

United States House of Representatives Committee on Financial Services
Task Force on Financial Technology
Digitizing the Dollar: Investigating the Technological Infrastructure, Privacy, and
Financial Inclusion Implications of Central Bank Digital Currencies
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Testimony of Jonathan Dharmapalan - Founder and CEO, eCurrency

Introduction

Chairman Lynch, Ranking Member Emmer, Chairwoman Waters, Ranking Member McHenry, and members of the Task Force; I would like to thank you for holding this hearing and inviting me to testify. It is critically important for Congress to investigate the foundational aspects of a Central Bank Digital Currency and to understand how a CBDC should be designed in order to maximize its benefits. I am honored to have the opportunity to discuss this important topic and I am here to urge Congress to give the Federal Reserve and the Treasury the authority they need to create a digital US dollar and to set the standards for how a US CBDC should be created, how it should function, and what policy goals it should address. The good news is; the rules for how a digital currency should work are largely an extension of the rules for physical currency as they exist today. In other words, the model for central bank issued digital currency is central bank issued cash.

Background on eCurrency

My name is Jonathan Dharmapalan and I am the Founder and CEO of eCurrency; a digital security company and technology infrastructure provider, founded solely to create the technology to allow central banks, such as the US Federal Reserve, to issue Central Bank Digital Currency. We are not a cryptocurrency company and we do not issue any coin, stable coin or currency of our own. We believe that only the United States government can issue a digital US dollar and that the Federal Reserve and Treasury alone should have that authority.

eCurrency has spent years consulting with monetary policy experts and central banks around the world in order to determine how a CBDC should function. Through our research and pilot programs with central banks, we have concluded that the best

approach is that CBDC should be modeled after physical currency (paper notes and coins) and should operate on the same rails that currently exists for the creation and distribution of physical money into the economy. This sentiment is shared by many of the thought leaders on this topic, including the Bank for International Settlements (BIS) and the International Monetary Fund (IMF).

Clear Policy Objectives

A foundational element for introducing a CBDC is understanding its purpose: What can a CBDC be used for, how can it be used, and what potential value does it provide? A recent Bank for International Settlements report highlighted a number of potential benefits for a CBDC. These include enhancing payment system resiliency, increasing payments diversity, encouraging financial inclusion, and improving cross-border payments.

Central bank interests in CBDC research and experimentation varies significantly. However, these interests generally fall into two broad categories. One set of central banks is primarily looking to address present-day challenges, while for others it is exploring future capabilities. For some jurisdictions, a CBDC is intended to address a specific problem — inefficient payment systems, weak banking infrastructure, or declining cash use — or to promote national policy goals, such as supporting payments inclusion and protecting monetary sovereignty. For many advanced economies, the primary motivations are centered on potential payments innovation and general preparedness for a potential future state when digital transactions become the predominant mode of commerce.

For the United States, whatever specific objectives may arise for a CBDC, they should be consistent with the Federal Reserve's longstanding objectives of the safety and efficiency of the nation's payments system, as well as monetary and financial stability. A CBDC arrangement must be in keeping with these objectives, which have guided the central bank since its establishment in 1913. These objectives should be complemented by the three foundational principles recently outlined by the Bank of Canada, European Central Bank, Bank of Japan, Sveriges Riksbank, Swiss National Bank, Bank of England, and Federal Reserve to "do no harm"; complement existing forms of money; and support innovation and efficiency. A CBDC arrangement should also support the Federal Reserve's broader work in consumer protection and community development.

Key Considerations

Financial Inclusion

A key requirement for a CBDC must be that it is accessible from a variety of digital payment vehicles. Any CBDC must be able to operate within the existing payment rails of the financial system including bank accounts, apps, and payment cards, while extending to smartphones, QR codes, and other innovative ways to store digital objects. The key to promoting financial inclusion with a CBDC is interoperability. If the CBDC is designed to work across platforms and utilizing all available high- and low-tech solutions, it will provide the options necessary to allow previously disengaged users into the financial system. The result will not be that existing participants move to new platforms but that more users are able to engage with the digital financial system overall.

Responding to Private Digital Currencies

By issuing a CBDC the US can provide a stable alternative to currently available private digital currency like cryptos and stable coins. These options are not stable stores of value and are not suitable for use in day-to-day transactions. A federally issued digital form of the US dollar would serve as an alternative to the rise of these private digital currencies and provide consumers with the safety and stability that physical US dollars do today.

Protecting Privacy

Privacy is an important consideration for a CBDC. Digitalization of currency has many benefits and can be an immensely powerful utility, however if it is not implemented properly, it has the potential to invade individual and societal privacy. One of the common misconceptions about Central Bank Digital Currency (CBDC) is that it is antithetical to privacy. This misconception derives from the idea that the technology behind CBDC must be either a centralized ledger account (an account held at the Federal Reserve by the public) or a distributed ledger technology derived from the blockchain architecture of Bitcoin. Both approaches are based on a “ledger” and since the ledger associates the user with the value they are holding, neither approach ensures privacy. Any CBDC implementation must be able to protect individual privacy and personal information in accordance with the law. It is possible, using a model based on the functionality of cash, to ensure privacy is protected. The Federal Reserve would not need to collect user information and the private sector participants, including banks and digital wallet providers, would manage AML/CFT and KYC, just as they do today.

Ensuring US Leadership in Digital and Financial Technology

The US has the opportunity to set the rules for how digital currencies function in the international financial system. We understand how China plans to use its CBDC to surveil users and to attempt to sidestep the US dollar’s position as the world reserve

currency. The US can develop its CBDC to be a model for upholding privacy, promoting inclusion, and increasing innovation. This will undoubtedly assure that the US dollar continues to be the global standard in financial instruments.

Strong Legal Framework

A strong legal framework for the creation and the issuance of US dollar currency is clearly codified in the law. Today our cash currency comes in the form of notes and coins. This legal framework presents an opportunity to extend existing laws and practices to include a digital currency. The responsibility to securely produce notes and coins is placed on the Treasury of the United States. Extending that responsibility to the production of CBDC would be a natural extension of the role of the Treasury. The Federal Reserve can then fulfil its subsequent role as the issuer and distributor of the CBDC.

A principal role of the Federal Reserve in the U.S. financial system is to be the guardian of public confidence in money; hence the same sound legal framework is a key precondition. It serves as the bedrock that enables users of a general-purpose CBDC and the market more broadly to be confident that the instrument they use to transfer value is robust and reliable, functions smoothly and securely, and comes with clear rules and protections for the payment recipient and for the consumer. Any cracks would undercut the public's trust in the CBDC. Critical first steps toward building such a sound legal framework include formulating a clear position on the legal issues highlighted below.

Clear legal authority. A first-order consideration is whether the issuance of a general-purpose CBDC would be consistent with the Federal Reserve's mandates, functions, and powers as enshrined in the central bank law, namely the Federal Reserve Act (FRA). The central bank exercises only powers and functions authorized under the FRA. For example, the FRA authorizes the Federal Reserve to issue Federal Reserve notes and to provide payment services to depository institutions and certain other entities. Consideration would need to be given as to whether additional amendments to the FRA would be required related to the issuance of a general-purpose CBDC.

Legal tender status. The topic of legal tender status is often raised in the context of CBDCs. In the United States, that status has specific meaning. By statute, all currency issued by the Federal Reserve is a valid and legal offer of payment for settling "debts" to a creditor. It is important to note that neither the statute nor any other federal law compels an individual or private business to accept currency or coins as payment for goods and services. Rather, these private-sector entities are generally free to develop their own policies on whether to accept cash, within the boundaries of any applicable state law and with appropriate notice. Although the status of CBDC as legal tender under U.S. law remains an open question, a general-purpose CBDC's recognition as legal tender would not guarantee its acceptance in commercial use; that would largely

depend on the credibility of the CBDC, including the soundness of the legal framework underpinning it (for example, commercial law rules that facilitate market activities).

Privacy. It is both customary and an intrinsic feature of cash that transactions between parties remain private. In a CBDC environment, that privacy may not be a given and cannot be taken for granted. It will be essential to consider how privacy is respected and how personal data is protected in a CBDC arrangement. Legal requirements vary, depending on the role a particular party plays in handling or processing a payment transaction—whether the party is a bank, service provider to a bank, affiliated party, or communication provider. Depending on the design of a CBDC and the extent of the central bank's role in the arrangement, the central bank could have access to an unprecedented scale of granular transaction information; possibly, transactional data could be available to certain third parties (like banks and service providers) or, in the extreme, to everyone. This close linkage between money and data contrasts with physical banknotes, which do not carry with them transaction data that can be connected to a specific person and their history of financial dealings. The legal framework for privacy as it pertains to CBDC would require specific attention by its framers.

Anti-money laundering, countering the financing of terrorism, and addressing sanctions evasion. It is critical that such a legal framework, as a precondition, includes approaches to combatting money laundering and countering the financing of terrorism so as to mitigate the risk that the CBDC could become a favored medium for illicit activities, particularly given the ease and speed at which potentially large amounts of money could be transferred. As a point of comparison, illicit activities in connection with virtual currencies are not just limited to direct use in transactions to commit crime or to support terrorism (such as buying and selling illicit things), but also include use by bad actors to launder their illicit proceeds or hide financial activity from authorities (such as law enforcement, national intelligence, tax, or economic sanctions authorities).

Broad Stakeholder Support

Developing a CBDC requires input, engagement, and support from a range of stakeholders in both the public and private sectors and contributes significantly to market readiness. Though full agreement among stakeholders is likely impossible, an inclusive discussion and general consensus is a precondition. Key stakeholders include government bodies, end users, financial institutions, technology and infrastructure providers, academia, and standards development organizations. Broad stakeholder support will take time to achieve given the diverse interests involved and the number of complex decisions that will need to be made on system design and ecosystem development.

Government bodies. Governmental support is essential to facilitating the legal and societal changes that would be needed for the introduction of a CBDC. The legislative and executive branches of government would need to make critical decisions affecting the design and implementation of a CBDC. Consideration by Congress, for example, must be given to key areas such as the authority of the Federal Reserve to issue a general-purpose CBDC, the potential sea change in the relationship of the central bank with the public, and potential legislative changes related to contract law, privacy, and consumer protection. Executive branch support is also needed from federal agencies on a number of design and implementation issues, including those related to tax, public spending, counterfeiting and fraud, anti-money-laundering, and cybersecurity. Coordination and harmonization of regulatory frameworks across various jurisdictions would also require the support of government at both the federal and state levels.

End users. Usability will be key given that a general-purpose CBDC must be designed for the people and organizations who use money to pay for goods and services. Including end users of various ages, geographic locations, payment habits, and financial literacy in the design and testing of a CBDC could help sharpen the basic features of a viable CBDC arrangement. For example, how will people use a CBDC—through a smartcard, smartphone, fingerprint, iris scan, or something else? Why would they choose a CBDC over another payment instrument? To make a CBDC that appeals to merchants, its designers will need to include benefits for retail transactions. These might include being a less expensive and faster alternative to existing payment options.

Engaging with individuals and businesses and consulting with consumer groups, community organizations, and business associations to understand the use case for a CBDC will help in the decision whether to issue a CBDC and its potential design. End-user input on privacy and usability would be particularly useful in designing a CBDC. Questions related to privacy would include identifying what type of information is kept on the system, who owns the information, who has access to it, and how it can be used. End-user input on security will also be important depending on the design on the system. For example, how much responsibility does the end user want when considering the tradeoffs that may need to be made with consumer protection and loss allocation?

Financial Inclusion. Additionally, while the current payments system works well for most, a CBDC could help address unmet needs. According to a 2019 Federal Deposit Insurance Corporation report, 5.4 percent of American households had neither a savings nor a checking account, which means they might not have direct access to the bank-intermediated payment system. A recent Federal Reserve Bank of Atlanta report noted that "access to digital payment vehicles that don't depend on traditional bank accounts" may be an effective approach to addressing the needs of unbanked Americans. Although a significant group of Americans are unbanked, they can and are participating in digital payments utilizing nonbank mobile money service providers. As such, the digital dollar would help advance financial inclusion by introducing a CBDC instrument

which can be used across different bank and nonbank payment networks. Moreover, transactions data could be used by financial intermediaries for information-based risk assessment for lending purposes, which would also be positive for financial inclusion. Engaging with end users or the groups that represent unbanked Americans can help determine whether or how a CBDC could be designed to support payment inclusion goals.

Financial institutions. Introduction of a CBDC could result in significant changes to market structure and dynamics. There are important questions about the potential role of banks and other financial institutions in a CBDC arrangement. A CBDC might affect commercial bank deposits, bank credit, and the broader financial system. However, it is also possible there would be little to no disruption to the banking sector, depending on the features of a CBDC and how it is implemented. Engaging broadly with financial institutions of many types, from global systemically important banks to local community banks to internet-only banks, would inform policymakers on potential impacts, benefits, design considerations, and policy requirements.

Technology and infrastructure providers. Technology and infrastructure firms play a significant role in today's market, and support from these groups is a precondition of a CBDC issuance. A potential CBDC may take many different forms, some of which could be achieved through existing technology and infrastructures. Or it could use newer technologies, such as distributed ledgers, that are not widely used today. Or it could use a combination of existing and new technologies. CBDC arrangements may also allow or accelerate the entry of new providers, such as bigtech and fintech, into payment or other financial services. Incumbent firms that are unable or unwilling to embrace or develop new capabilities may experience negative impacts as new entrants emerge. Understanding these dynamics will inform design choices and help address questions of CBDC design, interoperability, market structure, and market adoption.

Others. Other stakeholders, such as academic institutions, think tanks, standards organizations, and the international community, can inform and support the foundations of a CBDC. Academic institutions and think tanks can provide thought leadership to inform policymaking. Standards organizations can contribute by defining terms, developing taxonomies, and creating specifications and standards in support of the broader ecosystem. The international community, such as other central banks and policy makers, is also important given the role of the U.S. dollar in international trade and finance as well as the opportunity to learn from CBDC pilots or initiatives in various jurisdictions. Other questions include how visitors and foreign businesses might access a CBDC, how it could be used offshore, and what rules should govern this type of use.

Congress needs to set the rules

The foundation of a CBDC must be derived in policy. Congress needs to set the standards by which the technology developed to create CBDCs are evaluated. It is our view at eCurrency that the technology solution should follow the laws and standards laid out by Congress, the Federal Reserve, and the Treasury and that these entities should not develop standards in order to conform with one technology's capabilities. In other words, the government should enumerate what standards a CBDC should meet and require that technology providers comply.

What should a CBDC look like?

In order to address the needs of the economy and represent an improvement on the current financial system a CBDC should achieve the following:

- **Creation** – CBDC should be created under the control of Treasury and the security technology used to create digital currency should remain under the control of the Secretary of the Treasury.
- **Issuance** - The issuance of the digital currency should be recognized as a liability of the Federal Reserve and it should remain fully fungible with Federal Reserve notes.
- **Distribution and Interoperability** – The digital currency should be distributed using secure technology to commercial banks and made accessible via existing payment systems
- **Security** – The digital currency must be safeguarded against counterfeiting and quantum computing risks through the use of both appropriate security technology
- **Resilience** – The digital currency needs to be resilient from operational disruption
- **Oversight** – The Federal Reserve and the Treasury will govern, control, and oversee the digital currency
- **Settlement** – The digital Currency must achieve instant and final settlement
- **Efficiency** – The digital currency should be capable of scaling massively with minimal energy consumption
- **Accessibility** – Users of the digital currency must have 24/7/365 access to digital currency through bank and non-bank payment service providers. It should be accepted by individuals and businesses, fungible with other forms of legal money

- **Inclusivity** – The digital currency must be accessible to and used by individuals who are unbanked or have limited engagement with the financial system
- **Ease of Use** – Digital currency should be able to be stored and used in the most convenient and intuitive ways through e-wallets, payment cards, smart phones, QR codes, etc.
- **Privacy** – The personal/identifying information of users must be protected in accordance with the law
- **Reporting by Intermediaries** – Financial integrity should be safeguarded through AML/KYC/CTF compliance using existing reporting systems of financial intermediaries
- **Stability and Transaction Limits** – The digital currency should meet financial system stability considerations by the ability to set e-wallet holding and transaction limits
- **Programmability Experience** – The digital currency’s applications layer should be programmable by financial intermediaries to meet contractual obligations and for customer-facing services
- **Green CBDC** – The CBDC should aim to be ‘green’ in terms of a low-carbon footprint, which could be measured by the energy use per transaction.

What can Congress do now to advance our progress towards a CBDC?

In order to advance our understanding of CBDCs and encourage the study of a digital US dollar, Congress should take the following steps:

- Congress needs to address the definition of legal tender in the US code to add digital currency to the current standard of notes and coins.
- Congress should also clarify the roles of the Federal Reserve and the Treasury in the creation and issuance of digital currency. In order for digital currency to work it must function the same way as cash which is created by the Treasury and issued by the Federal Reserve.
- As previously mentioned, Congress must set the standards by which a digital currency will be created and set up policy goals that one should achieve.
- Congress should also encourage the Federal Reserve and the Treasury to initiate a digital US dollar pilot program and appropriate funds to carry it out. The results of this pilot can then be reported back to congress to inform its policy decisions.

Conclusion

Issuing a CBDC in the United States would not be an easy task. A number of foundational elements would be required. Having clear policy objectives is key in guiding the design of a CBDC. Establishing broad stakeholder support is needed to affect the social and legal changes needed to refine how society thinks about money and how Americans use it. A strong legal framework must provide the legal basis for the issuance, distribution, use, and destruction of a CBDC. Moreover, a CBDC must be supported by robust technology that ensures its safety and efficiency. Lastly, market readiness is needed for widespread acceptance and adoption. These preconditions, and the work it takes to achieve them, are interconnected such that efforts in one area may lead to developments in another. These developments could strengthen or weaken the forces for change towards a general-purpose CBDC issuance. Each of the preconditions on its own will take significant time to achieve, and these preconditions represent only a starting point. Fortunately for us the model for a safe and secure currency that meets all of these requirements is already in place. It is the model we use for issuing cash (notes and coins). We do not have to invent a new model. If we demand that the most secure digital technology is leveraged to support the digital dollar, we can enable a safe and secure CBDC in the United States.