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The Dollar's Digital Future

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Contents

Executive Summary

The future of money is being rewritten. Transactions are no longer tied to traditional banks but are instead moving to decentralized, borderless networks of internet-based blockchain rails. The current merging of the financial system with the next generation of the internet, known as Web3, poses a defining challenge: will the U.S. dollar remain the global reserve currency in the digital age, or will it be replaced by new digital alternatives? As countries like China and Russia push forward with their own digital currencies, the United States must act decisively to ensure that the dollar dominates Web3—or risk losing its financial influence on the world stage.

To maintain the dollar's preeminence in the Web3 internet financial system, three models are possible: (1) government-issued central bank digital currencies (CBDCs), (2) blockchain-based tokenized deposits issued by commercial banks, and (3) privately-issued stablecoins pegged 1:1 to fiat currency.

While each offers advantages, only stablecoins are well-suited for Web3. An American CBDC presents serious privacy and security risks. A government-controlled digital currency could track every transaction, posing threats to civil liberties and financial privacy. It also risks destabilizing banks by allowing consumers to bypass them entirely.

Tokenized deposits, issued by banks, still rely on the inherently fragile fractional reserve system. Introducing the ability of these highly leveraged deposits to move at the speed of the internet would impose an immense burden on the government safety net designed to buttress fractional reserve banking. Moreover, some contend that simply tokenizing existing bank deposits could concentrate power within a few large banks, leaving smaller institutions and the unbanked behind.

Among the three options, stablecoins are the most effective and scalable solution for digital dollars.

Unlike CBDCs, stablecoins operate on decentralized blockchains, ensuring financial privacy while avoiding excessive government control. Unlike tokenized deposits, they are fully backed by cash or cash equivalents, making them less vulnerable to bank runs. Yet to fulfill their potential, stablecoins must be properly regulated, including mandates for 1:1 reserve backing in liquid assets like U.S. Treasury bills, strong anti-money laundering and counter-terrorism financing compliance, and clear consumer protections to prevent instability.

Therefore, the United States must ensure that digital dollars—via stablecoins—become the currency of the internet. The good news is that today stablecoins provide billions of unbanked individuals access to the digital economy with just a smartphone. They enable faster, lower-cost transactions, reducing remittance fees that currently exceed ten percent in some cases to near zero. But there is no guarantee that such stablecoins will always be denominated in U.S. dollars. If the dollar is to have a digital future, then the United States must act now to make that happen.

Introduction

The autumn of 2008 witnessed the near death of the traditional financial system alongside the birth of the future financial system. In the wake of the global financial crisis, the Bitcoin whitepaper was published, laying the technical groundwork for the financial innovations that have been created with blockchain technology.[1]

Blockchain technology has facilitated the next generation of the internet—Web3—a more open and democratic web in which distributed ledgers have created the ability for anyone to natively own value, through digital assets, on the internet.[2] Building on the innovations of Web3, the United States must evaluate how this technology can transform traditional financial services. This technology is most readily demonstrating its potential through the emergence of a digital asset class designed to maintain a constant value and typically pegged to other assets, such as fiat currency. These digital assets are called *stablecoins*. Private sector stablecoins, which are transferable on a peer-to-peer basis on blockchains, are the most prominent and effective of a handful of options that can facilitate the creation of a truly "digital dollar." It is critical for America to embrace well-regulated stablecoins so that the U.S. dollar can continue its position as the world's leading reserve currency.

Establishing the dollar as the de facto currency of Web3 is therefore among the most pressing economic policy issues of our time. Never before has this issue been more salient, especially in the early days of an Administration that prioritizes American economic strength, technological innovation, and national security. Stablecoins, in particular, present a critical opportunity to achieve this goal while reinforcing the principles of free-market leadership. While the U.S. dollar is in a position to become the world's digital fiat reserve currency, congressional leadership recognizes the need to act to materialize this objective[3] during a time in which strategic competitors seek to use the same technological innovations of blockchain to supplant the dollar. This report will offer an expositional analysis of the monetary background on this critical issue, the historical digitalization of the U.S. dollar over time, and explain why well-regulated stablecoins are the most promising path to the dollar's digital future.

PART 1

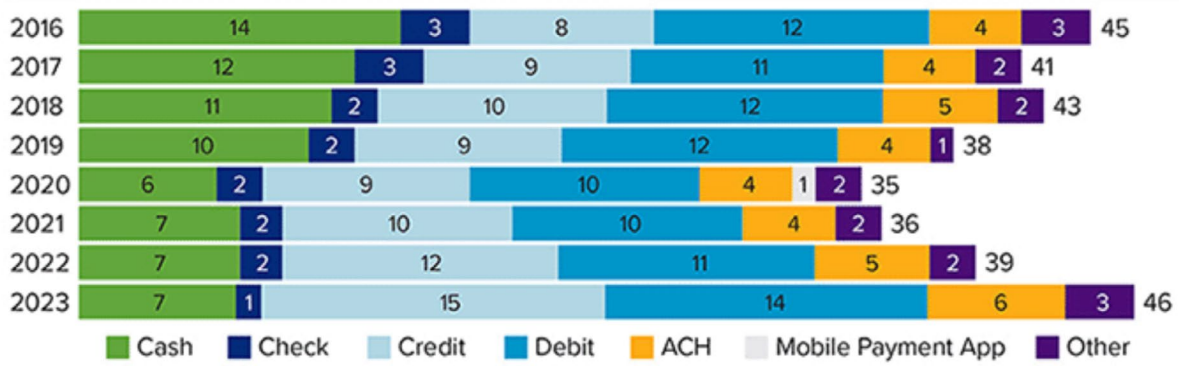
What is Money?

In considering the dollar's potential digital future, it is best to begin with the basic question of what money is. In short, money is anything that is generally accepted as payment for goods or services or in the repayment of debts.[4] It is a term of function and not numismatics—in other words, we determine money only from a specific usage of the asset, not from the nature or design of that particular asset.

Accordingly, money is traditionally viewed as simultaneously serving three core functions: a unit of account,[5] a medium of exchange,[6] and a store of value.[7] Within the category of assets that satisfy the definition of money, there is a wide range that "has esthetic unity born of variety" and "an apparent simplicity that conceals a sophisticated reality."[8] Nevertheless, broadly, these fall into two forms of money in the United States: public money that is predominately a liability of the Federal Reserve ("Fed") and private money that is a liability of its private issuer.[9] Public money therefore comprises physical currency (Fed notes and U.S. Mint coins) and balances held at the Fed.[10] Banks and certain other institutions may hold balances directly at the Fed. Yet, with reference to Figure 1 below, retail interaction with public money is generally limited to transacting in physical currency.[11]

On the other hand, private money includes "commercial bank money"—dollar-denominated balances in commercial bank accounts[12] and "[c]ertain other liabilities of nonbanks, such as balances held with financial technology (fintech) firms, other nonbank financial institutions, or other payments providers to effect transfers."[13] In its different forms, private money typically makes up over 90% of choice of payments.

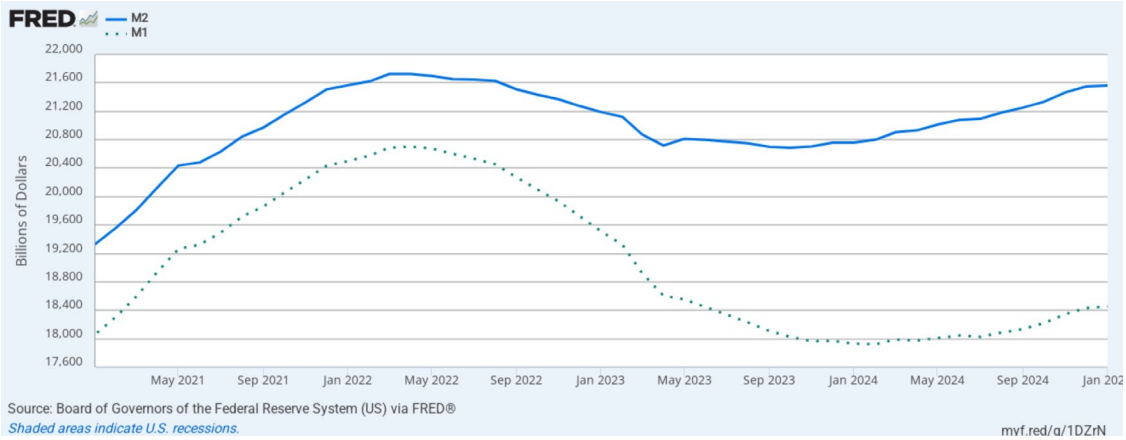
Figure 1: Breakdown of choice for average number of total payments[14]



Despite its dominance within payments, private money is of course not issued by the government. Macroeconomically, the supply of total money is, therefore, measured in terms of four ordinal bands, differentiated on the basis of both liquidity and yield.[15] As of the start of this year, physical currency in circulation is reported at only $2.36 trillion, a mere 11% of the U.S. money supply.[16] The largest kinds of private money are M1 and M2 (when excluding their M0 constituent). As shown in Figure 2 below, M1 stands at $18.46 trillion.[17] M2, which includes savings deposits and retail money market funds, is around $21.56 trillion dollars,[18] which is found by adding $3.10 trillion on top of M1.

Commercial bank money is generally issued through the fractional reserve banking system and, thus, makes up most of the dollars that make up the large M2 figure.[19] This vast system of privately issued dollars is how M0—physical currency in circulation and cash reserves held by commercial banks at the Fed—can be only $5.61 trillion.[20] The result is something few Americans realize: Public money makes up 26% of the U.S. money supply, and approximately 74% of the total U.S. money supply is composed of privately issued dollars.[21]

Figure 2: Money supply post COVID-19 (January 2021 – present)[22]



Few Americans also realize how inherently unstable the system of private money actually is.

In a fractional reserve system, banks are required to keep only a certain percentage of their deposits in cash or cash-equivalent reserves, while loaning or investing the rest.[23] For example, a bank that has $1 million in deposits may only have $100,000 of liquid money backing those deposits. The rest of the portfolio of the bank may be backed by loans that the bank makes to its customers.

This process is called maturity transformation—the banks are in the business of borrowing short (*i.e.*, borrowing from customers through short-term, callable deposits) and lending long (*i.e.,* lending out long-term loans to other customers in exchange for interest). Due to the nature of the business of maturity transformation, banks do not have all of their depositors' money on hand in dollars. Therefore, the fractional reserve banking system works only because of creditors' confidence in it; without it, bank runs can ensue where banks are insufficiently liquid to meet depositor demand and become insolvent.

The inherent instability of private money is mitigated partly from the fact that money exists within a unique and intricate legal framework. After all, "the word money has not a technical legal meaning, signifying dollars and cents of constitutional currency,"[24] wherein "[d]oubtless the word 'money' is often used as applicable to other media of exchange than coin."[25] Once an asset is designated as "money," be that public or private, it is afforded a distinct set of benefits to augment and facilitate its monetary function, including the enforcement of nominalism ("a dollar is a dollar"), the bona fide purchaser for value without notice defense,[26] and its own *Lex Monetae*.[27] The Fed bears the primary regulatory responsibility over the stability and interoperability of the monetary system with a dual mandate both to ensure price stability and maximize levels of employment.[28]

Within the legal framework that creates the U.S. dollar, Congress implemented two major safeguards to keep the deposits making up the private money of M1 (and arguably a portion of M2) liquid and secure. First, as part of Congress's initial vision in founding a central bank, the Fed implemented the discount window in 1913.[29] If a bank has a lot of depositors requesting their money back, the bank can go to the Fed and get liquidity, provided that the bank is sufficiently collateralized.[30] Second, Congress also established deposit insurance in 1933,[31] which now applies to deposits of $250,000 or less.[32] The Federal Deposit Insurance Corporation ("FDIC") will cover these (relatively) small deposits, with deposit insurance, regardless of what happens with the fractional reserve banking system.[33]

To be sure, there have been critiques of these safeguards. For example, some believe that these measures create an implicit government subsidy for the business of banking under the guise of protecting the U.S. money supply. Others contend that if the Fed fails to calm the markets through the discount window and the FDIC exhausts its deposit insurance fund, there will be a large taxpayer bailout of banks in order to protect the fractional reserve system of private money. While these measures have worked reasonably well over the last century, regulators must continue to consider the array of tools available to them in ensuring financial stability going forward.

As of early 2025, this is the current state of the U.S. monetary system—what we ultimately mean by the "dollar." Next comes the question of how these dollars actually move.

PART 2

What is a Digital Dollar?

Some say the dollar is already digital,[34] but that is only partially true.

A. 1st GEN: CENTRALIZED COMMUNICATION, CENTRALIZED LEDGERS

The first generation of so-called digital dollars started in the 1970s when the first mainframe computers were widely deployed and continues to the present day. In that generation, technologies such as the Society of Worldwide International Financial Telecommunications ("SWIFT") were developed. SWIFT allows banks to communicate with each other electronically, to help keep track of which banks owe debits and credits to one another.[35] Other technologies such as the Automated Clearing House ("ACH")[36] and credit cards also emerged in this period.[37] These digital technologies significantly changed the way that the end user interacted with their money for quicker and more seamless payments. Some also believe these advances democratized access to credit-based payments.

While these technologies had an enormous impact, they were fundamentally *communications innovations*, not innovations related to the transfer of money itself. In this first generation of digital dollars, actual settlements were still conducted on a net basis and happened days later. Simply put, these technologies did not facilitate instantaneous transaction settlement. First generation digital dollar technologies rely on both centralized ledgers (the internal ledgers of banks) as well as centralized communications (interbank messaging apparatuses, like SWIFT and ACH). In other words, to account for payments, banks needed to update their own ledgers and effectuate the corrections and changes themselves. This technology still exists today, but communications apparatuses (*i.e.*, SWIFT) are rapidly becoming more anachronistic with the development of newer digital dollar technology.

B. 2nd GEN: DECENTRALIZED COMMUNICATION, CENTRALIZED LEDGERS

The second generation of digital dollars emerged in the 2000s. This generation is marked by technologies such as PayPal, Venmo, Zelle and, only recently, FedNow. This generation can arguably be called the internet generation—but, unlike the more recent blockchain-based technologies, these users still rely on centralized intermediaries to facilitate the movement of their money. This second generation has allowed individuals to communicate directly with each other about the movement of their money, not just large financial institutions. For example, a user can use Venmo to pass a message about the movement of their funds to another Venmo user. However, at its core, this technology is still a *communications innovation*, not an innovation related to money transmission.

Settlements for transactions in second generation digital dollars are still conducted on a net basis. That is, the actual money is still moved through the legacy centralized system. Therefore, in this generation, while the communications have become decentralized (users can facilitate their own communications about the movement of money), the ledgers are still nonetheless centralized. There is no question that the second generation of digital dollars works quite well within the United States. However, people abroad are still largely excluded from access to this U.S.-centric system.

C. 3rd GEN: DECENTRALIZED COMMUNICATION, DECENTRALIZED LEDGERS

The third (and current) generation of digital dollars emerged in the mid-to-late 2010s with the advent of blockchain technology. In this latest generation, a user of digital dollars no longer needs to rely on a bank or any financial intermediary for settlement of their transactions. Instead, a user can communicate their intention to move money and instantaneously settle their transaction by paying through use of blockchains. The settlement happens as quickly as members of the blockchain need to validate the transaction on their respective distributed (or decentralized) ledgers.[38] This occurs in real time and light speeds faster than legacy systems, where transactions are typically settled days later.

Blockchain technology, built on principles of cryptography, allows users to move money natively and greatly reduces the need for centralized ledgers.[39] A blockchain, as a distributed ledger, serves as an open and auditable source of truth that does not require the control of a centralized intermediary (such as a large financial institution) to determine the validity of a payment. The need to trust a third-party institution is obviated by the decentralized consensus mechanisms that serve as the source of trust on blockchains.

Third generation digital dollars converge communications about money with the actual settlement of transactions. This allows a user to send a dollar or a coin of equivalent value as easily as someone would send an email—securely, quickly, efficiently, and instantaneously over the open internet.[40]

Third generation digital dollars, therefore, operate through decentralized communications (peer-to-peer) and decentralized ledgers (without a centralized intermediary to settle the transaction on a net basis). They are, in fact, *money movement innovations*.

There are three main types of third generation digital dollars. The first type is a cryptocurrency issued by a central bank, known as a central bank digital currency ("CBDC"), which would act as the official currency of a sovereign state.[41] Another type is tokenized deposits, which simply takes the deposits in the fractional reserve banking system and turns those into tokens tradable on a blockchain.[42] A third type is a privately issued stablecoin, such as Circle's USDC.[43]

Currently, the United States has only stablecoins. But even within this class there are wide variations. Not all stablecoins are the same, and there are different types of stablecoins that are more or less effective at performing the function of being a digital dollar: fiat-backed, multi-asset-backed, digital asset-backed, and algorithmic. The value of fiat-backed stablecoins is maintained by holding a 1:1 backing of fiat assets, such as U.S. dollars or U.S. Treasury bills.[44] For example, for every fiat-backed stablecoin that is pegged to the U.S. dollar, there is a $1 backing that is usually invested in very safe assets, such as 90-day treasury bills.[45] Examples of fiat-backed stablecoins are USDC (issued by Circle), PYUSD (issued by Paxos on behalf of PayPal), and RLUSD (issued by Ripple).

Another type of stablecoin is a multi-asset-backed stablecoin.[46] This type of stablecoin could maintain its value by holding other commodities or foreign fiat currency.[47] Digital asset-backed stablecoins are yet another kind of stablecoin that are backed by cryptocurrencies like Bitcoin or Ether.[48] Finally, there are algorithmic stablecoins that use an algorithm to constantly re-balance and purport to maintain the value of a dollar.[49] However, as evidenced by the Terra-Luna crisis,[50] these types of coins are far from "stable."

The overarching lesson is that two stablecoins purporting to equal $1 may be radically different in the way that they operate and retain value.

PART 3

Which Digital Dollar(s) Should America Adopt?

There are pros and cons to each of the different types of third generation digital dollars, and it is often not immediately clear which implementation of the digital dollar is superior. Let us, therefore, consider each type in turn:

A. CBDC: THE GOVERNMENT OPTION

Perhaps the most interesting, yet most contentious, form of digital currency is the CBDC. A CBDC in the United States remains an entirely theoretical concept at best. In fact, in January 2025, President Trump signed an Executive Order that, among other things, explicitly prohibits agencies from undertaking any action to establish, issue, or promote a CBDC.[51] While a Fed digital dollar appears to be dead letter, it is worth briefly addressing the pros and cons of CBDCs, generally, as they may be more relevant globally.[52]

One must honestly concede that a CBDC is not without some benefits. First, it would be considered part of M0, or base money. There would be no practical distinction between a CBDC, cash, or deposits sitting in Fed master accounts. Additionally, there would be no question of authority over the issuer of a CBDC as it would be exclusively issued by the Fed and could not be issued by an offshore unregistered company. Furthermore, due to the anonymity of cryptocurrency, criminals can often finance terrorism by concealing the source of the funds[53]—but if the Fed is issuing the token to begin with, U.S. authorities should be able to directly track terrorist financing.

Nonetheless, there are a number of very sound reasons why Americans have largely rejected a CBDC, at least for the time being. The most obvious and significant downside of a retail-facing CBDC is that the government could potentially see every transaction conducted by its citizens.[54] Indeed, as China is developing a CBDC,[55] there are concerns that the Chinese Communist Party is using their CBDC to track citizens' purchases,[56] affecting their so-called "social credit score." Americans should be wary of providing this type and sheer amount of sensitive personal data to the government. A Fed CBDC thus could have a chilling effect on the constitutional rights of American citizens, such as their freedom of association and freedom of speech.[57]

This fear of excessive government oversight brought this issue to the 2024 presidential election, and President Trump acted swiftly once back in office to prohibit a CBDC in the United States.[58]

A CBDC also poses a risk to the private lending industry, more broadly. If people are transacting with the Fed directly via a CBDC, it may disintermediate the role of banks since a CBDC would present the most secure option for depositors in times of stress. This could exacerbate existing risks for the fractional reserve banking system as the very business of banking would arguably be far more vulnerable in the face of large, sudden transfers by depositors at once.

Further, a CBDC also presents a massive cybersecurity risk. If all of the technology for a CBDC is centralized at the Fed, a bad actor would need to target only one centralized authority to take down the nation's economy or access the large repository of sensitive data.[59] For example, for a CBDC, a hacker could double the money supply overnight by minting trillions of dollars of new CBDCs, thereby creating massive inflation, which would be practically impossible for a malevolent actor to pull off in our current system.

As an alternative to a retail-facing CBDC, a potentially more prudent option could be a wholesale CBDC. A wholesale CBDC could function as a base layer of money, and it could be used by stablecoin issuers and banks to back other tokenized assets, such as tokenized bank deposits or stablecoins. Many of the same concerns with a retail-facing CBDC, however, are also present in the wholesale option. Ultimately, as noted above, all variations of a Fed CBDC remain entirely theoretical for the United States during the Trump Administration, and, it would seem, for good reason.

B. TOKENIZED DEPOSITS: THE BANK OPTION

The second path to a digital dollar is simply to take the current dollars within the fractional reserve banking system and tokenize them—enabling them to transfer freely on public blockchains. But tokenized deposits present their own set of benefits and drawbacks.

One benefit is that banks are already regulated. Therefore issuing tokenized deposits could be regulated as an outgrowth of the current banking regulatory system, instead of requiring Congress to pass new laws, federal agencies to promulgate new regulations, and for new entities to be established and licensed. If banks tokenize their regulated deposits, the tokens will be regulated as well, providing a more seamless regulatory transition. For example, every bank is already subject to the same anti-money laundering ("AML") and combating the finance of terrorism ("CFT") regulations, and these types of regulations would naturally extend to tokenized deposits with minimal (if any) amendments. Also, from a privacy perspective—unlike a retail-facing CBDC where the Fed would have access to all transactions directly—the existing privacy rules for banks would apply to tokenized deposits.

Further, banks already have the on-ramping infrastructure to take a given depositor's cash and put it into the digital dollar system and vice versa. They would not have to build new on- and off-ramp systems from scratch, saving development costs and avoiding potential technological issues with new systems.

However, one obvious drawback of tokenized deposits is the inherent instability of the fractional reserve banking system itself (as explained earlier). With the speed of the internet and the instantaneous settling facilitated by blockchain technology, a bank run could happen far more quickly than with previous generations of digital dollars.

Billions of dollars could move at the snap of a finger, destabilizing the banking system in its entirety. Protective measures like the deposit window and deposit insurance would arguably have to be revamped to accommodate this new technology.

Another disadvantage is that tokenized deposits would arguably further entrench the position of "too-big-to-fail" banks. Larger banks would have a natural advantage over smaller banks since they are more technologically advanced and perceived as more secure. This would lead to the consolidation of this profitable business line within the bigger banks. Further augmenting existing barriers to entry, these big banks could soon dominate all retail payments activities.

What is more, tokenized deposits could threaten the singularity of the current U.S. monetary structure (*i.e.,* that all dollars are equal in value to one another) and precipitate in a tiered system. For example, banks may compete with one another for users of their tokenized deposits by paying out additional yield—but in a time of stress, users would likely flee to the bank(s) perceived to be the most secure. This could lead to tokenized deposits of the most secure banks trading at a premium over tokenized deposits of banks that are perceived as less secure. Such a result would comport with Gresham's law: people would be inclined to trade the less secure tokenized deposits in favor of hoarding the more secured ones.[60] This would create a disparity in the value of these digital dollars—where some are more valuable than others—posing threats to the singularity of the U.S. dollar, as well as additional run risks for the fractional reserve banking system.

A final drawback to tokenized deposits is that little would be achieved in the way of financial inclusion. Many people do not have bank accounts and, without bank accounts, they would not be able to utilize or benefit from tokenized deposits.[61] Such tokenized deposits would serve as base money, like a CBDC, and the banks would operate over closed systems, not public ones. In effect, this option for a digital dollar would continue to lock out a significant number of people who cannot open or access a bank account for a multitude of reasons.

C. STABLECOINS: THE BEST OPTION

Dollar-backed payment stablecoins also present their own unique set of advantages and disadvantages—but, based on current market dynamics, are clearly the best option to succeed as America's digital dollars.

> **This conclusion is conditioned on a very important predicate: stablecoins must be subject to common sense regulation that ensures every digital dollar is backed 1:1 with high quality liquid assets in a transparent way.**

i. ADVANTAGES OF STABLECOINS

One advantage of dollar stablecoins is that the technology already exists and is widely used. By recent measure, there were $231 billion[62] of privately issued stablecoins in circulation, used for a wide range of payments and trading activity. The technology is scalable as it currently exists—leveraging decentralized, public blockchains to facilitate trillions of dollars worth of payments.[63] As discussed above, blockchains are distributed systems where anyone with a computer can lend computing power to the consensus mechanism of a given chain through which

transactions are processed on a distributed ledger. There is, therefore, a high upper limit on computing power for a given underlying blockchain, reducing longer-term scalability issues as stablecoins become more popular.

Another major benefit is that there is no need to jeopardize the stability of the U.S. banking system with this payments innovation. Properly issued and regulated dollar-backed stablecoins are backed on a 1:1 basis with cash and cash equivalents, unlike the fractional reserve system in which a bank is highly leveraged and almost never has a cash equivalent behind every deposit. Combined with uniform and robust federal regulation, this should reduce run risk as compared to a system that relies on tokenized deposits.

Furthermore, unlike tokenized deposits, dollar stablecoins are also more financially inclusive. A user does not need to have a bank account to hold and transfer stablecoins. They simply need a phone with a digital wallet containing a public address. Anyone, including government relief agencies,[64] can send stablecoins to someone securely through the blockchain, knowing only their public address. No other type of information is required. Therefore, individuals who cannot access bank accounts are still able to benefit from blockchain technology and can interact with internet-based payments in a way that banks have failed to make possible. Dollar-backed stablecoins thus effectively lower the barriers for underprivileged communities to be a part of the financial system.

> **In so doing, they distribute access to strong and stable U.S. dollars to anyone with an internet connection and a smartphone.**

ii. THE NEED FOR SOUND REGULATION

Currently, there is no federal regulatory framework that regulates the issuance of stablecoins, unlike banks, which are heavily regulated. Consequently, there are many different types of stablecoins—and some are scarcely worth the name! Web3 users must choose which stablecoins to transact with wisely, because some stablecoins are significantly safer and far more stable than others. Common sense dictates that if a stablecoin is not properly backed by secure and liquid assets, that stablecoin could lose its value and trade at a net asset value below $1. The end result is likely a run on the stablecoin issuer, which potentially could put a wide range of Web3 applications at risk.

The lack of a clear federal regulatory framework also allows some stablecoins to be issued without following adequate AML and CFT rules. For example, U.S.-based companies such as Circle, Paxos, and Ripple are regulated as state money transmitters and as federal money services businesses subject to the U.S. Treasury AML rules promulgated pursuant to the Patriot Act and Bank Secrecy Act. Most competitors based overseas are not so strictly regulated.

This regulatory arbitrage by offshore issuers creates a gray-market economy for offshore stablecoins which may then end up in the hands of criminals, terrorists, or organizations subject to economic sanctions.

Without regulation, private companies who issue stablecoins can conceal or become willfully oblivious to the parties buying and using their stablecoins. The needed regulation is thus twofold: First, non-United States governments should enact similar AML and CFT rules to issuers of dollar-backed stablecoins to eliminate this type of harmful activity, limit regulatory arbitrage, and curb the risk of cross-border contagion. Second, reasonable federal legislation in the United States is needed to ensure the highest level of transparency and trust in onshore issuers of dollar-denominated stablecoins.

> **It stands to reason that U.S. dollar-denominated stablecoins are the best option to digitalize the dollar, but only if they are subject to sound, common sense regulation.**

They are more secure than deposits in the fractional reserve banking system, more financially inclusive than its alternatives and the current financial system, and easily accessible on Web3 applications. We are seeing this begin to finally take shape with appropriate attention from the Trump Administration and Congress. In January 2025, President Trump signed Executive Order 14,178, titled "Strengthening American Leadership in Digital Financial Technology," which advances stablecoins in two distinct ways: first, it prohibits federal agencies from establishing or promoting CBDCs, and second, it emphasizes support for the development of lawful, dollar-backed stablecoins to maintain the U.S. dollar's global preeminence.

Picking up on this momentum, there have been several notable bipartisan legislative bills introduced in the House and Senate. In February 2025, a bipartisan group of senators led by Sen. Bill Hagerty (R-TN) introduced the Guiding and Establishing National Innovation for U.S. Stablecoins (GENIUS) Act.[65] This legislation aims to create a clear regulatory framework for payment stablecoins, establishing procedures for institutions seeking licenses to issue stablecoins and implementing reserve requirements to ensure consumer protection and financial stability. So-called stablecoins that do not meet the rigorous requirements of the GENIUS Act are barred from key uses within the U.S. financial system. In March 2025, the Senate Banking Committee—in a historic and bipartisan 18-6 vote—advanced the legislation to the full Senate.

For its part, the House of Representatives has also been active. In February 2025, Representatives French Hill and Bryan Steil introduced a discussion draft of the Stablecoin Transparency and Accountability for a Better Ledger Economy (STABLE) Act of 2025.[66] Like the GENIUS Act, the STABLE Act provides for dual federal and state pathways for stablecoin issuance, and emphasizes transparency, financial stability, and integration with the broader banking system.[67] Only stablecoins meeting the strictures of the regulatory framework may be marketed to U.S. persons. The same week, Representative Maxine Waters unveiled bipartisan payment stablecoin legislation developed in collaboration with former Chair of House Financial Services Committee Patrick McHenry and input from the Treasury Department and Fed.[68]

These initiatives reflect a concerted effort by both the executive and legislative branches to foster innovation in the digital asset space in the United States while ensuring robust consumer protections and the integrity of the financial system as a whole.

PART 4

Why Should We Care About the Dollar's Digital Future?

Shaping the dollar's digital future is crucial to promoting global economic prosperity, financial inclusion, and stability in an increasingly digital world. As Web3 transforms finance, ensuring the U.S. dollar remains the foundation of the global financial system will help drive innovation, support economic growth, and protect against financial instability.

> **A well-regulated approach to digital dollars can enhance accessibility, reduce costs, and strengthen the broader global economy while promoting American national security interests.**

Moreover, innovations in financial technology drive down the costs for money transmission. Currently, it costs a lot of money to send cash overseas using legacy platforms. Depending on the location to which the money is being sent, the fee can exceed 10%.[69] To make matters worse, the smaller the amount that is transferred, the more often the percentage is larger![70]

This burden is particularly borne by migrant workers. A migrant worker sending money back to their relatives overseas may spend a significant amount of money on transaction costs, and the transfer can be further complicated by access to bank accounts. For example, even in Mexico—which has a sophisticated G20 economy[71] and is one of the United States' largest trading partners[72]—approximately half of Mexican adults who are 18-70 years old do not have a bank account.[73] The good news is that a significantly larger percentage have a phone or have access to a phone, making the new digital financial system a more inclusive alternative.

In addition, one cannot ignore the more than 120 million people around the world who are displaced by war, famine, or natural disasters.[74] Without a permanent residence, these people cannot open a bank account. Stablecoins can make a difference for them. For example, Circle, the issuer of USDC, was able to partner with the United Nations High Commission on Refugees to send millions of dollars to thousands of Ukrainian refugees directly.[75] All the refugees needed to receive the USDC was access to their phones. Blockchain technology enables this direct transfer to happen without any need for potentially corrupt middlemen.[76]

Another need for stablecoins abroad is the growth in demand for U.S. dollar stability. In countries that experience hyperinflation, like Thailand or Argentina, the citizens need to hold a stable currency. It is difficult for them to hold physical U.S. dollars, but holding dollar stablecoins in their crypto wallets is much easier.

There are other reasons for stablecoins that hit much closer to home. First and foremost, the United States should defend the dollar as the world's preeminent reserve currency.[77] America generally makes up about 25% of the world's GDP,[78] and about 60% of central bank reserves around the world are held in U.S. dollars.[79] The United States' dominance in global reserves has declined over the last twenty years,[80] however, and there is a strong interest in preventing further decline.

The United States greatly benefits from having its currency be the world's reserve currency. For example, it makes it cheaper for the United States to borrow money to fund the military, the government, and its infrastructure.[81] Moreover, in a financial crisis, the U.S. dollar's status as a reserve currency effectively provides the U.S. government with a larger cushion if it needed to intervene.[82] If we do not create digital dollars, the demand for dollars will fall as other countries will inevitably strive to innovate their financial systems by seeking the best "digital" currency on the market.

A related concern for the United States is winning the "space race" for Web3. Web3 is known as the third generation of the internet. The first version of the web, Web1, was read only, where users of the internet could only read webpages.[83] The second version, Web2, allows the user to upload their own content to websites such as Facebook, YouTube, and TikTok.[84] Even though the users are uploading their own content, these websites are centralized and typically own all of the data that is posted on them. Web3 changes the internet from a read and write system to a system where the user effectively owns their data by utilizing blockchain technology.[85] Web3 is becoming the successful new generation of the internet, and there is an opportunity for the digital dollar to be the currency of this next generation.

> **Most importantly, the Web3 internet will reflect the values of the country that issues the global reserve currency of the future.**

We know that the Russians want to promote their own digital currency to avoid U.S. sanctions and other critical AML laws.[86] If the Russians succeed and the United States does not maintain the lead that digital dollars currently have, the internet could be transformed and turned into a commercial space that does not honor civil liberties and other freedoms that democracies value. To protect the values of America and other western democracies, we must push for widespread adoption of digital dollars to ensure that our AML and CFT public policy goals prevail as the financial services industry becomes both more digitalized and decentralized.

Finally, adopting a digital dollar will increase economic prosperity across our planet. Technological advances in payment methods, such as credit cards, have been shown to increase GDP.[87] Currently, more people are communicating with each other than ever before due to the internet and the multitude of communications projects built upon it. Once sending a dollar is as easy as sending an email, we will see the velocity of money maximized, leading to an exponential increase in economic efficiency in the interactions between people throughout the globe, anywhere and at any time.[88] Taking the power of the internet and merging it with the financial sector will lead to billions of people—who are currently shut out of traditional finance—joining the new internet financial system.

> **This increased level of human interaction will inevitably lead to GDP growth and prosperity across the board.[89]**

Conclusion

The very history of money witnessed its gradual dematerialization—from coins to notes and then from digital ledgers to fully digital dollars.[90]

> **If the dollar can be transformed into something that is safe, easy, and instantaneous to send and receive, it will revolutionize the financial system by bringing the world closer together and increasing economic prosperity.**

The continued development of real-time payment systems, digital assets, and financial inclusion initiatives will shape the future of payments, making them more efficient, secure, and accessible to all. With all the benefits that come with digital dollars, many central banks, private banks, and companies will innovate within the financial system and create their own version of the digital dollar.

It is in America's interest that digital currencies are pegged to the U.S. dollar, rather than foreign currencies. It is critical for the United States to retain the dollar's position as the global top reserve currency. To do so, our government must promote and appropriately regulate dollar-backed stablecoins to ensure that digital dollars remain the dominant digital currency throughout the globe. Neither a CBDC nor tokenized bank deposits are viable paths to fully digital dollars. Well-regulated private sector-issued stablecoins are America's best hope for realizing the promise of blockchain technology. In sum, they best represent the dollar's digital future.

References

1. *See* Posting of Satoshi Nakamoto, *Bitcoin v0.1 released* (Jan. 8, 2009, 2:47 p.m.), http://www.metzdowd.com/pipermail/cryptography/2009-January/014994.html; Arvind Narayanan Et Al., Bitcoin And Cryptocurrency Technologies: A Comprehensive Guide (2016).

2. *See generally* Thomas Stackpole, *What is Web3?*, Harv. Bus. Rev. (May 10, 2022), https://hbr.org/2022/05/what-is-web3; Chris Dixon, Read Write Own: Building The Next Era Of The Internet (2024).

3. *See, e.g.*, GENIUS Act, S. ___, 119th Cong. (2025); STABLE Act, H.R. ___, 119th Cong. (2025).

4. *See* Frederic Mishkin, The Economics Of Money, Banking, And Financial Markets 95 (11th ed. 2009); *Gilbert v Brett* (1604) Davis 18.

5. A unit of account is an instrument that offers a nominal value to goods or services that are the subject of economic transactions.

6. A medium of exchange is an intermediary instrument that, in effect, facilitates the exchange of goods or services. Legally, it marks the difference between a sale transaction and mere bartering.

7. A store of value is an instrument's "purchasing power." It stores economic value, which arises from its ability to be saved, retrieved, and then exchanged for other goods or services.

8. *See* Milton Friedman, The Optimum Quantity Of Money (1969).

9. *See The Future of Money and Payments; Report Pursuant to Section 4(b) of Executive Order 14067,* U.S. Dep't. Treasury Rep. 1, 1 (2022), https://home.treasury.gov/system/files/136/Future-of-Money-and- Payments.pdf.

10. *Federal Reserve Balance Sheet: Factors Affecting Reserve Balances - H.4.1*, Bd. Governors Fed. Rsrv. Sys. (Oct. 12, 2023), https://www.federalreserve.gov/releases/h41/20231012/.

11. *Master Account and Services Database,* Bd. Governors Fed. Rsrv. Sys., https://www.federalreserve.gov/paymentsystems/master-account-and-services-database-existing-access.htm (last updated May 31, 2024).

12. *See* Bd. Of Governors Of The Fed. Rsrv. Sys., Money & Payments: The U.S. Dollar In The Age Of Digital Transformation 25 (2022), https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf.

13. U.S. Dep't Of The Treasury, The Future Of Money And Payments 1 (2022), https://home.treasury.gov/system/files/136/Future-of-Money-and-Payments.pdf.

14. Berhan Bayeh, Emily Cubides & Shaun O'brien, Fed. Rsrv. Fin. Servs., 2024 Findings From The Diary Of Consumer Payment Choice (2024), https://www.frbservices.org/news/research/2024-findings-from-the-diary-of-consumer-payment-choice.

15. The money supply consists of a scale ranging from M0 to M4. M0 is the monetary base (currency). M1 includes M0 and other highly liquid bank deposits. M2 includes M1 and marketable securities (excluding less liquid deposits). M3 includes M2 and institutional money market funds, repurchase agreements, and commercial paper. M4 includes M3 and other assets just barely liquid enough to be part of the money supply.

16. *See Money Stock and Debt Measures – H.6 Release,* Bd. Of Governors Of The Fed. Rsrv. Sys., https://www.federalreserve.gov/releases/h6/ (last visited March 8, 2025) (not seasonally adjusted).

17. *M1 (M1SL)*, Fed. Rsrv. Bank St. Louis, https://fred.stlouisfed.org/series/M1SL (last visited Jan. 23, 2025).

18. *M2 (M2SL)*, Fed. Rsrv. Bank St. LouiS, https://fred.stlouisfed.org/series/M2SL (last visited Jan. 23, 2025).

19. See Scott Nevil, *Fractional Reserve Banking: What It Is and How It Works*, Investopedia (Mar. 7, 2024), https://www.investopedia.com/terms/f/fractionalreservebanking.asp.

20. *Monetary Base; Total,* Fed. Rsrv. Bank St. Louis, https://fred.stlouisfed.org/series/BOGMBASE (last visited Jan. 23, 2025).

21. *See id.*

22. *FRED Graph Jan. 1, 2021 – Jan. 1, 2025*, Fed. Rsrv. Bank St. Louis, https://fred.stlouisfed.org/graph/?g=1Eif8 (last visited Mar. 9, 2025).

23. *See id.*

24. *Hopson v. Fountain* 23 Tenn. 243 (1843).

25. *Woodruff v. Mississippi* 102 U.S. 201, 300 (1895).

26. Legal title passes to the recipient of money even if the person transferring the money did not have a valid title, so long as it was in good faith, for value, and on condition that the recipient had no notice of the defect in title.

27. Any monetary disputes are determined in accordance with the law of the country whose money is in question.

28. The 1977 amendment to the Federal Reserve Act introduced a dual mandate "to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates" Federal Reserve Act § 2A, 12 U.S.C. § 225a (2018).

29. *The Discount Window*, Fed. Rsrv., https://www.frbdiscountwindow.org/Pages/General-Information/The-Discount-Window (last visited Jan. 23, 2025).

30. *See id.*

31. *See U.S. Banking and Deposit Insurance History 1930-1939, FDIC*, https://www.fdic.gov/about/history/deposit-insurance/1930-1939.html (last visited Jan. 23, 2025).

32. *Deposit Insurance FAQs*, FDIC, https://www.fdic.gov/resources/deposit-insurance/faq/index.html (last updated Apr. 1, 2024).

33. *id*

34. CNBC Television, *SEC Chair Gensler: We don't need more digital currency*, Youtube (June 6, 2023), https://www.youtube.com/watch?v=VKxXdUvMqAc ("We already have digital currency. It's called the U.S. dollar.").

35. *See Swift history*, SWIFT, https://www.swift.com/about-us/history (last visited Jan. 23, 2025).

36. *See* Terri Bradford, *The Evolution of ACH*, Fed. Rsrv. Bank Kan. City (Dec. 2007), https://www.kansascityfed.org/Payments%20Systems%20Research%20Briefings/documents/723/briefings-psr-briefingdec07.pdf.

37. *See generally* Kelly-Ann Franklin, *History of Credit Cards: When Were Credit Cards Invented?*, Forbes Advisor, https://www.forbes.com/advisor/credit-cards/history-of-credit-cards/ (last updated Oct. 9, 2024).

38. See Sloane Brakeville & Bhargav Perepa, Blockchain basics: Introduction to distributed ledgers, IBM Developer (June 1, 2019), https://developer.ibm.com/tutorials/cl-blockchain-basics-intro-bluemix-trs/.

39. *See id.*

40. *See id.*

41. *See* Anders Brownworth et al., *A High Performance Payment Processing System Deisgned for Central Bank Digital Currencies*, Mass. Inst. Tech. Media Lab (2022), https://www.media.mit.edu/publications/a-high-performance-payment-processing-system-designed-for-central-bank-digital-currencies/.

42. *See Deposit Tokens*, J.P. Morgan 1, 3 (2022), https://www.jpmorgan.com/onyx/documents/deposit-tokens.pdf.

43. *See* Jeremy Fox-Geen & Rene Michau, *Stablecoins, Blockchains, and the Future of Global Commerce*, Circle, https://www.circle.com/executiveinsights/stablecoins-blockchains-and-the-future-of-global-commerce (last visited Jan. 23, 2025).

44. *See id.*

45. *See id.*

46. *See* Adam Hayes, *Stablecoins: Definition, How They Work, and Types*, Investopedia, https://www.investopedia.com/terms/s/stablecoin.asp (last updated June 13, 2024).

47. *See id.*

48. *See id.*

49. *See id.*

50. *See id.*

51. Exec. Order No. 14,178, 90 Fed. Reg. 8647 (Jan. 23, 2025).

52. *See*, e.g., Christine Lagarde, President, European Central Bank, *Central Bank Digital Currencies in the Evolving Financial System*, Speech at the ECB Forum on Central Banking (Sept. 27, 2024), https://www.ecb.europa.eu/press/key/date/2024/html/ecb.sp240927~11ed8493a4.en.html.

53. Yu Song et al., *Cryptocurrency technology revolution: are Bitcoin prices and terrorist attacks related?*, Nat'l Libr. Med. (Jan. 21, 2023), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9860235/.

54. EJ Antoni & Peter St Onge, *Pushers of Central Bank Digital Currencies Are the Most Terrifying of Villains,* Heritage Found. (July 20, 2023), https://www.heritage.org/monetary-policy/commentary/pushers-central-bank-digital-currencies-are-the-most-terrifying-villains.

55. *See* Shen Wei & Heng Wang, *Global Stablecoins and China's CBDC: New Moneys with New Impacts on the Financial System?*, 41 Rev. Banking & Fin. L. 258, 271-79 (2021).

56. *See* Jennifer Conrad, *China's Digital Yuan Works Just Like Cash—With Added Surveillance*, Wired (Nov. 8, 2022), https://www.wired.com/story/chinas-digital-yuan-ecny-works-just-like-cash-surveillance/.

57. *See* NAACP v. Alabama *ex rel*. Patterson, 357 U.S. 449, 460 (1958) ("It is beyond debate that freedom to engage in association for the advancement of beliefs and ideas is an inseparable aspect of the 'liberty' assured by the Due Process Clause of the Fourteenth Amendment, which embraces freedom of speech.").

58. Victoria Guida, *'Tyranny': Trump vows to block any Fed effort to launch digital currency*, Politico (Jan. 18, 2024), https://www.politico.com/news/2024/01/18/trump-vows-to-block-any-fed-effort-to-launch-digital-currency-00136328.

59. *See* Dante Disparte, *The Risks of Central Bank Digital Currencies*, Diplomatic Courier, (June 16, 2021), https://www.diplomaticourier.com/posts/the-risks-of-central-bank-digital-currencies.

60. *Gresham's Law, Encyclopædia Britannica* (2015) (Gresham's law is the "observation in economics that 'bad money drives out good.' More exactly, if coins containing metal of different value have the same value as legal tender, the coins composed of the cheaper metal will be used for payment, while those made of more expensive metal will be hoarded or exported and thus tend to disappear from circulation.").

61. *See 2021 FDIC National Survey of Unbanked and Underbanked Households*, FDIC, https://www.fdic.gov/analysis/household-survey/index.html (last updated Nov. 14, 2024).

62. *Top Stablecoin Tokens by Market Capitalization*, Coinmarketcap, https://coinmarketcap.com/view/stablecoin/ (last visited Mar. 7, 2025).

63. *Total Monthly Stablecoin Transaction Volume*, VISA, https://visaonchainanalytics.com/transactions (last visited Jan. 23, 2025).

64. *UNHCR launches pilot Cash-Based Intervention Using Blockchain Technology for Humanitarian Payments to People Displaced and Impacted by the War in Ukraine*, UNHCR (Dec. 15, 2022), https://www.unhcr.org/ua/en/52555-unhcr-launches-pilot-cash-based-intervention-using-blockchain-technology-for-humanitarian-payments-to-people-displaced-and-impacted-by-the-war-in-ukraine-unhcr-has-launched-a-first-of-its-kind-integ.html.

65. *See* GENIUS Act, S. ___, 119th Cong. (2025); Press Release, S. Comm. on Banking, Hous. & Urban Affs., Scott, Hagerty, Lummis, Gillibrand Introduce Legislation to Establish a Stablecoin Regulatory Framework (Feb. 4, 2025), https://www.banking.senate.gov/newsroom/majority/scott-hagerty-lummis-gillibrand-introduce-legislation-to-establish-a-stablecoin-regulatory-framework.

66. *See* STABLE Act, H.R. ___, 119th Cong. (2025); Press Release, H. Comm. on Fin. Servs., Hill and Steil Introduce STABLE Act to Establish Clear Regulatory Pathway for Payment Stablecoin Issuers (Feb. 6, 2025), https://financialservices.house.gov/news/documentsingle.aspx?DocumentID=409458.

67. *See id.*

68. *See* Press Release, Democratic Staff of the H. Comm. on Fin. Servs., Waters Unveils Bipartisan Payment Stablecoin Legislation (Feb. 10, 2025), https://democrats-financialservices.house.gov/news/documentsingle.aspx?DocumentID=412883.

69. *See generally Remittance Prices Worldwide Quarterly*, World Bank (June. 2024), https://remittanceprices.worldbank.org/sites/default/files/rpw_main_report_and_annex_q224.pdf.

70. *See id*, at 24, (". . .the average cost of sending $500 is lower as a percentage of amount sent compared to the average cost of sending $200.").

71. *G-7 and G-20*, U.S. Dep't Treasury, https://home.treasury.gov/policy-issues/international/g-7-and-g-20 (last visited Jan. 23, 2025).

72. *See Countries & Regions*, Off. U.s. Trade Representative, https://ustr.gov/countries-regions (last visited Jan. 23, 2025).

73. *FinTechs struggle to drive financial inclusion in Mexico as more than 50% of population remains unbanked*, Fintech Global (Aug. 19, 2023), https://fintech.global/2023/08/19/fintechs-struggle-to-drive-financial-inclusion-in-mexico-as-more-than-50-of-population-remains-unbanked/.

74. *Refugee Statistics*, UNHCR, https://www.unrefugees.org/refugee-facts/statistics/ (last visited Jan. 23, 2025.

75. *Id.*

76. *See* Jørgen Juel Andersen, Niels Johannesen & Bob Rijkers,World Bank Grp., Elite Capture Of Foreign Aid: Evidence From Offshore Bank Accounts, at 19 (2020), https://documents1.worldbank.org/curated/en/493201582052636710/pdf/Elite-Capture-of-Foreign-Aid-Evidence-from-Offshore-Bank-Accounts.pdf.

77. *See* Anshu Siripurapu & Noah Berman, *The Dollar: The World's Reserve Currency*, Council On Foreign Rels., https://www.cfr.org/backgrounder/dollar-worlds-reserve-currency (last updated July 19, 2023).

78. *See Data Bank World Development Indicators*, World Bank (2023), https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.CD&country=.

79. *See* Siripurapu & Berman, supra note 77.

80. *See Int'l Monetary Fund, Dollar Dominance in the International Reserve System: An Update*, IMF Blog (June 11, 2024), https://www.imf.org/en/Blogs/Articles/2024/06/11/dollar-dominance-in-the-international-reserve-system-an-update.

81. *See The U.S. Dollar as the World's Dominant Reserve Currency*, Cong. Rsch. Serv., https://crsreports.congress.gov/product/pdf/IF/IF11707 (last updated Sep. 15, 2022).

82. *See* Ben S. Bernanke, *The dollar's international role: An "exorbitant privilege"?*, Brookings (Jan. 7, 2016), https://www.brookings.edu/articles/the-dollars-international-role-an-exorbitant-privilege-2.

83. *See* Stackpole, *supra* note 2.

84. *Id.*

85. *See* Chris Dixon, Read Write Own: Building The Next Era Of The Internet (2025).

86. Emily Flitter & David Yaffe-Bellany, *Russia Could Use Cryptocurrency to Blunt the Force of U.S. Sanctions*, N.Y. TIMES (Feb. 23, 2022), https://www.nytimes.com/2022/02/23/business/russia-sanctions-cryptocurrency.html (last updated Feb. 24, 2022).

87. Mark Zandi & Abhilasha Singh, *The Impact of Payment Cards on Economic Growth*, Moody's Analytics 1, 7 (2021), https://usa.visa.com/content/dam/VCOM/regional/na/us/visa-everywhere/documents/the-impact-of-payment-cards-on-economic-growth.pdf.

88. See Josh Hawkins, *Circle's vision for digital dollars in Asia Pacific*, Circle (July 3, 2023), https://www.circle.com/blog/circle-shares-dollar-digital-infrastructure-vision-across-apac.

89. Note that this is the ultimate mission of Circle. See About Circle, https://www.circle.com/about-circle (last visited Mar. 12, 2025) ("Our mission is to raise global economic prosperity through the frictionless exchange of value.").

90. Kenneth Rogoff, The Curse Of Cash (2016).