

PROTECTING THE SOVEREIGN’S MONEY MONOPOLY

Gary B. Gorton and Jeffery Y. Zhang

INTRODUCTION	956
I. OVERVIEW OF THE DIFFERENT TYPES OF MONEY	961
A. <i>Economic Theory of Money</i>	961
B. <i>Taxonomy of Money in the Modern Economy</i>	962
C. <i>Circulating Private Money Is a Problem</i>	966
II. THE CIRCULATION OF PRIVATELY ISSUED MONEY	969
A. <i>Circulating with Unlimited Liability</i>	969
1. <i>Scottish Free Banking</i>	970
2. <i>English Inland Bills of Exchange</i>	971
B. <i>Circulating with Limited Liability</i>	974
III. THE SOVEREIGN’S MONEY MONOPOLY	977
A. <i>England</i>	977
B. <i>United States</i>	979
C. <i>Canada</i>	981
D. <i>Sweden</i>	985
IV. CHALLENGING THE ASSUMPTION OF COEXISTENCE	988
A. <i>Runs on Stablecoin Issuers</i>	988
B. <i>Legislative Options for Coexistence</i>	990
C. <i>Downsides of Coexistence</i>	992
V. NATIONAL BANK ACT FOR THE TWENTY-FIRST CENTURY	994
A. <i>The Carrot: Developing Better Alternatives to Stablecoins</i>	995
B. <i>The Stick: Deterring the Adoption of Stablecoins</i>	997
1. <i>Banning Stablecoins</i>	997
2. <i>Taxing Stablecoins</i>	998
CONCLUSION	1002
APPENDIX	1003

PROTECTING THE SOVEREIGN'S MONEY MONOPOLY

Gary B. Gorton and Jeffery Y. Zhang*

Sovereign states have held a monopoly over the production of circulating money for well over a century. Governments, not private entities, issue circulating money. The advent of stablecoins—privately issued digital money that can circulate—raises the question of the sovereign's money monopoly from the grave. Should private money circulate alongside sovereign money in the twenty-first century? We argue against coexistence to preserve financial stability and monetary sovereignty.

Through the lens of economic theory, we explore the coexistence question by revisiting the original debates that led to the sovereign's money monopoly in England, the United States, Canada, and Sweden. In each case, private money first circulated because of a limited money supply—namely, a shortage of specie—and because there were no better alternatives. However, after the development of modern central banking and sovereign fiat money, these governments banned or taxed the circulation of private money to improve financial stability and gain greater control over the money supply. Notably, in the United States, Congress enacted a 10% tax on the circulation of private money in 1865 that stayed on the books until 1976, when Congress deleted provisions from the Internal Revenue Code deemed “obsolete” or “unimportant and rarely used” from a tax perspective.

Today, many U.S. lawmakers assume that coexistence is the optimal path forward and are crafting legal guardrails under that assumption. We argue that lawmakers should instead seek to maintain the government's monopoly by creating a better sovereign alternative in the form of a central bank digital currency (the carrot) and deterring the adoption of stablecoins through a ban or a tax (the stick).

INTRODUCTION

During the nineteenth and twentieth centuries, every country treated the production of circulating money as a monopoly given to the sovereign, particularly to their central banks.¹ Milton Friedman and Anna Schwartz—two of the most prominent monetary economists in history—concluded that “[t]he question of government monopoly of hand-to-hand currency is likely to remain

* Gary Gorton is the Frederick Frank Class of 1954 Professor of Finance at the Yale School of Management. Jeffery Zhang is an Assistant Professor at the University of Michigan Law School. The authors thank Mathias Jimenez, Chris Minns, and Angela Redish for providing data as well as Shay Elbaum, Will Hanna, and the University of Michigan Law Library's Faculty Research Service for research assistance. The authors also thank Reuven Avi-Yonah, Dan Awrey, Jordan Bleicher, Jess Cheng, Barry Eichengreen, Trevor Feigleson, Daniel Halberstam, Howell Jackson, Alfred Johnson, Naomi Lamoreaux, Nicholas Tabor, Daniel Tarullo, and David Warsh for their thoughtful suggestions. The authors are grateful to participants at seminars/conferences hosted by Columbia Law School, Michigan State University College of Law, University of Michigan Law School, USC Gould School of Law, and Yale Law School for their questions and comments. Finally, the authors thank the editors of the *Alabama Law Review* for their time and effort in preparing this Article for publication.

1. Bruce G. Carruthers & Melike Arslan, *Sovereignty, Law, and Money: New Developments*, 15 ANN. REV. L. & SOC. SCI. 521, 522 (2019)

a largely dead issue.”² But the issue has come alive today with the advent of stablecoins,³ which are a subset of cryptocurrencies.

Unlike Bitcoin and Ethereum—cryptocurrencies whose prices are highly volatile because they are backed by nothing—stablecoins are backed by safe assets so they can “trade at par” and be used as the medium of exchange for domestic and cross-border transactions.⁴ For example, some stablecoins are backed by U.S.-dollar-denominated assets so that each stablecoin can be redeemed for one U.S. dollar.⁵ Given this ability to trade at par, stablecoin issuers hope that consumers could one day use stablecoins (in their digital wallets) to buy groceries or pay for gas in the same way that consumers today use cash (in their physical wallets). Stablecoins are created as a form of circulating money, a digital version of cash that can be transferred between digital wallets on the blockchain.⁶

Stablecoins raise two fundamental questions for financial regulation. First, what exactly are stablecoin issuers? Second, should private stablecoins coexist with sovereign money? In *Taming Wildcat Stablecoins*, we argue that stablecoin issuers are economically equivalent to unregulated banks.⁷ Like banks, stablecoin issuers produce short-term debt but in the form of digital tokens. These issuers therefore suffer from run risk and have the potential to systemically endanger the financial system.⁸ The President’s Working Group on Financial Markets, led by the U.S. Department of the Treasury, agreed with this characterization in their *Report on Stablecoins*, issued in November 2021.⁹ This Article now addresses the coexistence question, which has not received as much

2. Milton Friedman & Anna Schwartz, *Has Government Any Role in Money?*, 17 J. MONETARY ECON. 37, 52 (1986).

3. See Anton N. Didenko et al., *After Libra, Digital Yuan and COVID-19: Central Bank Digital Currencies and the New World of Money and Payment Systems 2* (Eur. Banking Inst., Working Paper No. 65, 2020) (“While the thousands of Bitcoin progenies could be ignored, safely, by regulators, Facebook’s proposal for Libra, a global stablecoin, brought an immediate and potent response from regulators globally. *This proposal by the private sector to move into the traditional preserve of sovereigns—the creation of currency—was always likely to provoke a roll-out of sovereign digital currencies by central banks.*”) (emphasis added).

4. Christian Catalini et al., *Some Simple Economics of Stablecoins*, 14 ANN. REV. FIN. ECON. 117, 118 (2022).

5. *Id.* at 123.

6. *Id.* at 118.

7. Gary B. Gorton & Jeffery Y. Zhang, *Taming Wildcat Stablecoins*, 90 U. CHI. L. REV. 909, 911 (2023).

8. See *id.* at 918–19 (arguing that privately produced monies like stablecoins are not information insensitive and therefore suffer from run risk when not properly regulated).

9. See PRESIDENT’S WORKING GRP. ON FIN. MKTS., THE FED. DEPOSIT INS. CORP., & THE OFF. OF THE COMPTROLLER OF THE CURRENCY, REPORT ON STABLECOINS 2 (2021) (“To address risks to stablecoin users and guard against stablecoin runs, legislation should require stablecoin issuers to be insured depository institutions”) (emphasis omitted). The report was the result of a collaborative effort by the Department of the Treasury, the Board of Governors of the Federal Reserve System, the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission (CFTC), the Federal Deposit Insurance Corporation (FDIC), and the Office of the Comptroller of the Currency (OCC).

attention but is arguably even more important because it implicates monetary sovereignty in addition to financial stability.

Today, many members of Congress and senior policymakers appear to view coexistence as possible and desirable. Former Senator Pat Toomey proposed the Stablecoin Transparency of Reserves and Uniform Safe Transactions (TRUST) Act in April 2022.¹⁰ Senators Kirsten Gillibrand and Cynthia Lummis proposed the Responsible Financial Innovation Act in June 2022.¹¹ Representative Patrick McHenry proposed the Clarity for Payment Stablecoins Act in July 2023.¹² All favored coexistence. Federal Reserve Chair Jerome Powell nodded toward the coexistence view during his 2022 confirmation hearings, saying that private stablecoins could compete with sovereign digital money (otherwise known as a central bank digital currency, or a “CBDC” for short).¹³ Then-Federal Reserve Vice Chair Lael Brainard, in a speech at the 2022 Monetary Policy Forum in New York, stated that “the coexistence of CBDC alongside stablecoins and commercial bank money could prove complementary, by providing a safe central bank liability in the digital financial ecosystem, much like cash currently coexists with commercial bank money.”¹⁴

The notion of coexistence is also widespread among the academic community. Indeed, the vast majority of academic scholarship on this topic has advocated for well-regulated coexistence.¹⁵ But this idea of coexistence between

10. See Stablecoin Transparency of Reserves and Uniform Safe Transactions Act, S. 5340, 117th Cong. (2022).

11. Lummis-Gillibrand Responsible Financial Innovation Act, S. 4356, 117th Cong. (2022).

12. Clarity for Payment Stablecoins Act, H.R. 4766, 118th Cong. (2023).

13. See Allyson Versprille & Jesse Hamilton, *Powell Says Private Coins Could Compete With Fed Digital Dollar*, BLOOMBERG (Jan. 11, 2022, 12:45 PM), <https://www.bloomberg.com/news/articles/2022-01-11/powell-says-private-coins-could-compete-with-fed-digital-dollar>.

14. Lael Brainard, Governor, Bd. of Governors of the Fed. Rsrv. Sys., *Preparing for the Financial System of the Future*, Speech at the 2022 U.S. Monetary Policy Forum (Feb. 18, 2022); see also Andrew Ackerman, *Digital Dollar Could Coexist With Stablecoins, Fed Vice Chairwoman Says*, WALL ST. J. (May 26, 2022, 1:58 PM), <https://www.wsj.com/articles/feds-brainard-to-tell-panel-digital-dollar-could-coexist-with-stablecoins-11653570037>.

15. See, e.g., Arthur E. Wilmarth, Jr., *It's Time to Regulate Stablecoins as Deposits and Require Their Issuers to Be FDIC-Insured Banks*, 41 BANKING & FIN. SERVS. POL'Y REP. 1 (2022); Howell E. Jackson & Morgan Ricks, *Locating Stablecoins Within the Regulatory Perimeter*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Aug. 5, 2021), <https://corpgov.law.harvard.edu/2021/08/05/locating-stablecoins-within-the-regulatory-perimeter/> [<https://perma.cc/8755-H44V>]; Timothy G. Massad, *Regulating Stablecoins Isn't Just About Avoiding Systemic Risk*, BROOKINGS (Oct. 5, 2021), <https://www.brookings.edu/research/regulating-stablecoins-isnt-just-about-avoiding-systemic-risk/> [<https://perma.cc/YC4S-QPQA>]; Dan Awrey, *Bad Money*, 106 CORNELL L. REV. 1 (2020); see also Alexandros Vardoulakis et al., *Lessons from the History of the U.S. Regulatory Perimeter*, BD. OF GOVERNORS OF THE FED. RSRV. SYS.: FEDS NOTES (Oct. 15, 2021), <https://www.federalreserve.gov/econres/notes/feds-notes/lessons-from-the-history-of-the-u-s-regulatory-perimeter-20211015.html> [<https://perma.cc/ZTS3-FHKY>] (noting that the growth of stablecoins presents a challenge to today's bank regulatory perimeter); Hilary J. Allen, *DeFi: Shadow Banking 2.0?*, 64 WM. & MARY L. REV. 919 (2023); Wilko Bolt et al., *Getting the Balance Right: Crypto, Stablecoin, and CBDC* (DeNederlanscheBank, Working Paper No. 736, 2022); Catalini et al., *supra* note 4. But see Hilary J. Allen, *§=€=Bitcoin?*, 76 MD. L. REV. 877, 877 (2017) (arguing that “the best way to contain [cryptocurrency] risks is

private and sovereign circulating monies has already been tried and rejected—and for good reasons.

Our Article proceeds as follows: In Part I, we distinguish between different types of money in the modern financial system to advance the debate. Table 1 presents a snapshot of our taxonomy. On the horizontal axis, we divide money into “private money” and “sovereign money” based on the economics literature. Private money is a claim where the issuer (obligor) is a private firm, and sovereign money is a claim where a federal government is either the issuer or the guarantor.¹⁶ On the vertical axis, we split money into “token-based” (i.e., circulating) money and “account-based” (i.e., non-circulating) money.¹⁷ There is, of course, coexistence between account-based sovereign and private money. But the same is not true for circulating money—certainly not on any scale—and has not been true in any country for well over a century. Thus, when we speak of “coexistence” in this Article, we are referring to coexistence between private and sovereign forms of token-based, circulating money. We end Part I with a discussion of why coexistence presents a serious problem to financial stability and monetary sovereignty from an economics perspective.

TABLE 1: EXAMPLES OF DIFFERENT TYPES OF MONEY

	Private Money	Sovereign Money
Token-Based Money	Stablecoins	Cash
Account-Based Money	Money Market Funds	Insured Bank Deposits

In Parts II and III, we turn to financial history to support the economic analysis in Part I. Part II revisits a few historical instances in the eighteenth and nineteenth centuries when private money circulated. The key takeaway is that private money circulated when *there were no better alternatives*—specifically, when there was a shortage of metal coins issued by the sovereign. This justification for circulating private money is irrelevant today. Part III turns to case studies

for regulated institutions to out-compete virtual currencies by offering better payment services, thus consigning virtual currencies to a niche role in the economy”).

16. See MORGAN RICKS, *THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION* 32–34 (2016) (analyzing the contemporary monetary landscape and distinguishing private money from sovereign money). To be sure, sovereignty exists on a spectrum. It is not zero or one. Our presentation of “private” versus “sovereign” in this 2x2 matrix is meant to be an illustration.

17. Another way to think of circulating, token-based money is as a “bearer instrument.” A bearer instrument refers to an instrument that is payable to anyone possessing the instrument and is negotiable by transfer alone. The transaction history of the instrument does not matter.

of transitions from coexistence to the sovereign monopolies in England, the United States, Canada, and Sweden.¹⁸

In Part IV, we first present the current legislative proposals for coexistence and then challenge their desirability. Based on economic theory and financial history, the most compelling reason for sovereign states to possess monopolies over circulating money was *financial stability*. The issuers of circulating private money were vulnerable to runs; credible sovereign money alleviated this risk. The same vulnerability exists today with respect to the circulation of stablecoins. Our financial regulatory framework is geared toward account-based private money and is poorly suited to address the risks associated with circulating private money.

Another consideration was *monetary sovereignty*, which has implications for control over the money supply. Paul Tucker, a former deputy governor of the Bank of England, once offered the most succinct statement of the dominant approach to monetary operations: “We are able to implement monetary policy because the economy has a demand for central bank money and, *as monopoly suppliers*, we can set the terms on which we provide it.”¹⁹ This power would be diluted if private stablecoins circulated widely as a competitor to sovereign money. While financial stability risks are common to both account-based and token-based private money, this monetary sovereignty concern is unique to the latter.

In Part V, we propose a different path forward. We argue that Congress should preserve the government’s monopoly by creating a better sovereign alternative in the form of a central bank digital currency (the carrot) and deter the adoption of stablecoins through either a ban or tax (the stick). The carrot is essential because there is global demand for private stablecoins, and Congress cannot simply legislate away a transnational issue. Providing a better alternative to private stablecoins would directly confront the underlying demand for such a monetary instrument. However, as history has shown, a deterrent is also needed. In the United States, the road to the sovereign’s money monopoly began in 1863, when Congress passed the National Bank Act.²⁰ This legislation helped finance the Civil War by creating national banks to issue a uniform national currency. Adoption of the new national currency was not immediate. To incentivize uptake, Congress repeatedly passed legislation over the next decade that taxed transactions made in currencies other than the national

18. These historical case studies are not intended to be a comprehensive treatment of the history of money. They are a subset of that history focused on the circulation of bank notes. For an exploration of prior periods and other forms of circulating money, see, for example, CHRISTINE DESAN, *MAKING MONEY: COIN, CURRENCY, AND THE COMING OF CAPITALISM* (2015).

19. Paul Tucker, Exec. Dir. and Member, Monetary Pol’y Comm. of the Bank of Eng., *Managing the Central Bank’s Balance Sheet: Where Monetary Policy Meets Financial Stability*, Speech to Mark the Fifteenth Anniversary of Lombard Street Research (July 28, 2004) (emphasis added).

20. National Bank Act of 1863, ch. 58, 12 Stat. 665 (codified as amended at 12 U.S.C. § 38).

currency.²¹ A similar carrot-and-stick approach today would preserve the government's monopoly over circulating money and would mitigate the substantial risks to financial stability and monetary sovereignty.

I. OVERVIEW OF THE DIFFERENT TYPES OF MONEY

We present an economic theory on what makes an instrument “money” in a modern market economy, and then we provide a taxonomy of the different types of money that exist today. This taxonomy is important because many believe that private money and sovereign money have always coexisted, but that depends crucially on the type of money discussed. Account-based private money (e.g., money market funds) and account-based sovereign money (e.g., FDIC-insured bank deposits) have indeed coexisted, but the same is not true of circulating private money and circulating sovereign money. We conclude Part I by examining the economic risks that arise from the proliferation of circulating private money (e.g., stablecoins).

A. Economic Theory of Money

As described in the economics literature, money has several important properties, including a store of value, a unit of account, and a medium of exchange.²² Money's most obvious property, although not explicitly stated, is that it also must satisfy the no-questions-asked (NQA) principle, which requires the money be accepted in a transaction without due diligence on its value.²³ In other words, NQA means both parties to a transaction must accept the money at par—a ten-dollar bill is accepted as worth ten dollars, not a penny less.

This concept is not new. In congressional hearings in 1894, Charles C. Homer, the President of the Second National Bank, identified the desirable properties of money: “I believe in having a good [bank] note; a note that will pass from hand to hand *without the least question or doubt* as to its bringing the amount for which it was issued.”²⁴ In 1890, the Supreme Court of Indiana noted the same intuition in *Hancock v. Yaden*:

It is not simply the government, as a government, that is interested in the power to establish and maintain a standard of value; for to every citizen engaged in any business of life it is of vital importance that there should be a

21. See *1863–1865: Founding of the National Banking System*, OFF. OF THE COMPTROLLER OF THE CURRENCY, <https://www.occ.gov/about/who-we-are/history/1863-1865/index-occ-history-1863-1865.html> [<https://perma.cc/KQB4-DD94>].

22. See, e.g., N. GREGORY MANKIW, *PRINCIPLES OF ECONOMICS* (2014).

23. The NQA principle originated with Bengt Holmström, *Understanding the Role of Debt in the Financial System 2* (Bank for Int'l Settlements, Working Paper No. 479, 2015).

24. *Hearings Before the Committee on Banking and Currency*, 53d Cong. 118 (1894) (statement of Charles C. Homer) (emphasis added).

fixed and unchanging standard. Without it, business, except of the most meager kind, would be at an end, and commerce would be practically annihilated.²⁵

Indeed, the court was asserting that it would be *economically efficient* to have a “fixed and unchanging standard” of value. These observations are essentially saying that money should circulate at par with no questions asked. The price should be constant at par—a dollar is a dollar—so one cannot take advantage of the less-informed in transactions. In this case, there is no incentive or need for more information on the assets backing the money; both parties to any transaction trust the backing implicitly. As we’ll explore, this hasn’t been consistent throughout history.

In more technical terms, money should be *information insensitive*.²⁶ Money is special because its price is not supposed to change. The price adjustments that occur because of changes in supply and demand—like the price adjustments for apples or oranges—do not apply to money. A one-dollar bill should always transact for one dollar without question. However, if the price is designed to remain fixed, then the law of supply and demand dictates that the quantity must change. These quantity adjustments occur most dramatically during a bank run, when people no longer wish to hold any of the money in question.

These ideas have been formalized in the economics literature over the past few decades. In particular, Dang, Gorton, and Holmström show that the optimal way to produce information-insensitive money is by designing the money to be debt and backed by debt—hence, debt-on-debt.²⁷ Examples include free bank notes backed by state bonds, demand deposits backed by portfolios of loans, and repurchase agreements (repos) backed by debt collateral.²⁸ Debt-on-debt maximizes information insensitivity. We use this theory of money in market economies as the benchmark going forward.

B. *Taxonomy of Money in the Modern Economy*

In certain academic and policy discussions, some commenters assert that private money has always coexisted with sovereign money and, therefore, the proliferation of stablecoins is no big deal. They view stablecoins as just another deposit account at a bank.²⁹ That is false. To understand why that is a mistaken

25. *Hancock v. Yaden*, 23 N.E. 253, 255 (Ind. 1890).

26. See Tri Vi Dang et al., *The Information View of Financial Crises*, 12 ANN. REV. FIN. ECON. 39, 40–43 (2020).

27. See Gary Gorton & George Pennacchi, *Financial Intermediaries and Liquidity Creation*, 45 J. FIN. 49 (1990); Holmström, *supra* note 23; Dang et al., *supra* note 26.

28. Dang et al., *supra* note 26.

29. See, e.g., Wilmarth, Jr., *supra* note 15; Todd Phillips, *Congress Must Include Deposit Insurance in Stablecoin Legislation*, AMER. BANKER (Dec. 2, 2022, 10:18 AM), <https://www.americanbanker.com/opinion/congress-must-include-deposit-insurance-in-stablecoin-legislation> [<https://perma.cc/GR55-6Q87>].

view, we categorize types of money into a 2x2 matrix: (1) circulating private money, (2) circulating sovereign money, (3) account-based private money, and (4) account-based sovereign money. Private money is a claim where the “issuer (obligor) is a private firm, not a public institution,” and sovereign money is a claim where a “federal government [or other sovereign entity] is either [the] issuer or [the] guarantor.”³⁰ Account-based money refers to money in a specific bank account, whereas token-based money can circulate as a medium of exchange outside of accounts.³¹

Under their present design, stablecoins fall into the upper-left quadrant of the matrix because they are privately issued and can circulate as tokens.³² They are digital versions of cash but privately produced.³³ This is why stablecoin issuers claim that consumers will one day use stablecoins (stored in their digital wallets) to pay for items in the same way that consumers now use cash (stored in their physical wallets). Stablecoins are designed as digital substitutes to physical cash. In this Article, we treat stablecoins as they are designed—digital tokens that can circulate like money.

TABLE 2: EXAMPLES OF DIFFERENT TYPES OF MONEY

	Private Money	Sovereign Money
Token-Based Money	Stablecoins	Cash
Account-Based Money	Uninsured Bank Deposits Money Market Funds	Insured Bank Deposits Federal Reserve Accounts

Account-based private money is created by—and its valuation is backed by—the assurances of a private party. That entity also maintains the account where it is stored and transacted. Suffice it to say, account-based private money

30. Ricks, *supra* note 16.

31. MKTS. COMM. & COMM. ON PAYMENTS AND MKT. INFRASTRUCTURES, BANK FOR INT'L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES 4 (2018), <https://www.bis.org/cpmi/publ/d174.pdf> [<https://perma.cc/65LH-PV93>].

32. RODNEY GARRATT & HYUN SONG SHIN, BANK FOR INT'L SETTLEMENTS, STABLECOINS VERSUS TOKENISED DEPOSITS: IMPLICATIONS FOR THE SINGLENES OF MONEY 1 (2023), <https://www.bis.org/publ/bisbull73.pdf> [<https://perma.cc/223E-L2N7>].

33. Gerard DiPippo, *Options for a Digital Dollar: Central Bank Digital Currency and Stablecoins*, CTR. FOR STRATEGIC & INT'L STUD. (Feb. 24, 2022), <https://www.csis.org/analysis/options-digital-dollar-central-bank-digital-currency-and-stablecoins> [<https://perma.cc/NZ6B-D66B>].

is everywhere in today's economy, running in the trillions of dollars.³⁴ Repos constitute nearly \$2.5 trillion in account-based private money, and shares of retail and institutional money market mutual funds add up to over \$4.5 trillion in account-based private money. Aside from these fancy-sounding financial instruments, even airline miles are technically account-based private money. The airline offers travelers value in exchange for loyalty and flights, and the airline maintains the customer's balance.

The most straightforward example of account-based sovereign money is FDIC-insured deposits at banks. These deposits are sovereign money because the federal government is the guarantor for the deposits.³⁵ (Uninsured bank deposits, on the other hand, are account-based private money.)

Next, consider the distinction between account-based money and token-based money. Account-based money refers to money in a specific bank account. For instance, a buyer writing a check to a seller links the payment to the buyer's bank account. That money—specifically, U.S. dollars—will be deposited in the seller's bank account when the check clears. Account-based money does not circulate. It does not pass hand-to-hand in a chain of transactions that are separate from the check-clearing process because the identity of the check writer matters. Consequently, the check's recipient cannot endorse the check and use it to buy groceries because the grocery store does not know the check writer. Some may argue that bank deposits circulate via payment platforms like PayPal or Venmo.³⁶ While these technology platforms certainly allow for increased transactions, they do not deviate from the model described here. Money transferred through PayPal or Venmo still goes from one account to another. This is simply another form of check writing (account-based) money.³⁷

Circulating money, on the other hand, is not history dependent or identity linked. It is fungible like cash: A ten-dollar bill is a ten-dollar bill. It does not matter who held the ten-dollar bill 100 transactions ago because it is not linked to an individual's identity. Technically, gift cards are circulating money, but they

34. Because account-based private money is so ubiquitous in our economy, some do not believe that coexistence will present a significant issue. *See, e.g.*, U.S. DEP'T OF THE TREASURY, THE FUTURE OF MONEY AND PAYMENTS 4 (2022) (asserting that “[p]ublic and private money have coexisted throughout U.S. history”). But, as we argue, there is an important distinction between circulating private money and account-based private money.

35. *See supra* text accompanying note 30.

36. *See generally* COMM. ON PAYMENTS AND MKT. INFRASTRUCTURES, BANK FOR INT'L SETTLEMENTS, NON-BANKS IN RETAIL PAYMENTS (2014), <https://www.bis.org/cpmi/publ/d118.pdf> [<https://perma.cc/GC5F-HCMM>] (explaining the role of non-banks such as PayPal and Venmo in the economy).

37. *See also* Jess Cheng & Joseph Torregrossa, *A Lawyer's Perspective on U.S. Payment System Evolution and Money in the Digital Age*, BD. OF GOVERNORS OF THE FED. RSRV. SYS.: FEDS NOTES (Feb. 4, 2022), <https://www.federalreserve.gov/econres/notes/feds-notes/a-lawyers-perspective-on-us-payment-system-evolution-and-money-in-the-digital-age-20220204.html> [<https://perma.cc/F2LL-KNLC>] (explaining the modern-tiered U.S. payment system).

are constrained within specific ecosystems (e.g., the Starbucks ecosystem) and therefore are not able to scale up to an amount that could challenge circulating sovereign money as a medium of exchange in the broader economy. A more entertaining example comes in the form of “ride tickets” at amusement parks, as shown below in Figure 1. Ride tickets are not history dependent or identity linked. They are the amusement park version of cash, and they cannot be used outside of the park.

FIGURE 1: AMUSEMENT PARK TICKETS AS CIRCULATING PRIVATE MONEY³⁸



Stablecoins, on the other hand, are circulating money, worth hundreds of billions, and have the capacity to scale up into the trillions of dollars.³⁹ They can be used in economy-wide transactions like cash. In other words, stablecoins can be substitutes for U.S. dollars in the broader economy. Thus, when we discuss the “coexistence” of private and sovereign money, we are specifically referring to the coexistence of two forms of circulating, token-based money.

38. FUNLAND REHOBOTH, <https://funlandrehoboth.com> [<https://perma.cc/K6E8-4FFJ>].

39. The market capitalization of stablecoins is currently north of \$130 billion. See *Top Stablecoin Tokens by Market Capitalization*, COINMARKETCAP, <https://coinmarketcap.com/view/stablecoin/> [<https://perma.cc/9Z9C-QT9M>]. This market capitalization has the potential to increase by multiples in a short amount of time. Indeed, in 2019, the market capitalization of the top ten stablecoins was under \$5 billion. See *Market Capitalization of the 10 Biggest Stablecoins from January 2017 to June 19, 2022*, STATISTA (June 2022), <https://www.statista.com/statistics/1255835/stablecoin-market-capitalization/> [<https://perma.cc/P4SV-6CH6>]. If stablecoins are adopted for everyday transactions, it could easily reach over a trillion in circulation. According to Visa's fiscal year 2022 highlights, its payments volume exceeded \$11.6 trillion. See *Annual Report*, VISA, at 2, <https://annualreport.visa.com/financials/default.aspx> [<https://perma.cc/F53V-X4DL>].

C. Circulating Private Money Is a Problem

From an economics perspective, there are two crucial problems with respect to circulating private money: (1) heightened risks to financial stability and (2) the erosion of monetary sovereignty. We discuss each in turn before proceeding to historical case studies in Parts II and III.

Financial Stability. The further proliferation of stablecoins would weaken financial stability. When investors start questioning the robustness of the money that they are holding, they will almost surely pull their funds from the issuer, causing a “run” on the issuer of the money. This financial stability risk has manifested itself throughout history, as seen with uninsured bank deposits before the advent of FDIC deposit insurance,⁴⁰ repos during the 2008 financial crisis,⁴¹ and money market funds in 2008 and 2020.⁴²

To be sure, the economic theory of information insensitivity applies to both account-based private money and token-based private money. Although both account-based private money and token-based private money share this common financial stability weakness, there is one notable difference between the two: account-based money is the dominant form of money in today’s economy by design and has corresponding regulatory guardrails. Since the early twentieth century, generations of financial regulators have established guardrails, like FDIC deposit insurance and accompanying supervisory requirements, around account-based money.⁴³ Notably, deposit insurance is not designed for circulating money. During bank runs, the government insures funds sitting in accounts at FDIC member institutions, not cash existing outside of those accounts.⁴⁴

If the current deposit insurance model was applied to stablecoins, it would only insure the amount of stablecoins in a particular holder’s account and not the stablecoins circulating outside of the account. To see this distinction more clearly, suppose your account at the bank has \$100 in it—\$80 in private stablecoins and \$20 in sovereign cash. You withdraw \$70 in stablecoins and spend these digital coins buying groceries. Those \$70 of stablecoins are now circulating in the economy and are no longer connected to you or your account. The current deposit insurance framework safeguards the \$10 of stablecoins and \$20 of cash remaining in your account at the bank. The \$70 of circulating

40. Gorton & Zhang, *supra* note 7.

41. Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo*, 104 J. FIN. ECON. 425, 426 (2012).

42. Mark E. Van Der Weide & Jeffery Y. Zhang, *Tale of the Tape: Lessons from the 2008 and 2020 Financial Crises*, 26 STAN. J. L. BUS. & FIN. 413, 417 (2021).

43. *See generally* NICHOLAS K. TABOR ET AL., FED. RESRV. BD., A BRIEF HISTORY OF THE U.S. REGULATORY PERIMETER (2021), <https://www.federalreserve.gov/econres/feds/files/2021051pap.pdf> [<https://perma.cc/334W-YXGY>] (discussing the history of the financial regulation of banks in the U.S.).

44. *See Deposit Insurance*, FED. DEPOSIT INS. CORP., <https://www.fdic.gov/resources/deposit-insurance/> [<https://perma.cc/25HE-L59B>].

stablecoins are not covered, but the holder can still attempt to redeem them from the initial issuer, making them a runnable liability. In addition, the bank could theoretically give stablecoins to individuals and businesses that borrow from the bank. Those stablecoins are also not insured unless the borrowers store those stablecoins in accounts. In all these scenarios, the stablecoins are still runnable liabilities of the stablecoin issuer. The issuer is required to honor the redemption of those stablecoins if holders suddenly demand cash in return.

In order for stablecoins to be adequately insured, the deposit insurance framework would likely have to change. Specifically, the coins themselves would have to be insured. Moreover, the amount of insurance could not be limited as it is now—set at \$250,000 per account.⁴⁵ A single party could easily hold \$1,000,000 in stablecoins, but only \$250,000 would be insured even if these coins are not deposited in the bank. The remaining \$750,000 would still be subject to run risk. The amount of federal insurance potentially required would be huge. Therefore, it seems that government insurance for all coins would not be feasible. It is important to recognize that current financial regulatory guardrails arose endogenously under an account-based money system. Financial regulators are not prepared for a return to a world in which circulating private money becomes the dominant monetary model. That would present significant dangers to the financial system, as the world would be awash in runnable private liabilities that circulated as money.

Monetary Sovereignty. The proliferation of private stablecoins would erode monetary sovereignty. Consider the following scenario: you go to Starbucks to buy a coffee. There are several ways for this transaction to occur. First, you can pay with cash. Second, you can pay with a debit card or credit card. Third, your friend can pay for your coffee and, in return, you can Venmo your friend or write him a check. In all three of these cases, you are using U.S. dollars to complete the transaction. In the first example, you are using circulating sovereign money in the form of Federal Reserve notes (i.e., the cash in your wallet). In the two other examples, you are transferring U.S. dollars between accounts—from your bank account to someone else's account.

Now, suppose you pay for coffee at Starbucks with stablecoins. You are completing the transaction with private digital tokens from your digital wallet. No U.S. dollars change hands. You are essentially using a different currency. Commenters might point out that stablecoins can be pegged to the U.S. dollar, which should lessen the erosion of monetary sovereignty. But that does not make stablecoins U.S. dollars. Indeed, over a dozen countries have pegged their currencies to the U.S. dollar, and they are certainly not issuing U.S. dollars.⁴⁶ If stablecoins truly proliferate, then prices at Starbucks may one day be quoted in

45. PRESIDENT'S WORKING GRP. ON FIN. MKTS., THE FED. DEPOSIT INS. CORP., AND THE OFF. OF THE COMPTROLLER OF THE CURRENCY, *supra* note 9, at 4.

46. See *US Dollar Currency*, OANDA, <https://www.oanda.com/currency-converter/en/currencies/majors/usd/> [https://perma.cc/AJ24-MRFU].

stablecoins instead of (or in addition to) dollars. Stablecoins would become the unit of account.

While this outcome may seem farfetched, economic theory and history suggest it is within the realm of possibility. The increased use of a currency for cross-border trade leads to greater use of the currency as a unit of account, and ultimately as a store of value. This is exactly what occurred in the twentieth century as the U.S. dollar overtook the British pound sterling as the world's reserve currency.⁴⁷ The dominance of the U.S. dollar—referred to by some as the country's "exorbitant privilege"—has given the United States numerous economic advantages over the decades, including the ability to borrow cheaply when its debt would suggest otherwise.⁴⁸

Another way to appreciate the threat to monetary sovereignty is to recall the money supply pyramid taught in elementary macroeconomics textbooks. Economists use four main measures of the money supply—known as M0, M1, M2, and M3.⁴⁹ At the bottom of the money pyramid is M0, which consists of circulating sovereign money and is called "the 'monetary base.'"⁵⁰ The rest of the money supply is built on top of the M0 monetary base, and it is all account-based money. For example, M1 includes M0 as well as account-based demand deposits. M2 includes "M1 plus [account-based] savings accounts, time deposits (under \$100,000), and retail money market funds," and M3 includes "M2 plus larger time deposits and institutional money market funds."⁵¹ Thus, the U.S. economy's monetary base consists of circulating sovereign money, and the rest of the monetary infrastructure is an account-based system built on top of that M0 foundation. Because stablecoins are a competing circulating currency, they could form their own separate monetary system, with their own account-based M1, M2, and M3 built on top.

Today, stablecoins are already well over \$100 billion in market capitalization.⁵² They are not yet eroding monetary sovereignty because they are circulating in a confined ecosystem—specifically in the ecosystem of cryptocurrencies. They are used primarily in the speculative trading of Bitcoin, Ethereum, and other cryptocurrencies. The risk to monetary sovereignty is that, in the not-too-distant future, stablecoins could expand beyond the

47. See Gita Gopinath & Jeremy C. Stein, *Banking, Trade, and the Making of a Dominant Currency*, 136 Q.J. ECON. 783, 783 (2020).

48. In 1965, French Minister of Finance Valéry Giscard d'Estaing complained that the dollar's dominance as the global reserve currency gave the United States an "exorbitant privilege." For a high-level overview, see REBECCA M. NELSON & MARTIN A. WEISS, CONG. RSCH. SERV., IF11707, *THE U.S. DOLLAR AS THE WORLD'S DOMINANT RESERVE CURRENCY* (2022).

49. Mike Finnegan, *Money Supply*, FED. RSRV. BANK OF RICH.: ECON FOCUS (2019), https://www.richmondfed.org/publications/research/econ_focus/2019/q1/jargon_alert [https://perma.cc/E7KD-JEUY].

50. *Id.*

51. *Id.*

52. DiPippo, *supra* note 33.

cryptocurrency ecosystem, see a market capitalization in the trillions or tens of trillions of dollars, and compete with U.S. dollars in everyday economic transactions. (Visa has started to settle transactions using stablecoins, and PayPal just announced that it intends to enter the stablecoin market.⁵³) At that point, central banks would clearly see the importance of Paul Tucker's insight: "We are able to implement monetary policy because the economy has a demand for central bank money and, *as monopoly suppliers*, we can set the terms on which we provide it."⁵⁴

II. THE CIRCULATION OF PRIVATELY ISSUED MONEY

In this Part II and the next Part III, we highlight historical case studies to support our arguments in Part I. These case studies demonstrate that circulating private money generally does not have a fixed and unchanging standard of value because it does not satisfy the NQA principle.⁵⁵ It is information *sensitive*. There is typically an incentive for private parties to produce more information about the money, thereby demanding discounts from par.

So, why did such money exist in the first place? Because through the eighteenth century, there was a shortage of specie. There wasn't enough sovereign money to go around, so private money filled the gap. Were there cases in which circulating private money did not satisfy the NQA condition but was still successful in circulation? Yes, such cases existed, but only in a *limited geographical area*. The leading examples are (1) Scottish free bank notes and (2) English inland bills of exchange. These forms of private money circulated in the eighteenth century and early nineteenth century. We discuss each in turn.

A. Circulating with Unlimited Liability

Scottish bank notes and English inland bills of exchange—both existing in the eighteenth and early nineteenth centuries—were examples of privately produced money where the issuers had *unlimited liability*. These money forms were backed by the wealth of the partners in Scottish banks and the signatories

53. See Press Release, Visa, Visa Becomes First Major Payments Network to Settle Transactions in USD Coin (USDC) (Mar. 29, 2020), <https://www.visa.com/ag/about-visa/newsroom/press-releases/visa-network-to-settle-transactions-in-usd-coin-usdc.html> [<https://perma.cc/77N3-TYHU>]; Press Release, PayPal, PayPal Launches U.S. Dollar Stablecoin (Aug. 7, 2023), <https://newsroom.paypal-corp.com/2023-08-07-PayPal-Launches-U-S-Dollar-Stablecoin> [<https://perma.cc/6JJW-H436>].

54. Paul Tucker, *Managing the Central Bank's Balance Sheet: Where Monetary Policy Meets Financial Stability* (July 28, 2004) in BANK OF ENG. Q. BULL. 359, 360 (2004), <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2004/quarterly-bulletin-autumn-2004.pdf> [<https://perma.cc/G8EE-H2YU>] (emphasis added).

55. See Gorton & Zhang, *supra* note 7.

to the inland bills, respectively. In other words, these private monies were information sensitive. Identities mattered.

1. *Scottish Free Banking*

From 1716 to 1844, Scottish banking was characterized by free entry and unlimited note issuance.⁵⁶ The banks issued their own distinctive monies.⁵⁷ Three banks had limited liability, while the rest had unlimited liability.⁵⁸ Unlimited liability meant that the identities of the bank partners were critical to the monies circulating as a hand-to-hand currency.⁵⁹

Who were these bank partners? They appear to have been the well-known and well-to-do. For example, the Dundee Banking Company, which began in Glasgow in 1763, had thirty-six partners, including merchants and landed gentlemen of the region.⁶⁰ The goal was to “involve a major part of the town’s business community in the Bank It was to be a town’s affair in the most complete sense.”⁶¹ As another example, the Banking Company of Aberdeen, formed in 1767, had 297 partners.⁶² By having such a large number of wealthy partners sign up for unlimited liability, “the Banking Company of Aberdeen flattered itself that ‘their Security will be allowed nothing inferior to any Bank or Company in Europe.’”⁶³ The partners of Ship Bank also fit the mold. According to noted academic C.W. Boase:

The town mansions of these gentlemen are worth noticing. That of Provost Colin Dunlop, the leading partner of the banking firm, and great-grandfather of the present James Dunlop, Esq., of Tollcross Dunlop Street was named after him and carried through his garden behind the mansion. The residence of Mr. Houston was a little farther west Mr. M'Dowall's was the princely edifice, so well known in Glasgow story popularly known as “The Shawfield Mansion[.]”⁶⁴

56. See CHARLES W. MUNN, *THE SCOTTISH PROVINCIAL BANKING COMPANIES 1747-1864*, at 3 (1981).

57. *Id.* at 4.

58. *Id.* at 2–3.

59. See *id.* at 2–3, 5 (“[M]any bankers pointed this [unlimited liability] out to their potential customers in the hope that public faith in their banks would be enhanced by the knowledge that the whole property of the partners could be attached in cases of failure. This knowledge encouraged people to hold banknotes especially if the partners in the bank were men of substance.”).

60. S. G. CHECKLAND, *SCOTTISH BANKING: A HISTORY, 1695-1973*, at 112 (1975).

61. *Id.*

62. *Id.* at 115.

63. *Id.* (footnote omitted).

64. GLASGUENSIS, *BANKING IN GLASGOW DURING THE OLDEN TIME* (1862), reprinted in 1 *GLASGOW, PAST & PRESENT* 471–72 (David Robertson & Co. 1884) (1851); see also C. W. BOASE, *A CENTURY OF BANKING IN DUNDEE* 16 (1867); Friedman & Schwartz, *supra* note 2, at 302 (“Scotland was an old, established community, with a relatively stable population, so that stockholders consisted in the main

Some of these banks with unlimited liability had hundreds of partners. For instance, the Commercial Banking Company had 508 partners, and the National Bank of Scotland had 1,238 partners.⁶⁵

Scottish bank notes were successful in a limited geographical area because the bank partners, who faced unlimited liability, were typically well-known rich individuals. Users of the notes knew who the bank partners were. But there was a problem: the notes could not circulate very far away because, at a distant location, people would not know the identities of the bank partners.⁶⁶

During this period, Scottish banks did experience bank runs and failures. According to Scottish historian Charles Munn, “war with revolutionary France in February, 1793 caused a run on the banks. In the rush for liquidity two Glasgow banks failed.”⁶⁷ In 1797, there was another bank run, following rumors of a French invasion of England, and banks had to suspend payments.⁶⁸ Economic historian Sydney Checkland noted further banking panics in Scotland in 1810–11, 1818–19, 1825–26, 1836–37, 1839, and 1845–47.⁶⁹

The Scottish free banking example has been trumpeted by some as a demonstration that free banking worked well.⁷⁰ And compared to, say, English banking at the same time, it seems that Scottish free banking did work well. Our point is that the circulation of privately produced monies in Scotland was accompanied by very special conditions. Those information-sensitive monies were supported by unlimited liability against the wealthiest individuals in Scottish society and circulated only within a narrow geographic area.

2. *English Inland Bills of Exchange*

The same problem of the importance of individual identities (i.e., information sensitivity) arose with English inland bills of exchange.⁷¹ Inland bills of exchange, where all parties to the bill were in England, were a unique form of private money. They circulated predominantly as a hand-to-hand

of persons who were well known, had considerable private wealth and valued their own reputations for probity highly enough to honor their obligations.”)

65. 2 SIR JOHN CLAPHAM, *THE BANK OF ENGLAND, A HISTORY* 91 (1970).

66. See MUNN, *supra* note 59, at 22 (noting that “most provincial bank notes had a purely local circulation in and around their place of issue”).

67. *Id.* at 49.

68. *Id.* at 54.

69. CHECKLAND, *supra* note 60, at 403.

70. Munn’s comment on this debate is instructive: “I feel that this debate tends to force history into a strait-jacket of economic theory which, like all strait-jackets, is very uncomfortable.” Charles Munn, *Comment on Chapter 2*, in UNREGULATED BANKING: CHAOS OR ORDER? 66 (Forrest Cappie & Geoffrey Wood eds., 1991).

71. See Gary B. Gorton, *Private Money Production Without Banks* (Nat’l Bureau of Econ. Rsch., Working Paper No. 26663, 2020), <https://www.nber.org/papers/w26663> [<https://perma.cc/Z65L-56ZU>].

currency in the industrial north of England, in the latter half of the eighteenth and first half of the nineteenth century.⁷²

Inland bills of exchange arose as a hand-to-hand currency due to a constrained supply of specie. Workers were paid with coins, which were scarce. The society needed an alternative form of money. But English banks were weak. During the seventeenth and most of the eighteenth century, English banks were limited to no more than six partners who could act as guarantors—unlike Scottish banks, which had dozens or hundreds of backing partners.⁷³ Though the English bank partners faced unlimited liability, the limited number of backing partners resulted in banks that often failed.⁷⁴ While inland bills of exchange were debt, such bills were not produced by banks and differed from bank debt, such as bank notes or deposits, in fundamental ways.⁷⁵

Bills of exchange circulated via indorsement,⁷⁶ putting each indorsers' wealth at risk if the borrower failed. This was the key feature: *each* party indorsing the bill was liable for the full amount. According to Tournay:

The Indorsee or holder of a bill transferable by *indorsement*, is entitled to look to the acceptor for payment, and in case of non-payment by him when presented, then to the drawer and the last and all intermediate indorsers, or parties whose names are on the bill; the last indorser or any intermediate indorser, after payment as holder, is entitled to look to the acceptor and drawer, and all his preceding indorsers, to refund him; the drawer being entitled to look to the acceptor for payment. In the case of a note, the maker stands, as has been already observed, in the position of the acceptor.⁷⁷

The joint liability rule meant that the receiver of a bill in payment needed to know the identities of at least one of the parties indorsing the bill and to also believe that this person was substantive. And knowledge of the identities of

72. *Id.* at 3.

73. *Id.* at 4.

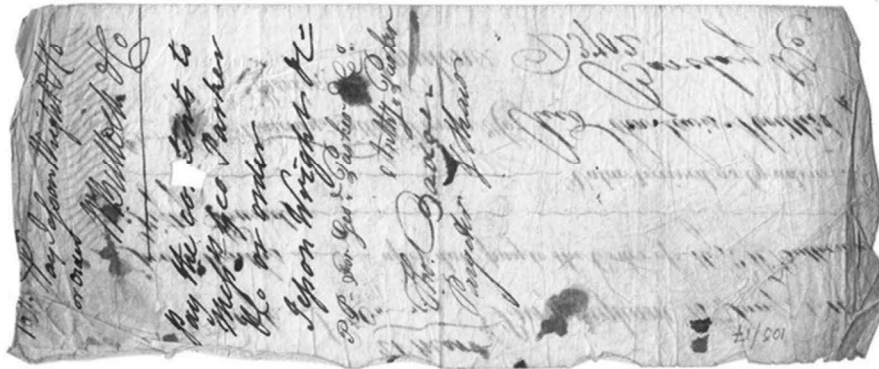
74. *Id.*

75. HENRY THORNTON, AN ENQUIRY INTO THE NATURE AND EFFECTS OF THE PAPER CREDIT OF GREAT BRITAIN 94 (Friedrich von Hayek ed., 1965) (1802) (noting that “Liverpool and Manchester effect the whole of their larger mercantile payments not by country bank notes, of which none are issued by the banks . . . , but by bills at one or two months date”).

76. It also helped that, in the industrial north, the population was denser than in agricultural areas and more literate.

77. STEWART TOURNAY, A PRACTICAL GUIDE TO THE LAW OF BILLS OF EXCHANGE AND PROMISSORY NOTES 40–41 (1851).

those other indorsers in the chain would make the bill even more credible.⁷⁸ The front and back of a typical bill is shown below.⁷⁹



In sum, both Scottish bank notes and English inland bills of exchange tell a similar story. Users had to know the identity and creditworthiness of the counterparty. The monies were information *sensitive*. Consequently, bills only circulated in a narrow geographical region. As described by Burgess:

In the manufacturing districts of Yorkshire and Lancashire, no man, generally speaking, thinks of paying for any commodity above the value of ten pounds, otherwise than in a bill after date. This practice is now very general throughout the northern and midland counties, and is increasing in other parts. . . .

A bill for £100 payable after date, which to-day is paid at Folkingham for wool, to-morrow at Melton for horned cattle, the next at Leicester for sheep,

78. T. S. Ashton, *The Bill of Exchange and Private Banks in Lancashire, 1790–1830*, 15 *ECON. HIST. REV.* 25, 26 (1945) (observing that “since each successive holder endorsed it, the more it circulated the greater the number of guarantors of its ultimate payment in cash”); see also KNUT WICKSELL, *INTEREST AND PRICES* 63 (1936) (“While every expansion of simple credit is necessarily bound up with increasing risk, the security of a bill as a commercial instrument increases with the number of endorsements that it carries, and consequently with the number of money payments that it has provided the means of obviating.”).

79. Gary Gorton, *Explorations in Economic History*, <https://doi.org/10.1016/j.eeh.2023.101547>, <https://www.sciencedirect.com/science/article/pii/S0014498323000414> [https://perma.cc/YP2L-VQ7Q].

and the succeeding day at Oundle for bark, is as much a part of the circulating medium, representing the transfer of commodities from hand to hand, as a bank-note for £100.⁸⁰

Folkingham to Melton is 46 km (28.6 miles), Melton to Leicester is 27 km (16.8 miles), and Leicester to Oundle is 57 km (35.4 miles).⁸¹ The total distance is 130 km (80.8 miles).

B. *Circulating with Limited Liability*

We next turn to an example of information-sensitive money that circulated with *limited* liability. Prior to the U.S. Civil War, U.S. banks issued their own private bank notes.⁸² Banks could open by obtaining a charter granted by a state legislature or, in free banking states, they could deposit the requisite bonds with the state treasurer and issue the corresponding amount of notes.⁸³ During the Free Banking Era of 1836–1863, eighteen states adopted a version of free banking and fifteen retained the chartered banking system.⁸⁴

At that time, the U.S. government did not print money, and there was a shortage of specie.⁸⁵ Private bank notes were used widely as an alternative.⁸⁶ The notes could be redeemed at par on demand at the issuing bank, and indeed, within a nearby vicinity of the issuing bank, the notes circulated at par. However, away from the issuing banks, these private bank notes circulated at discounts. For example, a bank's notes might trade at a 10% discount 100 miles away from the issuing bank (i.e., a one-dollar note was only worth 90 cents at the distant location). These distance-based discounts reflected risk factors associated with the issuing bank.⁸⁷ Roughly 1,500 bank notes of different banks

80. Henry Burgess, *A Letter to the Right Hon. George Canning*, BRISTOL SELECTED PAMPHLETS 19–20 (1826), <http://www.jstor.org/stable/60248126> [<https://perma.cc/7E87-4BAL>].

81. Driving Directions from Folkingham to Melton, GOOGLE MAPS, <http://maps.google.com> (follow “Directions” hyperlink; then search starting point field for “Folkingham, UK” and search destination field for “Melton, UK”); Driving Directions from Melton to Leicester, GOOGLE MAPS, <http://maps.google.com> (follow “Directions” hyperlink; then search starting point field for “Melton, UK” and search destination field for “Leicester, UK”); Driving Directions from Leicester to Oundle, GOOGLE MAPS, <http://maps.google.com> (follow “Directions” hyperlink; then search starting point field for “Leicester, UK” and search destination field for “Oundle, UK”).

82. OFF. OF THE COMPTROLLER OF THE CURRENCY, *supra* note 21.

83. *See* Gorton & Zhang, *supra* note 7, at 940.

84. *Id.* at 940–41.

85. As the reader can probably tell by now, a shortage of specie was a common theme motivating the proliferation of privately produced money.

86. *See* WILLIAM M. GOUGE, A SHORT HISTORY OF PAPER MONEY IN THE UNITED STATES 57 (1833) (observing that “[o]f large payments, [999] in a [1,000] are made with paper. Of small payments, [99] in a [100]. The currency of the country is . . . essentially a paper currency”).

87. *See* Gary B. Gorton, *Reputation Formation in Early Bank Note Markets*, 104 J. POL. ECON. 346, 347–48 (1996).

circulated nationally, depending on the year.⁸⁸ Consequently, there was a well-developed market for bank notes with fluctuating discounts.⁸⁹

Newspapers published the discounts on notes, often covering many distant banks. Van Court's Bank Note Reporter, published in Philadelphia, covered a total of 3,089 banks in thirty-five U.S. states and territories, as well as provinces of Canada.⁹⁰ Many cities hosted bank note reporters, and some larger cities had multiple reporters, as shown in the table below.⁹¹ Thus, unlike Scottish bank notes or English inland bills of exchange, U.S. private bank notes circulated more extensively across various geographic regions.

TABLE 3: BANK NOTE REPORTERS AT DIFFERENT CENTERS⁹²

Location	Number of Reporters
New York City	22
Boston	3
Buffalo	2
Chicago	4
Cincinnati	12
Detroit	2
Hartford	1
Montreal	1
Philadelphia	7
Pittsburgh	4
St. Louis	4
Zanesville, Ohio	1

Where did the discounts come from? They came from secondary markets where note brokers would trade the notes of distant banks and, if deemed profitable, take them back to the issuing bank for redemption (i.e., arbitrage). Bank note reporters published the discounts from these markets.⁹³ Clearly, this system was cumbersome and inefficient, but there was no credible alternative. D. R. Whitney gave a telling account:

The business man of to-day knows little by the experience [and] inconvenience and loss suffered by the merchant of sixty years ago arising from the currency in which debts were then paid. Receiving payment in bank

88. *Id.* at 357–58.

89. *Id.* at 358–61.

90. Gary B. Gorton, *Pricing Free Bank Notes*, 44 J. MONETARY ECON. 33, 40 (1999).

91. *Id.*

92. *Id.*; see also William H. Dillistin, *Bank Note Reporters and Counterfeit Detectors, 1826–1866*, at 78–140 (1949).

93. See WILLIAM O. SCROGGS, *A CENTURY OF BANKING PROGRESS* 160–61 (1924) (describing how the reporters were used).

notes, he assorted them into two parcels, current and uncurrent. In the first he placed the notes issued by the solvent banks of his own city; in the other the bills of all other banks. Upon these latter there was a discount varying in amount according to the location and credit of the bank issuing them. How great the discount he could learn only by consulting his “Bank Note Reporter,” or by inquiring at the nearest exchange office. He could neither deposit them nor use them in payment of his notes at a bank. The discount on them varie[s] from one per cent[] upwards, according to the distance the bills had to be sent for redemption and the financial standing of the bank by which they were issued.⁹⁴

The system of private bank notes mercifully ended in 1863, when Congress passed the National Bank Act and adopted a prohibitively high tax on bank notes.⁹⁵

* * *

We can tease out a few useful insights from the cases of Scottish free banking, English inland bills of exchange, and U.S. bank notes prior to the Civil War. First, parties using these circulating private monies had an incentive to produce or acquire more information. In Scotland, holders of bank notes needed to know the identity of the partners who supported the bank because those partners were subject to unlimited liability. In England, holders of the indorsed bills needed to know the identity of the indorsers—the wealthier, the better. In the United States, those who used private bank notes had to know the health of the underlying bank and depended on third-party reporters for that information.

Second, these private monies either circulated successfully within a narrow geographic region or circulated at a discount in a broader geographic region. In Scotland and England, private money circulated in concentrated geographic areas, largely where the identities of the partners and guarantors were more well-known. In the United States, private money circulated much more broadly but did so at a discount based on distance from the issuing bank.

Finally, because the private monies were information sensitive, they were less safe. In both the Scottish and American examples, bank runs and bank failures occurred. Concern for this financial fragility played a significant role in the path from coexistence to sovereign monopoly, which we explore in the next Part.

94. See JOHN J. KNOX, HISTORY OF BANKING IN THE UNITED STATES 365 (Bradford Rhodes & Elmer H. Young eds., Bradford Rhodes & Co. 1903) (1900) (quoting D. R. Whitney, who was the president of the Suffolk Bank in Massachusetts and published a book on the bank in 1878).

95. See Gorton & Zhang, *supra* note 7, at 945.

III. THE SOVEREIGN'S MONEY MONOPOLY

In this Part, we proceed with our historical case studies by reviewing the legislative and policy debates surrounding the sovereigns' money monopolies in England, the United States, Canada, and Sweden. England was the first to create a national currency in the first half of the nineteenth century. The United States, Canada, and Sweden started with hybrid systems in which government money—or bonds in the case of the United States—backed privately produced monies. In short, the case studies show that sovereign money emerged for reasons grounded in both politics and economics. Politically, there was a desire for increased national unity or greater sovereignty generally.⁹⁶ Economically, which is our focus, there were perennial debates concerning improving financial stability and controlling the money supply.

A. England

In England, the sovereign's money monopoly came about primarily in response to repeated financial crises, most immediately in 1835–36 and 1839.⁹⁷ England had an impressively long history of financial crises. During the 18th century, there were financial crises in 1701, 1710, 1715, 1726, 1745, 1761, 1763, 1772, 1778, 1793, and 1797.⁹⁸ Banks failed frequently—at least 343 bank failures between 1750 and 1830.⁹⁹ According to Joplin's observations on the English banking system in 1822:

[W]hen the slightest apprehension is entertained respecting [the banks'] solvency, however groundless it may sometimes prove, a run . . . immediately takes place. That is, hundreds of people immediately crowd the doors of the Banks, to demand payment of the Notes they hold, or to withdraw that money out of their hands, which they have deposited with them . . .

. . . .

Great, however, as the inconveniences are, which the discredit of Banks, and consequent runs upon them occasion: and great as are the calamities by which their failures are uniformly attended, they are, both in this country and Ireland, of very common occurrence.¹⁰⁰

96. See, e.g., Michael D. Bordo & Angela Redish, *Why Did the Bank of Canada Emerge in 1935?*, 47 J. ECON. HIST. 405, 414–17 (1987) (arguing that the emergence of the Canadian central bank was likely a response to political rather than purely economic pressures).

97. See J. K. Horsefield, *The Origins of the Bank Charter Act, 1844*, 11 ECONOMICA 180, 180 (1944) (U.K.) (“Public opinion was also shocked that help had had to be sought from France in order to maintain the convertibility of Bank Notes.”).

98. See T.S. ASHTON, *ECONOMIC FLUCTUATIONS IN ENGLAND, 1700–1800*, at 136–37 (1959).

99. See L. S. PRESNELL, *COUNTRY BANKING IN THE INDUSTRIAL REVOLUTION* 443 (1956).

100. THOMAS JOPLIN, *AN ESSAY ON THE GENERAL PRINCIPLES AND PRESENT PRACTICE OF BANKING IN ENGLAND AND SCOTLAND* 2–5 (1822); see also John A. James, *Panics, Payments Disruptions and*

As a result of frequent financial trauma, the Bank Charter Act of 1844—commonly known as Peel’s Act¹⁰¹—rechartered the Bank of England and granted it a monopoly over note issuance, with a carve-out for private banks issuing notes as of May 6, 1844.¹⁰²

Peel’s Act was momentous for several reasons. First, it stood in contrast to the dominant economic philosophy of the time.¹⁰³ Second, it advanced the idea that the currency supply should be set by public bodies, not unaccountable private actors.¹⁰⁴ Third, the Act was the first step in cementing the Bank of England as England’s central bank, specifically because it granted the Bank a monopoly on note issuance. This was controversial at the time.¹⁰⁵

The passage of Peel’s Act was also influenced by debates surrounding the money supply. The logic of the Act came from the “Currency School,” with the view that the quantity of money and of coin should never be allowed to differ.¹⁰⁶ From this, it was argued that fluctuations in the value of the standard unit would be constant and that booms and panics would be eliminated. “Over issuance” of notes by country banks would thus be avoided.¹⁰⁷ Of note, those objecting to the Bank’s rechartering argued, among other points, that the Bank’s

the Bank of England Before 1826, 19 FIN. HIST. REV. 289, 291 (2012) (U.K.); Julian Hoppit, *Financial Crises in Eighteenth-Century England*, 39 ECON. HIST. REV. 39 (1986) (U.K.).

101. Sir Robert Peel was the Prime Minister at that time. See Norman Gash, *Robert Peel*, BRITANNICA, <https://www.britannica.com/biography/Robert-Peel> (last updated Feb. 1, 2024) [<https://perma.cc/XX3B-X6QT>]. The real name of the Act is “An Act to regulate the Issue of Bank Notes, and for giving to the Governor and Company of the Bank of England certain Privileges for a limited Period.” Bank Charter Act, 1844 (Act No. 32/1844) (Eng.) (emphasis omitted). The Act had three other subjects, in addition to the control of bank notes: the separation of the departments of the Bank into the issuing department and the traditional banking department; the establishment of fiduciary issue; and the publication of accounts. See *infra* note 104.

102. These banks were allowed to issue in the future but could not exceed their average as of early 1844. Bank Charter Act, 1844 (Act No. 32/1844) (Eng.).

103. See Arie Arnon, *Banking Between the Invisible and Visible Hands: A Reinterpretation of Ricardo’s Place Within the Classical School*, 39 OXFORD ECON. PAPERS 268, 268 (1987).

104. See P. Barrett Whale, *A Retrospective View of the Bank Charter Act of 1844*, 11 ECONOMICA 109, 109 (1944) (U.K.).

105. See Horsefield, *supra* note 97, at 187 (“The 1832 Committee. . . regarded the monopoly question as the most important issue of the day, and made persistent enquiries into the desirability of some limitation of the country banks’ issues. Its witnesses were nearly equally divided for and against.”); see also JAMES RIDGEWAY, A DIGEST OF THE EVIDENCE ON THE BANK CHARTER, TAKEN BEFORE THE COMMITTEE OF 1832 (1833). Walter Bagehot later wrote that “the issue of money is a fit case for a Government monopoly, because the object aimed at is not to reduce the cost-price, but to render it fixed.” WALTER BAGEHOT, *The Currency Monopoly*, in THE PROSPECTIVE REVIEW (1848), reprinted in 8 THE WORKS AND LIFE OF WALTER BAGEHOT 146, 174 (Mrs. Russell Barrington ed., 1915).

106. Opposed to the Currency School was the “Banking School,” a group centered on the idea that the issuance of bank notes would be naturally regulated by holders wanting to redeem their notes. See Horsefield, *supra* note 97, at 180–81; see also Charles Goodhart & Meinhard Jensen, *Currency School Versus Banking School: An Ongoing Confrontation*, 4 ECON. THOUGHT 20 (2015) (U.K.).

107. See, e.g., WILLIAM LEATHAM, LETTERS ON THE CURRENCY, ADDRESSED TO CHARLES WOOD 17 (1840).

inelasticity would hinder its ability to respond to panics by increasing the money supply.¹⁰⁸

In addition to financial stability and the money supply, the debate also raised the issue of who should profit from the Bank's monopoly. Some of the monopoly proponents thought it should be the government.¹⁰⁹ Not everyone agreed. George Grote, a London banker, said that he "would have the Bank of England compelled to pay over to the public all profit from their circulation, saving so much as might be fair remuneration for the trouble and risk of administering the details of it."¹¹⁰

In the end, the debates and testimony in the Committee of 1832 led to the rechartering of the Bank of England and established the Bank's notes as legal tender. According to Orzechowski:

[T]he Act . . . fatally dashed the hopes of free bankers seeking to limit the powers of the Bank of England. The 1833 Act set in motion the eventual elimination of private bank notes so that by 1844 the government was able to stop the issuance of all new private bank notes in England and Wales, thus giving the Bank of England a pure monopoly.¹¹¹

B. *United States*

In the United States, the road to the sovereign's monopoly over money began during the U.S. Civil War.¹¹² In the 1860s, the government taxed state bank notes out of existence in order to support the growth of national bank notes, which were backed by debt issued by the Treasury.¹¹³

On February 20, 1896, Theodore Gilman, a New York City banker, appeared before the U.S. House Committee on Banking and Currency and introduced a bill to allow private bank clearinghouses to issue money backed by their members' assets.¹¹⁴ The Committee's hearings were motivated by the perceived weaknesses of the national banking system that had been created

108. The concerns of critics who focused on the inelasticity of the Bank's ability to respond to a crisis came true in the Panic of 1847, which saw a suspension of that restriction. See Rudiger Dornbusch & Jacob Frenkel, *The Gold Standard Crisis of 1847*, 16 J. INT'L ECON. 1, 21 (1984) (Neth.) ("The removal of the restriction on fiat money issue dispensed with the concern for the internal convertibility of deposits into notes.").

109. See BAGEHOT, *supra* note 105.

110. RIDGEWAY, *supra* note 105, at 97 (testimony of George Grote).

111. Paul E. Orzechowski, *George Scrope, Free Bankers, and the Bank Charter Act of 1833*, 37 ESSAYS ECON. & BUS. HIST. 181,182 (2019).

112. See Gorton & Zhang, *supra* note 7, at 947.

113. *Id.* at 945.

114. *Two Financial Hearings: Argument in Favor of Clearing House Currency in Time of Panic*, N.Y. TIMES, Feb. 21, 1896, at 3.

during the Civil War.¹¹⁵ The main complaints alleged against the existing banking system were the inelasticity of the money supply and the frequency of banking panics.¹¹⁶ The inelasticity was due to the structure of the system. The United States had adopted a hybrid system of money in 1863 with the National Bank Act.¹¹⁷ The Act created banks called national banks, which could issue their own “national banknotes,” but required that those notes be backed by U.S. Treasury bonds.¹¹⁸ This requirement was intended to create demand for Treasury securities, which could be issued to finance the North during the Civil War.¹¹⁹ But linking the bank notes to U.S. Treasuries meant that the money supply could not be changed easily. This inelasticity of the money supply was widely noted.¹²⁰

Moreover, the National Bank Act of 1863 was expected to end panics since the national bank notes would be backed by U.S. Treasuries.¹²¹ But the Act did not end banking panics. There were seven major banking panics during the National Banking Era. In those panics, depositors wanted to withdraw their “deposits” in “cash” (i.e., in national bank notes).¹²² Deposits had started outstripping bank notes prior to the Civil War.¹²³

Thus, the basis for Gilman’s proposal was that private bank clearinghouses were already the institutions responding to banking panics. In a banking panic, clearinghouses opened a discount window where members could post collateral and receive “clearinghouse loan certificates,” which represented a joint liability of the clearinghouse’s member banks.¹²⁴ Alas, the clearinghouse system could not prevent panics even if it could mitigate some of the bad effects of panics. Six years after the devastating panic of 1907, Congress established the Federal Reserve, the so-called central bank, “to furnish an elastic currency . . . [and] to establish a more effective supervision of banking in the United States.”¹²⁵ The Federal Reserve was also to provide financial stability. Both goals—an elastic

115. See *Argument of Hon. J.H. Walker, In Exposition of the Financial and Banking Situation of the Country, and in Explanation and Advocacy of His Bill (H.R. 171), Before the Committee on Banking and Currency, 54th Cong. 3* (1896).

116. See *id.* at 4.

117. See Gorton & Zhang, *supra* note 7, at 945–47.

118. *Id.* at 945.

119. *Id.* at 955.

120. See EDWIN WALTER KEMMERER, NAT’L. MONETARY COMM’N, SEASONAL VARIATIONS IN THE RELATIVE DEMAND FOR MONEY AND CAPITAL IN THE UNITED STATES, S. DOC. NO. 61-588, at 13 (1910) (“The most common criticism of our American currency system is its alleged inelasticity or irresponsiveness to trade demands, this inelasticity is sometimes considered with particular reference to panic periods which occur at more or less irregular and widely separated times, and sometimes with particular reference to regularly recurring seasonal fluctuations in the demand for money and loanable capital.”).

121. See Gorton & Zhang, *supra* note 7, at 945–46.

122. See Gary Gorton, *Banking Panics and Business Cycles*, 40 OXFORD ECON. PAPERS 751, 752 (1988).

123. See Gorton & Zhang, *supra* note 7, at 946.

124. See GARY GORTON & ELLIS TALLMAN, *FIGHTING FINANCIAL CRISES* 7 (2018).

125. See Federal Reserve Act, ch. 6, 38 Stat. 251 (1913).

money supply and financial stability—were to be accomplished by setting up a permanent discount window. Further, the national currency would have to be de-linked from U.S. Treasuries. For all these reasons, the United States migrated to a single uniform sovereign currency.

C. Canada

In Canada, the sovereign's monopoly over money coincided with the establishment of its central bank. Coming out of the Great Depression in the early twentieth century, Canada's political leadership recognized the need for greater control of its money supply as well as greater financial stability.¹²⁶

In October 1929, the U.S. stock market collapsed, and economic depression ensued in North America and around the world.¹²⁷ Canada was hit especially hard and had no central bank at the time. Although farmers were in favor of establishing a central bank, bankers remained opposed. Finally, in 1933, during the fourth year of the Depression, the Royal Commission on Banking and Currency was established to review the banking system and the Canadian government's involvement in monetary policy.¹²⁸ Hugh Macmillan chaired the commission. The commission held hearings throughout Canada and delivered a report. After surveying the Canadian banking and financial system, the commission's report states:

If we survey the cardinal monetary problems which face the Canadian people in common with all other peoples today, we are immediately confronted with a multitude of difficult and intricate questions. To what extent and through what organizations should the volume of credit and of currency be regulated? On what body should lie the primary responsibility for maintaining the external stability of the country's currency? To what institution may the Government of the day most suitably turn for informed and impartial advice on matters of financial policy? . . . In the great, and an increasing, majority of countries the answer to these questions has been found in the *existence of or the creation of a central bank*.¹²⁹

The Bank of Canada was thereby chartered in 1934 and became operational in March 1935.¹³⁰ The preamble of the Bank of Canada Act states:

126. Mark S. Bonham, *Bank of Canada*, THE CANADIAN ENCYC., <https://www.thecanadianencyclopedia.ca/en/article/bank-of-canada> [<https://perma.cc/TX67-XWL2>] (July 15, 2021).

127. *Stock Market Crash of 1929*, BRITANNICA, <https://www.britannica.com/event/stock-market-crash-of-1929> [<https://perma.cc/7BFC-23ML>].

128. See REPORT OF THE ROYAL COMMISSION ON BANKING AND CURRENCY IN CANADA 61–62 (1933).

129. *Id.* at 62 (emphasis added).

130. *Our History*, BANK OF CANADA, <https://www.bankofcanada.ca/about/our-history/> [<https://perma.cc/YL8Z-VH3R>].

W[hereas] it is desirable to establish a central bank in Canada to regulate credit and currency in the best interests of the economic life of the nation, to control and protect the external value of the national monetary unit and to mitigate by its influence fluctuations in the general level of production, trade, prices and employment, so far as may be possible within the scope of monetary action, and generally to promote the economic and financial welfare of Canada.¹³¹

Section 24 of the Act gave the Bank the sole right to issue notes payable to the bearer on demand and issue notes in any amount. Thus, in the case of Canada, like many other countries, the establishment of a monopoly over the production of money coincided with the founding of the central bank. The reasoning was that the central bank needed monopoly control over money production to fulfill its role as an overseer of the macroeconomy.¹³²

Another motivating factor was concern for the elasticity of the money supply, particularly whether it was elastic enough to address the seasonality of planting and harvesting crops. According to Kianieff:

Pressure was brought to bear on the money supply mechanism during the crop-moving season, when demand for credit would reach its peak The year 1907 proved to be a bad one for both the wheat and banking industries, as a low-quality wheat crop had to be moved to market quickly to avoid deterioration. At the time, however, demand for notes was greater than their supply, and the banks could not provide them fast enough to facilitate movement of the crop. The crisis was symptomatic of the larger issue of the inelasticity of the money supply . . .¹³³

To be sure, political issues played a role as well.¹³⁴ In western Canada, high interest rates and a perceived lack of sufficient credit fueled anti-bank sentiments.¹³⁵ And, more generally, the Canadian public was concerned with the concentration of bank ownership and the banks' influence over the economy through interlocking directorships.¹³⁶

* * *

Similar to the U.S. experience described previously, the Canadian experience included circulation of government notes prior to the central bank's

131. Bank of Canada Act, R.S.C., 1985, c. B-2, Preamble (2008).

132. See Muharem Kianieff, *Private Banknotes in Canada from 1867 (and Before) to 1950*, 30 QUEEN'S L.J. 400, 400 (2004) (Can.) ("The financial system's failure to respond adequately to the challenges of the Depression led to the establishment of the Bank of Canada in 1935, over the objections of many private bankers. The legislation that set up the Bank of Canada provided for the gradual phasing out of private banknotes and their replacement by notes issued by the Bank of Canada.").

133. *Id.* at 425 (footnotes omitted).

134. See Bordo & Redish, *supra* note 96, at 414–17.

135. *Id.* at 413.

136. *Id.* at 415.

establishment. Specifically, the Canadian government issued “Dominion notes” from 1868 to 1934.¹³⁷

Before the various provinces were united into what we now know as Canada, provinces issued their own notes.¹³⁸ When confederation occurred in 1868, the Dominion government acquired the right of issuing notes from the provinces.¹³⁹ The Dominion Notes Act of 1868 allowed the government to issue its own Dominion notes partially backed by gold.¹⁴⁰ The Bank Act of 1871 restricted private bank notes to a minimum denomination of \$4, leaving a monopoly to the government to issue notes of \$4 or less.¹⁴¹ In today’s terms, \$4 would be 97.87 Canadian dollars (or \$78.54 in U.S. dollars).¹⁴² Thus, Dominion notes were used to carry out most day-to-day transactions.¹⁴³

Moreover, Canadian commercial banks used Dominion notes as reserves.¹⁴⁴ This suggests that Dominion notes were the practical hand-to-hand currency. Although Canadian banks were never required to satisfy a specific level of reserves, banks were always required to hold at least 40% of their reserves in cash. Figure 2 below shows the percentage of bank reserves held as Dominion notes.¹⁴⁵

137. JAMES POWELL, *A HISTORY OF THE CANADIAN DOLLAR* 27, 49 (2005).

138. *Id.* at 27.

139. “Confederation” refers to New Brunswick and Nova Scotia, when they officially joined the Province of Canada. The Province of Canada then split into the provinces of Ontario and Quebec.

140. POWELL, *supra* note 137, at 27.

141. Ben Fung et al., *Canadian Bank Notes and Dominion Notes: Lessons for Digital Currencies* 6 (Bank of Can., Working Paper 2017-5, 2017); POWELL, *supra* note 137, at 28.

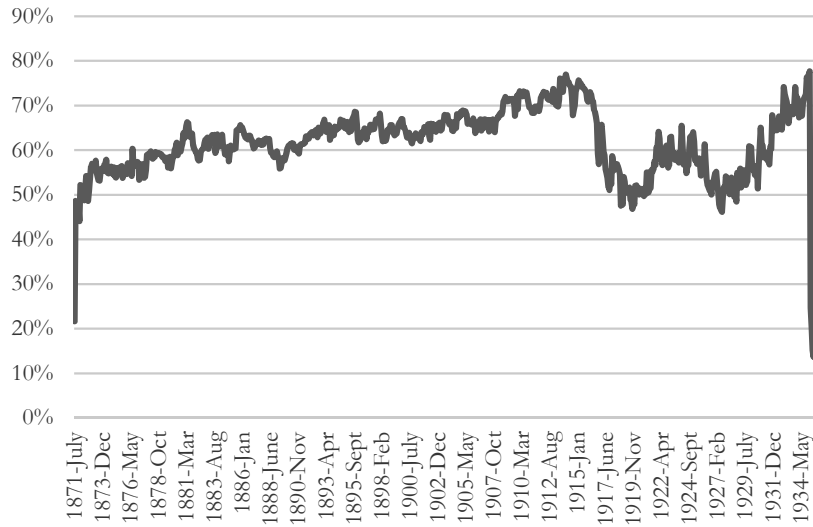
142. These calculations are based on *Historical Statistics of Canada*, Table K33-43, General Wholesale Price Index, 1867–1975. *Historical Statistics of Canada, Section K: Price Indexes*, STATISTICS CANADA, <https://www150.statcan.gc.ca/n1/pub/11-516-x/sectionk/4057753-eng.htm> [https://perma.cc/FWU6-ZFYS]. The Historical Statistics only go through 1975. For the period from 1975 until 2022, we used CPI Inflation Calculator. CPI INFLATION CALCULATOR, <https://www.in2013dollars.com/canada/inflation/1975?amount=21.45> [https://perma.cc/KUZ5-WFC3].

143. *But see* Fung et al., *supra* note 141, at 22 (conceding that such a claim that Dominion notes were used in day-to-day transactions is “disingenuous”).

144. POWELL, *supra* note 137, at 28.

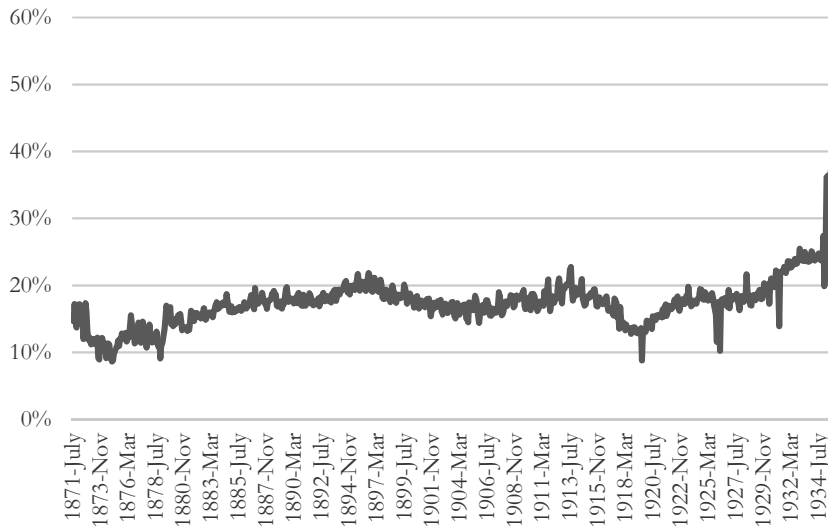
145. These data are from C. A. CURTIS, *STATISTICAL CONTRIBUTIONS TO CANADIAN ECONOMIC HISTORY, VOL 1, STATISTICS OF BANKING* (1931).

FIGURE 2: RATIO OF DOMINION NOTES TO TOTAL BANK RESERVES¹⁴⁶



Even though Dominion notes made Canadian currency relatively sound, their prevalence was relatively small compared to private bank notes, as shown in Figure 3 below.

FIGURE 3: RATIO OF DOMINION NOTES TO CHARTERED BANK NOTES¹⁴⁷



146. *Id.*

147. *Id.*

As in the U.S., private bank notes circulated in Canada because of a lack of specie, and they circulated at discounts. That these information-sensitive Canadian bank notes did not circulate at par in all parts of the country was a common complaint.¹⁴⁸

Various laws were enacted in attempts to eliminate these discounts: The Bank Act of 1871 imposed double liability on bank shareholders.¹⁴⁹ The Bank Act of 1880 gave note holders first lien on bank assets.¹⁵⁰ And the Bank Act of 1890 established the Bank Circulation Fund to (i) redeem the notes of insolvent banks and (ii) allow payment of interest to note holders.¹⁵¹ “Banks were required to pay 5 per cent of their previous 12 months’ circulation to the Minister of Finance to [finance] this Fund.”¹⁵²

* * *

The Canadian system, like the pre-Civil War system in the U.S. and like other countries, began with private bank notes that traded at discounts. It then evolved into a hybrid system where Dominion notes were used as reserves for the banks. The sovereign’s monopoly over money coincided with the establishment of its central bank. Coming out of the Great Depression in the early twentieth century, Canada’s political leadership recognized the need for greater control of its money supply as well as greater financial stability.

D. Sweden

Sweden’s debate over the sovereign’s money monopoly revolved around financial stability, first and foremost, but also the ability to control its money supply.

Private banks in Sweden—known as Enskilda banks—issued their own bank notes from 1831 to 1904.¹⁵³ Interestingly, Sweden already had public

148. ROELIFF BRECKENRIDGE, NAT’L MONETARY COMM’N, *The History of Banking in Canada*, S. Doc No. 61-332 at 132 (2d Sess. 1910) (“Being a frequent annoyance, the discount for geographical reasons constituted no inconsiderable grievance.”).

149. Fung et al., *supra* note 141, at 6–7.

150. *Id.* at 7.

151. *Id.*

152. *See id.* at 2, 7 (“[B]ank notes were only relatively safe and not a uniform currency before 1890. They were relatively safe because only 3 of the 55 banks in existence between 1866 and 1890 failed with losses to note holders. They were not a uniform currency because notes of banks in one geographic location often traded at a discount in another location and notes of suspended banks traded at a discount until the bank’s affairs were settled. The *Bank Act of 1890* made bank notes perfectly safe and a uniform currency.”).

153. *See* Anders Ögren, *Free or Central Banking? Liquidity and Financial Deepening in Sweden, 1834-1913*, 43 EXPL. ECON. HIST. 64, 74 (2006).

money at the time.¹⁵⁴ So why did Swedish private currency circulate when there was already a public currency in circulation? The central bank—the Riksbank—was constrained in the quantity of money it could issue.¹⁵⁵ Of note, Sweden reestablished the silver standard in 1834, which the country had abandoned in 1809.¹⁵⁶ Thus, from 1834 until the onset of World War I, the main objective of the Riksbank was to maintain the silver standard.¹⁵⁷ As a result, there was a shortage of money in Sweden during the nineteenth century.¹⁵⁸ According to Ögren:

The initial extent of Swedish poverty during this period is well illustrated by the very limited and stagnant circulation of metallic coins, as well as a supply of specie metal insufficient to provide the country with an adequate supply of generally accepted means of payments. Instead, the Swedish economy relied heavily on personal credits, IOUs and other types of informal means of payments, accepted only on a personal or regional basis, thus hindering more widespread economic integration.¹⁵⁹

Enskilda banks therefore contributed to economic expansion and integration by providing a money supply beyond what was possible for the Riksbank.¹⁶⁰ In fact, by 1859, the volume of private bank notes in circulation exceeded that of Riksbank notes.¹⁶¹ Private bank notes were sent all over the country, not just to certain (rural) areas.¹⁶² In the decades following the proliferation of this new money supply, economic growth increased dramatically.¹⁶³

* * *

154. See generally Lars Jonung, *Free Banking in Sweden: The Case of Private Bank Notes, 1831-1902* (Lund Univ., Sch. of Econ. and Mgmt., Working Paper No. 2021:6, 2021).

155. See Ögren, *supra* note 153, at 71.

156. *Id.* at 64.

157. *Id.* at 65.

158. Moreover, the Riksbank initially issued denominations that were more useful for wholesale payments than retail payments. Enskilda banks were able to fill the initial vacuum by issuing notes of lower denominations. See Jonung, *supra* note 154, at 16.

159. See Ögren, *supra* note 153, at 65.

160. See Gabriel Söderberg, *Why Did the Riksbank Get a Monopoly on Banknotes?*, 3 SVERIGES RIKSBANK ECON. REV. 6, 9 (2018) (noting that Enskilda banks were “allowed by the Swedish Riksdag in 1824 as a conscious strategy to promote the growth of a banking system in Sweden”).

161. See Anders Ögren, *Empirical Studies in Money, Credit and Banking: The Swedish Credit Market in Transition Under the Silver and the Gold Standards, 1834–1913*, at 87 (April 2003) (Ph.D. dissertation, Stockholm School of Economics).

162. See Torbjörn Engdahl & Anders Ögren, *Multiple Paper Monies in Sweden 1789–1903: Substitution or Complementarity?*, 15 FIN. HIST. REV. 73, 80, 87 (2008) (U.K.).

163. See Anders Ögren, *Financial Revolution and Economic Modernisation in Sweden*, 16 FIN. HIST. REV. 47, 50, 63–64 (2009) (U.K.).

The system of Enskilda banks was not entirely private for a few reasons. First, Enskilda banks' note issuance was backed by, and redeemed for, money issued by the Riksbank.¹⁶⁴ This was a form of “bottom-up” central banking because the Enskilda banks voluntarily relied on Riksbank notes rather than specie for reserves. Indeed, the holdings of Riksbank notes by Enskilda banks were between 30% and 50% through the 1860s.¹⁶⁵ Before Sweden passed the 1874 law—requiring Enskilda banks to back their note issuance with gold—Enskilda banks held almost zero specie as reserves.¹⁶⁶

Second, according to Fung, Hendry, and Weber, the Riksbank acted as a lender of last resort for the Enskilda banks on at least two occasions—first during the crisis of 1856–1857 and second during the crisis of 1878–1879.¹⁶⁷

This instability concern was not lost upon the government when it made its final decision to ban private bank notes and give the monopoly to the central bank. Following that second crisis in 1878–79, public opinion turned against the Enskilda banks.¹⁶⁸ A newly formed special committee on banking recommended that the Riksbank be granted a monopoly on the issuance of notes.¹⁶⁹

That final decision arrived in 1897, when the Riksbank was given a monopoly on note issuance, and the Enskilda bank notes went out of circulation shortly thereafter.¹⁷⁰ In its decision to ban private bank notes, the Swedish government cited banking panics (i.e., financial stability)¹⁷¹ and the credit cycle (i.e., controlling the money supply).¹⁷²

* * *

As we will discuss in greater detail in Part IV.C, we believe there are three main lessons to draw from these historical case studies—lessons that are relevant for regulating stablecoins in today's economy.

164. Ögren, *supra* note 153, at 66.

165. *Id.* at 77.

166. *See id.*; *see also* Söderberg, *supra* note 160, at 11.

167. *See* Ben Fung et al., *Swedish Riksbank Notes and Enskilda Bank Notes: Lessons for Digital Currencies* 19–20 (Bank of Can., Working Paper 2018-27, 2018).

168. *See* Ögren, *supra* note 153, at 86.

169. *See id.* at 85–86.

170. *See id.* at 70, 74.

171. *See* Söderberg, *supra* note 160, at 12 (citing Bankkomitén (1883), *Bankkomiténs underdåniga förslag till förändrad organisation af bankanstalterna* [Special Committee on Banking – Proposed Changes in Bank Organisation], 235 (1883) (Swed.)) (“It was emphasized that, even if the private banknotes were relatively secure, their security would be even higher if they were issued by a single institution.”) (citation omitted).

172. *See id.* (noting the concern “that banknote issuance will be too extensive in good times and too restricted in bad times”). In addition, there was seasonality in the private money supply. The notes issued by Enskilda banks followed a seasonal pattern that corresponded with the seasonal demand for liquidity of the agricultural cycle. Specifically, there were two peaks per year—one from February to April and the second from October to November. *See* Engdahl & Ögren, *supra* note 162, at 87.

First and foremost, issuers of circulating private money are banks and are vulnerable to destabilizing bank runs. Recall that when the price of an instrument is designed to remain fixed, the laws of supply and demand dictate that the quantity must adjust. During times of economic uncertainty, holders of the money might not want any of it. That's when a bank run occurs, and the quantity adjusts all the way down to zero. If the laws of supply and demand are not sufficiently convincing, hundreds of years' worth of bank failures have proven this point over and over (and have led to sovereign monopolies). The run risk applies to stablecoin issuers, which are unregulated banks.

Second, because circulating private money competes against sovereign money, coexistence makes it more difficult to control the money supply and conduct monetary policy. The same would be true today if we were to introduce stablecoins into circulation at scale. It would greatly complicate the central bank's monetary policy operations.

Third, history teaches us that private money first circulated because the money supply was severely limited and there were no better alternatives. That is no longer true. Today's economy does not need stablecoins to alleviate a lack of money supply. There is plenty of money in circulation.

IV. CHALLENGING THE ASSUMPTION OF COEXISTENCE

Many members of Congress and certain senior officials at the Federal Reserve have expressed the view that private stablecoins should circulate alongside sovereign money.¹⁷³ Should we maintain the sovereign's money monopoly? Or should we turn back the economic clock by two centuries? In this Part, we first summarize recent market developments that demonstrate the financial vulnerability inherent to stablecoins. We then examine legislative proposals aimed at coexistence and present the problems with such coexistence.

A. Runs on Stablecoin Issuers

Stablecoin issuers are unregulated banks that are vulnerable to bank runs.¹⁷⁴ They do not satisfy the NQA principle discussed earlier, and recent real-world events have added further evidence to support the argument. In May 2022, the sharp decline in the price of Bitcoin and the death spiral of an "algorithmic stablecoin,"¹⁷⁵ TerraUSD, were enough to knock some stablecoins off their

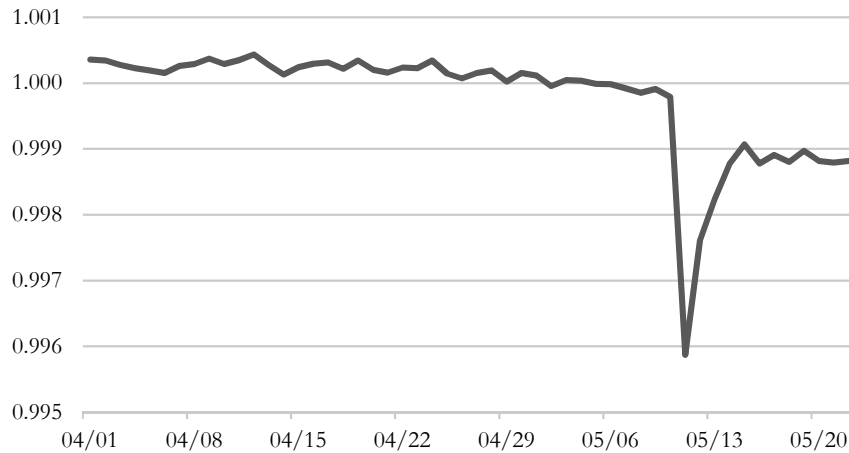
173. See *supra* notes 10–14 and accompanying text.

174. Gorton & Zhang, *supra* note 7, at 912.

175. Algorithmic stablecoins work something like this: There are two coins, say, \$1Coin and another coin, OCoin. \$1Coin is supposed to be pegged to \$1, while the price of OCoin can be anything. The idea is that if \$1Coin trades at \$0.99 then there is a process by which more OCoins are printed and used to buy \$1Coins until the price is \$1 again. If \$1Coin trades at \$1.01, then the process allows some more \$1Coins to

pegs.¹⁷⁶ For instance, Tether, the largest stablecoin at over \$75 billion in market capitalization, dipped below \$0.97, as shown in Figure 4. Tether holders withdrew \$7 billion from Tether during the panic.¹⁷⁷

FIGURE 4: TETHER'S PEG TO THE U.S. DOLLAR IN MAY 2022¹⁷⁸



Interestingly, the economic “shock” that hit the market for digital assets was simply the Federal Reserve raising interest rates to combat inflation—not a wild phenomenon given the fact that the Federal Reserve’s mandate requires it to adjust interest rates.¹⁷⁹ Imagine if a real shock hit the financial markets

be printed and used to buy OCoins until the price is back to \$1. Of course, neither \$1Coin or OCoin are worth anything, so this is just a fancy kind of fiat cryptocurrency. In our discussions of stablecoins, we are concerned with those that are backed by cash and safe assets, pegged to a fiat currency like the U.S. dollar, and redeemable on demand. Our analysis is not focused on algorithmic stablecoins. See, e.g., Ryan Clements, *Built to Fail: The Inherent Fragility of Algorithmic Stablecoins*, 11 WAKE FOREST L. REV. ONLINE 131, 138 (2021).

176. See also Peter Santilli & Corrie Driebusch, *How More Than \$1 Trillion of Crypto Vanished in Just Six Months*, WALL ST. J. (May 13, 2022, 5:30 AM), <https://www.wsj.com/articles/how-more-than-1-trillion-of-crypto-vanished-in-just-six-months-11652434202>.

177. Scott Chipolina, *Investors Pull \$7bn from Tether As Stablecoin Jitters Intensify*, FIN. TIMES (May 16, 2022) <https://www.ft.com/content/db9c3f32-cd91-4149-9788-95b2046bea10>; see also David Yaffe-Bellany, *The Coin That Could Wreck Crypto*, N.Y. TIMES (Jun. 17, 2022), <https://www.nytimes.com/2022/06/17/technology/tether-stablecoin-cryptocurrency.html> (“Concern is mounting over another potential vulnerability in the crypto market: Tether, a company whose namesake currency is a linchpin of crypto trading worldwide.”).

178. See Steven Ehrlich, *Tether Falls From Its \$1 Price Peg Amid Market Turmoil Across Multiple Exchanges*, FORBES: DIGIT. ASSETS (Nov. 10, 2022, 7:25 AM), <https://www.forbes.com/sites/stevenehrlich/2022/11/10/tether-falls-from-its-1-peg-amid-market-turmoil/?sh=35647b463bc5> [<https://perma.cc/DQG2-ZS4F>].

179. See Cristina Polizu et al., *Are Crypto Markets Correlated with Macroeconomic Factors?*, S&P GLOB. (May 9, 2023), <https://www.spglobal.com/en/research-insights/featured/special-editorial/are-crypto-markets-correlated-with-macroeconomic-factors> [<https://perma.cc/9XA3-6RJJ>].

along the lines of what occurred during September 2008 when Lehman Brothers collapsed.¹⁸⁰

This is a preview of the future, and it should not be surprising given what we know from economic theory and what we have witnessed over the past few centuries. Consistent with economic theory, private money is information sensitive, and its issuers are prone to destabilizing bank runs. The same is true of privately produced digital money like stablecoins. When collateral-backed privately produced money is not regulated—or simply does not exist—the fixed price of that money will not hold in times of stress. In that case, the quantities adjust to zero in a bank run. Yet many policymakers assume the path forward should include private money circulating alongside sovereign money.

Financial stability considerations were prominent in bringing about the sovereigns' monopolies over money in England, the United States, Canada, and Sweden. In England, there were hundreds of bank failures during the eighteenth and nineteenth centuries.¹⁸¹ In the United States, bank runs occurred frequently in the nineteenth century before the establishment of the Federal Reserve and FDIC deposit insurance.¹⁸² In Canada, the central bank gained its monopoly because of a financial crisis.¹⁸³ In Sweden, bank failures similarly led to the sovereign's monopoly.¹⁸⁴

B. *Legislative Options for Coexistence*

Despite concerns over financial stability and monetary sovereignty, every approach presently espoused by legislators and regulators to date has been one of coexistence. Former Senator Pat Toomey proposed the Stablecoin Transparency of Reserves and Uniform Safe Transactions Act of 2022 or the Stablecoin TRUST Act of 2022.¹⁸⁵ Senators Kirsten Gillibrand and Cynthia Lummis proposed the Responsible Financial Innovation Act in June 2022.¹⁸⁶ Senator Bill Hagerty and Representative Trey Hollingsworth also proposed the Stablecoin Transparency Act.¹⁸⁷ Representative Patrick McHenry, the chair of

180. See *Lehman Bros. Collapse Triggered Economic Turmoil*, ABC NEWS (Sept. 10, 2009, 8:29 PM), <https://abcnews.go.com/Business/lehman-bros-collapse-triggered-economic-turmoil/story?id=8543352> [<https://perma.cc/74ZB-DFR8>].

181. See James, *supra* note 100, at 290.

182. See David C. Wheelock, *Overview: The History of the Federal Reserve*, FED. RSRV. HIST. (Sept. 13, 2021), <https://www.federalreservehistory.org/essays/federal-reserve-history> [<https://perma.cc/3YXF-ARKJ>].

183. See Kianieff, *supra* note 132; Bordo & Redish, *supra* note 96.

184. See Söderberg, *supra* note 160, at 11.

185. See Stablecoin Transparency of Reserves and Uniform Safe Transactions Act, S. 5340, 117th Cong. (2022).

186. Responsible Financial Innovation Act, S. 4356, 117th Cong. (2022).

187. Stablecoin Transparency Act, S. 3970, 117th Cong. (2022).

the House Financial Services Committee, proposed the Clarity for Payment Stablecoins Act in July 2023.¹⁸⁸

To the best of our knowledge, there is no legislative proposal that questions coexistence.¹⁸⁹ If members of Congress are not engaging in debates about coexistence and are accepting the premise—or desiring the outcome—that private money will coexist with sovereign money, then that assumption will likely be reflected in financial regulators' approaches on the ground.

Financial regulators are currently operating within a coexistence framework. For instance, the President's Working Group stated: "To address risks to stablecoin users and guard against stablecoin runs, legislation should require stablecoin issuers to be insured depository institutions, which are subject to appropriate supervision and regulation, at the depository institution and the holding company level."¹⁹⁰ The Office of the Comptroller of the Currency has also taken preliminary steps to address the financial stability risks inherent in stablecoins,¹⁹¹ but within a framework of coexistence.¹⁹²

Interestingly, the European Commission is reportedly considering a hard cap on stablecoin issuance.¹⁹³ In particular, regulators could order the issuers of any stablecoin exceeding 200 million euros and 1 million transactions daily to cease issuance until these figures come back below the threshold.¹⁹⁴ This effectively allows coexistence "up to a point" and no further. Other than this report, however, most regulatory options—particularly in the United States—appear to have established coexistence as the baseline.

188. Clarity for Payment Stablecoins Act, H.R. 4766, 118th Cong. (2023).

189. See *Comparison of Digital Asset Legislative Proposals*, DAVISPOLK (Jun. 23, 2022), <https://www.davispolk.com/sites/default/files/2022-06/crypto-bills-comparison-client-update.pdf> [<https://perma.cc/J377-SK4L>].

190. *Report on Stablecoins*, *supra* note 9, at 2 (emphasis omitted).

191. See *OCC Clarifies Bank Authority to Engage in Certain Cryptocurrency Activities and Authority of OCC to Charter National Trust Banks*, OFF. OF THE COMPTROLLER OF THE CURRENCY (Nov. 23, 2021), <https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-121.html> [<https://perma.cc/6QR3-XUYH>] ("The Office of the Comptroller of the Currency (OCC) today published a letter confirming that national banks and federal savings associations must demonstrate that they have adequate controls in place before they can engage in certain cryptocurrency, distributed ledger, and stablecoin activities.")

192. Michael J. Hsu, Acting Comptroller of the Currency, *Thoughts on the Architecture of Stablecoins*, Remarks Before the Institute of International Economic Law at Georgetown University Law Center (Apr. 8, 2022), <https://occ.gov/news-issuances/speeches/2022/pub-speech-2022-37.pdf> [<https://perma.cc/VHS4-YCVF>].

193. See Jack Schickler, *EU Commission Favors Ban on Large-Scale Stablecoins, Document Shows*, COINDESK (May 11, 2022, 1:42 PM), <https://www.coindesk.com/policy/2022/05/11/eu-commission-favors-ban-on-large-scale-stablecoins-document-shows/> [<https://perma.cc/PB7K-2X39>].

194. *Id.*

C. Downsides of Coexistence

There are three important lessons for today's lawmakers and financial regulators to learn from economic theory and the historical case studies. First, issuers of circulating private money are banks that are vulnerable to destabilizing bank runs. Second, because circulating private money competes against sovereign money, coexistence makes it more difficult to control the money supply and conduct monetary policy. Third, private money first circulated because the money supply was severely limited and there were no better alternatives.

The concern for financial stability is well understood. In every one of the case studies analyzed in the previous Part—England, the United States, Canada, and Sweden—financial stability concerns were front and center. In England, banks failed frequently—at least 343 bank failures between 1750 and 1830.¹⁹⁵ During the U.S. National Banking Era, bank runs on deposits occurred regularly. In Canada, the monopoly coincided with the founding of the central bank, during a financial crisis. In Sweden, the Riksbank had to stand ready to intervene and still could not prevent banking panics. This is not surprising. Consistent with economic theory, privately produced monies are information sensitive and therefore prone to destabilizing bank runs. The same is true of privately produced digital money like stablecoins. We have recently seen stablecoins lose their pegs as market volatility increased.

Some have suggested transforming stablecoin issuers into “narrow banks,” thereby requiring each stablecoin to be backed by super-safe assets like central bank reserves or short-term U.S. Treasuries.¹⁹⁶ Many of the legislative proposals lean in this direction. But doing so may result in unintended macroeconomic consequences.¹⁹⁷ In particular, uninsured holders of deposits at commercial banks might *run to the narrow stablecoin banks* in times of economic uncertainty. This would destabilize commercial banks.

The concerns over the money supply are less appreciated. Countries in our case studies were naturally concerned with the money supply because it was a shortage of specie that led to the proliferation of privately produced monies in their economies. Again, to quote Paul Tucker, a British central banker, “[Central banks] are able to implement monetary policy because the economy has a demand for central bank money and, as monopoly suppliers, [central banks] can set the terms on which [they] provide it.”¹⁹⁸

To see this point from a different angle, suppose a Big Tech firm issued a stablecoin. Current stablecoin issuers, which are new on the scene, have trouble convincing holders that they actually have reserves backing their coins one for

195. James, *supra* note 100, at 290.

196. Gorton & Zhang, *supra* note 7, at 913.

197. *Id.* at 953.

198. Tucker, *supra* note 19, at 3.

one. Big Tech firms like Google, Apple, Facebook, and Microsoft, on the other hand, have significant resources and could be viewed as implicitly guaranteeing their stablecoins. This implicit guarantee could support a tremendous amount of stablecoins in circulation—a money supply that cannot be controlled by the central bank.

This is not merely a hypothetical. In June 2019, Facebook revealed plans to roll out its own cryptocurrency in 2020 called “Libra.”¹⁹⁹ Central banks around the world reacted with alarm.²⁰⁰ Why? Central banks were not concerned because they were scared of financial stability consequences. Rather, they were concerned that an organization like Facebook—one that reaches *billions* of people around the world on a daily basis—would essentially become a competitor central bank. It could become the most powerful central bank on the planet.

In September 2019, the then-head of Facebook’s Libra program went on Twitter to assure central bankers on that point: “Recently there’s been a lot of talk about how Libra could threaten the sovereignty of Nations when it comes to money. I wanted to take the opportunity to debunk that notion.”²⁰¹ Suffice it to say, central banks were not convinced and telegraphed that they would not let the company proceed with its project. Facebook ended its private money experiment in early 2022.²⁰²

Finally, the most important lesson that lawmakers and financial regulators should learn is that private money circulated widely because *there were no better alternatives*. Recall that private bank notes began to circulate because of a

199. Dirk A. Zetsche et al., *Regulating LIBRA: The Transformative Potential of Facebook’s Cryptocurrency and Possible Regulatory Responses* (Eur. Banking Inst., Working Paper No. 44, 2019); Thibault Schrepel, *Libra: A Concentrate of “Blockchain Antitrust,”* 118 MICH. L. REV. ONLINE 160, 160-61 (2020).

200. See, e.g., Danny Nelson, *CBDC Issuance Is ‘Not a Reaction’ to Libra, Says Central Bank Body*, COINDESK (June 25, 2020, 7:00 AM), <https://www.coindesk.com/markets/2020/06/25/cbdc-issuance-is-not-a-reaction-to-libra-says-central-bank-body/> [<https://perma.cc/9FK2-ZEVN>] (“In March 2019, three months before Facebook unveiled the Libra cryptocurrency, BIS chief Agustín Carstens said central banks ‘are not seeing the value’ of CBDCs. By July he had changed his tune, saying CBDC issuance might come ‘sooner than we think.’”); Robert Anzalone, *Central Banks Suddenly Woke Up When Facebook’s Libra Became a Reality*, FORBES (Oct. 3, 2019, 8:23 AM), <https://www.forbes.com/sites/robertanzalone/2019/10/03/central-banks-suddenly-woke-up-when-facebooks-libra-became-a-reality/?sh=6b3a1d683662> [<https://perma.cc/GS96-SM8J>] (“Central banks suddenly woke up when Facebook’s Libra became a reality. Digital cash enthusiasts saw more headlines and more buzz on stablecoins as policy makers reacted to Libra. Central banks took serious notice, not just a passing fancy, on the prospect of competing digital cash vs fiat currency.”); Dirk Niepelt, *Libra Paves the Way for Central Bank Digital Currency*, VOXEU (Sept. 12, 2019), <https://cepr.org/voxeu/columns/libra-paves-way-central-bank-digital-currency> [<https://perma.cc/K6JF-G9D9>] (observing that “[o]ld finance’ frets about the prospective new competitor; the FinTech sphere is buzzing with rumours; and regulators, central banks, and legislators alike are worried.”).

201. David Marcus (@davidmarcus), X (Sept. 16, 2019, 7:57 AM), <https://twitter.com/davidmarcus/status/1173566567520456705> [<https://perma.cc/G7AH-4MT7>].

202. See Hannah Murphy & Kiran Stacey, *Facebook Libra: The Inside Story of How the Company’s Cryptocurrency Dream Died*, FIN. TIMES (Mar. 10, 2022), <https://www.ft.com/content/a88fb591-72d5-4b6b-bb5d-223adfb893f3>; James Fontanella-Khan et al., *Facebook Gives Up on Crypto Ambitions with Diem Asset Sale*, FIN. TIMES (Jan. 27, 2022), <https://www.ft.com/content/e237df96-7cc1-44e5-a92f-96170d34a9bb>.

shortage of sovereign money. During the U.S. Free Banking Era, for instance, the government did not print money and there was a shortage of coins, so private bank notes were used pervasively. Similarly, in Sweden, there was a very limited and stagnant circulation of metal coins as well as a limited supply of specie metal insufficient to provide the country with an adequate supply of generally accepted means of payments. There simply weren't enough metal coins to go around, and that shortage was holding back economic development. Private banks filled the gap by issuing their own money, and the sovereigns permitted coexistence (for a time).

Developed economies no longer encounter this problem. In the previous two centuries, countries have established central banks and issued fiat currencies untethered to inherently limited supplies of gold and silver. As long as a country does not experience hyperinflation, its currency can successfully circulate.²⁰³ However, the problems associated with the circulation of private money still persist.

To the extent that households and businesses around the world have a demand for private stablecoins, governments can step in to create a better alternative—digital money that satisfies the NQA principle, does not destabilize financial systems, and does not erode monetary sovereignty. We discuss such an approach next in Part V.

V. NATIONAL BANK ACT FOR THE TWENTY-FIRST CENTURY

To date, all legislative proposals have assumed that stablecoins circulating alongside sovereign money is the presumptive path forward. No lawmaker is contemplating legislation akin to a twenty-first-century version of the National Bank Act—the creation of better digital sovereign money paired with a deterrent against the adoption of private digital money. Such a carrot-and-stick approach could solve the problems identified by this Article with respect to the proliferation of private stablecoins.

The carrot would be a central bank digital currency that could capture the benefits of private stablecoins—for example, reducing cross-border transaction costs—without the costs to financial stability and monetary sovereignty. The deterrent would take the form of a ban or a tax on stablecoins. To be sure, because of the transnational nature of stablecoins, a U.S.-only deterrent would not be sufficient. (Enforcement would be very challenging.) Rather, it is meant to buy the government more time in developing its own competitive digital currency by increasing the cost of using private stablecoins.

203. During such periods of hyperinflation, the government's money is no longer credible and largely becomes worthless. Examples include Germany in the 1920s, Zimbabwe in 2008, and Venezuela in 2019.

A. The Carrot: Developing Better Alternatives to Stablecoins

When private bank notes circulated in prior centuries, they did so because there were no better alternatives. Granted, some could theoretically make this point now: Because there are no better digital money alternatives to stablecoins, simply regulating them or taxing them won't make them go away; rather, stablecoins will immediately migrate to another jurisdiction without regulations or taxes and continue to circulate because of existing market demand.²⁰⁴ With this in mind, we first and foremost propose a carrot—a sovereign alternative that does not have the downsides of private digital money. This sovereign version is often referred to as a central bank digital currency.²⁰⁵

In general, a central bank digital currency is defined as “a digital liability of a central bank that is widely available to the general public. In this respect, it is analogous to a digital form of paper money.”²⁰⁶ (Today, cash is the only central bank liability that is available to the public.) This is the key difference between a stablecoin and a central bank digital currency: The latter would be a liability of the central bank and not the liability of a private entity issuer. And, because it would be a liability of the central bank, it would mitigate the financial stability risks inherent to private money while preserving monetary sovereignty.

In addition, a central bank digital currency could improve payment systems. According to a white paper published by the Federal Reserve:

[A central bank digital currency] could provide households and businesses a convenient, electronic form of central bank money, with the safety and liquidity that would entail; give entrepreneurs a platform on which to create new financial products and services; support faster and cheaper payments

204. See Brad Dress, *Senate Banking Chairman Says “Maybe” to Cryptocurrency Ban*, THE HILL (Dec. 18, 2022, 11:39 AM), <https://thehill.com/homenews/sunday-talk-shows/3779731-senate-banking-chairman-says-maybe-to-cryptocurrency-ban/> (quoting Sen. Sherrod Brown as suggesting “[m]aybe banning it, although banning it is very difficult because it will go offshore and who knows how that will work.”).

205. See Gary B. Gorton & Jeffery Y. Zhang, *The Orkney Slew and Central Bank Digital Currencies*, 14 HARV. NAT'L SEC. J. 1 (2022) (providing an in-depth treatment of central bank digital currencies, including their impact on cross-border trade and national security). For a discussion of sovereign alternatives that do not involve central bank digital currencies, see Howell E. Jackson & Timothy G. Massad, *The Treasury Option: How the U.S. Can Achieve the Financial Inclusion Benefits of a CBDC Now*, BROOKINGS (Mar. 10, 2022), <https://www.brookings.edu/research/the-treasury-option-how-the-us-can-achieve-the-financial-inclusion-benefits-of-a-cbdc-now/> [<https://perma.cc/2G44-8VQF>] (writing that the Treasury Department could quickly create digital accounts to expand access to payment services); Peter Conti-Brown & David A. Wishnick, *Private Markets, Public Options, and the Payment System*, 37 YALE J. ON REG. 380 (2020) (arguing that the Federal Reserve's FedNow payment platform can “catalyze innovation, enhance access to developing payment networks, and shore up financial stability”).

206. BD. OF GOVERNORS OF THE FED. RSRV. SYS., MONEY AND PAYMENTS: THE U.S. DOLLAR IN THE AGE OF DIGITAL TRANSFORMATION 1, 1 (2022), <https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf> [<https://perma.cc/E4FK-RGB4>].

(including cross-border payments); and expand consumer access to the financial system.²⁰⁷

Notably, countries around the world are actively pushing ahead with research and development of central bank digital currencies. According to a survey of central banks conducted by the Bank for International Settlements, 86% of central banks are actively researching the potential for central bank digital currencies, 60% are experimenting with the technology, and 14% are deploying pilot projects.²⁰⁸

From an administrative law perspective, the Federal Reserve has rejected the idea of expanding access to Federal Reserve accounts to the general public as a particular design option for a central bank digital currency: “The Federal Reserve Act does not authorize direct Federal Reserve accounts for individuals, and such accounts would represent a significant expansion of the Federal Reserve’s role in the financial system and the economy.”²⁰⁹ However, we are not arguing for account-based digital money but rather for token-based digital money, as shown in the table below. We are not advocating for the public to receive accounts at the central bank but are instead advocating for the public to receive the digital equivalent of Federal Reserve Notes (i.e., digital cash).

TABLE 4: EXAMPLES OF DIFFERENT TYPES OF MONEY

	Private Money	Sovereign Money
Token-Based Money	Stablecoins	Federal Reserve Notes CBDC (Digital Cash)
Account-Based Money		CBDC (Digital Accounts)

Indeed, there are two ways to think about designing a central bank digital currency. The first is an indirect model in which the consumer has a claim on an intermediary (e.g., a bank), with the central bank keeping track of the accounts. The second is a direct model in which the consumer has a direct claim on the central bank, which keeps a record of every transaction. We favor the first proposal, under which a central bank digital currency would be issued as a digital version of physical cash. Thus, if you were to withdraw \$50 from your bank account, you could choose the \$50 to be withdrawn either in the form of digital cash (on your phone or in your digital wallet) or physical cash. This is the

207. *Id.* at 3.

208. *BIS Innovation Hub Work on Central Bank Digital Currency (CBDC)*, BANK FOR INT’L SETTLEMENTS, <https://www.bis.org/about/bisih/topics/cbdc.htm> [<https://perma.cc/HM7R-8XLT>].

209. *BD. OF GOVERNORS OF THE FED. RSRV. SYS.*, *supra* note 206, at 13.

most straightforward option and the least likely to cause unintended consequences.

B. The Stick: Detering the Adoption of Stablecoins

Producing a central bank digital currency—the carrot—to compete against private stablecoins is the most important piece of our proposal. There is market demand for private money, and it takes a product to beat a product. Recall that, in prior centuries, private money circulated because there was no better alternative. Central bank digital currencies could be a better product than private stablecoins if designed properly and could be used in cross-border transactions.

The carrot, however, could use some help. There are two reasons why it is important to pair a stick with the carrot. The first is that it will take time—likely many years—for the Federal Reserve and other central banks to create sovereign digital currencies that are interoperable. Private stablecoins are likely to fill the void in the meantime because there are no alternatives. To slow down adoption in this interim period, the government could increase the marginal cost of using stablecoins as a means of payment. It buys the Federal Reserve and other central banks more time. Second, history shows us that, even if a sovereign alternative is present, it might be difficult for it to outcompete private money once the private money has been widely used and entrenched.²¹⁰ Old habits are hard to break. The U.S. case study shows that Congress had to implement a tax on bank notes to incentivize the uptake of the new national currency that was created in 1863.²¹¹

In the following subsections, we explore two options for Congress to increase the cost of using stablecoins. The first is an outright ban on stablecoins. The second is a tax on stablecoins. New legislation would be required for either option.

1. Banning Stablecoins

If coexistence is such a bad idea, why not just ban stablecoins? Congress has banned products and services in the past, so why not add stablecoins to that list? One practical reason against imposing a ban is that stablecoins operate across jurisdictions. Stablecoins circulate via digital wallets on the blockchain. They are not stored—or do not have to be stored—in accounts. Enforcement of such a complete ban would be impossible at worst and a nightmare at best, hence the “carrot” part of our proposal. Another practical reason is that, from

210. See *Nat'l Banking Acts of 1863 and 1864*, FED. RESV. HIST. (July 31, 2022), <https://www.federalreservehistory.org/essays/national-banking-acts> [<https://perma.cc/8J8D-AEW8>].

211. See *id.*

a political perspective, it's clear that Congress presently has little appetite to ban stablecoins outright. As noted above, every single piece of proposed legislation to date has presumed coexistence.

Of course, Congress is well within its constitutional limits to ban stablecoins under the Commerce Clause.²¹² Suffice it to say, the Court's broad interpretation of the Commerce Clause could sustain a ban on stablecoins. Even a narrower interpretation would likely sustain a ban on stablecoins given that stablecoins could be used as money to settle transactions in interstate commerce. But this point remains moot if Congress continues to accept coexistence.

2. *Taxing Stablecoins*

A tax on stablecoins may be a more politically feasible deterrent against stablecoin adoption. There is legislative precedent for a tax on the circulation of private money. Recall from Part II that Congress passed the National Bank Act in 1863 to help finance the Civil War by creating national banks to issue a uniform national currency.²¹³ Uptake of the new currency was not immediate, as many individuals and businesses continued using private state bank notes (i.e., the stablecoins of the nineteenth century). Congress subsequently passed legislation in 1865 that required all banks to pay a 10% tax on payments that they made in currency other than the national currency:

SEC. 6. *And be it further enacted*, That every national banking association, state bank, or state banking association shall pay a tax of ten per centum on the amount of notes of any state bank or state banking association, paid out by them after the first day of July, eighteen hundred and sixty-six.²¹⁴

The constitutionality of the tax came before the U.S. Supreme Court in *Veazie Bank v. Fenno*,²¹⁵ a case brought by a state-chartered bank in Maine that issued its own private bank notes subject to the tax. The bank refused to pay the 10% tax, alleging it to be unconstitutional. The Supreme Court upheld the tax.²¹⁶

Through the mid-1870s, Congress repeatedly passed legislation to tax the circulation of private money.²¹⁷ Congress even expanded the scope of the tax along multiple dimensions. The original version of the tax, passed in 1865, applied only to private bank notes issued by state banks.²¹⁸ In 1866, the tax was

212. U.S. CONST. art. I, § 8, cl. 3; *see also* *Gonzales v. Raich*, 545 U.S. 1 (2005).

213. *Nat'l Banking Acts of 1863 and 1864*, FED. RESERVE HIST. (July 31, 2022), <https://www.federalreservehistory.org/essays/national-banking-acts> [https://perma.cc/8J8D-AEW8].

214. Ch. 78, § 6, 13 Stat. 469, 484 (1865).

215. *Veazie Bank v. Fenno*, 75 U.S. 533 (1869).

216. *Id.* at 549.

217. *See* Tit. XXXV Rev. Stat. § 3412–13 (1875); Ch. 36, §§ 19–20, 18 Stat. 307, 311 (1875).

218. *See* Ch. 78, § 6, 13 Stat. 469, 484 (1865).

expanded to cover private notes issued by state banks or any persons.²¹⁹ The following year, the tax was expanded to cover notes issued by towns, cities, and municipal corporations.²²⁰ By 1875, the tax on private money circulation had two parts:²²¹

SEC. 19. That every person, firm, association other than national bank associations, and every corporation, State bank, or State banking association, shall pay a tax of ten per centum on the amount of *their own notes* used for circulation and paid out by them.

SEC. 20. That every such person, firm, association, corporation, State bank, or State banking association, and also every national banking association, shall pay a like tax of ten per centum on the amount of *notes of any person, firm, association other than a national banking association, or of any corporation, State bank, or State banking association, or of any town, city, or municipal corporation*, used for circulation and paid out by them.²²²

The circulation tax applied to one's own privately issued money as well as to the privately issued money of others.²²³ Congress designed the coverage to be very broad.²²⁴ To give you an idea of the breadth of the circulation tax, even private clearinghouses²²⁵ and mining companies in Michigan's Upper Peninsula²²⁶ had to ask for exemptions.

Fast forward to the present, and a 10% tax might be more fraught from a constitutional law perspective than it was in the late 1800s. In *Bailey v. Drexel Furniture Co.*,²²⁷ the U.S. Supreme Court held that a tax “which clearly, on its

219. Ch. 184, § 9[bis], 14 Stat. 98, 146 (1866).

220. Ch. 8, § 2, 15 Stat. 6 (1867).

221. Ch. 36, §§ 19–20, 18 Stat. 307, 311 (1875).

222. *Id.* (emphasis added).

223. *Id.*

224. *Id.*

225. During banking panics in the National Bank Era—1863 to 1914—banks suspended convertibility, and clearinghouse “certificates” were used to pay balances between respective banks. In smaller communities, these certificates were even circulated as money. Because of the financial instability, the Comptroller of the Currency and the Secretary of the Treasury “winked at this violation of the law and permitted banks to use this unusual currency until normal times were restored.” GARY B. GORTON, MISUNDERSTANDING FINANCIAL CRISES: WHY WE DON'T SEE THEM COMING 108 (2012) (quoting WASHINGTON AUGUSTUS CLARK, THE HISTORY OF BANKING INSTITUTIONS ORGANIZED IN SOUTH CAROLINA PRIOR TO 1860 154 (1922)). Subsequently, the U.S. Attorney General and courts ruled that the tax on private money circulation did not apply to clearinghouse loan certificates. *Id.* at 98–101.

226. The Revised Statutes of 1875 also included section 3408, which imposed a 1/12 percent monthly tax on “the average amount of circulation issued by any bank, association, corporation, company, or person . . .” Tit. XXXV Rev. Stat. § 3408 (1875). Originally, there were no banks that operated in the mining area of Michigan's Upper Peninsula. Mining companies paid their laborers by giving them “drafts” that could be converted into money once they were “transmitted east for payment.” REP. FROM THE COMM. ON WAYS AND MEANS, 43D CONG., TAXES IN THE SIXTH COLLECTION DISTRICT OF MICHIGAN 2 (1875). Not surprisingly, these drafts eventually circulated as money in the remote mining areas—in violation of section 3408. Moreover, banks that accepted drafts were in violation of the 10% tax. *Id.*

227. *Bailey v. Drexel Furniture Co.*, 259 U.S. 20 (1922).

face, is designed to penalize, and thereby to discourage or suppress, conduct the regulation of which is reserved by the Constitution exclusively to the States, cannot be sustained under the federal taxing power by calling the penalty a tax.”²²⁸ *Bailey* remains good law, as it was most recently affirmed by the Supreme Court in the 2012 Affordable Care Act case, *National Federation of Independent Business v. Sebelius*.²²⁹ But there are two countervailing considerations. The first is that the issuance of money—and its regulation—is not reserved by the Constitution exclusively to the States. The Coinage Clause makes that clear.²³⁰ Second, in *Bailey*, the Court explicitly distinguishes its holding from that in *Veazie Bank v. Feno*:

It will be observed that the sole objection to the tax [on private note circulation in *Veazie*] was its excessive character. Nothing else appeared on the face of the act. It was an increase of a tax admittedly legal to a higher rate, and that was all. There were no elaborate specifications on the face of the act, as here, indicating the purpose to regulate matters of state concern and jurisdiction through an exaction so applied as to give it the qualities of a penalty for violation of law, rather than a tax.²³¹

In other words, *Veazie* remains on solid ground and Congress would be within its constitutional limits to tax circulating private money.

* * *

This tax on circulating private money stayed “on the books” for over a century until 1976.²³² Why did Congress eventually repeal the tax? Was it because Congress suddenly wished for private money to circulate alongside sovereign money? No. It was because Congress wanted to streamline the Internal Revenue Code and thought this particular tax provision no longer served any purpose.²³³

228. *Id.* at 20.

229. *See Nat’l. Fed’n of Indep. Bus. v. Sebelius*, 567 U.S. 519, 544 (2012). To be sure, the Court’s original holding since *Bailey* has evolved. In *Bailey*, the Court refuted Congress using its taxing power to regulate or for ulterior reasons by announcing that “[t]o give such magic to the word ‘tax’ would be to break down all constitutional limitation of the powers of Congress and completely wipe out the sovereignty of the States.” *Bailey*, 259 U.S. at 38. In the 1930s, the Supreme Court began loosening its firm stance on congressional utilization of taxes that regulate within the States. *See generally* Ruth Mason, *Federalism and the Taxing Power*, 99 CAL. L. REV. 975, 999–1003 (2011) (describing the evolution of congressional taxing power post-*Bailey*); *see also* *Sonzinsky v. United States*, 300 U.S. 512 (1937); *Steward Mach. Co. v. Davis*, 301 U.S. 548 (1937); *United States v. Sanchez*, 340 U.S. 42 (1950). Since these cases, the Supreme Court has focused less on whether the tax at all regulates or if it has an ulterior purpose, and more on the structure of the tax and whether it is intended to penalize specific behavior. *See Sebelius*, 567 U.S. at 565–567.

230. U.S. CONST. art I, § 8, cl. 5.

231. *Bailey*, 259 U.S. at 41.

232. Table A2 in the Appendix includes a timeline that illustrates the full evolution of the tax.

233. *See* STAFF OF JOINT COMM. ON INTERNAL REVENUE TAX’N, 94TH CONG., EXPLANATION OF “DEADWOOD” PROVISIONS (Comm. Print 1975).

Specifically, the repeal of the circulation tax in the Tax Reform Act of 1976 was part of the “deadwood” section of the act, repealing several sections which no longer had any application.²³⁴ A deadwood bill was first introduced in 1970 “to simplify the Internal Revenue Code of 1954 by repealing provisions which are obsolete or are unimportant and rarely used.”²³⁵ The bill was 174 pages long and included a repeal of the circulation tax,²³⁶ among many other amendments to the tax code. That bill died in committee and was reintroduced in 1971.²³⁷ This version also died in committee, but the staff of the Joint Committee on Internal Revenue Taxation produced a section-by-section explanation of the bill.²³⁸ With respect to the circulation tax, committee staff stated: “Subsection (c) repeals provisions relating to circulation of other than national banks. The Comptroller of the Currency has stated that . . . these provisions are not needed for effective enforcement. *No tax is collected under these provisions.*”²³⁹ In other words, there was no private money in circulation for the government to tax. There hadn’t been for nearly a century. This provision had become utterly useless.

H.R. 92-25 was incorporated into H.R. 94-10612 as Title XIX, “Repeal and Revision of Obsolete, Rarely Used, Etc., Provisions,” which became the 1976 Tax Reform Act.²⁴⁰ Few changes were made to the deadwood provisions, and the 1971 explanation by committee staff was reprinted to accompany the new version with just a short paragraph added to explain the differences. The section repealing the circulation tax was unchanged as the bill moved through Congress, and the House and Senate committee reports on the bill used the same language (“The Comptroller of the Currency has stated . . .”) to justify that section.²⁴¹ The bill was signed into law on October 4, 1976.²⁴²

234. Tax Reform Act of 1976, Pub. L. No. 94-455, §§ 1901–52, 90 Stat. 1520, 1523–24 (1976).

235. H.R. 17971, 91st Cong. (1970).

236. *Id.* § 410(e).

237. H.R. 25, 92d Cong. § 522(c) (1971).

238. STAFF OF JOINT COMM. ON INTERNAL REVENUE TAX’N, 94TH CONG., *supra* note 233.

239. *Id.* at 34 (emphasis added).

240. Tax Reform Act of 1976, Pub. L. No. 94-455, §§ 1901–52, 90 Stat. 1520, 1523–24 (1976).

241. H.R. REP. NO. 94-658, at 314 (1976); S. REP. NO. 94-938, pt. 1, at 527 (1976). In general, the Joint Committee on Internal Revenue Taxation justified the deadwood provisions in this manner:

This bill, which has been developed over a number of years, represents an attempt to simplify the tax laws by removing from the code those provisions which either are no longer used at all in computing current taxes or are little used and are of minor importance. It has been popularly referred to as the “deadwood” bill. . . .

The provisions deleted include those which deal only with past years, situations which were initially narrowly defined and are unlikely to reoccur, as well as provisions which have largely, if not entirely, outlived their usefulness.

STAFF OF JOINT COMM. ON INTERNAL REVENUE TAX’N, 94TH CONG., *supra* note 233. Congress should have consulted a monetary economist first.

242. To be sure, there were congressional challenges to the tax in the nineteenth century. Table A3 in the Appendix contains a non-exhaustive list. It appears that the repeal effort peaked in 1894, with several days of debate on a repeal bill. The Democratic Party also made repeal of the tax on state bank notes a part

Nothing in the legislative history suggests that Congress consciously decided to erode the sovereign's monopoly on issuing circulating money. Congress repealed the tax on private money circulation because it was *so obvious* that coexistence was a dead issue at that time—deadwood, to be precise. Who could have imagined that, in the twenty-first century, entrepreneurs would attempt to reinvent digital versions of the private bank notes that circulated during the nineteenth century?

CONCLUSION

Cryptocurrencies transformed from a market measured in pennies into one worth over a trillion U.S. dollars in the span of a decade. Stablecoins, a subset of cryptocurrencies designed to circulate like digital cash, are now gaining a greater foothold inside and outside of the cryptocurrency ecosystem. While the technology of money creation has changed tremendously, the underlying economic principles have not. Credible money is information insensitive and is not susceptible to bank runs. Economic theory and financial history teach us that the government can provide such information-insensitive money. The question before us is whether the government should be the *only* entity to provide such money.

We observe that the only times when private money has circulated successfully occurred (a) in *limited* geographical areas and (b) when backed by wealthy guarantors subject to *unlimited* liability. In other words, if Jeff Bezos, Elon Musk, Bill Gates, Mark Zuckerberg, and Warren Buffet decided to issue a private currency that (a) only circulated in a confined ecosystem and (b) was backed by unlimited liability against their personal assets, then that privately issued currency would probably succeed. Without those conditions, however, only the government can credibly create money for mass circulation. And, in doing so, the government preserves financial stability and monetary sovereignty.

Today, lawmakers face the coexistence decision with stablecoins. It is imperative to take a step back and be careful not to resurrect the system of coexistence that was declared dead for good reasons in the nineteenth and twentieth centuries. Instead, lawmakers should maintain the sovereign's money monopoly by taxing the circulation of private digital money and pushing for a central bank digital currency—a form of sovereign money that has the technological advantages without the financial stability risks and erosion of monetary sovereignty.

of its platform in 1892, although it was not in the party's next platform in 1896. See *The American Presidency Project*, UC SANTA BARBARA, <https://www.presidency.ucsb.edu/people/other/democratic-party-platforms> [<https://perma.cc/E2BV-KP23>].

APPENDIX

During the nineteenth and twentieth centuries, every country decided that the production of circulating money would be a monopoly given to the sovereign, particularly to the country's central bank. Table A1 presents some notable examples.²⁴³

TABLE A1: CENTRAL BANKS AND SOVEREIGN MONEY MONOPOLIES

Country	Central Bank Founded	Decision on Monopoly
Austria	1816	1816
Norway	1816	1818
Denmark	1818	1818
United Kingdom	1694	1844
France	1800	1848
Belgium	1850	1850
Netherlands	1814	1863
Spain	1874	1874
Germany	1876	1876
Japan	1882	1883
Finland	1811	1886
Portugal	1846	1888
Sweden	1668	1897
United States	1913	1913
Italy	1893	1926

243. FORREST CAPIE, STANLEY FISCHER, CHARLES GOODHART & NORBERT SCHNADT, *THE FUTURE OF CENTRAL BANKING* (1994).

TABLE A2: TAX ON THE CIRCULATION OF PRIVATE MONEY

Year	Description
1863	<i>Congress allows for the creation of a national currency that is backed by U.S. Treasury bonds and issued by national banks.</i> ²⁴⁴
	<i>Congress passes the first enactment of a tax on the circulation of private money, set at 10%.</i>
1865	“[E]very national banking association, state bank; or state banking association, shall pay a tax of ten per centum on the amount of notes of any state bank or state banking association, paid out by them after the first day of July, eighteen hundred and sixty-six.” ²⁴⁵
	<i>Congress expands the coverage of the tax.</i>
1866	“[E]very national banking association, State bank, or State banking association, shall pay a tax of ten per centum on the amount of notes of any person, State bank, or State banking association, used for circulation and paid out by them after the first day of August, eighteen hundred and sixty-six, and such tax shall be assessed and paid in such a manner as shall be prescribed by the commissioner of internal revenue.” ²⁴⁶
	<i>Congress further expands the tax to cover the notes of towns, cities, and municipal corporations.</i>
1867	“[E]very national banking association, state bank, or banker, or association, shall pay a tax of ten per centum on the amount of notes of any town, city, or municipal corporation paid out by them after the first day of May, anno Domini eighteen hundred and sixty-seven, to be collected in the mode and manner in which the tax on the notes of state banks is collected.” ²⁴⁷
	<i>Congress passes the Revised Statutes of 1875, which consolidates the statutes in force on December 1, 1873, and repeals their earlier versions.</i>
1875	§ 3412: “Every national banking association, State bank, or State banking association, shall pay a tax of ten per centum on the amount of notes of any person, or of any State bank or State banking association, used for circulation and paid out by them.” § 3413: “Every national banking association, State bank, or banker, or association, shall pay a tax of ten per centum on the amount of notes of any town, city, or municipal corporation, paid out by them.” ²⁴⁸

244. Ch. 58, § 62, 12 Stat. 665, 682 (1863).

245. Ch. 78, § 6, 13 Stat. 469, 484 (1865) (introduced as H.R. 38-744).

246. Ch. 184, § 9[bis], 14 Stat. 98, 146 (1866) (introduced as H.R. 39-513).

247. Ch. 8, § 2, 15 Stat. 6 (1867) (introduced as H.R. 40-72).

248. Tit. XXXV Rev. Stat. § 3412-13 (1875).

The tax on circulation was reorganized to distinguish between circulating one's own notes and circulating others' notes, and expanding who pays the tax.

1875 “[E]very person, firm, association other than national bank associations, and every corporation, State bank, or State banking association, shall pay a tax of ten per centum on the amount of their own notes used for circulation and paid out by them.”

“[E]very such person, firm, association, corporation, State bank, or State banking association, and also every national banking association, shall pay a like tax of ten per centum on the amount of notes of any person, firm, association other than a national banking association, or of any corporation, State bank, or State banking association, or of any town, city, or municipal corporation, used for circulation and paid out by them.”²⁴⁹

The language appears in the Internal Revenue Code, unchanged from the 1875 Act.

1939 § 1900(b)(1): “Every person, firm, association other than national bank associations, and every corporation, State bank, or State banking association, shall pay a tax of 10 per centum on the amount of their own notes used for circulation and paid out by them.”

§ 1900(b)(2): “Every such person, firm, association, corporation, State bank, or State banking association, and also every national banking association, shall pay a like tax of 10 per centum on the amount of notes of any person, firm, association other than a national banking association, or of any corporation, State bank, or State banking association, or of any town, city, or municipal corporation, used for circulation and paid out by them.”²⁵⁰

The language appears in the Internal Revenue Code, and is unchanged from its earlier version.

1954 § 4881(b)(1): “Every person, firm, association other than national bank associations, and every corporation, State bank, or State banking association, shall pay a tax of 10 percent on the amount of their own notes used for circulation and paid out by them.”

§ 4881(b)(2): “Every such person, firm, association, corporation, State bank, or State banking association, and also every national banking association, shall pay a like tax of 10 per cent on the amount of notes of any person, firm, association other than a national banking association, or of any corporation, State bank,

249. Ch. 36, §§ 19–20, 18 Stat. 307, 311 (1985) (introduced as H.R. 43-3572).

250. Internal Revenue Code of 1939, Pub. L. No. 76-1, § 1900(b), 53 Stat. 1, 207 (1939).

or State banking association, or of any town, city, or municipal corporation, used for circulation and paid out by them.”²⁵¹

Congress repeals §§ 4881-4886 of the 1954 Internal Revenue Code.

1976 § 1904(a)(18): “Subchapter E of chapter 39 (relating to tax on circulation other than of national banks) is repealed.”²⁵²

251. Internal Revenue Code of 1954, Pub. L. No. 83-591, § 4881(b), 68A Stat. 1, 587 (1954).

252. Tax Reform Act of 1976, Pub. L. No. 94-455, § 1904(a)(1), 90 Stat. 1520, 1814 (1976).

TABLE A3: ATTEMPTED REPEALS OF THE CIRCULATION TAX

Year	Description
1877	H.R. 45-229 referred to House Committee on Ways and Means and not reported. Rep. Vance briefly spoke on the bill on May 1, 1878. 7 Cong. Rec. 3068-72.
1883	H.R. 48-1441 & 1459 referred to the House Committees on Banking and Currency (1441) and Ways and Means (1459) and not reported.
1888	H.R. 50-1816 & 50-6660 referred to House Committee on Banking and Currency and reported adversely. Never debated nor voted on in House.
1892	H. R. 52-3964 & 9344 referred to House Committee on Ways and Means and not reported.
1892	S. 52-2133 referred to the Senate Committee on Finance and reported adversely. Never debated nor voted on in Senate.
1893	H.R. 53-4016 was sent to the House Committee on Banking and Currency and never reported out.
1893	H.R. 53-136 was sent to the House Committee on Banking and Currency and never reported out, but there was one September 29, 1893 hearing at which it was discussed extensively.
1893	H.R. 53-3825 would have exempted clearinghouse certificates and similar notes issued between August 1 and October 15, 1893 from the tax. Reported favorably by the House Committee on Banking and Currency, with a brief explanation of the bill; also mentioned during the September 29, 1893 hearing, on page 237. When the bill was reported in the House, Rep. Cox immediately offered an amendment that would repeal the tax altogether.