

# Should the US Issue a Central Bank Digital Currency?

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Note that this paper is not the work of an employee of the Federal Reserve Bank of Atlanta. The paper was originally presented at the Federal Reserve Bank of Atlanta's Financial Markets Conference in May 2022. The views in this document are those of the author and do not reflect the views of the Federal Reserve Bank of Atlanta or the Federal Reserve System.

## Summary:

If the web 3.0 requires a public ledger–based payments platform, central bank digital currency (CBDC) is unlikely to provide the digital currency needed to fuel the smart contracts of tomorrow. This payments dilemma can be solved by a hybrid digital currency that includes a new type of bank deposit as well as regulated private stablecoins, both of which clear and settle on a next-generation public ledger created and managed as a joint venture between banks and private stablecoin issuers. With this payments platform under Federal Reserve oversight, there would be no need for the Federal Reserve to issue CBDC.

## Key findings:

1. Fed CBDC looks a lot like the “TNB” business model rejected by the Fed.
2. Should the Fed issue CBDC, politics could shape CBDC design.
3. Instruments like private stablecoins have been in use for centuries.
4. If the existing payments system cannot evolve to meet the needs of web 3.0, a public ledger payments system may be inevitable.

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## Introduction

*Should the United States issue a central bank digital currency?* It's a question that brings to mind a famous exchange that took place at a Federal Reserve Board Monday morning briefing sometime in the 1970s. At that time, Ed Etnin—a legendary Federal Reserve Board officer who was chief of the capital markets section—was briefing Fed chairman Arthur Burns during a period known in Fed history as “The Great Inflation.” According to Ed [himself](#), he and Chairman Burns did not always see eye to eye on issues of monetary policy.

At some point in the briefing, Chairman Burns asked Ed a particularly difficult question. Ed's response to Chairman Burns [was](#), “Mr. Chairman, would you like the short answer or the long answer?” When Chairman Burns said, “I'll take the short answer,” Ed responded, “I don't know.”

Don't you wish more economists could be as honest and direct?

With that background, let me give you both the short answer and a long answer to the question posed by this article's title.

Should the United States issue a central bank digital currency (CBDC)?

The short answer is no. The long answer will consume the remainder of this article.

To begin: why, today, are we even asking this question? The reasons are many. They include the unanticipated popularity of Bitcoin; the threat that Facebook might launch a digital stablecoin—Libra, subsequently Diem—with potentially widespread international appeal and operations outside the scope of any countries' central bank or financial regulatory framework; the growth in the market value of other alternative private stablecoins; and the threat that some other countries might launch a CBDC that could threaten the “special privilege” the US dollar enjoys as the premier international reserve asset.

A Federal Reserve digital currency (FRDC), should it be issued, would be a direct liability of the Federal Reserve. As such, it would be free of default risk, meaning that one FRDC dollar could always be redeemed for a \$1 Federal Reserve note. FRDC would be the ultimate safe asset and a magnet for investors seeking safety.

Although the idea of a Fed digital dollar has only recently been elevated to front page status at the *Wall Street Journal*, very similar ideas have been floated before, but if they made any news, it was reported deep in the paper's B section.

In August 2017, Jamie McAndrews and colleagues formed a limited-purpose Connecticut bank called “TNB” or “The Narrow Bank.” TNB's business model was simple: it would only take large deposits from money market mutual funds, corporate treasurers, and other institutional investors and invest them in a master account at the Fed. TNB's Fed deposits would not be covered by federal deposit insurance and would earn the interest rate

on excess reserves. TNB would keep a portion of the interest proceeds and pass the rest on to its depositors. Deposits at TNB would be—in all but name—Federal Reserve digital currency.

TNB's application for a Fed master account was slow-walked by the Federal Reserve Bank of New York (FRBNY). The FRBNY launched an especially vigorous and time-intensive analysis of the risks TNB might pose to the system. When ultimately FRBNY could not come up with a reason to deny TNB a master account, the Federal Reserve Board reportedly intervened to prohibit FRBNY from opening the account. The Federal Reserve Board argued that TNB deposits—FRDC in all but name—could pose a systemic risk to the banking system.

President Biden's March [executive order](#) unleashes a “whole of government” approach for assessing the risks associated with crypto assets, including private stablecoins. It mandates that the Federal Reserve, US Treasury, and the US Department of Justice report on the legality of, and the risks and benefits associated with, issuing FRDC.

Will this “whole of government” effort convince the Federal Reserve Board to reverse its TNB decision? If it does, politics could play an important role in shaping the design of FRDC issuance.

In 2020, Senator Sherrod Brown [pushed](#) hard to get his “[Banking for All Act](#)” bill included in the CARES Act COVID-relief legislation. The bill would have created an FRDC that provided free banking services for everyone. At the time, the Senate was controlled by Republicans, and his efforts failed.

Senator Brown's bill would have required Federal Reserve district banks and member banks to offer a new type of public digital currency account free of charge to the public. These “digital wallets,” called “FedAccounts,” would hold Fed digital dollars, pay interest, and provide all of the services typically associated with a full-service commercial bank checking account — a debit card, ATM access, and electronic bill paying services — with no minimum or maximum balance requirements. The bill would have required large banks to absorb the cost of offering FedAccounts, and the Fed would reimburse the operating costs of banks with less than \$10 billion in assets.

More recently, Representative Tom Emmer introduced a [bill](#) that would prohibit Federal Reserve Banks from offering products or services to individuals, thereby precluding FedAccounts. In his [view](#), this restriction will ensure that public digital currency, should it be issued, will provide privacy and services that mimic private stablecoins.

Notwithstanding Representative Emmer's revealed preferences regarding FRDC design, his bill need not require a public digital currency to be a blockchain token. His bill would allow public digital currency to be issued using specialized accounts at depository institutions that have master accounts at the Fed. Like the TNB business plan, these account balances would be matched dollar-for-dollar with segregated reserves posted by the depository institution at a

Federal Reserve Bank. This form of FRDC would not necessarily be traded over the internet but could instead use banks' existing payments system infrastructure or a newly designed system that the Fed would centrally control.

The design of FRDC is perhaps the most important consideration in weighing the cost-benefit considerations surrounding its issuance. Will it pay interest? Will transactions be processed on a distributed public ledger or processed centrally on a system that the Fed controls? Will politicians succeed in attaching their preferred "equity and inclusion" features in the FRDC design?

My best guess is that, should FRDC be issued, it would likely use insured depository institutions and other licensed financial firms as intermediaries to hold and manage FRDC accounts. FRDC payments would likely clear and settle using a new system built and centrally managed by the Federal Reserve System, in a manner similar to the way checks and ACH transactions clear and settle today. It is highly unlikely that FRDC transactions would be processed on a public distributed ledger. Whether the FRDC design would include "equity and inclusion" features is anyone's guess.

If FRDC takes this form, it will not be a substitute for private stablecoins.

Private stablecoins are a competing form of digital money that is purchased and traded using the internet. To date, private stablecoins have not achieved universal acceptance as a means of payment, and their growth mostly reflects their use in [facilitating](#) the trading of other digital assets.

## Historical Precursors

Private stablecoins are a new solution to a very old problem: how to find a mutually acceptable way to pay someone physically distant, who you do not know, and who does not know or trust you. In ancient times, you could travel and carry precious metal specie or the kingdom's minted coins to make payment, but you would face the risk of being robbed along the way.

Jerusalem fell to Christian Crusaders in June 1099. Thereafter, groups of Christian pilgrims from across Western Europe visited the Holy Land. Many of them, however, were robbed and killed as they journeyed through Muslim-controlled territories.

Around 1120, a French knight named Hugues de Payens founded a military order called the Poor Knights of the Temple of King Solomon (later known as the Knights Templar). The Knights of Templar were warrior monks, bankers, pirates, and part of a religious order that reported directly to the Pope. They had headquarters on Jerusalem's sacred Temple Mount and pledged to protect Christian visitors to the city.

To facilitate pilgrimages to the Holy Land, the Knights of Templars accepted specie and coin and issued pilgrims paper bills that could be exchanged for money at preceptories from England, throughout Christian Europe, to the Holy Land. To prevent fraud, the Knights

reportedly developed a system of codes for the safe passing of information, and pilgrims' deposits and withdrawal from preceptories were secured on paper bills using [coded ciphers](#). In essence, the Knights invented the travelers' check.

Other historical [accounts](#) argue that these pious monks actually stole the idea from their Muslim adversaries. Proponents of this theory claim that a similar system existed in the Abbasid Caliphate, which would imply traveler's checks were in use from about the year 790. My guess is that the Muslims could have learned the practice from the Greeks or Romans who traveled extensively in earlier times, but I have not seen any documentation that confirms this conjecture.

Private stablecoins look a lot like travelers' checks, which have been in use since at least the Crusades, maybe longer. The only thing new about private stablecoins is that you spend them over the internet. Stablecoins' use of cryptology to prevent fraud and double spending may be just the newest incarnation of an ancient practice.

## **That Was Then, This Is Now**

Of course, traveler's checks and money orders are still in use today. They aren't necessarily issued by banks. Many are issued by state-licensed money transfer agents and even the post office. Some banks do issue traveler's checks (or have done so in the past), but all banks issue similar instruments in the form of letters of credit, bank cashier's checks, prepaid or stored-value cards, and even revolving credit cards—all of which are a means to solve the underlying problem of paying someone, perhaps at a distance, who has no reason to know or trust you. Unlike private stablecoins, all of these products settle using payments systems controlled/operated by banks.

Modern stablecoins are digital assets designed to maintain a stable value relative to a reference currency such as the US dollar or a commodity such as gold. Many stablecoins attempt to maintain their value by investing the dollar proceeds from a newly issued stablecoin in high-quality, short-term, liquid, dollar-denominated assets of equivalent value held by the stablecoin sponsor as a reserve that can be used to stabilize the coin's market value. There are other versions that are an entirely separate breed of stablecoin. They hold crypto assets as reserves or use algorithmic arbitrage trading to maintain parity with the dollar. It is unclear to me why these types of stablecoins should be recognized as a legitimate means of payment rather than as a risky security.

Stablecoin transactions are processed using a public distributed ledger system where agents compete to earn rewards for processing stablecoin transactions. Different stablecoins transact using different public ledgers that are not interoperable. Thus far, private stablecoins have not been issued by any insured depository institution. Rather, they have been issued by entities that are either unlicensed, licensed as state-regulated money transfer agents, or licensed as limited-purpose trust companies.

## What Can Private Stablecoins Do That an FRDC Could Not Do Better?

To answer, let me borrow a famous line from the movie, [The Graduate](#): *I want to say two words to you, two words. Are you listening? [Smart contracts](#). There is a great future in smart contracts.*

The next iteration of the internet, the so-called web 3.0, will have the ability to automatically execute transactions using digital currency. Imagine a future where your refrigerator monitors its contents, compares them with a list of items you specify, and automatically orders from your favorite grocer, who delivers the goods to your door. Your refrigerator will pay for the order automatically with digital currency. This is the Buck Rogers world of web 3.0.

It is unclear to me why your refrigerator could not pay using a credit or debit card, but crypto currency developers think in terms of public ledger payment systems when they design the smart contracts that will automatically restock your refrigerator. If web 3.0 requires payments to be processed on a public distributed ledger, then those holding FRDC will have to go to the grocery store.

While crypto industry proponents [argue](#) that a public distributed ledger payments system is necessary to facilitate smart contracts and web 3.0 functions, I am not sure why this must be true. However, what is clear is that public distributed ledger systems have been the key factor driving smart contract innovation. So without any viable alternative at present, it seems important that a public distributed ledger payment system continue to exist.

But the case against FRDC issuance goes beyond the need to fuel smart contracts. Unless law or regulation limit FRDC holdings, in a crisis, FRDC's status as the ultimate safe asset will attract large balance transfers from banks and money funds. In other words, FRDC would create a new formidable liquidity risk for the financial sector similar to the risk that the Federal Reserve Board cited to deny TNB a Fed master account.

FRDC has a potential downside even in normal times. Bank deposit and money fund withdrawals will fund FRDC purchases. The drain on intermediaries' funding could have negative impacts on the cost and availability of credit in the economy. FRDC might also require the Fed to perpetually maintain a larger balance sheet since its deposit liabilities must be matched by Treasury securities and other assets it holds.

Banks deposits are an alternative form of digital currency, but deposits over the \$250,000 federal insurance limit are technically at risk should a bank fail. Moreover, deposit payments clear and settle over systems centrally controlled by banks and the Federal Reserve and, at least today, these systems will not support the use of the smart contracts being developed in the private stablecoin space.

## Conclusion

So what will the digital currency of the future look like? Will it be private stablecoins, FRDC, or both?

My guess is that web 3.0 will run on a hybrid digital currency that includes a new type of bank deposit as well as private stablecoins. What follows is a simple solution that solves the tension between private stablecoins and FRDC issuance without requiring innumerable government studies, new regulations, or FRDC issuance:

1. Banks and firms licensed to issue private stablecoins form a consortium—a jointly owned payments system processor—that develops and runs a public ledger-based payments platform that can be used by private stablecoin issuers and banks alike. Such an arrangement mirrors past development of credit, debit, ATM, and ACH processing systems.
2. The energy-efficient public ledger will use a secure proof-of-stake [system](#) where banks and qualified nonbank financial institutions compete to process transactions. Like other payments systems, the Fed would have oversight powers and could require that proof-of-stake processors satisfy certain minimum requirements.
3. Banks would offer new tokenized deposit accounts. No regulation that I am aware of prevents insured depository institutions from developing tokenized insured deposits accounts that can be traded on this new payments platform. These fractional reserve deposits would be a new type of checking account. We already have bank capital, liquidity, and other regulations in place to manage the associated risks.
4. Similarly, licensed private [“payment stablecoin”](#) issuers, such as those envisioned in the [Stablecoin TRUST Act](#), will create tokens that use this common payments-processing platform, ensuring interoperability and creating the competition necessary to ensure that the public accrues benefits from this new form of digital money.

With this system, there would be no need for FRDC or the dozens of new government reports and resulting regulations the president’s March executive order will surely produce.