, p. 99)

Table 10: Types of national banks created by the 1864 Banking Act

Bank Type	Population	Cities	Reserve Ratio on Notes¹⁸⁴	Reserve Type
Central Reserve City (CRC)	-	1 (New York)	25%	LM*
Reserve City (RC)	>500,000	16	25%	50% LM* 50% deposit in CRC
Country	< 500,000	All other	15%	40% LM* 60% deposit in RC
*LM indicates lawful money, which is gold, silver, or U.S. Notes				

The new banking system, as summarized in Table 10, transformed the banking system from a single-tiered system to a three-tiered inverted pyramid. When one combines the three tiers of banks, plus the ability to hold reserves as deposits of other banks, the effective pyramid ratio is greater than ten. Thus, while banks stated their reserve ratios to be between 15% and 25%, the effective system-wide reserve ratio of lawful money was less than 10%. When one takes into account the fact that approximately half of lawful money was fiat currency (U.S. Notes), then the national banking system can be seen to immediately create a system-wide reserve ratio of specie-to-notes of approximately 5%, the lowest in American history by a factor of four.¹⁸⁵ Thus, the new banking system was far more inflationary than the old state banking system, due to both the three-tiered system of reserve requirements and the fact that bank note issuances were tied strictly to bond holdings (as opposed to specie). At any time, a national bank could purchase

¹⁸⁴ Note that, in June 1874, reserve requirements on bank notes were eliminated (but maintained for deposits), further increasing the pyramid ratio. Thus, deposits were linked to specie while notes were linked to government debt.

¹⁸⁵ The actual value in the 1870's was approximately 9%, computed by dividing the amount of specie (Friedman & Schwartz, Monetary Statistics of the United States, 1970) by the amount of bank liabilities (Anderson, 2003).

government bonds (increasing the public debt) and issue an equivalent amount of bank notes (inflating the money supply). This system, introduced under the “guise of emergency,” increased the pyramid ratio by such a large amount that a monetary contraction (and resultant recession) back to an on-par specie standard seemed politically impossible. Rothbard states:¹⁸⁶

The inner contradictions of the national banking system were such that the nation was driven either to go onward to a frankly central bank or go back to decentralized state banking. Given the inner dynamic of state intervention to keep intensifying, coupled with an almost universal adoption of statist ideology after the turn of the twentieth century, which course the nation would take was inevitable.

Thus, the establishment of the national banking system is important in accommodating and accelerating monetary debasement for three reasons:

1. Established precedent that banks can legally hold non-specie reserves
2. Created a pyramid ratio that was so large that essentially severed any link between bank notes and specie
3. Created a link between centralized banking and the public debt, which is the source of the government’s eventual ability to monetize the debt.

However, this is not an *Event* in the history of debasement for the same reasons cited throughout for why fractional reserve banking is not, in and of itself, a cause of monetary debasement. Specifically, the structure of the banking system cannot fundamentally debase the currency without the underlying suspension allowances and legal tender laws.

¹⁸⁶ (Rothbard, 2002, p. 135)

Chapter 10: Monetary Legislation from 1865 – 1913

The period from 1865 until 1913 did not contain any key contributors to monetary debasement; on the contrary, the gold standard was actually solidified during this period. Thus, much of this section is intended to provide the historical context, of several critical monetary events, culminating in the 1913 Federal Reserve Act.

Coinage Act of 1873

On February 12, 1873, President Grant signed the Coinage Act of 1873 into law. This Act is famously known as the “Crime of 1873,” which demonetized silver” and ignited 25 years of gold-versus-silver political controversy. The “demonetization” is actually very subtle and occurs through two steps in the Act.

First, Section 14 declares that “a one dollar {gold} piece, which at the standard weight of twenty-five and eight-tenth grains shall be the unit of value.”¹⁸⁷ For 81 years, the silver dollar was the standard of value for United States currency in that a dollar was defined as 371.25 grains of pure silver. The Coinage Act of 1873 redefined the dollar in terms of 25.8 grains of gold. However, that step alone did not demonetize silver (in the same way

¹⁸⁷ (Federal Coinage Act of 1873, 12 February 1873)

that the former definition of the dollar did not demonetize gold). Instead, the “Crime” was executed in the combination of Sections 15 and 17:¹⁸⁸

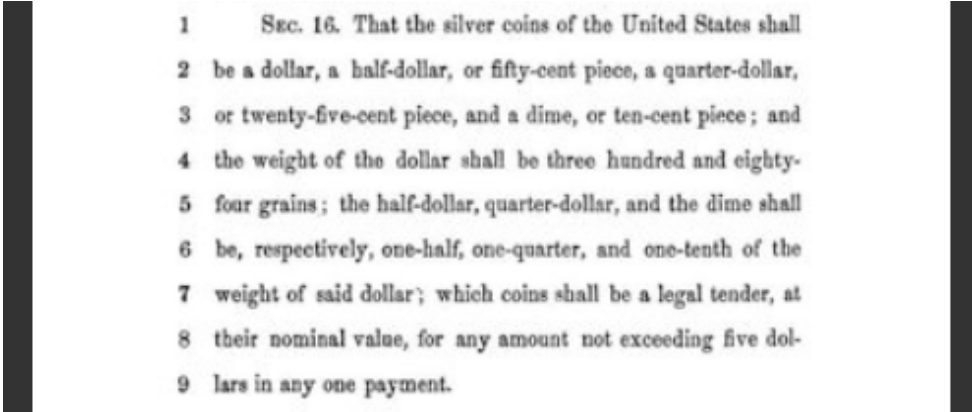
- Section 15: “That the silver coins of the United States shall be a trade dollar-, a half-dollar, or fifty-cent piece, a quarter-dollar, or twenty-five-cent-piece, a dime, or ten-cent-piece;...and said coins shall be a legal tender at their nominal value for any amount not exceeding five dollars in any one payment.
- Section 17: “That no coins, either of gold, silver, or minor coinage, shall hereafter be issued from the mint other than those denominations, standards, and weights herein set forth.

This Act does not mention the 371.25 grains of pure silver that had formerly defined a dollar. Additionally, the silver dollar was eliminated from being a “coin of the United States,” which thereby ended the free coinage of silver.¹⁸⁹ As Friedman succinctly states, “the omission of any mention of the standard silver dollar in the coinage act of 1873 ended the legal status of bimetallism in the United States. Had that fateful line not been omitted, resumption in 1879 would almost surely have been on the basis of silver, not gold.”¹⁹⁰ Interestingly, the original text of the bill (shown in Figure 30) did include a silver dollar, but it is out-of-scope to examine the politics behind the change in language:

¹⁸⁸ (Federal Coinage Act of 1873, 12 February 1873)

¹⁸⁹ To be clear, “free coinage” is the ability to bring bullion to a mint to be coined. Since the Mint could no longer coin silver dollars, anyone who held silver could not have it converted to coins,. Thus, the Act of 1873 eliminated the free coinage of silver.

¹⁹⁰ (Friedman, *The Crime of 1873*, 1994, p. 61)

The image shows a snippet of the original House text of the Coinage Act of 1873. It is a single-column text block with line numbers 1 through 9 on the left margin. The text describes the specifications for silver coins of the United States, including their denominations (dollar, half-dollar, quarter-dollar, dime) and their weight and legal tender status.

1 Sec. 16. That the silver coins of the United States shall
2 be a dollar, a half-dollar, or fifty-cent piece, a quarter-dollar,
3 or twenty-five-cent piece, and a dime, or ten-cent piece; and
4 the weight of the dollar shall be three hundred and eighty-
5 four grains; the half-dollar, quarter-dollar, and the dime shall
6 be, respectively, one-half, one-quarter, and one-tenth of the
7 weight of said dollar; which coins shall be a legal tender, at
8 their nominal value, for any amount not exceeding five dol-
9 lars in any one payment.

Figure 30: Original House text of the Coinage Act of 1873, mentioning the silver dollar¹⁹¹

While this is an incredibly famous monetary event, the Coinage Act of 1873 *is not a contributor to the debasement of the currency*. It did not redefine weights or compositions of coins. In fact, by moving towards a gold standard and thereby protecting the currency from the ongoing silver inflation, the Act actually strengthened the currency. For historical context, it should be noted that the Act set into motion 25 years of “gold versus silver” debate, which included:

- **Resumption Act of 1875:** This Act stated that, on and after January 1, 1879, “the Secretary of Treasury shall redeem, in coin, the United states legal-tender notes then outstanding.”¹⁹² This Act signaled the end of an 18-year period of specie payment suspension (1861-1879).
- **The Bland-Allison Act of 1878:** This Act was introduced by Congressman Richard bland to restore the free coinage of silver the legal tender status for the silver dollar at 371.25 grains. The free coinage provision was removed by Senator William Allison. Instead, the Treasury purchased two to four million dollars of silver bullion per month

¹⁹¹ (H.R. 2934, 29 May 1872)

¹⁹² (United States Statutes at Large, 14 January 1875, p. 296)

at market price to be coined into silver dollars. Since the value of 371.25 grains of silver in 1878 was approximately \$0.90, silver dollars, like all other United States silver coins, became subsidiary.¹⁹³ This Act also authorized the Treasury to issue silver certificates, which were backed by physical silver in the Treasury, could be redeemed on demand for silver coinage, and “shall be receivable for customs, taxes, and all public dues, and, when so received, may be reissued.”¹⁹⁴ They *were not* legal tender for private transactions.

- **Creation of “Bearer on Demand” Gold Certificates in 1882:** These certificates, comparable to the 1878 silver certificates, were strict substitutes for gold coin circulation, with the note stating “This certifies that there have been deposited in the Treasury of the United States of America – Dollars in gold coin payable to the bearer on demand.”¹⁹⁵ Thus any gold certificate could be traded in by its holder for the amount of gold specified on the certificate.
- **Sherman Silver Purchase Act of 1890:** As silver prices fell below \$0.80/ounce,¹⁹⁶ the silver lobby requested additional Treasury silver purchases. The result was the Sherman Silver Purchase Act, in which the Treasury purchased 4.5 million ounces of silver each month. To pay for the silver, a new type of paper currency was introduced: Treasury Notes which were “legal tender in payment of all debts, public

¹⁹³ Price of silver: (Officer, 2009), Bland-Allison Act: P.L. 45-20, 20 Stat. 25

¹⁹⁴ Bland-Allison Act: P.L. 45-20, 20 Stat. 25

¹⁹⁵ Gold certificates had been authorized under the third Legal Tender Acts of March 3, 1863 and originally issued in 1865. However, the original authorization only allowed the original gold depositor to re-claim his gold. The 1882 series was thus unique as it allowed gold certificates to circulate as currency.

¹⁹⁶ (Officer, 2009)

and private.”¹⁹⁷ Thus, the 75-year debate over applying to legal tender to status Treasury Note had finally been settled.¹⁹⁸ Interestingly, Senator John Sherman, the namesake of the bill, only voted for the Act to avoid free coinage.¹⁹⁹

There is another class of creditors that the free coinage of silver will greatly injure. It is the depositors in savings institutions and kindred organizations, who, according to official statistics, number nearly 5,000,000 people, and whose deposits amount to more than \$1,800,000,000. Will you cheat them by reducing the value and purchasing power of the dollar they have deposited?

- **Repeal of Sherman Act in October, 1893:** In 1893, President Cleveland repealed the silver-purchase and note-issuance provisions of the Sherman Act, although the legal-tender status of silver coin and Treasury notes remained. This curbed the silver-inflation that has been occurring in the past 15 years, with silver coinage increasing from \$8 million in 1878 to \$380 million in 1893.²⁰⁰
- **William Jennings Bryan’s 1896 Presidential Campaign:** In 1896, Bryan campaigned on the platform of a bimetallic standard through “free silver.” The campaign culminated in his famous “Cross of Gold” speech in July, 1896. However, Bryan was defeated by McKinley, who campaigned against the debased silver currency.
- **Gold Standard Act of 1900.** This Act re-affirmed “that the dollar consisting of twenty-five and eight-tenths grains of gold nine-tenths fine, as established by section thirty-five hundred and eleven of the Revised Statutes of the United States, shall be

¹⁹⁷ (United States Statutes at Large, 14 July 1890)

¹⁹⁸ The issuance of Treasury Notes with legal tender status is not a key monetary event due to the previous issuance of United States Notes, whose deemed constitutionality provided a legal tender precedent.

¹⁹⁹ (Sherman, 1895)

²⁰⁰ (Friedman & Schwartz, Monetary History of the United States: 1867-1890, 1963, pp. 130, 179)

the standard unit of value.”²⁰¹ The Act also called for the redemption of government paper money (Treasury Notes and United States Notes) to be carried out exclusively in gold. However, since the Act did not repeal the legal tender status of silver dollars or silver certificates or change the metal composition of coins, this Act was not an example of debasement (despite the claims of many pro-silver authors). Additionally, Sections 5 and 8 of this Act called for the retirement (with no reissue) of the legal tender Treasury Notes issued in 1890.

The Federal Reserve Act of 1913

The period from 1900 – 1913 was critical with regards to the banking industry, as it culminated in the Federal Reserve Act, enacted on December 23, 1913. While the series of events leading to the Act are intellectually fascinating, they have been covered in depth by several authors (notably Rothbard) and are out-of-scope for this dissertation. Thus, the Act is taken a “given” and we can examine its effect on debasement. The Act created a system of banks in “not less than eight nor more than twelve cities.”²⁰² While divided into separate banks to give the appearance of decentralization, the Federal Reserve retained the equivalent functions as America’s previous two central banks. Like all previous central banks, it held United States deposits (Sections 13 and 15), and had specified reserve requirements (Section 16), which, regards to issued notes, was set at 40%. The portion of the Act which is relevant to monetary debasement is the portion of Section 16 which introduces a new type of currency: the Federal Reserve Note (FRN).

²⁰¹ (United States Statutes at Large, 14 March 1900, p. 45)

²⁰² (United States Statutes at Large, 23 December 1913, p. 1)

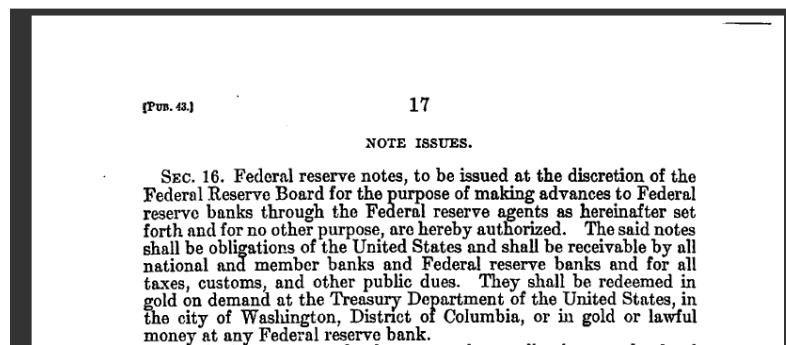


Figure 31: Text of the Federal Reserve Act of 1913 establishing Federal Reserve Notes²⁰³

The critical feature of the new FRN's is that they *are not bank notes*. These notes are not obligations of the issuing bank, but instead are “obligations of the United States.”²⁰⁴

Thus, while the notes are issued by a Federal Reserve Bank, the tax-payer is ultimately responsible to redeem the notes. Thus, while a bank would normally go bankrupt through excessive Note issues, a Federal Reserve Bank's solvency was always guaranteed if the nation itself was solvent. In a similar manner that the 1864 National Banking Act linked private bank notes with the public debt, the Federal Reserve Act linked private bank notes with the gold in the United States Treasury. This link was even clearer given that a minimum of 5% of the banks' 40% gold reserve requirement, a minimum of 5% was to be physically stored within the United States Treasury. The Federal Reserve Act served as a harbinger to the eventual currency debasement through two additional passages:

²⁰³ (United States Statutes at Large, 23 December 1913, p. 17)

²⁰⁴ The distinction between Federal Reserve Notes and standard bank notes is made clearer by the Fed's occasional issuance of a different type of currency called “Federal Reserve Bank Notes.” Like all bank notes, the responsibility of the FRBN's was held by the bank itself as opposed to the government. Thus, the FRBN's were equivalent to the other circulation national bank notes. They were first issued in 1914.

1. The verbose title of the Act is “An Act To provide for the establishment of Federal reserve banks, to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes.”²⁰⁵ The self-acknowledged purpose of the Act was thus to provide for an “elastic currency,” or a currency whose supply can be expanded and contracted at the will of the issuer. Thus, there was a clear conflict with the “intended-to-be elastic” Federal Reserve Notes and a specie standard.²⁰⁶
2. As can be seen in Figure 32, the original Federal Reserve Notes were “redeemable in gold on demand at the United States Treasury or in gold or lawful money at any Federal Reserve Bank.” Thus, unless one wanted to physically trek to the Treasury in Washington DC, Federal Reserve Notes were redeemable in the monetary preference of the local Federal Reserve Bank. The inclusion of the bank’s choice of “gold or lawful money,” traceable back to the 1864 Banking Act, provided a subtle mechanism to eventually fully separate the Federal Reserve Notes from physical gold.

²⁰⁵ (United States Statutes at Large, 23 December 1913, p. 1)

²⁰⁶ Besides some minor bills in the 1870’s regarding United States Notes, this is the first codified reference to “elastic currency” that the author could locate using an online Library of Congress search.

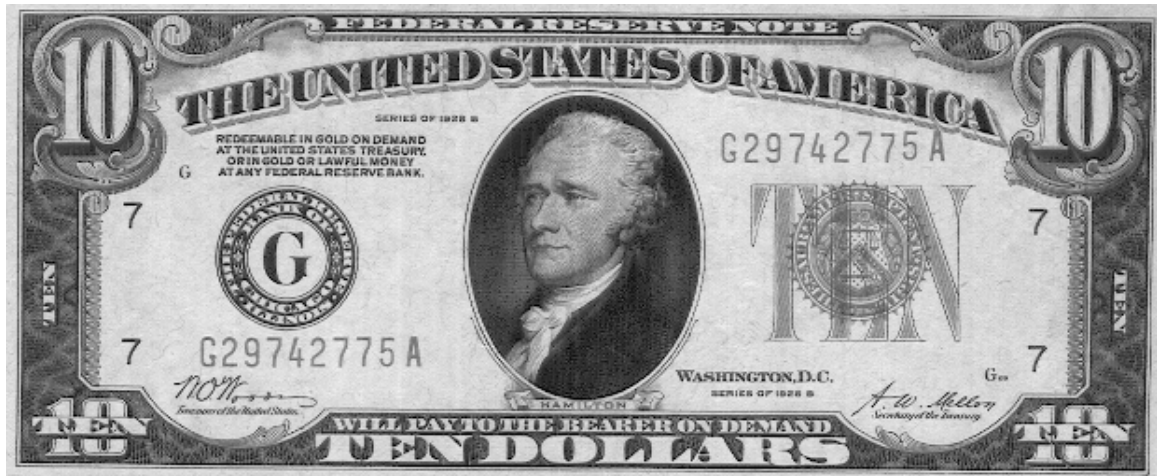


Figure 32: 1928 Federal Reserve Note (black and white image)²⁰⁷

However, although this Act created the currency which would eventually come to epitomize monetary debasement, its passage is not a key debasement event for three reasons. First, there is very little substantive legislation in the Act that had not been enacted previously in American history. Second, the FRN's were redeemable in gold. Third and most importantly, *the notes were not given legal tender status and thus could not directly contribute to a monetary debasement.*

²⁰⁷ (Ross, 2010)

Chapter 11: The Ultimate Crime (1913 – 1935)

Summary of Currency before the Great Depression (context only)

From 1913 until 1933, there were six types of circulating paper currency in the United States, along with gold and silver coinage. These are shown in Table 11, which compares their quantities in 1909 and 1929 (just before the Great Depression).

Table 11: Comparison of currency types/quantities in the United States in 1909 and 1929²⁰⁸

Currency Type	Quantity in 1909 (\$millions)	Quantity in 1929 (\$millions)	Redeemable
United States Notes	340	262	In gold by Treasury
National Bank Notes	665	652	In gold or lawful money
Silver Certificates	477	387	In silver by Treasury
Gold Certificates	815	934	In gold by Treasury
Federal Reserve Notes	0	1708	In gold by Treasury
Federal Reserve Bank Notes	0	4	In gold or lawful money
Gold Coin	599	368	
Silver Dollar/Subsidiary Coin	204	327	
Total Paper Currency	2297	3947	
Total Specie Currency	803	652	
Total Circulating Currency	3100	4599	
Total Currency: Specie and Metal certificates	2095	1973	

²⁰⁸ (Anderson, 2003, pp. 40-45). The above table omits a few types of low-quantity currency, including minor coinage (e.g. pennies and non-silver nickels) and the 1890 Treasury Notes. Additionally, all dollar coins are included in the “Silver Dollar/Subsidiary Coin” field.

Most notably, while specie/metal certificates remained fairly constant at approximately \$2 billion, the additional \$1.7 billion of Federal Reserve Notes increased the money supply by 50%. While this is certainly inflationary, it is no different than the inflationary periods experienced throughout the 19th centuries. In 1933, when Franklin Roosevelt took office, the United States was still on the gold standard with a currency whose dollar (as valued in gold) had only been debased 6% in the previous 141 years.

Franklin Roosevelt: The End of the Gold Standard

Franklin Roosevelt was sworn in as president on March 4, 1933 in the midst of a Great Depression banking panic, where between \$5 million and \$15 million in gold was being withdrawn each day.²⁰⁹ Upon election, Roosevelt issued several executive orders and pushed through legislation which transformed the American currency system, enabling the complete debasement of the dollar. *However, most of his acts had historical precedents which can be found in the events of monetary debasement outlined in this dissertation; Roosevelt simply enforced them at a more extreme level.* The onslaught of proclamations, executive orders, and legislation issued in the first nine months of the Roosevelt administration is summarized in Table 12. In this section, the contents of each act and order will first be described chronologically and without evaluation. Then, the collective effects of all eight pieces legislation will be examined.

²⁰⁹ (LaBorde, 2005) According to this non-peer-reviewed source, \$200 million in gold had been withdrawn from banks in 1933, and , on March 3, the New York and Chicago Federal Reserve banks made a \$110 million gold payment to foreign banks.

Table 12: Summary of government action relevant to currency from March, 1933 until January 1934

Act/Order	Date	Summary	Precedent
Proclamation 2039	03/06/1933	Closed banks/suspended specie	Event 3
Emergency Banking Act	03/09/1933	Gave president authority to seize gold and investigate “hoarders”	
Exec. Order 6073	03/10/1933	Opened banks/specie suspension	Event 3
Exec. Order 6102	04/05/1933	Seized private gold and gold certificates	Constitutional question
Thompson Amendment	05/12/1933	Gave president authority to reduce gold content in dollar	Event 5
Joint Resolution	06/05/1933	Illegal for contracts to require payment in gold	Constitutional question
Gold Reserve Act	01/30/1934	Codified previous orders and withdrew gold coin from circulation	
Proclamation 2072	01/31/1934	Redefined dollar from \$20.67/oz to \$35/ounce (40.9% debasement)	Event 5

Proclamation 2039 (March 6, 1933)

On March 6, 1933, Roosevelt issued Proclamation 2039, which declared a four-day National Banking Holiday which closed banks and thus, by definition, suspended specie payments:²¹⁰

Now, therefore, I, Franklin D. Roosevelt, President of the United States of America, in view of such national emergency and by virtue of the authority vested in me by said Act and in order to prevent the export, hoarding, or earmarking of gold or silver coin or bullion or currency, do hereby proclaim, order, direct and declare that...no such banking institution or branch shall pay out, export, earmark, or permit the withdrawal or transfer in any manner or by any device whatsoever, of any gold or silver coin or bullion or currency or take any other action which might facilitate the hoarding thereof;

²¹⁰ (Roosevelt, Proclamation 2039, 6 March 1933)

While banking holidays was a new concept, specie suspension had occurred five times in the 19th century and can be traced back to *Event 3*, the suspension of 1814.

The Emergency Banking Act (March 9, 1933)

On March 9, 1933, Congress passed the Emergency Banking Act, which is most well-known for declaring that no banks could re-open without explicit permission from the President (it was also well-known for being passed without anyone in Congress having read the bill). A lesser-known feature of the bill is that it amended two existing Acts: the 1917 Trading with the Enemy Act and the 1913 Federal Reserve Act.

The Trading with the Enemy Act was originally passed in 1917 to criminalize economic activity between American citizens and declared enemies during time of war²¹¹ and was then amended, in the 1918 Second Liberty Bond Act, to allow the President to "investigate, regulate, or prohibit...the export, hoarding, melting, or earmarking of gold or silver coin or bullion."²¹² The Emergency Banking Act amended this Act again by changing the words "During time of war to "During time of war or during any other period of national emergency declared by the President."²¹³ With this amendment, Roosevelt now had the authority, at his discretion, to "investigate" Americans who were holding gold.

²¹¹ (United States Statutes at Large, 6 October 1917, p. 411)

²¹² (United States Statutes at Large, 24 September 1918, p. 966)

²¹³ (United States Statutes at Large, 9 March 1933, p. 1)

The amendment to the Federal Reserve Act was an addition of the following subsection, giving the Treasury Secretary the authority to take possession of privately owned gold:²¹⁴

Whenever in the judgment of the Secretary of the Treasury such action is necessary to protect the currency system of the United States, the Secretary of the Treasury, in his discretion, may require any or all individuals...to pay and deliver to the Treasurer of the United States any or all gold coin, gold bullion, and gold certificates owned by such individuals. Upon receipt of such gold coin, gold bullion or gold certificates, the Secretary of the Treasury shall pay therefore an equivalent amount of any other form of coin or currency coined or issued under the laws of the United States. Any individual...failing to comply with any requirement of the Secretary of the Treasury made under this subsection shall be subject to a penalty equal to twice the value of the gold or gold certificates in respect of which such failure occurred.

Executive Order 6073 (March 10, 1933)

On March 10, 1933, Roosevelt issued Executive Order 6073, which reopened the banks.

With regards to gold, the order reiterated the specie suspension:²¹⁵

No individual...shall export...gold coin, gold bullion, or gold certificates, except in accordance with regulations prescribed by or under license issued by the Secretary of the Treasury...No permission to any banking institution to perform any banking functions shall authorize such institution to pay out any gold coin, gold bullion or gold certificates except as authorized by the Secretary of the Treasury, nor to allow withdrawal of any currency for hoarding.

²¹⁴ (United States Statutes at Large, 9 March 1933, p. 2)

²¹⁵ (Roosevelt, Executive Order 6073, 10 March 1933)

Executive Order 6102 (April 5, 1933)

On April 5, 1933, Roosevelt issued Executive Order 6102. Respectively, Sections 2 and 4 stated:²¹⁶

All persons are hereby required to deliver on or before May 1, 1933, to a Federal Reserve Bank or a branch or agency thereof or to any member bank of the Federal Reserve System all gold coin, gold bullion and gold certificates now owned by them

Upon receipt of gold coin, gold bullion or gold certificates delivered to it in accordance with Sections 2 or 3, the Federal Reserve Bank or member bank will pay therefor an equivalent amount of any other form of coin or currency coined or issued under the laws of the United States.

Thus, in what Thomas Woods referred to as the “Great Gold Robbery of 1933,”²¹⁷

American citizens were legally compelled to turn over \$321 million in gold coinage and \$715 million in gold certificates for Federal Reserve Notes.²¹⁸

Thomas Amendment to Agricultural Adjustment Act (May 12, 1933)

The Agricultural Adjustment Act, passed on May 12, 1933, is most well known for the origin of farmers being paid by the federal government to restrict crop production.

However, the lesser known Thomas Amendment was crucial for monetary debasement.

The amendment gave the President the authority, in times of “economic emergency” or other subjective criteria, to expand the currency base by either issuing \$3 billion in United States Notes, accepting up to \$200 million in silver payments or by “fixing the weight of the gold dollar...but in no event shall the weight of the gold dollar be fixed so

²¹⁶ (Roosevelt, Executive Order 6102, 5 April 1933)

²¹⁷ (Woods, 2008)

²¹⁸ (Anderson, 2003)

as to reduce its present weight by more than 50 per centum.”²¹⁹ This last clause is immensely important for two reasons. First, the 50% value is enormous, especially when compared with the 6% debasement of 1834. Secondly, while the 1834 debasement occurred through standard legislative process (i.e. through Congress), this Act allowed the President to bypass Congress and legislate himself by fixing the value of the currency. This is an enormous breakdown in the Constitutional standard of “separation of powers” and made currency debasement into a simple process which could be implemented by one man.

Joint Resolution (June 5, 1933)

On June 5, 1933, Congress passed a joint resolution making it illegal to "require payment in gold or a particular kind of coin or currency."²²⁰ This resolution was retroactive and thus invalidated *any contracts which had already been written which specified gold payments*:

Every obligation, heretofore or hereafter incurred, whether or not any such provision is contained therein or made with respect thereto, shall be discharged upon payment, dollar for dollar, in any coin or currency which at the time of payment is legal tender for public and private debts.

While this was a flagrant violation of the right to contract, it was the logical next step given that private possession of (and thus payment with) gold had been prohibited by

²¹⁹ (United States Statutes at Large, 12 May 1933, p. 52) Interestingly, the Act states that the President's first action should be to have the Federal Reserve commence \$3 billion in open market operations to expand the currency base. Only if he "is unable to secure the assent of the several Federal Reserve banks" shall he utilize the three options stated above. In other words, this Amendment allows the President to bypass the Federal Reserve in order to control the money supply.

²²⁰ (United States Statutes at Large, 5 June 1933, p. 112)

Executive Order 6102. The constitutionality of this resolution was established in the 1935 “Gold Clause Cases.” Amazingly though, the Supreme Court never accepted a case questioning the constitutionality of the original executive order.²²¹

The Thomas Amendment had contained relatively benign text with reference to United States Notes that “Such notes and all other coins and currencies heretofore or hereafter coined or issued by or under the authority of the United States shall be legal tender for all debts public and private.”²²² The Joint Resolution modified this text by, in a casual parenthetical, categorizing Federal Reserve Notes as a “currency of the United States” and thus giving it legal tender status”:

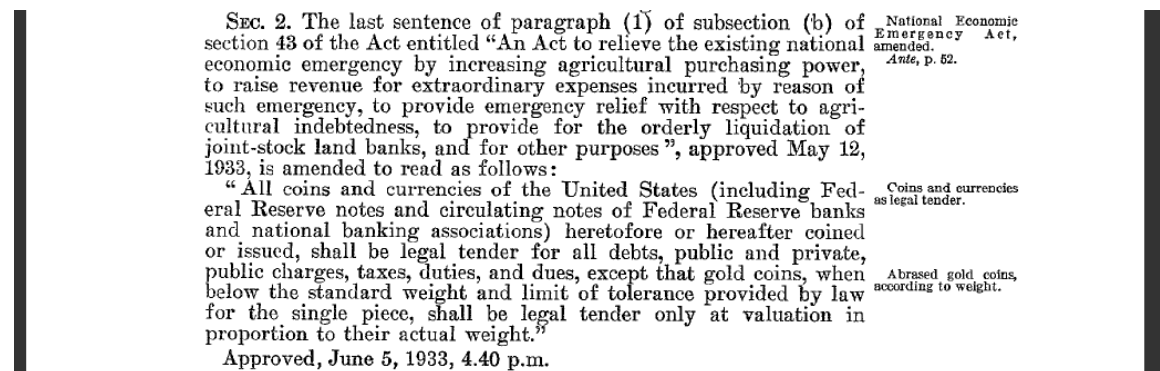


Figure 33: Portion of the Joint Resolution which modifies the Agricultural Adjustment Act to give legal tender status to Federal Reserve Notes²²³

²²¹ (Gold Clause Cases, 1935)

²²² (United States Statutes at Large, 12 May 1933, p. 52)

²²³ (United States Statutes at Large, 5 June 1933, p. 113) The last line of this Act is almost comical, as it declares that debased gold coins shall not be legal tender (a classic hard money stance) while simultaneously unleashing the most debase-able currency of all (Federal Reserve Notes) into circulation and ignoring the fact that private possession of any type gold coin is illegal.

Gold Reserve Act of 1934 (January 30, 1934)

The Gold Reserve Act consists of a medley of monetary clauses which combined the previously passed Acts and issued orders in order to demonetize gold in eight short pages:²²⁴

- Section 2a: All gold and gold certificates held by the Federal Reserve shall be transferred to the U.S. Treasury
- Section 2b: Codifies the already implicit change that Federal Reserve Notes are redeemable only in “lawful money” as opposed to in “gold or lawful money.”
- Section 3: Codified Executive Order 6102 by prohibiting non-Treasury gold holding except in the cases of “industrial, professional, or artistic use” or “by the Federal Reserve banks for the purpose of settling international balances.”
- Section 5: Prohibited any future coinage of gold coins and officially withdrew all gold coin from circulation to be formed into bars. Section 5 thus officially divorced the concepts of “gold” and “money” and can be considered the official death knell of the gold standard.
- Section 6: Expressly prohibited the redemption of any United States currency in gold.
- Section 12: Increased the maximum devaluation of the dollar from 50% to 60%.
- Section 12: Amended the Thomas Amendment to expressly describe the President’s power to reduce the weight of the dollar as “separate, distinct, and continuing powers { which } may be exercised by him...whenever in his judgment may require.”

²²⁴ (United States Statutes at Large, 30 January 1934, pp. 337-344)

- Section 12: The President can also debase the silver dollar by “reducing the weight of the standard silver dollar in the same percentage that he reduces the weight of the gold dollar.”

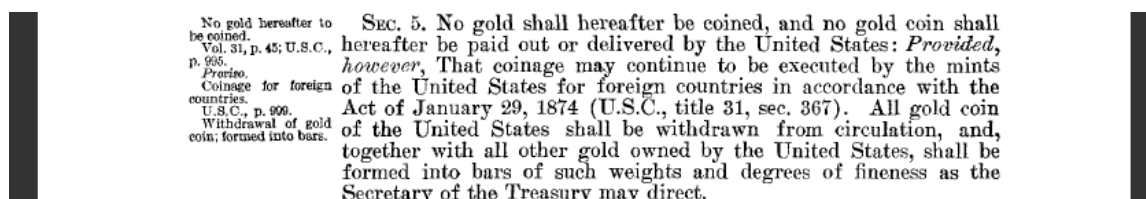


Figure 34: Section 5 of the Gold Reserve Act

Proclamation 2072 (January 31, 1934)

The day after the passage of the Gold Reserve Act, Roosevelt issued Proclamation 2072 and, citing the authority given to him by the Thomas Amendment and the Gold Reserve Act, reduced the weight of the gold dollar by 40.9% from 25.8 grains to 15.238 grains:²²⁵

Now, Therefore, be it known that I, Franklin D. Roosevelt, President of the United States, by virtue of the authority vested in me by section 43, Title III, of said act of May 12, 1933, as amended, and by virtue of all other authority vested in me, do hereby proclaim, order, direct, declare, and fix the weight of the gold dollar to be 15 5/21 grains nine-tenths fine, from and after the date and hour of this Proclamation. The weight of the silver dollar is not altered or affected in any manner by reason of this Proclamation.

Thus, the price of gold rose, for the first time since 1834, from \$20.67 to \$35.00 per ounce. Thus, if the Federal government had reversed its gold seizure policy and redeemed American citizens' FRN's in gold, the two exchanges would have reduced the each citizens' wealth by 40%. However, since gold had been domestically demonetized and gold contracts had been voided, it had very little domestic effect when compared

²²⁵ (Roosevelt, Proclamation 2072, 31 January 1934)

with the additional 97% debasement that would occur over the next 75 years once America was off the gold standard.

A Fiat Currency System

The aggregate of these eight acts and orders destroyed the gold standard in America. In 1934, American currency had no link to gold, having been reduced to \$3 billion in FRN's, a legal tender fiat currency, and \$400 million of silver certificates, backed by a demonetized metal.²²⁶ The key outputs of this onslaught of legislation was the removal of gold from private citizens, the elimination of future gold coinage, and the lack of redeemability of legal-tender FRN's. While these concepts were mentioned in various acts, they were all officially codified in the Gold Reserve Act (GRA). As an example, Executive Order 6102 was the initial government action to abolish private gold ownership, but the GRA was the legislation which can be found "on the books" in the U.S. Code. Thus, the GRA, along with its assumed and unchallenged constitutionality, is *Event 9* in the history of monetary debasement.²²⁷

Besides being an assault on individual liberty, the Gold Reserve Act completely removed physical gold as a form of currency; gold was no longer a monetary substance and thus, by default, the United States was on a fiat currency system. Through all of American history, citizens could store and preserve their wealth by holding physical gold and

²²⁶ (Anderson, 2003)

²²⁷ One could argue that the GRA was simply a logical outcome of a vaguely written Constitution, and is therefore "covered" by *Event 1*. However, this author argues that the GRA is so comprehensive in its violation of rights that its passage (and lack of constitutional challenge) is an independent event and, on a side note, an important contributor to the demise of Strict Constructionism.

foregoing bank notes, Treasury Notes, Federal Reserve Notes, etc. This was no longer possible. Without gold, Americans were now at the mercy of the Federal government and Federal Reserve. This is no better illustrated by the change of text on the 1934 Federal Reserve Note (see Figure 35), authorized by the Joint Resolution and GRA, which states that “This note is legal tender for all debts, public and private and is redeemable in lawful money at the United States Treasury or at any Federal Reserve Bank.” Thus, the Notes were now redeemable only in “lawful money.” Since gold was not an option, the only remaining lawful money was United States Notes, which was simply exchanging one form of unredeemable currency for another.²²⁸ Only foreign governments and central banks could still convert dollars into gold and that link to gold would eventually be severed in 1971.



Figure 35: 1934 Federal Reserve Note²²⁹

²²⁸ Additionally, the total quantity of U.S. Notes was approximately 10% of Federal Reserve Notes, so a total “paper redemption” was not even possible.

²²⁹ (1934 \$10.00 Federal Reserve Note, 2010)

Chapter 12: An Exclusively Fiat Currency (1935 – 1971)

The four entities which existed between the monetary system in 1935 and a fully fiat currency based system were the circulation of silver (and redeemable silver certificates, the gold reserve requirements of the Federal Reserve Banks, the redeemability of Federal Reserve Notes in “lawful money” (which could include silver), and the ability of foreign central banks to redeem dollars for gold. These four entities were all eliminated in the time period between 1935 and 1971.

The End of Silver Circulation

Between 1935 and 1965, half-dollars, quarters, and dimes containing 90% silver were minted and circulated as subsidiary coinage. Silver dollars circulated as well but, besides for a small test run in 1964, were not minted. There were approximately \$2 billion in silver certificates in circulation, which had remained relatively constant since the end of World War II.²³⁰

As silver prices rose through the century (\$0.45 per ounce in 1935 to \$1.29/ounce in 1964), silver coinage was approaching the point where it was no longer subsidiary. Thus, the Coinage Act of 1965 was passed, which eliminated all silver from dimes and quarters

²³⁰ (Anderson, 2003)

and reduced the silver content in half-dollars from 90% to 40% (it was then reduced to 0% silver in 1971).²³¹ The next “silver dollar” to be minted was the Eisenhower dollar in 1971, which also contained no silver. However, since had not been a direct link between silver content and monetary value since 1854 (see *Event 6*), this was not a key debasement event and was done simply to maintain the coins’ subsidiary nature.

With regards to silver certificates, almost half of the certificate stock was redeemed for physical silver dollars as silver prices rose.²³² In a clever “debasement” of the certificates, Secretary of Treasury Dillon suspended redemption of the certificates with silver dollars and instead redeemed them with silver bullion with a market value of \$1, as authorized by the Act of June 4, 1963.²³³ Since the amount of silver received for the certificate was now based on a market price denoted in fiat currency, the certificates themselves became equivalent to fiat currency. As an example, if I redeemed a silver certificate on June 17, 2010, I would have received 0.053 oz. of silver, as opposed to 0.77 oz. based on the originally codified definition of the dollar as 371.25 grains of pure silver.²³⁴ Thus, while the June 4th Act was again a flagrant violation of contract, it was equivalent to all previous specie suspensions in American history.

²³¹ (United States Statutes at Large, 23 July 1965, p. 254). Additionally, Section 102 of this Act re-iterated the legal tender status of Federal Reserve Notes, which, instead of the 1933 Thomas Amendment, is the authorizing clause referenced by the U.S. Treasury (U.S. Department of the Treasury, p. Q1).

²³² (Anderson, 2003)

²³³ (United States Statutes at Large, 4 June 1963, p. 54)

²³⁴ On June 17, 2010, the January 2011 futures contract closed at \$18.95/troy ounce. (Chicago Mercantile Exchange Group: Silver Futures, 2010).

On June 24, 1967, Congress passed an Act decreeing that silver certificates would only be redeemable in bullion for one year after which they would only be redeemable in “moneys in the general fund of the treasury,” which could only refer to Federal Reserve Notes (see Section 2 in Figure 36).²³⁵ Thus, on June 24, 1968, the United States permanently suspended the redemption of silver certificates for specie and American currency consisted only of Federal Reserve Notes.²³⁶

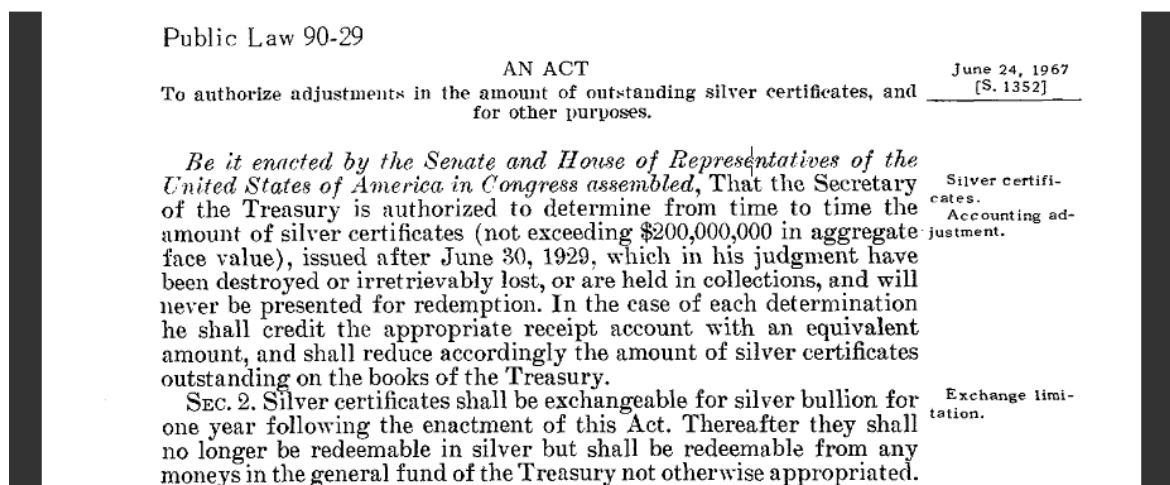


Figure 36: Act of June 24, 1967, which codified the end of silver certificate redemption

²³⁵ (United States Statutes at Large, 24 June 1967, p. 77)

²³⁶ Technically, there was still \$200 million in unredeemed silver certificates and \$300 million of U.S. Notes based on the original Civil War issuance, but these numbers were trivial compared to the \$34 billion in Federal Reserve notes in 1965 (Anderson, 2003).

The Transformation of the Federal Reserve Notes

Following the 1934 Gold Reserve Act, Federal Reserve Notes (FRN's) were no longer redeemable for gold, but the Federal Reserve banks were still required to hold gold reserves of 40% of the issued FRN's. On June 12, 1945, Congress amended this requirement to "reserves in gold certificates of not, less than 25 per centum against its Federal Reserve notes in actual circulation."²³⁷

The Act of June 4, 1963, as well as allowing silver certificates to be redeemed in silver bullion as opposed to silver dollars, modified the Federal Reserve Act to allow for the printing and circulation of \$1 and \$2 notes. Following this Act, the Federal Reserve issued the 1963 series of FRN's. This text on this note differed from all previous issues, as it only stated "This note is legal tender for all debts, public and private." Thus, the redemption clause "and is redeemable in lawful money at the United States Treasury or at any Federal Reserve Bank" had been removed (see Figure 37). This FRN (which has remained until the present day) was the first note in American history which, by design, lacked any redeemability.

²³⁷ (United States Statutes at Large, 12 June 1945, p. 237)



Figure 37: 1963 \$1 Federal Reserve Note²³⁸

The last string preventing a full debasement of the currency and a rampant inflation of Federal Reserve Notes were remaining clauses in the Federal Reserve Act (Section 16, Paragraph 3) and Gold Reserve Act requiring the Federal Reserve to hold gold (or gold certificate reserves). The Act of March 9, 1965 eliminated the reserve requirement on deposits at Federal Reserve Banks (see Figure 38).²³⁹ This was the first permanent specie suspension on deposits and marked the first time when a fiat currency was backed by “reserves of itself.”

²³⁸ (Online Paper Money Collection, 2010)

²³⁹ (United States Statutes at Large, 3 March 1965, p. 5)

Public Law 89-3

AN ACT

March 3, 1965
[H. R. 3818]

To eliminate the requirement that Federal Reserve banks maintain certain reserves in gold certificates against deposit liabilities.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the first sentence of the third paragraph of section 16 of the Federal Reserve Act, as amended (12 U.S.C. 413), is further amended by striking out “reserves in gold certificates of not less than 25 per centum against its deposits and”.

Federal Reserve
banks.
Gold certifi-
cates.
59 Stat. 237.

SEC. 2. The eighteenth paragraph of section 16 of the Federal Reserve Act, as amended (12 U.S.C. 467), is further amended by substituting a period for the comma after the word “notes” and striking out the remainder of the paragraph.

48 Stat. 340.

Approved March 3, 1965.

Figure 38: Act of March 9, 1965 eliminating reserve requirements on Federal Reserve deposits

Unlike the deposits, Federal Reserve Notes still retained a reserve requirement in gold certificates. This was eliminated on March 18, 1968 in “An Act to eliminate reserve requirements for Federal Reserve Notes and for United States Notes and Treasury Notes of 1890.”²⁴⁰ This legislation, shown in full in Figure 39, meticulously eliminated all references to gold reserve requirements on currency that was still “on the books.” This included the complete deletion of almost all of Section 16, Paragraph 3 of the Federal Reserve Act, as illustrated in the comparison of the original and current text of the Act (see Figure 40), with the only remnants of the original Act being some non-critical verbiage about serial numbering.²⁴¹ So what currently backs the FRN’s? Paragraph 2 of Section 16 of the current Federal Reserve Act states:

The collateral security thus offered shall be notes, drafts, bills of exchange, or acceptances...or bills of exchange endorsed by a member bank of any Federal Reserve district...or bankers' acceptances...or gold certificates, or Special Drawing Right certificates, or any obligations which are direct obligations of, or are fully guaranteed as to principal and interest by, the United States...or assets that Federal Reserve banks may purchase or hold...or any other asset of a Federal Reserve bank.

²⁴⁰ (United States Statutes at Large, 18 March 1968, p. 50)

²⁴¹ Minor modifications to Paragraph 3 had also been made in 1954 (United States Statutes at Large, 19 July 1954, p. 495) and 1966 (United States Statutes at Large, 20 May 1966, p. 161).

Thus, Federal Reserve Notes are “backed” by any paper deemed acceptable by the Federal Reserve, including short-term paper issued by its member banks, U.S. government securities, and foreign government securities.²⁴² Thus, while backing Notes with government securities and other paper instruments was considered a highly controversial emergency measure in 1862 (U.S. Notes), it has now become the status quo.

While very little attention has been paid to the Act of March 18, 1968 (and it was passed with little debate), the author has selected it as *Event 10* in the history of monetary debasement. Before this Act, there was at least a theoretical limit on Federal Reserve Notes set through a tenuous connection to gold in the Treasury. This Act severed that connection and left zero upper bound on the amount of Federal Reserve Notes which could be issued and has thus enabled the increase of issued Notes from \$42 billion in 1968 to \$627 billion in 2002 (8.2% increase per year).²⁴³ One could argue that FRN issues were already increasing in the early 1960’s or that precedents already existed in the form of unbacked U.S. Notes during periods of specie suspension. However, I consider this the final {unnoticed} “nail in the coffin” and thus worthy of being a final *Event*.

²⁴² The Act of March 18, 1968 provided for the all but the last two forms of collateral. The Depository Institutions Deregulation and Monetary Control Act of 1980 added additional forms of collateral, such as “obligations of...a foreign government or agency thereof” (United States Statutes at Large, 31 March 1980, p. 140).

²⁴³ (Anderson, 2003)

March 18, 1968
[H. R. 14743]

To eliminate the reserve requirements for Federal Reserve notes and for United States notes and Treasury notes of 1890.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. Subsection (c) of section 11 of the Federal Reserve Act (12 U.S.C. 248(c)) is amended by striking both provisos, and by striking the last sentence, in such subsection.

SEC. 2. The first sentence of section 15 of the Federal Reserve Act (12 U.S.C. 391) is amended by striking "and the funds provided in this Act for the redemption of Federal Reserve notes".

SEC. 3. That part of the third paragraph of section 16 of the Federal Reserve Act (12 U.S.C. 413) which precedes the last two sentences of such paragraph is amended to read: "Federal Reserve notes shall bear upon their faces a distinctive letter and serial number which shall be assigned by the Board of Governors of the Federal Reserve System to each Federal Reserve bank."

SEC. 4. (a) The first sentence of the fourth paragraph of section 16 of the Federal Reserve Act (12 U.S.C. 414) is repealed.

(b) The sentence which, prior to the repeal made by this section, was the second sentence of such paragraph is amended by inserting immediately after "The Board" the following: "of Governors of the Federal Reserve System".

SEC. 5. The sixth paragraph of section 16 of the Federal Reserve Act (12 U.S.C. 415) is repealed.

SEC. 6. The fourth sentence of the paragraph which, prior to the amendments made by this Act, was the seventh paragraph of section 16 of the Federal Reserve Act (12 U.S.C. 416) is repealed.

SEC. 7. The paragraph which, prior to the amendments made by this Act, was the eighteenth paragraph of section 16 of the Federal Reserve Act (12 U.S.C. 467) is repealed.

SEC. 8. Section 6 of the Gold Reserve Act of 1934 (31 U.S.C. 408a) is amended by striking in the second proviso the phrases "the reserve for United States notes and for Treasury notes of 1890, and" and "and the reserve for Federal Reserve notes shall be maintained in gold certificates, or in credits payable in gold certificates maintained with the Treasurer of the United States under section 16 of the Federal Reserve Act, as heretofore and by this Act amended".

SEC. 9. There are hereby repealed the sentences of subsection (a) of section 43 of the Act of May 12, 1933 (48 Stat. 31, 52; 31 U.S.C. 821(a)), which read: "No suspension of reserve requirements of the

Federal Reserve banks, under the terms of section 11(c) of the Federal Reserve Act necessitated by reason of operations under this section, shall require the imposition of the graduated tax upon any deficiency in reserves as provided in said section 11(c). Nor shall it require any automatic increase in the rates of interest or discount charged by any Federal Reserve bank, as otherwise specified in that section."

SEC. 10. Section 2 of the Act of July 14, 1890 (26 Stat. 289; 31 U.S.C. 408), and section 2 of the Act of March 14, 1900 (31 Stat. 45), are repealed.

SEC. 11. Section 7 of the Act of January 30, 1934 (48 Stat. 341, 31 U.S.C. 408b), is amended by striking the phrase "and as a reserve for any United States notes and for Treasury notes of 1890" and also by striking the phrase "as a reserve for any United States notes and for Treasury notes of 1890, and".

SEC. 12. Section 14(c) of the Act of January 30, 1934 (48 Stat. 344, 31 U.S.C. 405b), is amended by striking from the first sentence "except the gold fund held as a reserve for any United States notes and Treasury notes of 1890."

Approved March 18, 1968.

Repeals.

Figure 39: Act of March 18, 1968

Every Federal reserve bank shall maintain reserves in gold or lawful money of not less than thirty-five per centum against its deposits and reserves in gold of not less than forty per centum against its Federal reserve notes in actual circulation, and not offset by gold or lawful money deposited with the Federal reserve agent. Notes so paid out shall bear upon their faces a distinctive letter and serial number, which shall be assigned by the Federal Reserve Board to each Federal reserve bank. Whenever Federal reserve notes issued through one Federal reserve bank shall be received by another Federal reserve bank they shall be promptly returned for credit or redemption to the Federal reserve bank through which they were originally issued. No Federal reserve bank shall pay out notes issued through another under penalty of a tax of ten per centum upon the face value of notes so paid out. Notes presented for redemption at the Treasury of the United States shall be paid out of the redemption fund and returned to the Federal reserve banks through which they were originally issued, and thereupon such Federal reserve bank shall, upon demand of the Secretary of the Treasury, reimburse such redemption fund in lawful money or, if such Federal reserve notes have been redeemed by the Treasurer in gold or gold certificates, then such funds shall be reimbursed to the extent deemed necessary by the Secretary of the Treasury in gold or gold certificates, and such Federal reserve bank shall, so long as any of its Federal reserve notes remain outstanding, maintain with the Treasurer in gold an amount sufficient in the judgment of the Secretary to provide for all redemptions to be made by the Treasurer. Federal reserve notes received by the Treasury, otherwise than for redemption, may be exchanged for gold out of the redemption fund

18

(Pub. 43.)

hereinafter provided and returned to the reserve bank through which they were originally issued, or they may be returned to such bank for the credit of the United States. Federal reserve notes unfit for circulation shall be returned by the Federal reserve agents to the Comptroller of the Currency for cancellation and destruction.

and the Federal Reserve Board shall require each Federal reserve bank

3. Distinctive Letter on Notes; Destruction of Unfit Notes

Federal Reserve notes shall bear upon their faces a distinctive letter and serial number which shall be assigned by the Board of Governors of the Federal Reserve System to each Federal Reserve bank. Federal Reserve notes unfit for circulation shall be canceled, destroyed, and accounted for under procedures prescribed and at locations designated by the Secretary of the Treasury. Upon destruction of such notes, credit with respect thereto shall be apportioned among the twelve Federal Reserve banks as determined by the Board of Governors of the Federal Reserve System.

[12 USC 413. As amended by acts of June 21, 1917 (40 Stat. 236); Jan. 30, 1934 (48 Stat. 338); June 12, 1945 (59 Stat. 237); July 19, 1954 (68 Stat. 495); March 3, 1965 (79 Stat. 5); May 20, 1966 (80 Stat. 161); and March 18, 1968 (82 Stat. 50).]

Figure 40: Comparison of Paragraph 3 of Section 16 of Federal Reserve Act: Original 1913 version (top) and current version last modified in 1968 (bottom)²⁴⁴

²⁴⁴ Original text: (United States Statutes at Large, 23 December 1913, pp. 17-18); Current Text: (Federal Reserve Act, 1968)

From 1968 Until the Present (context only)

The following events occurred after 1968 which are relevant with regards to currency debasement.

- On August 15, 1971, amidst a high inflation rate due partially to spending on the Vietnam War, Richard Nixon “closed the gold window,” ending the ability of foreign banks to convert dollars into gold. This broke the last remaining connection of the dollar to gold.
- The dollar was officially devalued in terms of gold from \$35.00 per fine ounce to \$38.00 on May 8, 1972²⁴⁵ and then from \$38.00 per fine ounce to \$42.22 per fine ounce per fine ounce on October 18, 1973²⁴⁶
- The Act of August 14, 1974 “permitted United States citizens to purchase, hold, sell, or otherwise deal with gold in the United States or abroad.”²⁴⁷ This ended the 42 year ban on private gold ownership in America. The Act of October 28, 1977 repealed the Joint Resolution of 1933, hence legalizing gold clauses.²⁴⁸ Thus, Americans were finally free to transact with gold; of course, gold was so displaced from the monetary system that gold clauses are likely rare.²⁴⁹
- On June 7, 1978, the United States Court of Appeals ruled against Jack Rifen in U.S. v. Rifen. Rifen had refused to pay income taxes, arguing “that federal reserve notes are not authorized by the United States Constitution because they are not redeemable

²⁴⁵ (United States Statutes at Large, 8 May 1972)

²⁴⁶ (United States Statutes at Large, 18 October 1973)

²⁴⁷ (United States Statutes at Large, 14 August 1974, p. 445)

²⁴⁸ (United States Statutes at Large, 28 October 1977, p. 1229)

²⁴⁹ Gold is, of course, often used as a store of value in an inflationary environment of Federal Reserve Notes. However, Americans are taxed on gold proceeds as if gold is a collectible, which is a flat 28% tax (as opposed to a 15% capital gains tax). Thus, its inflation protection is severely limited. (Clark, 2010)

- in specie, and are therefore not subject to taxation.”²⁵⁰ The Court rejected this argument stating “that article I, section 10 of the United States Constitution prohibits the states from declaring legal tender anything other than gold or silver, but does not limit Congress' power to declare what shall be legal tender for all debts.” Rifen then argued that “no evidence was presented on the definition of the symbol for the dollar (\$).” The Court rejected this argument stating that “No such evidence was necessary. Congress has declared Federal Reserve notes legal tender, 31 U.S.C. § 392, and Federal Reserve notes are taxable dollars.” Thus, the vaguely written Constitution (*Event 1*) and the legal tender status of fiat currency (*Events 7 and 8*) had finally manifested themselves with a currency from which citizens have no legal protection.
- On August 6, 2010 gold prices close in the Chicago market at \$1203.40/ounce, 61 times higher than its originally defined price in 1792.²⁵¹

²⁵⁰ (United States v. C Rifen, 1978); Source applies to all case quotes under this bullet point.

²⁵¹ (Chicago Mercantile Exchange Group: Gold Futures, 2010)

Chapter 13: Conclusions

The “Rising Dam” Metaphor

The aggregate of the ten events described in this dissertation served to wholly eliminate gold from circulation and sever the link between gold and paper currency in the United States.²⁵² The outcome of these events was a legal framework in which was no legal check or upper bound monetary debasement. Without legal checks, monetary debasement occurred rapidly and severely. From 1933 until 2002, Federal Reserve Note circulation increased by a factor of 210 from \$3 billion to \$630 billion, an annual average increase of 8% (see Figure 41).²⁵³ As a comparison, the currency in circulation from 1833 until 1902 increased by a factor of 10, most of which was due to Civil War financing. Currency per capita, which had oscillated between \$18 and \$45 between 1860 and 1933, doubled to \$90 by 1941 and increased forty-fold to \$1800 by 2002 (see Figure 41). While World War II partially contributed to this increase, Figure 41 demonstrates that the explosion truly occurred after the tenth event in 1968.

²⁵² Besides the United States, the link between currency and specie has been severed in all countries. The most telling sign, not just of the severed link, but of the current disdain of a specie-backed currency can be seen in Article IV of the Articles of Agreement of the International Monetary Fund. Section 2 states that IMF members must maintain “a value for its currency in terms of the special drawing right or another denominator, other than gold, selected by the member.” In other words, an international currency is explicitly prohibited from being backed by only one entity: gold. (International Monetary Fund, 1944)

²⁵³ (Anderson, 2003)

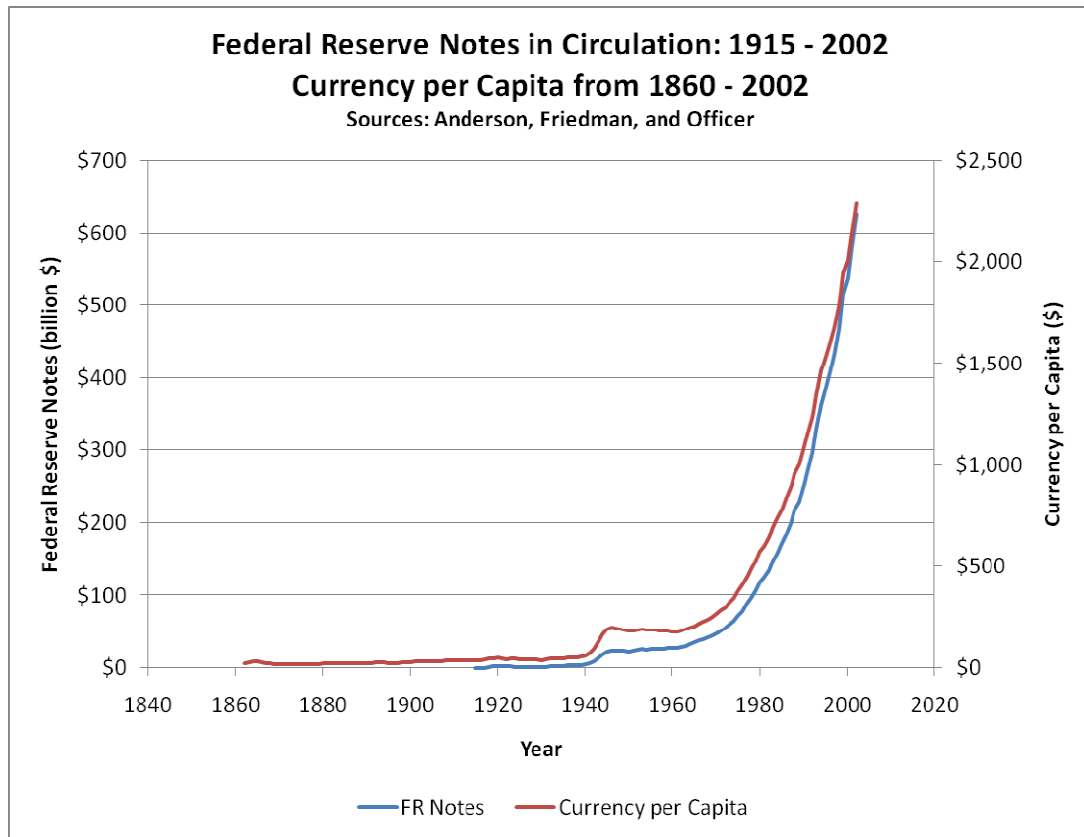


Figure 41: Federal Reserve Notes in circulation and Currency per capita from 1860 until 2002

Through the ten events detailed in this dissertation, monetary debasement “evolved” from a state of being expressly prohibited by the Constitution to a legal and almost mundane aspect of American society. This was accomplished, not through a Constitutional amendment, but through a combination of envelope-pushing legislative action and reinterpetive judicial decisions, a pattern which has many parallels throughout American history.

One such parallel example is the Commerce Clause of the Constitution, which allows the Federal government to “regulate Commerce...among the several States.” Over time, the

Supreme Court has interpreted the word “commerce” to mean “all economic activity” and the phrase “among the several States” to mean “substantially affect the States.” As these reinterpretations occurred, a regulatory framework was established that placed no legal check on economic regulation. Hence, the inevitable result is the world we have in 2010 where almost every facet of our daily lives are regulated, from the amount of water in our toilet tanks to the mandate that citizens must purchase health insurance. While this description of the commerce clause is tangential, unreferenced, and oversimplified, the overriding point is that the evolution of debasement is not a unique evolution and can be summarized by the following sequence:

1. An initial legal check is established to prevent a certain negative phenomenon. As detailed previously, Sections 8 and 10 of Article 1 of the Constitution were written to prevent monetary debasement.
2. Specific and local circumstances make the “stretching” of this check both politically and practically feasible. However, the intent of the “stretch” is rarely to induce the checked event from occurring. As an example, as cited by *Event 3*, Jackson devalued silver in 1834 due to the change in world silver prices while simultaneously being a staunch hard money defender.
3. The “stretches” aggregate over time and eventually eliminate the original check altogether. In this dissertation, ten such stretches aggregated to sever the connection

- between gold and currency as well as allowing the government to grant legal tender status to paper currency. Thus, there was no longer any check on debasement.²⁵⁴
4. Without any checks remaining, the original negative phenomenon (i.e. debasement) not only occurs, but occurs in a fashion of dramatic magnitude. See Figure 41 for the visual of dramatic monetary debasement.

In this sequence, the underlying phenomenon (i.e. debasement) undergoes a “rising dam” story. In this type of story, during Steps 2 and 3, the groundwork is being laid for an eventual “flood” of debasement. Thus, as the “water is rising,” everything still looks normal downstream of the dam and monetary debasement stays in check. However, as the water level finally surpasses the height of the dam (*Event 10*), the dam floods and monetary debasement races out of control.²⁵⁵ This is an important analogy to make because it formalizes the fact that *history matters*. One might examine the history of debasement and conclude that a single event, such as the Gold Reserve Act, was the sole driver for debasement. However, without all of the preceding events (i.e. the rising water), the single event could not have acted alone or served as the immediate catalyst for debasement. This is shown graphically in the top portion of Figure 42, where the ten events weave together to result in the eventual flood of debasement.

²⁵⁴ The stretches also slowly gradually redefine “what is considered normal.” Imagine if Jefferson had tried to either seize gold or declare Treasury Bonds to be legal tender in 1804. It would have been deemed untenable. However, the ten events/stretches redefined the status quo such that debasement became both achievable and uncontroversial.

²⁵⁵ This is different than a “slippery slope story,” where the phenomenon gets worse in a continuous and semi-predictable manner. In the context of this dissertation, one could argue that the monetary legal framework underwent a slippery slope story, as each event broadened the government’s monetary power and made future events quite predictable. As an example, the Legal Tender cases made it quite predictable that the government would expand the types and quantity of legal tender notes. However, it did not make total monetary debasement inevitable, and, instead, “increased the water level a bit more” in the rising dam debasement story.

In the rising dam example, the future debasement is not obvious and/or predictable before the flood actually occurs. This is consistent with Step 2 of the aforementioned 4-step sequence; since debasement is not necessarily the intent of the “stretches”, it makes sense that the invokers of the stretch could not predict the eventual debasement. Therefore, assuming that the local specific circumstances that trigger these stretches are independent, it would be logical that the events/stretches themselves are uncorrelated. To give an example, there is likely no correlation between the decrease in world silver prices in 1834 and the onset of the Civil War; yet both of these historical events resulted in key debasement events, thus “raising the water level a bit more.” This claim that the debasement events are independent and uncorrelated is verified in Appendix 1 of this dissertation, where over 130 variables were analyzed without finding any significant correlations between the ten events.

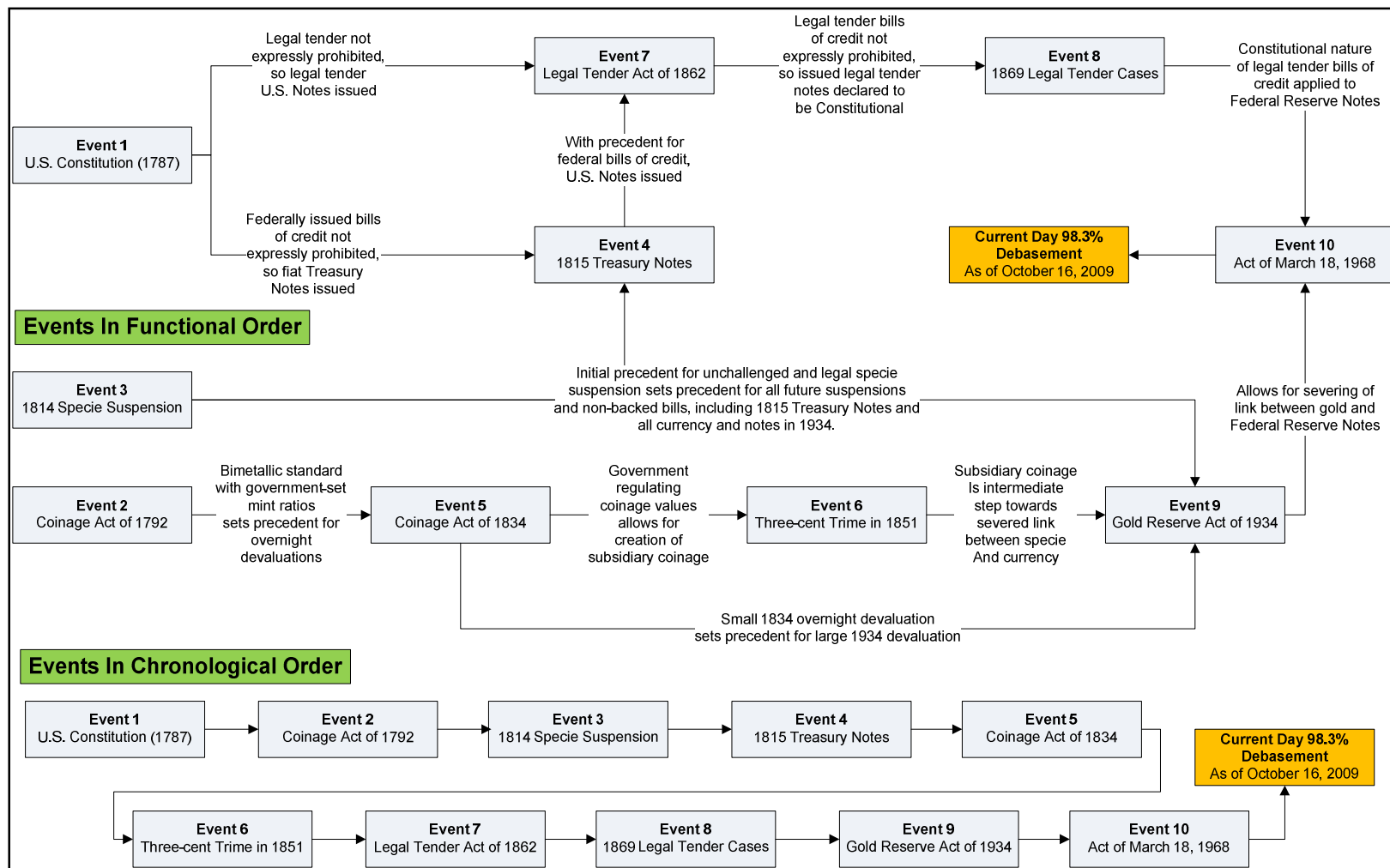


Figure 42: Graphical representation of debasement events in functional and chronological order

A Modern-Day Anecdote

Since Federal Reserve Notes are the dominant currency in America, the authorizing Federal Reserve Act becomes the dominant currency doctrine. Section 1 of the current text of said Act states that Federal Reserve Notes “shall be redeemed in lawful money on demand at the Treasury Department of the United States, in the city of Washington, District of Columbia, or at any Federal Reserve bank.”²⁵⁶ Given that the only “lawful money” is Federal Reserve Notes, the author was curious how representatives at these organizations would respond to a redemption request. On June 24, 2010, after speaking to representatives at the Treasury, Philadelphia Federal Reserve Bank, and the Bureau of Engraving and Printing, the following is the current manifestation of this codified law:

- The redemption clause only explicitly applies to banks (not to individuals)
- Banks can “redeem” Federal Reserve Notes for credits to their accounts held at the Federal Reserve Banks
- Individuals can thus redeem Federal Reserve Notes implicitly through credits in their individual bank accounts.

This is a convoluted way of stating that the Notes are redeemable in increases in bank account statements or, given the true definition of “redeem,” the Notes are unredeemable.

Final Comments

Thus, the country has come full circle from the 1690 Massachusetts legal-tender bills of credit to the 1968 United States legal-tender bills of credit, the very phenomenon the

²⁵⁶ (Federal Reserve Act, 1968)

Framers wished to avoid. This dissertation attributes this debasement to ten largely independent events which cumulatively eroded the legal protection of a sound currency. As shown graphically in Figure 42, these events can be subcategorized into three “branches”: the establishment of legal tender laws, the legalized contract violations in the form of specie suspensions, and the government’s ability to devalue the currency at its whim. As mentioned previously, fractional reserve banking is not a fundamental driver of debasement and is hence not a fourth branch of events. Contrary to popular opinion, the debasement effects of fractional reserve banking *are secondary* and only lead to perpetual debasement once legal tender laws have been passed and specie suspension has been legalized.

Through these ten events, a perpetually debased fiat currency has become the norm. Modern economists debate the optimal *magnitude* of the inflation rate (i.e. debasement rate) is without ever questioning whether the *existence itself* of said rate is a positive and moral phenomenon. With debasement as the norm, what else can happen but further debasement? The price of gold has risen from \$1050.70 to \$1203.40²⁵⁷ during the course of writing this dissertation and the fiat monetary base has doubled in the past two years. Thus, to predict the final effect of these ten events and the resultant flooded dam, I must defer to the general prediction made by Voltaire:²⁵⁸

Paper money eventually returns to its intrinsic value...zero.

²⁵⁷ (Chicago Mercantile Exchange Group: Gold Futures, 2010)

²⁵⁸ (Foundation for the Advancement of Monetary Education, 2006)

Appendix 1: Regression Analysis

Data Set

In writing the previous fourteen chapters encompassing more than two hundred years, the author created a large empirical data set for the years 1782 – 2007. There are 133 variables in the data set, of which 93 are “raw” annual data fields (e.g. gold coin in circulation, population) and 40 are computed values based on the other 93 (e.g. gold coin in circulation per capita). The majority of the data fields are listed below (without detailed descriptions):

- First Bank of the United States: specie, bank notes, and demand deposits
- Second Bank of the United States: specie, bank notes, and demand deposits
- State Banks: specie reserves, bank notes issued, demand deposits, quantity of banks
- National Banks: bank notes issued, quantity of banks
- Federal Reserve Bank: Federal Reserve Notes and Bank Notes
- U.S. Government: United States Notes issued, Treasury Notes issued
- Gold and silver certificates outstanding
- Gold: quantity held by public, state banks, Treasury, and Federal Reserve
- Silver: quantity held by public and Treasury
- Coinage: quantity of gold, silver coinage, fractional and minor coinage

- Metal prices: New York gold prices, real gold price, official U.S. gold price, market silver price, market copper price, market zinc price,
- Price measures: wholesale price index, FY2000 GDP Deflator, FY2005 GDP Deflator, CPI, Inflation rate
- Public Revenue: Total revenue broken down into components: individual income tax, corporate income tax, social insurance programs, and excise taxes
- Public Expenses: Total expenses broken down into debt and non-debt expenses
- Public Debt: Total debt broken down into components: debt held by the private sector, debt held by the governments, and debt held by central banks, public deficit
- GDP: Nominal and real GDP
- Political: Pages of legislation, political party of the President, House majority, and Senate majority
- Miscellaneous: population, long-term government debt interest rate, dollar-to-pound exchange rate, M0, M1, flag for whether America is at war
- Calculated Fields: Total currency in circulation, total paper currency in circulation, total bank notes, total demand deposits, percentage of gold held by public, gold-to-paper-currency ratio, price metal in pre-1982 and post-1982 pennies, debt-per-capita, debt-to-GDP ratio.

The data set also includes a year-by-year compilation of which currency was in circulation and, for coinage, what the metal content of said currency. In this way, discrete debasements are easily identified.

Given the large quantity of data, it seemed logical to perform some statistical analyses on the data to see if there were any correlations which could add insight to the subject matter. Regressions were run on two data sets:²⁵⁹

- Full data set (1782 – 2007)
- Filtered data set (1810 – 1980): This data set eliminates *Event 1* and *Event 2*, but the data from 1782 – 1810 is lower quality than the remaining years. The years after 1980 are simply not relevant.

Since the purpose of the dissertation was to identify events in monetary debasement, it is logical to look for correlations between a dummy flag for “did a debasement event occur this year” with other variables. Because the events did not necessarily occur on a single day (some were preceded by long debates; others took years to have an economic effect), an additional two event flags were created: a flag for whether an event occurred plus-or-minus one year and a flag for whether an event occurred plus-ten-years. This is shown graphically in Figure 43.

²⁵⁹ Before beginning the analysis, approximately ten regressions were run to sanity-check the data set. As an example, the author performed single-variable regressions with the total currency in circulation as the dependent variable and the CPI and WPI as independent variables. Both coefficients of interests were positive, with R^2 values of 0.92 and 0.75, respectively. This is a nice sanity check for the data set as it simply validates the well-known result that increased money supply manifests itself as a proportional increase in prices.

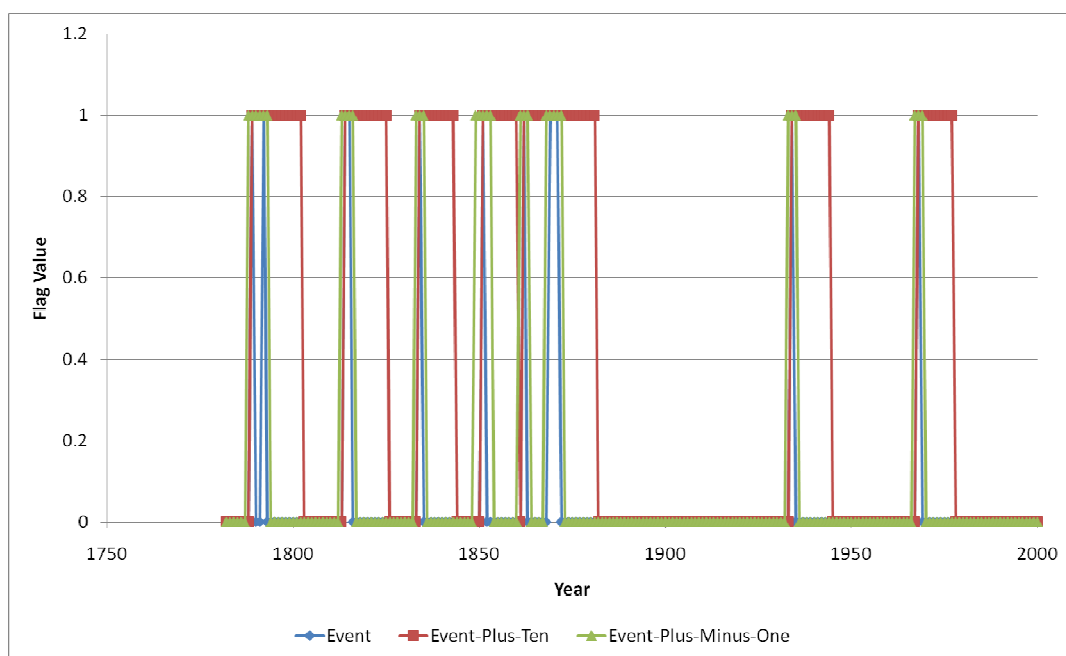


Figure 43: Debasement event flags as a function of year

Before running the regression, it seemed unlikely to the author that correlations would be found. One of the points of the dissertation is that these events were not necessarily direct debasements, but contributed to future debasements in a slow and subtle manner. Thus, the effect on economic indicators should be minimal. Additionally, the political actors at each event share almost no similarities; while Andrew Jackson and Franklin Roosevelt are polar opposites with regards to hard money beliefs, they have both been credited with one event (albeit Jackson's was unintentional). Thus, there is no reason to expect Jackson's and Roosevelt's policies to result in correlated results. The two fields which the author thought might show correlations were the "party_all_the_same" field (takes on a value of one if the President, House majority, and senate majority were all of the same Party and zero otherwise) and the "pages_of_legislation" field (number of pages

written in the U.S. Statutes at Large). The logic was that it would take either a political majority or a “bill-passing frenzy” in order to pass controversial legislation.

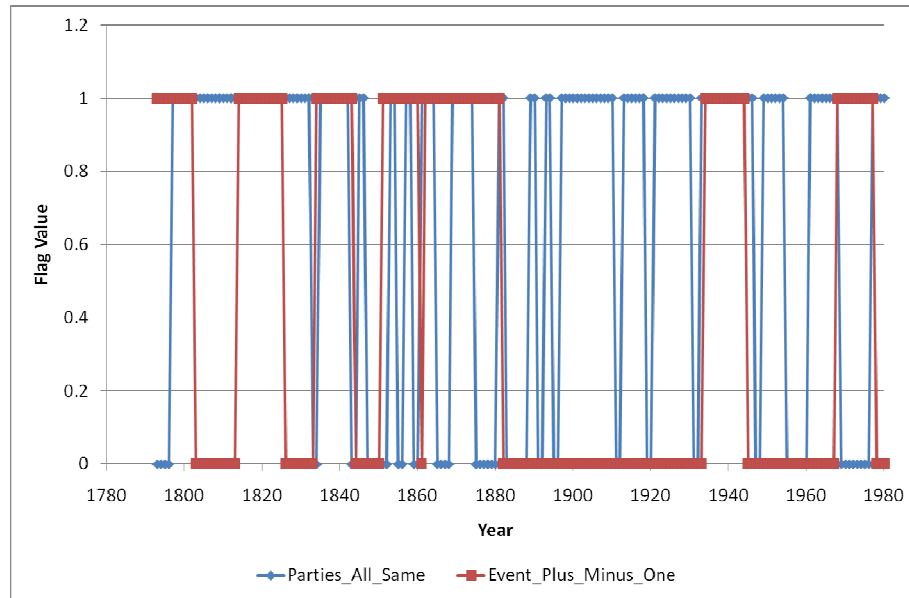


Figure 44: Overlay of “parties_all_same” and “event_plus_minus_one” flags

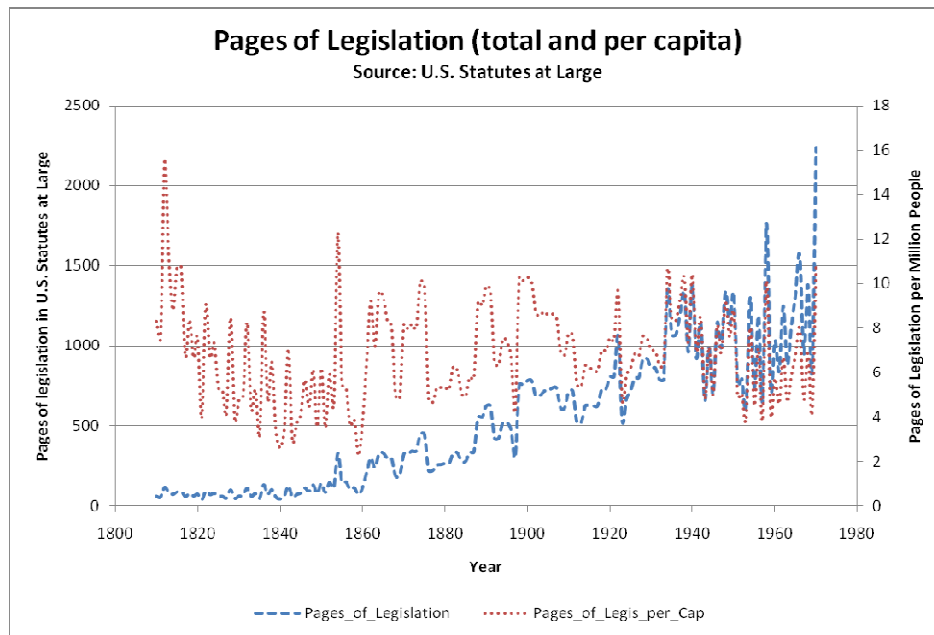


Figure 45: Pages of legislation (total and per capita) as a function of year

Regressions with Event Flags as the Dependent Variable

With that said, the author ran 780 single-variable regressions: each of the three event flags individually against each of the other 130 variables in the two data sets. Thus, the form of the single-variable regressions were:

$$\text{event_flag}_i = \beta_0 + \beta_1 * x_i + \varepsilon_i$$

The results showed no correlation between the event flags and other variables (as a representative example, the R^2 value for the flags shown in Figure 44 was 0.0003). Only three regressions yielded R^2 values above 0.1, which are shown in Table 13 and Table 14 (which only differ in whether zeroes or blanks are used to quantify gold coinage in the data set after 1933):

Table 13: Event-based regression results where R^2 was greater than 0.1 (zeroed gold coinage fields)

	R^2 when variable regressed with...					
	Total Data Set			Filtered Data Set		
Variable Name	Event	Event±1	Event+10	Event	Event±1	Event+10
Coinage_Gold (CG)	0.01	0.02	0.13	0.02	0.04	0.27
Gold_Held_Public (GH)	0.01	0.02	0.07	0.01	0.03	0.12
Gold_State_Banks	0.04	0.12	0.15	0.03	0.11	0.12

Table 14: Event-based regression results where R^2 was greater than 0.1 (blank gold coinage fields)

	R^2 when variable regressed with...					
	Total Data Set			Filtered Data Set		
Variable Name	Event	Event±1	Event+10	Event	Event±1	Event+10
Coinage_Gold (CG)	0.10	0.18	0.68	0.10	0.18	0.68
Gold_Held_Public (GH)	0.02	0.07	0.20	0.02	0.06	0.20
Gold_State_Banks	0.04	0.13	0.15	0.03	0.11	0.13

The first two variables are very similar to each other but are obtained from different sources. “Coinage_Gold” (CG) refers to the amount of gold coinage in circulation and contains data from 1860-1933 (after 1933, the values obviously are at \$0) as compiled by Anderson from annual U.S. Treasury reports.²⁶⁰ “Gold_Held_Public” (GH) refers to gold coinage held by Americans but does not count coinage held by banks or the Treasury. This data is available sporadically between 1790 and 1820, fully populated between 1820 and 1863, and fully populated from 1880 – 1914. This data was taken from Friedman, who compiled it from a variety of sources, including seven different private academic estimates for the earlier years and government reports (Treasury and FDIC) for the later years. These two variables are expectedly closely correlated (R^2 of 0.75 in the total data set and 0.73 in the filtered set).²⁶¹ “Gold_State_Banks” refers to the gold held in reserves by state banks and was compiled by Davis by combining data sets from Van Fenstermaker, Friedman, and Anderson. The data was available for 44 of the 61 years between 1804 and 1864.

At first glance, these initial values yielded a potential hypothesis: it takes a few years for people to realize a debasement event has occurred, but, when they do, they increase their gold holdings. This would be supported by the high correlation observed between Event_Plus_Ten and both CG and GH. However, this theory was quickly refuted upon looking at the sign of the coefficient of interest in each of these regressions: in all six regressions, it was *negative*, suggesting the exact opposite result: after a debasement

²⁶⁰ (Anderson, 2003)

²⁶¹ (Friedman & Schwartz, Monetary Statistics of the United States, 1970)

event, people hold *less gold*. This seems counter-intuitive, so it is useful to look at the scatter plots between these variables (see Figure 46).

Clearly, in non-event years, people are holding more gold coinage. However, this ignores the fact that the general gold supply increased by a huge percentage from 1870 until 1920 (see Figure 47). Thus, the author ran several additional regressions to account for the increased gold supply, GDP, and population during this time. Selected results are shown in Table 15.

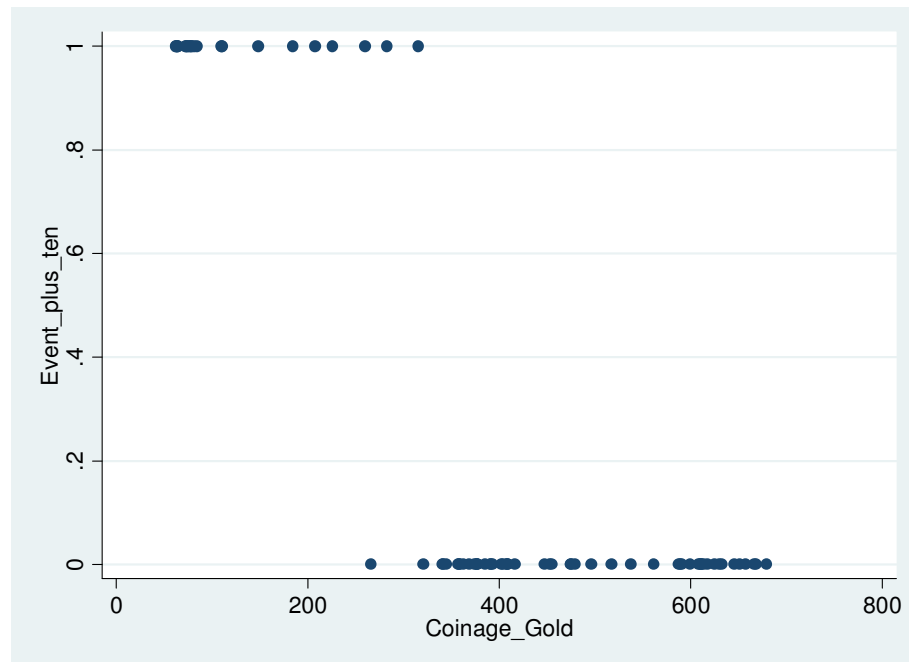


Figure 46: Scatter plot of Event_Plus_Ten versus Coinage_Gold

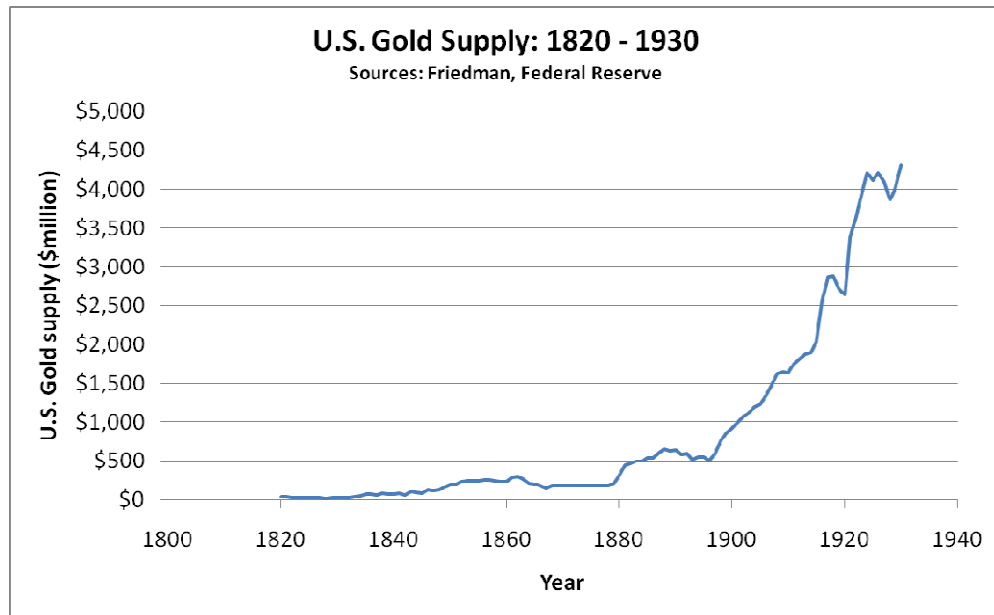


Figure 47: U.S. Gold supply from 1820 until 1930 (in millions of dollars)

Table 15: Regression results (blank fields for gold coinage after 1933)

Variable Name	Coefficient	Std. Error	R ²
CG_Per_Capita	-0.11	0.02	0.27
GH_Per_Capita	-0.04	0.01	0.13
Percent_Gold_Held_Public (PG)	-0.26	0.22	0.02
CG_Per_Capita_Per_Real_GDP	7.71	2.71	0.1
GH_Per_Capita_Per_Real_GDP	6.62	1.29	0.23
CG, Population, Real_GDP	-0.0014	0.0001	0.76
	-0.0065	0.0054	
	0.0001	0.0005	
GH, Population, Real_GDP	-0.0001	0.0001	0.31
	-0.001	0.007	
	-0.0007	0.001	
PG, Population, Real_GDP	-0.29	0.21	0.33
	0.0	0.008	
	-0.0012	0.0012	

There is a significant and positive correlation in the single regressions between Event_Plus_Ten and both gold coinage per capita per GDP-dollar and gold-held-by-public per capita per GDP dollar. Thus, in a vacuum, this could be seen as backing the aforementioned theory that people hold more gold after a debasement event, but it takes a few years for the transition to be made. However, while this would be an interesting result, I do not believe it is accurate for the following reasons:

1. Besides these two regressions, the coefficient of interest on all variables involving CG and GH are negative.
2. There is only a small correlation between Event_Plus_10 and the percentage of gold held by the public. This theory would predict a strong positive correlation.
3. When a multiple-variable regression is performed, the sign of the coefficient of interest again is negative.

Thus, given the low R^2 values of all but three of the 130 independent variables and the lack of any clear connections or prediction-making ability with regards to the slightly-correlated variables, the author concludes that there is no obvious variable that is correlated with a debasement event. This supports the general thesis that the events are generally subtle and don't truly debase the currency for a long period of time.

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