

# Protecting the Sovereign’s Money Monopoly

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## Abstract

Sovereign states have had 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 money monopoly from the grave.

Why did sovereign money monopolies come into existence in the 19th and 20th centuries? Should private money circulate alongside sovereign money again in the 21st century? We explore these fundamental questions of legal and financial architecture by revisiting the original legislative debates that led to the sovereign’s money monopoly in England, the United States, Canada, and Sweden. In every case, privately issued 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, the circulation of private money was banned to improve financial stability, gain greater control over monetary policy, or strengthen the sovereign’s fiscal position. Notably, in the United States, Congress enacted a 10 percent tax on the circulation of private money in 1865 that stayed on the books until 1976, when Congress decided to streamline the Internal Revenue Code by deleting provisions deemed “obsolete” or “unimportant and rarely used” from a tax perspective. (Congress should have waited a few decades.)

Today, lawmakers *assume* that coexistence between private money and sovereign money is the optimal path forward and are crafting legal guardrails under that assumption. It is a strong assumption based on insights from economics and history. If anything, lawmakers should seek to pass a 21st century version of the National Bank Act—one that taxes the circulation of private digital money (the stick) and establishes a better sovereign digital alternative (the carrot).

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## Introduction

During the 19th and 20th 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. 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 a largely dead issue.”<sup>1</sup> But the issue has come alive today with the advent of stablecoins,<sup>2</sup> which are digital tokens that reside on blockchains. Many stablecoin issuers claim that their tokens can circulate as money because they are backed by safe assets such as short-term U.S. Treasuries.

There are two fundamental questions from the perspective of financial regulation and monetary sovereignty. First, what exactly are stablecoin issuers? Second, should private stablecoins coexist with sovereign money? In *Taming Wildcat Stablecoins*, we argue that stablecoin issuers are equivalent to unregulated banks. They suffer from run risk and have the potential to generate systemic dangers in the financial system.<sup>3</sup> The President's Working Group on Financial Markets, led by the U.S. Department of the Treasury, agreed with this fundamental characterization in their *Report on Stablecoins* that was issued in November 2021.<sup>4</sup> This article now addresses the second question of coexistence, which has not received as much attention but is arguably even more important.

Today, members of Congress and senior policymakers are of the view that coexistence is possible and desirable. For example, Senator Pat Toomey is seeking to create a regulatory framework for stablecoins that “will allow this crypto-innovation to

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<sup>1</sup> Milton Friedman and Anna Schwartz, *Has Government Any Role in Money?*, 17 JOURNAL OF MONETARY ECONOMICS 37, 52 (1986).

<sup>2</sup> See Anton N. Didenko, Dirk A. Zetsche, Douglas W. Arner & Ross P. Buckley, *After Libra, Digital Yuan and COVID-19: Central Bank Digital Currencies and the New World of Money and Payment Systems*, European Banking Institute Working Paper Series (2020) (observing that “[w]hile the thousands of Bitcoin progenies were able to be ignored, safely, by regulators, Facebook's proposed 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 minting of currency—was always likely to provoke a roll-out of sovereign digital currencies by central banks*”) (emphasis added).

<sup>3</sup> See Gary B. Gorton & Jeffery Y. Zhang, *Taming Wildcat Stablecoins*, 90 U. CHI. L. REV. (forthcoming) (arguing that privately produced monies like stablecoins are not information-insensitive and therefore suffer from run risk when not properly regulated).

<sup>4</sup> See President's Working Group on Financial Markets, *Report on Stablecoins* at 2 (2021) (“To address risks to stablecoin users and guard against stablecoin runs, legislation should require stablecoin issuers to be insured depository institutions...”). 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”).

continue flourishing while protecting consumers and minimizing potential risks from stablecoins to the financial system.”<sup>5</sup> Federal Reserve Chair Jerome Powell took this view during his 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).<sup>6</sup> Federal Reserve Vice Chair Lael Brainard, in a speech at the 2022 Monetary Policy Form 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.”<sup>7</sup>

The notion of coexistence is also widespread among the research community. Indeed, the vast majority of academic scholarship on this topic has advocated for well-regulated coexistence.<sup>8</sup> But this idea of coexistence between private and sovereign circulating monies has been tried in the past and was 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 by clarifying terminology. Table 1 presents our taxonomy. On the horizontal axis, we divide money into “private money” and “sovereign money” based on the economics and finance literature. Private money is a claim where issuer (obligor) is a private firm, and sovereign money is a

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<sup>5</sup> Press Release, *Toomey Announces Legislation to Create Responsible Regulatory Framework for Stablecoins* (Apr. 6, 2022). See also Senators Kirsten Gillibrand and Cynthia Lummis’s Responsible Financial Innovation Act, S.4356, 117th Cong. (2022); Senator Bill Hagerty and Representative Trey Hollingsworth’s Stablecoin Transparency Act, S.3970, 117th Cong. (2022).

<sup>6</sup> See Allyson Versprille & Jesse Hamilton, *Powell Says Private Coins Could Compete With Fed Digital Dollar*, BLOOMBERG (Jan. 11, 2022).

<sup>7</sup> Lael Brainard, *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 Street Journal (May 26, 2022).

<sup>8</sup> 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 & FINANCIAL SERVICES POLICY REPORT 1 (2022); Howell E. Jackson & Morgan Ricks, *Locating Stablecoins within the Regulatory Perimeter*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE (2021); Timothy G. Massad, *Regulating Stablecoins Isn’t Just About Avoiding Systemic Risk*, BROOKINGS REPORT (2021); Dan Awrey, *Bad Money*, 106 CORNELL LAW REVIEW 1 (2020). See also Alexandros Vardoulakis et al., *Lessons from the History of the U.S. Regulatory Perimeter*, FEDS NOTES (2021) (noting that the growth of stablecoins presents a challenge to today’s bank regulatory perimeter); Hilary J. Allen, *DeFi: Shadow Banking 2.0?*, William & Mary Law Review (forthcoming); Wilko Bolt, Vera Lubbersen & Peter Wierds, *Getting the Balance Right: Crypto, Stablecoin, and CBDC*, DNB Working Paper (2022); Christian Catalini, Alonso de Gortari & Nihar Shah, *Some Simple Economics of Stablecoins* SSRN Working Paper (2020). But see Hilary J. Allen, *Bitcoin? 76* Maryland Law Review 877 (2017) (arguing that “the best way to contain [cryptocurrency] risks is for regulated institutions to outcompete virtual currencies by offering better payment services, thus consigning virtual currencies to a niche role in the economy”).

claim where the federal government is either the issuer or the guarantor.<sup>9</sup> On the vertical axis, we split money into “token-based” (*i.e.*, circulating) money and “account-based” (*i.e.*, non-circulating) money.<sup>10</sup> The vast majority of money in existence today is account-based, and it has been like that for the past century by design. The potential proliferation of stablecoins—imagine trillions of private digital tokens circulating as money in the economy—would challenge the sovereign’s monopoly over circulating money and lead this generation’s financial regulators into uncharted waters.

**Table 1: Examples of Different Types of Money**

	Private Money	Sovereign Money
Token-Based Money	[1] Private Bank Notes in the 19th Century <b>[2] Stablecoins</b>	[1] National Bank Notes in the 19th Century [2] Federal Reserve Notes
Account-Based Money	[1] Uninsured Bank Deposits [2] Repos [3] Money Market Funds [4] Commercial Paper [5] PayPal or Venmo	[1] Central Bank Reserves [2] Insured Bank Deposits

Part II revisits a few historical instances in the 18th and 19th centuries when privately produced 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. Part III turns to case studies of the transition from coexistence to the sovereign’s monopoly over money in England, the United States, Canada, and Sweden.<sup>11</sup>

With these case studies in mind, Part IV then challenges the assumption of coexistence. Historically, the most compelling reason for sovereign states to possess a monopoly 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, but the existing financial regulatory framework is geared toward accounted-based private

<sup>9</sup> See Morgan Ricks, *THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION* (2016) at 32-34 (analyzing the contemporary monetary landscape and distinguishing private money from sovereign money).

<sup>10</sup> 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.

<sup>11</sup> These historical case studies are not intended to be a comprehensive treatment of the history of circulating 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, *e.g.*, Christine Desan, *MAKING MONEY: COIN, CURRENCY, AND THE COMING OF CAPITALISM* (2015).

money and is not well-suited to address the risks associated with circulating private money.

Another consideration was *monetary policy*. 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.”<sup>12</sup> This power would be diluted if private stablecoins circulated widely as a competitor to sovereign money.

Finally, the government would lose *seigniorage*. The seigniorage of new money is equal to the value of the money minus the cost required to produce it. The cost of producing the money is negligible while the value of producing the money for a developed country could be up to two percent of GDP.<sup>13</sup> Stablecoin issuers would obtain that profit if their digital tokens proliferated.

Part V proposes a new path forward based on the National Bank Act. In the United States, the road to the sovereign’s money monopoly began during the Civil War. Congress passed the National Bank Act in 1863 to help finance the war by creating national banks to issue a uniform national currency. Congress then repeatedly passed legislation over the next decade that imposed a 10 percent tax on payments that were made in currency other than the national currency. The Supreme Court upheld this tax on the circulation of private money in 1869. Of note, this circulation tax stayed on the books until 1976 when it was deemed obsolete in terms of tax collection and removed as part of a “deadwood” provision to simplify the Internal Revenue Code.

Today, Congress faces a similar decision with the circulation of private stablecoins. We argue that lawmakers should consider a 21st century version of the National Bank Act—a constitutionally sound tax on the circulation of private stablecoins paired with the creation of digital sovereign money. Such a public option could capture the benefits—for example, reducing cross-border transaction costs—without the costs to financial stability and monetary policy associated with private stablecoins. This public option is referred to as central bank digital currencies.

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<sup>12</sup> Paul Tucker, *The Central Bank’s Balance Sheet: Where Monetary Policy Meets Financial Stability*, Speech to Mark the Fifteenth Anniversary of Lombard Street Research (2014) (emphasis added).

<sup>13</sup> See Reid W. Click, *Seigniorage in a Cross-Section of Countries*, 30 JOURNAL OF MONEY, CREDIT & BANKING 154 (1998); Stanley Fischer, *Seigniorage and the Case for a National Money*, 90 JOURNAL OF POLITICAL ECONOMY 295 (1982) (Table A1); Kenneth Rogoff & Jessica Scazzero, *Covid Cash*, 41 CATO JOURNAL 571 (2021) (Table 5).

In short, it is imperative for lawmakers to take a step back, reexamine the fundamentals of circulating private money, and be careful not to resurrect the legal and financial architecture of coexistence that was declared dead for good reason.

## Part I. Overview of the Different Types of Money

In this Part, we seek to clarify terminology in order to advance the discussion on the sovereign's money monopoly. We first present an economic theory on what makes an instrument money and then we provide a taxonomy of the different types of money that exist in today's economy. Based on Table 1, we categorize money into a 2x2 matrix: (1) circulating private money, (2) circulating sovereign money, (3) account-based private money, and (4) account-based sovereign money.

As stablecoins are presently designed, they fit into the upper-left quadrant of the matrix because they are privately issued and can circulate. In theory, federal regulations could push stablecoins into one of the three other quadrants as well. For example, if Congress requires stablecoins to be issued and stored only in FDIC-insured bank accounts—and if Congress were able to enforce this law for all stablecoin issuers—then stablecoins would become account-based sovereign money in the lower-right quadrant. In this article, we treat stablecoins as they are inherently designed: as digital tokens that have the ability to circulate like money outside of an account-based system.

### A. Economic Theory of Money

We begin with an economic theory of money. As described by the economics and finance literature, money has several important properties, with the three most commonly stated ones being a store of value, a unit of account, and a medium of exchange.<sup>14</sup> The property that's most obvious, yet not explicitly stated, is that money also must satisfy the no-questions-asked (“NQA”) principle, which requires the money be accepted in a transaction without due diligence on its value.<sup>15</sup> In other words, NQA means both parties to a transaction must agree that the money be accepted at par—a ten-dollar bill should be accepted as being worth ten dollars, not a penny less.

Bankers have understood this concept for a while. 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 it bringing the amount for which

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<sup>14</sup> See, e.g., N. Gregory Mankiw, PRINCIPLES OF ECONOMICS.

<sup>15</sup> The NQA principle is due to Bengt Holmström, *Understanding the Role of Debt in the Financial System*, BANK FOR INTERNATIONAL SETTLEMENTS WORKING PAPER NO. 479 (Jan. 14, 2015), <https://www.bis.org/publ/work479.htm>.

it was issued.”<sup>16</sup> 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 every citizen engaged in any business of life it is of vital importance that there should be a fixed and unchanging standard. Without it, business, except of the most meagre kind, would be at an end, and commerce would be practically annihilated.<sup>17</sup>

Indeed, the court was asserting that it would be *economically efficient* to have a “fixed and unchanging standard” of value. Again, 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 the less-informed cannot be taken advantage of in transactions. In this case, the money is produced such that no one finds it profitable to produce (private) information about the backing for such money, and everyone knows that this is the case.

Put differently, money is supposed to be *information-insensitive*; 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 bananas—do not apply to money. A one-dollar bill is to always transact for one dollar without question. However, if the price does not change, then the laws of supply and demand require that the quantity must change. These adjustments occur most dramatically during a bank run when the outstanding quantity of the privately produced money is severely reduced.

These ideas were formalized by the economics literature.<sup>18</sup> For instance, 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. Examples include free bank notes backed by state bonds, demand deposits backed by portfolios of loans, and sale and repurchase agreements (“repos”) backed by debt collateral. Debt-on-debt maximizes information-insensitivity. We take this as a theory of money and use information-insensitivity as the benchmark.

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<sup>16</sup> Charles C. Homer, *Hearings before the Committee on Banking and Currency, Fifty-third Congress, Third Session (1894-1895)* at 118 (emphasis added).

<sup>17</sup> 121 Ind. 366 (1890).

<sup>18</sup> See Gary Gorton & George Pennacchi, Financial Intermediaries and Liquidity Creation, 45 JOURNAL OF FINANCE 49 (1990); Bengt Holmström, *Understanding the Role of Debt in the Financial System*, BANK FOR INTERNATIONAL SETTLEMENTS WORKING PAPER No. 479 (Jan. 14, 2015), <https://www.bis.org/publ/work479.htm>; Tri Vi Dang, Gary Gorton & Bengt Holmström, *The Information View of Financial Crises*, 12 ANNUAL REVIEW OF FINANCIAL ECONOMICS 39 (2020).

### *B. Private Money v. Sovereign Money*

According to the economics and finance literature, private money is a claim where issuer (obligor) is a private firm, not a public institution; and sovereign money is a claim where the federal government is either the issuer or the guarantor.<sup>19</sup>

Suffice it to say, private money is everywhere in today's economy. Private money creation runs in the trillions of dollars. Repurchase agreements—or “repos” for short—constitute nearly \$2.5 trillion in private money. Shares of retail and institutional money market mutual funds add to up over \$4.5 trillion in private money. Aside from these fancy-sounding financial instruments, even airline miles are technically private money. Private money is ingrained in our economy.

The easiest example of sovereign money is the cash in one's wallet. These Federal Reserve Notes are issued by the central bank and are legal tender in the United States. One can use them to pay for groceries at the supermarket or coffee at a cafe. A less obvious example of sovereign money is FDIC-insured deposits at banks. They are sovereign money because the federal government is the guarantor of those deposits. (Uninsured bank deposits, on the other hand, are private money.)

As described in more detail below, the path to creating sovereign money in the United States dates back to the National Bank Act in 1863. This Act created national banks and national bank notes—notes that had to be backed by U.S. Treasury securities. Prior to this Act, hundreds of privately produced bank notes traded at time-varying discounts from par, so the country had a system of multiple currencies with floating exchange rates.

The National Bank Act created a common currency. After the Act was passed, 729 new banks were established between 1863 and 1866, and these new banks concentrated in what would become the nation's manufacturing belt, which led to capital deepening in the manufacturing sector.<sup>20</sup> Relatedly, counties with access to the new national banks experienced significant manufacturing growth.<sup>21</sup>

### *C. Circulating Money v. Account-Based Money*

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<sup>19</sup> Ricks, *supra* note 9.

<sup>20</sup> See Matthew Jaremski, *National Banking's Role in U.S. Industrialization, 1850–1900*, 74 JOURNAL OF ECONOMIC HISTORY 109 (2014).

<sup>21</sup> See Chenzi Xu & He Yang, *Monetizing the Economy: National Banks and Local Economic Development*, Stanford GSB Working Paper (Feb. 2021), [https://chenzi-xu.com/docs/nationalbanks\\_xu\\_yang.pdf](https://chenzi-xu.com/docs/nationalbanks_xu_yang.pdf).

Now that we have discussed the difference between private money and sovereign money, we wish to be clear about the difference between circulating, token-based money and non-circulating, account-based money. Our analysis is not focused on account-based money created by private institutions like banks or money market mutual funds, but rather on circulating private money.

Account-based money refers to money in a specific bank account. Person X writing a check to Person Y, for example, links the payment to X's bank account. That money will be deposited in Y's bank account when the check clears (*i.e.*, when the money is drawn from X's account and put into Y's account). 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, endorsing a check that was written to you and using the endorsed check to buy groceries does not happen because the grocery store does not know the identity of the check writer. Some may argue that bank deposits do circulate via platforms like PayPal or Venmo. While these platforms certainly allow for increased transactions, they do not deviate from the account-based model described here. Money transferred through these services still go from one account to another. This is simply another form of check writing, account-based money.<sup>22</sup>

Circulating money, on the other hand, is not history dependent. Circulating money is not 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.

When we refer to the "coexistence" of private and sovereign money, we are specifically referring to the coexistence of two forms of circulating, token-based money. This might seem like a trivial distinction, but it is not. Account-based money is the dominant form of money in today's economy. Generations of financial regulators have established guardrails around account-based money over the past century. They know how to deal with non-circulating, account-based money.

Circulating, token-based money makes up only a small percentage of total money. However, that does not always have to be the case. If stablecoins grow exponentially in economic transactions over the next decade, this generation of financial regulators would be entering uncharted waters because our legal and financial architecture

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<sup>22</sup> See also Jess Cheng & Joseph Torregrossa, *A Lawyer's Perspective on U.S. Payment System Evolution and Money in the Digital Age*, FEDS NOTES (Feb. 4, 2022) (explaining the modern tiered U.S. payment system).

would have to grapple once again with the proliferation of circulating private money akin to the private bank notes that circulated in the 19th century.

## Part II. The Circulation of Privately Issued Money

Circulating private money generally does not have a fixed and unchanging standard of value because it does not satisfy the NQA principle.<sup>23</sup> 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 there were no credible alternatives.

Through the 18th century, this meant that there was no credible government money and there was a shortage of specie. Indeed, there were around 60 instances in which a country used privately produced bank notes as money. These banking systems were generally referred to as “free banking” because there was, more or less, free entry into the business of banking. These systems, however, were very heterogeneous and subject to a variety of regulations.<sup>24</sup>

Were there cases in which circulating private money did not satisfy the NQA condition but were 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 18th century and early 19th century. We discuss each in turn.

### A. Circulating with Unlimited Liability

Scottish bank notes and English inland bills of exchange—both existing in the 18th and early 19th 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 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. The banks issued their own distinctive monies. Three banks had limited liability and the rest had unlimited liability. Unlimited liability meant that the identities of the bank partners were critical to the monies circulating as a hand-to-hand currency.<sup>25</sup>

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<sup>23</sup> See Gorton & Zhang, *supra* note 3.

<sup>24</sup> See Kurt Schuler, *THE WORLD HISTORY OF FREE BANKING: AN OVERVIEW* (1992).

<sup>25</sup> See Charles Munn, *THE SCOTTISH PROVINCIAL BANKING COMPANIES, 1747-1864* (1981) at 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

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 36 partners, including merchants and landed gentlemen of the region. 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.”<sup>26</sup> As another example, the Banking Company of Aberdeen, formed in 1767, had 297 partners. 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.’”<sup>27</sup> The partners of Ship Bank also fit the mold. According to Boase:

The town mansions of these gentlemen are worth noticing. That of Provost Colin Dunlop, the leading partner of the banking firm, and great-grand-father 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 further west. . . Mr Macdowal’s was the princely edifice so well known in Glasgow story. . . popularly known as “The Shawfield Mansion.”<sup>28</sup>

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.<sup>29</sup>

Scottish bank notes were successful in a limited geographical area because the identities of 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.<sup>30</sup>

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attached in cases of failure. This knowledge encouraged people to hold banknotes especially if the partners were men of substance.”).

<sup>26</sup> S. G. Checkland (1975), *SCOTTISH BANKING, A HISTORY, 1695-1973* (1975) at 115.

<sup>27</sup> *Id.*

<sup>28</sup> C. W. Boase, *A CENTURY OF BANKING IN DUNDEE* (1867) at 16. *See also* Friedman & Schwartz, *supra* note 1, at 50 (“Scotland was an old, established community, with a relatively stable population, so that stockholders consisted in the main of persons who were well-known, had considerable private wealth and valued their own reputations for probity highly enough to honor their obligations”).

<sup>29</sup> Sir John Clapham, *THE BANK OF ENGLAND, A HISTORY* (1970) at 91.

<sup>30</sup> *See* Munn, *supra* note 23, at 22 (noting that “most provincial bank notes had a purely local circulation in and around their place of issue”).

During this period, Scottish banks did experience bank runs and failures. According to Munn, “war with revolutionary France in 1793 caused a run on the banks. In the rush for liquidity two Glasgow banks failed.”<sup>31</sup> In 1797, there was another bank run, following rumors of a French invasion of England and banks had to suspend payments.<sup>32</sup> Furthermore, Checkland notes that there were banking panics in 1810-11, 1818-19, 1825-26, 1836-37, 1839, and 1845-47.<sup>33</sup>

The Scottish free banking example has been trumpeted by some as a demonstration that free banking worked well.<sup>34</sup> 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 individual identities (*i.e.*, information sensitivity) arose with English inland bills of exchange.<sup>35</sup> Inland bills of exchange, where all parties to the bill were in England, were a unique form of private money that circulated predominantly as a hand-to-hand currency in the industrial north of England in the latter half of the 18th and first half of the 19th centuries.

Inland bills of exchange arose in the industrial north of England as a hand-to-hand currency due to a constrained supply of specie. Workers were paid with coins, which were scarce. Society needed an alternative form of money. But English banks were weak. During the 17th and most of the 18th century, English banks were limited to no more than six partners—unlike Scottish banks, which had dozens or hundreds of backing partners. Though the English bank partners faced unlimited liability, the limited number of backing partners resulted in banks that often failed. While inland

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<sup>31</sup> *Id.* at 49.

<sup>32</sup> *Id.* at 54.

<sup>33</sup> Checkland, *supra* note 24, at 403.

<sup>34</sup> Munn’s comment on this debate is instructive: “I feel that the 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? edited by Forrest Cappie and Geoffrey Wood (1991) at 68.

<sup>35</sup> See Gary B. Gorton, *Private Money Production Without Banks*, NBER Working Paper No. 26663 (2020), <https://www.nber.org/papers/w26663>.

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.<sup>36</sup>

Bills of exchange circulated via indorsement,<sup>37</sup> putting each indorsers' wealth at risk if the borrower failed. This was the key feature: *All* parties indorsing the bill were liable. 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.<sup>38</sup>

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 those other indorsers in the chain would make the bill even more credible.<sup>39</sup> The front and back of a typical bill is shown below.

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<sup>36</sup> Henry Thornton, *AN ENQUIRY INTO THE NATURE AND EFFECTS OF THE PAPER CURRENCY ON GREAT BRITAIN* (1802) at 44-45 (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 due").

<sup>37</sup> It also helped that, in the industrial north, the population was denser than in agricultural areas, and more literate.

<sup>38</sup> Stewart Tournay, *A PRACTICAL GUIDE TO THE LAW OF BILLS OF EXCHANGE* (1851) at 40-41.

<sup>39</sup> T. S. Ashton, *The Bill of Exchange and Private Banks in Lancashire, 1790-1830*, 15 *ECONOMIC HISTORY REVIEW* 25, 26 (1945) (observing that "since each successive holder indorsed it, the more it circulated the greater the number of guarantors of its ultimate payment into cash"). *See also* Knut Wicksell, *INTEREST AND PRICES* (1936) at 63 ("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 indorsements it carries and consequently with the number of money payments that it has provided the means of obviating").



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, tomorrow at Melton for horned cattle, the next at Leicester for sheep, 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.<sup>40</sup>

<sup>40</sup> Henry Burgess, *A letter to the Right Hon. George Canning: to explain in what manner the industries of the people and the productions of the country are connected with and influenced by internal bills of exchange*, BRISTOL SELECTED PAMPHLETS (1826) at 19-20, <http://www.jstor.org/stable/60248126>.

According to Google Maps, 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). 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, banks issued their own private bank notes. 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. During the Free Banking Era of 1836-1863, eighteen states adopted a version of free banking and fifteen retained the chartered banking system.

At that time, the government did not print money, and there was a shortage of specie.<sup>41</sup> Private bank notes were used widely as an alternative.<sup>42</sup> The notes could be redeemed at par on demand at the issuing bank. Indeed, within a nearby vicinity of the issuing bank, the notes circulated at par. However, these private bank notes circulated at discounts away from the issuing banks. For example, a bank's notes might trade at a 10 percent discount 100 miles away from the issuing bank (*i.e.*, a one-dollar note was only worth 90 cents at the distant location). At a distance, the note discounts reflected risk factors of the issuing bank.<sup>43</sup> Roughly 1,500 bank notes of different banks circulated, depending on the year. Consequently, there was a well-developed market for bank notes with fluctuating discounts.

Newspapers that published the discounts on notes covered bank notes from many distant banks. Van Court's Bank Note Reporter, published in Philadelphia, covered a total of 3,089 banks in 35 states, territories, and provinces of Canada. Van Court's coverage is shown in Table 2.<sup>44</sup>

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<sup>41</sup> As the reader can probably tell by now, a shortage of specie was a common theme motivating the proliferation of privately produced money.

<sup>42</sup> See William M. Gouge, *A SHORT HISTORY OF PAPER MONEY IN THE UNITED STATES* (1833) at 57 (observing that ““of 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”).

<sup>43</sup> See Gary B. Gorton, *Reputation Formation in Early Bank Note Markets*, 104 *JOURNAL OF POLITICAL ECONOMY*, 346 (1996).

<sup>44</sup> This table is from Gary B. Gorton, *Pricing Free Bank Notes*, 44 *JOURNAL OF MONETARY ECONOMICS* 33 (1999).

**Table 2: Coverage of Van Court's Bank Note Reporter**

States with Complete Coverage		States with Incomplete Coverage <sup>45</sup>		States Listed as "Uncertain" or Not Listed
United States	Canada	United States	Canada	
Alabama	Canada <sup>46</sup>	Arkansas	New Brunswick	Iowa territory
Connecticut	Nova Scotia	Florida		Minnesota
Delaware		Illinois		Missouri
Washington, DC		Indiana		Texas
Georgia		Michigan		
Kentucky		Mississippi		
Louisiana		Nebraska		
Maine		New Hampshire		
Maryland		Virginia		
Massachusetts		Wisconsin		
Montana				
Pennsylvania				
New Jersey				
New York				
North Carolina				
Ohio				
Rhode Island				
South Carolina				
Tennessee				
Vermont				

Notably, bank note reporters were published in many cities. Larger cities had more than one bank note reporter, as shown in Table 3 below.<sup>47</sup> Thus, unlike Scottish bank notes or English inland bills of exchange, U.S. private bank notes were more extensively used across various geographic regions.

**Table 3: Bank Note Reporters at Different Centers**

Location	Number of Reporters
New York City	22
Boston	3
Buffalo	2
Chicago	4
Cincinnati	12
Detroit	2

<sup>45</sup> Incomplete coverage means that the Van Court Bank Note Reporter did not quote a price for banks in that state than month. The state may have been listed, though, and the notes of banks in that state described as "all uncertain." Date in parentheses indicate periods for which the data was missing.

<sup>46</sup> Canada includes banks located in provinces other than Nova Scotia or New Brunswick.

<sup>47</sup> This table is from William Dillistin, *BANK NOTE REPORTERS AND COUNTERFEIT DETECTORS*, 1826-1866 (1943).

Hartford	1
Montreal	1
Philadelphia	7
Pittsburgh	4
St. Louis	4
Zanesville, Ohio	1

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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.<sup>48</sup> Clearly, the system was cumbersome and inefficient, but there was no credible alternative. An example of a critique of the system was given by Whitney:

The businessman 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 paid. Receiving payment in bank notes, he assorted them into two parcels, current and uncurrent. In the first he placed notes issued by 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 varies from one percent 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.<sup>49</sup>

The system of private bank notes ended when the National Bank Act was passed in 1863 and a prohibitively high tax on bank notes was adopted, effectively ending their existence.

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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 information. In Scotland, holders of bank notes needed to know the identity of the (very wealthy)

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<sup>48</sup> See William O. Scroggs, *A CENTURY OF BANKING PROGRESS* (1924) at 160 (describing how the reporters were used).

<sup>49</sup> See John J. Knox, *HISTORY OF BANKING IN THE UNITED STATES* (1903) at 365 (quoting D. R. Whitney, who was the president of the Suffolk Bank in Massachusetts and published a book on the bank in 1878).

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 those who indorsed. 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. Information mattered, and parties had an incentive to obtain 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 that depended on distance from the issuing bank.

Finally, because the private monies were information-*sensitive*, they were not always safe. In both the Scottish and American examples, bank runs and bank failures occurred. This concern of financial fragility played a significant role in the path from coexistence to sovereign monopoly, which we explore in the next Part.

### Part III. The Emergence of the Sovereign’s Money Monopoly

History shows there were good reasons for a government monopoly on the production of circulating money. In this Part, we review the historical legislative and policy debates surrounding the creation and operation of sovereign money 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 the 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. Economically, which is our focus, there were perennial debates on financial stability (*e.g.*, banking panics), the money supply (*e.g.*, its inelasticity or cyclical), and fiscal affairs (*e.g.*, funding the national treasury). Table 4 below highlights the economic factors underlying the monopolies in each of our four case studies.

**Table 4: Economic Reasons for the Sovereign’s Monopoly**

	Financial Stability Considerations	Money Supply Considerations	Fiscal Considerations
England	X	X	X
United States	X	X	X
Canada	X	X	
Sweden	X	X	X

#### A. England

In England, the sovereign’s money monopoly came about primarily in response to repeated financial crises, most immediately the crises in 1835-36 and in 1839.<sup>50</sup> 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.<sup>51</sup> Banks failed frequently—at least 343 bank failures between 1750 and 1830.<sup>52</sup> Indeed, according to Joplin’s observations on the English banking system in 1822:

<sup>50</sup> See J. K. Horsefield, *The Origins of the Bank Charter Act, 1844*, 11 *ECONOMICA* 180, 180 (1944) (“Public opinion was also shocked that help had had to be sought from France in order to maintain the convertibility of Bank Notes.”).

<sup>51</sup> See T.S. Ashton, *ECONOMIC FLUCTUATIONS IN ENGLAND, 1700-1800* at 136 (1959).

<sup>52</sup> See L. S. Presnell, *COUNTRY BANKING IN THE INDUSTRIAL REVOLUTION* at 443 (1956).

When the slightest apprehension is entertained respecting [the banks] solvency, however groundless it may sometimes prove, a run upon the immediately takes place. That is, hundreds of people immediately crowd the doors of the Banks, to demand payment of the Notes they held, or to withdraw that money out of their hands, which they have deposited with them . . . Great however as the inconveniences are which 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.<sup>53</sup>

As a result of frequent financial trauma, the Bank Charter Act of 1844—commonly known as Peel’s Act<sup>54</sup>—granted the Bank of England a monopoly over note issuance, with a carve-out for private banks issuing notes as of May 6, 1844.<sup>55</sup>

Peel’s Act was momentous for several reasons. First, it came during a period when free trade principles dominated. This was no doubt the influence of Adam Smith.<sup>56</sup> Second, it was a wholistic approach to the issue of bank notes, motivated by the idea that banking should be separated from the control of the currency.<sup>57</sup> Third, the Act is generally viewed as being the foundation for the Bank of England to become the central bank because of the monopoly over note issuance, which was the source of much controversy.<sup>58</sup>

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

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<sup>53</sup> T. Joplin, *An Essay on the General Principles and Present Practice of Banking in England and Scotland* (1822). See also John A. James, *Panics, Payments Disruptions and the Bank of England before 1826*, 19 *FINANCIAL HISTORY REVIEW* 289 (2012); Julian Hoppit, *Financial Crises in Eighteenth-Century England*, 39 *ECONOMIC HISTORY REVIEW* 39 (1986).

<sup>54</sup> Sir Robert Peel was the Prime Minister at that time. 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.” 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.

<sup>55</sup> These banks were allowed to issue in the future but could not exceed their average in early 1844.

<sup>56</sup> See Arie Arnon, *Banking between the Invisible and Visible Hands: A Reinterpretation of Ricardo's Place within the Classical School*, 39 *OXFORD ECONOMIC PAPERS* 268 (1987).

<sup>57</sup> See P. Barrett Whale, *A Retrospective View of the Bank Charter Act of 1844*, 11 *ECONOMICA* 109 (1944).

<sup>58</sup> See *A DIGEST OF THE EVIDENCE ON THE BANK CHARTER, TAKEN BEFORE THE COMMITTEE OF 1832* (1833) 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.”). 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.” *The Currency Monopoly*, *PROSPECTIVE REVIEW* (1848).

quantity of money and of coin should never be allowed to differ.<sup>59</sup> 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.<sup>60</sup> Of note, those objecting to the Bank being rechartered argued, among other points, that this created an inelasticity which would hinder the Bank’s ability to respond to panics by increasing the money supply, leading to panic.<sup>61</sup>

In addition to financial stability and the money supply, the debate also raised the issue of who should profit from the Bank’s monopoly. Among those in favor of the monopoly were voices that wanted to the profits to accrue to the government. 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, savings so much as might be fair remuneration for the trouble and risk of administering the details of it.”<sup>62</sup>

In the end, the debates and testimony in the Committee of 1832 led to the recharting of the Bank of England and established the Bank’s notes as legal tender. According to Orzechowski, the 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.”<sup>63</sup>

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<sup>59</sup> 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 J.K. Horsefield, *The Origins of the Bank Charter Act, 1844*, 11 *ECONOMICA* 180 (1944). See also Charles Goodhart & Meinhard Jensen, *Currency School versus Banking School: An Ongoing Confrontation*, 4 *ECONOMIC THOUGHT* 20 (2015).

<sup>60</sup> See, e.g., *Letter to Charles Wood, Esq., M.P., Chairman of the Committee of the House of Commons on Banks of Issue* (1841).

<sup>61</sup> The 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 *JOURNAL OF INTERNATIONAL ECONOMICS* 1 (1984) (“The removal of the restriction on fiat money issue dispensed with the concern for the internal convertibility of deposits into notes.”).

<sup>62</sup> *Testimony of George Grote*, A DIGEST OF THE EVIDENCE ON THE BANK CHARTER, TAKEN BEFORE THE COMMITTEE OF 1832 (1833) at 97.

<sup>63</sup> Paul E. Orzechowski, *George Scrope, Free Bankers, and the Bank Charter Act of 1833*, *ESSAYS IN ECONOMIC & BUSINESS HISTORY* (2019) at 182.

## *B. United States*

In the United States, the road to the sovereign's monopoly over money began during the Civil War. 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. In the subsequent decades, policymakers noted significant problems associated with the inelasticity of the money supply and the frequency of banking panics.

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 that would give private bank clearinghouses the ability to issue money backed by their members' assets. Section 9 of the proposed legislation stated:

That a clearing house of issue shall be authorized and empowered to receive from its bank members, or any clearing house within the State or district in which it is located, commercial assets, promissory notes, bills of exchange, convertible bonds and stocks, and other securities and evidence of debt as collateral security for the circulating notes of the said association to be issued.<sup>64</sup>

The collateral was to have a 25 percent haircut and the notes issued would be guaranteed by all the clearinghouse members jointly.

The Hearings were motivated by the perceived weaknesses of the National Banking System that had been created during the Civil War. The main complaints alleged against the existing banking system were the inelasticity of the money supply and the frequency of banking panics. The inelasticity was due to the structure of system. The United States had adopted a hybrid system of money in 1863 with the National Bank Act. The Act created banks called national banks, which could issue their own "national bank notes," but required that these notes be backed by U.S. Treasury bonds. The purpose of requiring that national bank notes be backed by Treasuries was intended to create a demand for Treasury securities which could be issued to finance the North during the Civil War. By linking the bank notes to U.S. Treasuries, the money supply could not be changed easily. This inelasticity of the money supply was widely noted.<sup>65</sup>

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<sup>64</sup> *Banking and Currency Reform Hearings before the Subcommittee of the Committee on Banking and Currency* (1913) at 90.

<sup>65</sup> See Edwin Kemmerer, *Seasonal Variations in the Relative Demand for Money and Capital in the United States*, NATIONAL MONETARY COMMISSION (1910) at 13 ("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

Moreover, the National Bank Act of 1863 was expected to end panics since the national bank notes would be backed by U.S. Treasuries. But the National Bank 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).<sup>66</sup> Deposits had started outstripping bank notes prior to the Civil War.

Thus, the basis for Gilman’s proposal was that private bank clearinghouses were 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 were the joint liability of the member banks.<sup>67</sup> 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.”<sup>68</sup> The Federal Reserve was also to provide financial stability. Both goals, an elastic 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 20th century, Canada’s political leadership recognized the need for greater control of its money supply as well as greater financial stability.

In October 1929, the U.S. stock market collapsed, and economic depression ensued in North America and around the world. Canada was hit especially hard. The country’s GDP-to-Capital ratio declined by 35 percent from the peak of 1928 to the trough of 1933, compared to a 30 percent decline in the United States.<sup>69</sup> As in the United States, Canadian farmers were among the hardest hit during the Depression. They were

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and widely separated times, and sometimes with particular reference to regularly recurring seasonal fluctuations in the demand for money and loanable capital.”)

<sup>66</sup> See Gary Gorton, *Banking Panics and Business Cycles*, 40 OXFORD ECONOMIC PAPERS 751 (1988).

<sup>67</sup> See Gary Gorton & Ellis Tallman, *FIGHTING FINANCIAL CRISES* (2018).

<sup>68</sup> See Federal Reserve Act, ch. 6, 38 Stat. 251 (1913).

<sup>69</sup> Joe Martin, *THE CREATION OF THE BANK OF CANADA* (2005).

paying 7 percent on mortgages that had been signed in the 1920s but their products were selling for less than one half of their 1926 values.<sup>70</sup>

Canada had no central bank at the time. Farmers were in favor of having a central bank; bankers were 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.<sup>71</sup> The commission was chaired by Hugh Macmillan. The commission held hearings throughout Canada and delivered a report. After surveying the Canadian banking and financial system, the 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 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 had been found in the *existence of or the creation of a central bank*.

The Bank of Canada was thereby chartered in 1934 when the Bank of Canada Act was passed, and the bank became operational in March 1935.<sup>72</sup> The Preamble of the Act states:<sup>73</sup>

Whereas 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 the dominion.

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

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<sup>70</sup> *Id.*

<sup>71</sup> REPORT OF THE ROYAL COMMISSION ON BANKING AND CURRENCY IN CANADA (1933) (emphasis added).

<sup>72</sup> Bank of Canada Act, [https://www.bankofcanada.ca/wp-content/uploads/2010/07/act\\_loi\\_boc\\_bdc.pdf](https://www.bankofcanada.ca/wp-content/uploads/2010/07/act_loi_boc_bdc.pdf).

<sup>73</sup> *Id.*

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.<sup>74</sup>

Another motivating factor was the elasticity of the money supply, particularly whether it was elastic enough to address seasonality associated with crops being planted and harvested. According to Kianief,

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.<sup>75</sup>

To be sure, political issues played a role as well.<sup>76</sup> In the west of Canada there was anti-bank sentiment due to high interest rates and a perceived lack of sufficient credit. And more generally, the public was concerned with the concentration of bank ownership and the banks' influence over the economy through interlocking directorships. The period from 1901 to 1914 was one of bank failures, liquidations, and mergers.

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Similar to the U.S. experience described previously, the Canadian experience also included a circulation of government notes prior to the establishment of a central bank. Specifically, the Canadian government issued "Dominion notes" from 1867 to 1934.

Before the various provinces of Canada were united into what we now know as Canada, provinces issued their own notes. Confederation occurred in 1868 and, with confederation, the Dominion government acquired the right of issuing notes, taking

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<sup>74</sup> See Muharem Kianieff, *Private Banknotes in Canada from 1867 (and before) to 1950*, 30 QUEEN'S LAW JOURNAL 400 (2004) ("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 a gradual phasing out of private banknotes and their replacement of notes issued by the Bank of Canada.").

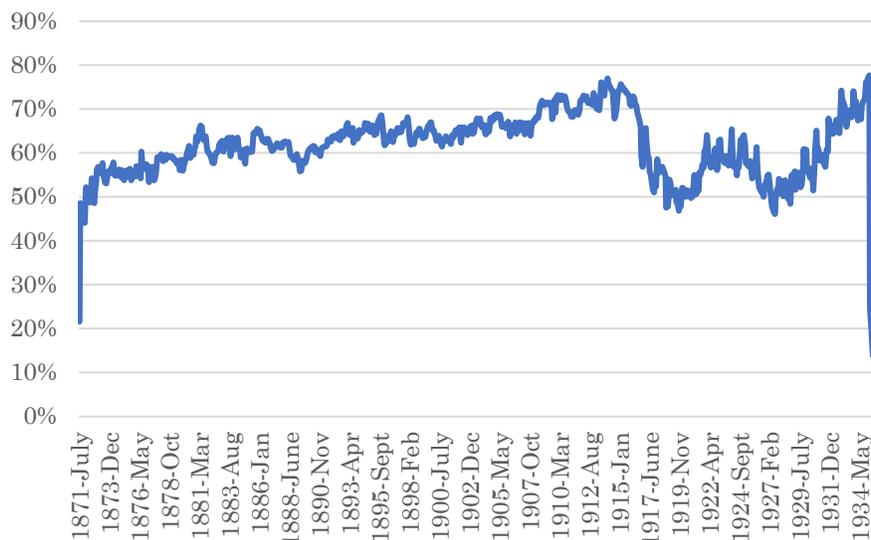
<sup>75</sup> *Id.* at 425.

<sup>76</sup> See Michael D. Bordo & Angela Redish, *Why Did the Bank of Canada Emerge in 1935?*, 47 JOURNAL OF ECONOMIC HISTORY 405.

over this function from the provinces.<sup>77</sup> The Dominion Notes Act of 1868 allowed the government to issue its own notes backed by gold. The Act restricted private bank notes to a minimum denomination of \$4, leaving a monopoly to the government to issue notes of \$4 or less. In today’s terms, \$4 would be \$97.87 Canadian dollars in 2022 (or \$78.54 U.S. dollars). Thus, Dominion notes were used to carry out most day-to-day transactions.

Moreover, Dominion notes were used as reserves by the commercial banks.<sup>78</sup> This suggests that Dominion notes were the practical hand-to-hand currency. Canadian banks were never required to satisfy a specific level of reserves. But banks were always required to hold at least 40 percent of whatever cash reserves the banks held. Figure 1 below shows the percentage of bank reserves that were Dominion notes.<sup>79</sup>

**Figure 1: Ratio of Dominion Notes to Total Reserves**



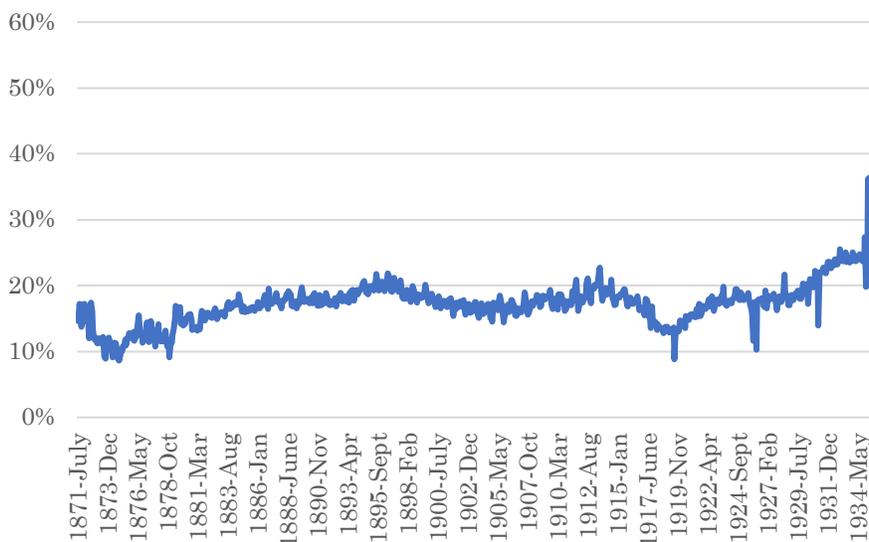
Even though Dominion notes made Canadian currency relatively sound, still, they were relatively small compared to private bank notes, as shown in Figure 2 below.

<sup>77</sup> “Confederation” refers to New Brunswick and Nova Scotia official joining the Province of Canada. The Province of Canada then split into Ontario and Quebec.

<sup>78</sup> These calculations are based on *Historical Statistics of Canada*, Table K33-43, General Wholesale Price Index, 1867-1975. The Historical Statistics only goes through 1975. For 1975 until 2022 we used <https://www.in2013dollars.com/canada/inflation/1975?amount=21.45>.

<sup>79</sup> The 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 Chartered Bank Notes**



As in the U.S. experience, private bank notes circulated in Canada because of a lack of specie, and 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.<sup>80</sup>

Various laws were enacted in attempts to eliminate these discounts: The Bank Act of 1871 imposed double liability on bank shareholders. The Bank Act of 1880 gave note holders first lien on bank assets. And the Bank Act of 1890 established the Bank Circulation Fund to redeem the notes of insolvent bank and for note holders to be paid interest as well. Banks were required to pay 5 percent of their previous 12 months’ circulation to the Minister of Finance to form this Fund.<sup>81</sup>

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<sup>80</sup> Roeliff Breckenridge, *The History of Banking in Canada*, NATIONAL MONETARY COMMISSION (1910) at 112 (“Being a frequent annoyance, the discount for geographical reasons constituted no inconsiderable grievance.”).

<sup>81</sup> See Ben Fung, Scott Hendry & Warren Weber, *Canadian Bank Notes and Dominion Notes: Lessons for Digital Currencies*, Bank of Canada Working Paper 2017-5 (“[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.”).

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. The system 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 20th 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 desire to capture the gains of seigniorage for fiscal policy and concerns regarding the ability to control its money supply.

Private banks in Sweden—known as Enskilda banks—issued their own bank notes from 1831 to 1904. Interestingly, Sweden already had public money at the time, so why did Swedish private currency circulate when there was already a public currency in circulation? The Riksbank was constrained by how much money it could issue. Of note, Sweden re-established the silver standard in 1834, which the country had abandoned in 1809.<sup>82</sup> Thus, from 1834 until the onset of World War I, the main objective of the Riksbank was to maintain the silver standard. As a result, there was a shortage of money in Sweden during the 19th century.<sup>83</sup> 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.<sup>84</sup>

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<sup>82</sup> See Anders Ögren, *Free or Central Banking? Liquidity and Financial Deepening in Sweden, 1834-1913*, 43 *EXPLORATIONS IN ECONOMIC HISTORY* 64 (2006).

<sup>83</sup> 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 Lars Jonung, *Private Bank Notes in Sweden 1831-1902*, Mimeo, Stockholm School of Economics (2007).

<sup>84</sup> See Ögren, *supra* note 80.

Enskilda banks therefore contributed to economic expansion and integration by providing a money supply beyond what would have been possible for the Riksbank.<sup>85</sup> In fact, by 1859, the volume of private bank notes in circulation exceeded that of Riksbank notes in circulation.<sup>86</sup> Private bank notes were sent all over the country, not just to certain (rural) areas.<sup>87</sup> Following the proliferation of this new money supply, economic growth increased dramatically in the subsequent decades.<sup>88</sup>

\* \* \*

Of note, the system of Enskilda banks was not entirely private for a couple of reasons. First, Enskilda banks' note issuance was backed by, and redeemed for, money issued by the Riksbank. 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 percent and 50 percent through the 1860s. Before Sweden passed the 1874 law—a law that required Enskilda banks to back their note issuance with gold—Enskilda banks held almost zero specie as reserves.<sup>89</sup>

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.<sup>90</sup>

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. Indeed, following that second crisis in 1878-79, public opinion turned against the Enskilda

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<sup>85</sup> See Gabriel Söderberg, *Why Did the Riksbank Get a Monopoly on Banknotes?*, SVERIGES RIKSBANK ECONOMIC REVIEW (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).

<sup>86</sup> 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*, EHF – Stockholm School of Economics, Studies in Economic History No. 2 (2003).

<sup>87</sup> See Torbjörn Engdahl and Anders Ögren, *Multiple Paper Monies in Sweden 1789-1903: Substitution or Complementarity?*, 15 FINANCIAL HISTORY REVIEW 73 (2008).

<sup>88</sup> See Anders Ögren, *Financial Revolution and Economic Modernization in Sweden*, 16 FINANCIAL HISTORY REVIEW 47 (2009).

<sup>89</sup> See Ögren, *supra* note 84. See also Söderberg, *supra* note 83.

<sup>90</sup> See Ben Fung, Scott Hendry & Warren E. Weber, *Swedish Riksbank Notes and Enskilda Bank Notes: Lessons for Digital Currencies*, Bank of Canada Staff Working Paper 2018-27 (2018), <https://www.bankofcanada.ca/2018/06/staff-working-paper-2018-27/>.

banks. A newly formed special committee on banking recommended that the Riksbank be granted a monopoly on the issuance of notes.<sup>91</sup>

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. In its decision to ban private bank notes, the Swedish government cited banking panics (*i.e.*, financial stability),<sup>92</sup> the credit cycle (*i.e.*, controlling the money supply),<sup>93</sup> and seigniorage (*i.e.*, public finance).<sup>94</sup>

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<sup>91</sup> See Ögren, *supra* note 84.

<sup>92</sup> See Söderberg, *supra* note 83, at 12 (citing Bankkomitén (1883), *Bankkomiténs underdåniga förslag till förändrad organisation af bankanstalterna* [Special Committee on Banking—proposed changes in bank organization]) (“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.”)

<sup>93</sup> See *id.* (noting the concern that “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, which 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 85.

<sup>94</sup> See Söderberg, *supra* note 83, at 12 (“Seigniorage is necessary to fund a central bank’s social function so that it does not need to act according to a profit motive.”).

## **Part VI. Challenging the Assumption of Coexistence**

The widespread assumption is that private stablecoins should circulate alongside sovereign money. Members of Congress have expressed these views, as have senior officials at the Federal Reserve. Should we maintain the sovereign's money monopoly? Or should we turn back the economic clock by two centuries? In this Part, we challenge the dominant assumption that coexistence is the optimal path forward. We first summarize the historical insights that caution against coexistence, and then pivot to recent market developments that demonstrate the vulnerability inherent to stablecoins. We close by examining proposals aimed at coexistence and point out specific downsides related to those proposals.

### *A. Insights from Historical Case Studies*

There are four lessons for today's lawmakers and financial regulators to learn from the historical case studies. First, issuers of circulating private money are banks that are vulnerable to destabilizing bank runs. Second, the proliferation of circulating private money could reduce seigniorage that accrues to the sovereign. Third, because circulating private money competes against sovereign money, coexistence makes it more difficult to control the money supply and conduct monetary policy. These three downsides are all true with respect to the circulation of stablecoins today. Finally, history teaches us that private money first circulated because the money supply was severely limited and there were no better alternatives.

The concern with respect to 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. During the U.S. National Banking Era, bank runs on deposits occurred frequently. 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 there were still 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.

On seigniorage, it's not surprising that fiscal affairs were considered in the granting of the monopoly. In the debates surrounding Peel's Act in England, some favored giving the Bank of England a monopoly because its monopoly profits would accrue to the government. During the U.S. Civil War, the government taxed state bank notes out of existence to support the growth of national bank notes, which were backed by

debt issued by the Treasury. In Sweden, certain legislators had argued that seigniorage should not accrue to the private Enskilda 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.”

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 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 in 2020 its own cryptocurrency, “Libra.”<sup>95</sup> Central banks around the world reacted with alarm.<sup>96</sup> 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.

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<sup>95</sup> Dirk A. Zetsche, Ross P. Buckley & Douglas W. Arner, *Regulating LIBRA: The Transformative Potential of Facebook’s Cryptocurrency and Possible Regulatory Responses*, Oxford Journal of Legal Studies (forthcoming). Thibault Schrepel, *Libra: A Concentrate of “Blockchain Antitrust,”* 118 Mich. L. Rev. Online. 160 (2020).

<sup>96</sup> See, e.g., Danny Nelson, *CBDC Issuance Is ‘Not a Reaction’ to Libra, Says Central Bank Body*, CoinDesk (Jun. 25, 2020) (noting that “[i]n 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) (“Central banks suddenly woke up when Facebook’s Libra become 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 (Sep. 12, 2019) (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.”).

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.”<sup>97</sup> Suffice it to say, central banks were not convinced. Facebook ended its private money experiment in early 2022.<sup>98</sup>

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 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).

The shortage of money is not a problem in today’s world. Developed economies no longer rely on barter. In the previous two centuries, countries have established central banks and issued fiat currencies untethered to gold and silver. As long a country does not experience hyperinflation, its currency can successfully circulate.<sup>99</sup> However, the problems associated with the circulation of private money still persist.

### *B. Runs on Stablecoin Issuers*

Stablecoin issuers are unregulated banks that are vulnerable to bank runs. In May 2022, the sharp decline in the price of Bitcoin and the death spiral of an “algorithmic

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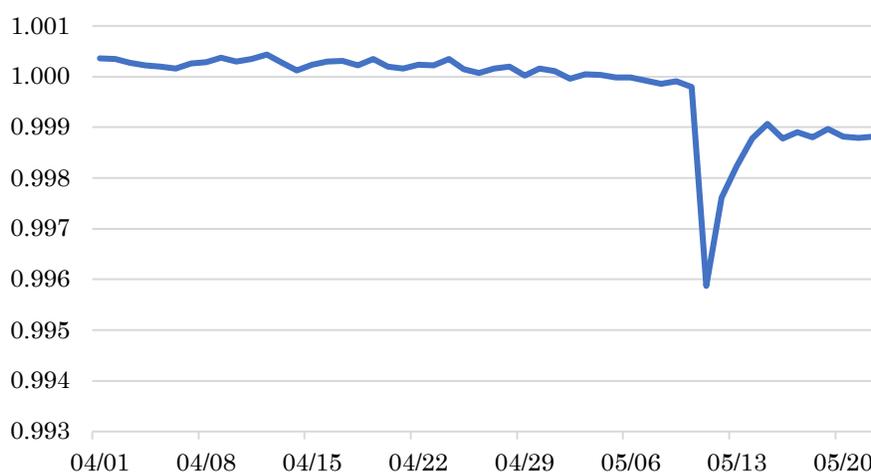
<sup>97</sup> David Marcus, Twitter (Sep. 16, 2019), <https://twitter.com/davidmarcus/status/1173566564576051200>.

<sup>98</sup> See Hannah Murphy & Kiran Stacey, *Facebook Libra: The Inside Story of How the Company’s Cryptocurrency Dream Died*, Financial Times (Mar. 10, 2022); James Fontanella-Khan, Hannah Murphy & Miles Kruppa, *Facebook Gives Up on Crypto Ambitions with Diem Asset Sale*, Financial Times (Jan. 27, 2022).

<sup>99</sup> During such periods of hyperinflation, the government’s money is no longer credible and largely becomes worthless. Think of Germany in the 1920s, Zimbabwe in 2008, or Venezuela in 2019.

stablecoin,”<sup>100</sup> TerraUSD, were enough to knock some stablecoins off their pegs.<sup>101</sup> For instance, Tether, the largest stablecoin at over \$75 billion in market capitalization, dipped below \$0.97, as shown in Figure 3. Tether holders withdrew \$7 billion from Tether during the panic.<sup>102</sup>

**Figure 3: Tether’s Peg in May 2022**



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 job requires it to adjust interest rates. Imagine if a real shock hit the financial markets along the lines of what occurred during September 2008, when Lehman Brothers collapsed.

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<sup>100</sup> 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 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, are pegged to a fiat currency like the U.S. dollar, and are 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 (2021).

<sup>101</sup> See also Peter Santilli & Corrie Driebusch, *How More Than \$1 Trillion of Crypto Vanished in Just Six Months*, WALL STREET JOURNAL (May 13, 2022).

<sup>102</sup> Scott Chipolina, *Investors Pull \$7bn from Tether As Stablecoin Jitters Intensify*, FINANCIAL TIMES (May 17, 2022). See also David Yaffe-Bellany, *The Coin That Could Wreck Crypto*, NEW YORK TIMES (Jun. 17, 2022) (“Concern is mounting over another potential vulnerability in the crypto market: Tether, a company whose namesake currency is a linchpin of crypto trading worldwide.”).

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. As noted in Part III, financial stability considerations were prominent in bringing about the sovereign’s monopoly over money in England, the United States, Canada, and Sweden. In England, there were hundreds of bank failures during the 18th and 19th centuries. In the United States, bank runs occurred frequently in the 19th century, before the establishment of the Federal Reserve and deposit insurance. In Canada, the central bank gained its monopoly because of a financial crisis. In Sweden, bank failures similarly led to the sovereign’s monopoly.

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. Indeed, when collateral backing privately produced money is not regulated—or simply do 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 the underlying assumption for the path forward is one of private money circulating alongside sovereign money.

### *C. Legislative Options for Coexistence*

Despite the potential concerns associated with financial stability, monetary policy, and even fiscal policy, every approach presently espoused by legislators and regulators is one of well-regulated coexistence. We discuss a few examples below to illustrate the point.

Senator Pat Toomey proposed the “Stablecoin Transparency of Reserves and Uniform Safe Transactions Act of 2022” or the “Stablecoin TRUST Act of 2022.”<sup>103</sup> Importantly, Senator Toomey’s idea would require the stablecoin issuer to back its coins with assets that satisfy the following conditions:

- (f) STABLECOIN RESERVES.—Payment stablecoins issued by a national limited payment stablecoin issuer shall be backed with assets—
  - (1) with a market value equal to not less than 100 percent of the par value of the payment stablecoins outstanding; and
  - (2) that are cash and cash equivalents or level 1 high-quality liquid assets denominated in United States dollars.<sup>104</sup>

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<sup>103</sup> See Stablecoin Transparency of Reserves and Uniform Safe Transactions Act, S.\_\_\_\_, 117th Cong. (2022), [https://www.banking.senate.gov/imo/media/doc/the\\_stablecoin\\_trust\\_act.pdf](https://www.banking.senate.gov/imo/media/doc/the_stablecoin_trust_act.pdf).

<sup>104</sup> *Id.* at §6.

To be sure, this is a plus in terms of mitigating the runs on stablecoin issuers because holders of stablecoins would be assured that their coins were backed one-for-one. Moreover, Senator Toomey’s proposal would require the stablecoin issuer to publicly disclose its backing on a regular basis:

(a) IN GENERAL.—Any person described in section 3(b) that issues a payment stablecoin shall—

- (1) publicly disclose the assets backing the payment stablecoin on a monthly basis;
- (2) adopt and publicly disclose policies for redeeming the payment stablecoin, including whether redemption requests will be met on demand or with a time lag;
- (3) undergo quarterly attestations by a registered public accounting firm and publicly disclose the results; and
- (4) attest that the assets backing the payment stablecoin do not materially diverge from those disclosed.<sup>105</sup>

As another example, Senators Kirsten Gillibrand and Cynthia Lummis proposed the “Responsible Financial Innovation Act” in June 2022.<sup>106</sup> Similar to Senator Toomey’s proposal, the Gillibrand-Lummis proposal also requires the full, one-to-one backing of stablecoins and monthly disclosures of the backing assets.<sup>107</sup> Senator Bill Hagerty and Representative Trey Hollingsworth proposed their “Stablecoin Transparency Act,”<sup>108</sup> which covers the same set of issues.<sup>109</sup>

To the best of our knowledge, there is no legislative proposal that questions coexistence.<sup>110</sup> 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 most likely be reflected in the approaches by financial regulators on the ground.

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<sup>105</sup> *Id.* at §4.

<sup>106</sup> Responsible Financial Innovation Act, S.4356, 117th Cong. (2022).

<sup>107</sup> *Id.* at §601.

<sup>108</sup> Stablecoin Transparency Act, S.3970, 117th Cong. (2022).

<sup>109</sup> *Id.* at §2.

<sup>110</sup> See Davis Polk, *Comparison of Digital Asset Legislative Proposals* (Jun. 23, 2022), <https://www.davispolk.com/sites/default/files/2022-06/crypto-bills-comparison-client-update.pdf>.

Indeed, financial regulators are currently operating within the 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.”<sup>111</sup> The Office of the Comptroller of the Currency has also taken preliminary steps to address the financial stability risks inherent in stablecoins,<sup>112</sup> but within the framework of coexistence.<sup>113</sup>

Of note, it has been reported that the European Commission is considering a hard cap on stablecoin issuance. In particular, regulators could order the issuers of any stablecoin exceeding 200 million euros and 1 million transactions daily to cease issuances until these figures come back below the threshold. This effectively allows coexistence “up to a point” and no further.<sup>114</sup> Other than this report, however, most regulatory options—particularly in the United States—have established coexistence as the baseline.

#### *D. Potential Downsides of Coexistence Options*

There are multiple ways for lawmakers to address the financial stability risks associated with private money like stablecoins.<sup>115</sup> They include converting private stablecoins into the equivalent of sovereign money by (1) requiring stablecoins to be backed one-for-one by reserves at the central bank or short-term Treasuries or (2) bringing stablecoins within the insured-bank regulatory perimeter. While these two options would allow for coexistence by mitigating the frequency and magnitude of bank runs, they might result in unintended consequences.

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<sup>111</sup> *Report*, *supra* note 4, at 2.

<sup>112</sup> See News Release, *OCC Clarifies Bank Authority to Engage in Certain Cryptocurrency Activities and Authority of OCC to Charter National Trust Banks* (Nov. 23, 2021), <https://www.occ.gov/news-issuances/news-releases/2021/nr-occ-2021-121.html> (“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.”).

<sup>113</sup> Michael J. Hsu, *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>.

<sup>114</sup> See Jack Schickler, *EU Commission Favors Ban on Large-Scale Stablecoins, Document Shows*, COINDESK (May 11, 2022), <https://www.coindesk.com/policy/2022/05/11/eu-commission-favors-ban-on-large-scale-stablecoins-document-shows/>.

<sup>115</sup> See Gorton & Zhang, *supra* note 3.

## 1. Regulating Stablecoin Issuers as Narrow Banks

One approach is to transform 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. Many of the legislative proposals lean in this direction. But doing so may result in unintended macroeconomic consequences.<sup>116</sup> In particular, uninsured holders of deposits at commercial banks might *run to the narrow stablecoin banks* in times of economic uncertainty.

First, consider the possibility of requiring stablecoins to be backed one-for-one by reserves at the central bank. This option could have implications for monetary policy, financial intermediation, and financial stability.<sup>117</sup> For instance, stablecoin issuers could attract a large quantity of deposits away from commercial banks (*i.e.*, bank runs in the traditional sense) and cause significant growth of the Federal Reserve’s balance sheet. This, in turn, “could affect the [Federal Open Market Committee]’s plans to reduce its balance sheet to the smallest level consistent with efficient and effective implementation of monetary policy.”<sup>118</sup>

Next, consider the requirement of having stablecoins be backed one-for-one by short-term U.S. Treasuries. In this case, stablecoin issuers would become similar to government money market funds.<sup>119</sup> In both the 2008 and 2020 crises, investors ran toward government money market funds.<sup>120</sup> It is not difficult to imagine depositors withdrawing their money from banks and putting them into stablecoins backed one-for-one by Treasuries during times of stress.

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<sup>116</sup> *Id.*

<sup>117</sup> See generally Board of Governors of the Federal Reserve System, *Regulation D: Reserve Requirements of Depository Institutions*, 84 FED. REG. 8829 (Mar. 12, 2019), <https://www.federalregister.gov/documents/2019/03/12/2019-04348/regulation-d-reserve-requirements-of-depository-institutions>.

<sup>118</sup> *Id.* at 8830.

<sup>119</sup> See Securities and Exchange Commission, *What Are Money Market Funds?* (accessed Aug. 1, 2021), <https://www.investor.gov/introduction-investing/investing-basics/investment-products/mutual-funds-and-exchange-traded-5> (“Government money market funds are defined as money market funds that invest 99.5% or more of their total assets in very liquid investments, namely, cash, government securities, and/or repurchase agreements that are collateralized fully with government securities.”).

<sup>120</sup> See *id.* (describing prime money market funds as those investing in taxable short-term corporate and bank debt securities). See also Mark E. Van Der Weide & Jeffery Y. Zhang, *Tale of the Tape: Lessons from the 2008 and 2020 Financial Crises*, 26 STANFORD JOURNAL OF LAW, BUSINESS & FINANCE 413, 426-27 (illustrating the dynamic in the money markets in 2008 and 2020).

Disintermediation aside,<sup>121</sup> backing one-for-one by Treasuries produces a suboptimal currency, because this requirement would tie stablecoins to a limited form of money at a fixed ratio. In fact, we observe an impossibility theorem for stablecoins and for private money more generally: When backing private money with safe assets like short-term U.S. Treasuries, there's an inherent trade-off between wide circulation and financial stability. Pick one of the two. Having both is impossible.

The reason is because the world has a relative shortage of interest-bearing safe assets. There are only so many short-term U.S. Treasuries. If stablecoins are required to circulate with one-to-one backing, there won't be many stablecoins in circulation. Thus, this one-to-one backing effectively caps the amount of stablecoins that can be issued. On the flip side, if a stablecoin issuer wants to increase the amount of stablecoins in circulation, that issuer must dilute the quality of the coins' backing assets. But that would make stablecoins more runnable, less safe. Hence, it is impossible to obtain both proliferation and stability.

## 2. Insuring Stablecoins Like Bank Deposits

Besides the narrow bank option, another way to solve the financial stability problem posed by unregulated stablecoins is to insure them in the same way that the FDIC currently insures deposits. As discussed previously, deposit insurance effectively transformed privately produced demand deposits into sovereign money—satisfying the NQA principle and eliminating run risk.<sup>122</sup> But is that even possible in the current setting? Thinking about this insurance approach brings us to the fundamental difference between stablecoins and demand deposits noted in the introduction: Demand deposits are not designed to circulate, but stablecoins can circulate. Trying to insure circulating stablecoins may not be feasible.

To see this argument, one first has to observe that demand deposits are account-based. They are linked to a specific person's account at a specific bank. In order to use deposits, Person A can write a check to Person B. The check then must clear—that is, Person A's account is debited and Person B's account is credited. Circulation of cash (or stablecoins), on the other hand, refers to notes (or tokens) that can be exchanged from Person A to Person B to Person C to Person D to Person E—irrespective of

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<sup>121</sup> The magnitude of disintermediation could be substantial. Since the deposit insurance limit of \$250,000 does not help large institutions and firms protect their money, they would move their cash into stablecoins. At the largest commercial banks, approximately half of deposits are uninsured. See Mark Egan, Ali Hortaçsu & Gregor Matvos, *Deposit Competition and Financial Fragility: Evidence from the US Banking Sector*, 107 AMERICAN ECONOMIC REVIEW 169 (2017).

<sup>122</sup> *Id.*

whether they have bank accounts. The current deposit insurance regime applies to accounts, not to tokens.

Deposit insurance, as it is designed today, insures money in accounts. It would only insure the amount of stablecoins in the holder's account and not the amount of stablecoins that are circulating outside of the account. To see this distinction more clearly, suppose your account at the bank has \$100 in it—\$50 in private stablecoins and \$50 in sovereign cash. You withdraw \$10 in stablecoins and spend these coins buying groceries. Those \$10 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 \$40 of stablecoins and \$50 of cash remaining in your account at the bank. But the \$10 of circulating stablecoins are not covered. In addition, consider the fact that the bank could theoretically give stablecoins to individual and businesses that borrow from the bank. Those stablecoins are also not insured unless the borrowers store those stablecoins in bank accounts. In all these scenarios, the stablecoins are still liabilities of the bank. This means the bank is required to honor the redemption of those coins if holders come back to the bank and demand cash in return.

In order for stablecoins to be fully insured, the deposit insurance framework would likely have to change. Specifically, the coins themselves would have to be insured. Moreover, the amount of insurance cannot be limited as it is now—set at \$250,000 per account. A single party could hold \$1,000,000 of coins, but only \$250,000 would be insured even if these coins are not deposited in the bank. The amount of federal insurance would potentially be huge. Therefore, it seems that government insurance for all coins would not be feasible.

## Part V. National Bank Act for the 21st Century

To date, all legislative proposals assume that having private stablecoins circulate alongside sovereign money is the optimal path forward. No lawmaker is contemplating a 21st century version of the National Bank Act—a constitutionally sound tax on the circulation of private stablecoins paired with the creation of digital sovereign money. Such a public option could capture the benefits—for example, reducing cross-border transaction costs—without the costs to financial stability and monetary policy associated with private stablecoins. We explore this two-pronged approach here.

### *A. The Stick: Tax on Private Money Circulation*

Congress can pass legislation that taxes the circulation of stablecoins. There is precedent for such 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.<sup>123</sup> Uptake of the new currency was not immediate, as many individuals and businesses stayed with using private state bank notes (*i.e.*, the stablecoins of the 19th century). Congress subsequently passed legislation in 1865 that required all banks to pay a 10 percent 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.<sup>124</sup>

The constitutionality of the tax came before the Supreme Court in *Veazie Bank v. Fenno* (1869), 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-percent tax, alleging it to be unconstitutional. The Supreme Court upheld the tax.

Through the mid 1870s, Congress repeatedly passed legislation to tax the circulation of private money. Congress even expanded the scope of the tax along multiple

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<sup>123</sup> In his 1864 State of the Union Address, President Lincoln urged the suppression of state bank notes to assist the new national bank system: “[I]t is hoped that, very soon, there will be in the United States no banks of issue not authorized by Congress, and no bank-note circulation not secured by the government.... Whether or not any further legislation is advisable for the suppression of State bank issues, it will be for Congress to determine. It seems quite clear that the treasury cannot be satisfactorily conducted unless the government can exercise a restraining power over the bank-note circulation of the country.”

<sup>124</sup> Ch. 78, § 6, 13 Stat. 469, 484 (1865).

dimensions. The original version of the tax, passed in 1865, applied only to private state bank notes issued by banks. In 1866, the tax was expanded to cover private notes issued by state banks or any persons.<sup>125</sup> The following year, the tax was expanded to cover notes issued by towns, cities, and municipal corporations.<sup>126</sup> By 1875, the tax on private money circulation had two parts<sup>127</sup>:

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.

In other words, the circulation tax applied to one's own privately issued money as well as to the privately issued money of others. Congress designed the coverage to be very broad. To give you an idea of the breadth of the circulation tax, even private clearinghouses<sup>128</sup> and mining companies in Michigan's Upper Peninsula<sup>129</sup> had to ask for exemptions.

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<sup>125</sup> Ch. 184, § 9[bis], 14 Stat. 98, 146 (1866).

<sup>126</sup> Ch. 8, § 2, 15 Stat. 6 (1867).

<sup>127</sup> 18 Stat. 307, 311 (1875) (emphasis added).

<sup>128</sup> 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 law and permitted the banks the use of this unusual currency until normal times were restored.” Subsequently, the U.S. Attorney General and courts ruled that the tax on private money circulation did not apply to clearinghouse loan certificates. Gary B. Gorton, *MISUNDERSTANDING FINANCIAL CRISES: WHY WE DON'T SEE THEM COMING* (2012) at 98-101.

<sup>129</sup> 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.” 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.” 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 percent tax. See Report from the Committee on Ways and Means, *Taxes in the Sixth Collection District of Michigan* (Feb. 22, 1875).

This tax on circulating private money stayed “on the books” for over a century, until 1976. (Table A2 in the Appendix includes a timeline that illustrates the full evolution of the tax.) Why did Congress eventually repeal the tax? Was it because Congress suddenly wished for private money to circulate alongside sovereign money? No. It was simply because Congress wanted to streamline the Internal Revenue Code and thought this particular tax provision was pointless.

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. 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.”<sup>130</sup> The bill was 174 pages long and included a repeal of the circulation tax,<sup>131</sup> among many other amendments to the tax code. That bill died in committee and was reintroduced in 1971.<sup>132</sup> 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. 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.*”<sup>133</sup> 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 was 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.<sup>134</sup> 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

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<sup>130</sup> H.R. 91-17971.

<sup>131</sup> *Id.* § 410(e).

<sup>132</sup> H.R. 92-25 § 522(c).

<sup>133</sup> STAFF OF J. COMM. ON INTERNAL REVENUE TAXATION, 94TH CONG., EXPLANATION OF “DEADWOOD” PROVISIONS (Comm. Print. 1975).

<sup>134</sup> Pub. L. 94-455.

Currency has stated...”) to justify that section.<sup>135</sup> The bill was signed into law on October 4, 1976.<sup>136</sup>

In short, 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—deadwood, to be precise. Who could have imagined that, in the 21st century, entrepreneurs would attempt to reinvent digital versions of the private bank notes that circulated during the 19th century.

### *B. The Carrot: Better Alternatives to Private Money*

When private bank notes circulated in prior centuries, they did so because there were no better alternatives. Some may flag this issue now: Because there are no better digital money alternatives to stablecoins, simply regulating them or taxing them won’t make them go away; stablecoins will just migrate to another jurisdiction without regulations or taxes and continue to proliferate because of existing market demand. With this in mind, we also propose a carrot: a sovereign alternative that does not have the downsides of private digital money. This sovereign version is oftentimes referred to as a central bank digital currency.<sup>137</sup>

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<sup>135</sup> 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.” Congress should have consulted a monetary economist first.

<sup>136</sup> To be sure, there were congressional challenges to the tax in the 19th 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 of its platform in 1892, although it was not in the party’s next platform in 1896. See The American President Project, UC Santa Barbara <https://www.presidency.ucsb.edu/people/other/democratic-party-platforms>.

<sup>137</sup> See Gary B. Gorton & Jeffery Y. Zhang, *The Orkney Slew and Central Bank Digital Currencies*, HARVARD NATIONAL SECURITY JOURNAL (forthcoming) (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 REPORT (2022) (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”).

In general, a central bank digital currency is a digital liability of a central bank that is widely available to the general public.”<sup>138</sup> 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 not have the same financial stability risks inherent to private money and it would preserve monetary sovereignty.

In addition, a central bank digital currency also could improve payments system. 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 (including cross-border payments); and expand consumer access to the financial system.”<sup>139</sup>

However, if the central bank digital currency were not designed properly, it could disintermediate the existing financial institutions and cause greater financial instability. For instance, in times of economic crises, depositors typically run on banks because they perceive those banks to be risky. Having a central bank digital currency as an alternative may exacerbate those bank runs because depositors know that “central bank money is the safest form of money.”<sup>140</sup> The sudden substitution toward liabilities of the Federal Reserve could further destabilize the banking system during a panic. To counter this potential financial stability issue, the Federal Reserve could pay zero interest on a central bank digital currency, limit the total amount of a central bank digital currency held by a user, or limit the amount of a central bank digital currency that a user can accumulate over a short time period.<sup>141</sup>

Notably, countries around the world are actively pushing ahead with the research and development of central bank digital currencies. According to a survey of central banks conducted by the Bank for International Settlements, 86 percent of central banks are actively researching the potential for central bank digital currencies, 60 percent are experimenting with the technology, and 14 percent are deploying pilot projects.<sup>142</sup>

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<sup>138</sup> Board of Governors of the Federal Reserve System, *Money and Payments: The U.S. Dollar in the Age of Digital Transformation* (Jan. 2022).

<sup>139</sup> *Id.* at 3.

<sup>140</sup> *Id.* at 17.

<sup>141</sup> *Id.* at 18.

<sup>142</sup> Bank for International Settlements, <https://www.bis.org/about/bisih/topics/cbdc.htm>.

## Conclusion

Cryptocurrencies, including stablecoins, transformed spectacularly from a market measured in pennies into one worth over a trillion dollars in the span of a decade. Stablecoins are now gaining a greater foothold inside and outside of the cryptocurrency ecosystem. For example, the recently launched USDF Consortium (“USDF”) consists of a group of U.S. banks and FinTech firms that issue and use stablecoins for payment transfers and other digital assets. USDF includes members like New York Community Bank, FirstBank, Sterling National Bank, and Synovus Bank.<sup>143</sup>

At the same time, countries around the world are actively pushing ahead with the research and development of CBDCs, the digital version of sovereign money. According to a survey of central banks conducted by the Bank for International Settlements, 86 percent of central banks are actively researching the potential for CBDCs, 60 percent were experimenting with the technology, and 14 percent were deploying pilot projects.<sup>144</sup>

While the technology has changed tremendously, the underlying economic principles have not. Credible sovereign money is information-insensitive, trades at par, and supports trillions of economic transactions. Importantly, it is not subject to bank runs. Economic theory and 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. This is the matter of “coexistence.”

We approach the coexistence debate by reviewing historical case studies through the lens of economic theory. The only times when privately issued monies have circulated successfully occurred (a) in *limited* geographical areas and (b) were backed by *unlimited* liability. In other words, if Jeff Bezos, Elon Musk, Bill Gates, Mark Zuckerberg, and Warren Buffet—with a combined net worth of \$762 billion<sup>145</sup>—decided to issue a private currency that (a) only circulated in northern California and (b) were backed by unlimited liability against their personal assets, that privately issued currency would probably succeed. Without those conditions, however, economic theory and history demonstrate that only the government can credibly establish money for mass circulation.

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<sup>143</sup> *Introducing the USDF Consortium*, <https://www.usdfconsortium.com/>.

<sup>144</sup> Bank for International Settlements, *BIS Innovation Hub Work on Central Bank Digital Currency (CBDC)*, <https://www.bis.org/about/bisih/topics/cbdc.htm>.

<sup>145</sup> See FORBES RANKING OF RICHEST AMERICANS IN 2021, <https://www.forbes.com/forbes-400/>.

The reasons for the sovereign's money monopoly are grounded firmly in preserving financial stability, specifically in warding off banking panics caused by the proliferation of privately issued money. But the reasons also extend to monetary and fiscal policy. Should the government have greater control over the money supply, and thereby have a greater ability to conduct monetary policy? Should the profits of issuing money accrue to the private sector or to the government? As discussed in this article, these questions were debated over a century ago, and the legal and financial architecture was changed to give a monopoly to the sovereign.

Today, Congress faces a similar decision with private stablecoins. Lawmakers are assuming that coexistence is the optimal path forward and are crafting legal guardrails under that assumption. But it is imperative to take a step back and be careful not to resurrect the system of private money that was declared dead for good reason in the 19th and 20th centuries.

## Appendix

During the 19th and 20th 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.<sup>146</sup>

**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

<sup>146</sup> Forrest Capie, Stanley Fischer, Charles Goodhart & Norbert Schnadt, *THE FUTURE OF CENTRAL BANKING* (1994).

**Table A2: Tax on the Circulation of Private Money**

<b>Year</b>	<b>Description</b>
1863	Congress allows for the creation of a national currency that is backed by U.S. Treasury bonds and issued by national banks. <sup>147</sup>
1865	Congress passes the first enactment of a tax on the circulation of private money, set at 10 percent.  “[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.” <sup>148</sup>
1866	Congress expands the coverage of the tax.  “[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.” <sup>149</sup>
1867	Congress further expands the coverage of the tax by adding on the notes of towns, cities, and municipal corporations.  “[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.” <sup>150</sup>
1875	Congress passes the Revised Statutes of 1875, which consolidates the statutes in force on December 1, 1873, and repeals their earlier versions. <sup>151</sup>

<sup>147</sup> Ch. 58, § 62, 12 Stat. 665, 682 (1863).

<sup>148</sup> Ch. 78, § 6, 13 Stat. 469, 484 (1865) (introduced as H.R. 38-744).

<sup>149</sup> Ch. 184, § 9[bis], 14 Stat. 98, 146 (1866) (introduced as H.R. 39-513).

<sup>150</sup> Ch. 8, § 2, 15 Stat. 6 (1867) (introduced as H.R. 40-72).

<sup>151</sup> Rev. Stat. §§ 3412-13 (1875).

	<p>§ 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.”</p> <p>§ 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.”</p>
1875	<p>The tax on circulation was reorganized to distinguish between circulating one’s own notes and circulating others’ notes, and expanding who pays the tax.<sup>152</sup></p> <p>“[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.”</p> <p>“[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.”</p>
1939	<p>The language appears in the Internal Revenue Code, unchanged from the 1875 Act.<sup>153</sup></p> <p>§ 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.”</p> <p>§ 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</p>

<sup>152</sup> 18 Stat. 307, 311 (1875) (introduced as H.R. 43-3572).

<sup>153</sup> Internal Revenue Code of 1939, § 1900(b), 53 Stat. 1, 207.

	town, city, or municipal corporation, used for circulation and paid out by them.”
1954	<p>The language appears in the Internal Revenue Code, and is unchanged from its earlier version.<sup>154</sup></p> <p>§ 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.”</p> <p>§ 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, or State banking association, or of any town, city, or municipal corporation, used for circulation and paid out by them.”</p>
1976	<p>Congress repeals §§ 4881-4886 of the 1954 Internal Revenue Code.<sup>155</sup></p> <p>§ 1904(a)(18): “Subchapter E of chapter 39 (relating to tax on circulation other than of national banks) is repealed.”</p>

<sup>154</sup> Internal Revenue Code of 1954, § 4881(b), 68A Stat. 1, 587.

<sup>155</sup> Tax Reform Act of 1976, Pub. L. 94-455 § 1904(a)(18), 90 Stat. 1520, 1814.

**Table A3: Attempted Repeals of the Circulation Tax**

<b>Year</b>	<b>Description</b>
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 or 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 or 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.