US SENATE COMMITTEE
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SUBCOMMITTEE ON ECONOMIC POLICY

"Building a Stronger Financial System:
Opportunities of a Central Bank Digital Currency"

June 9, 2021

Testimony of
Hon. J. Christopher Giancarlo

Thank you, Chair Warren, Ranking Member Kennedy and members of the Sub-Committee, for the opportunity to testify today.

I am Chris Giancarlo, Senior Counsel at Willkie Farr & Gallagher. I am also the former Chairman of the US Commodity Futures Trading Commission.

I am here today on behalf of the Digital Dollar Project,[1] a non-partisan think tank furthering public consideration of the merits of a tokenized form of a United States central bank digital currency (CBDC).

The Digital Dollar Project

The Digital Dollar Project was launched in early 2020. It seeks to serve the public interest by convening private sector thought leaders and actors, encouraging U.S. based research and public discussion on the opportunities and challenges of CBDC, and proposing possible models to support the public sector as it considers development, testing and adoption.[2] The Project looks to advance consideration of ways to future-proof the dollar for consumers and institutions here in America and around the world.

To gain diverse perspectives from key stakeholders, the Digital Dollar Project formed a non-partisan advisory group that includes a broad array of economists, business leaders, technologists, innovators, lawyers, academics, and consumer advocates across the social and political spectrums.[3]

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[1] ***(https://www.digitaldollarproject.org).***
[2] The Digital Dollar Project is not a commercial enterprise and has no business model to promote. It operation is self-funded. Its founders are the Digital Dollar Foundation, a not-for-profit enterprise and the global consulting firm, Accenture PLC.
[3] Members of the Advisory Board are listed here: https://www.digitaldollarproject.org/advisory-group.

Working with this Advisory Committee, the Digital Dollar Project released its inaugural white paper at the end of May 2020.[4] (I ask that a copy of the Project's white paper attached hereto be made a part of the record of this hearing.)

The Digital Dollar Project white paper proposes for public consideration and discussion a model of a tokenized digital dollar that we refer to as a "champion model." It provides details on the structure, operation and benefits of that champion model of a digital dollar. It posits a tokenized form of the US dollar enjoying the full faith and credit of the US Government operating alongside existing forms of physical cash and commercial bank money.

Importantly, the Digital Dollar Project's champion model proposes that the issuance, distribution and redemption of digital dollars would take place just as cash does today: issued by the Federal Reserve to domestic banks or regulated entities against reserves. It supports maintenance of the existing two-tiered architecture of commercial banks and regulated money transmitters in deploying and recording Digital Dollars on new transactional infrastructure informed by distributed ledger technology (DLT).

The Project's white paper proposes that commercial banks would distribute Digital Dollars to domestic end users' digital wallets against bank deposits and against collateral to non-resident banks. For consumers, digital wallets would offer essential payment functionalities integrated with existing banking services. Payments at points of sale could still be conducted through conventional terminals or fully contactless solutions. Only, with Digital Dollars, the terminals would transfer actual value from peer to peer instead of the electronic messages we use today. Regulated entities would extend such wallets to their customers through existing outlets for mobile phone applications. For unbanked end users, wallet services could come pre-loaded on mobile phones.

The Project's Digital Dollar proposal is not antithetical to other virtual currency efforts whether commercial like Diem or decentralized like Bitcoin. The proposal is also monetary policy neutral. It takes no view on issues of money supply. It proposes the Digital Dollar as a tool of monetary policy, not a policy expression.

Central Bank Digital Currencies: Decentralized Fiat Money

Among the multitude of highly effective payment options in the United States (e.g., cash payment, credit, debit, etc.), a Digital Dollar could offer a new choice for digital transactions, instantaneous peer-to-peer payments and in-person transactions. It could also potentially lower costs and further diversify payment rails. It would facilitate financial inclusion by broadening access to services through additional mechanisms, such as digital wallets. In particular, a US CBDC could expand the ability of currently

[4] "Exploring a US CBDC: A White Paper," Digital Dollar Project, May 2020, at: https://digitaldollarproject.org/exploring-a-us-cbdc/.

un-or underbanked populations to access digital financial services and transact on e-commerce platforms that do not deal in physical cash.[5]

The Digital Dollar Project proposes that the Digital Dollar would operate on a likely permissioned network to ensure validity and integrity of all transactions and would necessarily be built against the highest standards of systemically important infrastructure. The verification of transactions would rest on the complete history or lineage of the tokens from original issuance in order to attest authenticity and that they have not been double spent. The advantages of tokens derive from their bearer instrument nature and the ease with which interactions with existing banking and payment functions can be performed. Participants only need to interact with the tokens and are not required to be connected to a payment system. Tokens can be exchanged multiple times 'offline' and would resync with the system when connectivity is available enabled by the logic encapsulated in the tokens themselves.

DLT network participants would include the central bank and commercial banks, other financial intermediaries, and new entities that can help afford greater resilience in payment processing. The distributed nature of the DLT platform would enhance security as manipulation of the network would be computationally near impossible. The DLT platform would add to payment system diversification by operating on separate Internet-based payment rails that is complimentary to the existing banking system.

A U.S. Digital Dollar would be far superior to Bitcoin in environmental sustainability. A Digital Dollar would not need to be "mined" consuming enormous amounts of energy to demonstrate proof of work and earn newly minted coins. Instead, Digital Dollars would be created cryptographically by the Fed and distributed electronically. Such distribution would make a Digital Dollar environmentally superior even to our current use of fiat money that has an overlooked environmental cost in the operation of electronic ATMs and the physical mining, minting and distribution of notes and coins.

Financial Inclusion

One area of great promise with respect to a Digital Dollar is in expanding financial access and inclusion for unbanked populations. A 2017 Federal Deposit Insurance Corporation survey found that roughly 14 million American adults lack a bank account—a figure that has become all the more important during the COVID19 lock-down.[6] The pandemic revealed fundamental shortcomings in the capacity of existing government payment relationships to swiftly channel financial resources to the non-banked public. The US Federal Reserve has no direct relations or connectivity with the non-banked public. It cannot therefore efficiently distribute or coordinate crisis relief directly to deserving households short of paper checks that are costly to convert to

[5] Bank notes are often used to make small payments in the physical world, although, on average, physical cash usage is in decline compared against other payment methods. This dynamic is likely to progress in a post-COVID-19 world, thereby making it increasingly important for digital financial options to extend more broadly.

[6] "2017 FDIC National Survey of Unbanked and Underbanked Households," Federal Deposit Insurance Corporation, October 2018, at: https://www.fdic.gov/householdsurvey/2017/2017report.pdf

cash. Away from the Federal Reserve, Federal and State government agencies have only partial direct banking relationships with the general public through tax administration and social benefits distribution, but their reach is not universal.

Had a Digital Dollar been in circulation during the COVID-19 crisis with a means of digital identification, it would have enabled the immediate sending of monetary relief to the digital wallets of targeted beneficiaries.

During non-crisis conditions, a Digital Dollar could be a useful tool in the distribution of other government assistance payments, such as social security benefits, school meal vouchers and food stamps, among others. It may also serve to expand financial inclusion for underserved populations due to lower system costs and the ready availability of digital wallets. Given their relatively limited but critical functionality, there is greater precision and efficiency associated with digital wallet services that policymakers should consider, particularly given the broad range of programs and government benefits that can be distributed utilizing wallet services and the historic waste and abuse that could be eliminated. This would also allow private sector providers certain opportunities and advantages to expand coverage of such services to un-or underbanked populations that have access to mobile devices.

In order for this to be true, however, the digital wallet will need to prove to be less expensive to offer from a technology, telecommunications, regulatory and administrative perspective, and with manageable risk, particularly with respect to privacy and security. This hypothesis can be tested in real-world pilot programs. In situations where private sector solutions are not viable, policy solutions could be developed around public wallet government programs or services that fill remaining gaps in coverage.

Assuming the technological efficiency and potentially reduced regulatory costs associated with offering a digital wallet, one can imagine smart phones and devices preloaded with such a solution, or at a minimum, the application programming interfaces to allow for mobile applications to function. The wallet could be readily registered through a regulated hosting intermediary performing requisite Know Your Customer/Anti-Money Laundering (KYC/AML) checks. Because not everyone always has a cell signal where they live, end users could make in-person CBDC transactions offline that upload to the network as soon as they regain cellular service.

In fact, development of a Digital Dollar along with smart phone wallet services may be only the starting point for financial service providers to offer new and more beneficial services for populations that have historically been underserved by traditional banking services. Georgetown University Law Professor Chris Brummer has written:

> …the potential advantages of a tokenized dollar from the standpoint of financial inclusion are impossible to ignore.... **The supporting rails for a digital dollar could be opened up to other kinds of applications that could help contribute holistically to a transformation of the very model of financial inclusion,…[including] services like government sanctioned digital IDs,**

> **alternative credit scoring tools, and savings programs… even robo-advising and financial education services** for low-income people.[7]

The Digital Dollar Project believes the opportunity is at hand not just to *imagine* such an ecosystem, but to actually begin exploring it today. Inclusionary financial services for low-income and underbanked communities are in such dire need that we are compelled to consider opportunities to provide them.

Tokenized, Programmable Money: a Glimpse at its Future

The Project's interest in a US CBDC is not just about saving transaction costs, enjoying new conveniences, or the possibility of serving historically underserved segments of our population, as worthwhile as they are. It is also about preserving American predominance in the global economy and, as I'll argue a bit later, enshrining democratic values in the future of money.

Throughout recorded history, sovereign and non-sovereign currencies have competed for patronage in global commerce. Many factors enabled some currencies to trade at discounts or premiums to others, especially social trust based on the issuers' economic strength and stability. However, technological superiority often gave advantage to one currency over another, such as China's innovative paper currency in the Eleventh Century or an instrument from which the US currency derives its name: the Spanish Dollar that from the 15th through 18th centuries was easily divisible into "pieces of eight" for greater commercial convenience.[8]

Society is today experimenting in far ranging ways with digital money and assets. As we go into the future, the continuing evolution of the Internet is rendering things of value into tokenized and ultimately programable digital instruments, from cryptocurrencies like Bitcoin and Ethereum, to innovative "stable coins" and non-fungible digital tokens or "NFTs." We must carefully consider what role the U.S. Dollar will play in this digital future.

As former CFTC Chairman, I am cognizant of the fact that prices for most of the world's key tradable commodities and contracts are today set in America's deep, transparent and well-regulated commodity futures markets. Those prices are set in U.S. dollars. As a result, those global commodities are paid and accounted for in US dollars. This dynamic is an important pillar of the US dollar's primary reserve currency status.

In the not too distant future, contracts for delivery and exchange-traded futures on those US dollar-denominated commodities, contracts, and other significant items of value will be rendered into digitized, tradable tokens and

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[7] Medium.com, *Thinking Big on Fed Accounts, Digital Dollars and Financial Inclusion*, Jun 23, 2020, Chris Brummer, at: https://medium.com/@chrisbrummer.

[8] Shepard Pond, "The Spanish Dollar: The World's Most Famous Silver Coin," Bulletin of the Business Historical Society, The President and Fellows of Harvard College, Vol. 15, No. 1 (Feb., 1941) at: https://www.jstor.org/stable/i356449.

coupled with algorithmically driven smart contracts. The question is: Will the digital commodities and contracts of the future still be priced and accounted for in U.S. dollars if the U.S. currency remains an analog instrument, not digital and programmable? Or, rather, will key global commodities be priced and accounted for in some other currency that is digitized and programmable?

We must face these questions today. It would be foolish to take the Dollar's predominant status in the international financial system for granted. Careful examination of a Digital Dollar is necessary to insure that the United States preserves the leadership role of the U.S. Dollar.

Global Competition for the Future of Money

There is an enormous amount of work being done currently by overseas central banks on central bank digital currency. The Bank for International Settlements reports that almost ninety percent of central banks recently surveyed said they were considering the pros and cons of issuing digital fiat, while three-fifths of central banks are now actively experimenting with CBDC.[9]

China is particularly far along, working on what it calls the Digital Currency Electronic Payment (DCEP) system. A number of large, important Chinese businesses have joined this initiative as partners in implementing the technology. Today, both Chinese citizens and non-citizens can download digital wallets from six major Chinese banks and fund them with Digital Renminbi (or RMB).[10] And, with the wallets they can shop in select stores in Beijing and Shanghai.[11] This is just the beginning for domestic use of Digital RMB.

Yet, domestic use is only one purpose of China's CBDC. Another is to integrate Digital RMB into China's high-priority global infrastructure development strategy, known as "one belt, one road." Such integration could encourage dozens of participating economies to make payments using Digital RMB. Additionally, China could lure developing economies throughout South East Asia and Africa to peg their digital domestic currencies to that of China.

Chinese technological dominance in digital currency systems would pose serious challenges for the U.S. and other democratic societies. If CBDC payment systems can bypass the Western-dominated global, account-based banking system, the United States would lose a powerful policy tool for economic sanctions.[12] In addition, if foreign central banks come to maintain smaller

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[9] Bank for International Settlements (BIS), *Ready, steady, go? – Results on the third BIS survey on central bank digital currency,* January 27, 2021, Codruta Boar and Andreas Wehrli at: https://www.bis.org/publ/bppdf/bispap114.pdf

[10] SMSH, "Yes, Foreigners Can Use China's New E-CNY Digital Currency: Alipay and WeChat pay are so 2020, Shanghai Life, May 21, 2021, at: https://www.smartshanghai.com/articles/activities/how-to-use-china-digital-yuan-cbdc

[11] *Id.*

[12] Whatever one's opinion of specific instances or frequency of utilization of economic sanctions, they are certainly less widely destructive than a key alternative of statecraft: warfare.

amounts of dollar reserves to fund purchases of a shrinking amount of global commodities priced in dollars demand would decline for U.S. government bonds. That would result in higher interest rates for both the United States government and American consumers.

Assuring Democratic Values in the Future of Money

The dollar's ascendance during the post-World War II period was accompanied by a historical rarity: the birth of a truly global market for goods and services. That, in turn, helped millions of historically impoverished people lift themselves into the middle class. As a consequence of this ascendancy of the US dollar as a global reserve currency, today more people than ever before in human history enjoy improved health, child welfare, and all the educational and civil liberty benefits that accompany material wherewithal.

This remarkable late twentieth century improvement in human well-being is related to the global embrace of democratic ideals of individual liberty, freedom of speech, personal privacy, free enterprise and the rule of law of democratic societies. These ideals are encoded in the US currency, the Dollar.

Some of those ideals are also set out in U.S. Constitution. One in particular, is the Fourth Amendment's right to privacy. From it stems a rich body of jurisprudence defining the balance between an individual's right to privacy—including financial privacy—and the state's limited ability to abridge that privacy in pursuit of legitimate law enforcement, national defense, or other overriding objectives. Amongst the major democracies—and certainly when compared to autocracies—the United States has some of the most robust constitutional protections against government infringement of individual financial privacy.

With the proper Fourth Amendment jurisprudence and thoughtful design choices relating to anonymity and individual privacy, the Digital Dollar could well enjoy privacy protections superior to many competing instruments—whether provided by commercial interests or other sovereign nations

This would especially be true compared to central bank digital currency of anti-democratic regimes that, undoubtedly, will be used as instruments of state surveillance. Highly autocratic governments will seek to use sovereign digital currency to operate "social credit" systems, by which individuals and businesses will be tracked and evaluated for political trustworthiness. Criticism of an authoritarian regime may one day result in one's digital money being disabled from paying for, say, access to electronic media, transportation outside of one's village, or even necessities like food.

Accordingly, privacy rights may turn out to be an ace the United States can play in the contest over the future of digital money. Encoding traditional American ideals of economic freedom and privacy into a Digital Dollar will surely enhance its global appeal. Hundreds of millions of people in the developing world may well be reluctant to

surrender their growing economic security and autonomy to authoritarian state surveillance, simply for the convenience of digital payments. As it has so often in its history, the United States has the opportunity to lead in a way consistent with its finest ideals.

That is why it is so important that advocates for economic privacy be fully engaged and heard as a US CBDC is being analyzed and considered. We must make sure that the values that are enshrined in the Dollar today – values like individual liberty, freedom of speech, personal privacy, free enterprise and the rule of law – are encoded in the Digital Dollar of the future.

Piloting Development of the Digital Dollar

Like it or not, we are entering a new world, a world in which many intangible assets will be rendered as digital tokens recorded on distributed ledgers. It has already begun.

When it comes to sovereign money, the questions are: Who will design and engineer digital currency systems? Who will set the key standards and protocols for interoperability? And what social values will be incorporated into them? If the US dollar is to remain the world's primary reserve currency in this new era, then we must consider whether to evolve it from an analog to a digital currency that effectively measures, supports, and transacts with the world's digitally tokenized things of value.

The Digital Dollar Project believes that well-architected, durable and universal US CBDC, with trusted privacy protections, may well be in the national interest of the United States and, we believe, in the interest of the world economy. Crafting it will be an enormous and complicated undertaking.

Considering the launch of a Digital Dollar needs to be done carefully, thoughtfully and deliberately. To create something in keeping with the complexity and worth of the US dollar's global importance requires that any such consideration not be conducted in a hurried manner. It will take time and seriousness to get it right.

Nevertheless, now is the time to get started. The recent launch of SpaceX reminds us that the United States explored outer space and the lunar surface through a series of pilot programs known as Mercury, Gemini and Apollo. So too, should the US explore a Digital Dollar in a series of well-conceived and executed pilot programs.

The Federal Reserve is looking thoughtfully at central bank digital currency. We are encouraged by the strong and positive statements by Chairman Jerome Powell[13] and Governor Lael Brainard[14] on exploring and seeking public input into design of the Digital Dollar. The Federal Reserve Bank of Boston has assembled some fine researchers working with The Massachusetts Institute of Technology's Digital Currency Initiative, whose Director is also giving testimony today. That collaboration is exploring core technological architecture of a US CBDC.

The work of the Digital Dollar Project is intended to complement and not controvert the work of the Federal Reserve, including by Federal Reserve Bank of Boston with MIT. We look forward to the Federal Reserve's upcoming discussion paper and examining its important conclusions.

Yet, notwithstanding the important work of the Federal Reserve, a great deal of exploration still must be done to confirm valuable use cases, understand user behavior and sociological implications, and explore public policy challenges and opportunities of CBDC through broad stakeholder participation and discussions. That is why the Digital Dollar Project recently announced the launch of a neutral, open and collaborative forum working with the private sector to conduct pilot programs to explore those policy challenges and opportunities.[15] This research platform will serve as a "test ground" for collaboration by a wide range of commercial and non-commercial stakeholders.

The Project seeks broad and even-handed public sector engagement. It will select pilot programs and participating institutions according to criteria approved by the Project's non-partisan Advisory Group. It will explore, analyze and understand technical and functional requirements, test applications and approaches and consider promising use cases for both retail and wholesale commercial utilization. The pilot programs will be designed with an unbiased and nonprofit perspective that seeks to uncover and present the raw data unencumbered by commercial influence or priorities.

The Digital Dollar Project believes its initiative will help examine three of the key preconditions for a CBDC identified by researchers at the Federal Reserve: broad stakeholder support, robust technology and market readiness.[16] The Project will release the results of the pilots to the public for use in academic study, as well as policy

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[13] "Federal Reserve Chair Jerome H. Powell Outlines the Federal Reserve's Response to Technological Advances Driving Rapid Change in the Global Payments Landscape," May 20, 2021, at: https://www.federalreserve.gov/newsevents/pressreleases/other20210520b.htm

[14] Lael Brainard, "Private Money and Central Bank Money as Payments Go Digital: an Update on CBDCs," Board of Governors of the Federal Reserve System, May 24, 2021, at: https://www.federalreserve.gov/newsevents/speech/brainard20210524a.htm

[15] "Digital Dollar Project to Launch Pilot Programs to Explore Designs and Uses of a U.S. Central Bank Digital Currency," May 3, 2021, at: https://newsroom.accenture.com/news/digital-dollar-project-to-launch-pilot-programs-to-explore-designs-and-uses-of-a-us-central-bank-digital-currency.htm .

[16] Jess Cheng, Angela N Lawson, and Paul Wong, "Preconditions for a general-purpose central bank digital currency" Board of Governors of the Federal Reserve System, Fed Notes, February 24, 2021, at: https://www.federalreserve.gov/econres/notes/feds-notes/preconditions-for-a-general-purpose-central-bank-digital-currency-20210224.htm identifying the following five broad preconditions: "clear policy objectives, broad stakeholder support, strong legal framework, robust technology, and market readiness."

consideration by Congress, the Federal Reserve, the U.S. Treasury and the wider stakeholder community.

When the US has led the world in technological innovation – whether exploring outer space in the last century or cyber space at the turn of this century – it has done so through public/private partnerships.[17] In these partnerships, the US government has directed central policy frameworks to further the public interest while the private sector supplied technological innovation large- project management capability and competitive urgency. Without the blending of the two, exploration of the lunar surface and cyber space may have been delayed beyond the twentieth century into the twenty-first.

It may be argued that developing a dollar CBDC is so important to the national interest that it should be the exclusive work of the public sector and not involve the private sector. We disagree. It is because the development of a dollar CBDC is so important to the national interest that it *must* involve collaboration by both. Collaboration was the basis for successful exploration of both outer and cyber space. It is the way America succeeds in doing big technological things. It is the right way to explore the future of money.

This global wave of digital currency innovation is quickly gaining momentum. The challenge for the United States is to play a leadership role and assure that its democratic values are brought to bear. If the U.S. fails to lead this wave of CBDC innovation it must be prepared to accept that the digital future of money will incorporate the values of America's global adversaries.

It is naïve to think that the Internet, in its continuing evolution, will not transform money in the same way it has transformed information, social networking, retail shopping, local transportation, travel and leisure, photography and the music and entertainment industries. For money itself, that transformation has already begun.[18] The pace of innovation will never again be as slow as it is today. It is incumbent upon policy makers to consider modernizing the Dollar for the same reason we must modernize all economic and commercial infrastructure – to keep pace and benefit from advanced, new architectures of technology and innovation. It is about pursuing less friction, less cost, better policy tools and broader social inclusion. It is about exploring new digital monetary architecture alongside its old analog foundation.

[17] In the 1960s, NASA partnered with a host of private sector vendors, engineering firms and contractors to land a man on the moon and accomplish America's then highest priority. Also in the 1960s, the Pentagon's Defense Advanced Research Projects Agency (DARPA) contracted to the private sector development of key Internet components while, later in the century, the National Science Foundation created NSFNET to contract with both private companies and public universities to lay the groundwork for the Internet as we know it today.

[18] It is estimated that annualized stablecoin trading volume is $16 trillion compared to U.S. wholesale payment volume of $25 trillion. See, Caitlin Long, "Ten Stablecoin Predictions and Their Monetary Policy Implications, Cato Journal, Spring / Summer 2021, at: https://www.cato.org/cato-journal/spring/summer-2021/ten-stablecoin-predictions-their-monetary-policy-implications

We should modernize the Dollar to make sure that the values that are enshrined in the Dollar today – values like freedom of speech, individual economic privacy, free enterprise and the rule of law – are encoded in the digital future of money.

The time has come to explore the opportunities and challenges of a US CBDC through well-crafted and carefully executed pilot programs conducted in thoughtful partnership between the public and private sectors in the best tradition of American innovation.

The time has come to explore the Digital Dollar.

Attachment A
White Paper: "Exploring a US CBDC" The Digital Dollar Project
May 2020