



Bank to the Future: Payment Stablecoins are Digital National Banknotes

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ABSTRACT: Unlike previous scholarship comparing stablecoins to free banks or money market funds, this paper establishes that payment stablecoins are essentially digital national banknotes, since both are backed by segregated, bankruptcy-remote, federal obligations. This analogy has two major implications. First, despite the failure of 20.4 percent of all banks chartered in the National Banking era, banknote holders recovered 100 cents on the dollar compared to average depositor losses of 34 to 37 cents. This suggests payment stablecoins will be similarly safe for holders. Second, while national banknotes and deposits grew in tandem, the opportunity cost from higher-yield uses of capital – such as lending – caused banks to chronically under-issue national banknotes. It thus seems likely that without competition from issuers able to pay stablecoin yield today’s banks will also under-issue stablecoins, thereby limiting the spread of the digital dollar at home and abroad.

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Section 1: Introduction – The Fiscal Imperative

Even before the outbreak of the Civil War, President Abraham Lincoln faced a vexing financial predicament. Lincoln’s predecessor, President James Buchanan, had failed to put the federal government on a sound footing. His administration had doubled the federal debt to \$65 million, while his secretary of the Treasury, Howell Cobb, had financed excess spending with short-term notes instead of long-term bonds.

Despite federal efforts, financial markets remained jittery and the appetite for ever larger federal bond issues was uncertain. In December of 1861, just months before Lincoln’s inauguration, Congress authorized the sale of \$10 million in notes to meet a January 1 interest payment, “however, only \$1.8 million worth of bids were deemed acceptable, and these at a punishing interest of 12 percent (6 percent had been typical). Other bidders demanded as much as 36 percent, signifying a complete lack of confidence in American credit.”¹

The massive cost of the war magnified the importance of the Union’s limited capacity for borrowing, money creation, and taxation. The taxation shortfall was mitigated by the creation of the Office of Commissioner of Internal Revenue on July 1, 1862. Meanwhile, the president and his Treasury secretary, Salmon P. Chase, seized on a creative solution to the problems of borrowing and money creation—monetary reform. The first step was the Legal Tender Act of 1862, which created the greenback, an emergency paper currency issued by the federal government that was not backed by gold or silver. Next, Lincoln and Chase proposed creating a new class of bank whose banknotes, but not deposits, would be collateralized by federal bonds held in segregated accounts at the Treasury.

The goal was to create a uniform national currency while creating captive demand for federal debt. Secretary Chase made the case for the National Currency Act in his 1862 annual report:

A steady market for the bonds would thus be established and the negotiation of them greatly facilitated. ... But the plan proposed would create a constant demand, equaling and often exceeding the supply. It is not easy to appreciate the full benefits of such conditions to a government obliged to borrow.²

President Lincoln followed suit in a Special Message to Congress on January 17, 1863, which accompanied his signing of the Joint Resolution for payment of the army and navy:

Independently of this general consideration, it would be unjust to the people at large to exempt banks enjoying the special privilege of circulation from their just proportion of the public burdens. In order to raise money by way of loans most easily and cheaply, it is clearly necessary to give every possible support to the public credit. To that end, a uniform currency, in which taxes, subscriptions to loans, and all other ordinary public dues, as well as all private dues, may be paid, is almost, if not quite, indispensable. Such a currency can be furnished by banking associations, organized under a general act of Congress, as suggested in my message at the beginning of the present session. The securing of this circulation, by the pledge of United States bonds, as therein suggested, would still further facilitate loans by increasing the present and causing a future demand for such bonds.³

The banking industry resisted, and the reforms were denounced as blatantly unconstitutional. Rep. John V.L. Pruyn opposed the National Bank Act of 1864 on the floor of the House, declaring that the legislation

¹ For an introduction to the war finance challenges facing the Union, see: Roger Lowenstein. *Ways and Means: Lincoln and His Cabinet and the Financing of the Civil War*. New York: Penguin Press, 2022. Quotes, pp 18-28.

² Salmon P. Chase, *Report of the Secretary of the Treasury on the State of the Finances for the Year Ending June 30, 1862* (Washington: Government Printing Office, 1862), pp. 18–20. Available at FRASER (Federal Reserve Archival System for Economic Research), <https://fraser.stlouisfed.org/title/annual-report-secretary-treasury-state-finances-194/report-secretary-treasury-state-finances-year-ending-june-30-1862-5506>

³ Abraham Lincoln, *Federal Banking Laws and Reports: A Compilation of Major Federal Banking Documents, 1780-1912*. United States. Congress. Senate. Committee on Banking and Currency, 1913-1970. March 15, 1963 (page 306)

would "be the greatest blow yet inflicted upon the States." In that same session Rep. James Brooks claimed that the act would "take from the States ... all authority whatsoever over their own State banks, and to vest that authority ... in Washington."⁴

But these same banking interests eventually came to embrace the National Currency Act of 1863, the National Bank Act of 1864, and the Revenue Act of 1865, which collectively established what is now called the National Banking era.⁵ The Office of the Comptroller of the Currency's (OCC) official history notes that Hugh McCulloch, who became the first Comptroller of the Currency after the OCC was established in 1863, "had come to Washington in his role as president of the state-owned Bank of [the State of] Indiana to fight against the national banking legislation, which he rightly perceived as a threat to state-chartered banking." He ended up presiding over it.

In 2025, 162 years later, President Donald J. Trump echoed the logic of the 1863 reforms. On signing the GENIUS Act into law, President Trump said:

Just as I promised last year, the GENIUS Act creates a clear and simple regulatory framework to establish and unleash the immense promise of dollar-backed stablecoins. This could be perhaps the greatest revolution in financial technology since the birth of the internet itself.

The GENIUS Act, he claims, will "cement the American dominance of global finance" by creating "a framework for issuing crypto assets backed one for one with real U.S. dollars, Treasury bills, and other cash equivalents. It's really strengthening the dollar and giving the dollar great prominence." Echoing Lincoln, Trump claimed that "this will increase demand for U.S. Treasuries, lower interest rates, and secure the dollar's status as the world's reserve currency for generations to come."⁶

Treasury Secretary Scott Bessent has made similar arguments. In November 2025, he declared:

We are closely monitoring growth in money market funds and the stablecoin market, which are both large investors in Treasury bills. Money market funds are now valued at about \$7.5 trillion, having grown by nearly \$1 trillion in the last year alone. The stablecoin market, meanwhile, is valued around \$300 billion and could grow tenfold by the end of the decade thanks to the innovation made possible by the GENIUS Act. As money market funds and stablecoins grow, so too will the demand for Treasury bills.⁷

Today, as in the 1860s, the banking industry opposes national reforms even as they are commercially preparing to embrace them. On May 10, 2026, American Bank Association (ABA) CEO Rob Nichols warned that: "Without additional changes, we believe the current proposal would unnecessarily incentivize the flight of bank deposits into payment stablecoins, putting both economic growth and financial stability at risk." He called for "immediate engagement" from bank CEOs and urged them to contact senators directly.⁸ His target is the Tillis-Alsobrooks compromise language on stablecoin yield for the Digital Asset Market Clarity Act (CLARITY Act, H.R. 3633), ahead of a May 14, 2026, Senate Banking Committee markup. Although the compromise language bans rewards on idle balances, Nichols claims the ban does not go far enough. Yet at the same time, all the major banks are currently developing their own stablecoins.⁹

⁴ *Congressional Globe*, 38th Cong., 1st Sess., p. 1271 (March 24, 1864)

⁵ The term frequently designates the period from 1863 up to the creation of the Federal Reserve in 1913, but, as in this paper, it can reasonably be taken to extend up to 1935, when the last national banknotes were retired from circulation

⁶ Donald J. Trump, Remarks at the Signing Ceremony for the GENIUS Act, East Room, the White House, July 18, 2025. <https://rollcall.com/factbase/trump/transcript/donald-trump-speech-stablecoin-crypto-bill-signing-july-18-2025>

⁷ Scott Bessent, "Parallel Prosperity: Strengthening the Treasury Market to Build America's Golden Age," Remarks before the Treasury Market Conference, Federal Reserve Bank of New York, November 12, 2025. U.S. Department of the Treasury, Press Release SB-0314, available at <https://home.treasury.gov/news/press-releases/sb0314>.

⁸ ABA Banking Journal, "Nichols calls on bankers to contact senators ahead of stablecoin vote," May 11, 2026, <https://bankingjournal.aba.com/2026/05/nichols-calls-on-bankers-to-contact-senators-ahead-of-stablecoin-vote>

⁹ The top U.S. banks were exploring a collectively issued stablecoin, before deciding to move into individual issuance. Heeb, Gina, and Justin Baer. "Big Banks Explore Venturing into Crypto World Together with Joint Stablecoin." *The Wall Street Journal*, 22 May 2025; Masnavi, Siamak, and Al Boost. "Citigroup CEO Confirms the Bank Is 'Looking at the Issuance of a Citi Stablecoin.'" Edited by Aoyon Ashraf, *CoinDesk*, 16 July 2025; "JPM Coin (JPMD) USD Deposit Token Available for Institutional Clients." *J.P. Morgan*, 13 Nov. 2025; Braun, Helene. "Bank of America CEO Says Bank Will Likely Launch Its Own Stablecoin." Edited by Nikhilesh De, *CoinDesk*, 27 Feb. 2025; Sandor, Krisztian. "U.S.

This is not surprising given that payment stablecoins are, in essence and in structure, digital national banknotes.¹⁰ In other words, the passage of the GENIUS Act is a “back to the future” moment because payments and credit reserves are again cleaved apart (Fig. 1). This bodes well for the future of stablecoins. While past scholarship treated National Banking era failures and financial crises as the units of analysis, disaggregating the fate of noteholders from that of depositors reveals that segregated, bankruptcy-remote, safe-asset reserves made national banknote holders whole through every bank failure in 1863–1935.¹¹ Those same mechanics will protect today’s payment stablecoin holders.

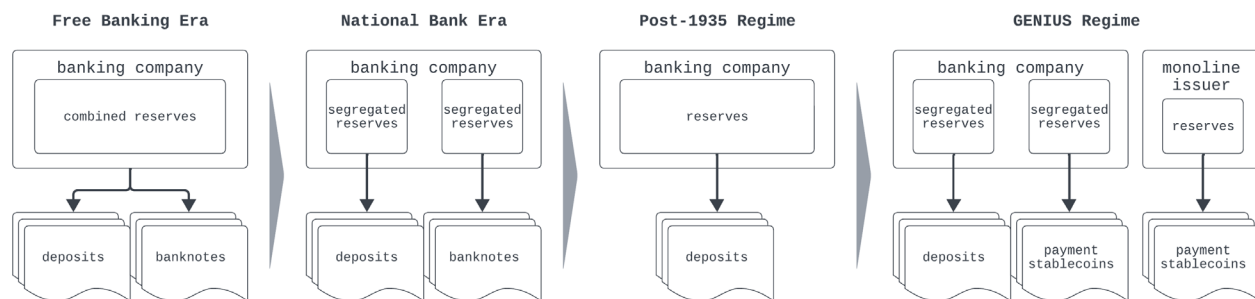


FIGURE 1 CREDIT AND PAYMENT RESERVE SEGREGATION OVER 200 YEARS

But there is an important difference. Unlike the National Banking regime, the GENIUS framework favors today’s banks, making it likely that they will become the primary stablecoin issuers in the future. More importantly, while the National Banking regime’s collateral was scarce – limited in supply by the gold standard and budget surpluses – the world today is awash in risk-free sovereign debt. If anything, the real risk might be not financial crisis, but financial repression.

The first two sections offer historical context. Section 2 describes the free banking system and the National Banking regime that replaced it. Section 3 turns to the present, describing the operational mechanics of GENIUS-compliant stablecoin issuance. Section 4 formalizes the analogy between the structure of national banknotes and stablecoins, finding that that the GENIUS framework is more capital-light and profitable for banks than its historical predecessor.

Section 5 examines the safety of national banknotes, finding that across the 2,669 to 2,762 national-bank receiverships from 1864 to 1934, noteholders were paid 100 cents on the dollar in every documented case because banknote reserves exceeded note redemptions at all times. In contrast, depositors suffered losses between 80 and 81 percent of the time, and recovered, on average, between 63 and 66 cents on the dollar.¹²

Sections 6 and 7 apply history to learn two lessons for the future. First, stablecoins and deposits will grow in tandem, but without competition from issuers able to pay stablecoin yield. Second, banks will under-issue stablecoins given the opportunity costs from lending and holding higher-yield securities. Section 8 concludes.

Bank Tests Custom Stablecoin Issuance on Stellar Network." *CoinDesk*, 25 Nov. 2025; DefAInt, and Olivia Capozzalo. "Wells Fargo Files Trademark for 'WFUSD,' Signaling Stablecoin Ambitions." *The Defiant*, 11 Mar. 2026.

¹⁰ Payment stablecoins for the rest of the paper refers to GENIUS-compliant stablecoins, which are themselves referred to as “payment stablecoins” in the Act itself.

¹¹ Bordo, Michael D. "Stablecoins, the Genius Act, and Some Cautionary Tales." *DeFinig Ideas*, Hoover Institution, 9 Dec. 2025.

¹² Different authors, using the same OCC data, have reached slightly different estimates. These are explored later in the paper.

Section 2: A Brief History of National Banknotes

Before the National Currency Act of 1863, the United States had no uniform paper currency. The Second Bank of the United States had lost its federal charter in 1836 after Andrew Jackson’s veto, and paper money devolved to the states. This system of “free banking” would eventually be replaced by the National Banking regime, which after 1913 coexisted with the Federal Reserve Banking system until it was wound down through aggressive federal action in 1935.

As we will see in this brief history of the National Banking regime, the system’s defining features evolved piecemeal until about 1900. Safe-asset, segregated, bankruptcy remote reserves were defined at inception, but additional reforms were required to reduce redemption frictions and maximize issuance.

2.1 The free banking prelude

Under the “free banking” laws adopted by eighteen states between 1837 and 1860, any group of investors meeting minimum capital requirements could obtain a charter and issue banknotes backed by securities, typically state government bonds, deposited with a state banking authority. By 1860, 1,562 state-chartered banks were in operation, circulating an estimated 8,000-10,000 distinct varieties of paper currency, all trading at varying discounts in distant markets.¹³

The system’s defects are well known. Counterfeits were rampant. Notes did not trade at par, and periodicals such as Thompson’s *Bank Note Reporter* circulated weekly to inform merchants of which notes were trading at what discount. When state bond collateral depreciated, noteholder losses could be substantial. Michigan’s free banks recovered only 39 cents on the dollar following the aftermath the Panic of 1837 and the full collapse of the state’s free banks by 1939.¹⁴ However, states with better management, such as New York, could contain losses to levels as low as 0.1 percent in the 1860s.¹⁵

2.2 National banks & state banknotes – The 1863 National Currency and 1864 National Banking Acts

The Civil War made monetary reform urgent. Federal expenditure rose from \$63 million in fiscal year 1860 to \$1.3 billion by fiscal year 1865, and the federal debt grew from \$64.8 million to \$2.68 billion, a forty-one-fold increase in five years.¹⁶ Treasury Secretary Salmon P. Chase had to find buyers for an unprecedented volume of federal bonds while simultaneously managing a paper currency that suspended specie payments in December 1861 and never reliably resumed them.¹⁷

The National Currency Act, signed by Lincoln on February 25, 1863, established the Office of the Comptroller of the Currency within the Treasury Department and authorized federal charters for “national banking associations.”¹⁸ This new class of federally chartered banks would back their note issuance with U.S. government bonds, thereby creating both a uniform currency and a captive market for the war debt.

A national bank had to deposit U.S. government bonds with the Treasury, physically transferred to the Treasurer of the United States and held in segregated trust, before it could issue any national banknotes. The bank could then issue notes up to 90 percent of the par value of the deposited bonds.

¹³ Gary B. Gorton and Jeffrey Y. Zhang, “Taming Wildcat Stablecoins,” *University of Chicago Law Review* 90, no. 3 (April 2023): 909–971.

¹⁴ Hugh Rockoff, “New Evidence on Free Banking in the United States,” *American Economic Review* 75, no. 4 (September 1985): 886–889, as cited in Gerald P. Dwyer, Jr., “Wildcat Banking, Banking Panics, and Free Banking in the United States,” *Federal Reserve Bank of Atlanta Economic Review* 81, nos. 3–6 (December 1996): 1–20.

¹⁵ https://www.richmondfed.org/publications/research/econ_focus/2018/q1/economic_history

¹⁶ U.S. Bureau of the Census. *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition*. Washington, D.C.: U.S. Government Printing Office, 1975

¹⁷ Salmon P. Chase, *Report of the Secretary of the Treasury on the State of the Finances for the Year Ending June 30, 1862* (Washington: Government Printing Office, 1862), 13–20, available at FRASER, <https://fraser.stlouisfed.org/title/annual-report-secretary-treasury-state-finances-194>.

¹⁸ Federal Reserve History, “National Banking Acts of 1863 and 1864,” July 2022, <https://www.federalreservehistory.org/essays/national-banking-acts>

The notes bore variations of the inscriptions “redeemable in gold coin” and “Secured by United States Bonds of the United States, deposited with the U.S. Treasury at Washington.” They were printed by the federal government on standardized plates, with only the issuing bank’s name and charter number varying.¹⁹



FIGURE 2 FIVE DOLLAR NATIONAL BANKNOTE ISSUED BY THE FIRST NATIONAL GOLD BANK OF SAN FRANCISCO²⁰



FIGURE 3 BACK-SIDE OF FIVE DOLLAR NATIONAL BANKNOTE ISSUED BY THE FIRST NATIONAL GOLD BANK OF SAN FRANCISCO

The 1863 Act was hastily drafted and contained substantial operational defects.²¹ Hugh McCulloch was recruited by Chase as the first comptroller of the currency and spent his first year in office redrafting it. His expanded version, the National Bank Act of June 3, 1864, became the operational statute. It set capital requirements of \$50,000 for banks in towns under 6,000, \$100,000 for cities under 50,000, and \$200,000

¹⁹ Federal Reserve Bank of Cleveland, “The National Banking System: A Brief History,” Working Paper 0723R2 (2011), 8

²⁰ Banknote images from https://uspapermoney.org/national_bank.php

²¹ OCC, “OCC History: 1863–1865,” <https://www.occ.gov/about/who-we-are/history/history-of-the-occ/1863-1865/index-occ-history-1863-1865.html>

for larger cities. It specified reserve requirements for both notes and deposits, established examination procedures, and clarified the receivership mechanism for failed banks.

State banks did not convert voluntarily, which prompted further legislative action. The 1863 Legal Tender Act had imposed a 2 percent tax on state banknotes as a means to prod state banks to get national charters. But by the end of 1864, only about 683 national banks had been chartered (Lincoln reported 584 as of November 25, 1864), leaving roughly 1,500 state banks still to convert.²² Congress responded with the Revenue Act of March 3, 1865, which imposed a 10 percent annual tax on the value of state banknote payments, a level deliberately set to make state banknote issuance economically impossible.

The tax took effect July 1, 1866 and within eighteen months, 97 percent of state banknotes had been retired while the number of state banks had collapsed from 1,466 in 1863 to 247 by 1868. Despite accusations of federal overreach, the constitutionality of the tax was upheld in *Veazie Bank v. Fenno* (1869) on the ground that Congress’s power to regulate the national currency necessarily included the power to displace competing currencies.

2.3 Eliminating redemption frictions – the five percent redemption fund

Nonetheless, note redemption remained a structural problem, since a noteholder seeking redemption had to present the notes either at the issuing bank or at one of seventeen “redemption cities” designated by the Comptroller.²³ Given transport costs in the 19th century, distant notes could circulate indefinitely at small discounts reflecting this physical cost of return.²⁴

To eliminate redemption frictions and concomitant discounts to par, the Currency Act of June 20, 1874, required each bank to maintain a redemption fund equal to 5 percent of its outstanding note circulation, deposited with the Treasury in lawful money.²⁵ The Treasury would then redeem notes presented at any subtreasury or designated agency, charging the redemption against the issuing bank’s fund and notifying the bank to replenish. The five percent fund was held in trust, did not earn interest, and was statutorily ring-fenced from the bank’s other obligations, meaning that, even in failure, the redemption fund remained available to honor outstanding notes.

After 1874, national banknotes circulated at par everywhere in the United States, a property they retained until the system’s wind-down.²⁶

2.4 Rationalizing banknote issuance – The Act of July 12, 1882 and the Gold Reserve Act of 1900

One remaining obstacle to banknote issuance was the complicated grid of charter date, capital size, and bond yield which determined a bank’s maximum note issue. Banks chartered before March 1865 could issue notes up to 100 percent of paid-in capital, those chartered between 1865 and 1870 faced a sliding scale that dropped to 60 percent for the largest banks, and those chartered after July 1870 were subject to yet another schedule capped at \$500,000.²⁷

²² Edward Flaherty, “A Brief History of Central Banking in the United States,” in *American History From Revolution to Reconstruction*, <https://www.let.rug.nl/usa/essays/general/a-brief-history-of-central-banking/national-banking-acts-of-1863-and-1864.php>

²³ Albany, Baltimore, Boston, Chicago, Cincinnati, Cleveland, Detroit, Leavenworth, Louisville, Milwaukee, New Orleans, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, and Washington, D.C. (Charleston and Richmond on Comptroller’s authority.)

²⁴ George A. Selgin, “Legal Restrictions, Financial Weakening, and the Lender of Last Resort,” *Cato Journal* 9, no. 2 (1989): 429–69

²⁵ Though sometimes referenced as the 1872 legislation, when it was introduced, and officially “An Act fixing the amount of United States notes, providing for a redistribution of the national-bank currency, and for other purposes.”

²⁶ Mark Carlson, “A brief history of bank notes in the United States and some lessons for stablecoins,” FEDS Notes, Board of Governors of the Federal Reserve System, February 6, 2026.

²⁷ See Charles W. Calomiris and Joseph R. Mason, “Resolving the Puzzle of the Underissuance of National Bank Notes,” *Explorations in Economic History* 45 (2008), Table 1, summarizing National Monetary Commission, *Laws of the United States Concerning Money, Banking, and Loans, 1778–1909*, S. Doc. No. 580, 61st Cong., 2d Sess.

The 1882 Act replaced this grid with a single uniform rule: Every national bank could issue notes up to 90 percent of the par value of the deposited bonds, not to exceed 90 percent of paid-in capital.²⁸ It also lowered the minimum bond-holding requirement to 25 percent of capital for banks with capital below \$150,000, easing entry for smaller institutions.²⁹

The Gold Standard Act of 1900 further reduced the burdens of issuance by raising maximum note issue from 90 percent to 100 percent of reserves’ par value and halving the federal note circulation tax from a semiannual one-half of one percent to one-quarter of one percent – though only for notes secured by the new 2 percent bonds (the “2s of 1930”) that the Act authorized the Treasury to issue to exchange for outstanding 5, 4, and 3 percent bonds.³⁰ This differential tax treatment was designed to, and did, channel banks into holding the new low-coupon long bonds as collateral. Lastly, the Act authorized national banks with as little as \$25,000 in capital in towns with populations of 3,000 or fewer. The result was a rapid expansion of the national bank system into the agricultural interior over the following decade.

The effect of these changes was substantial. National banknote circulation, which stood at roughly \$240 million in 1900, climbed past \$700 million by the eve of the Federal Reserve Act in 1913 (Fig. 5).

2.5 Coexistence after the Federal Reserve Act of 1913

The Federal Reserve Act of December 23, 1913, did not abolish national banknotes. Rather, it created a parallel currency, Federal Reserve Notes, to be issued by the twelve Federal Reserve Banks and backed initially by a combination of eligible commercial paper and a 40 percent gold reserve, which included a 5 percent redemption fund. For the next two decades, national banknotes and Federal Reserve Notes circulated simultaneously, were treated as interchangeable by the public and were listed jointly in the Treasury's circulation statistics.

The large jump in national banknotes in banknotes in 1914 was a result of the Act’s Aldrich-Vreeland emergency currency authority, originally enacted in 1908 in response to the Panic of 1907 and extended to June 30, 1915 (Fig. 5). The amendment allowed national banks to issue additional notes against approved non-Treasury collateral during a financial emergency, and was used substantially during the European liquidity crisis of August 1914, when approximately \$386 million in emergency currency was issued.

²⁸ Ibid.

²⁹ The Act also served to allow banks to renew their charters, as the original 20 year periods were drawing to a close. On the “Second Charter Period” and the new note design series initiated by the Act, see Bruce Champ, “A Brief History of the National Banking System,” Federal Reserve Bank of Cleveland Working Paper (Aug. 2007), §1.6. To prevent disorderly contractions in note supply, the Act limited the monthly retirement of notes to \$3 million system-wide and barred banks that retired their notes from re-issuing for six months. The Act also authorized the exchange of outstanding 3.5 percent bonds for new 3 percent bonds callable at the government’s pleasure.

³⁰ The cap on issuance relative to paid-in capital was also raised from 90 to 100 percent.

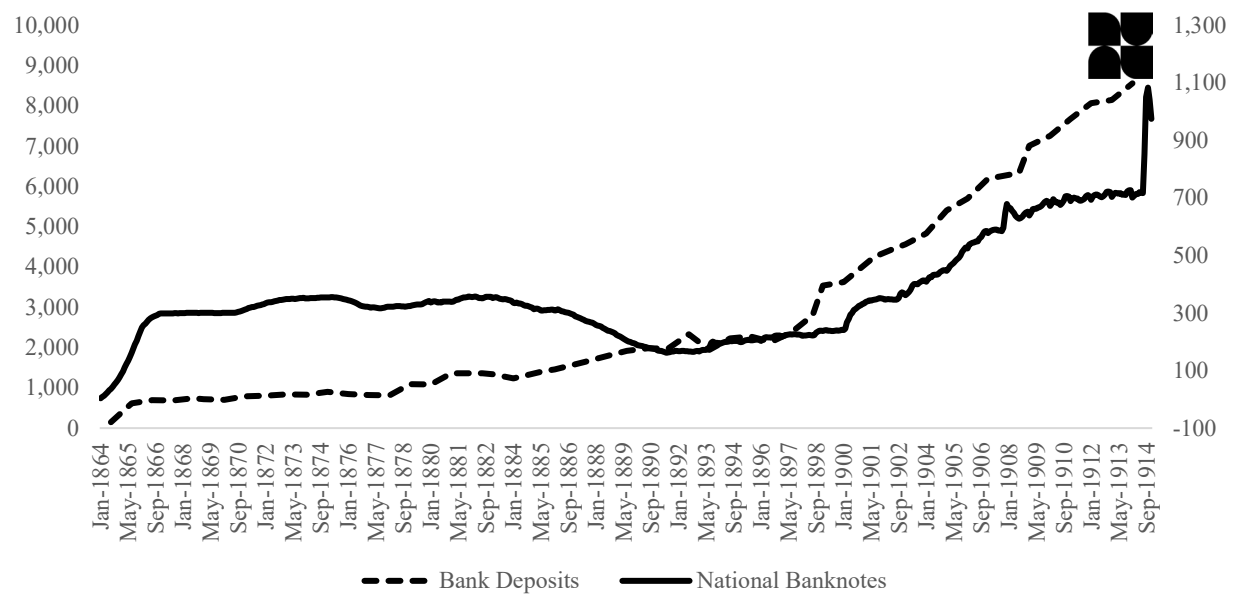


FIGURE 4 NATIONAL BANK DEPOSITS (LHS) AND NATIONAL BANKNOTES (RHS), 1864-1914 (\$MN) (FRED, FOURWINDS)

2.6 The 1932–1935 wind-down

National banknotes did not disappear because they failed. Nor did they disappear because they were replaced by higher-interest deposits, as has been argued by recent Federal Reserve research.³¹ Rather, they disappeared when, as part of an effort to consolidate monetary control under the Federal Reserve, the Treasury called the bonds that backed them.

Economists writing in the 1910s and 1920s, such as W.O. Weyforth in 1925, believed that the inelastic nature of national banknote collateral made their replacement a reform priority. “The unsatisfactory character of national bank notes, due principally to their inadequate elasticity,” he wrote, “had long been recognized by students of banking, and for some years prior to the passage of the Federal Reserve Act practically every plan advanced for currency or banking reform contained as an important factor some provisions for getting rid of these notes.”³²

But the Federal Reserve Act had not ushered in the end of national banknotes. Echoing the lack of a “natural” transition away from state banknotes in 1865, further regulatory action would be required to effectuate their retirement. The Federal Home Loan Bank Act of July 22, 1932, had temporarily authorized U.S. bonds bearing up to 3½ percent interest to serve as note collateral, where previous law had restricted the “circulation privilege” to 2 percent bonds.³³ But this privilege would expire in July of 1935. Taking advantage of the timing, Treasury Secretary Henry Morgenthau decided on March 11, 1935, to call all 2 percent Consols of 1930 and 2 percent Panama Canal Loan bonds, the only remaining circulation-privilege bonds, for redemption effective July 1 and August 1, 1935.³⁴

Shortly thereafter, the Banking Act of August 23, 1935, restructured the Federal Reserve System by creating the modern Board of Governors and Federal Open Market Committee, and permanently authorized Federal Reserve Banks to use U.S. government securities as collateral for Federal Reserve Notes.

³¹ Carlson, Mark. “A Brief History of Bank Notes in the United States and Some Lessons for Stablecoins.” FEDS Notes, Board of Governors of the Federal Reserve System, February 6, 2026.

³² W.O. Weyforth, “The Retirement of National Bank Notes,” *Journal of Political Economy* 33, no. 5 (October 1925): 531–49.

³³ Federal Home Loan Bank Act of July 22, 1932, ch. 522, Section 30, 47 Stat. 725, 740. On the Glass rider, see Herbert Hoover, “Statement on Signing the Federal Home Loan Bank Act,” July 22, 1932, available at <https://www.presidency.ucsb.edu/>

³⁴ Comptroller of the Currency, *Annual Report for 1935*, 1–6; U.S. Treasury, Press Release of March 11, 1935.

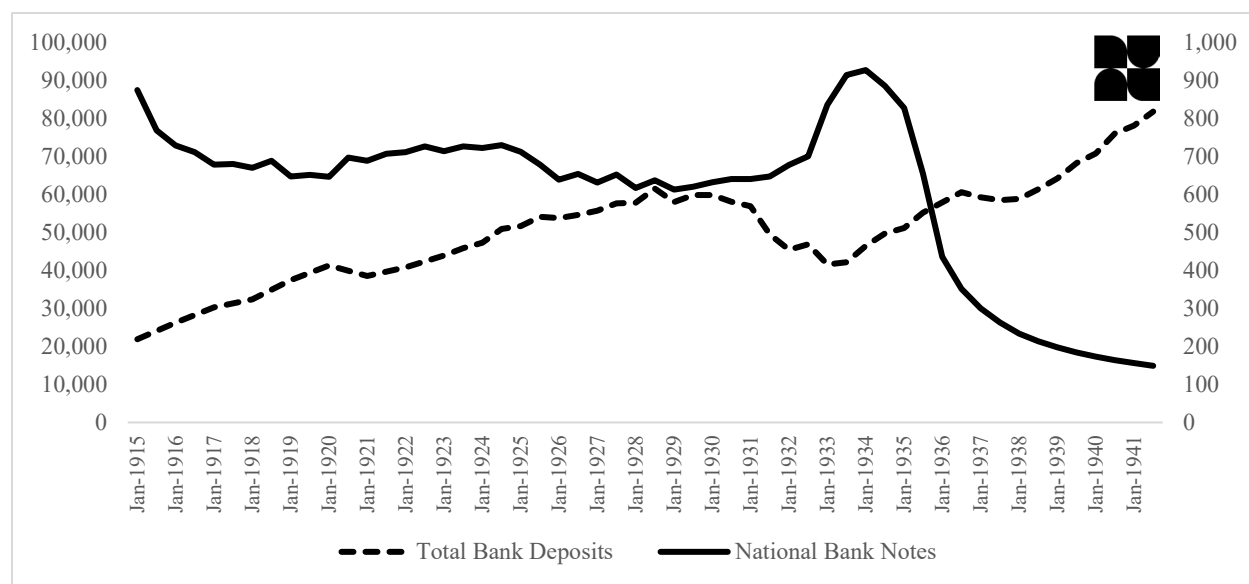


FIGURE 5 TOTAL BANK DEPOSITS (LHS) AND NATIONAL BANKNOTES (RHS), 1915-1941 (\$MN) (FRED, FOURWINDS)

Section 3: Anatomy of a GENIUS stablecoin

To an extent not yet widely appreciated, the GENIUS Act of 2025 recreates the mechanics of national banknotes, but for digital payments. This short exegesis focuses on how the act mandates risk-free, segregated, bankruptcy-remote reserves and how it eliminates redemption frictions and discounts to par through short-dated reserves.

Compared to the patchwork regulations of the early National Banking era, stablecoin reserve requirements are relatively straightforward. Payment stablecoin issuers must maintain reserves “on an at least 1 to 1 basis” against outstanding stablecoins, with collateral limited to U.S. currency and Federal Reserve Bank balances, “demand deposits (or other deposits that may be withdrawn upon request at any time) or insured shares at an insured depository institution,” Treasury bills, notes, or bonds with issued or remaining maturity of 93 days or less, overnight Treasury repurchase and reverse repurchase agreements, shares of government money market funds, or other similarly liquid federal government-issued assets approved by the primary regulator.³⁵

³⁵ The reserve composition is quoted below from the Act itself, Section 4 (a)(1)(A). “IN GENERAL.—A permitted payment stablecoin issuer shall—(A) maintain identifiable reserves backing the outstanding payment stablecoins of the permitted payment stablecoin issuer on an at least 1 to 1 basis, with reserves comprising—

(i) United States coins and currency (including Federal Reserve notes) or money standing to the credit of an account with a Federal Reserve Bank;

(ii) funds held as demand deposits (or other deposits that may be withdrawn upon request at any time) or insured shares at an insured depository institution (including any foreign branches or agents, including correspondent banks, of an insured depository institution), subject to limitations established by the Corporation and the National Credit Union Administration, as applicable, to address safety and soundness risks of such insured depository institution;

(iii) Treasury bills, notes, or bonds— (I) with a remaining maturity of 93 days or less; or (II) issued with a maturity of 93 days or less;

(iv) money received under repurchase agreements, with the permitted payment stablecoin issuer acting as a seller of securities and with an overnight maturity, that are backed by Treasury bills with a maturity of 93 days or less;

(v) reverse repurchase agreements, with the permitted payment stablecoin issuer acting as a purchaser of securities and with an overnight maturity, that are collateralized by Treasury notes, bills, or bonds on an overnight basis, subject to overcollateralization in line with standard market terms, that are— (I) tri-party; (II) centrally cleared through a clearing agency registered with the Securities and Exchange Commission; or (III) bilateral with a counterparty that the issuer has determined to be adequately creditworthy even in the event of severe market stress;

vi) securities issued by an investment company registered under section 8(a) of the Investment Company Act of 1940 (15 U.S.C. 80a-8(a)), or other registered Government money market fund, and that are invested solely in underlying assets described in clauses (i) through (v);

In addition, these reserves may not be “pledged, rehypothecated, or reused” except for narrow purposes related to “satisfying margin obligations in connection with investments in permitted reserves,” providing standard custody services, or “creating liquidity to meet reasonable expectations of requests to redeem payment stablecoins.”³⁶ Custodians of reserves, stablecoins, or private keys must “treat and deal with” any issuer property as belonging to that issuer, “take appropriate steps to protect” it from claims of the custodian’s creditors, and segregate the assets from the custodian’s own, with an omnibus-account exception.³⁷

Bankruptcy remoteness is established by granting stablecoin holders ratable first basis claims against the issuer reserves and amending the Bankruptcy Code to carve reserves out of the issuer’s bankruptcy estate, moving them beyond the issuer’s creditors:³⁸

- Section 11(a) gives stablecoin holders priority over the issuer and all other creditors with respect to required reserves, on a ratable basis among themselves, in any insolvency proceeding, federal or state. This priority arises only from the holding of a stablecoin.
- Section 11(c) extends the automatic stay (§362) to the reserves and creates a 14-day lift-stay procedure
- Section 11(d) amends Bankruptcy Code §507 to elevate any shortfall claims of stablecoin holders above all other §507(a) priorities, including administrative expenses
- Section 11(e) amends Bankruptcy Code §541(b) to exclude required reserves, meaning the reserves needed for 1:1 backing, from the bankruptcy estate

To prevent a run on reserves after bankruptcy, the redemption process incurs an automatic stay on bankruptcy filings. But to ensure timely redemptions, the Act requires the courts to begin redemptions within 14 days. Any shortfalls in the reserves become claims against the general estate which then have first priority over any other claims.

To ensure timely redemptions, the GENIUS regime relies not on a redemption fund but on reserves with a maximum maturity of 93 days. In addition to mandating redemption “for a fixed amount of monetary value,” i.e., at par,³⁹ the procedures for “timely redemption” must be publicly disclosed and can only be changed with at least seven days’ prior notice.⁴⁰ “Timely” is not defined in the statute, but the OCC’s proposed rule would set a two-business-day default with an automatic extension to seven calendar days when 24-hour redemption demand exceeds ten percent of outstanding issuance.⁴¹

(vii) any other similarly liquid Federal Government- issued asset approved by the primary Federal payment stablecoin regulator, in consultation with the State payment stablecoin regulator, if applicable, of the permitted payment stablecoin issuer; or

(viii) any reserve described in clause (i) through (iii) or clause (vi) through (vii) in tokenized form, provided that such reserves comply with all applicable laws and regulations;

³⁶ As defined in Section 4 (a)(2)

“PROHIBITION ON REHYPOTHECATION.—Reserves required under paragraph (1)(A) may not be pledged, rehypothecated, or reused by the permitted payment stablecoin issuer, either directly or indirectly, except for the purpose of—

(A) satisfying margin obligations in connection with investments in permitted reserves under clauses (iv) and (v) of paragraph (1)(A);

(B) satisfying obligations associated with the use, receipt, or provision of standard custodial services; or (C) creating liquidity to meet reasonable expectations of requests to redeem payment stablecoins, such that reserves in the form of Treasury bills may be sold as purchased securities for repurchase agreements with a maturity of 93 days or less, provided that either— (i) the repurchase agreements are cleared by a clearing agency registered with the Securities and Exchange Commission; or (ii) the permitted payment stablecoin issuer receives the prior approval of its primary Federal payment stablecoin regulator or State payment stablecoin regulator, as applicable.”

³⁷ Section 10.

³⁸ Section 11; new 11 U.S.C. Section 507(e).

³⁹ Section 2(22)(A)(ii)(I)

⁴⁰ Section 4(a)(1)(B)

⁴¹ 91 Fed. Reg. 10,202 (Mar. 2, 2026)

3.1 How GENIUS accommodates the banking industry

In its biggest departure from historical precedent, the GENIUS framework makes stablecoin issuance and custody capital-light at the bank holding company level – unlike the annual circulation tax, redemption fund, and overcollateralization that hobbled national banknote issuance for decades.

Case in point, customer stablecoin balances are not balance-sheet liabilities. Section 16 bars the federal banking agencies, the National Credit Union Administration (NCUA), and the SEC from requiring custodied stablecoins and other customer assets to be carried as a balance-sheet liability or to require additional regulatory capital. The one exception is capital needed to mitigate the operational risk inherent in offering custody or safekeeping for those assets.⁴²

Further guaranteeing a capital-light regime, Section 4 overrides the Collins Amendment, also known as section 171 of the Dodd-Frank.⁴³ Pulling the stablecoin issuer’s assets into the perimeter of the consolidated balance sheet would have required the holding company to post operational risk capital as well as leverage capital and risk-capital against non-Treasury reserves. GENIUS overrides this requirement. Instead, issuers “shall not be required to hold, with respect to such permitted payment stablecoin issuer and its assets and operations, any amount of regulatory capital in excess of the capital that such permitted payment stablecoin issuer must maintain.”

GENIUS ensures that banks are competitive in stablecoin servicing by guaranteeing that “nothing in this Act may be construed to limit the authority” of banks to (1) issue tokenized deposits, (2) use distributed ledgers for their books and records, and (3) provide custody for payment stablecoins, the private keys associated with them, and the reserves backing them.⁴⁴

At the same time, in a concession to the banking industry’s fears of deposit flight, the Act prohibits issuers from paying “the holder of any payment stablecoin any form of interest or yield (whether in cash, tokens, or other consideration) solely in connection with the holding, use, or retention of such payment stablecoin.”⁴⁵ The prohibition is narrow, reaching only issuers and only payments made with passive holding of a stablecoin. Currently, a third-party platform can pay yield to holders of any stablecoin, but pending OCC and FDIC rulemakings could close part of this gap with a rebuttable presumption that an issuer violates Section 4(a)(11) when an affiliate or “related third party” pays yield to holders.⁴⁶

Section 4: Comparing National Banknotes and Stablecoins

The analogy between payment stablecoins and digital national banknotes is structural. Both are risk-free transaction media backed by segregated, risk-free, bankruptcy-remote, first-priority reserves. But unlike national banks, banks today are not required to keep a redemption fund, do not face punishing transition taxes, do not pay a circulation tax, do not have issuance minima, have no additional regulatory capital requirements, and do not have bank capital-based issuance maxima. It is a much friendlier regime.

⁴² This codifies the substance of SEC Staff Accounting Bulletin No. 122 (SAB122) from January 23, 2025. SAB 122 rescinds SAB 121 from March 2022, which required any SEC-registered entity safeguarding crypto-assets to record those assets as a liability on its balance sheet at fair value, with a matching asset. That treatment was unique to crypto and made crypto custody prohibitively expensive for public banks. Under SAB 122, and now the GENIUS Act, custodians instead apply ordinary contingent-liability accounting. A liability is recognized only to the extent of probable loss, not the gross value of custodied assets, which brings crypto custody in line with the custody of other assets.

⁴³ The amendment specified that that consolidated capital requirements for bank holding companies be no less stringent than those applied to the insured depository institution subsidiary, and applied a non-risk-sensitive leverage floor.

⁴⁴ The Act codified into law developments already underway prior to enactment. The OCC between 2020 and 2021 issued three interpretive letters (IL) saying banks could legally do three crypto-related things: IL 1170, custody crypto assets for customers; IL 1172; hold dollar deposits that serve as stablecoin reserves; IL 1174, run distributed-ledger nodes and use stablecoins to facilitate payments. But in November 2021, **IL 1179** required that a bank obtain *supervisory non-objection* from its examiners. No bank received it. The OCC’s Interpretive Letter 1183 of March 7, 2025, rescinded the supervisory non-objection requirement of Interpretive Letter 1179, but this was itself superseded by Section 16 of the GENIUS Act.

⁴⁵ Section 4 (a)(B)(11)

⁴⁶ These are 91 Fed. Reg. 10,202 (Mar. 2, 2026) for the OCC and 91 Fed. Reg. 18,534 (Apr. 10, 2026) for the FDIC.

ANALOGIES		
	National banknotes	Payment stablecoins
Risk-free reserves	Bonds and other interest-bearing obligations of the United States	Treasury securities with less than 93 days remaining, insured deposits, currency, government MMFs.
Segregated reserves	Held in trust at the Treasury, off the issuing bank's balance sheet	Held on segregated balance sheet with independent custodian; no rehypothecation
Insolvency estate exclusion	Bonds held in segregated Treasury trust; on failure, declared forfeited to the U.S. and never entered the receiver's general asset pool	Section 11(e) amends Bankruptcy Code to exclude required reserves from the issuer's bankruptcy estate
Ratable first priority	Statutory first-priority claim on bond proceeds ahead of depositors, general creditors, and shareholders	Section 11(a): ratable first-priority claim of holders against required reserves in any federal or state insolvency
Mandatory at-par redemption	Par redemption at the Treasury after 1874; notes circulated at par nationwide	Par redemption required; "timely" redemption procedures publicly disclosed (OCC proposed rule: 2 business days, extendable to 7)
DISANALOGIES		
Redemption buffer	5% redemption fund in lawful money at the Treasury	None
Money mix	Bank decides between loans, securities, and notes	Customer decides between stablecoins and deposits
Reserve elasticity	Ultimately inelastic given gold standard	Elastic, fiat-based reserves
Yield	None	Indirectly through 3 rd party platforms.
Regime transition incentives	10% on state notes; redemption of circulation privilege bonds	None
Regulatory capital requirements	A combination of the redemption fund and bond deposit minimums.	None ⁴⁷
Circulation tax	1% then 0.5%	None
Minimum issuance	Bond deposit equal to at least 1/3 of paid-in capital or \$30,000 in 1864, lowered to ¼ of capital for banks with capital <\$150k in 1882; in 1913 set to ¼ of capital for banks with less than \$150k of capital, or \$50,000 otherwise	None
Maximum issuance	Notes ≤ 90% of bond par value in 1864, raised to 100% in 1900	None

Section 5: Safe as a National Banknote

If stablecoins are digital national banknotes, it is worth examining how noteholders fared historically. This paper's core innovation is to reconstruct the relationship between note redemption, bank failures, and general note circulation. Most of the data is digitized from various OCC annual report tables, though it is also enriched by a few series from FRED. We find that despite frequent bank failures, noteholders were made whole in every case because reserves deposited exceeded note redemptions in every documented case as late as 1925, when we have granular bank failure data. Beyond 1925, OCC and Treasury statistics fail to document any shortfalls in bank failure redemptions. In fact, notes often continued circulated after their issuing bank had failed, given the security of the reserves. As to the question of whether bank failures

⁴⁷ Currently none, delegated to regulators for rulemaking. Banks protected from additional capital requirements.

stressed the issuance and redemption mechanism, we find that they are dwarfed twenty-fold by voluntary redemptions for economic reasons.

The National Banking era saw numerous panics and frequent bank failures, given that the banking system was composed of numerous small unit banks, each exposed to local shocks and unable to diversify.⁴⁸ Unsurprisingly, depositors did not fare well, and so have been the primary topic of economic history writing covering this era. Gary Gorton has documented seven panics between 1873 and 1914, five of which forced a suspension of convertibility and six of which triggered the issuance of clearinghouse loan certificates, the era’s improvised substitute for a lender of last resort. Similarly, Sergio Correia, Stephan Luck, and Emil Verner found that roughly 20.4 percent of national banks chartered between 1863 and 1934 ultimately failed.

Banking Panics 1863-1935 ⁴⁹			
Panic Date	Decrease in Pig Iron Production	National Bank Failures	Percent Banks Failed
1873 September	51%	56	2.8%
1884 June	14%	19	0.9%
1890 November	34%	14	0.4%
1893 May	29%	74	1.9%
1896 October	4%	60	1.6%
1907 October	46.5%	20	0.3%
1914 August	47.1%	28	0.4%
1929 December	80% ⁵⁰	990	13.36%

Depositors did not fare well in this era. The 1903 OCC report places the recovery rate from all bank failures at around 71 cents on the dollar, up to that point. Earlier this year, Correia, Luck, and Verner published their study on bank failures, which drew on digitized OCC receivership records for all national bank failures from 1863 to 1934. They report that “81% of failures involved losses for depositors, and the average unconditional depositor recovery rate was 66%.”⁵¹ They find that bank failures were not predominantly driven by runs. Rather, “low recovery rates reflect, to a significant extent, unrealized losses on assets. Based on our framework, we show that the majority of failed banks appear to be fundamentally insolvent.”

Roger and Graham Tufts used the same OCC data and arrived at slightly different results. They analyzed 2,669 bank failures from 1863 to 1935 and concluded that in 80 percent of these cases depositors suffered losses. To get a sense of the magnitude of these losses, they looked to the 1939 OCC data. “In 1939 the OCC published the cumulative results for the 2,973 receiverships under its authority for the 76 years of its existence. In aggregate, \$1.662 billion in national bank assets had been liquidated. At the end of these receiverships, \$593.3 million in payments had been made on “claims proved” of \$942.9 million, representing a recovery paid to the uninsured creditors of 63 percent.”⁵²

The 1941 OCC report published a retrospective covering 2,818 failed national banks over the slightly longer period of 1864-1941, similarly revealing that 81 percent of all bank failures produced depositor losses (Fig.

⁴⁸ Calomiris, Charles, and Gary Gorton. “The Origins of Banking Panics: Models, Facts, and Bank Regulation.” *Financial Markets and Financial Crises*, edited by R. Glenn Hubbard, University of Chicago Press, 1991

⁴⁹ Failures and pig iron declines are calculated from the panic date to the business cycle trough. The panic dates are calculated by when when clearinghouses issued loan certificates. Bank failures are receiverships as reported by the OCC. This table partially reproduces Table 1 in Gorton, Gary. “Banking Panics and Business Cycles.” *Oxford Economic Papers*, vol. 40, no. 4, 1988, p 223., plus additional information for 1929 which the author lists separately.

⁵⁰ Not directly comparable with the rest of the table, and sourced from “Iron and Steel – Historical Statistics (Data Series 140)” — <https://www.usgs.gov/media/files/iron-and-steel-historical-statistics-data-series-140>

⁵¹ Correia, Sergio, Stephan Luck, and Emil Verner. “Failing Banks.” *Quarterly Journal of Economics* 141, no. 1 (February 2026). 166

⁵² Tufts, Roger, and Graham Tufts. “Shareholder Double Liability and Depositor Losses in Failed National Banks: 1865–1935.” *Moments in History*. Washington, DC: Office of the Comptroller of the Currency, November 2021. <https://www.occ.treas.gov/publications-and-resources/publications/economics/moments-in-history/moments-in-history-shareholder-double-liability.html>.

6). In 57 percent of all cases the recovery rate was less than 75 cents, and in half of all cases the recovery rate was less than 50 cents, meaning the unconditional recovery rate (if we take the midpoints of each quintile) was 65 cents.

In short, depositors could expect to lose 34 to 37 cents on the dollar in the event of a bank failure.

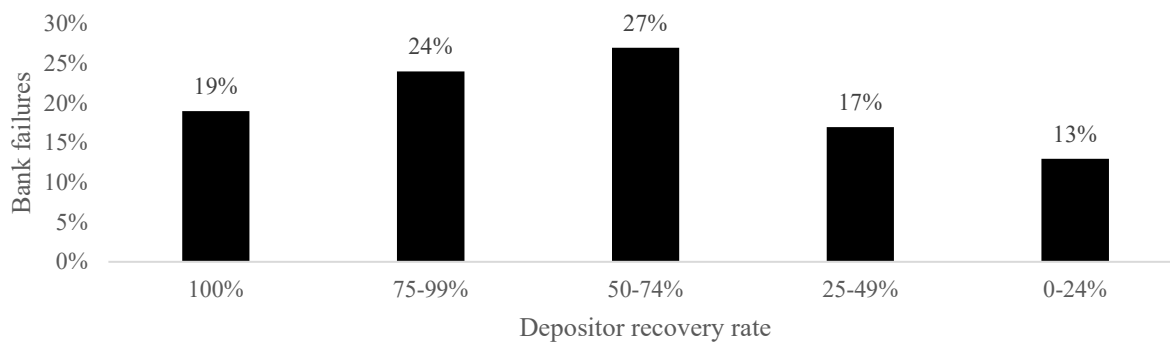


FIGURE 6 BANK FAILURES BY DEPOSITOR RECOVERY RATE QUARTILE, 1864-1941 (OCC 1941 ANNUAL REPORT)

Source	% failures with depositor losses	Depositor recovery rate	Date range
1903 OCC	--	71 cents on the dollar	1863-1903
1941 OCC	81%	65 cents on the dollar	1864-1941
Correia, Luck, Verner	81%	66 cents on the dollar	1863-1934
Tufts, Tufts	80%	63 cents on the dollar	1863-1935

The noteholder experience was the opposite. Across the entire seventy-two-year history of the National Banking System, from 1863 to 1935, no banknote is known to have suffered a loss at redemption. One could argue that absence of evidence is not evidence of absence, but the evidence is in fact plentiful.

Although note redemptions were substantial and frequent, redemptions due to bank failures were rare, and no note failed to redeem at par because note collateral exceeded note redemptions in every case. The terms of art used by the OCC are *cumulative deposits* – meaning lawful money deposited by a bank to cover note redemptions, often the proceeds of reserve bond sales – and *note redemptions* – which is the lawful money due to noteholders when they redeemed their notes.

It is striking how funds deposited consistently exceeded note redemptions. For example, the Treasurer’s 1876 report contains a bank-by-bank accounting of every failed national bank since 1863. All in all, forty-seven banks failed through July 1, 1876. Cumulative deposits to cover redemptions totaled \$6,198,222, but notes presented and redeemed totaled only \$5,324,367. The remaining balance of \$873,855 sat at the Treasury awaiting presentation of notes that were still circulating, lost, or destroyed. In the thirteen-year history of the system to that date, the cumulative shortfall, where the Treasurer had needed to redeem notes in advance of the corresponding collateral being credited, totaled only \$7,230, or roughly one-seventh of a percent of cumulative note redemptions. The Comptroller made this good as a routine reconciliation on July 22, 1876, and the issue disappeared after the creation of the five percent redemption fund. Longer time periods reveal a similar pattern. Between 1867 and 1908, the OCC reported \$511.7 million in cumulative deposits, but only paid out \$464.1 million in note redemptions across failed banks, voluntary liquidations, and banks reducing their circulation.

The failed-bank component, specifically, was remarkably small. Cumulative deposits on account of failed national banks totaled \$17.2 million through 1894, or ~3 percent of the aggregate pipeline. In contrast,

voluntary circulation reductions accounted for \$331.5 million over the same period, nearly twenty times higher. Despite the profitability of note issuance, banks frequently reduced circulation when falling bond yields made note issuance a relatively unprofitable use of capital.

By 1925, the Comptroller of the Currency reported that 629 receiverships had held a cumulative \$34.5 million in bonds at failure, securing far more than their \$31.1 million in outstanding circulation. At no point during the National Banking Era, including the panics of 1873, 1884, 1890, 1893, 1896, 1907, or 1914, did the public show concern about the value of national banknotes themselves relative to specie. Writing for the Federal Reserve, Mark Carlson notes that, “While banks were suspended, secondary markets developed in which claims on frozen bank deposits could be traded at a discount to specie and bank notes. Newspaper reports regarding these secondary markets suggest that there was not a differentiation between specie and bank notes.” In other words, the public did not question the value of the underlying collateral, so much that “timely redemption [was] assured even in the event of default by the issuing agent,” since “none of the financial stresses in the National Banking Era raised concerns about the nominal values of the Treasury obligations that secured the bank notes.”⁵³

A more granular, year-by-year examination of these statistics recapitulates the broader patterns. At first, one might worry that the share of redemptions due to failing banks is highest at the beginning of the National Bank era—the earliest year recorded by the OCC is 1867—when failure redemptions reach 97.1 percent of aggregate redemptions in 1868 (Fig. 7). However, the gross redemptions numbers make it clear that these early percentages were so high because very few banks had begun voluntary liquidations (due to management or a shareholder vote), and it was not until 1875 that banks had a formal process for retiring their notes and recovering pledged bonds from the Treasury. As soon as that process was functional, voluntary redemptions for economic reasons—namely the relatively higher returns of redeploying bank capital towards lending—dominated the redemption pipeline (Fig. 8).

⁵³ Carlson, “A brief history of bank notes,” FEDS Notes, February 6, 2026, <https://www.federalreserve.gov/econres/notes/feds-notes/a-brief-history-of-bank-notes-in-the-united-states-and-some-lessons-for-stablecoins-20260206.html>

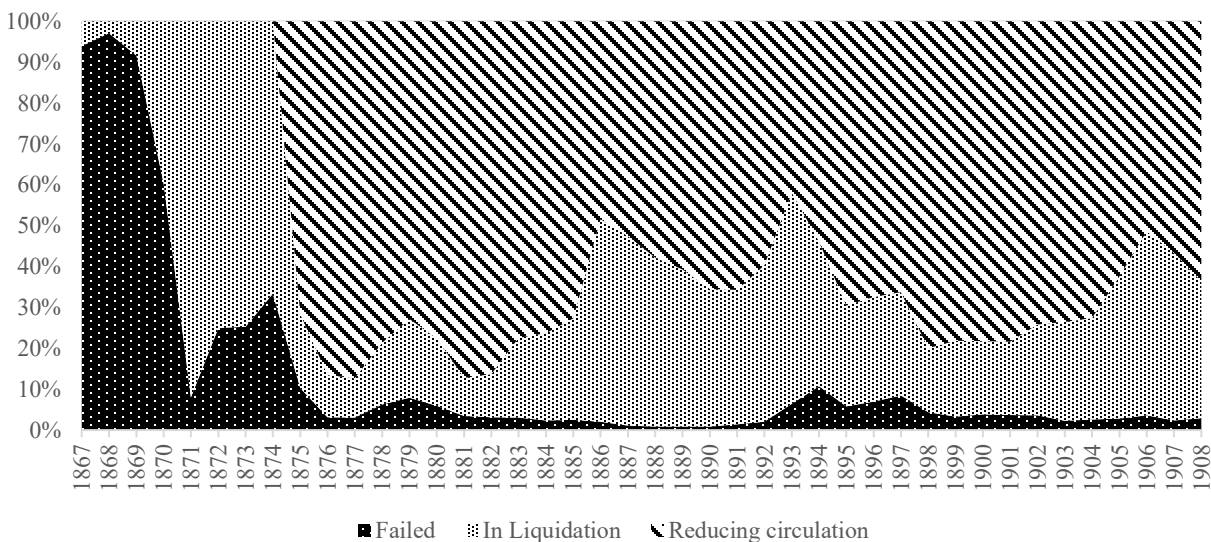


FIGURE 7 NATIONAL BANKNOTE REDEMPTIONS BY CATEGORY, % (OCC ANNUAL REPORTS)

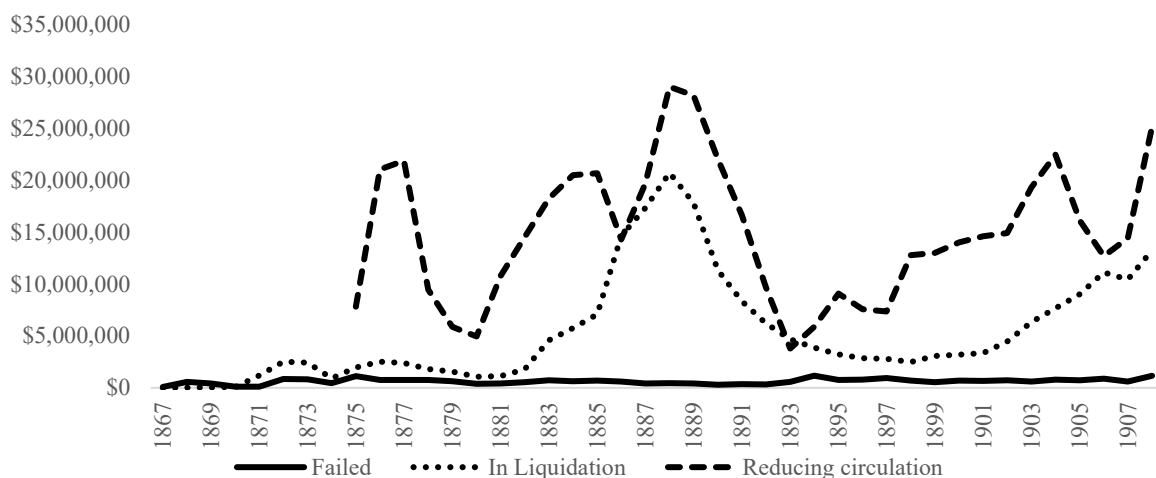


FIGURE 8 NATIONAL BANKNOTE REDEMPTIONS BY CATEGORY, \$ (OCC ANNUAL REPORTS)

Against total notes in circulation, redemptions for any reason were on average about 6.28 for the period of 1867-1908. Only for five years did redemptions affect more than 10 percent of total notes outstanding (Fig. 9).

Considered against total circulation, the redemptions due to failed banks shrink in importance. Up to 1908, OCC data shows that notes redeemed due to bank failures averaged 0.21 percent of notes in circulation. CLV and FRED data for those same years shows a similar range of 0.24 percent and 0.29 percent. The outlier year is 1894 with 0.57 percent (Fig. 10).

In contrast, voluntary redemptions frequently exceeded 5 percent, and sometimes 22 percent of that year's total circulation, as they did in 1889 in anticipation of the changes from the 1900 Gold Reserve Act (Fig. 10). If we had detailed data up to 1935 we would likely see a similar spike in economically-motivated redemptions in 1915, when the Aldrich-Vreeland emergency authority expired.

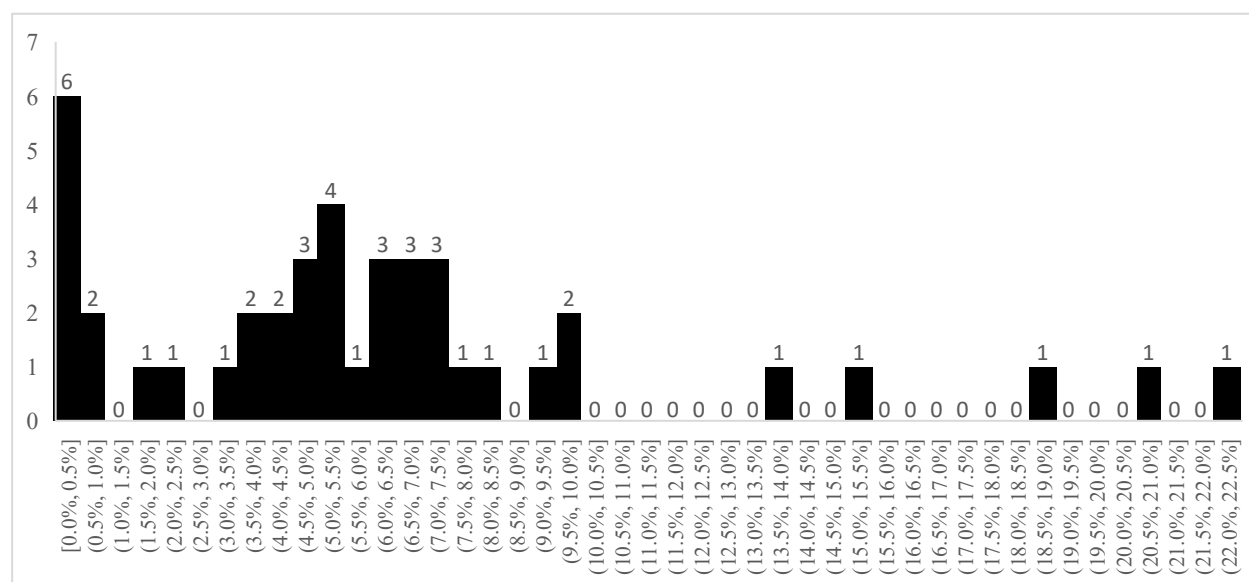


FIGURE 9 REDEMPTIONS AS SHARE OF AVERAGE YEARLY CIRCULATION, % (OCC ANNUAL REPORTS, FRED, AUTHOR'S CALCULATIONS)

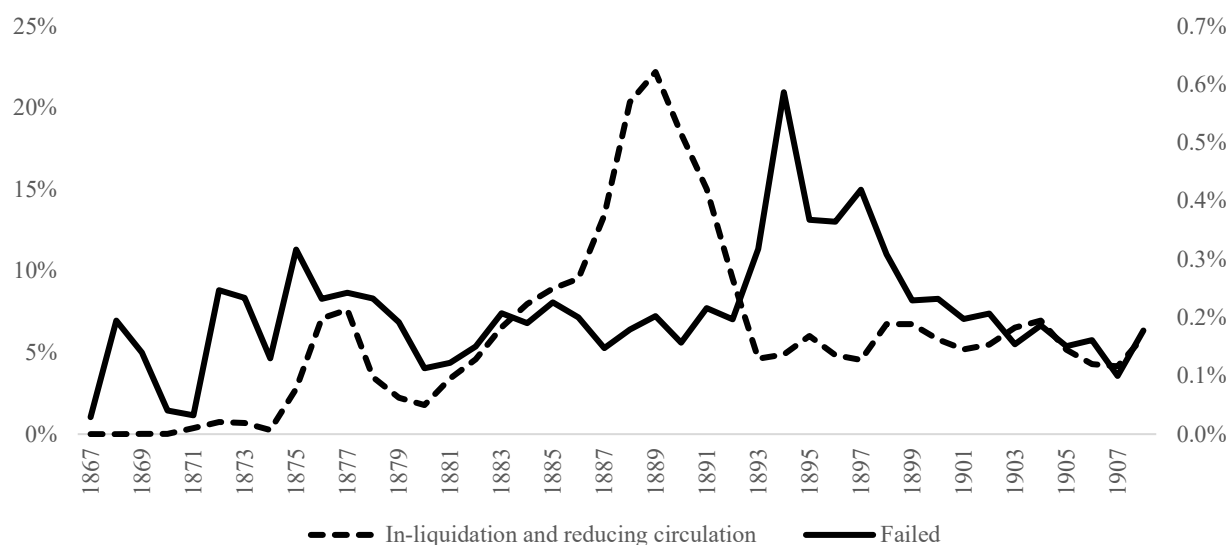


FIGURE 10 VOLUNATRY REDEMPTIONS (LHS) AND FAILED BANK REDEMPTIONS (RHS), % OF AVERAGE YEARLY CIRCULATION (OCC ANNUAL REPORTS, FRED, AUTHOR'S CALCULATIONS)

We might also consider the prevalence of notes issued by failed banks in any given year as a share of all banknotes as a way to gauge if and how bank failures affected banknote holders. On average, 13.4 percent of the notes in circulation in any one year were issued by banks that would ultimately fail before 1935 (Fig. 11). But this statistic exaggerates the riskiness of banknotes, or the inconvenience it imposed on holders. Every year, on average, between 0.45 and 0.46 percent of notes were issued by banks that failed that year. Even then, this average is highly skewed by the wave of failures in the Great Depression, when notes by soon-to-fail banks accounted for as much as 5.7 to 6.1 percent of total circulating notes (Fig. 12). These episodes were rare, and only in six out of 72 years did total circulation at failure exceed 1 percent of total circulation. For 55 of those years, it was below 0.5 percent (Fig. 13).

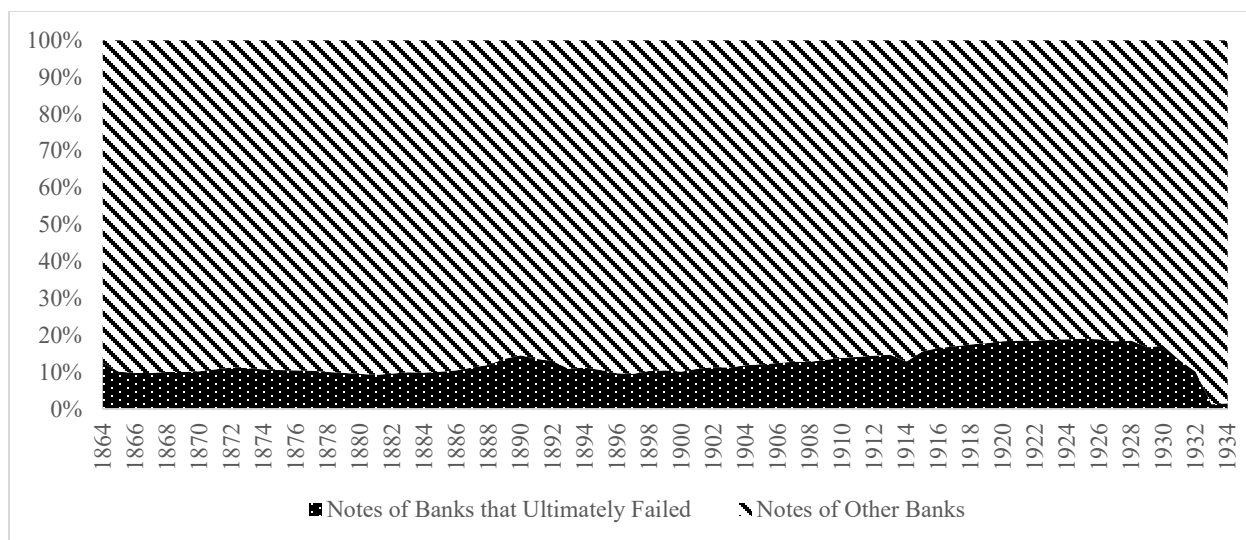


FIGURE 11 NOTES IN CIRCULATION FROM BANKS THAT ULTIMATELY FAILED, % (CLV, AUTHOR'S CALCULATIONS)

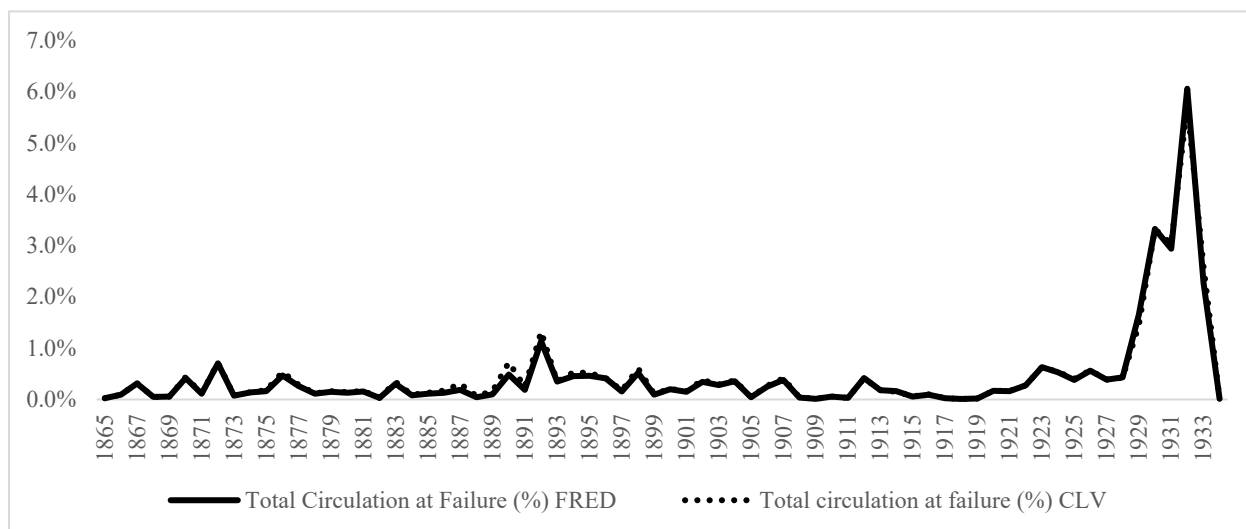


FIGURE 12 CIRCULATION OF FAILED BANKS BY YEAR, % OF TOTAL (FRED, CLV, AUTHOR'S CALCULATIONS)

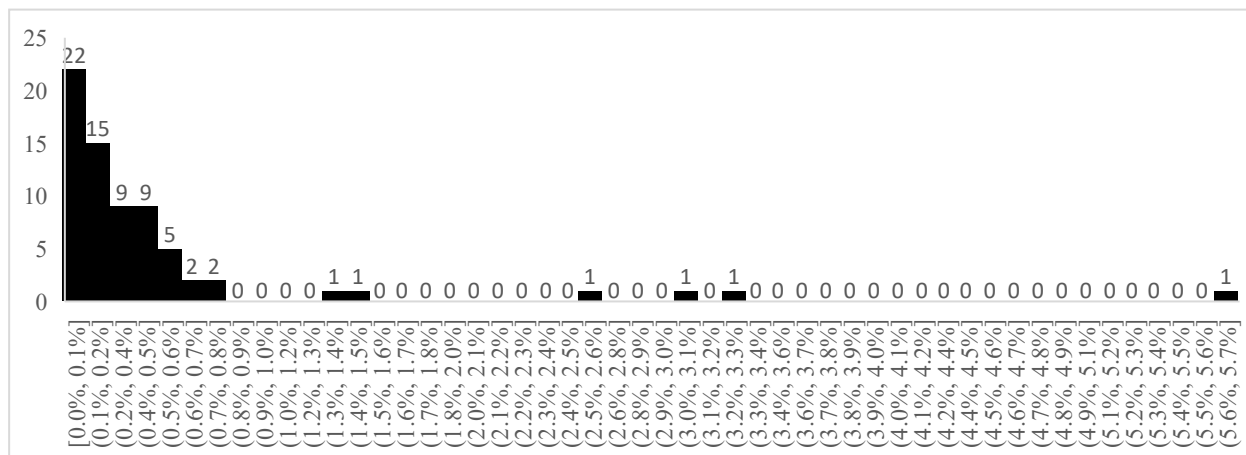


FIGURE 13 HISTOGRAM OF TOTAL CIRCULATION AT FAILURE, % (CLV, AUTHOR'S CALCULATIONS)

Section 6: Deposits, Banknotes, and Stablecoins Tend to Grow Together

History suggests stablecoins and deposits will grow in tandem. National bank deposits and national bank notes grew in tandem from 1864 to 1913 with a correlation of 0.82.⁵⁴ Federal Reserve Bank of New York researchers, in their October 2025 “Historical Perspective on Stablecoins,” show that the note share of bank assets declined as deposits rose, but the absolute volume of bank notes in circulation continued to grow. Why was this the case? Primarily because notes and deposits served distinct functions – notes for hand-to-hand payments and small-value transactions, deposits for medium- and long-range payments and store of value (Fig. 14).

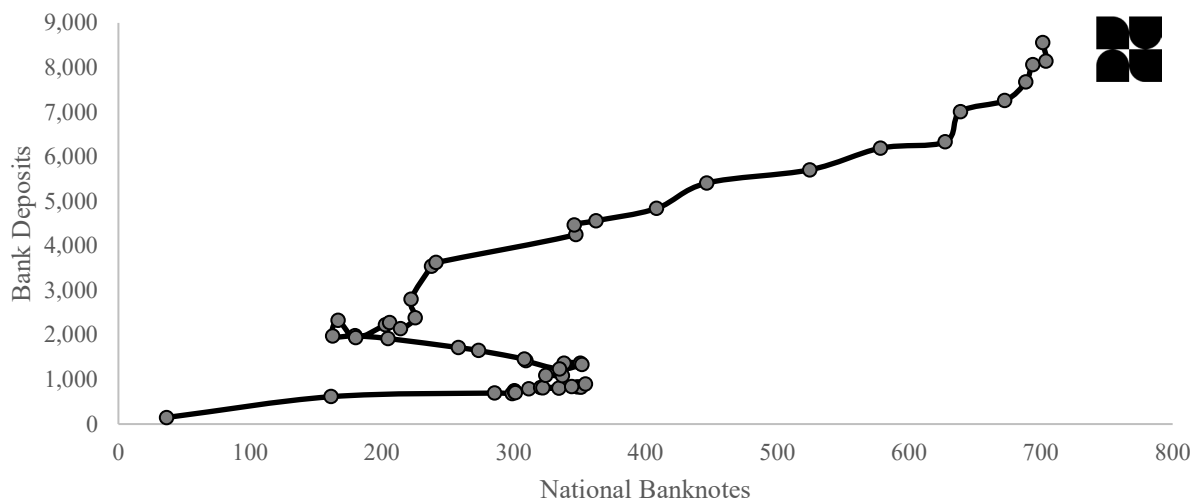


FIGURE 14 NATIONAL BANK DEPOSITS AGAINST NATIONAL BANKNOTES, 1864-1914 (\$MN) (FRED, FOURWINDS)

The parallel today is straightforward. Stablecoins offer superior cross-border, digitally native, and programmable payments. Bank deposits offer branch access, mortgage relationships, and the full bundle of services that low-rate-bank customers consistently choose over higher-yield alternatives. The two will likely grow together, not at each other’s expense. In fact, from 2018-2025, which includes the period after USDC began offering yield through Coinbase, both deposits and stablecoins grew with a correlation of 0.88 (Fig. 15).⁵⁵

⁵⁴ Niall Ferguson and Manny Rincon-Cruz. “Stablecoins Are the Future But Banks Will Survive,” Bloomberg, January 26, 2026. <https://www.bloomberg.com/opinion/articles/2026-01-26/stablecoins-are-the-future-but-won-t-kill-banks>

⁵⁵ Even abundant stablecoin rewards are unlikely to change this pattern of functional differentiation. Depositors at low-rate banks care not for yield or rewards but instead gravitate towards physical branches and bundled services like mortgages. Since 2008 U.S. banks have bifurcated into two distinct types: “high-rate banks, which offer deposit rates that are near market interest rates, and low-rate banks, which pay low deposit rates that are very insensitive to market rates.” Seventy to 80 percent of bank assets sit at low-rate banks, whose customers in 2024 passed up approximately 350 basis points of interest. And yet, the low-rate bank depositors remain put. Kundu, Shohini, Tyler Muir, and Jinyuan Zhang. “Diverging Banking Sector: New Facts and Macro Implications.” Working paper, UCLA Anderson School of Management, 2024.

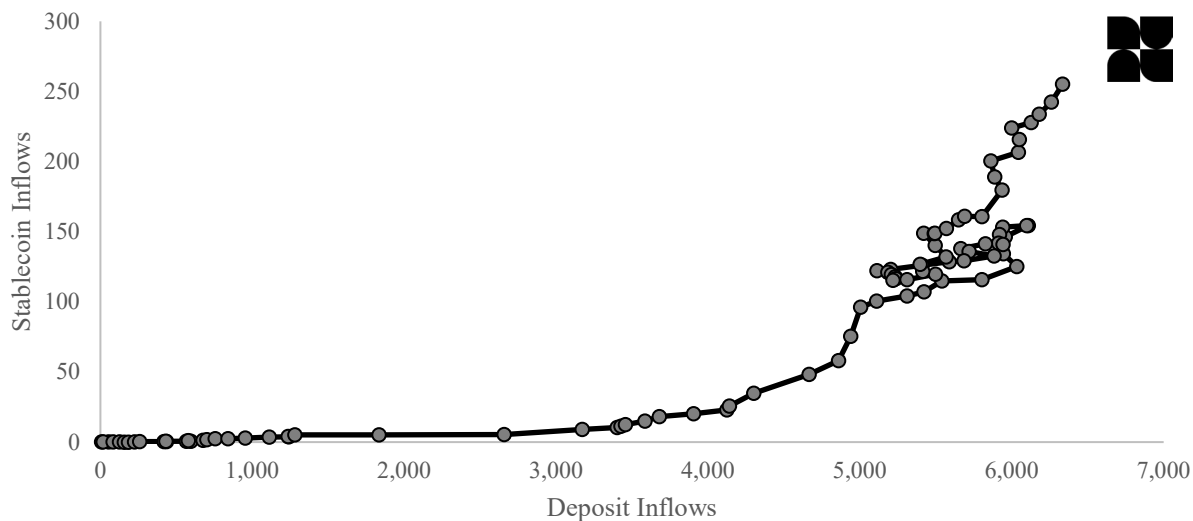


FIGURE 15 NET DEPOSIT AGAINST STABLECOIN INFLOWS, 2018-2025 (\$BN) (FRED, COINGECKO, FOURWINDS)

Section 7: Opportunity Costs Caused Banks to Under-issue Banknotes

Despite the demand for risk-free transaction media, national banks issued far fewer national banknotes than warranted by their bond holdings. The scholarly consensus is that this was due to opportunity costs from higher-yielding securities and loans, even when we account for the one percent banknote tax and overcollateralization that prevailed before 1900. Similar constraints could lead banks to under-issue stablecoins today.

The puzzle of national bank under-issuance was first articulated by Friedman and Schwartz in 1963:

Before 1890 the amount outstanding range around 20% of the possible maximum, by 1900 it had risen to about 28%, and by World War I to about 80%. The maximum was in fact approached only in the twenties, when for the first time U.S. bonds deposited to secure circulation and government deposits (which also required such security) nearly equaled the total of eligible bonds. Before 1905, the capital stock of national banks set narrower limits to their maximum possible note issue than did the total of eligible bonds, but the actual issue did not approach this lower limit either. Thereafter the capital stock of national banks exceeded the total of eligible bonds and hence was not the effective limit on note issue. Yet, despite the failure to use fully the possibilities of note issue, the published market prices of government bonds bearing the circulation privilege were apparently always low enough to make note issue profitable except in the years 1884-1891. The fraction of the maximum issued fluctuated with the profitability of issue, but the fraction was throughout lower than might have been expected. We have no explanation for this puzzle.

In short, note issuance was very profitable on the margin, but both the aggregate supply of bonds and bank capital could have supported much larger note issues.

Why was this the case? Using hand-collected information on 2,090 national banks in 1880, 3,540 in 1890, and 3,861 in 1900, Charles Calomiris and Joseph Mason argue that the answer was opportunity costs, cross-sectionally and over time:

Banks with low lending opportunities maximized their ability to issue notes but could not issue more than a certain amount. Other banks, with high lending opportunities, chose not to issue more notes. Years in which bond yields (the required backing for notes) were higher saw greater propensities to issue notes, holding constant lending opportunities. Models of redemption costs associated with issuing national bank notes (per se) do not explain the substantial cross-sectional variation in the extent to which national banks chose to issue

national bank notes. The theory that redemption cost explains underissuance of notes is inconsistent with the observed lack of a general relationship between bank note issuance and excess reserve holdings.⁵⁶

In short, they found that the variation in national banknote issuance is “traceable to county, state, and bank-specific characteristics related to the profitability of lending.”⁵⁷

This suggests that banks today could also face high opportunity costs and will fail to encourage (or will actively discourage) deposit-to-stablecoin conversions among their own customers. A cursory read of recent statistics reveals that banks, community banks, and credit unions all have a large loans-to-securities spread and have increased their holdings of higher-yield short-term debt and loans relative to 2015. For example, in fiscal year 2025, JPMorgan reported a spread of 290 bps⁵⁸ and Wells Fargo 280bps.⁵⁹ Net interest margin is also higher for all three institution types in 2025 relative to 2015, suggesting rising opportunity costs to holding low-yield Treasury securities, and by extension, rising opportunity costs to issuing stablecoins.

Section 8: Conclusion – Payments, Credit, and the Specter of Financial Repression

Payment stablecoins are digital national banknotes, and the passage of the GENIUS Act is a back to the future moment. Blockchains might have replaced paper, but the same principle of separating payments from credit has been used to secure digital money. Although economists today remember the National Banking era as a cautionary tale given frequent and numerous bank failures – with special emphasis on the lack of a state central bank to act as lender of last resort – a historian would instead notice that noteholders were paid 100 cents on the dollar in every documented failure, even when about 20.4 percent of all banks chartered in this era failed. In contrast, depositors lost money 80 percent of the time, recovering on average between 63 and 66 cents.

Of course, this is not to say that the National Banking system was without its shortcomings. The system evolved as a patchwork of statutes that reached their final form only after 1900. Moreover, national banknote supply was inelastic and insufficient, given a shrinking stock of eligible Treasury bonds against a gold base. These shortcomings motivated economists and bureaucrats to centralize monetary control under a central bank. But these shortcomings are non-issues in 2026.

Nonetheless, the end of the national banknote regime has proven expensive. After 1935, private banknotes disappeared but deposits (buttressed by deposit insurance) were expected to serve what had previously been two distinct functions: a risk-free payments medium and funding for risk-bearing credit. But even as the number of bank failures decreased, each banking crisis affects more assets and deposits (Fig 16).

According to FDIC estimates across 1,617 failures and assistance cases, the “total cost of FDIC failed-bank resolutions in 1980–94 is \$36.3 billion. The estimated cost of the savings and loan debacle is \$160.1 billion, of which an estimated \$132.1 billion was borne by taxpayers.”⁶⁰ The Global Financial Crisis of 2007–09 cost the FDIC tens of billions more and required several trillion dollars in emergency Federal Reserve interventions to stabilize repurchase agreements collateralized by private securitizations, a system which

⁵⁶ Calomiris and Mason, 353.

⁵⁷ Ibid, 340. The authors compute the issuance propensity for the sub-sample of banks not at corner solutions of minimum and maximum issuance, as well as its mean and standard deviation. To capture the significance of any of the opportunity cost variables, they measure the effect on issuance propensity from increasing each opportunity cost variable by its standard deviation. They compare the magnitude of these effects to the standard deviation of issuance propensity, to see if the variable drives any meaningful change.

⁵⁸ “Consolidated average balance sheets, interest and rates” <https://www.sec.gov/Archives/edgar/data/19617/000162828026008131/jpm-20251231.htm>, page 315

⁵⁹ Table 4, “Average Balances, Yields and Rates Paid” <https://www.wellsfargo.com/assets/pdf/about/investor-relations/sec-filings/2025/exhibit-13.pdf>

⁶⁰ FDIC, *History of the Eighties - Lessons for the Future*, Vol. I. Washington: FDIC, 1997. Chapter 1, “The Banking Crises of the 1980s and Early 1990. p 39 <https://www.fdic.gov/publications/history-eighties-lessons-future-volume-1>

Gary Gorton has described as an unregulated shadow banking system.⁶¹ The regional banking crisis of March 2023 cost approximately \$34.1 billion in concentrated losses on three institutions: Silicon Valley Bank with \$16.1 billion, Signature Bank with \$2.4 billion, and First Republic with \$15.6 billion.⁶² These crises revealed that, ninety years after the introduction of federal deposit insurance, the largest banks in the country still relied on ex post federal action to make uninsured depositors whole.

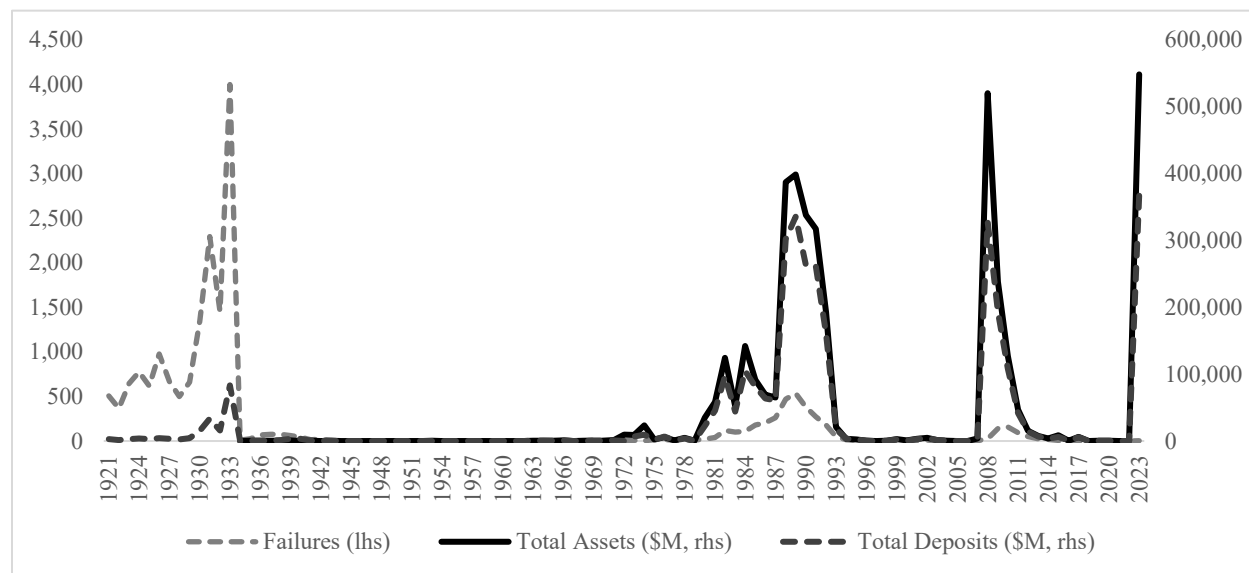


FIGURE 16 BANK FAILURES, INFLATION-ADJUSTED ASSETS & DEPOSITS, 1934-2023 (FDIC, AUTHOR’S CALCULATIONS)

Each intervention to mitigate banks’ credit risks begets moral hazard, as John Cochrane has argued:

Each new step follows naturally to clean up the unintended consequences of the last one. The expansion is nonetheless breathtaking. Beyond massively ramping up the intensity, scope, and detail of financial institutions and markets regulation, central banks are now trying to control the underlying market prices of assets, to keep banks from losing money in the first place. The little old lady swallowed a fly, then a spider to catch the fly, a bird to catch the spider, and so on. Horse is on the menu. Will we eat?

Ironically, the regulatory focus on minimizing banking risk has transformed banks from engines of real economic activity into some of the largest holders of government securities. While credit to the real economy as a share of GDP has roughly tripled from 48 to 155 percent from 1945 to 2022, the share of bank credit to the real economy has decreased slightly from 36 to 33 percent over the same period, and well below its peak of 54 percent in the 1970s (Fig. 17).

⁶¹ Gorton, Gary B. *Slapped by the Invisible Hand: The Panic of 2007*. New York: Oxford University Press, 2010.

⁶² Board of Governors of the Federal Reserve System, Office of Inspector General. *Material Loss Review of Silicon Valley Bank*. Evaluation Report 2023-SR-B-013, September 25, 2023. <https://oig.federalreserve.gov/reports/board-material-loss-review-silicon-valley-bank-sep2023.htm>; FDIC Office of Inspector General. *Material Loss Review of First Republic Bank*. Report No. EVAL-24-03, November 2023. <https://www.fdicioig.gov/sites/default/files/reports/2023-11/EVAL-24-03.pdf>; FDIC Office of Inspector General. *Material Loss Review of Signature Bank of New York*. Report No. EVAL-24-02, October 2023. <https://www.fdicioig.gov/sites/default/files/reports/2023-10/EVAL-24-02.pdf>.

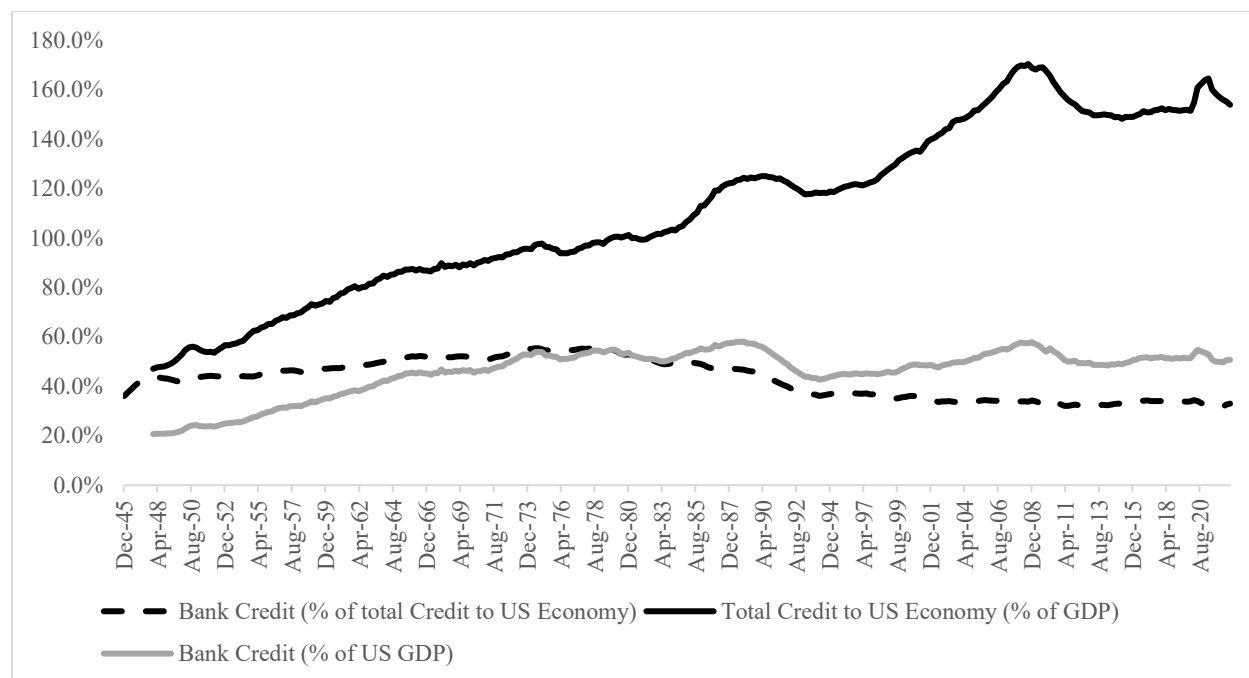


FIGURE 17 TOTAL CREDIT AND BANK CREDIT TO THE US ECONOMY, 1945-2022 (BIS AND FEDERAL RESERVE)

One important justification for government intervention is the role of timely and accurate payments to the real economy. The lesson of the National Bank era is that we can safeguard the integrity of the payments system by simply segregating its reserves from credit deposits. Stablecoin technology and its codification in the GENIUS Act offers an accidental windfall, should we choose to pursue it.

Although reforms in 1863 and 2025 were both motivated by a powerful fiscal imperative, the monetization of federal debt during the National Banking era had limits. Because the dollar was ultimately convertible into specie, there was only so much public debt the Treasury could credibly issue. Bonds had become scarce enough that by the 1900s the national banking system had absorbed most of them. This inelasticity was among the chief defects that motivated reformers to create the Federal Reserve in 1913.

But 2026 is a very different world. Since 1971 we have lived in a fiat world, and since 2008 we have lived in a world of exponentially increasing public debt. Safe assets are scarce no longer. In fact, the real risks might be of an entirely different nature.

On the one hand, without competition from issuers able to pay stablecoin yield, banks might chronically under-issue stablecoins just as they under-issued national banknotes. This will limit the spread of the digital dollar at home and abroad. On the other hand, GENIUS might succeed in backing a growing volume of digital payments entirely with short-term government obligations and creating captive demand, exactly as Chase and Lincoln had hoped in 1863. But there is a word for this—financial repression.

The GENIUS Act revives a relatively old solution to the age-old problem of “a government obliged to borrow.” Any challenges it creates for the United States will be entirely different and of a more modern character.

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