

# THE PROMISES AND PERILS OF CENTRAL BANK DIGITAL CURRENCIES

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## HYBRID HEARING

BEFORE THE  
SUBCOMMITTEE ON NATIONAL SECURITY,  
INTERNATIONAL DEVELOPMENT  
AND MONETARY POLICY  
OF THE  
COMMITTEE ON FINANCIAL SERVICES  
U.S. HOUSE OF REPRESENTATIVES  
ONE HUNDRED SEVENTEENTH CONGRESS  
FIRST SESSION

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## THE PROMISES AND PERILS OF CENTRAL BANK DIGITAL CURRENCIES

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Tuesday, July 27, 2021

U.S. HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON NATIONAL SECURITY,  
INTERNATIONAL DEVELOPMENT  
AND MONETARY POLICY,  
COMMITTEE ON FINANCIAL SERVICES,  
*Washington, D.C.*

The subcommittee met, pursuant to notice, at 10 a.m., in room 2128, Rayburn House Office Building, Hon. Jim A. Himes [chairman of the subcommittee] presiding.

Members present: Representatives Himes, Gottheimer, Torres, Lynch, Dean, Ocasio-Cortez, Auchincloss; Barr, Sessions, Williams of Texas, Hill, Zeldin, Davidson, and Gonzalez of Ohio.

Ex officio present: Representatives Waters and McHenry.

Also present: Representatives Foster and Emmer.

Chairman HIMES. The Subcommittee on National Security, International Development and Monetary Policy will come to order. Without objection, the Chair is authorized to declare a recess of the subcommittee at any time. Also, without objection, members of the full Financial Services Committee who are not members of this subcommittee are authorized to participate in today's hearing.

Today's hearing is entitled, "The Promises and Perils of Central Bank Digital Currencies." Before I recognize myself for an opening statement, I will just note for the witnesses and anybody watching at home on TV that this is a hybrid hearing, so there are actually people participating who are tuning in virtually. That should be managed. We have done it before. It should be managed well, but there will be moments when questions do come in from people who are participating remotely, just so the panel is aware of that fact.

With that, I now recognize myself for 4 minutes to give an opening statement, and to welcome the witnesses to this important hearing.

Money and payment systems have been around for thousands of years, but what we think of as money and paying for goods today would have been unimaginable even to our grandparents, who carried cash and sometimes wrote checks. Technological innovation in the last 2 decades has transformed money, payment systems, and banking. The rapid growth of crypto assets, digital currencies, and peer-to-peer networks facilitate business transactions and quicker international payments, amongst other things. However, as is true with all innovation, there are potential downsides. Those of us charged with oversight and policymaking must grapple with user

anonymity, cybersecurity, investor protection, and market safety, among other challenges posed by this innovation.

Today, in a very timely fashion, we grapple with the potential benefits and drawbacks of creating government-backed digital currencies. The decisions that emerge in legislation and regulation will significantly shape the world of finance.

Some 81 nations, including our own, are now exploring a central bank digital currency (CBDC). While some countries are moving faster than others, each central bank has its own policy objectives and expectations.

The Federal Reserve's forthcoming White Paper on digital payment systems will likely provide insight into how the Fed believes the U.S. should approach and monitor these issues in the years ahead. Vice Chairman Quarles, in a speech notably entitled, "Parachute Pants and Central Bank Money," suggested that all of this activity might be a bit of a fad.

No single policy change or set of regulations will solve all of the challenges in this arena. The choices we make regarding a central bank digital currency will have both positive aspects and drawbacks. A U.S. central bank digital currency could potentially draw unbanked Americans into a formal and lower-cost banking system, it could provide the Federal Reserve with greatly enhanced policy tools, and it could be a prudent response or alternative to the Wild West of privately sponsored cryptocurrencies.

However, a central bank digital currency could cause significant disruptions in the existing banking sector. Particularly since the Federal Reserve is looking to the Congress for direction and authority, legislative inaction, which sadly has become something of a default setting in this institution, will be a choice, and not necessarily a good one. Widespread global adoption of other central bank digital currencies, particularly the Chinese digital currency, could erode the highly advantageous role of the dollar internationally.

Since World War II, the U.S. dollar has been the primary global reserve currency. The strength and stability of our currency has helped secure our position as the world leader in finance, and been a reliable mechanism to facilitate trade and our borrowing needs. The extensive use of the dollar in foreign markets also provides us, and U.S. officials, with important tools to crack down on criminal groups, monitor illicit activity, and tighten the screws on those who would threaten America or its allies.

Much has been said about the Chinese digital yuan and the possibility that the Chinese government will attempt to usurp the dollar as the reserve currency, but we must also be mindful of the actions by our allies. If the U.S. moves too slowly, we risk being overtaken. Today, in my opinion, we are behind. Following the rest of the world in innovation is not a traditional American experience.

These are all difficult decisions, and we must approach them with an open mind. We need to work together to foresee the unintended consequences, understand the expected tradeoffs, and stay a step ahead of potential challenges.

With that, I would like to again welcome this terrific panel of esteemed witnesses, and to recognize the ranking member of the subcommittee, Mr. Barr, for 4 minutes for an opening statement.

Mr. BARR. Thank you, Mr. Chairman, for holding this very important hearing. And thank you to our witnesses for joining us today. I look forward to an engaging discussion.

The development of new technologies and changing consumer behavior have resulted in drastic changes to our payments systems. Frictions previously associated with the transfer of funds from person to person or business to business have eased significantly. As the landscape continues to shift, central banks are exploring the digitization of their currencies.

There are many potential benefits associated with the development of central bank digital currencies, including easing transactions and reaching previously underserved populations. However, we must also be mindful of the potential negative national security implications, including CBDC's use in financing illicit activities of evading sanctions, and the long-term consequences if we lose our competitive edge to countries like the People's Republic of China.

According to recent data published by the Atlantic Council, since 2014, dozens of central banks have begun exploring CBDCs. Thirty-two countries are in the research stage and 35 have either launched a CBDC, conducted a pilot, or are in development. In the United States, as the chairman noted, Federal Reserve Chair Powell has indicated that the Fed is closely examining the concept of a digital dollar and plans to release a White Paper on the subject in the coming months.

One area of potential promise of a U.S. digital dollar is expanding financial access and inclusion for unbanked individuals. A recent FDIC survey found that roughly 14 million American adults did not have a bank account. It is possible that lower system costs and digital wallets tied to CBDCs may provide access to underserved populations.

Meanwhile, China is pressing ahead in its development of a CBDC, and has already launched pilot programs of its digital renminbi with major retailers in select metropolitan areas. In 2016, then-People's Bank of China Governor Zhou Xiaochuan stated that his ambition was to eventually replace cash in China with its digital renminbi. Beneficial to the Chinese Communist Party (CCP) is the fact that a widespread adoption of a digital currency would allow them to track every purchase, expand domestic surveillance initiatives, and exert greater control over private transactions. The CCP may even use its new-found visibility into transactions as a tool to enforce party discipline.

China has made clear their motives to challenge the United States as the preeminent global economic power. The development and implementation of a digital currency is one of several steps in their quest as they seek to usurp the dollar as the world's reserve currency. As policymakers focus on national security implications of financial services, we must closely monitor China's actions and appropriately react to these developments.

While it is imperative that the United States not cede its competitive advantage, we must not rush the process for the sake of simply keeping up. With a development of this importance, magnitude, and potential long-term impact, we must realize that getting it right is more important than getting it done fast. In this regard, I agree with Chairman Powell, who last year stated, "It is

more important to get it right than to be first, and getting it right means that we not only look at the potential benefits of CBDC but also the potential risks.”

We must also carefully deliberate the appropriate role of the Fed in issuing a CBDC. Should it approach the program alone, going directly to consumers and taking on the roles and responsibilities traditionally held by private institutions, such as customer service, transaction verification, and Anti-Money Laundering (AML) and Know Your Customer (KYC) compliance, or should the Fed approach the issue in coordination and partnership with the private sector? I hope our hearing today will help inform our thinking as we weigh the benefits and potential costs of CBDCs, specifically in the context of U.S. national security and the appropriate role of the Fed.

I yield back.

Chairman HIMES. The Chair thanks the ranking member, and now recognizes the Chair of the full Financial Services Committee, the gentlewoman from California, Chairwoman Waters, for 1 minute.

Chairwoman WATERS. Thank you, Chairman Himes, for hosting this hearing, part of a series that this committee has been holding on the policy, law, and regulations surrounding digital assets. The Federal Reserve is at the center of our response whenever the economy enters a recession, and thus it is vital that our central bank has powerful tools to achieve its mandate. A central bank digital currency, or CBDC, is one potential tool.

In addition to economic matters, as the Fed considers CBDC adoption, Congress must also be mindful of how proposed models will affect the global influence of the U.S. dollar, advance efforts to fight financial crime, impact communities of color, enhance financial inclusion, and balance privacy with the transparency needed to defend the financial system from abuse.

I look forward to the witnesses’ comments, and I yield back the balance of my time.

Chairman HIMES. The Chair thanks the Chair of the Full Committee, and now recognizes the ranking member of the Full Committee, the gentleman from North Carolina, Ranking Member McHenry, for 1 minute.

Mr. MCHENRY. I thank the Chair for holding this great hearing today. This is a subject with which Congress must wrestle.

As Fed Chair Powell says, it is better for the U.S. to get a central bank digital currency right than to be first. We are certainly not going to be first, but we have to wrestle with privacy rights and civil liberties, something that the Chinese do not care a whit about. And I agree with my colleagues that a digital yuan has national security implications for the United States. However, a central bank digital currency is not the only tool to compete with China. We should be looking at how we are better than China, how do we improve ourselves, how do we ensure that private sector innovation continues, how we see competition, and competition bringing the best products to market and letting that competition encourage the U.S. dollar in making cross-border payments faster and cheaper.

There is a lot of work to be done, but I am glad we are jumping into the fray. Congress must wrestle with this, and it is on us to legislate this into existence if that is the right thing to do.

And with that, thank you, Mr. Chairman.

Chairman HIMES. The gentleman yields back.

Today, we welcome the testimony of our distinguished witnesses: Ms. Julia Friedlander, the C. Boyden Gray Senior Fellow and Deputy Director of the Atlantic Council; Mr. Yaya Fanusie, an Adjunct Senior Fellow for Energy with the Economics and Security Program at the Center for a New American Security; Dr. Andrew Levin, a Professor of Economics at Dartmouth College; Dr. Julia Coronado, the President and Founder of MacroPolicy Perspectives; and Mr. Robert M. Baldwin, the Head of Policy at the Association for Digital Asset Markets.

Witnesses are reminded that their oral testimony will be limited to 5 minutes. You should be able to see a timer on the desk in front of you that will indicate how much time you have left. When you have 1 minute remaining, a yellow light will appear. I would ask that you be mindful of the timer, and when the red light appears, to quickly wrap up your testimony, so that we can be respectful of the other witnesses' and the committee members' time.

And without objection, your written statements will be made a part of the record.

Ms. Friedlander, you are now recognized for 5 minutes to give an oral presentation of your testimony.

**STATEMENT OF JULIA FRIEDLANDER, C. BOYDEN GRAY SENIOR FELLOW AND DEPUTY DIRECTOR, GEOECONOMICS CENTER, ATLANTIC COUNCIL**

Ms. FRIEDLANDER. Good morning, and thank you, Chairman Himes, Ranking Member Barr, and esteemed members of the subcommittee for the opportunity to speak to you today about central bank digital currencies and their role in global finance.

My name is Julia Friedlander. I am the C. Boyden Gray Senior Fellow and Deputy Director of the GeoEconomics Center at the Atlantic Council. I lead our work on economic statecraft, that is, the use of financial, economic, and regulatory tools in foreign policy. I have served as an economist at the CIA, as a Senior Advisor at the Treasury Department's Office of Terrorism and Financial Intelligence, and 3 years on the National Security Council staff. This decade of Federal service gave me an acute sense of how financial regulation intersects with national security and the role of the United States in global standard-setting based on entrepreneurialism, rule of law, and respect for the rights of the individual.

Last week, the GeoEconomics Center launched the newest version of its CBDC tracker, which follows the progress of research, design, development, and piloting around the world. You can explore it at [AtlanticCouncil.org](https://AtlanticCouncil.org). The database features 81 countries, more than double the number we identified one year ago. Five countries have fully launched a digital currency, while 14 others are in the pilot stage, like South Korea and Sweden. However, of the four most influential central banks in the world—the U.S. Federal Reserve, the European Central Bank (ECB), the Bank of

Japan, and the Bank of England—the United States is the furthest behind.

Countries are pursuing CBDCs for a variety of reasons. COVID-19 obviously played an outsized role. The need to deliver unprecedented fiscal and monetary stimulus called for innovation in payment systems. Another is the rise of cryptocurrencies and stablecoins. Some central bankers fear losing control of monetary sovereignty while others see stablecoins as a potent complement to the existing financial system.

And, of course, there is Beijing. As of June 2021, the People’s Republic of China announced corporate and personal wallets valued at over \$5 billion, and has begun groundwork for cross-border transactions with Thailand, the United Arab Emirates, and Hong Kong. These tests are limited to bank-to-bank transactions, not retail.

I would like to emphasize, however, that this is not only a story about how we manage China. Around the world, central bankers recognize that they cannot ignore the advent of new forms of digital money. I will touch on three national security considerations from our research.

First, countries researching or testing CBDC use KYC procedures similar to the traditional banking sector, but are developing different thresholds to balance KYC with financial inclusion and lowering barriers to instant payments. This could lead to a patchwork quilt of regulations and operating platforms, making KYC ineffective.

Second, what one country calls, “due diligence,” may be a data privacy violation and illegal state-led surveillance in another, complicating cross-border transactions or risking personal safety and industrial espionage. Nation states and hackers linked to organized crime could target CBDCs to attain sensitive data and funds or destabilize the global financial system.

Third, the role of the U.S. dollar. The dollar continues to dominate international commerce, reflecting the attractiveness of the U.S. economy as a safe haven for investment. We see no immediate threat to its role in financial settlements and debt markets or in global reserves. Most CBDC programs are focused on domestic use cases, not international transactions. Compatibility and widespread standardization are a prerequisite for a CBDC to challenge the financial system as it currently is.

However, in the medium to long term, if CBDCs demonstrate superior effectiveness in the speed and cost of transaction, they could begin to undermine the dollar’s status. If countries are able to build wholesale, cross-border CBDC mechanisms at scale, these payment systems could begin to replace SWIFT and other messaging systems. This could, over time, reduce the share of international trade and capital flows denominated in dollars.

How might this happen? Over time, countries may develop cross-border interoperability that settle transactions instantaneously. The dollar would become a technological laggard. In the private session we convene at the Atlantic Council, we have heard from other nations that are eager to hear from the U.S., and without our guidance, may look to China on how to build a CBDC.



Chair Powell has emphasized that as the issuer of the world's reserve currency, it is more important to be right than to be first. This is prudent, but the Fed risks allowing a fractured digital currency ecosystem to evolve in a way that does not protect privacy and security. The U.S. must innovate through a position of strength. This does not necessarily mean issuing a digital dollar. Instead, the U.S. can galvanize international coordination and ensure that countries create digital currencies that are both safe from attack and safeguard citizens' data.

Currently, there is a patchwork of regulatory bodies that claim some jurisdiction over development, but the U.S. has been able to bring solutions to the table.

Chair Powell has been clear that he does not believe the current language in the Federal Reserve Act allows him to create a digital dollar. If Congress believes in the digital dollar, it should consider authorizing a pilot program, ensuring a role for Treasury and varying bodies in the oversight and coordination process, or amend the Federal Reserve Act. In countries with a pilot program, other than in China, the legislature has been a key player in the process.

U.S. legislation would have a positive ripple effect around the world. It would show that we are at the forefront of innovation and compel other countries to coordinate with us. Countries exploring cross-border testing with China might worry that partnership with the digital yuan would preclude a partnership with the digital dollar.

The U.S. need not roll out a large-scale CBDC, but we need to start a new, serious conversation. For the world's largest economy, the global financial leader, and the creator of the Bretton Woods system, the risk would be to do nothing. In finance, the first mover has an advantage in setting the international operating environment, and the U.S. is a force multiplier. We can and should lead the world in the development of a safe and secure CBDC.

Thank you for the opportunity to appear before this subcommittee, and thank you for focusing on this very important issue.

[The prepared statement of Ms. Friedlander can be found on page 64 of the appendix.]

Chairman HIMES. Thank you, Ms. Friedlander.

Mr. Fanusie, you are now recognized for 5 minutes for an oral presentation of your testimony.

**STATEMENT OF YAYA J. FANUSIE, ADJUNCT SENIOR FELLOW,  
ENERGY, ECONOMICS AND SECURITY PROGRAM, CENTER  
FOR A NEW AMERICAN SECURITY**

Mr. FANUSIE. Thank you. Chairman Himes, Ranking Member Barr, distinguished members of the subcommittee, and my fellow panelists, it is an honor to participate in today's hearing.

CBDCs inevitably, I believe, will become some part of our global economic landscape. In my testimony, I will offer framing to understand the rise of CBDCs, outline some of the geopolitical positioning currently underway around the technology, and explain the policy posture needed to navigate the opportunities and threats that a CBDC environment may bring to U.S. national security.

First, it is best to frame CBDCs not just as a monetary development but as a data development. For example, China's motivation for its digital fiat currency is rooted in the Chinese Communist Party's push for national financial technology development, which is focused on building a data-driven digital economy.

Online retail bank accounts, mobile payments, distributed ledger technology, and smart contract programmability are part of a range of software innovations that currently are unlinked to central bank money. CBDCs are an attempt to integrate the world of central bank money directly with both conventional and emerging data technology.

Whether or not CBDCs hold either more promise or more peril for U.S. national security will depend on how well the United States crafts policy to partake in and influence the march of Fintech innovation emerging globally.

Here are some important strategic points or considerations that I think policymakers must address for a sound national security-informed approach to the rise of CBDCs.

One, correspondent banking, the high chance that correspondent banking will be disintermediated on some level when CBDCs proliferate. Now, private banks will not become obsolete, but banks will need to augment their services to maintain relevance in a world where users digitally possess direct liabilities with their central bank and can transact more seamlessly with foreign counterparties online. So, private banks will need to find revenue models revolving around data and software-related services to remain profitable in a CBDC world, although they will also have to be informed by data for their manual due diligence commitments.

Also, whomever governs or influences the international CBDC-to-CBDC architecture is likely to gain considerable geopolitical power. Earlier this year, China's central bank proposed rules for CBDC interoperability across jurisdictions at a Bank for International Settlements seminar. The BIS also could become an environment where CBDC software is recommended or authorized for all central banks. China currently has the most progress in CBDC piloting among major economies. The U.S. will need to increase its CBDC expertise and assert greater influence in the BIS and other international fora that guide CBDC development.

Also, CBDCs could be weaponized in some way to retaliate against the United States. Depending on how a global CBDC system is governed, it could be possible for a bloc of countries to restrict the United States from an international CBDC apparatus that operates outside the SWIFT messaging system. Also, a foreign government's control over its CBDC infrastructure may make it easier for that government to block local CBDC accounts or wallets used by U.S. companies operating in that country.

U.S. economic policymakers are going to need more collaboration with computer scientists. Economists at the Fed are going to have to increasingly wrestle with complex computer science problems as they assess the possibilities. The Boston Fed's current partnership with MIT is an important step in CBDC research, but given the global pace of CBDC development, multiple Fed branches probably should collaborate with university computer science departments around the country for more extensive research.

Also, fine-tuned rules around data privacy will be needed if the U.S. launches a digital dollar. CBDC transactions, even if anonymized, will comprise a new data stream that could help the government and private firms improve financial services, but more specific guidelines on data access must be mapped out. Will law enforcement have real-time access to the raw, anonymized data feed? Policymakers and technologists must create parameters, not only around what entities can directly acquire CBDC data, but precisely how much of it, and for how long.

The growing exploration of CBDCs does not mean that all nations will develop one in the near future. But with all of the CBDC research and piloting occurring, it seems highly likely that the world will not return to the status quo of a decade ago when there was no foreseeable technological shift in central bank money governance. Instead of asking if CBDCs will proliferate, the U.S. inquiry should be, how will they develop and what should their governance be across the borders?

Despite some of the accompanying risk from CBDCs that I have outlined, the sound policy posture is not to seek to stop the development of this technology. The U.S. position should be to promote, harness, and shape Fintech innovation so that it aligns with American interests and values. This may manifest in the U.S. deploying a digital dollar, but either way, the United States must prepare for a world where CBDCs operate in the global economic landscape.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Fanusie can be found on page 58 of the appendix.]

Chairman HIMES. Thank you, Mr. Fanusie.

Dr. Levin, you are now recognized for 5 minutes for an oral presentation of your testimony.

**STATEMENT OF ANDREW LEVIN, PROFESSOR OF ECONOMICS,  
DARTMOUTH COLLEGE**

Mr. LEVIN. Chairman Himes, Ranking Member Barr, and members of the subcommittee, thank you for inviting me to testify at this important hearing. I will highlight how the establishment of a digital dollar provides a crucial opportunity to improve the payment system for small businesses and ordinary families, and I will underscore the urgency of moving forward promptly on this initiative.

My written testimony highlights the views of small business owners in my region, and actually, there are some slides that are a handout for you to look at, too.

For example, Sean Taylor recently achieved his dream of starting his own barber shop, called The People's Barbershop, in Hanover, New Hampshire. His business has been thriving, and he has now hired his first apprentice, Charlie Foster. On average, about 3 percent of the price that Sean receives for every haircut is being transferred to huge, multinational payment providers—3 percent.

I have heard similar concerns from many other small business owners, such as the founders of the Norwich Farm Creamery. Again, you can see their photograph in the slides.

And I gained numerous insights from Becky Dayton, who has been running The Vermont Book Shop for the past 16 years. Becky

says, “I am working extra hard to keep this little bookstore alive in my community.”

The same issues are faced by small businesses across the country, including online retailers as well as brick-and-mortar firms. It is not surprising that small businesses are uniformly enthusiastic about the prospect of establishing a digital dollar. It would be secure, convenient, and costless for both the payer and the payee. Cutting payment transaction costs will help foster more business startups and entrepreneurs, and create more jobs.

In joint work with my colleague, Michael Bordo, we have concluded that a digital dollar is technologically feasible and eminently practical, and we have formulated the following set of basic design principles. Again, these are listed on your handout.

1. The Federal Reserve will be responsible for managing the centralized ledger. Supervised financial institutions provide digital dollar wallets for their customers. We call this a public-private partnership. It is standard in infrastructure and many other types of public-private operations. This approach will foster competition and protect personal privacy.

2. With a centralized ledger, every payment transaction can be transmitted instantaneously and securely, at practically zero cost, and the risk of fraud can be mitigated by standard methods such as two-step verification.

3. The digital dollar should be usable for all public and private payment transactions, as legal tender. But consumers should be free to use other forms of payment, including paper cash, and this is, again, a very dramatic difference from the design that the People’s Bank of China (PBOC) is developing.

4. Digital dollar accounts should bear essentially the same rate of return as U.S. Treasury’s. Now, that might seem like a dramatic development, but in fact, the Federal Reserve has already implemented similar measures, mostly for the benefit of high-net-worth individuals and institutions. With the establishment of a digital dollar, consumers and small businesses will be able to receive a competitive interest rate on their everyday payment accounts.

5. Given that funds held in digital dollar wallets will be fully secure, safeguards will be needed to disincentivize high-net-worth individuals and institutions from making huge transfers into digital dollars at times when the financial system is under stress.

6. The interest rate on digital dollars should become the Fed’s primary monetary policy tool, and that will strengthen the Fed’s ability to carry out its dual mandate.

Now, I want to just highlight some factors that call for moving ahead promptly and establishing a digital dollar.

One, the dollar is the key pillar of the global economy, as evidenced by trade invoices and debt securities. And I think it is absolutely critical for the Federal Reserve to move quickly in creating a digital dollar. The European Central Bank (ECB), the Bank of England, and other major central banks are moving forward promptly. The Fed needs to do the same.

Two, as others have said, the Federal Reserve needs to play a key role in the design of the cross-border currency exchange platform. It is just inexcusable for the Fed to stand back and let other major central banks take that role.

Three, Facebook and other big tech firms are moving ahead quickly in launching their own digital currencies, called stablecoins. If that happens, and those stablecoins dominate the U.S. payment system, the banks will be dramatically affected too. But it will also be a regulatory nightmare for regulating consumer privacy and equitable treatment of small businesses. So again, it is not just that China is the threat; the whole digital landscape is changing, and the Fed needs to catch up.

Finally, the Federal Reserve Act does not require Federal Reserve notes to be issued as paper bills. Congressional legislation is not a prerequisite for the establishment of a digital dollar. But the U.S. Congress is the Fed's boss. You are the boss, and hearings like this are crucial for overseeing the Fed's role in ensuring that the payment system works effectively for small businesses and ordinary families across the country.

Thank you for your consideration. I will be glad to answer your questions.

[The prepared statement of Dr. Levin can be found on page 76 of the appendix.]

Chairman HIMES. Thank you, Dr. Levin.

Dr. Coronado, you are now recognized for 5 minutes for an oral presentation of your testimony.

#### **STATEMENT OF JULIA CORONADO, PRESIDENT AND FOUNDER, MACROPOLICY PERSPECTIVES**

Ms. CORONADO. Thank you very much. Thank you for the opportunity to testify. I also have a set of exhibits at the back of my testimony.

My name is Julia Coronado. I am the founder of MacroPolicy Perspectives. I have spent my entire adult life in the financial services industry, from being a bank teller, to a staff economist at the Federal Reserve Board, to chief economist at one of the largest global investment banks. I also teach macroeconomics to business school students at UT Austin. I stress to my students that the U.S. dollar did not become the global reserve currency overnight. It is a story of evolution, and the job is never done.

Digital currencies present a challenge to the U.S. and other countries, and we must rise to that challenge. If we do it well, we can improve the safety and soundness of our financial system and enhance the equity and efficiency of monetary policy.

My remarks will draw on a proposal I put forth with Simon Potter. We propose the creation of a new system of regulated financial institutions called Digital Payment Providers to facilitate fast and expensive retail payments for consumers through the use of a digital currency backed by reserves at the Fed. Much like the current banking system, a two-tiered system would promote competition and continued innovation, while Fed oversight would promote safety and soundness. Our proposal would limit account size to preserve the role of the fractional reserve commercial banking system.

The proposed system would help the Fed ensure that the valuable public good of a stable currency survives the transition to a digital age, while using lower costs to reach the underbanked who have not benefitted from the payment convenience and security offered by the current banking system.

Relying on the private sector alone to offer the benefits of new technology, as the U.S. is currently doing, introduces significant and growing sources of systemic risk. The Fed would need to invest in a new infrastructure that establishes and monitors a rigorous standard for cybersecurity, consumer privacy, and system resiliency. The Fed would not have access to individual data but could establish and monitor standards for consumer privacy. Our current lack of digital infrastructure has left our economy vulnerable to increasing attacks. An important byproduct of a CBDC will be a public-private partnership that confronts the most significant risk to the functioning of our market economy.

Some Fed officials have urged the need for caution, given the dollar's role as the global reserve currency. I cite that as a need to move forward with urgency. Private cryptocurrencies are proliferating that pose risks to financial stability. Other countries are advancing the ball on CBDCs. The U.S. should not just be engaged, but be playing a leadership role.

Digital currencies also present an opportunity to make monetary policy more equitable and efficient. Why does the Fed need a new tool for monetary policy? Interest rates have fallen around the world in recent decades, leaving the Fed and other central banks increasingly reliant on balance sheet policy to achieve their goals. Bond purchases work by lowering long-term rates and boosting asset prices. The Fed has faced the critique that its policies exacerbate inequality, and boosting asset prices does make the rich richer. However, the alternative is to allow unemployment to increase, disproportionately harming lower-wage and Black and Brown workers. Doing nothing is not an option, but the Fed lacks the tools to boost the economy in a more equitable fashion.

Digital accounts can add a more equitable tool. We propose the creation of recession insurance bonds—zero-coupon bonds authorized by Congress, calibrated as a percentage of GDP sufficient to provide meaningful support in a downturn. The Treasury would hold these securities on behalf of the public. The Fed would purchase them in a downturn and credit household digital accounts.

Cash transfer may sound like the domain of fiscal policy, yet it precisely mirrors the permanent expansion of the money supply Milton Friedman described as, “helicopter money.” The COVID recession confirmed that interest rates and balance sheet policy remain powerful tools, yet we have also seen that providing cash to households in a crisis is more powerful in sustaining demand when the economy is hit with a shock that leads to rising unemployment.

Digital payments could also reduce risks to financial stability. The Fed's increasing reliance on bond purchases may be contributing to asset price inflation becoming higher and more cyclical. Lower interest rates and higher asset prices spur business investment and consumer spending, which leads to job creation. Asset prices usually decline in a recession, which can amplify and deepen job losses. Direct payments to consumers can stabilize demand in a recession more effectively, and knowing the Fed possesses such a tool could calm investors and reduce the need for the Fed to engage in medium-term asset purchases.

Disruption from technology is an inevitable part of every industry. It also creates opportunity. Developed together, a Fed-backed

digital dollar, low-cost accounts and payment processing, and a framework for the Fed to make digital deposits to consumers could make U.S. institutions able to meet the challenges of the current global environment. Thank you.

[The prepared statement of Dr. Coronado can be found on page 53 of the appendix.]

Chairman HIMES. Thank you, Dr. Coronado.

Mr. Baldwin, you are now recognized for 5 minutes to give an oral presentation of your testimony.

**STATEMENT OF ROBERT M. BALDWIN, HEAD OF POLICY,  
ASSOCIATION FOR DIGITAL ASSET MARKETS (ADAM)**

Mr. BALDWIN. Chairman Himes, Ranking Member Barr, distinguished members of the subcommittee, thank you for the opportunity to testify today. My name is Robert Baldwin, and I am the head of policy at the Association for Digital Asset Markets, or ADAM. In this capacity, I oversee the policy and standards-setting process for the self-governing association, and work to develop industry best practices that facilitate fair and orderly digital asset markets. Prior to ADAM, I served at the U.S. Department of the Treasury and the Central Intelligence Agency.

My testimony today seeks to advance a conversation on the future of U.S. payments. I will focus on the current status of payments in the U.S., and goals for an advanced payments system, and I will discuss two leading solutions, including the development of a central bank digital currency, or CBDC, and the use of a responsibly managed private sector stablecoin.

Domestic and international payment settlement mechanisms have not kept up with the recent advances in telecommunications technology. These complex, decades-old networks are costly, slow, and susceptible to cyberattacks. However, the international correspondent banking system has served the United States very well. The U.S. economy's deep and liquid capital markets, strong rule of law, and dynamism have enabled the dollar to become the pre-eminent global reserve and transaction currency, accounting for over 60 percent of global transactions, despite the U.S. making up about a fifth of global GDP. This has provided the U.S. significant fiscal space, allowed it to maintain a robust sanctions program, and has created many American jobs in financial services.

However, the system of payments is facing pressures on two fronts: first, from international competition, such as China; and second, from innovations stemming from the development of blockchain technologies, which allows users to make both large and small payments in a fast, affordable, and secure manner. It is imperative that the U.S. looks to the future at this critical juncture and that the future is likely related to the use of blockchain technology.

When modernizing our payment system, the U.S. should seek to establish a consumer-friendly system that benefits domestic consumers while also making itself attractive for use in international business. Such a system prioritizes low-cost and fast payments, individual privacy, transaction transparency and data control, and ultimately ensures that the U.S. dollar maintains its prominence in international markets.

One such way to accomplish this is through the establishment of a central bank digital currency. A CBDC system offers the potential for speed and cost benefits and offers promise in areas such as financial inclusion and improved cross-border transactions. However, a well-designed CBDC is a considerable undertaking and it will require many intentional design choices.

Another option is a regulated, private-sector led stablecoin approach, endorsed by and coordinated with the Federal Government. This could answer many of the stated goals and serve in lieu of or in advance of a CBDC. The Federal approval process for fully reserved, or nearly fully reserved stablecoins would be audited and would be akin to a one-to-one stablecoin. This is similar to how the New York Department of Financial Services provides oversight of its stablecoins. This system would be built on top of current financial infrastructure to provide a faster payment layer, and would be purely opt-in for businesses or consumers seeking to leverage the benefits of stablecoins.

A stablecoin system would accomplish the core mission of making payments cheaper and faster, and could likely be developed and implemented quickly. Some questions on the functioning of this system remain, but ultimately, it is a very promising approach.

The U.S.'s strength in the international payments and financial services space is an American treasure that has tremendously benefitted the country. The U.S. must continue to innovate in this space so that it does not fall behind the pressures from international competition and digitization. The payment system is a very complex process which must be handled and studied with great care. New developments in this space take time to develop, because of the intricacies involved and the necessity that there are no issues. The U.S. must start to operationalize testing and design of various approaches to payment efficiency improvements so when it is time to act, policymakers have a full suite of options.

Thank you for your time, and I look forward to answering any questions you may have.

[The prepared statement of Mr. Baldwin can be found on page 44 of the appendix.]

Chairman HIMES. Thank you, Mr. Baldwin. We will move now to questions from the membership of the subcommittee. As a reminder, we will observe the 5-minute rule. I will ask Members to wind up their questions within the 5-minute timeframe. I will allow witnesses to finish answers to questions, within reason, beyond the 5 minutes, but any questions that extend past the 5-minute limit will have to be answered in writing for the record.

With that, I recognize myself for 5 minutes.

I would like to spend a couple of minutes talking about the risk of inaction. There are a lot of issues at stake here, including possible threats to the traditional banking system. The word, "China," gets the Congress these days to sit up quickly, but it also strikes me that decisions about which currency one might use have everything to do with baskets of trade and all sorts of other factors that don't relate to the nature of the currency, and, of course, the digital yuan is going to raise all sorts of issues around privacy and control by the Chinese regime.



I will start with you, Ms. Friedlander, and if I have time, I will move on to the other witnesses. What is the timeframe, and what are the indicators, the signals that the United States, if it were, in fact, behind, as it appears to be, in the creation of a central bank digital currency, that we would, in fact, lose the ability to lead and innovate in this area? Are we talking about 3 months? Three years? Ten years? What does that look like?

Ms. FRIEDLANDER. Thank you. I think it would be difficult to put an exact timeframe on it, because the current landscape is so disaggregated. Different countries, as we note in our tracker, are at different stages of research and development, all of which are primarily based on domestic use cases.

So, what I would look for as a sign that the U.S. has missed the mark or missed the train leaving the station would be widescale adoption of a central bank digital currency and cross-border use.

Currently, there are only two pilot cases of this, one which is between China and UAE, and I believe one other country—Thailand, excuse me—and another between UAE and Saudi Arabia. Those are really only bank-to-bank transactions. They are not for large-scale wholesale use.

So, I would look for indications that the model was internationalizing by another country. And that means that we really haven't—as we have all noted here, it is time to move, but we certainly haven't missed the ball by any stretch of the imagination. This is the time for Congress, and for the Federal Reserve, in collaboration with BIS, and we argue the G-20, to really develop consensus on all of these criteria for adaptation globally that reflect our values, based on privacy and industrial espionage, and all of the things that we have noted elsewhere.

Chairman HIMES. Thank you.

Dr. Levin, your testimony had a whiff of urgency to it. Do you agree with that? Do you think we are at risk of losing out here, and in what timeframe?

Mr. LEVIN. You have to imagine central banks tend to be sort of conservative, and the association of central banks, that is called the BIS, the Bank for International Settlements, is traditionally very conservative. The general manager of the BIS has said that it is a wake-up call for central banks. He has said very clearly that central banks need to introduce their own sovereign digital currencies. The European Central Bank has already indicated that they are going to do it. The Bank of England has come pretty close to saying that now.

The problem here with delay is that even if these currencies are initially introduced for domestic purposes, there will be a cross-border platform. That is part of what the BIS is working on now, so that these currencies can be easily interchanged with each other. And if there is no U.S. digital dollar on that platform, then you better believe that all of the international trade invoices that have been conducted in U.S. currencies, even by countries that are not directly trading with the U.S., they are invoiced in U.S. dollars, they will all migrate to other digital currencies.

It's the same with sovereign bonds. Many countries issue sovereign debts that are denominated in U.S. dollars today. Many corporations in Korea and other countries issue their debts in U.S.

dollars. If there is no U.S. digital dollar on the cross-border platform, then all of that will change, and it is probably not 10 years away. It is probably not even 5 years away. We are probably talking, I would guess, 2 years.

But that means that the Federal Reserve has to catch up. I think several of you said this earlier. It is not just that the Fed is kind of right at the cutting edge. The Fed is behind the curve right now, and it needs to catch up urgently, and it does not have much time left to do that.

Chairman HIMES. Okay, Dr. Levin.

Dr. Coronado, I am almost out of time, so a quick question, for a quick answer. Addressing the issue of the possible flight from banking into CBDC in moments of stress, are there other mechanisms to alleviate that other than caps on the amount of accounts?

Ms. CORONADO. There are potential structures that you can put in place, but the caps on the accounts is the easiest way to achieve that. I think it is definitely a solvable problem.

Chairman HIMES. Okay. I am out of time. I apologize for that, but I would like to follow up, perhaps for an answer in writing for the record on that issue.

With that, I will recognize the distinguished ranking member of the subcommittee, Mr. Barr, for 5 minutes of questions.

Mr. BARR. Thank you again, Mr. Chairman, for holding this important hearing.

Mr. Baldwin, given that China is years into its pilot program and has expanded its digital currency's availability in more major markets, is there a risk presently that the U.S. will cede a global economic competitive advantage to China if we do not follow suit, and quickly, with a digital dollar?

Mr. BALDWIN. China has many structural issues associated with its central bank digital currency, first of all, a lack of rule of law, concerns about privacy, as well as capital controls. Those make it an unappealing option in the international global sphere if there are no other options. The U.S. needs to catch up to the Chinese development, but when the U.S. presents its own alternative, there is an obvious incentive for the current system to utilize an American-based system.

Mr. BARR. Okay. Given that, let me drill down on a couple of follow-ups. If the United States does not proceed with its own digital dollar, a CBDC, or some kind of private-sector led stablecoin regulated by the government, what impacts would that have on the effectiveness of U.S. sanctions, should the influence of the dollar wane?

Mr. BALDWIN. Sanctions authorities and abilities that we are provided are results of the international correspondent banking systems. So, the United States' sanctions abilities would be undermined if alternative systems that do not cross through traditional U.S. correspondent banking systems are undermined.

Mr. BARR. And I think Ms. Friedlander also made that case pretty persuasively.

Final question to you: Describe the digital dollar CBDC approach versus the regulated, private-sector-led stablecoin approach. What are the pros and cons?

Mr. BALDWIN. Yes. A CBDC approach could take two forms. It could be in a tokenized form, so essentially a digital dollar that is transferrable around from different wallets, or it could take an account-based approach. There are a number of privacy considerations that need to be taken into account for a CBDC approach.

A private-sector stablecoin approach would build on top of existing financial infrastructure, so that would enable faster payments on a back-end basis and would be primarily opt-in. So, banks that are seeking to have faster payment settlements could implement a stablecoin approach to have faster payment settlement times, and then there could be obvious abilities for the private sector to innovate at a consumer level, so providing options for consumers holding stablecoins.

Mr. BARR. Well, for any of our witnesses, does anyone have an opinion in terms of the competition with China, and other international competitors? Is there a preferred approach to the authentic CBDC approach or the regulated stablecoin? Dr. Levin?

Mr. LEVIN. Yes. I really appreciate Mr. Baldwin's perspective, but I think that the truth here is that it depends on how the stablecoin is designed. If you have a stablecoin where there is 100 percent backing by reserves held at the Federal Reserve—which is essentially what Dr. Coronado was describing, and it is essentially what Michael Bordo and I have been advocating for quite a few years now—okay, it is actually a narrow bank. And I know that Chairman Himes is familiar with this issue. A narrow bank means that the deposits that a customer makes are held 100 percent in reserves at the Federal Reserve, so it is perfectly safe and secure. And in the kind of payment system we are describing, it can be instantaneously transferred.

The point is, if you have a privately issued stablecoin that does not have 100 percent reserve backing, it is backed by something else, people are going to have questions about it, and this is not the first time in history. There have been other times in the past where there were kind of privately issued currencies, and they had different values, trading or exchange rates of the different stablecoins. We cannot have that kind of thing at the center of our—

Mr. BARR. Thank you for that insight.

Mr. LEVIN. The bottom line here is that we have to move forward with a central bank-issued currency.

Mr. BARR. Thank you for that insight. On monetary policy, Dr. Levin and Dr. Coronado had some views on this. I will have to say, Dr. Coronado, I was a little alarmed about some of the concepts that you are putting out there, moving the role of the Fed into a much more powerful role more nonconventional role.

So with respect to monetary policy, this idea of strengthening the Fed's ability to foster dual-mandated, maximum employment and price stability, is there a risk of giving this kind of power to the Federal Reserve of undermining price stability and contributing to, for example, inflation?

Mr. Baldwin, do you have a view on that?

Ms. CORONADO. I do.

Mr. BARR. Dr. Coronado has a view on that. I have run out of time. Nobody has answered that question, but perhaps you all

could answer that question in the next round of questioning. And I am intrigued, Mr. Chairman, by the argument that we need legislation, and I would like to know also from the witnesses in the conversation today what that should look like?

With that, I yield back.

Chairman HIMES. The gentleman yields back. The gentleman from New Jersey, Mr. Gottheimer, is now recognized for 5 minutes.

Mr. GOTTHEIMER. Thank you, Chairman Himes and Ranking Member Barr, and thank you to our witnesses for being here today.

I am very concerned about the increasing attractiveness of cryptocurrency and blockchain technologies for illicit actors, such as foreign terrorist organizations, including Hamas, Hezbollah, and ISIS, and others, and those who wish to avoid American sanctions, such as Iran and Venezuela, and domestic White supremacists, including the Proud Boys and other violent extremist groups, which were involved in the January 6th attack on the Capitol.

Mr. Fanusie, if Russia, China, or Iran creates central bank digital currencies, either individually or in coordination, to operate outside of the dollar and the technology underpinnings international money transfers, how would that, do you believe, impact America's ability to effectively target economic sanctions on those who wish to do us harm?

Mr. FANUSIE. Thank you. That's a very good question. It is going to depend on exactly how those digital currencies are governed and what their sort of uptake is. One model is that accounts are going to be held by banks, that banks are going to still have to hold these digital currencies, or these CBDCs. So the question would be, does the U.S. still have leverage to influence those financial institutions which are disbursing, which are interfacing with users?

I don't think, in the short term, because Russia or any U.S. adversary creates a CBDC, that means that then those institutions within the country, even if it is China, it doesn't mean that that country is not going to still need access to the U.S. dollar, to the global financial system. This is not something that just a technological deployment is going to give them that much leverage.

I think you have to look at it as a short-term issue versus a long-term issue. I think the long-term risk is not in, are these CBDCs proliferating, but the question is, what does the international CBDC exchange system look like, how many other parties are actually invested in it, and does that system rival the conventional systems that we have?

Mr. GOTTHEIMER. Thank you for that. Are there structural aspects to CBDCs that may be of benefit to America's sanctions program and our fight against illicit actors in the financial system?

Mr. FANUSIE. That is why that idea of promise or peril is really good, because on one side, yes, there is this issue of a long-term lack of sanctions pressure or vulnerability on these actors. But if you also think about a bigger ecosystem, where there may be some plusses—for example, if because of the technology, if we have a system where, whether it is, let's say, a U.S. CBDC, where now it is easier to do sanction screening, because of the programmability, right, these are solutions that even the private sector is trying to do, working sanction screening into digital currencies.

So, you could imagine that there could be a tradeoff. Now, I can't say whether it is going to be all this or all that, because we don't know how this is going to play out. But we shouldn't underestimate that there will be some positive factors as well.

Mr. GOTTHEIMER. Thank you so much. Ms. Friedlander, in your testimony you said, "Of the four historically most influential central banks in the world, the United States is the furthest behind in the work on digital currencies. Furthermore, absent leadership, the U.S. could miss out on an opportunity to foster financial inclusion, increase cybersecurity, and maintain dollar dominance."

However, you also said that, "There are upcoming opportunities for the U.S. to play catch-up." Would you elaborate on those opportunities and what steps does the United States need to take to become a leader in digital currency infrastructure, please?

Ms. FRIEDLANDER. Sure. Thank you. I think the first step would be to openly acknowledge that the United States is exploring and actively considering a central bank digital currency. As I noted in my testimony, that doesn't mean that we actually have to deploy one, but putting our imprint—again, as the U.S., as the sort of global financial actor of choice, and countries are coming to us and saying, "Can you help us design this?", using the power of our private sector for design elements but also our regulatory capacity in multilateral fora to put together a framework among allied countries that then, quite frankly, gives China a bifurcated choice, or close to one. Do you join the international community and multilateralize or do you use this as a force of internal control?

Mr. GOTTHEIMER. Do you think there is a tipping point where we have waited too long or are too far behind the Chinese or others to lead in this space, or do you think we have time here?

Ms. FRIEDLANDER. I think we have a limited amount of time, and I think, as I answered the chairman's question, look for cross-border use cases of digital yuan. And this is one benchmark, I think, that was noted in the briefing memo ahead of the hearing, is BRI, using digital yuan as a method of debt replaying for individual countries.

So if those are starting to become effective, if countries are saying, okay, we are turning to China as a model for how we build this, and not to the United States or not to partner countries like the U.K.—

Mr. GOTTHEIMER. Thank you. I yield back.

Chairman HIMES. The gentleman yields back. The ranking member of the Full Committee, the gentleman from North Carolina, Ranking Member McHenry, is now recognized for 5 minutes.

Mr. MCHENRY. Thank you, Chairman Himes. Mr. Baldwin, the theme of today's hearing, the promises and perils of a central bank digital currency, leads me to a fundamental question. When we look at what they have done in the Bahamas, on the Sand Dollar, they were trying to solve the movement of hard cash, a physical asset, among 700 islands. So, that is what they were trying to solve. What are we trying to solve with the U.S. central bank digital currency, in your view, Mr. Baldwin?

Mr. BALDWIN. At its core, we are looking to solve the issue of faster and cheaper payments.

Mr. MCHENRY. Okay. Faster and cheaper payments. So, is the Federal Reserve the place to do that?

Mr. BALDWIN. The Federal Reserve has the ability to do that, through a CBDC approach. There are also private sector approaches that could also work, such as the stablecoin.

Mr. MCHENRY. Okay. Mr. Fanusie, in one of your papers on China's digital currency, you explain that the eCNY will enable the CCP to yield punitive control power over Chinese citizens, in tandem with a social credit system. So, explain that to us.

Mr. FANUSIE. Well, it is because the eCNY, the digital yuan, is just one small part of a broader data strategy that the CCP has. It is really about integrating all aspects of data, everything that the government can have its data and can gain data from, and to utilize it. And whether it is the social credit system, whether it is anti-money laundering, political corruption and graft, they are trying to develop a system where the government is able to use that. And the key thing is to use financial infrastructure in a way that right now is a little bit—it is not as streamlined. So, if China now wants to—

Mr. MCHENRY. But you said, “punitive.” What do you mean by, “punitive?” This isn't just data flows and we want to analyze it and understand our economy. Could this potentially be to disappear someone, to freeze their assets?

Mr. FANUSIE. It is possible if that is what the state, the Chinese government wants to do, yes, it is very possible.

Mr. MCHENRY. Okay. We know the story of H&M disappearing from all digital aspects in China overnight, out of criticism. Now, we see what happened to Jack Ma. We have seen what happened with DiDi. These are very public things that we know about, as Americans.

So, Mr. Baldwin, Mr. Fanusie outlines how the eCNY will give this heightened level of information about citizens. In our system, our civil liberties protections are broadly different, and our assumptions, as Americans, are broadly different. So, how do we protect that, if it is an entity of government having those data flows, account-level data flows?

Mr. BALDWIN. Personal level information needs to be anonymized on the system.

Mr. MCHENRY. Okay. Could stablecoins address this, a variety of different stablecoins in a regulated environment?

Mr. BALDWIN. Yes. The approach I outlined—

Mr. MCHENRY. Okay. A number of the attributes of a central bank digital currency.

Mr. BALDWIN. The approach I outlined in my written testimony describes several competing stablecoins. This information is going to be spread across multiple private sector entities, and from on-chain blockchain perspective, the consumer data would be anonymized. So, you would be seeing wallet transfers between the different wallets, that would completely anonymize consumer information.

Mr. MCHENRY. Okay. Right now, we have a painted system domestically. We are talking about the Fed and the clearing house having redundancy, having two payment systems, right? This raises a question: Could a variety of stablecoins create a competi-

tive force, market force, domestically, that could get to the question that Mr. Levin raises about really the payments for the barber shop? Are there attributes of a stablecoin that could better do that than a central bank digital currency?

Mr. BALDWIN. A stablecoin could be implemented on top of current infrastructure, so it could speed up, on the back end, settlement processes. So, if you are looking at a retail provider who is using a Square app, and has a 3-percent fee, a stablecoin provides the ability to accelerate the transactions and lower the cost on the system, so it benefits the consumer.

Mr. MCHENRY. Okay. This is a fantastic panel. Mr. Chairman, thank you for this balanced panel, because Mr. Fanusie is talking about the international implications. If we don't move, as Americans, international settlements, remittances could go to a regime that we would not like. But domestically, Mr. Levin raises this question of payments and the cost of payments.

So what I am hearing from this—and tell me if any of you disagree—is that we have two separate issues we have to wrestle with, a domestic question and an international question. Does anyone disagree with that? And, therefore, we could take two separate approaches on international and domestic. Does anyone disagree with that?

Okay. I would love to hear your comments in written form, if you would, about the nuances of what I have missed. But my time has expired. Ms. Friedlander, I would love to hear your comments in written form.

Thank you, Mr. Chairman.

Chairman HIMES. The gentleman's time has expired. The witnesses are invited to respond to the ranking member's question in written form.

With that, the gentlewoman from Pennsylvania, Ms. Dean, is now recognized for 5 minutes.

Ms. DEAN. Thank you, Chairman Himes, and thank you to our witnesses for sharing your expertise with us today.

Ms. Friedlander, I am thinking in terms of my own constituents in the Pennsylvania 4th, so suburban Philadelphia. This might all sound like gobbledygook to them. Could you help me out and describe, more specifically, how a central bank digital currency can help expand financial access to them, to some who are underbanked, unbanked, to some who are poor, to minority communities who are struggling with access to financial institutions?

Ms. FRIEDLANDER. Thank you, and I will try to get at the Congresswoman's question in the course of this.

Central bank digital currency, or a fiat-backed stablecoin, both have the ability to accelerate the pace of payments. Think about if you are trying to move money from Bank of America to Chase, or whatever. It takes days. Or, never mind internationally. This has turnover costs and dead-weight loss for the broader economy.

What you are saying to an underserved individual is that you are going to have negligible or no cost of transaction, and you will be paid either from a financial services provider, or if you are receiving government benefits, instantaneously overnight.

Ms. DEAN. Thank you very much. What lessons, Ms. Friedlander, could we learn from the design of other CBDCs like the Sand Dollar in the Bahamas?

Ms. FRIEDLANDER. I think it is important to understand that each country is designing and implementing a CBDC for a different purpose. So in the case of the Bahamas, as you note, it is a financial inclusion issue, after natural disasters getting payments to individual islands at rapid speed. If you are talking about a country like Sweden, for example, which monitors an autonomous currency that is pegged to the euro, it is more of a question of, what role is a cryptocurrency or stablecoin going to play in monetary policy, monetary sovereignty?

For the United States, it really is that question of speeding up the speed of transactions between financial services providers. We have a very complicated financial system in this country. It is regulated on the Federal level, on the State level, and on the local level, and providing some clarification on that and streamlining will be very valuable to the consumer. And I am sure that some of my colleagues here might agree and elaborate more.

Ms. DEAN. Okay. Terrific. Dr. Coronado, in your testimony you touch on the idea—and this is something that I had introduced during the COVID pandemic and the economic collapse—of automatically triggered quarterly economic impact payments in times of financial downturn. Others on this committee have been working through some other types of automatic payments. You touch on this in your testimony as well.

With your concept of recession insurance bonds, could you describe what design features of a CBDC currency could increase the ease, the ability for the Federal Government to supply payments to the American people, to the point that Ms. Friedlander was just making?

Ms. CORONADO. Thank you. Yes. We have seen that cash payments can be very effective in stabilizing demand in the economy. Having a CBDC and a system of digital accounts that is more inclusive would mean that it is almost instantaneous, that you could get cash to households, and that you would have certain—Congress could provide the structure in terms of limiting it as a percentage of GDP, or requiring certain triggers, like first, the Fed must cut rates to zero, or some kind of recessionary indicators. But then you could get those cash payments out.

And I think one of the things we also believe is that it might also reduce the need for the Fed to engage in market interventions like buying corporate bonds, or some of the extraordinary Facilities that were developed during the COVID crisis. If investors know that cash is going to households and that demand will be stabilized, then one of the benefits is that that will calm markets as well. So, it will both benefit consumers and probably limit the need for both the Fed and Congress to act in other ways.

Ms. DEAN. And an important reminder of the important stimulus that we did send out through the CARES Act and other measures, and then, of course, with the American Rescue Plan, and how that cash is helping stimulate the economy.

Dr. Levin, I will end with you. Sorry, I have very little time. Could this system of CBDCs be useful in small businesses, at times



of economic downturn? You were talking about these very traditional, entrepreneurial small businesses. So for households, and small businesses, during an economic downturn, how do CBDCs play into that?

Mr. LEVIN. I think that it was tragic last year when the pandemic hit, and Congress acted very quickly and appropriately to try to help people who were thrown out of work, and families who were hit really hard. And yet, because many of those people were unbanked, there were weeks that went by for those checks, paper checks, to be sent out by Treasury in the mail, and for people to receive that check and then have to find somewhere to cash it. That was very sad. We have to make sure that doesn't happen again the next time around.

So I think, again, part of this urgency here of creating a digital dollar is to help make sure that when there is that kind of economic or financial emergency, or public health emergency, that we can get assistance quickly to small businesses, too, of course, because—

Chairman HIMES. The gentlewoman's time has expired.

Mr. LEVIN. I'm sorry.

Ms. DEAN. Thank you, Mr. Chairman. And I thank the witnesses very much for your testimony.

Chairman HIMES. The gentlewoman yields back. The gentleman from Texas, Mr. Williams, is now recognized for 5 minutes.

Mr. WILLIAMS OF TEXAS. Thank you, Mr. Chairman. And I want to thank all of our witnesses for coming before us today to answer some of our questions about digital currency and to give us a better understanding of the costs and benefits of creating a new form of the U.S. dollar.

I am in the car business, so I need to know this. It seems like if we move forward with creating a digital currency, it would need a lot of additional background support. The Bureau of Engraving and Printing alone has 1,500 employees, from support staff to the energy and computing power, to the cybersecurity necessary to keep all of the infrastructure secure. This does not appear to be a simple endeavor. And I want to try to get an estimate of the costs of making this a reality.

So, Mr. Baldwin, how big of an expansion of government would it take to create a functional digital currency?

Mr. BALDWIN. It would require a large stand-up at the Federal Reserve, or an operational office, such as Treasury's Fiscal Service.

Mr. WILLIAMS OF TEXAS. Bigger government.

Mr. BALDWIN. Larger government.

Mr. WILLIAMS OF TEXAS. Okay. The private sector already has a few different stablecoins that mimic what the Federal Reserve is considering creating. Whenever I hear the government is going to come in and create a competition or product or provide a similar service to the private sector, it really makes me wonder if it is necessary for the government to get involved at all, because sometimes that really messes things up.

Ms. Friedlander, can you talk about what is necessary for the Federal Reserve to create a digital currency when there are already alternatives in the private sector?

Ms. FRIEDLANDER. I would argue that there is a bit of a false dichotomy, perhaps, an either/or scenario, between the CBDC and the stablecoin. There are feasible uses for each that would fulfill different roles in the U.S. economy. If you are talking about retail sales, maybe you want to use a stablecoin. You are paying for something. But I find it hard to imagine that receiving government benefits would be effectuated by a private entity like that and would be much better served by the central bank, by the Fed. That is not to say that the private sector wouldn't be key in the design and consumer framework for implementing and deploying the CBDC.

So, what we are really looking at is a complementary ecosystem here where both can serve efficient purposes.

Mr. WILLIAMS OF TEXAS. Okay. I have met with some companies and organizations in my district back in Texas that have described how cryptocurrencies are already transforming the payment space. I spoke with one individual who was about to transfer some of his wages into digital dollars and send some of his earnings back to his family in Honduras. This cross-border transfer was able to happen quickly and without any high fees.

All of this innovation is happening in the payment space without the government having their own digital dollars. So, Mr. Baldwin, do we risk stifling some of this progress if we create our own digital currency?

Mr. BALDWIN. I could see the two processes working together, but ultimately, private sector innovation has led to the core technology that is enabling the discussion that we are having today. It is the coins, the blockchain technology which has allowed the potential for CBDC and a stablecoin approach. So, it is private sector innovation that has developed these new technologies that we are leveraging for more noble purposes.

Mr. WILLIAMS OF TEXAS. Private sector is still the best, isn't it?

Mr. BALDWIN. Yes, sir.

Mr. WILLIAMS OF TEXAS. Thank you. Mr. Chairman, I yield back.

Chairman HIMES. The gentleman yields back. The gentleman from Massachusetts, Mr. Auchincloss, is now recognized for 5 minutes.

Mr. AUCHINCLOSS. Thank you, Mr. Chairman, and to our assembled witnesses. As I was reading the material for this hearing, I found the case for CBDCs for geoeconomics and strategic purposes very compelling, and I understand why the United States needs to catch up, both to retain its economic leverage, and to maintain the U.S. dollar as the reserve currency. This makes a lot of sense to me.

I do have some significant concerns about domestic use cases for CBDCs, and I think as a starting point, Ms. Friedlander, I am wondering if we can have a two-tiered approach here, if we could move ahead with a federally controlled digital currency for use internationally, while holding back on any domestic use cases until we can do more interrogation of that? Is that even a possible path forward?

Ms. FRIEDLANDER. Potentially, but I would say that looking at the countries that are further along than we are, this is a revolutionary technology in the financial world, that working it out do-

mestically is much more sort of biting things off as you can chew, on a regulatory front, especially when you want to then proliferate U.S.-based standards internationally. So, especially if the U.S. dollar maintains its role as the global reserve currency, you are going to want to define those standards at home before you deploy them abroad.

I would not necessarily advise that approach, even if it were technically feasible.

Mr. AUCHINCLOSS. Do any of the other witnesses disagree with that assertion, or does anybody have anything further to add? Dr. Levin, in the next 20 seconds?

Mr. LEVIN. I will try to be brief, but I wanted to connect this to what Congressman Williams said. Ordinary families actually like using U.S. dollars. And just an example of this, the Norwich Farm Creamery, all of their products—ice cream, milk—

Mr. AUCHINCLOSS. Dr. Levin, I apologize, but I want to get directly to the question I asked, whether it would be possible to proceed internationally without a domestic use case?

Mr. LEVIN. It does make sense to start domestically, introduce a currency that is held in wallets, that a lot of people start using, and that is instant and free. And then, it would develop cross-border transactions to facilitate internationally.

Mr. AUCHINCLOSS. Mr. Fanusie?

Mr. FANUSIE. Yes. I will just add that I think it is a practical question. If we are going to go to international discussions, what do we bring to the table? Other countries, China, what do they have? You think about all of the pilots that they have. With those pilots, there is a massive amount of data and analysis. They are learning. They are iterating.

So, if we are in the forum, and it is a bunch of countries across the table's central banks and China puts all this data, all these examples of how its trials have worked domestically, well, what do we have? Just theoretically how should things work?

Mr. AUCHINCLOSS. Wouldn't we have that we are currently the reserve currency, and thereby, there is a tremendous benefit of adoption to the digital dollar?

Mr. FANUSIE. Yes, you are right. There was always going to be a place at the table for the United States. The Fed is going to have a place at the table. We will have a place at the table. But I say as a practical matter, these are computer science and data issues. We would really have to be able to get into the weeds about models, about proposals, and there are whole bunch of policy questions that you have to answer, because you start doing the technical research.

Mr. AUCHINCLOSS. Taking that as a jumping-off point in this final minute, Dr. Coronado, my principal concern with the domestic use case really is the blurring of the line between monetary and fiscal policy. I think this builds on what Mr. Barr was alluding to before he ran out of time. As I was reading some of these memos, with these direct monetary transfers, for example, from the Fed to individuals, this strikes me as fiscal policy, not monetary policy. And I just have real concerns about an organization as insulated—and it is designed as such—but as politically insulated as the Fed taking over fiscal policy from Congress.

Ms. CORONADO. Let me clarify. I don't think it is fiscal policy. I think it is a better form of monetary policy. That line was already blurred during the COVID crisis when the Fed extended direct lending to a number of sectors in the economy, and crossed a number of lines because the economy required it. And what this would do is just give them a better tool to get at the root of the problem, which is consumers themselves. Why do you need to stabilize markets from going into tailspins because markets are fearful of consumers, of the economy collapsing? So if you can provide that backstop—and again, Congress can write the rules here. You can put guardrails on this. But it is classic monetary policy. It is Milton Friedman's helicopter drops.

So, I don't agree that that is the critique here. It is just money creation in a far more efficient way, and I will bet that we will not have to expand the balance sheet nearly as much if you give the Fed a tool like this. Four trillion dollars we have expanded it over the last 18 months.

Mr. AUCHINCLOSS. I am out of time. Mr. Chairman, so I yield back.

Chairman HIMES. The gentleman's time has expired. The gentleman from Arkansas, Mr. Hill, is now recognized for 5 minutes.

Mr. HILL. I thank the chairman. And thank you to the witnesses. It has been a very good, diverse, and interesting panel, and we appreciate everybody's participation. I have certainly been talking about this concept of a central bank digital currency for over 2 years now, and trying to ask the best people around the world to think about it.

In 2019, my friend on the other side of the aisle, Bill Foster, and I wrote the Fed and the IMF about what their initial views were on a central bank digital currency and what their efforts were to move it forward. And I think Mr. Foster and I, in the summer of 2019, found that they were not interested. I think now, in the summer of 2021, you see significant work, and as a result, we introduced legislation together, H.R. 2211, the Central Bank Digital Currency Study Act, earlier this year, which would require a study and report by the Fed and other U.S. financial institutions about the impact a digital currency might have on our financial system and the economy. And we certainly look forward to that bill moving forward.

Likewise, I have introduced legislation with our chairman, Mr. Himes, H.R. 3506, the 21st Century Dollar Act, to make sure that the U.S. Government has a strategy to ensure that the dollar remains the primary global reserve currency. And clearly, the topic we are discussing today indicates how this will play some future role in that.

The international standing of the dollar should always be at the forefront of our minds in the development of a digital currency, whether it is a CBDC or some other kind of stablecoin option.

I would like to ask my friend, Mr. Himes, if he thinks our bill, H.R. 3506, and Mr. Foster's bill, H.R. 2211, might be eligible for markup in the House Financial Services Committee.

Chairman HIMES. I thank Mr. Hill, and I think both bills are important, they are bipartisan, and forward-looking, so I will push the chairwoman of the committee to bring them forward.

Mr. HILL. I thank my friend from Connecticut for that, and for his leadership of this subcommittee.

Personally, I am concerned about this direct account issue. I am not there yet. I like the idea that there is a blockchain pay rail out there and that it is a dollar-based digital currency that America's Congress and Treasury have authorized. But I am still thinking—I am open to what those intermediaries on that blockchain rail look like, but I am not yet sold on the idea of direct accounts, personally. But this conversation is a big part of that thinking, and as I said, I am grateful for your contributions.

Mr. Baldwin, do you think it is important, as we think through the central bank digital currency idea, that we make sure that the dollar, that is a strategic part of the discussion, that the dollar we work to make sure it remains the reserve currency for the world?

Mr. BALDWIN. Absolutely. The dollar is the reserve currency of the world. It provides us so many benefits, ranging from the ability to conduct fiscal policy on an expanded basis, in addition to our sanctions authorities.

Mr. HILL. And with your experience at Treasury, I know you have studied uses of blockchain from a national security point of view as well, and in the past, blockchain analytic tools have been successfully employed by cryptocurrency businesses and financial institutions to mitigate risks related to traditional cryptocurrencies and to enable them to meet their AML currency reporting transactions. Can you talk a little bit about that?

Mr. BALDWIN. Yes. It is an example of private sector innovation. The blockchain space has been around for approximately 10 years, and when it first came out, there were a number of questions surrounding how we will be able to trace these things. But the thing is, they are all in a public ledger, and as a result there have been a number of firms that have stepped up to the plate and have developed the capacity to go and analyze blockchain transactions, and they are able to follow the on-chain transactions and find flows to elicit bad actors. In the case of the Colonial Pipeline incident and hacking, the FBI was ultimately able to track down the funds and recover them.

Mr. HILL. And likewise on sanctions circumvention, this has been a good topic today. We have talked about that. The same is true there, where blockchain analysis can be used to not allow sanctions to be violated.

Mr. BALDWIN. Yes. Analysis of host wallets that are in foreign countries, such as Iran or North Korea, could track payments and prevent payments from going to certain places.

Mr. HILL. I thank the chairman, and I yield back.

Chairman HIMES. The gentleman yields back. The gentleman from Massachusetts, Mr. Lynch, is now recognized for 5 minutes.

Mr. LYNCH. Thank you, Mr. Chairman. This is a great hearing. Thank you to all of our witnesses. This has been very, very helpful.

Dr. Coronado, you mentioned in your opening statement that the way that the U.S. dollar became the global reserve currency is a long story, and it really involves a lot of factors. I would guess that one of those factors is [inaudible].

Mr. Chairman, I am getting a lot of interference. Is something wrong with the technology?

Chairman HIMES. We will just suspend the clock for a moment. Let's see if we can improve the audio quality, or at least the volume. Mr. Lynch, we will give you back 15 seconds.

Could the witnesses hear Mr. Lynch?

Ms. CORONADO. Barely.

Chairman HIMES. Okay.

Mr. LYNCH. Dr. Coronado, one of the reasons that we have the global reserve currency in the U.S. dollar is because of the rule of law that we have here in the United States, independent judiciary. There are a lot of reasons that people trust the dollar, including the reliability of our elections and the fact that we have a peaceful transfer of power every 4 years.

So when we talk about a digital yuan versus a digital dollar, and we recognize that China probably has more data on their individual citizens than any nation on earth—facial recognition is widely used for oppressive reasons—this digital yuan would give China a more granular level of surveillance of financial activity in the country, would it not?

Ms. CORONADO. Yes.

Mr. LYNCH. So, Mr. Baldwin, how do you think we post up when we compare a potential U.S. digital dollar versus a Chinese yuan, digital yuan?

Mr. BALDWIN. The U.S. system overall is much more attractive to international partners. We have rule of law, as you mentioned, we have settlements in courts, and we also have a history of responsible monetary policy. The Chinese Communist Party has a lot of structural issues with its potential digital yuan. That includes concerns about monitoring, concerns about overstep and controlling payments going to certain individuals, and even structural issues such as capital controls.

Mr. LYNCH. Very good. Right now, we have about 200 stablecoins that are available, the most popular anyway. All of those are pegged in some way to a more stable fiat currency. And the recommendations of the OCC and the SEC were that there should be a one-to-one digital stablecoin to a stable fiat currency, such as the U.S. dollar.

But recently we discovered that Tether, which is one of the most popular so-called stablecoins—their reserves are being held in commercial paper, which we have seen repeatedly, the liquidity of which disappears in times of stress.

So, Mr. Baldwin or, perhaps Dr. Coronado, is the way we design this important? And I know it is taking more time than any of us would like, but is it important that we try to, I guess, include that stability that the dollar enjoys in the design of our digital dollar?

Mr. BALDWIN. Yes. The design of a stablecoin is extremely important, and the reserves backing it, and the auditing standards of those reserves are extremely important. The company you mentioned operates as a money service business. That is a State-by-State regulatory authority that does not have as much scrutiny as a traditional financial regulator would.

In the State of New York, the New York Department of Financial Services oversees stablecoin regulations, and you see much more responsibly reserved firms providing stablecoins in that State.

Ms. CORONADO. I will add that I don't see any benefit from not having full reserve backing from a Federal Reserve digital currency. If what we are looking for here is the advantages of technology combined with stability, why would we not have 100 percent reserve-based digital currency, and then what the providers, the stablecoins provide is the innovation on the technology front?

Mr. LYNCH. Thank you very much. Mr. Chairman, my time has expired. I yield back. Thank you.

Chairman HIMES. The gentleman yields back. The gentleman from Ohio, Mr. Davidson, is now recognized for 5 minutes.

Mr. DAVIDSON. Thank you, Mr. Chairman. Thanks for holding this hearing. I appreciate our witnesses.

Where Mr. Lynch left off, the architecture and design is very important. We all recognize the importance, and frankly, the power that it gives the United States to have the world's global reserve currency.

As I listen to people put emphasis on that, though, I wonder whether each of our witnesses thinks it is more important that the U.S. dollar is the global reserve currency or that the United States has sound money. Sound money or global reserve, Mr. Baldwin?

Mr. BALDWIN. I think they operate in accordance, together.

Mr. DAVIDSON. Dr. Coronado?

Ms. CORONADO. Yes, they go hand in hand.

Mr. DAVIDSON. That is why we became the global reserve currency. Dr. Levin?

Mr. LEVIN. I agree. In fact, just to elaborate on what Dr. Coronado said earlier, we need to—

Mr. DAVIDSON. Sound money or global reserve?

Mr. LEVIN. Again, they go hand in hand.

Mr. DAVIDSON. One and both. Mr. Fanusie?

Mr. FANUSIE. I agree. Both.

Ms. FRIEDLANDER. Yes.

Mr. DAVIDSON. Okay. We want them both.

We could really debate whether we actually have sound money or not, but I think we are doing a nice sample pack of modern monetary theory. There is no lender for this helicopter money that Dr. Coronado referred to. We are actually destroying the dollar, which is why there has been an interest in things that aren't U.S. dollars. It has created asset price inflation in our stock markets. People have fled cash reserves for anything but cash. Wise folks have recognized—Ray Dalio said well before the coronavirus that, “cash is trash.” Not because the U.S. dollar is bad, but because the monetary policy is bad. We are destroying the dollar with our fiscal policy, and Dr. Coronado, integrating fiscal policy with it is horrific.

So the real question is, when you look at what is happening with the central bank digital currency, some of the aficionados for this, when I hear Mr. Fanusie laud the Chinese, it almost seems like there is a coveting of the power that China would have by being able to create this really creepy surveillance tool, by being able to know everything about every person, including every transaction, and frankly, the ability to filter those transactions, for the power of the state. I guess if you are a statist, you would actually love that tool.

And if you look at the things that Dr. Coronado is talking about, and Dr. Levin referenced to perfect the monetary policy, you could give the Fed more power than they already have, as the most powerful central planner that we have, to distort the economy. And frankly, if you want to perfect negative interest rates, you make sure that people can only hold digital currencies, because you can destroy the holdings. You can put expiration dates on people's dollars.

So, these are tools that people are proposing. They are not said here in public, but they have been mentioned at the Bank of International Settlements. This is not something that I think we should seek to do, to empower the central bank to do these things, but I think about, how did we come to have this conversation? We largely had it because someone under the pseudonym, or some people under the pseudonym, Satoshi Nakamoto, created bitcoin. They made the blockchain secure architecture, widely known and widely used and very attractive for its features.

So, when I talk about the features, it is a true distributed ledger technology. It allows some level of privacy. And as we have talked about, the challenges for the payment system, all of these things are already happening, Dr. Levin. They are already happening. They are happening without a central bank digital currency. That is part of the beautiful nature of crypto. Stablecoins, like Paxos Gold, for example, are stable, and we don't have to have Federal Reserve accounts to track the value of gold.

So if you look at this—let me just go down the line quickly—is the permissionless nature of bitcoin a feature or a flaw? Mr. Baldwin?

Mr. BALDWIN. A feature.

Mr. DAVIDSON. Dr. Coronado. Don't know. Dr. Levin?

Mr. FANUSIE. Bitcoin is expensive to use and it is slow.

Mr. DAVIDSON. Okay. So you see it as a flaw. Mr. Fanusie?

Mr. FANUSIE. It is a feature and a flaw. It can be a flaw, yes.

Mr. DAVIDSON. Okay.

Ms. FRIEDLANDER. Same. Feature and flaw.

Mr. DAVIDSON. Okay. So, it is not a perfect tool. I don't think that the Fed is going to perfect it unless they find a way to keep it permissionless.

I yield back.

Chairman HIMES. The gentleman yields back. The gentleman from New York, Mr. Torres, is now recognized for 5 minutes.

Mr. TORRES. Thank you, Mr. Chairman. COVID-19 has shown us the fragility of the American social safety net, a fragility that stems from a lack of automatic stabilizers. A CBDC, it would seem to me, would fill a critical void. It would radically reduce the length and depth of future recessions. It would bring instantaneous stability to hundreds of millions of Americans in times of economic instability.

I know there are concerns, but it seems to me the systemwide stability that it would bring outweighs all of the cost. Mr. Levin, do you have any thoughts?

Mr. LEVIN. I just want to say again here that for decades, normal people in small businesses used U.S. dollars. We have stable money, not all the time. We had a Great Depression that was horrible and prices dropped 30 percent. It is critical for the Federal



Reserve to be able to make sure that never happens again. But people like being able to use dollars. I think the Federal Reserve can create a digital dollar that people who want to can hold it and use it. We believe in civil liberties—

Mr. TORRES. But my question is, would it make the economy more resilient?

Mr. LEVIN. Yes, it would, of course. We talked about this before. And it would help make sure that emergency assistance to families and small businesses—

Mr. TORRES. And I just want to interject for a moment. What are the benefits and costs of a one-tier CBDC model versus a two-tier model?

Mr. LEVIN. Okay. I think—

Mr. TORRES. As succinctly as you can.

Mr. LEVIN. Okay. I will try. I think it is critical to have a public-private partnership, which is what maybe you are referring to as a two-tiered system. The Fed creates reserves that the wallet providers can hold, 100 percent reserves. But the wallet providers are competing with each other, and in that sense, it is not so far from what Mr. Baldwin described as the stablecoin kind of competition, except every stablecoin has 100 percent reserve backing. They are all called digital dollars. They don't have to be called Stablecoin 1 and Stablecoin 2. But that is tier two, and that is the best system, a public-private partnership with competition among providers.

Mr. TORRES. One of the pillars of America's prosperity is the primacy of the dollar. What implications would the rise of CBDCs have for the dominance of the dollar, and what does that mean for the American economy in the long term? Mr. Fanusie, do you have any thoughts?

Mr. FANUSIE. Short term, long term, and it depends on how we navigate the CBDC environment. I think most of us actually agree—especially the economists—that CBDCs, in the short term, are not going to displace the U.S. dollar, for all of the reasons that we have been discussing. And I think the broader issue is, what will be the role of the dollar in an environment where there are CBDCs, that they proliferate, and that they are more popular for cross-border use? You could think that maybe the Sputnik moment would be, if we are going to look for one, the Sputnik moment might be when we see those first retail CBDC-to-CBDC transactions happen successfully, not just, “in the lab.”

Mr. TORRES. I want to interject. Cybersecurity. In the first half of 2021, we have seen an explosion of cybercrimes in general, and ransomware, in particular—the Colonial Pipeline, JBS, even the New York City Law Department. Cybersecurity Ventures projects that the cost of cybercrime could reach as much as \$10.5 trillion by 2025.

What impact would CBDCs have on what appears to be the exponential trajectory of cybercrime and ransomware? It seems to me the use of centralized ledgers, in particular, by authoritarian regimes, would be a dream come true for cyber criminals. So what does this mean for cybersecurity? Mr. Fanusie, do you want to—

Mr. FANUSIE. It absolutely raises the risk. This is probably one of the features that hasn't been studied, because we are at such an

early stage of discussing CBDC design. But this would absolutely be one of the most critical risk areas.

Ms. CORONADO. Can I add, though, that it is also an important benefit, because right now what we have seen, both through the cyberattacks and the lack of payments in the crisis, is that we don't have a digital infrastructure. And allowing the Fed, or mandating that the Fed move forward with a digital currency would require an investment in that infrastructure that would bring huge benefits. We don't have best practices. We don't have resiliency. We don't have agencies that are tasked with this. And that leaves us more vulnerable, and this sort of multiple agencies, and the FBI getting involved. If the Fed is backing a digital currency, you can be sure they are going to have a lot of investment in the resiliency and the technology.

Mr. TORRES. My time has expired. Thank you.

Chairman HIMES. The gentleman yields back. The gentleman from Texas, Mr. Sessions, is recognized for 5 minutes.

Mr. SESSIONS. Mr. Chairman, thank you very much, and to our panel, thank you for taking the time to be with us today.

Mr. Davidson led us through what tried to be a lightning round, so perhaps I want to continue that.

Dr. Coronado, is this about the underserved, the new generation, or an international race?

Ms. CORONADO. All of the above.

Mr. SESSIONS. Today we have, by and large, through the central bank and through the free enterprise system, something that we have a system that is safety and soundness. It sounds like, to me, as we aggregate all this, that someone would have an account through a transaction. Does that extend credit to them also?

Ms. CORONADO. In our proposed system, it would not. It would be limited to retail payments only. There would not be credit extended. It would not be a fractional reserve system.

Mr. SESSIONS. In other words, what you are suggesting is that the cash that exists in the account or on a card would be what they would be extending.

Ms. CORONADO. Yes.

Mr. SESSIONS. It sounds to me that the risk to the central bank is low.

Ms. CORONADO. The risk to the central bank from—

Mr. SESSIONS. Well, you can only have an account with money in it, and you can only exchange the money that you have.

Ms. CORONADO. Right.

Mr. SESSIONS. So this really is, in my opinion, as you suggest it is, for a new generation.

Ms. CORONADO. Right.

Mr. SESSIONS. It is for the underserved, and it is to make sure that the American system would be one that is resilient but that would be based on day-to-day opportunity, not long term, of spending.

Ms. CORONADO. Correct. I do definitely see it as an enhancement to safety and soundness, that we don't really have a choice. We are losing it, as we speak.

Mr. SESSIONS. So in other words, really what this is about is to make sure that—we hear these stories, or I have in my past, about

Africa, that you have a good number of people who may be out in a rural area, and they still need to be able to have transactions. That is really what this is about.

You had spoken about what is the biggest challenge. What is the biggest challenge?

Ms. CORONADO. To implementation?

Mr. SESSIONS. You are the one who said we have—earlier in your testimony, you referred to a big challenge.

Ms. CORONADO. I think the big challenge right now is the lack of digital infrastructure, and that the world is moving ahead while we are standing still. So both in terms of the cybersecurity issues and the payment innovation issues and the global transaction issues are all moving ahead and we are not moving with it. That creates a great challenge to safety and soundness, both domestically and the reserve currency status that we enjoy. So I don't think it is an option to stand still. I think we need to be engaged, and not only be engaged but play a leadership role in this.

Mr. SESSIONS. Would you see that as the maturity of this takes place, that a person who is in an underserved area or who does not have an account would walk into a bank or a credit union or some financial institution and just use it like a gift card, as a one-time use? Is that the way you see this?

Ms. CORONADO. There are different ways. There is the account-based, in which would be a transactional account, where you are moving the money around different accounts. And then, there is sort of a token system. I think the Sand Dollar has both, and you could do a system of both.

I think that primarily, the U.S. would be an account-based system, just because you are going to need those digital payment providers to provide some of the know-your-customer and anti-money laundering oversight for these accounts, I think. But there could be an additional sort of tokenized card feature to it as well.

Mr. SESSIONS. Good. I think this clarity has been very good for me to understand, actually, that it would be something where someone would have an account. It would be offered with the bank, but it would be an account that we would not be extending credit but it gives them an opportunity to use it in the marketplace.

Mr. Chairman, thank you for the time. I yield back.

Chairman HIMES. The gentleman yields back. The gentlewoman from New York, Ms. Ocasio-Cortez, is now recognized for 5 minutes.

Ms. OCASIO-CORTEZ. Thank you so much, Mr. Chairman, for convening this hearing, and thank you to our witness panel for being with us today.

I want to take the time today to explore some of the implications of central bank digital currencies for folks kind of following at home. A digital dollar would resemble, in certain ways, cryptocurrency, such as bitcoin or Ethereum, in certain limited respects, but in different, very important ways as well.

Dr. Levin, rather than a tradable asset with wildly fluctuating prices that we see in certain crypto markets, and limited real-life use as a currency, a central bank digital currency would function more like dollars and have more widespread acceptance, presumably. Correct?

Mr. LEVIN. Right. The point is that the central ledger, in an electronic world, you can have instant, free, secure transactions. That is why, coming back to this other thing, when I think about the digital world, like cellphones, we don't say, "Well, is this for work or is it for home?" It is for everything. And so, it is all of the above.

And so absolutely, having a free, safe, secure, instant transaction platform that every American can use is what we should have had already, and we need it now.

Ms. OCASIO-CORTEZ. Great. Thank you. And just to clarify, it would also be fully regulated under a central authority, right?

Mr. LEVIN. I think there has been some agreement among a number of us at this table that the issue would be 100 percent backed by reserves held at the Fed. So, there is no concern that the stablecoin provider might go bankrupt, and then there is a panic—

Ms. OCASIO-CORTEZ. Thank you. I'm sorry. I just have limited time.

Economists like Claudia Sahm have—and as we have heard throughout the hearing—agreed that direct stimulus payments like the checks that Americans received during the pandemic can shorten recessions. And although stimulus payments helped stabilize the economy during the pandemic, delivery was sometimes slow. And even the IRS and the Treasury just announced last week that 2.2 million stimulus payments were made in late July. These were the stimulus payments that people got months ago, after the original passing of the American Rescue Plan.

This is not because of technical payments getting lost in technology or bureaucracy; it is because the most vulnerable people in our society are the hardest to reach, people who don't have consistent mailing addresses, people who are unbanked, a lot of times because it is too expensive to be banked, people who don't file taxes because they make too little money. And these are real issues.

And so my question is with the CBDC; it is all about the design. It is not just the idea. It is the execution, design, and implementation. My question is, in that similar vein, what would make a well-designed CBDC system that helps overcome some of these existing issues that we have seen with banks and with just the delivery of stimulus checks? Ms. Coronado?

Ms. CORONADO. One of the key pieces of the design is that the lower-income households should have no fees whatsoever to engage, and that some of the technology access questions would be part of the infrastructure that is built. And whether that is a digital card that they are provided, or kiosks, some sort of access to their accounts that is free and built and available to them to engage in the transaction space.

Ms. OCASIO-CORTEZ. Got it. And there has been some discussion, even most recently, and we heard in the last few minutes, about two-tier system. And Dr. Coronado, in your testimony you state that, "Preserving a two-tier system of private providers would promote competition and end continued innovation, while Fed oversight would promote that safety and soundness."

Now, by two-tier systems, you are referring to how certain banks, like Wells Fargo, Bank of America, or JPMorgan, can bank with the Federal Reserve but regular Americans cannot. Right? That is what you are alluding to? Okay.

I just want to be clear here, just for clarification. There is no legal, technical, or operational requirement as to why banks or private payment companies need to be involved. Correct? In other words, the Federal Government could provide public digital currency services directly to the public if it wanted to, like the Postal Service?

Ms. CORONADO. Sure. Yes.

Ms. OCASIO-CORTEZ. Okay. Thank you.

I think one of the things that we are seeing here is that we are facing a choice. Congress is facing a choice of whether we want to give Wall Street another tool of being in charge of the public's money and payments, or whether we can potentially establish a public option here as well.

One concern that we hear in CBDC conversations—my time is up. I am sorry that I can't get to the last question. I will submit it for the record. Thank you.

Chairman HIMES. The gentlelady yields back. The gentleman from Minnesota, Mr. Emmer, is now recognized for 5 minutes.

Mr. EMMER. Thank you, Chairman Himes and Ranking Member Barr, for hosting this hearing to discuss national security, privacy, and competitive implications of a potential United States digital dollar.

As we carry on these discussions, on and off the committee, we must not forget that the benefit of having a digital dollar would only come to fruition if it were open, permissionless, and private. Any attempt to craft a central bank digital currency that enables the Fed to provide retail bank accounts and mobilizes the CBDC rails into a surveillance tool, able to collect all sorts of information on Americans, would do nothing other than put the United States on par with China's digital authoritarianism.

Our banks and Fintechs—that is okay; you can laugh, but it is real, and it is happening. You talk to the Chinese, what their government is doing to them. Our banks and Fintechs are doing a great job serving their customers and expanding access to financial services. It is the competitive marketplace of the private sector that facilitates that achievement. For this reason, I am deeply concerned by Chair Powell's recent comment before the Full Committee that the strongest argument in favor of central bank digital currencies is that, "You wouldn't need stablecoins. You wouldn't need cryptocurrencies if you had a digital U.S. currency."

Our government should never be in the business of designing a tool that would wipe out an entire innovative private market, a market that creates far more capital and provides far more high-tech jobs than the government will ever be able to do. More than anything, cryptocurrencies, stablecoins, and other private-market blockchain innovations open doors to immense opportunities for Americans. These decentralized projects have an underlying code that is open source, meaning anyone can find it, study it, verify it, and build projects on top of it. It is in this way that crypto and blockchain expand opportunity for everyone, whether that is financial inclusion or capital formation or tech innovation. With cryptocurrencies, no one has to ask a bank or a corporation, or perhaps most importantly, their government, for permission to start a

project or launch a business or get a loan. That is the way it should be.

And, by the way, it is interesting how cryptocurrencies have grown as government seeks to grow ever bigger and try to make decisions for the public. The size and scope of government versus the right of an individual to self-determine is exactly what is pushing the development in this area. And it is great to have all of you here to talk about this wonderful topic, but I will tell you, if we don't start to figure this out and get ahead of it, this market is going to happen with or without us, and it is going to happen here or somewhere else.

Mr. Baldwin, in your testimony, you mentioned that international competition is decreasing in the United States' role in international finance and that our lack of a CBDC plays into that. It is my belief that decentralized technology like cryptocurrencies and the blockchain technology that they sit on maintain a fundamental American principle, that is, individual privacy, a free marketplace, and competition with innovation. Why should the Fed focus on uplifting private crypto markets and blockchain innovation rather than crafting a CBDC that wipes out this great industry, or has the potential, according to Chair Powell, to wipe out the industry? Specifically, can you touch on how a thriving crypto and blockchain industry in the United States could make the United States of America more competitive with respect to international finance?

Mr. BALDWIN. I think the goal of this hearing is to promote faster, cheaper, and easier-to-use payment mechanisms. A private sector-led approach opens a lot of opportunities in areas such as micropayments. That is engineering jobs. That is jobs for salespeople. Creating innovations such as real-time payments. So if you are an hourly worker, getting paid for the hours you work in real time. Or if you are a music producer, getting paid for your streams. These previous transactions that are low cost were unfeasible in our current system.

So, a private sector approach really promotes opportunities to innovate in different areas and have private developers see a need for it in the market and then go and develop the tool.

Mr. EMMER. Mr. Baldwin, in the few seconds I have left, is there any reason in the world why a free market constitutional republic with free citizens, able to self-determine, should want to emulate a communist party-driven, authoritarian-type digital currency program?

Mr. BALDWIN. The Chinese central bank digital currency approach has a lot of negatives in areas such as consumer privacy. Any approach the U.S. takes should make sure to steer clear and respect the privacy of American citizens.

Mr. EMMER. Thank you. I see my time has expired.

Chairman HIMES. The gentleman yields back. The gentleman from Illinois, Mr. Foster, is recognized for 5 minutes.

Mr. FOSTER. Thank you, Mr. Chairman. If you are going to prevent digital dollars from being used for ransomware, money laundering, child trafficking, terrorism, you name it, is there any alternative to having a secure and legally traceable digital identity for all participants?

Ms. CORONADO. Not for the bulk of the transactions, no.

Mr. FOSTER. Does any one of you believe that a digital dollar that can't be abused in this way can be implemented without having every transaction tied to a legally traceable participant?

[No response.]

Mr. FOSTER. So, that is pretty much a precondition for a central bank digital currency, having a digital identity.

Mr. LEVIN. A question that I think the Federal Reserve should look at, and other central banks are looking at is, could you have a \$5 prepaid card that you could take up into the mountains—

Mr. FOSTER. So, you would have de minimis threshold—

Mr. LEVIN. Yes, de minimis, okay, but I think for sure, once we are talking about—

Mr. FOSTER. Significant amounts crossing borders especially.

Mr. LEVIN. Absolutely.

Mr. FOSTER. Okay. So it seems like the starting point for this is to get a digital identity ecosystem working in our country, and then interoperable. Because if we wish to have an effective means of preventing this, we have to identify people and say, "You cannot use digital dollars because you are an identified terrorist." Okay? Is that pretty much going to have to be a feature of any system, whether it is stablecoins or anything else that cannot be abused?

Mr. LEVIN. I think in civil liberty, no one should be required to have a digital identity, but if they don't have it, then they can't use that system.

Mr. FOSTER. Okay. I agree. Does anyone disagree? Mr. Baldwin? So, your members are on board with having every one of the transactions associated with a unique, legally traceable digital identity for the participants?

Mr. BALDWIN. Any system needs to be in compliance with the Bank Secrecy Act.

Mr. FOSTER. No, that is obviously not enough to prevent a lot of the bad things that happen. I am talking about having a legally traceable identity associated with each transaction.

Mr. BALDWIN. Legally associated as long as it meets with the rules set forward with the Financial Crimes Enforcement Network (FinCEN) in association with—

Mr. FOSTER. But FinCEN would like the rules strengthened, frankly, because there are a lot of holes in the current system, and a lot of terrorism and child trafficking, you name it, ransomware. So it seems if you just look at ransomware alone, when your screen locks up and it says, transfer X amount of your digital assets into this account, you have to be able to go to a court system you trust, find out who is behind that account, unmask them, and, if necessary, get your money back. Is that a necessary feature of a system, the digital dollars that can't be abused?

Mr. BALDWIN. Responsiveness to court of law is an important feature.

Mr. FOSTER. Well, we will get back to that. It seems to me that it is, and I think the rest—yes, Ms. Friedlander?

Ms. FRIEDLANDER. Yes, and I would say an ideal system seeks to replicate the current KYC orchestration and system that we have with commercial banking now. And as you rightly acknowledged, there are holes in the system and there are things that

should be strengthened, but there is a possibility to design this so that you would have the same access to information balanced by the same privacy protections as you do under the current system.

What I would acknowledge, though, is that illicit financial actors, as you say, are very good at eluding the system as it currently is. So through complex legal structures, through high-risk jurisdictions, that is the bread and butter of money laundering. So, I think I would caveat when we say that a digital dollar, whether it be central bank-based or stablecoin, doesn't necessarily say that this is an instrument designed with the knowledge that it will increase our exposure to illicit—

Mr. FOSTER. Okay. But we are going to need a mechanism to tell someone, "I'm sorry, you cannot transact in digital dollars because we have identified you as an international gangster," or you name it, or a terrorist. And so really, operationally, we will set different standards, but it is not different than what the Chinese are doing. The only difference is we are going to designate terrorists. We are not going to designate Hong Kong democracy protesters as terrorists, and they are, and that is really the only difference. We have to be able to exclude participants, and we have to uniquely identify them as well, so that you can't be operating multiple identities in multiple jurisdictions.

So really, it seems to me that is kind of non-negotiable in this.

Mr. LEVIN. I strongly disagree. I think that a key reason for the two-tier system we have been talking about is to protect privacy so that you need a court order, a search warrant—

Mr. FOSTER. Oh absolutely.

Ms. CORONADO. —which is very different from China. In China, the government wants direct control of the data.

Mr. FOSTER. Correct.

Ms. CORONADO. We are creating a—

Mr. FOSTER. There has to be a mechanism to unmask participants when malfeasance is suspected, and there has to be a way to de-dupe participants so you can't be using multiple identities in different jurisdictions. And that is not a feature of a lot of the stablecoins and other crypto assets, and I think it is going to end up having to be.

Anyway, my time is up, and I yield back.

Chairman HIMES. The gentleman yields back. We are going to implement a very brief second round for the chairman and the ranking member to just clean up some questions.

Mr. Foster, if you would like, I will kick off my 5 minutes, before recognizing the ranking member for 5 minutes, by yielding 2 minutes to you.

Mr. FOSTER. That would be wonderful.

Chairman HIMES. I yield 2 minutes to the gentleman from Illinois.

Mr. FOSTER. Yes. Thank you. This also becomes an issue for when we had to dispense stimulus checks. The issue we had is we did not have a unique, legally traceable identity for all qualifying citizens in the United States. There is a product called a Mobile ID or a digital driver's license, that is being dispensed by a lot of States—5 or 10 States are actually already using them. This thing, it is not a new database or anything. What it is, it just sits on top



of the REAL ID system, which pretty much is a unique, legally traceable identity for all citizens, and then transfers that information to your cellphone. And that allows you to use your cellphone, your REAL ID, to authenticate yourself online as a single, legally traceable citizen of the United States.

Is that an appropriate starting point as the identity credential that you will need to operate a central bank digital currency?

Ms. CORONADO. It is an intriguing starting point, sure. To the extent that you can use existing infrastructure for that, then it could create a lot of efficiency.

Mr. FOSTER. Yes. NIST has actually negotiated iso-standards for these, for interoperability, for multiple vendors. Google and Apple have announced that they will support these digital driver's licenses. So, I would be interested in your comments for the record as to whether those are appropriate. If that was the de facto way that you authenticated yourself for using digital dollars, what would be missing in such a system, in terms of preventing fraud and so on, and how useful would that be for dispensing things like stimulus checks or other Federal benefits?

Anyway, I am now pretty much out of time. One last comment and—

Mr. LEVIN. Another big advantage of a two-tiered system is you can have nonprofit organizations that start to help ordinary people and small businesses use these digital dollars. So, imagine that the AARP starts helping retired people, and they might have an app, or it is a card or whatever, a prepaid card that is big, that has braille on it, that is really great for people with visual or audio disabilities. Okay, there is an urban organization that is helping lower-income people and disadvantaged people in communities that we can have different designs. The fundamental concept here of digital doesn't require all one paper identical bill, there could be lots of competition and lots of diversity, and helping a lot more people than the current payment system.

Mr. FOSTER. I am going to reclaim my time because I do have one question for Dr. Coronado. We were cut off. I am very interested in something that we haven't talked a lot about, which is the potential adverse effect on the traditional banking system in moments of stress and crisis. And again, we talked a little bit about how you could cap the size of an account. But could I give you a minute or two to talk about what other mechanisms might be in place to make sure that we don't see a flight to safety, and therefore an exacerbation of problems inside the traditional banking sector?

Ms. CORONADO. The limitation and the integration between the systems would be part of the design, I think. So, the limitation on the account size would mean that the system wouldn't get too big or wouldn't usurp the existing banking system, which is where most of the money is in wholesale banking anyway. The retail banking system would be necessarily limited in size. That is the first pillar of preventing that kind of cyclicalities. And then, you could have sort of the ability to speak between the banking accounts. The banking account would be integrated with your digital account, and that could also mean that the money flow back and forth wouldn't be as destabilizing.

I don't know. Do you have any—

Mr. LEVIN. Michael Bordo and I have thought a lot about this. Our recommendation is, during emergencies, to think about these digital dollars like a safe deposit box. And the right solution would be to, in an emergency, for large amounts of digital dollars, to impose a safe deposit box fee, which could be 1 percent or 2 percent, enough to discourage huge institutions from moving all of their money out of the commercial paper market into digital dollars.

So, I think this is a totally solvable problem. There might be some—

Ms. CORONADO. The limitation is that you couldn't move that size of money. It couldn't destabilize the commercial paper market in our design. It just wouldn't be—the scope would not be available for that.

Chairman HIMES. Okay. Great. I appreciate those answers. I will yield back the balance of my time and recognize the ranking member, Mr. Barr, for 5 minutes of additional questions.

Mr. BARR. Again, Mr. Chairman, thank you very much for your leadership on this issue and for holding this hearing on what is clearly a pressing issue, urgent, and important for national security, for the unbanked, for personal privacy and civil liberties. A lot of issues were covered today. So, I have one final comment and then a question.

The comment is, I think what we learned today was that Chairman Powell was absolutely right about getting this right as opposed to getting there first. I think there is urgency, and so I think we do need to move forward with urgency, but getting it right is so critically important.

And I think we learned that there are some dangers associated with privacy, with manipulation of monetary policy. I appreciate my colleague from Massachusetts recognizing that this is blurring the lines, Dr. Coronado, between fiscal policy and monetary policy.

Ms. CORONADO. They have already been blurred.

Mr. BARR. And let me also just say—well, that is true. And I think we need to restore the Fed to be monetary policy only, and accountable. Yes, independent, but accountable to Congress, and Congress and the elected officials of this country should be the fiscal policymakers in this country.

The other concern is the concern that the chairman just raised, and the possibility that this could get out of control to the point where a central bank digital currency is making an end run around the private commercial banking system.

So, what I have concluded is that direct Fed accounts is probably not the way to go, that two-tier is a—if we are going to go in this direction for purposes of sanctions and effectiveness, sanctions enforcement for purposes of dealing with the competitiveness challenge from China, and preserving the dollar as the world's reserve currency, if this is the direction we need to go to pursue and protect those ends, then we have to be careful about making an end run around the private banking system, compromising privacy, and manipulating monetary policy in a way that irretrievably blurs the distinction between monetary policy and fiscal policy.

I will conclude with a question that I have for Mr. Baldwin. What is, in your view, the danger of the Fed holding so much con-

sumer information, if we move in this direction of using accounts at the Fed as opposed to a two-tier system where you would have, to the extent that we move in the direction of a central bank digital currency, private sector control of wallets?

Mr. BALDWIN. Across all financial services, I think the key thing that keeps everybody up at night is a wide-scale cyberattack. Any time you are dealing with an account-based system that has everything in one centralized place, that is a prime target for nation states, cyber warfare. Just intermediating and having different troves of information, potentially facilitated by the private sector, makes it more difficult to go after one strategic source that would take down an entire system.

Mr. BARR. And you believe that it is possible to do this, to set up a central bank digital currency that is sophisticated enough to guard against that kind of a threat?

Mr. BARR. An account-based approach would be similar to traditional banking, so that there would be widescale cyber implementations that need to occur. Something occurring on a ledger system, so a tokenized system, would have different security considerations. But blockchain technology, time and time again, has shown to be a very secure method and means of transfers of value.

Mr. BARR. Thank you all for your testimony. We clearly have more work to do on this, and that is why I endorse the legislation that Mr. Hill and our chairman have authored, and I do echo Mr. Hill's comments to encourage our chairman here to see if we can get some of these bills in a markup.

With that, thank you to all of the witnesses for your important and illuminating testimony today, and I yield back.

Chairman HIMES. I thank the ranking member, and I really would like to thank our witnesses for their testimony today in what was a fascinating conversation.

The Chair notes that some Members may have additional questions for these witnesses, which they may wish to submit in writing. Without objection, the hearing record will remain open for 5 legislative days for Members to submit written questions to these witnesses and to place their responses in the record. Also, without objection, Members will have 5 legislative days to submit extraneous materials to the Chair for inclusion in the record.

And, without objection, I would like to enter into the record statements from the American Bankers Association, Public Citizen, and the National Association of Convenience Stores.

Without objection, it is so ordered.

With that, I thank the witnesses again, and this hearing is adjourned.

[Whereupon, at 12:13 p.m., the hearing was adjourned.]



# **A P P E N D I X**

July 27, 2021



U.S. House Financial Services Committee  
 Subcommittee on National Security, International Development and Monetary Policy  
 “The Promises and Perils of Central Bank Digital Currencies”  
 July 27, 2021, 10am EST  
 Robert M. Baldwin  
 Head of Policy  
 The Association for Digital Asset Markets (ADAM)

Chairman Himes, Ranking Member Barr, Members of the Subcommittee, thank you for the opportunity to testify today. My name is Robert Baldwin, and I am the Head of Policy at the Association for Digital Asset Markets, or “ADAM.” In this capacity, I oversee the policy and standards-setting process for the self-governing association and work to develop industry best practices that facilitate fair and orderly digital asset markets. Prior to ADAM, I served at the U.S. Department of the Treasury and the Central Intelligence Agency.

My testimony today seeks to advance the conversation of the future of U.S. payments. I will focus on the current status of payments in the U.S., goals for an advanced payments system, and discuss two leading solutions, including the development of a central bank digital currency (CBDC) and the use of a responsibly managed private-sector stablecoin.

#### **International Payments System Overview**

Greater global connectivity spurred by rapid advancements in telecommunications technology has changed the pace at which businesses can operate and people around the globe can connect. Commercial products such as Zoom allow business meetings to be conducted around the world, without the need for time-consuming flights around the globe. As a result, the pace of business has accelerated and efficiencies have improved. However, at the same time, the payment systems have failed to keep pace with other advances in telecommunications. While online banking and instant payments through private payment rails such as PayPal have improved the consumer experience with financial services, the domestic back-end settlement mechanisms through the Federal Reserve Automated Clearing House (ACH) or The Clearing House Electronic Payments Network (EPN), The Clearing House Interbank Payments System (CHIPS), or Fedwire have not kept up to pace, with downsides including high costs, difficulty in scaling, bias towards larger payments, or slow settlement times.

The settlement process is only compounded on international cross-border payments, which rely on networks of correspondent banking relationships, facilitated by the Society for Worldwide Interbank Financial Telecommunications (SWIFT) international payment mechanism. These



complex, decades-old networks are costly, slow, and susceptible to cyberattacks.<sup>1</sup> Although SWIFT has taken steps in recent years to decrease settlement times, greater efficiency improvements can be made, particularly in cybersecurity and in the payment processes before and after SWIFT settlement.<sup>2</sup>

### **U.S. Goals and Global Payments**

The current correspondent banking system has served the United States well. The U.S. economy's deep and liquid capital markets, strong rule of law, and dynamism have enabled the dollar to become the preeminent global reserve and transaction currency, accounting for over sixty percent of global transactions despite the U.S. making up about a fifth of global GDP. Reserve and transaction currency status has given the United States significant fiscal space, with foreigners having a voracious appetite for dollar-denominated safe assets. Moreover, the network effects provided by a dollar-based global payments system allows the United States to execute an advanced sanctions program and create American jobs in front- and back-end functioning of the correspondent banking system infrastructure. However, this system of payments is facing pressure on two fronts, first from international competition and second from innovations stemming from the development of blockchain technologies.

International competition is decreasing the U.S. role in international finance both as a means for economic competition and as a tool to avoid U.S. sanctions. The challenges have been twofold, first, and more likely a challenge moving forward, through the creation of Central Bank Digital Currencies (CBDCs) and second through new payment infrastructure to set up non-USD, non-SWIFT financial vehicles such as EU's Instrument in Support of Trade Exchanges (INSTEX), China's Cross-Border Interbank Payment System (CIPS), Russia's System for Transfer of Financial Messages (SPFS), and Venezuela's design of a petrodollar digital currency.

The most prominent example of a CBDC is the Chinese Digital Yuan, primarily because it is from the second largest GDP economy and that it is currently in pilot mode, while CBDCs from other advanced economic nations are still largely in the research phase. For the time being, the Digital Yuan is focused on small domestic payments, although it could be expanded to facilitate international payments in the future.<sup>3</sup> Initial potential international use cases of the Digital Yuan could be concentrated in areas such as Belt and Road projects, the funding of direct projects or investment in China, or the avoidance of the U.S. centric system for system for purposes such as sanctions or tax evasion. If China's recent crackdown on its private sector tech giants is any indication, it is likely that the Chinese State will further incentivize domestic adoption of the

<sup>1</sup> Fortune, [SWIFT Banking System Was Hacked at Least Three times This Summer](#) (September 26, 2016).

<sup>2</sup> SWIFT, [SWIFT Enables Payments to be Executed in Seconds](#) (September 23, 2019).

<sup>3</sup> Carnegie Endowment for International Peace, [What Will Be the Impact of China's State-Sponsored Digital Currency?](#) (July 01, 2021).



Digital Yuan through integration or takeover of Alipay and TenPay (the parent of WeChat Pay), the current leading payment rails in China.

China has publicly stated in its 14th five-year plan its desire to expand the Renminbi (RMB) internationally through leading standard-setting in digital currency and is forming partnerships with international bodies including SWIFT to provide vehicles for the internationalization of the Digital Yuan.<sup>45</sup> The Digital Yuan lays forward lofty goals that U.S. policymakers should closely track, but the U.S. should also consider the structural issues surrounding the Digital Yuan such as China's strict capital controls, its history of deceptive business practices such as data manipulation, its spotty record on property rights and the rule of law, the potential for data harvesting, and the potential for unwanted surveillance over payments. All of these factors combine to make the Digital Yuan an unappealing standard international option if Western nations innovate in a responsible manner and provide consumers with a viable alternative.

Non-CBDC, non-USD alternatives are yet to reach a level to rival SWIFT. China's SIPS is the largest system, facilitating approximately \$20 billion a day in transactions (compared to SWIFT's \$6 trillion); however, it still largely relies on SWIFT for cross-border payments facilitation (something that could change given proper motivations). SIPS has been used primarily for regional relationships with Russia, Japan, and Belt and Road initiative countries in Africa.<sup>6</sup> Other systems set up primarily to avoid U.S. sanctions have been largely unsuccessful as governments fail to live up to initial commitments and private sector appetite for the mechanisms decrease, such as the case with the EU's INSTEX for trade with Iran and Venezuela's creation of an oil-backed digital currency.<sup>78</sup> Despite mixed results from the current alternative systems, digitization and technology are increasingly making it easier for motivated international actors to shift payments away from a U.S.-centric approach.

The other challenge to the current payment system is innovation stemming from blockchain technologies, which have made relatively low-cost, high-speed, secure payments a reality. These systems allow users to confidently transact on a peer-to-peer basis, without processing through traditional intermediaries, such as correspondent banks or central banks. There is a clear need in the marketplace for such payments, and as an example, the total market capitalization for dollar-backed stablecoins has grown by over \$100 billion in the past year.<sup>9</sup>

Blockchain systems allow users to make both large and small payments in a fast and affordable manner with superb cybersecurity. Such a system enables faster movement of funds and will create new facets of the economy utilizing cheap micropayments. Blockchain technology can

<sup>4</sup> Id.

<sup>5</sup> Voice of America, [China and SWIFT Partner to Take Digital Currency Global](#) (February 12, 2021).

<sup>6</sup> Reuters, [Factbox China's Onshore Yuan Clearing and Settlement System](#) CIPS (July 30, 2020).

<sup>7</sup> Tehran Times, [Iran Blames EU on INSTEX Ineffectiveness](#) (January 18, 2021).

<sup>8</sup> Bitcoin.com, [Nicolas Maduro States Venezuela Pioneered Crypto Adoption in South America as Petro Use Flounders](#) (June 22, 2021).

<sup>9</sup> The Block Crypto, [Stablecoin Supply Charts](#) (July 2021).





enable functions such as paying hourly workers in real-time or directly paying artists for access to their art, both of which were previously impractical due to the costs associated with processing small payments. Cutting out traditional layers of the system reduces unnecessary costs and risks, providing additional benefits to creators and consumers. However, cost-cutting is not without consequence. Our current systems have benefited from decades of regulatory oversight and have layers of compliance built in to ensure a safe and orderly financial system. It is important that developers of software utilizing blockchain for payments respect the traditional areas of oversight by financial and bank regulators, such as anti-money laundering and sanctions compliance, risk management, and market integrity.

Established commercial banks have begun implementing private blockchain solutions to improve product quality. J.P. Morgan has created its own blockchain payments network, Liink, which is transacting in billions of dollars on a daily basis with 400 banks (for reference, SWIFT has 11,000 banks).<sup>10</sup> Others have been working to improve other areas of banks, such as Paxos, Credit Suisse, and Instinet's use of blockchain to execute same-day stock settlements.<sup>11</sup>

Once initial breakthroughs have occurred, it is difficult to impossible to constrain technological development and market forces will guide consumers to the best products. To date, the U.S. has maintained the world's leading payment system due to positive characteristics that make it easy and safe to transact in USD. As alternative payment mechanisms advance and other international actors seek to provide alternative solutions, the traditional U.S. global payments system is at a crossroads. It is imperative that the U.S. looks to the future at this critical juncture, and that future is likely based on the use of blockchain technology. When modernizing our payment systems, the U.S. should seek to establish a consumer-friendly system that benefits domestic consumers, while also making itself attractive for use in international business. Such a system prioritizes low-cost and fast payments, individual privacy, transaction transparency and data control, and ultimately ensures the USD maintains its prominence in international markets.

The U.S.' size and economic strength afford it the time to study various approaches. At the same time, purely academic studying, without technical development, poses a risk that a Chinese-led approach might gain traction relative to the U.S. Some forms of advancement are already on the way. FedNow's scheduled arrival in 2023 will be a welcome start to advancing payments efficiency domestically and must be taken into any policy discussions examining the pros and cons of various mechanisms.<sup>12</sup>

I will use the remainder of my testimony to discuss the role a U.S. CBDC or responsibly reserved and regulated private stablecoins could play in modernizing the U.S. payments infrastructure. In my opinion, these are two of the most promising approaches that will advance the U.S. payments infrastructure and ensure that the U.S. maintains its leading economic position.

<sup>10</sup> Forkast, [How JPMorgan's Onyx is Redefining Payments in Banking with Blockchain](#) (March 19, 2021).

<sup>11</sup> CoinDesk, [Paxos Trumpets Same-Day Shares Settlement Using Blockchain](#) (April 6, 2021).

<sup>12</sup> JD Supra, [FedNow Service Pilot Program Gaining Traction and Support](#) (June 16, 2021).



### U.S. Central Bank Digital Currency

As governments across the world study CBDCs, it is imperative that this Committee deliberates on a U.S. CBDC and consider the pros and cons through careful analysis of the technology. The U.S. role in the international system affords it standard-setting ability in this area. A potential CBDC should be careful not to disrupt the positive characteristics that make the U.S. such an appealing economic system. As mentioned earlier, other nations such as China, have structural issues which to date have inhibited further internationalization of their currencies.

To ensure the previously described macro goals are achieved, a U.S. CBDC would need to appropriately address several key design features including the structure of the CBDC, the CBDC's intended audience, privacy considerations, the effect on traditional financial services, the role it would play internationally, and the process by which a CBDC is developed and administered.

As Dr. Neha Narula previously testified, a CBDC could take a number of forms.<sup>13</sup> The first decision that must be made is whether the CBDC will be token-based or account-based. A token-based system would provide the CBDC via a decentralized ledger validated by the Federal Reserve or a designee, such as commercial bank. The CBDC would then be transferable between users and institutions in ways similar to cash. An account-based approach would function similar to traditional deposits and the debit card process, where funds are drawn from one account and credited to another account.

A second important decision to make is whether the CBDC would allow consumer-to-consumer transactions and, if so, how consumers would react, and what impact this format would have on establishing the legal frameworks and infrastructure to facilitate the CBDC. If the CBDC is declared to be legal tender, would every merchant be required to accept the CBDC? If so, what steps would need to be taken to set up the system for every business in the U.S.? A token-based approach would leverage distributed ledger technology and "digital wallets," while an account-based approach would require account formation and verification to ensure the system is free of false accounts and fraud. Policymakers should consider how the benefits the CBDC is attempting to achieve would be conveyed to those without internet access or proper identification, or those lacking the necessary technical sophistication. Additionally, it is important to consider how an account-based or token-based approach would be rolled out to the general public. How would government skeptics or bank skeptics react to new CBDC options? Would the CBDC potentially be subject to misinformation surrounding government surveillance of citizens' day-to-day activities? Such a rollout would require careful planning, as the U.S. federal government is unable to force adoption in a way that the Chinese Communist Party could. If the U.S. were to pursue a CBDC path, an effective coordinated messaging campaign must be produced in advance. Similarly, public-private partnerships with the financial services industry and app store providers such as Apple and Google would be extremely beneficial to advancing the product rollout.

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<sup>13</sup> Neha Narula, [Building a Strong Financial System: Opportunities of a Central Bank Digital Currency](#) (June 9, 2021).



A Federal Reserve CBDC system would almost certainly build in guardrails for anti-money laundering (AML) compliance and macroprudential safeguards. A CBDC system could improve insights to both of these areas, but the system should be thoughtfully designed to ease concerns about domestic surveillance. Users should be largely anonymous in these systems so that the federal government is not monitoring and scrutinizing citizen's consumption habits. Additionally, a well-designed CBDC system would need to have clear procedures in place for warrant-based law enforcement investigations. Finally, a CBDC system should have guardrails in place to ensure that financial services remain politically neutral so that businesses and citizens operating in politically sensitive areas have assurances that they will not be cut off from financial services due to the nature of business activities.

Policymakers should also consider the effect a CBDC would have on the traditional commercial banking system. With faster payments capabilities, it is essential to ensure that controls are in place to prevent disintermediating deposits from the traditional banking system, which could pose a financial stability risk. A drawdown in deposits could affect the ability to provide loans, the backbone that drives economic growth in the U.S. Potential solutions for this could be to place limits on the size of CBDC accounts or ensure that commercial banks are able to provide loans utilizing CBDCs.

In the cross-border payments space, work remains to establish rules for how an international system of CBDCs would work together. The Bank for International Settlements (BIS) recently laid out a number of questions relating to macro-financial concerns in cross-border payments such as currency substitution risk, capital flow volatility, and contagion risk, which must be solved thoughtfully in a manner that preserves country-specific characteristics.<sup>14</sup> In addition to leading on these questions, the U.S. must lead in thought leadership and standard-setting across all international bodies such as the G7, G20, BIS, and the Financial Stability Board, so that the future of global digital payments reflects American values.<sup>15</sup>

A final consideration must be how the Federal Reserve would develop and administer the CBDC. It is currently unclear if the Federal Reserve has the authority to develop a CBDC without Congressional approval. CBDC development is a large undertaking that will take a number of years. If considering authorization of an approach, Congress should outline a timeline for a CBDC theoretical development and consider steps such as whether the CBDC will be designed through private sector contracting or developed from within the U.S. government. In addition to the development side, policymakers should consider the costs and steps necessary to administer a CBDC system. Would the CBDC be managed by the Federal Reserve Board of Governors or by an operational office akin to Treasury's Fiscal Service? If it is the Federal Reserve Board of Governors, would operational oversight of the system distract from the Federal Reserve's core mission of monetary policy and financial stability?

<sup>14</sup> Bank for International Settlements, [Central Bank Digital Currencies for Cross-Border Payments](#) (July 2021).

<sup>15</sup> Bank for International Settlements, [Central Bank Payments in the Digital Age](#) (2020).



Despite the numerous questions to be answered, a CBDC system offers the potential for speed and cost benefits and potential promise in areas such as financial inclusion and improved cross-border transactions. A well-designed CBDC is a considerable undertaking and many important design choices must be made. The U.S. should expedite the capacity-building process so that policymakers have a full range of options to advance U.S. digital payments infrastructure.

### USD Stablecoin System

In lieu of (or in advance of) introduction of a CBDC as discussed above, a comprehensively regulated private sector-led stablecoin approach, endorsed by and coordinated with the federal government, could answer many of the stated goals, including offering low-cost and fast payments, individual privacy, transaction transparency and data control, and expand access to USD in international markets. Consumer demand and market adoption of existing stablecoins are growing at a rapid rate. Largely used in digital asset trading, over the last year the market capitalization for stablecoins grew by 1,000% from approximately \$10 billion in July of 2020 to \$110 billion in July of 2021.<sup>16</sup> Stablecoins' ease of use makes dollar-based transactions easier, and what started as an innovation in the digital asset trading world has shown real-world utility, which can fairly easily be converted to other sectors of the economy to work with our existing financial structures.<sup>17</sup>

To date, stablecoins have served as a catch-all term, but many different types of stablecoins exist and many more are possible depending on the underlying asset backing and the stablecoins governance structure. Much media and regulatory attention in this space has focused on either ambitious projects that have the potential to undermine monetary policy or on other projects where a lack of regulatory requirements has raised questions regarding the quantity and quality of reserves backing certain stablecoins, as well as questions regarding whether certain stablecoins are, in fact, investment contracts. However, well-designed and managed stablecoins, with prudent regulations on reserve backing and auditing standards, have the potential to significantly improve the speed of payments without necessitating a complete reworking of the financial system or large project engineering from the federal government.

One way to achieve the benefits of blockchain-based stablecoins and address the regulatory concerns that have been raised to date would be to establish standards for federal regulatory approval under a "lead overseer approach" towards dollar-denominated stablecoins.<sup>18</sup> These stablecoins would be fully (or nearly fully) reserved by cash, cash equivalents, or short-term treasury instruments, similar to how the New York State Department of Financial Services provides oversight of stablecoins.<sup>19</sup> This system would build on top of the current infrastructure to provide a faster payment layer and would be purely opt-in for business or consumers seeking

<sup>16</sup> The Block Crypto, [Stablecoin Supply Charts](#) (July 2021).

<sup>17</sup> Finextra, [PayU Partners Celo to Bring Stablecoin Payments to Merchants](#) (July 21, 2021).

<sup>18</sup> Financial Stability Board, [Regulation, Supervision and Oversight of "Global Stablecoin" Arrangements](#) (October 13, 2020).

<sup>19</sup> New York State Department of Financial Services, [DFS Continues to Foster Responsible Growth in New York's Fintech Industry with New Virtual Currency Product Approvals](#) (2021).



to leverage the benefits of the stablecoin. Such a process would create incentives for private sector stablecoin providers to innovate in their product offerings and tailor products for businesses and consumers, providing a wealth of new business options through improved back-end engineering. Stablecoin reserves would be held in U.S. regulated and insured banks, and strict audit standards would be required to ensure that the reserves equal or exceed the stablecoins outstanding. With money staying in U.S. regulated onshore banks, the stablecoin system would redistribute USD liquidity across the banking system and the Federal Reserve's balance sheet and the U.S. commercial banking balance sheet would remain unchanged in both size and composition, allowing U.S. monetary policy capacity to remain relatively unaffected.<sup>20</sup>

From a cross-border payment perspective, USD-backed stablecoins would facilitate trade and commerce in USD and ensure that the USD remains readily available and act as a counterweight to changes in international trade, such as a decline in oil-backed dollarization that might occur from a global energy transition. This stablecoin system would be fairly straightforward to design and implement and would be easier to align in international forums than a CBDC, which face a number of unresolved macro-prudential questions in terms of cross-border payments.<sup>21</sup> Such stablecoin offerings would be easy to use and serve as useful alternatives for businesses and consumers involved in cross-border dealings across Asia, Africa, Europe, and Latin America in comparison to a Chinese Digital Yuan and its related structural issues. If regulatory approval was expedited, a stablecoin system could be quickly rolled out across various sectors and could capitalize internationally before competing options are fully developed. A private sector-led approach to implementing such a system would create numerous jobs from sales to engineering, would be funded by investment from private sources, and wouldn't require a massive resource allocation from the U.S. Federal Government.

In addition to regulatory certainty, there remain several unanswered policy questions and roll-out requirements that must be addressed before such a system could scale to economy wide. I will briefly cover a few of these.

The first question such stablecoin system must solve is how to ensure macroprudential regulation and AML and sanctions compliance are built into the system. High velocity, liquid flows of money can threaten financial stability and have the potential to fund bad actors. U.S. regulators should require that any approved stablecoin has macroprudential monitoring tools in place and the ability to pause or place restrictions on transactions in a time of crisis to rapid drawdowns on banks or other threats to financial stability. Similarly, any system must have robust AML and sanctions compliance capabilities. Transactions occurring on a ledger are traceable and should employ blockchain monitoring solutions. Similarly, for any non-backend, consumer-facing stablecoin, basic ID and information requirements should be mandated for hosted wallets. Finally, regulators should regularly test these systems for macroprudential and AML measures to ensure that the systems remain functional to their highest capacities.

<sup>20</sup> Federal Reserve Board Division of Research & Statistics and Monetary Affairs, [Global Stablecoins: Monetary Policy Implementation Consideration from the U.S. Perspective](#) (2021).

<sup>21</sup> Banks for International Settlements, [Central Bank Digital Currencies for Cross-Border Payments](#) (July 2021).





A second question a stablecoin system must address is cybersecurity and personal information. All personally identifiable information (PII) should be anonymized for on-chain transactions, but be stored for redundancy reasons with the consumer's bank or stablecoin provider. With multiple service providers, transactions information should be spread across multiple locations, lessening the chance of a crippling cybersecurity attack on the core infrastructure. However, with diversification, pools of data will remain and could be prime targets for hackers. Regulators should ensure that PII is guarded with the highest level of bank cybersecurity standards.

A final question some would ask is if a stablecoin is responsibly reserved, what incentive would a private sector firm have to apply resources for system development and maintenance. To this question, I see two different possibilities where incentives for the private sector could be established. The first approach would be to allow the stablecoins providers to have some combination of dollar reserves and U.S. Treasuries holdings. New York State allows stablecoin providers to hold reserves in a combination of cash and U.S. Treasuries.<sup>22</sup> Such an approach is resistant to run dynamics and still allows the stablecoin provider to generate revenue on their services. A second approach would be to require full one-to-one cash backing, but allow stablecoin providers to charge a fee when reserves are brought onto or off of a system. This fee structure could scale for the amount of resources being consumed, and as such, incremental fees related to large transactions would cover the cost of smaller transactions. In either case, ensuring that the stablecoin reserves are backed by the full faith and credit of the U.S. government will provide an important degree of confidence and security to the market.

A stablecoin system would accomplish the core mission of making payments cheaper and faster. A private-sector approach could likely be developed and implemented quickly. Some questions on the functioning of the system remain, but ultimately, it is a very promising approach.

### **Conclusion**

The U.S. strength in the international payments and financial services space is an American treasure that has tremendously benefited the country. The U.S. must continue to innovate in this space so that it does not fall behind to pressure from international competition and digitization. The payments system is a complex process, which must be handled and studied with great care. New developments in this space take time to develop because of the intricacies involved and the necessity that there are no issues. The U.S. must start to operationalize testing and design of various approaches to payment efficiency improvements, so when it is time to act, policymakers have a full suite of options. Thank you for your time, I look forward to answering any questions you may have.

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<sup>22</sup> Paxos, [A Regulated Stablecoin Means Having a Regulator](#) (July 21, 2021).

United States House of Representatives  
Committee on Financial Services  
Subcommittee on National Security, International Development, and Monetary Policy

June 27, 2021

*“The Promises and Perils of Central Bank Digital Currencies”*

Written Testimony of Julia Coronado

President and Founder, MacroPolicy Perspectives  
Clinical Associate Professor of Finance, University of Texas at Austin

Thank you for the opportunity to testify. My name is Julia Coronado, and I am the Founder of the macroeconomic research firm MacroPolicy Perspectives. I have spent my entire adult life in the financial services industry, from being a bank teller to a staff economist at the Federal Reserve Board to Chief US Economist at one of the largest global investment banks. I have sat on risk and investment committees, and I now run my own research firm that provides forecasts and research on the US economy to a variety of money managers and nonfinancial companies. I also teach macroeconomics to business school students at UT Austin. I also teach macroeconomics to business school students at UT Austin. I stress to my students that the US dollar did not become the global reserve currency overnight, it took centuries of learning from sometimes profoundly painful episodes and crises and building institutions to balance safety and dynamism and establish the trust essential to a stable, well-functioning currency and financial system. It is a story of evolution, and the job is never done. As strong a position as the US dollar enjoys in today's global economy, we must keep meeting the ever-evolving challenges and opportunities to secure the efficiencies that come with a stable and well-functioning financial system.

I believe digital currencies present a challenge that the US and other countries must rise to, and if we do it well, we can improve the safety and soundness of our financial system and enhance the equity and efficiency of monetary policy. My remarks will draw on a proposal I put forth jointly with Simon Potter, former head of the Markets Group and System Open Market Account (SOMA) at the Federal Reserve Bank of New York. We published our proposal before the pandemic, but the experience of the last year only underscores its urgency and promise.<sup>1</sup>

**Outline of a Two-Tiered System for a Fed-Backed Digital Dollar**

Let me start by outlining our proposal. We propose the creation of a new system of regulated financial institutions called digital payment providers (DPPs) to facilitate fast, inexpensive retail payments for consumers through the use of a digital currency 100 percent backed by reserves at the Fed. Much like the current banking system, a two-tier system of private providers would promote competition and continued innovation, while Fed oversight would promote safety and soundness. Our proposal would limit account size and preserve the role of fractional reserve commercial banks, adding a

<sup>1</sup> Coronado, Julia and Simon Potter, “[Securing macroeconomic and monetary stability with a Federal Reserve-backed digital currency](#)” and “[Reviving the potency of monetary policy with recession insurance bonds](#)” Peterson Institute for International Economics Policy Brief 20-4 and 20-5, March and April, 2020 and “[Digital technology and economic science can help during crises like COVID-19](#)” PIIE Realtime Economics Issues Watch, April, 2020.

narrow mandate for DPPs to facilitate retail payments. The proposed system of DPPs would help the Fed ensure that the valuable public good of a stable currency survives the transition to a digital age while using the benefits of lower costs to reach more of the sizable segment of the population—the underbanked—that has not benefited from the payment convenience and security offered by the current banking system. Relying on the private sector alone to offer the benefits of new technology like digital payments, as the United States currently does, introduces significant and growing sources of systemic risk.

The Fed would need to invest in a new infrastructure of standards, oversight and resiliency. Importantly the Fed would establish and monitor a rigorous standard for cybersecurity, consumer privacy, and system resiliency. The Fed would not have access to individual data but could establish and monitor standards for consumer privacy. In recent Congressional testimony Chair Powell cited cybersecurity as the risk that keeps him up at night and our current lack of digital infrastructure has left our economy vulnerable to increasing attacks. An important byproduct of a central bank digital currency will be a public private partnership that confronts one of the most significant risks to the functioning of our market economy.

Some Fed officials have urged the need for caution in developing a digital currency given the dollar's role as the global reserve currency, I cite that as a need to move forward with a sense of urgency. Not only are private crypto currencies proliferating that pose risks to financial stability, but other countries are advancing the ball on CBDs. Greater efficiency and transparency in cross border transactions is an area where a digital currency holds great promise. The US should not only be engaged but play a leadership role.<sup>2</sup>

#### **Digital Currencies Present an Opportunity to Make Monetary Policy More Equitable and Efficient**

Why does the Fed need a new tool for monetary policy? Interest rates have fallen around the world in recent decades reflecting the global forces of slowing population and top line GDP growth, as well as widening economic prosperity across emerging economies that has produced savings and a strong demand for the safe haven of government bonds as a store of value. With interest rates close to their lower bound the Fed and other central banks have turned to balance sheet policy to achieve their goals. Bond purchases work by lowering longer term interest rates and boosting a wide range of asset prices. In supporting asset prices the Fed has faced the critique that its policies exacerbate inequality. Boosting asset prices does make the rich richer, however the alternative is to allow unemployment to increase which disproportionately harms lower wage and black and brown workers. Doing nothing is not an option, but the Fed currently lacks the tools to boost the economy in a more equitable fashion.

Digital accounts can add a new tool for monetary policy. Under a structure authorized by Congress the Federal Reserve could make direct payments to consumers' digital accounts in the event of a recession. We propose the creation of recession insurance bonds (RIBs)—zero-coupon bonds authorized by Congress and calibrated as a percentage of GDP sufficient to provide meaningful support in a downturn. The Treasury would hold these securities on behalf of the public and the Fed would purchase them and credit households' digital accounts in a downturn when its policy interest rate was constrained by the lower bound.

Cash transfers to people may sound like the domain of fiscal policy, yet it precisely mirrors the permanent expansion of the money supply Milton Friedman described as helicopter drops. While the COVID recession confirmed that interest rates and balance sheet expansion remain powerful and valuable tools in the Fed's arsenal, we have also seen that

<sup>2</sup> The Fed has stepped up its efforts to evaluate the costs and benefits of a central bank digital currency as outlined in a recent speech by Federal Reserve Board Governor Lael Brainard, "[Private Money and Central Bank Money as Payments Go Digital: an Update on CBDs](#)," May 24, 021.



providing cash to households in a crisis is equally if not more powerful in sustaining demand when the economy is hit with a shock that leads to rising unemployment. Equal cash payments to households also provide a proportionately larger boost to lower income households. When the Fed's policy rate has been cut to zero and the FOMC judges that the economy needs additional stimulus, Congress could authorize the Fed to deposit money into consumers' digital accounts.

The Fed's toolkit has evolved over time and Congress has revisited the Federal Reserve Act to ensure the Fed is equipped to support the public interest. Congress should authorize both a framework for the Fed to create a digital currency to ensure the dollar continues to serve the broadest number of people in a modern, technology driven economy and should simultaneously consider creating a framework that allows the Fed to make direct money injections to households' new digital accounts in a downturn. In the aftermath of the Great Recession the Fed expanded its balance sheet by \$3.5 trillion, during the pandemic the Fed has expended its balance sheet by nearly \$4 trillion. If half of the recent balance sheet expansion had instead been channeled into cash transfers to households it would have financed deposits for every person over 18 of more than \$7,500. This is considerably more than households received in stimulus payments from the various fiscal packages.

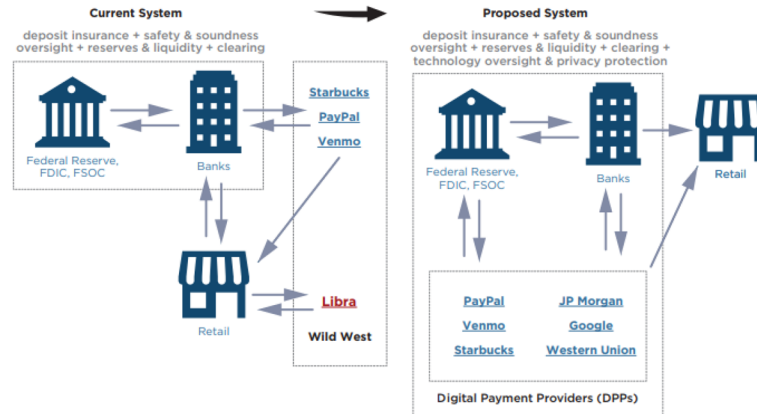
Digital payments to consumers could also reduce risks to financial stability. The Federal Reserve has a division that monitors the maturity transformation in the financial system, debt growth across sectors and asset prices. Regulations put in place since the global financial crisis of 2008-09 have ensured that the degree of maturity transformation that facilitated the housing bubble has not returned and enhanced capital and liquidity requirements meant failures in the banking system did not amplify the COVID crisis. Lending standards for households did not deteriorate over the past cycle and debt to income ratios remain well below the peaks of the financial crisis. However, the Fed's increasing reliance on bond purchases may be contributing to asset price inflation becoming higher and more cyclical than in the past. The Fed's most recent financial stability report concluded that "valuations for some assets are elevated relative to historical norms even when using measures that account for Treasury yields."

The Fed stabilizes the economy during a recession by supporting aggregate demand. Lower interest rates and higher asset prices spur investment and spending on durable goods like housing and cars. Stronger demand leads to job creation. Asset prices usually decline in a recession because the outlook for the economy has deteriorated and uncertainty has risen. Declining asset values can amplify and deepen a recession. However, asset purchases are a relatively new tool of monetary policy and limited experience makes it difficult to know all their benefits and consequences. Direct payments to consumers can also stabilize demand in a recession, and knowing the Fed possesses such a tool may lead investors to be less inclined to reprice assets downward which could in turn reduce the need for, or scale of future large scale asset purchases that might increase risks to financial stability. The Fed may still need to play lender of last resort in a downturn, but direct support for demand could reduce the need for ongoing market interventions.

Disruption from technology has become an inevitable part of every industry. We must address the new frontiers of currency and payment processing and the challenges of persistently low interest rates to ensure the stability of the US and global monetary systems. Disruption also creates opportunity. Developed together, a Fed backed digital dollar, low-cost accounts and payment processing, and a framework in which the Fed can make digital deposits to consumers in a recession would provide US institutions with the tools necessary meet the challenges of the current global environment. As Congress explores the appropriate authorizations and agency organization for a US digital currency, I would urge you to think expansively and consider not only issues related to payments and the functioning of the currency but also structures for providing the Fed better tools for conducting more equitable and efficient monetary policy.

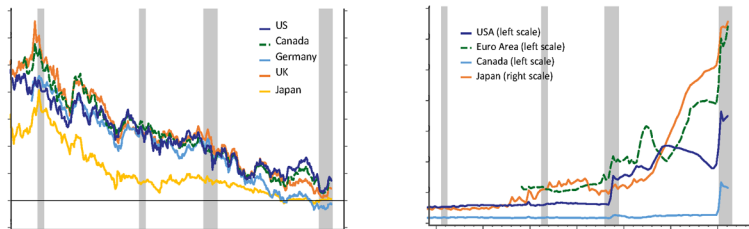
**Exhibits**

*We propose the creation of a regulated system of digital currency providers (DPPs) to provide low cost retail payment processing to more people and Recession Insurance Bonds (RIBs), a structure that would allow the Fed to make direct cash payments to consumers' digital accounts in a downturn after interest rates have been cut to zero*

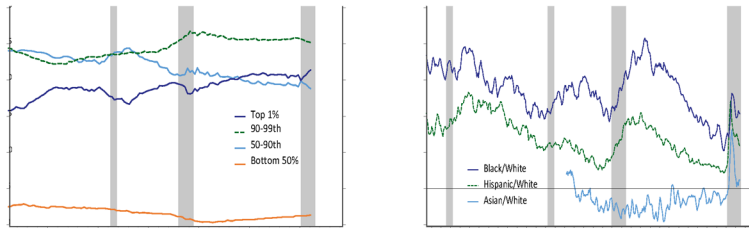
**Ensuring safety and soundness in a digital world**

FDIC = Federal Deposit Insurance Corporation  
FSOC = Financial Stability Oversight Council

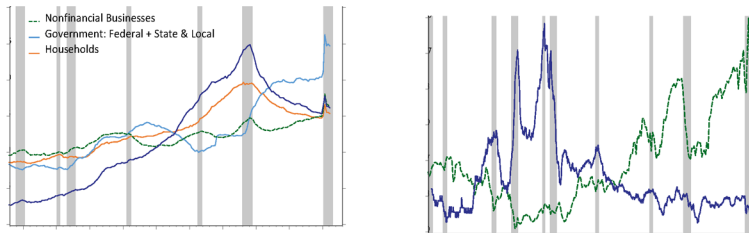
*Why does the Fed need a new tool for monetary policy? Interest rates have fallen globally over time reflecting slower growth and rising demand for safe assets leaving central banks increasingly reliant on balance sheet policy in downturns.*



*The bottom half of American households don't directly benefit from higher asset prices, but recessions hit nonwhite and lower income workers hardest. The Fed doesn't have the option of ignoring its Congressional mandates of maximum employment and price stability.*



*Steps taken by Congress and the Fed after the Global Financial Crisis has led to reduced debt in the household and financial sectors. But the era of low interest rates and balance sheet policy mean that lower and more stable consumer inflation has been accompanied by higher and more cyclical asset price inflation.*





House Financial Services Committee  
Subcommittee on National Security, International Development, and Monetary Policy

Hearing  
on  
The Promises and Perils of Central Bank Digital Currencies  
July 14, 2021 – 10:00 a.m.

Statement of Yaya J. Fanusie  
Adjunct Senior Fellow Center for a New American Security  
Chief Strategist  
Cryptocurrency AML Strategies

Chairman Himes, Ranking Member Barr, the distinguished members of the subcommittee, and my fellow panelists, it is an honor to participate in today's hearing. Please allow me to add that although I do consulting with the private sector on financial technology issues, my comments today are my personal opinion and are not on behalf of any clients.

Central Bank Digital Currency (CBDC) research and development is at such a nascent stage that it would be foolhardy to try to predict exactly how CBDCs will evolve globally or to assert how the United States should potentially implement a digital dollar. I do assess that CBDCs inevitably will become a part of our global economic landscape. In my testimony, I will offer a framing to understand the rise of CBDCs, outline some of the geopolitical positioning currently underway around the technology, and explain the policy posture needed to navigate the opportunities and threats that a CBDC environment would bring to U.S. national security.

First, it is best to frame CBDCs not just as a monetary development, but as a data development. Recently, the Head of Research for the Bank for International Settlements (BIS) said that the potential benefits of CBDCs lie in what the technology could enable for data governance.<sup>1</sup> For example, China's motivation for its digital fiat currency is rooted in the Chinese Communist Party's (CCP) push for national financial technology development, which is focused on building a data-driven digital economy.<sup>2</sup>

<sup>1</sup> Joe Weisenthal and Tracy Alloway, "Transcript: Hyun Song Shin on CBDCs and the Future of Central Banking," *Bloomberg.com*, Bloomberg, June 24, 2021, [www.bloomberg.com/news/articles/2021-06-25/transcript-hyun-song-shin-on-cbdc-and-the-future-of-central-banking](https://www.bloomberg.com/news/articles/2021-06-25/transcript-hyun-song-shin-on-cbdc-and-the-future-of-central-banking).

<sup>2</sup> Yaya Fanusie, "Defending and Investing in U.S. Competitiveness," Statement to the Subcommittee on Fiscal Accountability and Economic Growth, Committee on Finance, U.S. Senate, July 14, 2021, <https://www.finance.senate.gov/imo/media/doc/Fanusie%20Senate%20Testimony%20-%20BSN%20-Fintech-July%202021%20FINAL.pdf>; Yaya



Although proposed designs for CBDCs around the world vary, they all aim to enhance the user experience with money by offering new capabilities, or at least more efficiency and effectiveness in payment systems. These enhancements come from aligning money more closely with the infrastructure of the internet. Online retail bank accounts, mobile payments, distributed ledger technology, digital asset tokenization, and smart contract programmability are part of a range of software innovations that are unlinked to central bank money. CBDCs are an attempt to integrate the world of central bank money directly with both conventional and emerging data technology. And this is where the “promise” comes in. By deploying CBDCs, governments are seeking to derive sharper insights and analyses for their monetary system, but also to offer better payment functionality for businesses and citizens.

The promise is such that even certain national security challenges to the United States arising from CBDC technology could simultaneously offer national security advantages when viewed from a certain angle. Let’s look at concerns relating to sanctions power, for example. If a majority of countries shift to CBDC-to-CBDC platforms for facilitating cross-border transactions, there is a long term risk that the correspondent banking system, which is highly vulnerable to U.S. sanctions pressure, could become less prominent in global finance. The United States relies on banks around the world to screen for transactions by designated individuals and entities. Banks are also important for the due diligence they conduct on the customers and business operations they underwrite. But this sanctions compliance is a rather disjointed, siloed process, run individually by financial institutions with varying degrees of efficacy and uneven alignment with U.S. interests. In a system where central bank money gets digitized, it would theoretically be possible to encode sanctions screening into CBDC money itself. For example, financial regulators could insert specifications into CBDC software to provide alerts (or even block transactions) if certain conditions are met, such as a verified designated entity trying to open up a CBDC account at a bank. Instead of the bank screening on its own initiative, the sanctions check could occur as part of the CBDC architecture. Although the feasibility of such a sanctions compliance system is likely to depend on advancements in digital identity technology, the programmability of the CBDC, and how much other nations accept international sanctions requirements into their domestic CBDCs, this model could make sanctions evasion in digital payments more difficult. Private digital currencies, if programmed similarly, could also offer these technical enhancements. The key is that new financial technologies may provide more functionality than the current global banking architecture and some of this functionality could conceivably bolster national security aims. The new functionality comes from the evolution in data governance.

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J. Fanusie and Emily Jin, “China’s Digital Currency: Adding Financial Data to Digital Authoritarianism,” (Center for a New American Security, January 26, 2021), <https://www.cnas.org/publications/reports/chinas-digital-currency>.



Whether or not CBDCs hold either more promise or more peril for U.S. national security will depend on how well the United States crafts policy to partake in and influence the march of fintech innovation emerging globally. With CBDCs still mostly in a nascent exploratory stage, it is premature to recommend fully-fleshed CBDC policies. Instead, here are some important strategic concerns that U.S. policymakers must address in order to navigate a sound, national security-informed approach to the rise of CBDCs.

**Correspondent banking is likely to be disintermediated when CBDCs proliferate.** This must be accepted as an inevitability. Private banks will not become obsolete. But they will need to augment their services to maintain relevance in a world where users digitally possess direct liabilities with their central bank and can transact more seamlessly with foreign counterparties online. Even though most retail CBDC proposals envision a two-tier model where private financial institutions remain critical by disbursing CBDC to retail users and managing the AML requirements around customers, a key objective for CBDCs is to streamline cross-border transactions.<sup>3</sup> Note that the BIS head of research also said in June 2021 that CBDCs would simplify monetary architecture and eliminate the costs and delays associated with correspondent banking.<sup>4</sup> As mentioned above, CBDCs should be understood as a development in data governance. So, private banks will need to find revenue models revolving around data and software-related services to remain profitable in a CBDC world. Also, banks should leverage big data analysis and artificial intelligence arising from CBDC transactions to inform their manual due diligence work.

**Whoever governs (or influences) the international CBDC-to-CBDC architecture is likely to gain considerable geopolitical power.** Although it is unclear how a cross-border CBDC platform will work, there are multiple efforts to pilot international CBDC systems.<sup>5</sup> One trial with significant central bank buy-in is the BIS' multiple CBDC or mCBDC Bridge project, where the central banks in China, Hong Kong, Thailand, and the United Arab Emirates are piloting a distributed ledger technology system for cross-border payments.<sup>6</sup> The BIS, as a consulting body of central banks, is poised to lead CBDC standard-setting and China appears influential in that organization's deliberations of an international CBDC framework. In early 2021, China's central

<sup>3</sup> Hyun Song Shin, "Central Bank Digital Currencies: an Opportunity for the Monetary System." *The Bank for International Settlements*, June 29, 2021, [www.bis.org/speeches/sp210629b.htm](http://www.bis.org/speeches/sp210629b.htm).

<sup>4</sup> Joe Weisenthal and Tracy Alloway, "Transcript: Hyun Song Shin on CBDCs and the Future of Central Banking." *Bloomberg.com*, Bloomberg, June 24, 2021, [www.bloomberg.com/news/articles/2021-06-25/transcript-hyun-song-shin-on-cbdc-and-the-future-of-central-banking](https://www.bloomberg.com/news/articles/2021-06-25/transcript-hyun-song-shin-on-cbdc-and-the-future-of-central-banking).

<sup>5</sup> "Central Bank Digital Currencies for Cross-Border Payments." *The Bank for International Settlements*, July 9, 2021, [www.bis.org/publ/othp38.htm](http://www.bis.org/publ/othp38.htm).

<sup>6</sup> "Multiple CBDC (mCBDC) Bridge." *The Bank for International Settlements*, February 19, 2021, [www.bis.org/about/bisih/topics/cbdc/mcbdc\\_bridge.htm](http://www.bis.org/about/bisih/topics/cbdc/mcbdc_bridge.htm).



bank proposed rules for CBDC interoperability across jurisdictions at a BIS seminar.<sup>7</sup> The rules for CBDC-to-CBDC platforms will likely include policies for how sanctions are enforced (or not) in international trade. The BIS also could become the environment where CBDC software is recommended or authorized for all central banks. China currently has the most progress in CBDC piloting among major economies. The United States will need to increase its CBDC expertise and assert greater influence in the BIS and other international forums that guide CBDC development.

**CBDC systems could be weaponized to retaliate against the United States** Depending on how a global CBDC system is governed, it might be possible for a bloc of countries to restrict the United States from an international CBDC apparatus that operates outside conventional payment messaging systems like SWIFT. Also, a foreign government's control over its CBDC infrastructure would probably make it easier for that government to block local CBDC accounts or wallets used by U.S. companies operating in the country. A sign of this risk materialized when China removed the digital presence of the Swedish clothing store H&M from most online platforms in China after the company offended the CCP by voicing concerns about possible forced Uyghur labor in its supply chain.<sup>8</sup> If China's CBDC, the eCNY, had been fully launched and H&M had been required to use it in China, the CCP probably could have directly blocked eCNY transactions to the company without having to coordinate with Chinese banks and private payment firms.<sup>9</sup>

**CBDC functionality is likely to enable more innovative money laundering techniques.** Although criminals will prefer the pure anonymity of physical cash over the data footprints attached to central bank digital currencies, CBDCs may offer features useful to hiding illicit proceeds. If CBDCs have smart contract programmability, microtransactions, and can generate multiple wallets for users and even for devices, money launderers will likely exploit these features to design elaborate, automated payments to try to obfuscate criminally earned funds.<sup>10</sup> In fact, illicit actors would have incentive to move from more rudimentary conventional digital money to the more agile CBDC. Also, criminal organizations with illegally-derived cryptocurrencies or illicit physical cash will probably pay CBDC holders with clean profiles to operate on their behalf

<sup>7</sup> Tom Wilson and Marc Jones, "China Proposes Global Rules for Central Bank Digital Currencies," *Reuters*, March 25, 2021, [www.reuters.com/article/us-cenbanks-digital-china-rules/china-proposes-global-rules-for-central-bank-digital-currencies-idUSKBN2BH1TA](https://www.reuters.com/article/us-cenbanks-digital-china-rules/china-proposes-global-rules-for-central-bank-digital-currencies-idUSKBN2BH1TA).

<sup>8</sup> Lucille Liu, "Digital Yuan Gives China a New Tool to Strike Back at Critics," *Bloomberg*, April 20, 2021, [www.bloomberg.com/news/articles/2021-04-20/digital-yuan-gives-china-a-new-tool-to-strike-back-at-critics](https://www.bloomberg.com/news/articles/2021-04-20/digital-yuan-gives-china-a-new-tool-to-strike-back-at-critics).

<sup>9</sup> Yaya Fanusie, Adjunct Senior Fellow in the Energy, Economics, and Security Program at the Center for a New American Security, "An Assessment of the CCP's Economic Ambitions, Plans, and Metrics of Success, Panel IV: China's Pursuit of Leadership in Digital Currency," Testimony to the U.S.-China Economic Security Review Commission, April 15, 2021 [https://www.uscc.gov/sites/default/files/2021-04/Yaya\\_Fanusie\\_Testimony.pdf](https://www.uscc.gov/sites/default/files/2021-04/Yaya_Fanusie_Testimony.pdf)

<sup>10</sup> Yaya Fanusie, "Central Bank Digital Currencies: The Threat From Money Launderers and How to Stop Them," *Lawfare*, 16 December 16, 2020, [www.lawfareblog.com/central-bank-digital-currencies-threat-money-launderers-and-how-stop-them](https://www.lawfareblog.com/central-bank-digital-currencies-threat-money-launderers-and-how-stop-them).



in the CBDC ecosystem. A laundering market with CBDC “money mules”<sup>11</sup> is likely to spring up alongside the criminal activity that occurs in other money formats. This is another example of how CBDC innovation offers both promise and peril.

**U.S. economic policymakers are going to need more collaboration with computer scientists.**

Because CBDC research focuses heavily on data governance and software development, economists at the U.S. Federal Reserve are going to have to wrestle increasingly with complex computer science problems as they assess CBDC possibilities. The Federal Reserve Bank of Boston’s current partnership with the Massachusetts Institute of Technology’s Digital Currency Initiative is an important step in U.S. CBDC research.<sup>12</sup> But given the global pace of CBDC development, multiple Fed branches should probably collaborate with respective computer science departments around the country for more extensive central bank digital currency research.

**Fine-tuned rules around data privacy will be needed if the United States launches a digital dollar.**

The world is moving toward a “oneness of data” where our personal activities rely increasingly on online platforms that generate digital footprints that can be captured and analyzed.<sup>13</sup> CBDC transactions—even if anonymized—will comprise a new data stream that could help the government and private firms improve financial services. And CBDC discussion papers generally propose that regulators and law enforcement agencies will be able to acquire personal identification information on users when necessary for anti-money laundering and counter-terrorist financing purposes.<sup>14</sup> But more specific guidelines on data access must be mapped out. Will law enforcement have real-time access to the raw, anonymized data feed? Policymakers and technologists must create parameters not only around what entities can directly acquire CBDC data, but precisely how much of it and for how long. Authorities will need to consider situations such as when a suspected criminal transacts in CBDC with businesses and individuals for purposes later found to be benign. If the criminal is found guilty, but the other parties are not, will their wallets or accounts remain unmasked, tagged, and monitored moving forward in the real-time, raw data feed or will they be purged from law enforcement databases? Also, what aspects of aggregate data will be made public and could official data disclosures be reverse engineered by illicit actors

<sup>11</sup> “Money Mules.” *Federal Bureau of Investigations*, accessed July 25, 2021, [www.fbi.gov/scams-and-safety/common-scams-and-crimes/money-mules](https://www.fbi.gov/scams-and-safety/common-scams-and-crimes/money-mules).

<sup>12</sup> “Building a Hypothetical CBDC.” *MIT Digital Currency Initiative*, <https://dcj.mit.edu/building-a-hypothetical-cbdc>.

<sup>13</sup> Yaya Fanusie, Adjunct Senior Fellow in the Energy, Economics, and Security Program at the Center for a New American Security, “Defending and Investing in U.S. Competitiveness,” Statement to the Subcommittee on Fiscal Accountability and Economic Growth, Committee on Finance, U.S. Senate, July 14, 2021, <https://www.finance.senate.gov/imo/media/doc/Fanusie%20Senate%20Testimony%20-%20BSN%20-Fintech-Jul%202021%20FINAL.pdf>.

<sup>14</sup> Andreas Veneris, et al, “Central Bank Digital Loonie: Canadian Cash for a New Global Economy.” *SSRN*, February 18, 2021, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3770024](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3770024).





to target neighborhoods or even individuals? The answers to these questions will influence not only CBDC technical design, but the legal framework needed to guide the broader CBDC ecosystem.

The growing exploration of CBDCs does not mean that all nations will develop a CBDC in the near future. But with all the CBDC research and piloting occurring, it seems highly likely that the world will not return to the status quo of a decade ago, when there was no foreseeable technological shift in central bank money governance. So, CBDCs in some form or another, are probably a part of our global economic future. Instead of asking if CBDCs will proliferate, the U.S. inquiry should be on *how* they will develop and what their governance should be across borders. Despite the accompanying risks from CBDCs that I've outlined, the sound policy posture is not to seek to stop CBDCs' development. The U.S. position should be to promote, harness, and shape fintech innovation so that it aligns with American interests and values.<sup>15</sup> This very well may manifest in the United States deploying a digital dollar. But either way, the United States must prepare for a world where CBDCs operate in the global economic landscape.

Thank you for your time and I look forward to your questions.

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<sup>15</sup> Yaya Fanusie, Adjunct Senior Fellow in the Energy, Economics, and Security Program at the Center for a New American Security, "Defending and Investing in U.S. Competitiveness," Statement to the Subcommittee on Fiscal Accountability and Economic Growth, Committee on Finance, U.S. Senate, July 14, 2021. <https://www.finance.senate.gov/imo/media/doc/Fanusie%20Senate%20Testimony%20-%20BSN%20-Fintech-July%202021%20FINAL.pdf>.



**Testimony before the  
U.S. House of Representatives Committee on Financial Services  
Subcommittee on National Security, International Development and Monetary Policy**

Regarding

“The Promises and Perils of Central Bank Digital Currencies”

July 27, 2021

**Julia Friedlander  
C. Boyden Gray Senior Fellow and Deputy Director  
GeoEconomics Center, Atlantic Council**

**I. Introduction**

Dear Members of the Committee,

I want to thank Chairman Himes, Ranking Member Barr, and other Members of the Subcommittee for the opportunity to discuss the critical subject of central bank digital currencies (CBDCs).

I am honored to testify on behalf of the GeoEconomics Center at the Atlantic Council.<sup>1</sup> My name is Julia Friedlander, and I serve as the C. Boyden Gray Senior Fellow and Deputy Director of the Center. I joined the Center last year to run our work on economic statecraft—the use of financial, economic, and regulatory tools in national security and foreign policy. I have served in the federal government as an economist at the Central Intelligence Agency, senior advisor at the Treasury Department’s Office of Terrorism and Financial Intelligence, and most recently for three years on the National Security Council staff. This combined decade of federal service has given me an acute sense of how financial regulation plays a key role in national security and the responsibility of all branches of the US government in global leadership and standard-setting based on entrepreneurialism, rule of law, and respect for the rights of the individual. All of these things play a part in how we as a country approach CBDCs and the model we can set for countries around the world.

In this testimony, we provide an overview of our research on the topic, focusing on our new CBDC tracker database and interactive toolkit, and its key findings. We will discuss the global expansion of CBDCs and why countries are pursuing them. One point to emphasize from the start: this is not a question of the US and Europe versus China; it is a global issue. Our database features 81 countries—more than double the number we identified as active in exploring CBDCs one year ago. These countries account for over 90% of the global economy. But of the four historically most influential central banks in the world, (the US Federal Reserve, the European Central Bank, the Bank of Japan, and the Bank of England), the

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<sup>1</sup> This testimony reflects the contributions and research of our senior fellows (cited throughout) and our Center leadership and staff: Josh Lipsky, Ole Moehr, Nitya Biyani, Niels Graham, William Howlett, and Varsha Shankar.

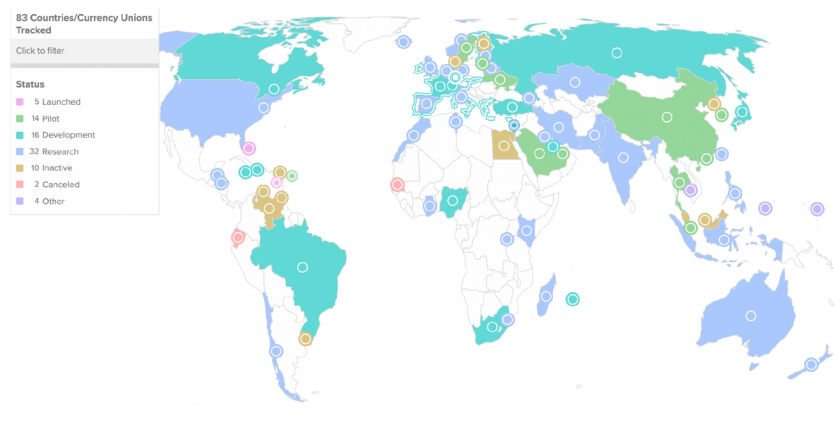
United States is furthest behind in its work on digital currencies. Through our Center's work, we make the case that the US, as the leading economic and financial power in the world, is in a unique position to shape the trajectory of CBDCs. This leadership is imperative. Without new standards and international coordinating through fora like the G20 and the Financial Action Task Force (FATF), the global financial system could face an interoperability problem. Equally important, the US could miss out on an opportunity to foster financial inclusion, increase cybersecurity, and maintain dollar dominance.

In this testimony, we will address the important national security considerations surrounding CBDCs, including the application of anti-money laundering regulations, the implications for data privacy and cybersecurity, and the potential of digital currency to limit global implementation of sanctions.

It is important to note, as this Committee has made clear, CBDCs are not solely the responsibility of the Federal Reserve or Treasury, but rather, because the issues impact both the US and global economy, the responsibility rests with all parts of the government.

## II. Global Overview – The GeoEconomics Center Database

We will start with an overview of our new research project, the Central Bank Digital Currency (CBDC) Tracker. The full global database is available online at [www.atlanticcouncil.org/cbdctracker/](http://www.atlanticcouncil.org/cbdctracker/) and is the product of months of painstaking research. Our database shows the progress that 81 countries and/or currency unions are making on CBDCs. In order to make these assessments, the team conducted research on every central bank in the world to ensure we were not missing inactive countries.

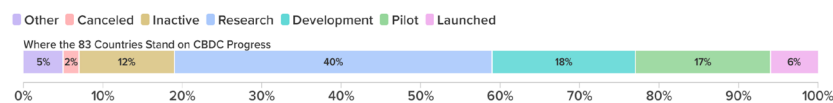


Our report details six key findings—and throughout my testimony I will share other findings based on the way we have catalogued the individual technology and design choices.

**First**, 81 countries—representing over 90% of the global economy—are now exploring a CBDC. That is up from 35 countries in our original report published one year ago. In our research on and private conversations with central banks, it is clear COVID-19 has played an outsized role in spurring countries to act. The need to deliver an unprecedented fiscal and monetary stimulus with rapid speed led usually cautious central bankers to explore new avenues for innovation in payment systems. Exploration took off as CBDCs became a viable option for many countries.

This is not the only motivation. The rise of cryptocurrencies and stablecoins factors significantly into the thought processes of central bankers with whom we have spoken.<sup>2</sup> Some fear losing control of monetary sovereignty within their own countries because of the emergence of these digital currencies; others see stablecoins as a potent complement to the existing finance system. But in nearly all cases, central bankers recognize they cannot ignore the advent of new forms of digital money, and it is essential to play a central role in this system rather than remaining an observer.

#### Race for the future of money



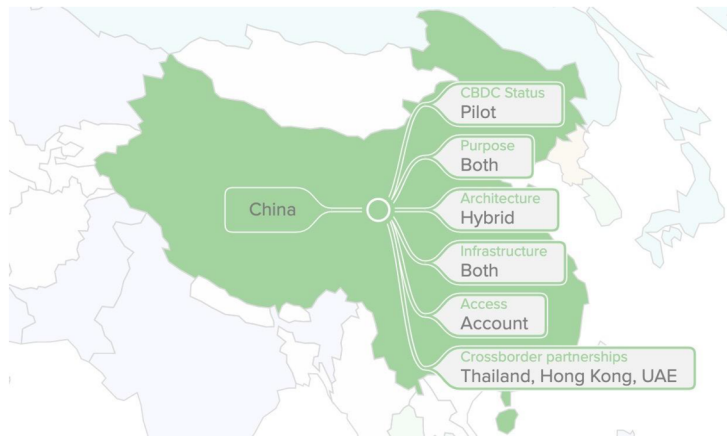
**Second**, China is racing ahead. In 2017, as a part of a wider push to develop its high-technology sectors, China launched a project called Digital Currency Electronic Payments, or “DC/EP.” Since then, Chinese officials have said the digital currency will have “controllable anonymity,” allowing the government to provide a level of privacy while also regulating against money laundering and other illicit activity. In April 2020, China piloted the digital currency in four cities, allowing commercial banks to run internal tests like conversions between cash and digital money, account-balance checks, and payments. In August 2020, the pilot program expanded to 28 major cities. As of June 2021, the People’s Bank of China (PBOC) announced that nearly 21 million personal and 3.5 million corporate digital yuan wallets had been opened, with a total transaction value equivalent to about \$5.39 billion. The PBOC is testing “programmability” in these pilots, meaning they have created money that expires if not used, or can only be used in certain establishments. There are important fiscal and monetary implications of “programmable” money.<sup>3</sup>

The PBOC has also begun laying the groundwork for the digital currency to be used in cross-border transactions. Aiming for broad circulation in 2022, the PBOC and the Hong Kong Monetary Authority began “technical testing” for use of the digital yuan in April 2021. This is in addition to a separate announcement in February 2021 that the PBOC had joined central banks from Thailand, the United Arab Emirates, and Hong Kong to conduct a digital currency cross-border wholesale (bank-to-bank) payment project. Last week, the PBOC announced it would allow foreign visitors to use digital yuan in the lead-up

<sup>2</sup> As opposed to truly decentralized cryptocurrencies like Bitcoin, stablecoins are generally pegged to a fiat currency like the US dollar.

<sup>3</sup> For more on programmability, see “CBDCs: an opportunity for the monetary system,” in *Annual Economic Report 2021*, Bank for International Settlements, June 23, 2021, <https://www.bis.org/publ/arpdf/ar2021e3.htm>.

to the 2022 Winter Olympics. Our understanding based on research and interviews is that foreigners will need to provide passport information to the PBOC and/or private payment service providers, but will not need a Chinese bank account to use digital yuan. This has not yet been confirmed by the PBOC.



**Third**, of the four most influential central banks (the Federal Reserve, the European Central Bank, the Bank of Japan, and the Bank of England) the US is furthest behind. Earlier this month, the European Central Bank announced its intention to develop a digital euro within four years.<sup>4</sup> As we will explain later in this testimony, there are upcoming opportunities for the US to play catch-up.

**Fourth**, five countries have now fully launched a digital currency. The first was the Bahamian Sand Dollar, which has much to teach other countries about financial innovation and the way a CBDC can interact with the commercial banking system. John Rolle, Governor of the Central Bank of the Bahamas, has made clear that combating illicit finance and promoting financial inclusion are top priorities. Therefore, the Sand Dollar was designed with a tiered wallet system—common to many CBDC pilot projects—that would be useful in the US and other advanced economies.

**Fifth**, fourteen countries, including Sweden and South Korea, are now in the pilot stage and preparing a possible full launch. This means that nearly all the G20 countries are in some stage of CBDC development, and, as I will explain, that makes the G20 a useful forum for international collaboration on CBDCs. The lesson from the pilot and fully launched countries is that there are different motivations countries have for creating CBDCs. Some nations hope to bring more people into the financial system. But in more advanced economies, like Sweden, concern about the dominance of private digital currencies makes a CBDC an important tool to maintain monetary sovereignty. However, CBDCs are often

<sup>4</sup> For discussion on the digital euro and the motivations of the ECB, see Marc-Olivier Strauss-Kahn, “A Digital Euro,” Atlantic Council, accessed July 21, 2021, <https://www.atlanticcouncil.org/economy-business/a-digital-euro/>. For the ECB’s announcement, see “Eurosystem launches digital euro project,” European Central Bank, July 14, 2021, <https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210714~d99198ea23.en.html>.

described as a tool for data surveillance, solely because that is one of China's motivations. Our research shows that is very rarely what spurs a central bank to develop these tools. Instead it is the opportunity to foster financial inclusion and enhance monetary and fiscal policy. China's use of CBDC should not color the entire technology.

**Sixth** and finally, our database not only provides individual country status but also unpacks countries' design and security choices. Our research highlights that without governing standards and international coordination, the financial system may be headed for a significant currency interoperability problem in the near future. Right now, countries are overly focused on their own domestic use cases for CBDCs and therefore are choosing individual technology systems and security systems based on criteria that work best for themselves. If systems are built in national silos, there may be massive problems when digital currencies are exchanged or used in cross-border transactions. This can only be remedied by international coordination, and we have heard a clear message from other central banks: they are eager for US leadership on digital currencies.

### III. National Security Implications

In the world of finance and financial regulation, the first mover has a distinct advantage in setting the international operating environment. Because of the size of dollar-based commercial, financial, and debt markets, the US naturally serves as a force-multiplier for international standard-setting. As countries design their CBDCs and define crucial features related to privacy and interoperability, active US leadership will help craft the domestic use of CBDCs globally, their eventual internationalization, and serve as a counterweight to countries looking to deploy standards that do not serve the US interest.<sup>5</sup> Failing to act now will leave the US on the outside looking in.<sup>6</sup>

This testimony covers three main national security aspects: illicit finance, dollar dominance, and cybersecurity.

#### *Illicit finance & privacy*

The US government and private sector have traditionally served as global leaders in designing and implementing anti-money laundering (AML) and counterterrorism financing regulations, particularly after 9/11 with passage and implementation of the USA PATRIOT Act. Our research shows encouraging signs that countries actively researching or testing CBDCs employ know-your-customer (KYC) procedures similar to those used by the traditional banking sector, and meet AML standards defined by the Financial Action Task Force (FATF). This entails a risk-based "tiered wallet" approach. The higher the tier, the more stringent the KYC requirements. For example, the Bahamas has implemented a three-tiered

<sup>5</sup> See Michael Greenwald, "The New Era of Digital Asset Foreign Policy," Belfer Center for Science and International Affairs, Harvard Kennedy School, July 20, 2021, <https://www.belfercenter.org/publication/new-era-digital-asset-foreign-policy>.

<sup>6</sup> Fred Kempe draws a parallel with how the US failed to lead on developing 5G standards until it was too late. See Frederick Kempe, "Why the US can't afford to fall behind in the global digital currency race," Atlantic Council, February 28, 2021, <https://www.atlanticcouncil.org/content-series/inflection-points/why-the-us-cant-afford-to-fall-behind-in-the-global-digital-currency-race/>.

approach: Tier I basic wallets require no due diligence but are limited to holding \$500, Tier II premium wallets require the same standards as bank accounts and can hold up to \$8000, and Tier III wallets are meant for organizations, with a \$1 million ceiling.<sup>7</sup> This approach is motivated by the need to balance adherence to KYC rules with the Bahamas' efforts to increase financial inclusion. While this tiered approach appears popular in pilot and launch countries, it is too early to say it is a trend. It is clear that a tiered approach may enable central banks to fulfill their financial inclusion goals but caution is in order.<sup>8</sup> While attempting to streamline payments systems, an every-country-for-themselves race to the finish line risks creating a chaotic situation: a patchwork quilt of regulations and operating platforms that could render even well-intentioned KYC programs largely ineffective.

There are also significant definitional questions. What one country deems appropriate, enhanced due diligence may count as another's data privacy violation and illegal state-led surveillance, complicating cross-border transactions at minimum but also raising risks to personal safety and of industrial espionage. For example, China's use of facial-recognition technology and other artificial intelligence technologies for KYC purposes and to identify customers and tighten access raises privacy and counterintelligence concerns that would encumber interoperability.<sup>9</sup> The combined efforts of the US and its closest international partners to define personal privacy and human rights within payment systems will minimize the proliferation risk of models that eschew these concerns for expediency, enhanced surveillance capabilities, or both. As discussed later in this testimony, a forthcoming technical white paper from the Boston Fed may deliver important, globally relevant responses to these issues.

#### *Challenges to US dollar dominance & sanction effectiveness*

The expanding role of CBDCs raises natural questions about the future role of the US dollar to settle international transactions and to serve as the global reserve currency. Geopolitical factors and fiscal policy already cause short-term swings in the attractiveness of the dollar, as exemplified during the coronavirus economic crisis. But the dollar retains its standing due to the practical advantages of its use in international transactions and the fundamental attractiveness of the US economy as a safe haven for investment.<sup>10</sup> Over the short- to medium-term, we see limited challenges to the dollar posed by CBDCs.<sup>11</sup>

<sup>7</sup> For a detailed explanation, see "Consumer-Centric Aspects of the Proposed Regulations for the Bahamian Digital Currency," Central Bank of the Bahamas, March 26, 2021, <https://cdn.centralbankbahamas.com/documents/2021-03-26-12-00-35-PSD-Policy-Paper-on-Consumers-Issues.pdf>.

<sup>8</sup> For more on how a digital dollar would impact financial inclusion and illicit finance in the US, see Eswar Prasad, "Cash Will Soon Be Obsolete. Will America Be Ready?," *The New York Times*, July 22, 2021, <https://www.nytimes.com/2021/07/22/opinion/cash-digital-currency-central-bank.html>.

<sup>9</sup> The digital yuan is largely motivated by data collection and surveillance. See Jeremy Mark, "Why China's digital currency threatens the country's tech giants," Atlantic Council, July 15, 2021, <https://www.atlanticcouncil.org/blogs/new-atlanticist/why-chinas-digital-currency-threatens-the-countrys-tech-giants/>.

<sup>10</sup> Despite concerted attempts by adversaries to unseat the dollar, these factors make its dominance resilient. See Carla Norrlöf, "China and Russia announced a joint pledge to push back against dollar hegemony," *The Washington Post*, April 9, 2021, <https://www.washingtonpost.com/politics/2021/04/09/china-russia-announced-joint-pledge-push-back-against-dollar-hegemony/>.

<sup>11</sup> Institutions and market depth are advantages of the US dollar that can't be overcome by a CBDC like the digital yuan. See Hung Tran, "Can China's digital yuan really challenge the dollar?," Atlantic Council, November 30, 2020, <https://www.atlanticcouncil.org/blogs/new-atlanticist/can-chinas-digital-yuan-really-challenge-the-dollar/>.

At this stage of development, most CBDC programs are focused exclusively on domestic use cases, not international transactions.<sup>12</sup>

However, in the medium- to long-term, if CBDCs do demonstrate superior effectiveness in the speed and cost of transaction, they could begin to undermine the dollar's status in the absence of American leadership in their design.<sup>13</sup> If countries are able to build wholesale, cross-border CBDC mechanisms at scale, these payment systems could begin to replace SWIFT and other messaging systems as the preferred bank-to-bank transfer system. This could reduce the share of international trade and capital flows denominated in dollars.<sup>14</sup> Thus, the use of CBDCs as a payments technology could begin to cause cracks in the dollar's ubiquity in international transactions.<sup>15</sup>

Relatedly, it is this transaction aspect of dollar dominance that enables the US to police global finance and levy powerful sanctions around the world. At first glance, countries under pressure from US sanctions could ostensibly build coherent systems that sidestep the US financial system entirely. But this argument does not consider the myriad opportunities currently exploited by illicit financial actors to evade sanctions, government detection, or financial regulation through poorly regulated jurisdictions, complex legal structures and intermediaries. Systematic Russian evasion of Western sanctions on Syria or Chinese evasion of UN measures against North Korea already occur with alarming efficiency outside the reach of enforcement. For those operating explicitly to avoid detection, any design choice for a CBDC would provide greater oversight by regulators and law enforcement than authorities often have into complex trade-based money laundering schemes. In addition, efforts by illicit actors to evade US sanctions on behalf of an authoritarian government do not preclude simultaneous efforts by that actor to evade the heavy hand of that very same government, for different reasons.

#### *Cybersecurity*

A digital dollar would be an attractive target for cyberattacks by nefarious actors, including nation states and hackers linked to organized crime, to attain sensitive data and funds and destabilize the global financial system.<sup>16</sup> These are not reasons to avoid a CBDC, but instead challenges to overcome in its design and a chance for US leadership. If the US decides to join the system later when standards have

<sup>12</sup> That said, some programs currently focusing on domestic uses are partly motivated by international implications. For example, see the discussion on the geopolitical background to the digital yuan in Yaya J. Fanusie and Emily Jin, "China's Digital Currency: Adding Financial Data to Digital Authoritarianism," Center for a New American Security, January 26, 2021, <https://www.cnas.org/publications/reports/chinas-digital-currency>.

<sup>13</sup> Barbara C. Matthews and Hung Tran, "Advanced economies under pressure in the central bank digital currency race," Atlantic Council, August 25, 2020, <https://www.atlanticcouncil.org/blogs/new-atlanticist/advanced-economies-under-pressure-in-the-central-bank-digital-currency-race/>.

<sup>14</sup> This could be exacerbated by the shrinking share of global trade involving the US. For example, see Amin Mohseni-Cheraghloo, "China and Sub-Saharan Africa Trade: A Case of Growing Interdependence," Atlantic Council, July 22, 2021,

<https://www.atlanticcouncil.org/blogs/china-and-sub-saharan-africa-trade-a-case-of-growing-interdependence/>.

<sup>15</sup> For more discussion on how CBDCs could impact reserve currencies, see CPMI, BIS Innovation Hub, IMF, and World Bank, "Central bank digital currencies for cross-border payments: Report to the G20," Bank for International Settlements, July 9, 2021, <https://www.bis.org/publ/othp38.htm>, 17-18.

<sup>16</sup> For a discussion of why "the CBDC ecosystem will be a high-value target," see Cyrus Minwalla, "Security of a CBDC," Bank of Canada, June 2020, <https://www.bankofcanada.ca/2020/06/staff-analytical-note-2020-11/>.



been set, we may be forced to accept lower cybersecurity standards to enable interoperability with other CBDCs. This is a singular moment where the US can help determine standards that might set the rules of the road for decades.

Our research shows that countries are currently split in their security choices for CBDCs. Fifteen, including South Korea, have chosen a form of permissioned Distributed Ledger Technology (DLT), which enables trusted partners to verify transactions. Seven others, like China, have chosen a fully centralized conventional system. Another ten countries are using both, while 51 are undecided.<sup>17</sup> CBDCs that rely on conventional CBDC databases, which share many of the technical features of traditional central bank databases, and DLT-based systems are both susceptible to large-scale attacks. However, the 2016 Bank of Bangladesh hack and consequent Fedwire transactions are evidence that the current system also has vulnerabilities.<sup>18</sup> The difference is that while a hack of the Fed today would set off massive alarms, it would not pose the risk of changing the value of a dollar. That would be theoretically possible with a CBDC. The point is that all electronic payment systems are vulnerable to cyberattack, but CBDCs pose new risks. We should treat all government payment systems as critical infrastructure and smart design choices from the inception phase of a CBDC can ensure the plumbing underlying our digital economy is secure.

With regards to privacy, the biggest cybersecurity risks involve sophisticated cyberattacks that could penetrate large databases of the Federal Reserve or intermediaries in the CBDC system, such as banks and payment service providers, and provide hackers with large troves of personal data.

Depending on the specific design choice, a CBDC can put the onus to prevent cyberattacks on end users to protect their private keys, which give them access to their CBDC holdings.<sup>19</sup> Many end users might use private digital wallets, not unlike an app that stores credit cards on an iPhone or Android device, for their private keys and digital dollar holdings. Evidence from existing digital currencies suggests that end users are prone to lose or forget their private keys. Moreover, hackers are adept at exploiting design weaknesses in digital wallets and accounts to steal passwords, private keys, and actual money. Stolen passwords and keys in turn often result in fraudulent transactions. When considering the risk profile and design of a CBDC system, it is therefore important to establish liability rules for all participants.<sup>20</sup> Depending on the specific CBDC structure, either the account provider (e.g. a bank) or the customer receiving a payment are liable for verifying transactions. Policymakers and regulators must keep these incentive structures in mind when designing CBDC systems. Currently, we find countries applying the same standards on CBDCs as they do traditional payment systems and regulators enforcing both along parallel tracks. But there is confusion among regulators about what will happen if and when a digital dollar is created or a

<sup>17</sup> “Central Bank Digital Currency Tracker,” Atlantic Council, <https://www.atlanticcouncil.org/cbdctracker/>.

<sup>18</sup> For a discussion of the Bank of Bangladesh hack and Fedwire vulnerabilities, see Mark J. Bilger, “Cyber-Security Risks of Fedwire,” *Journal of Digital Security, Forensics, and Law* 14, no. 4 (April 2020), <https://commons.erau.edu/cgi/viewcontent.cgi?article=1590&context=jdfsl>, 6-7.

<sup>19</sup> For a good overview of cyber risks related to CBDCs see John Kiff et al., “A Survey of Research on Retail Central Bank Digital Currency,” IMF Working Paper, International Monetary Fund, June 2020, <https://www.imf.org/~media/Files/Publications/WP/2020/English/wpica2020104-print-pdf.ashx>.

<sup>20</sup> For a discussion on security risk and liability rules, see Charles M. Kahn and Francisco Rivadeneyra, “Security and convenience of a central bank digital currency,” Bank of Canada, October 5, 2020, <https://www.bankofcanada.ca/wp-content/uploads/2020/10/san2020-21.pdf>.

dollar-pegged stablecoin becomes even more widely used. That is why this is the moment for US leadership on digital currencies.

#### IV. International Leadership

Despite the rapid progress on CBDCs around the world, the Federal Reserve has approached the creation of a digital currency warily. On repeated occasions, Chair Jerome Powell has emphasized that, as the issuer of the world's reserve currency, it is more important to be right than to be first. This is, of course, a prudent approach to a complex problem. The risk, however, is that in waiting too long, the Fed will allow a fractured digital currency ecosystem to evolve in a way that does not protect privacy and security, and over time undermines US interests.<sup>21</sup>

How might this happen? Over time, countries may develop new cross-border systems to settle transactions instantaneously. The dollar would then be seen as a technological laggard, opening the door to currency rivals. This is not only a theoretical threat. In the private sessions we convene at the Atlantic Council, we have heard from other nations that they are eager to hear from the US on this issue, and without US guidance they may look to the design models out of China for ideas on how to build a CBDC.<sup>22</sup>

It is better for the US to innovate from a position of strength. This does not necessarily mean issuing a digital dollar—although that could be an appropriate course of action. Instead, the US can galvanize coordination on the international level and ensure countries create digital currencies that are both safe from attack and can safeguard citizens' data.

Currently there is a patchwork of regulatory bodies that claim some jurisdiction over CBDC development. The G7 has a digital currency working group, the Bank for International Settlements (BIS) has convened the large central banks to share best practices, the FATF has issued guidance on stablecoins, and the International Monetary Fund and World Bank convene ad hoc working groups on the issue.<sup>23</sup> So far, these groups have made a modicum of progress on standard setting, but the US has been unable to bring a concrete set of solutions to the table.

<sup>21</sup> On the need for US leadership to shape design standards, see Nikhil Raghuvra, "Design choices of Central Bank Digital Currencies will transform digital payments and geopolitics," Atlantic Council, April 23, 2020, <https://www.atlanticcouncil.org/blogs/geotech-cues/design-choices-of-central-bank-digital-currencies-will-transform-digital-payments-and-geopolitics/>.

<sup>22</sup> China's model creates a 'plug and play' authoritarian digital currency system, and the US must offer an alternative route. See Greenwald, "The New Era of Digital Asset Foreign Policy."

<sup>23</sup> "G7 Finance Ministers and Central Bank Governors Communiqué," G7, June 5, 2021, <https://www.gov.uk/government/publications/g7-finance-ministers-meeting-june-2021-communication/g7-finance-ministers-and-central-bank-governors-communication>.

Bank of Canada et al., "Central bank digital currencies: foundational principles and core features," Bank for International Settlements, October 9, 2020, <https://www.bis.org/publ/othp33.htm>.

"FATF Report to G20 on So-called Stablecoins," FATF, July 7, 2020, <https://www.fatf-gafi.org/publications/fatfgeneral/documents/report-g20-so-called-stablecoins-june-2020.html>. CPMI et al., "Central bank digital currencies for cross-border payments."

Thankfully, that will likely change in the near future. In September, the Boston Federal Reserve, in collaboration with MIT, will release a white paper on the possible design of a digital dollar. This is extraordinarily important technical work that will make open source code available to the public. This means the Boston Fed may provide a technical roadmap for countries to build and scale CBDCs in a safe and secure way.

Assuming it provides such a roadmap, the US should make this white paper a key part of negotiations ahead of the G20 leaders' summit in Rome this October. It is the G20, which includes fast digital currency movers like China, Saudi Arabia, and Russia, that provides the best forum for international coordination going forward. As our research shows, only two G20 nations—Argentina and Mexico—have not begun consideration of a CBDC. Three countries are in pilot, eight in research and seven in development. If the US can present its own model to these nations, which before the pandemic represented over 70 percent of the global gross domestic product, and encourage agreement on basic standards, it will be a stepping stone to a more cohesive and seamless digital currency exchange system in the coming years.<sup>24</sup>

#### *Moving beyond central banks*

It is important to note that central bank digital currencies are not only about central banks. Every country which is successfully piloting a CBDC has done so in coordination with their finance ministries. That is because, as outlined above, the regulatory concerns—especially in connection to illicit financial flows—are as important to deployment of a CBDC as the technical design.

The role of the private sector is equally important.<sup>25</sup> It would be a mistake to narrowly think of CBDCs as only a government problem, when, in fact, as our research shows, both the advent of cryptocurrencies like Bitcoin and stablecoins like Facebook's Diem have motivated governments around the world to pursue CBDCs.<sup>26</sup> The US will need to reassure countries that dollar-based stablecoins will have proper regulatory oversight and will be backed by accountable reserve holdings. Treasury Secretary Janet Yellen's convening of the Presidential Working Group on stablecoins last week was a step in the right direction.

Currently there are concerns in many developing economies about "digital dollarization," where private US dollar-pegged stablecoins come to dominate an economy. This is a new form of an old problem but one that needs reassurances so countries do not look for dollar alternatives.

As the Treasury develops a regulatory system for stablecoins, the US could outline successful models for public-private cooperation.<sup>27</sup> As our database shows, there are a variety of ways to distribute digital

<sup>24</sup> The BIS lays out three possible models for creating interoperability among CBDCs. For a discussion of their features, see CPMI et al., "Central bank digital currencies for cross-border payments," 9-10.

<sup>25</sup> To understand how CBDCs are used to neutralize the private sector in China, see Jeremy Mark, "Why China's digital currency threatens the country's tech giants."

<sup>26</sup> See the Atlantic Council CBDC Tracker and Hung Tran, "The digital Yuan, digital Euro, and the Diem: Key issues for public debate," Atlantic Council, April 6, 2021, <https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/the-digital-yuan-digital-euro-and-the-diem-key-issues-for-public-debate/>.

<sup>27</sup> The scalability of fintech products makes international coordination crucial to encouraging innovation and reducing risk. See Christopher J. Brummer and Yesha Yadav, "Fintech and the Innovation Trilemma," *Georgetown Law Journal* 107, (2019): 301, <https://dx.doi.org/10.2139/ssrn.3054770>.

dollars, and one potential method is for central banks to collaborate with existing stablecoin providers in some type of licensing arrangement. Stablecoins, already being used by millions of people in the US and around the world, can work with CBDCs and help encourage more private sector innovation in this space. The US should be a leading voice for such an approach.<sup>28</sup>

The key point is that the US should not cede the playing field in this conversation. There is no time to wait to fully engage. In the absence of US leadership, the vacuum will be filled not only by China, but a range of good and bad ideas, some which are in US interests and some which are not. But the world will not wait for the US, no matter how potent the pull of the dollar.

#### *Actions for Congress*

Congress can help the process in a very concrete way—by passing authorizing legislation. There are a variety of bills currently before the House and Senate which either encourage or explicitly authorize the use of a digital dollar. Fed Chairman Powell has been clear that he does not believe the current language in the Federal Reserve Act allows him to create a digital dollar, and he will not ‘creatively interpret’ the language to do so.<sup>29</sup> This, then, is a call to action by the Fed chair to Congress. If Congress believes a digital dollar is useful, it should pass legislation authorizing a pilot program—ensuring a key role for Treasury in the oversight and coordination process—or amend the Federal Reserve Act. As our research shows, in the democratic countries with a pilot program the legislature has been a key player in the process.

This type of legislation would have positive ripple effects around the world. It would send a signal that the US is serious about a central bank digital currency, and therefore other countries should closely coordinate with the US government before deploying a CBDC that may be incompatible with evolving US policy. It would give pause to countries currently exploring cross-border testing with China for fear that a partnership with the digital yuan would preclude a partnership with the digital dollar. The US need not roll out a large-scale CBDC across the country to have this kind of positive impact. We only need to signal our seriousness about the issue and thereby start a new conversation—one focused on security and privacy, and grounded in a commitment to protect US interests and the stability of the global financial system.

#### **V. Conclusion**

Eighteen months ago, when the GeoEconomics Center began our research in this area, there was a real debate about whether countries would pursue CBDCs. However, over the course of the pandemic, dozens of countries—for a variety of reasons—concluded that a CBDC would be in their national interest. This leaves the US in a complicated position. As the issuer of the world’s reserve currency, the Federal Reserve

<sup>28</sup> For a discussion on how private and public digital currencies fit together, see JP Schnapper-Casteras and Josh Lipsky, “How Janet Yellen can help deliver the digital dollar,” Atlantic Council, February 19, 2021, <https://www.atlanticcouncil.org/blogs/new-atlanticist/how-janet-yellen-can-help-deliver-the-digital-dollar/>.

<sup>29</sup> Jeanna Smialek, “Jerome Powell says the Fed won’t issue a digital currency without congressional approval,” *The New York Times*, March 22, 2021, <https://www.nytimes.com/2021/03/22/business/jerome-powell-says-the-fed-wont-issue-a-digital-currency-without-congressional-approval.html>.

has understandably approached the idea of CBDCs with caution. Launching a CBDC is, for the reasons described above, not without risk. But for the world's largest economy, the global financial leader, and the creator of the Bretton Woods system that elevated the dollar to its current status, the bigger risk would be to do nothing.

The US can and should lead the world in the development of a safe and secure central bank digital currency. Thank you for the opportunity to appear before this Subcommittee and thank you for focusing on this important issue.

### The Rationale for Establishing a Digital Dollar and the Perils of Delay

Andrew Levin  
Professor of Economics, Dartmouth College

Testimony before the Subcommittee on  
National Security, International Development, and Monetary Policy  
Committee on Financial Services  
U.S. House of Representatives  
July 27, 2021

Chairman Himes, Ranking Member Barr, and members of the Subcommittee, thank you for inviting me to testify at this hearing. In these remarks, I will start by highlighting how the establishment of a digital U.S. dollar provides a crucial opportunity to improve the payments system for small businesses and ordinary families. Next, I will outline a set of sensible design principles that should be followed in implementing a digital dollar. Finally, I will highlight the perils of following an inertial approach and underscore the urgency of moving forward promptly on this initiative.

#### The Rationale for a Digital Dollar

In considering the rationale for establishing a digital dollar, a crucial question is whether the current payment system falls short in serving the needs of ordinary American families and small businesses. Rather than providing a barrage of statistical analysis, I'd like to start by highlighting the views of various small business owners in my region:

*The People's Barbershop, Hanover, NH.* About two years ago, Sean Taylor finally achieved his dream of starting his own [barbershop](#) in downtown Hanover. Sean's business has been thriving, and he recently hired his first apprentice, Charlie Foster. Nearly all of Sean's clients use online forms of payment that take a substantial chunk out of Sean's revenue. For example, many customers use [Square](#), to which Sean has to pay a fee of 2.6% plus 10 cents for every payment transaction. On average, about 3% of the price that Sean receives for each haircut is being transferred to a huge multinational payment provider instead of going into the savings fund that he is trying to accumulate so that he can keep expanding his business.

*Norwich Farm Creamery, Norwich, VT.* Laura Brown and Chris Gray started this business about five years ago, producing a variety of [dairy products](#) with a very close eye on their budget and operating expenses. Prior to 2020, nearly all of their customers paid with cash and coins, both at their own farmstand and at weekly farmers markets. Once the pandemic started, they quickly shifted gears and began accepting payments via Venmo (a service of Paypal, Inc.). However, [Venmo](#) charges 1.9% plus 10 cents for every transaction. Thus, if a customer makes a \$5 purchase, then about 3% of that revenue is being transferred to a huge multinational payment provider; meanwhile, Laura and Chris are making heroic efforts to keep their business running, with [vocal support](#) from the Norwich community.

*The Vermont Bookstore, Middlebury, VT.* This [bookstore](#) has been a fixture in the town of Middlebury since 1949, and Becky Dayton has been running it for the past sixteen years. Nearly all of the bookstore's customers make their purchases using credit cards, and Becky indicated that about 3% of her bookstore's revenue goes to payment providers like [Visa Inc.](#), which was ranked last year as the most profitable corporation in America. It's also noteworthy that Becky's bookshop is competing very directly with Amazon.com, which has its own branded credit card, [Amazon Prime Visa](#), that pays 5% cash back to its customers whenever they purchase books or other items on its website. Nonetheless, Becky is undaunted, saying: "[I'm working extra hard to keep this little bookstore alive in my community.](#)"

It should be emphasized that these shortcomings of the current payment system are faced by small businesses in big cities as well as small towns. My colleague Arunima Sinha, an associate professor of economics at Fordham University, has heard similar concerns in conversations with small retail businesses in New York City, including bagel shops, bakeries, diners, and bodega markets. Moreover, this is not just a problem for brick-and-mortar stores. Many customers of online retailers make purchases using [PayPal](#), which charges 3.49% plus 0.49 cents per transaction. For an online retailer whose typical item sells for \$20, Paypal will keep a truly exorbitant 6% of the retailer's sales revenue. Almost every small business – whether its customers are in person or online -- faces very tight operating margins, and hence such high costs of payment transactions can determine whether the balance sheet of a small business falls into the red or stays in the black. Presumably that's why a farmstand out west has posted the following sign out front: *"We Accept All Cards, But We Prefer Cash. Thank you! :-)"*

Nonetheless, paper cash has its own pitfalls. Just ask the owners of a mom-and-pop convenience store that stays open late at night despite their fears of an armed robbery, or a taxi driver operating in an urban area who constantly worries about being assaulted and robbed by a random customer. Moreover, paper cash isn't really free. Most small businesses have a cash management contract with their bank, which has to sort and clean the cash that it receives. Indeed, for many retailers the costs of managing paper cash are just as high as the transaction fees on credit cards and electronic payment services.

Consequently, it's not surprising that small business owners (including those whom I've described above) are uniformly enthusiastic about the prospect of using digital dollars that would be secure, convenient, and costless for both the payer and the payee. Indeed, reducing transaction costs for small businesses will foster more entrepreneurs and business startups – in inner cities as well as rural areas -- and contribute to greater job creation across the country.

#### **Design Principles for a Digital Dollar**

In my [joint work with Michael Bordo](#), a distinguished professor of economics at Rutgers University, we have emphasized that central bank digital currency (CBDC) can fulfill the three basic functions of money, serving as a practically costless medium of exchange, a secure store of value, and a stable unit of account. While private forms of money can fulfill some aspects of these functions, there are [intrinsic reasons](#) why households and nonfinancial firms should also have access to a fiduciary form of money issued by the central bank. In particular, the central bank's money serves as a unit of measure -- analogous to the inch or the kilogram -- that facilitates the economic decisions and financial plans of ordinary people and small businesses. Moreover, in an efficient monetary system, the medium of exchange should serve as a secure store of value that bears the same rate of return as other risk-free assets. By contrast, any purely private form of money is intrinsically subject to default risk and hence cannot serve as a reliable medium of exchange nor as a stable unit of account. In light of our analysis, we have [formulated](#) the following set of basic design principles for establishing a digital U.S. dollar:

**Public-Private Partnerships.** A digital dollar should be provided through designated accounts held at supervised financial institutions, which would hold part or all of those funds in segregated reserve accounts at the Federal Reserve. In effect, the Federal Reserve will be responsible for managing the centralized ledger, while supervised financial institutions provide digital dollar "wallets" for their customers. This approach would foster competition among financial institutions and protect the privacy of individual transactions while facilitating appropriate law enforcement. In effect, the provision of digital cash would be similar to that of many other aspects of our public infrastructure.

**Security and Efficiency.** With a centralized ledger, each payment transaction can be transmitted instantaneously and securely at practically zero cost, simply debiting the payer's digital dollar account

and crediting the payee's digital dollar account. Moreover, the scope and scale of fraudulent transactions can be mitigated by standard and efficient security methods such as two-step identity verification.

**Legal Tender.** The digital dollar should serve as [legal tender](#), usable for all public and private payment transactions. In addition, consumers and firms should remain free to make transactions using any other legal form of payment, such as credit cards, debit cards, or online services. Moreover, some individuals and small businesses may still prefer to use paper cash for some of their transactions. However, once digital cash becomes convenient and ubiquitous, the demand for paper cash and coins will rapidly diminish. Indeed, it may not be very long before dollar bills are merely collectors' items, similar to typewriters and audio cassette tapes.

**Store of Value.** Digital dollar accounts should serve as a secure store of value that bears the same rate of return as other risk-free assets such as U.S. Treasuries, thereby eliminating the opportunity cost of holding money. While interest-bearing digital dollars might seem like a dramatic new development, in fact the Federal Reserve has already implemented similar measures whose benefits accrue mainly to large financial institutions and "high net worth" individuals:

- A wide array of financial institutions (such as money market funds and pension funds) can engage in repo market transactions in which they "lend" funds to the Federal Reserve and earn interest on those funds. As of last Wednesday July 21, the Federal Reserve's reverse repo facility held [over \\$1.1 trillion](#) in funds from such institutions. The minutes from the June 2021 meeting of the Federal Open Market Committee (FOMC) indicate that Federal Reserve officials are broadly supportive of creating a [standing facility](#) for conducting these reverse repo operations on an ongoing basis.
- Customer deposits at institutions designated as systemically important financial market utilities (FMUs) are held in special accounts at the Federal Reserve so that the clients of those institutions may rest assured that their funds are secure, liquid, and interest-bearing. For example, the margin accounts of [traders at the Chicago Mercantile Exchange](#) and the [customers of ICE Clear Credit](#) are held in segregated deposits at the Federal Reserve Bank of Chicago.
- The Federal Reserve pays interest on the reserves that commercial banks hold at the Federal Reserve. The interest rate on reserves (IOR) is currently very low, but as of two years ago it stood at 2.35%. At that time, commercial banks paid similar rates on the funds that they borrowed and lent in wholesale markets, whereas they paid no interest at all on the checking accounts of ordinary households and small businesses. With the establishment of a digital dollar, all consumers and small businesses will be able to receive a competitive interest rate on their payment accounts.

**Eliminating Arbitrage Incentives.** Given that funds held in digital dollar wallets will be fully secure, safeguards will be needed to ensure that "high net worth" individuals and financial institutions do not seek to transfer large amounts of assets into digital dollar accounts at times when the financial system is under stress. Placing fixed upper limits on the size of such accounts might prove impractical or exacerbate systemic stress. Therefore, our analysis involves a two-pronged approach:

- The Federal Reserve should impose fees on very large holdings of digital dollars. For example, digital dollar accounts above \$1 million could be subject to a holding fee of 2% that would be sufficient to discourage asset holders from liquidating private assets and moving those funds into digital dollars. In effect, this arrangement would be reminiscent of the fees that banks charge for maintaining safe deposit boxes, except that such fees would only pertain to very large holdings of digital dollars and would only be imposed under extraordinary circumstances.



- The Federal Reserve should impose fees on very large transfers between digital dollars and paper cash. For example, transfers exceeding \$100,000 in a single day might be subject to a transfer fee of 2 percent. Such fees would curtail incentives for arbitrage between paper cash and digital cash, while ordinary consumers and small businesses would remain free to use paper cash without incurring any fees at all.

**The Conduct of Monetary Policy.** The interest rate on digital dollars should become the FOMC's primary tool for conducting monetary policy. During normal times, this interest rate would be positive. In the face of a severe adverse shock, the FOMC could push market interest rates below zero by imposing fees on large holdings of digital dollars, whereas the interest rate on digital dollars held by ordinary households and small businesses would never drop below zero. Consequently, the establishment of a digital dollar would strengthen the Federal Reserve's ability to carry out its dual mandate of fostering maximum employment and price stability.

### The Perils of Inertia

The establishment of a digital dollar can be viewed as fully consistent with the natural evolution of the economy and the financial system. Indeed, one might well wonder why digital dollars don't already exist. After all, the citizens of Kenya have been making digital payments on a joint public-private platform called [M-Pesa](#) for more than a decade. More recently, one of the leaders of the European Central Bank stated in an interview that "*For us, the [digital euro](#) is not an option, it's something we just have to do.*"

Of course, caution is warranted for any major decision. But caution is not the same as inertia. The digital world is intrinsically fast-paced, and hence inertia can be a risky strategy with costly and irreversible consequences. In particular, there are several compelling factors that call for moving ahead promptly in establishing a digital dollar:

**National Security.** For the past 75 years, the U.S. dollar has served as a key pillar of the global economy. Numerous countries and private corporations issue debt securities denominated in U.S. dollars. A large fraction of international trade is invoiced in U.S. dollars, even when no American company is directly involved in the transaction. The Federal Reserve has actively supported U.S. dollar liquidity around the world through its [lines of credit](#) to other major central banks. And the primacy of the U.S. dollar has often played a significant role in conducting "soft diplomacy" to promote U.S. national interests. Nonetheless, this primacy should not be taken for granted and could be severely undermined by taking an inertial approach to establishing a digital U.S. dollar. For example, the People's Bank of China has already launched a pilot version of its [digital yuan](#), which is now being used by millions of Chinese residents. No one should be surprised when pressure starts being exerted on sovereign countries and multinational companies to start denominating their debt contracts and invoices in terms of that digital currency. And such pressure will be more difficult to withstand [if no digital U.S. dollar is available for use](#).

**Interoperability.** The Bank for International Settlements (BIS) is a longstanding association of central banks, including the Federal Reserve as well as many other central banks. Earlier this month, the general manager of the BIS [stated](#) that *each country should have its own sovereign digital currency* and noted that "*it's a unique opportunity for different central bank digital currencies to be interoperable [so that] transactions in different currencies can be done in a seamless way.*" Consequently, if the Federal Reserve moves expeditiously in establishing a digital dollar, it can play a central role in the design of this cross-border platform, which will in turn influence many other aspects of the global financial system. By contrast, if the Federal Reserve takes a sluggish approach, then [such standards would be determined by other major central banks](#).

***Equitable Treatment and Privacy.*** The term “stablecoin” refers to a form of money issued by a private enterprise which guarantees that its value will remain stable, as distinct from cryptocurrencies whose value can exhibit sharp fluctuations over time. [Facebook](#) has been the first huge multinational firm to announce the launch of a stablecoin which was originally labeled “Libra” but is now called “Diem.” However, Facebook does not appear to be the only Big Tech firm exploring this opportunity: [Amazon](#) recently posted a job advertisement for a lead manager to oversee its work on digital currency and blockchain products. Each of these firms has a huge international network of customers and business partners as well as very deep pockets for funding promotional initiatives. In a scenario where one or two Big Tech firms succeeded in dominating the entire U.S. payments system, policymakers would face a regulatory nightmare in seeking to preserve consumer privacy and equitable treatment of small businesses. Indeed, concerns about disparities in payment transaction fees and processing times would likely dwarf concerns about internet service providers throttling the speed of their customers bandwidth. Consequently, the general manager of the BIS characterized the forthcoming launch of Facebook’s stablecoin as a “[wake-up call](#)” for central banks.

### **Conclusion**

As America’s central bank, the Federal Reserve has a crucial responsibility for ensuring the effectiveness of the payments system. Indeed, since Congress created the Federal Reserve a century ago, its first stated purpose in the official title of the Federal Reserve Act has been “[to furnish an elastic currency](#).” That Act also refers to “commercial paper”, but to my knowledge no one ever raised any objections about the Federal Reserve’s statutory authority when the commercial paper market became fully electronic. Likewise, the Federal Reserve has taken a very expansive view regarding other aspects of its statutory authority, including previously unthinkable actions such as purchases of [corporate bonds](#) as well as securities backed by [commercial real estate](#). By contrast, the Federal Reserve Act does *not* have any clause requiring Federal Reserve notes to be issued as paper bills, and hence legislative action should not be viewed as a prerequisite for the creation of digital dollars.

Nonetheless, the Federal Reserve is responsible to the U.S. Congress as its boss, and hence it is fully appropriate for Federal Reserve officials to confer with members of Congress before proceeding with a major new initiative like this. However, the need for such consultations should not be interpreted as justification for inertia or protracted delays in carrying out the statutory mandate given by the Congress, namely, to ensure that the payments system works as well as possible for ordinary families and small businesses across America.

Thank you for your consideration; I will be glad to answer any questions.

**Statement for the Record**  
*On Behalf of the*  
**American Bankers Association**  
*Before the*  
**Subcommittee on National Security, International Development,  
and Monetary Policy**  
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**July 27, 2021**

Chairman Himes, Ranking Member Barr, and members of the Subcommittee on National Security, International Development, and Monetary Policy, the American Bankers Association (ABA) appreciates the opportunity to submit a statement for the record for the hearing titled “The Promises and Perils of Central Bank Digital Currencies.” The topic of today’s hearing is an important one, with significant implications for our financial system, economy, markets, and most importantly for the American consumer.

Policymakers around the world, including at the U.S. Federal Reserve, are examining the potential opportunities and risks associated with issuing Central Bank Digital Currencies (CBDCs).<sup>1</sup> A number of central banks are moving from conceptual research to developing pilot programs to explore the uses and efficiency of CBDCs.<sup>2</sup> As this work progresses, there is a growing recognition that central bank digital currencies may be weighed down by very significant real-world trade-offs. The reality is that the dollar is largely digital today. The proposed benefits of CBDCs to international competitiveness and financial inclusion are theoretical, difficult to measure, and may be elusive, while the negative consequences for monetary policy, financial stability, financial intermediation, the payments system, and the customers and communities that banks serve could be severe.

The primary reason for this disconnect between the commonly-touted benefits of CBDCs and the more privately-assessed risks of re-engineering our financial system is that we tend to treat CBDCs superficially, as though a digital currency is a single concept, and one that could be implemented beside, rather than on top of, our existing system. Neither is true. A CBDC is not a single proposal; rather, it refers to a wide range of different proposals with varied potential

<sup>1</sup> In its simplest terms, a CBDC is a digital representation of a country’s government-issued, central-bank-controlled money (a “digital dollar”). A CBDC would be a liability of the central bank, just as the dollar is today.

<sup>2</sup> See BIS Papers No. 114, *Ready, Steady, Go? – Results of the Third BIS Survey on Central Bank Digital Currency* (Jan. 2021), <https://www.bis.org/publ/bppdf/bispap114.pdf>.

designs, each with specific costs and benefits. Nor does CBDC fill a fundamental gap in our financial architecture that it could slide neatly into to perform a discrete role. Some designs are more disruptive than others, but all have the potential to transform the way money flows through our economy in ways both intended and unintended.

#### **The Highlight Reel Effect**

Current policy discussions often fail to acknowledge that many of the purported benefits of CBDC are mutually exclusive and driven by how the CBDC is designed. Choosing between the various designs requires serious and complex policy tradeoffs. Too often CBDC proponents take a “highlight reel” approach to describing CBDC, cherry picking all the perceived benefits, while downplaying the serious risks to consumers and our financial system. In particular, all CBDC designs would take the money currently held on bank balance sheets and place it directly on that of the Federal Reserve.<sup>3</sup> In today’s economy, most money takes the form of bank deposits. Money—and therefore deposits—is created through the private credit allocation process, which is a critical driver of economic growth and prosperity. Taking deposits out of the banking system would disrupt this key economic function by bifurcating deposit taking and lending, making lending more expensive, among other things.<sup>4</sup>

Federal Reserve Chairman Jerome Powell highlighted the importance of this in a recent video where he noted that any potential CBDC “serve as a complement to and not a replacement of cash and current private-sector digital forms of the dollar such as deposits at commercial banks.”<sup>5</sup>

#### **The U.S Already Has the Most Robust Financial System in the World**

As Governor Brainard has recently noted, “In any assessment of a CBDC, it is important to be clear about what benefits a CBDC would offer over and above current and emerging payments options, what costs and risks a CBDC might entail, and how it might affect broader policy objectives.”<sup>6</sup>

For example, it is unclear what policy goals a CBDC would achieve in the United States. For some countries, a CBDC could enhance weak or nonexistent financial systems. Unlike many other countries, the United States has a well-developed and robust financial system that is the

<sup>3</sup> In a May 24, 2021 speech Federal Reserve Governor Lael Brainard highlighted these concerns noting, “Banks play a critical role in credit intermediation and monetary policy transmission, as well as in payments. Thus, the design of any CBDC would need to include safeguards to protect against disintermediation of banks and to preserve monetary policy transmission more broadly.” <https://www.federalreserve.gov/newsevents/speech/brainard20210524a.htm>.

<sup>4</sup> Even a CBDC with account limits would likely have a significant impact on the deposit base. The ECB estimates that a CBDC with account limits of €3,000 would lead to deposit outflows of € 1trillion.

<sup>5</sup> Chair Powell’s Message on Developments in the U.S. Payments System, May 20, 2021 <https://www.federalreserve.gov/videos.htm>.

<sup>6</sup> Lael Brainard, Member Board of Governors of the Federal Reserve System, “Private Money and Central Bank Money as Payments Go Digital: An Update on CBDCs,” Remarks at the Consensus by CoinDesk 2021 Conference Washington, D.C. (May 24, 2021), <https://www.federalreserve.gov/newsevents/speech/brainard20210524a.htm>.

backbone of our economy and markets. As they have done for hundreds of years, American banks today provide a broad array of essential financial and economic functions that benefit their communities, most notably, safekeeping deposits and making loans. For other countries, a CBDC could enhance their payment systems. The United States, however, has one of the most efficient, safe, and modern payments systems in the world. Banks have invested significant resources in expanding faster, safer, more inclusive options, including P2P, real-time payments systems (*e.g.*, The Clearing House Real Time Payment Network (RTP) and the Federal Reserve's FedNow), and upgraded Automated Clearing House (ACH) products. Solutions to pay gig workers instantly and put funds into the hands of disaster victims have recently come online, addressing key use cases proffered for CBDC.

The United States should not implement a CBDC simply because we can or because others are doing so. Policy changes of this magnitude should be driven by a careful analysis of the benefits and risks. A CBDC may be beneficial in an economy that does not have an advanced payment system or a robust banking system, or in jurisdictions where the central government is already a major provider or facilitator of financial services and expectations of individual privacy are not strong. **However, after a careful review of the benefits and risks of various proposals to implement a CBDC, it does not appear that a CBDC is well-positioned to enhance underlying financial capabilities or extend the reach of financial services in well-developed markets, at least not in the U.S. context, despite the overly optimistic promises from proponents.**

#### **Policymakers Should Proceed with Extreme Caution**

Given the important policy implications of CBDC and the potential to disrupt the U.S. financial system, we support the Federal Reserve's thoughtful and considered approach. The forthcoming Federal Reserve Bank of Boston findings will be an important next step for understanding the feasibility of this novel technology in our unique economy.<sup>7</sup> We further support the Federal Reserve's recognition that the development of a CBDC would require input, engagement, and support from a range of stakeholders in both the public and private sectors. To this end, we look forward to responding to the discussion paper the Federal Reserve intends to issue this summer, which, according to Chairman Powell, will outline the Federal Reserve's current thinking on digital payments, with a particular focus on the benefits and risks associated with CBDC in the U.S. context.<sup>8</sup> Before the introduction of a CBDC, we believe the Federal Reserve Board, with input from the Treasury and the other banking regulators, should publish a rigorous analysis that assesses the benefits and risks of a CBDC and that convincingly

<sup>7</sup> See "The Federal Reserve Bank of Boston Announces Collaboration with MIT to Research Digital Currency" (Aug. 13, 2021), <https://www.bostonfed.org/news-and-events/press-releases/2020/the-federal-reserve-bank-of-boston-announces-collaboration-with-mit-to-research-digital-currency.aspx>.

<sup>8</sup> The authority of the Federal Reserve to issue CBDC remains an open—and fundamental—question in this policy debate, which must be resolved before Federal Reserve action on this issue. Chairman Powell has expressed reluctance to proceed with a CBDC without Congressional approval. See American Banker, "We don't need to rush on Fed digital dollar, Powell says" (Mar. 22, 2021), <https://www.americanbanker.com/news/we-dont-need-to-rush-on-fed-digital-dollar-powell-says> (quoting Powell as saying, "I think that would ideally come in the form of an authorizing law, rather than us trying to interpret our law, to enable this").

establishes (if findings warrant) that a CBDC would not create adverse impacts on consumers, markets, or the economy.

In the remainder of this testimony we will:

- Outline the risks and benefits of CBDC designs being considered today, and
- Highlight the challenging tradeoffs policymakers face in achieving their intended goals.

#### **CBDC Design Choices Matter**

The potential benefits and risks of a CBDC depend heavily on the way it is structured, making it impossible to evaluate the merits of CBDC in the abstract. Design choices involve tradeoffs, and so we must avoid a rush to action driven by cherry-picked benefits. By contrast, some of the disadvantages and risks of CBDC carry across all designs.

While a number of factors affect the theorized operation of a CBDC (*e.g.*, whether to use distributed ledger technology or a centralized database), the most important factors are *architecture*, or the role of the central bank in the distribution of CBDC, and *access*, or consumer's utilization of CBDC.<sup>9</sup> The following identifies some of the most significant potential benefits and risks of each architecture and access design choice that policymakers should consider as they determine whether to implement a CBDC in the United States.

#### **Architecture Choices**

Architecture goes to the operational role of the central bank in the CBDC. There are a number of different CBDC architectures, but the two principal models are (1) a "direct" CBDC that provides retail consumers with central bank accounts and (2) an "intermediated or hybrid" CBDC (or "two-tiered" model) where the distribution of CBDC would be through a commercial bank or other financial intermediary, such as a nonbank digital wallet provider.<sup>10</sup>

The following sets forth some of the purported benefits and potential risks of these models.

Direct CBDC	
<i>Potential Benefits</i>	<i>Potential Risks</i>
➤ Provides additional monetary policy tools ( <i>e.g.</i> , increases	➤ Takes money out of the real economy, diverts deposits and

<sup>9</sup> We assume that, in whatever form it takes, CBDC will be compatible with other forms of money (cash, bank notes) and interoperable with pre-existing payment systems that choose to interface with it. Financial institutions, consumers, and end users also should remain free to use CBDC or continue to use conventional digital or physical currency.

<sup>10</sup> A wholesale CBDC model, which focuses on cross-border payments, also raises a number of difficult policy issues, but is beyond the scope of this testimony. Depending on its structure, including whether such a payments system would be interoperable with existing systems, this could adversely affect U.S. payments systems.

<p>influence on deposit rates and reduces the risk of alternative units of account—such as privately-issued cryptocurrencies—dominating)</p> <ul style="list-style-type: none"> <li>➤ May improve access to financial services and enhance financial inclusion</li> <li>➤ May facilitate direct government disbursements to citizens</li> <li>➤ May improve efficiency of payment system by some measures</li> </ul>	<p>stymies money creation, thereby undermining commercial lending and the deposit insurance system</p> <ul style="list-style-type: none"> <li>➤ Makes the Federal Reserve a massive retail bank, introducing significant costs and operational burdens (<i>e.g.</i>, interfacing with customers, building front-end wallets, fraud resolution/mitigation), as well as fundamentally changing the mission of the central bank</li> <li>➤ Likely would lead to less privacy than for those using cash or other forms of digital payments</li> </ul>
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Intermediated or Hybrid CBDC	
Potential Benefits	Potential Risks
<ul style="list-style-type: none"> <li>➤ Decentralized relative to other models (<i>e.g.</i>, central bank will not have customer relationship)</li> <li>➤ Facilitates compliance with anti-money laundering (AML)/combating the financing of terrorism (CFT) and know your customer (KYC) frameworks</li> <li>➤ Provides a more convenient and modern alternative to paper cash</li> <li>➤ Means of countering new private digital currency</li> </ul>	<ul style="list-style-type: none"> <li>➤ Potential for CBDC to move out of banks into non-bank financial institutions</li> <li>➤ If counted as cash, likely would not be available to support lending in the real economy</li> <li>➤ Raises information security risks and the potential for fundamental design mistakes</li> <li>➤ Changes the economics of the payments system, potentially reducing incentives for product innovation</li> </ul>



*Takeaways:*

Policymakers throughout the world have generally concluded that the direct model is not feasible because of the increased costs and operational burdens placed on central banks.<sup>11</sup> A direct CBDC model would effectively set the Federal Reserve up as a retail bank to every household in the nation. This would present an immense operational burden on the central bank, which would be responsible for onboarding customers and servicing those accounts. Today U.S. banks employ over 2 million employees to accomplish the same goal. Among the most critical technical and operational challenges that would need to be dealt with is the risk of creating a global target for cyberattacks or a new avenue for money laundering. A CBDC could be a very attractive target for cyberattacks.<sup>12</sup>

If policymakers determine that a CBDC is warranted to address payments system gaps, a “two-tier” CBDC architecture should form the basis of further work. Under this approach, the Federal Reserve would continue to focus on monetary policy and the underlying design of CBDC, and only commercial banks and appropriately regulated and supervised financial institutions should be permitted to distribute CBDC.<sup>13</sup>

**Access Choices**

Access addresses how consumers can utilize CBDC. Generally speaking, CBDCs may be account-based or token-based.<sup>14</sup> A key difference between the two types of access is the mode of verification when a transaction takes place. Account-based CBDCs are tied to an identity scheme, similar to existing bank accounts. In an account-based system, the accountholders on either end of the transaction are authenticated. Token-based CBDC is more similar to cryptocurrencies and would be freely transferrable tokens, which may be held in an “unhosted”

<sup>11</sup> This appears to be the approach the ECB is taking. *See, e.g.*, Fabio Panetta, Member of the Executive Board of the ECB, “Evolution or Revolution? The Impact of the Digital Euro on the Financial System,” Bruegel Online Seminar (Feb. 10, 2021), <https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp210210~a1665d3188.en.html> (“[t]he ECB does not plan to interact directly with potentially hundreds of millions of users of a digital euro. We simply would not have the capacity or the resources to do so. Financial intermediaries—in particular banks—would provide the front-end services, as they do today for cash-related operations. We would provide safe money, while financial intermediaries would continue to offer additional services to users.”).

<sup>12</sup> *See, e.g.*, Lael Brainard, Member Board of Governors of the Federal Reserve System Cryptocurrencies, “Digital Currencies, and Distributed Ledger Technologies: What Are We Learning?” Remarks at the Decoding Digital Currency Conference Sponsored by the Federal Reserve Bank of San Francisco, San Francisco, California (May 15, 2018), <https://www.federalreserve.gov/newsevents/speech/files/brainard20180515a.pdf>.

<sup>13</sup> The Federal Reserve is keenly aware of the longstanding legal and policy framework maintaining the separation of banking and nonbank commercial activities. If it decides that private-sector financial intermediaries should play a role in CBDC distribution and transactions as intermediaries, it should assure that this separation is maintained, taking into consideration whatever aspects of banking functions such intermediaries ultimately play.

<sup>14</sup> *See* Alexander Lee, Brendan Malone, and Paul Wong, FEDS Now, “Tokens and Accounts in the Context of Digital Currencies” (Dec. 23, 2020), <https://www.federalreserve.gov/econres/notes/feds-notes/tokens-and-accounts-in-the-context-of-digital-currencies-122320.htm> (highlighting some issues with the “tokens vs. accounts” dichotomy).

digital wallet on the holder's smartphone.<sup>15</sup> In a token-based system, the token itself is authenticated. This makes the token a bearer instrument, much like cash today.

The following sets forth some of the purported benefits and potential risks of these models.

Token-Based CBDC	
<i>Potential Benefits</i>	<i>Potential Risks</i>
<ul style="list-style-type: none"> <li>➤ More consumer privacy in comparison to account-based models</li> <li>➤ Promotes ease of transfer</li> <li>➤ More resilient to infrastructure outages and cyberattacks</li> <li>➤ Most like digital cash</li> <li>➤ Frees the central banks from the duties of large-scale account keeping and reconciliation</li> </ul>	<ul style="list-style-type: none"> <li>➤ Complicates compliance with AML/CFT and KYC frameworks</li> <li>➤ May drain deposits from banks and the real economy, reducing the amount available for banks to lend.</li> <li>➤ May lead to destabilizing runs on bank deposits into central bank money</li> <li>➤ Introduces risk of loss or theft of the private key for the token</li> </ul>

Account-Based CBDC	
<i>Potential Benefits</i>	<i>Potential Risks</i>
<ul style="list-style-type: none"> <li>➤ Most akin to traditional bank accounts</li> <li>➤ Facilitates compliance with AML/CFT and KYC frameworks</li> <li>➤ Helps to preserve banks' deposit base, and money creation function that is essential to lending and economic growth</li> </ul>	<ul style="list-style-type: none"> <li>➤ May not achieve the potential benefits of introducing CBDC</li> <li>➤ May pose threat to financial anonymity and privacy for citizens</li> <li>➤ May not be available to support lending in the real economy</li> </ul>

<sup>15</sup> An "unhosted" wallet describes situations where transactions from the wallet do not require the use or involvement of a financial institution.

*Takeaways:*

In considering the trade-offs between account-based and token-based CBDC, including the ability to use unhosted wallets and engage in offline transactions, policymakers should ensure they are not facilitating money laundering or more generally impeding the ability of financial institutions to comply with AML/CFT and KYC frameworks, or to respond to lawful government orders. They should also be mindful of privacy concerns related to direct government oversight of consumer accounts. These two objectives are difficult to reconcile and may be mutually exclusive.

**Policymakers Face Challenging Tradeoffs to Achieve Desired Outcomes**

As discussed above, the various designs of CBDC being considered today all come with significant tradeoffs. As policymakers consider how to achieve their desired outcomes, they must seriously consider these tradeoffs. The intended benefits of implementing a CBDC are often less than expected, given these tradeoffs. In some cases, these benefits may be effectively non-existent because they come at such a high cost. Below, we briefly describe some key considerations for policymakers as they look to achieve their desired outcome.

**Risks***Financial Intermediation:*

As noted above, every construction of CBDC requires moving funds from banks' balance sheets to the Federal Reserve. Regardless of the model chosen, a CBDC is a direct liability of the central bank. This contrasts to bank deposits, which are a liability on an individual bank insured by the Federal Deposit Insurance Corporation (FDIC).

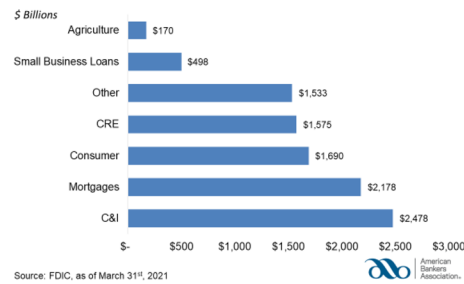
In effect, these accounts will serve as an advantaged competitor to retail bank deposits that will move money off bank balance sheets where it can be lent back into the economy and into accounts at the Federal Reserve. Philadelphia Fed Research referenced above found that these proposals would create a "deposit monopoly" that would "attract deposits away from the commercial banking sector."<sup>16</sup>

While depositors at FDIC insured banks have never lost a penny of an insured deposit, it is hard to compete with a government agency that prints that money. Philadelphia Federal Reserve research found that depositors value this and will, in equilibrium, choose to hold their funds at the Federal Reserve instead of at retail banks, establishing the Federal Reserve as a "deposit monopolist."

<sup>16</sup> <https://www.philadelphiafed.org/-/media/frbp/assets/working-papers/2020/wp20-19.pdf>.

These bank deposits are the primary funding source of bank loans. These loans are critical drivers of economic growth and prosperity. In the United States today, banks fund more than \$10 trillion in loans. This includes \$2.1 trillion in consumer mortgages, \$1.6 trillion in consumer loans, and \$498 billion in small business loans.<sup>17</sup> Any reduction in this deposit base would quickly impact consumers and small businesses in the form of reduced credit availability and increased cost, undermining the goal of financial inclusion and undercutting economic growth.

#### Bank Loans Support Economic Growth



Some models seek to minimize this effect by capping the amount of funds that can be held in CBDC. However, this limits the potential benefits of a CBDC account. These limits would reduce the business use cases often cited as in arguments for CBDC's ability to promote international competitiveness. It also does little to offset the problem. For example, the ECB estimates that a CBDC with account limits of €3,000 would lead to deposit outflows of €1 trillion.

Unlike retail banks, the Federal Reserve is not prepared to make loans to consumers and businesses. As deposits migrate from bank balance sheets to the Federal Reserve, capital that fuels economic growth will be severely restricted.

In times of economic hardship, the bank balance-sheet driven model is even more important. Banks' balance sheets and strong capital position allow them to make long-term investments and continue lending throughout a downturn, just when it is needed most.

A digital currency also creates a risk to financial stability. In times of economic stress, depositors are likely to prefer holding their money at the Federal Reserve. This creates a risk of bank runs that would undermine financial stability.

#### Anti-Money Laundering, Sanctions Enforcement, and Countering the Financing of Terrorism:

One significant challenge associated with many CBDC models is whether the central bank has the ability to identify users and track funds held in CBDC. Today, it is difficult to track the movement of physical cash throughout the economy. There is significant investment in programs to address this; however, any of those rely on the fact that is logistically challenging

<sup>17</sup> Federal Deposit Insurance Corporation Quarterly Banking Profile (May 26, 2021).

to move large amounts of physical cash. Simply put, it is difficult to move large volumes of physical cash. Digitizing that cash as a CBDC allows users to more easily move larger sums, making a CBDC more attractive to those looking to circumvent these important measures.

In the case of a direct CBDC, the Federal Reserve would be able to control for account onboarding and implement these checks itself. However, the operational burdens of doing so are significant. Today U.S. banks employ an estimated 20,000 employees to accomplish this.

Moving to an indirect model does not solve this challenge either. A token-based CBDC presents even more challenges to implementing these controls. Token-based CBDCs are authenticated by the token (not the user) similar to many cryptocurrencies in the market today. These tokens are held in software-based programs like “unhosted” digital wallets. Regulators could police the access points to these assets but will have little control once they leave that controlled environment.

Minimizing this risk would point to an indirect, account-based CBDC. These would function similarly to bank accounts today; however, as discussed below this also minimizes many of the purported benefits associated with CBDC.

#### Privacy

Another challenging question around the implementation of a CBDC is the level of insight that governments have into the use of CBDC. Unlike physical cash, many constructions of CBDC allow the government to directly track and monitor the use of these assets. This raises important public policy questions around the appropriate role of government.

Pervasive government surveillance of consumer and commercial payments may be considered a benefit to some governments issuing CBDC, but this feature should not be taken lightly in a democracy where the government is not meant to have access to the details of financial transaction without proper legal cause.

There are models that minimize this risk, like an indirect token-based CBDC, but this involves a tradeoff in the ability to monitor for illicit uses of CBDC as discussed above. In many cases privacy is mutually exclusive with the objectives of AML/KYC programs.

#### Role of Government

By making a governmental body into the nation’s near-monopoly provider of currency, bank accounts, and payment services, the Federal Reserve would quickly become politicized as the central control point for monitoring and potentially denying transactions. For controversial but locally-regulated purchases such as cannabis and firearms, a CBDC would entangle the Federal Reserve as a national arbiter of social issues.

## **Desired Outcomes**

### **Financial Inclusion**

A foundational goal of direct CBDC proposals (and similar proposals like postal banking) is to promote financial inclusion. Access to banking services provides people with a means to save for their future and economic opportunity that is critical to promoting social equity. This is an important and urgent goal.

The pandemic has laid bare the consequences of being unbanked, from delays in receiving stimulus payments to navigating additional barriers in the Paycheck Protection Program. Sustainable economic opportunity requires a long-term banking relationship, but according to the FDIC's 2019 "How America Banks" survey, despite some encouraging trends, over 7.1 million US households – 5.4% – remain unbanked, and another 24 million households are underbanked.<sup>18</sup> While the FDIC observed "particularly sharp" declines between 2017 and 2019 for Black and Hispanic households, 13.8% of Black households and 12.2% of Hispanic households remained entirely unbanked in 2019, "substantially above the unbanked rated for White households (2.5 percent). Our nation and industry can do better.

America's banks are committed to promoting financial inclusion and are working to address this challenge. Today, unbanked customers have numerous options to open bank accounts that are designed to address the reasons most unbanked individuals cite as barriers to becoming banked. Through the Bank On program, run by the Cities for Financial Empowerment Fund and other efforts, free and low-cost bank accounts are widely available at banks of all sizes, with new accounts being certified every day. Bank On sets account standards that provide a benchmark for safe, affordable accounts at mainstream financial institutions, setting consumers on a path toward financial inclusion. Today, these accounts are available at over 32,500 branches across the United States. And importantly, they represent the beginning of a banking relationship, which can grow to include lending, saving, investing and other opportunities.

As the government rushed to distribute millions of Economic Impact Payments during the COVID-19 pandemic, the [FDIC](#), [the IRS](#), [Bank On](#) and [the ABA](#) worked to promote awareness of such accounts so American taxpayers could receive their payments quickly and securely. We have another critical opportunity to promote Bank On-certified accounts ahead of the expanded and newly-advanceable Child Tax Credit payments, which will be available to 36 million taxpayers starting in July.

Unlike programs like Bank On, it is unclear whether access to a direct account at the Federal Reserve would address the reasons families report not having a banking relationship.

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<sup>18</sup> Underbanked means that a household has an account at an insured institution but also obtained financial products or services outside of the banking system.

Moreover, by taking too narrow a view of the problem, these proposals risk undermining the real progress underway with Bank On and similar efforts.

In addition, direct CBDC proposals focus solely on the question of access to a deposit account. While it is true that deposit accounts are often the first step towards inclusion, the benefits of a long-term banking relationship go well beyond a deposit account. The same is not true of a CBDC account with the Federal Reserve, which would not grow into a lending or investing relationship.

Not only do direct CBDC proposals not address this serious issue, they will likely exacerbate it. Philadelphia Fed Research referenced above found that these proposals would create a “deposit monopoly” that would “attract deposits away from the commercial banking sector.” This has the effect of reducing the funds on banks balance sheets that is available to lend which would reduce access to credit to the communities that need it the most.

#### Payments system efficiency

Many CBDC proponents cite the need to speed up payments by digitizing them; the reality is that the majority of payments in the U.S. are already digital. Today, consumers and businesses have the option to pay with credit or debit cards, payments applications like Zelle or Venmo, and via ACH.

Efforts to modernize and speed up our payments system have been underway for some time and are already being implemented. The Federal Reserve’s 2017 Faster Payments Task Force examined the entirety of the payment system and its experts, including consumer groups, recommended faster networks – not a new currency. As a result of these efforts, the Federal Reserve is building out an instant payments solution called FedNow.

Industry has been driving these improvements as well. The RTP Network is a brand-new instant payment system that represents an advancement equivalent to moving from dial-up to broadband in terms of speed and features. ABA was a strong advocate for using this capability as part of the EIP program to speed electronic payments to those with bank accounts or even prepaid cards.

Together, RTP, FedNow, and faster ACH systems are forming a web of super-fast, low-cost or free digital payment options that will make waiting for days to receive a payment a thing of the past.

#### Conclusion

A U.S. CBDC could fundamentally change the role of the central bank in the United States and reshape the banking system. Given the additional complexity, delay, and transition costs involved in creating a new form of money, there are strong efficiency interests that suggest

CBDC should only be pursued as a final option to meet clearly-defined public policy goals that cannot be achieved through payments innovations that leverage existing digital dollars. As of today, those use cases have not emerged.

If a viable use case for CBDC in the United States does emerge in the future, design choices must be carefully considered to ensure that the benefits as well as the risks of introducing a CBDC are fully appreciated.





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July 27, 2021

The Honorable Jim Himes  
Chairman  
Subcommittee on National Security,  
International Development, and  
Monetary Policy  
Financial Services Committee  
U.S. House of Representatives  
2129 Rayburn House Office Bldg  
Washington, DC 20515

The Honorable Andy Barr  
Ranking Member  
Subcommittee on National Security,  
International Development, and  
Monetary Policy  
Financial Services Committee  
U.S. House of Representatives  
2129 Rayburn House Office Bldg  
Washington, DC 20515

Dear Chairman Himes and Ranking Member Barr:

Thank you for holding a hearing on “The Promises and Perils of Central Bank Digital Currencies.” Given the current broken market for credit card payments in the United States, innovations in how Americans can transact with improved efficiency and effectiveness should be a key priority for Congress, the Federal Reserve, financial regulators, and antitrust authorities. We are glad that the Subcommittee is examining these important issues. Digital currencies hold enormous promise for the future of the U.S. economy, but care must be taken in how we pursue those goals in order to ensure that promise is realized.

The National Association of Convenience Stores (NACS) is an international trade association representing the convenience industry with more than 1,500 retail and another 1,500 supplier companies as members, the majority of whom are based in the United States. The industry employed about 2.34 million workers and generated more than \$548.2 billion in total sales in 2020, representing nearly 3 percent of U.S. gross domestic product. The industry processes more than 160 million transactions every single day. That means about half of the U.S. population visits our members on a daily basis. In fact, 93 percent of Americans live within 10 minutes of one of our locations. The average time a customer spends in one of our stores is about three and one-half minutes and the industry is focused on ensuring that the customer’s needs are met as efficiently as possible – saving them time and money.

Unfortunately, the U.S. payments system has not kept pace with innovations in other parts of the economy. Credit card payments account for 27 percent of U.S. payments and debit cards account for 28 percent.<sup>1</sup> Both types of payments are dominated by Visa and Mastercard. These two networks dictate the rules that govern credit card payments and set the prices that all of the banks that issue their cards charge merchants. This collective action has increased prices beyond what a competitive market would bear and constrained payments innovation in the United States. U.S. merchants paid \$116.4 billion in fees on credit and debit transactions in 2019 according to the Nilson Report. And, Nilson finds that the U.S. accounts for more than 38 percent of all the credit card fraud in the world. Those figures are far too high and are indicative of a broken system.

Congress made improvements to address some of the problems of Visa/Mastercard activity and

<sup>1</sup> “Payment method statistics,” *CreditCards.com*, June 4, 2021 (at [Payment method statistics - CreditCards.com](https://www.creditcards.com/payment-method-statistics/)).  
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dominance more than a decade ago when it included the Durbin Amendment in the Dodd-Frank Wall Street Reform and Consumer Protection Act. That law and the Federal Reserve Board's implementing regulation (Regulation II) helped spur cost reductions at financial institutions processing debit cards and innovations such as the implementation of chip card technology.

Credit card swipe fees, however, have continued to rise as they have for the past few decades, and innovation has lagged as well – as it typically does in markets dominated by monopolists. While, for example, many nations around the world have moved decisively into mobile commerce, the United States has fallen behind in these cutting-edge technologies.

#### **Promises of Digital Currencies**

Digital currencies represent an opportunity to disrupt the broken, antiquated U.S. payments system. Technologically, it is clear that we do not need two dominant networks to connect banks to communicate transaction information. In fact, most individual consumers today carry with them communications devices (cell phones) with enormous computing power that can connect them with other individuals and their financial institutions in real time. Having a network in the middle extract huge fees to make that happen no longer makes sense and those networks can and should be disintermediated from a system of digital currency.

Technology has disrupted industry after industry in the United States. It is time for payments to be added to that list. Central bank and other digital currencies have the potential to do that. Digital currencies can facilitate the movement of funds in real time and do so for fractions of a penny. These currencies also have the potential to reduce fraud and take many of those costs out of the payment system. We should move forward rapidly to bring the promise of digital currency to the U.S. market. With the highest fees and some of the oldest technology in the world, it is time for the U.S. to take the lead in payments.

#### **Perils of Digital Currencies**

In moving ahead with digital currencies, we need policymakers to take care to design and implement a system that does not rely on, and is not dominated by, a small number of dominant players. Visa, Mastercard, and the banks that rely on them to fix the price of huge swipe fees understand the threat of disruption of payments by digital currency. They will try to control the system and preserve the monopolistic position played by those two major networks. If that monopoly is preserved, it will cost American consumers and the economy billions of dollars every year. That result would drag down the U.S. economy with unnecessary and unjustified costs for at least another generation.

The move to digital currency must be done the right way – without Visa and Mastercard in the middle of it. The central goal of having currency in the first place is to reduce the cost of transactions in time and money. That should be the guiding principle as we move toward digital currency. Congress should be vigilant in ensuring that the Federal Reserve keeps that guiding principle in mind at all times and works with antitrust authorities at the Department of Justice and the Federal Trade Commission so that the promise of more efficient payments is realized – and not hijacked by companies looking for a new monopoly position.

We appreciate you considering these important topics and look forward to working with you as these issues develop.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Kantor", with a stylized flourish at the end.

Doug Kantor  
NACS General Counsel





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Testimony

Bartlett Collins Naylor

Public Citizen, Congress Watch Division

Re: "The Promises and Perils of Central Bank Digital Currencies" Hearing

U.S. House of Representatives Financial Services Committee's Subcommittee on National Security,  
International Development and Monetary Policy

July 27, 2021

On behalf of more than 500,000 members and supporters of Public Citizen across the country, we offer the following testimony for the House Financial Services Subcommittee on National Security, International Development and Monetary Policy hearing titled, "The Promises and Perils of Central Bank Digital Currencies."

In summary, we support investigation by the Federal Reserve Board into a central bank digital currency (CBDC) as a means to address systemic problems in the payment system. Further, a CBDC can rationalize what's become a wild west of investment frenzy, peril and fraud with privately promoted digital currencies.

**Payment System**

The nation's financial payment system works for many Americans. Employees receive paychecks that are typically deposited, often electronically, into a bank account. These accounts can then be accessed for payments by way of checks, credit or debit cards, or through a withdrawal of cash. There are roughly \$2

trillion in U.S. coins and notes now in circulation, although most of this circulates outside the United States. (The 60 percent estimated to circulate outside the United States is due to many reasons, including the fact that some countries use the US dollar as their own currency.)<sup>1</sup> But there is about \$17 trillion in deposits where transactions take place as accounting ledger notations, with no physical transfer of any item, such as cash.<sup>2</sup> The payment system can be convenient for many. One can purchase an item with as little cost as a candy bar with a credit card. The vendor receives payment in a matter of days. The buyer pays off the credit purchases monthly, and, with auto-pay, the credit card balance can be remitted with no further action by the customer.

But the country's payment system also contains serious flaws. Many U.S. residents lack a bank account. More than six percent of American households, or some 33 million citizens, are without a traditional bank account. Some do not trust banks, while others lack the funds that financial institutions require to open and maintain an account.<sup>3</sup>

Even for those lucky people with deposit accounts, the payment system is slow. Checks and credit card payments can take two days or more to clear, meaning that vendors are without these funds during that time. It is also costly. Checks and particularly wire transfers can include substantial fees. Banks charge interchange fees for credit cards, a substantial burden for retailers.<sup>4</sup> Overdraft fees can also be substantial. And it is complex, with thousands of banks with idiosyncratic ledger systems communicating with one another and the Federal Reserve.

There are also deposit substitutes outside the traditional banking industry, such as money market mutual funds, and repurchase agreements between institutional investors. During the 2008 financial crisis, breakdowns in these two areas led the Federal Reserve to engage in a major bailout to sustain some stability just so large institutions could meet their payrolls.<sup>5</sup>

#### Central Bank Digital Currency

One possible answer to at least some of these problems may be a central bank digital currency, sometimes dubbed a FedAccount, or "fee-free accounts."

Currently, depository institutions maintain accounts with the Federal Reserve. The FedAccount would be available to ordinary citizens. Conceived by Lev Menand of Columbia Law School in a June 2018 paper, the CBDC would be a Federal Reserve account. It would be available to "any U.S. resident or business in digital wallets operated by the Fed, the Post Office, or one of the country's several thousand community

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<sup>1</sup> *Monetary Base, Currency in Circulation*, FEDERAL RESERVE BANK OF ST LOUIS, (April 2021) <https://fred.stlouisfed.org/series/MBCURRICIR>. J.P. Koning, *How Much U.S. Currency is Held Overseas?*, BULLIONSTAR (Jul. 3, 2019) <https://www.bullionstar.com/blogs/jp-koning/how-much-u-s-currency-is-held-overseas/>

<sup>2</sup> *Deposits, All Commercial Banks*, FEDERAL RESERVE BANK OF ST LOUIS, (June 4, 2021) <https://fred.stlouisfed.org/series/DPSACBW027SBOG>

<sup>3</sup> Mehrsa Baradaran, *How the Other Half Banks*, HARVARD UNIVERSITY PRESS (2015) <https://www.hup.harvard.edu/catalog.php?isbn=9780674983960>

<sup>4</sup> Aaron Klein, *A Few Small Banks Have Become Overdraft Giants*, BROOKINGS INST. (Mar. 1, 2021) <https://www.brookings.edu/opinions/a-few-small-banks-have-become-overdraft-giants/>

<sup>5</sup> Mary Shapiro, *Perspectives on Money Market Mutual Fund Reform*, SECURITIES AND EXCHANGE COMMISSION (June 21, 2012) <https://www.sec.gov/news/testimony/2012-ts062112mlshtm>

banks,” he explains.<sup>6</sup> “The digital wallets would charge no fees and have no minimum balances. They would come with debit cards, direct deposit, and bill pay. They would have customer service, privacy safeguards, and fraud protection—if, for example, one lost a password. And these accounts would earn interest at the same rate that the Fed pays to banks.”

Lack of profitability of deposit accounts for the banks is one of the reasons that financial institutions fail to service roughly six percent of the population. The FedAccount would be available regardless of any balance. The FedAccount would be streamlined with immediate clearing. There would be no fees. With such an account, delivery of federal payments such as Covid relief or other government benefits, would be immediate.

Important questions must be answered. For example, many bank account holders are subject to garnishments because of unpaid debt. Debt collectors would have a simple way to garnish funds through the CBDC. That also means the Federal Reserve would need to engage with legitimate debt collectors in addition to individual Federal Reserve account holders. There may be political issues. For example, the CARES Act might have more effectively delivered needed rescue funds to needy Americans via FedAccount system. However, some of the individuals who received relief may have been subject to garnishment, meaning the Federal Reserve would be in a position of deciding whether, in times of extraordinary need, it would protect or release these funds. A similar issue applies to overdrafts, which means the Federal Reserve may need to institute a policy to ensure financially vulnerable individuals are not being harmed by unaffordable fees.

#### **Private Digital Currencies**

Meanwhile, the private sector is advancing myriad digital coins, and some promoters claim that they can answer some of the same problems with the payment system. Also known as crypto-currencies, we believe not only that these private coins fail to answer these payment system problems but deserve federal intervention to prevent scams that already abound.

Currently, crypto-currencies fail as a substitute for the current payment system. First, the prevailing crypto-currencies are gyrating wildly in price. Bitcoin, which is the largest such currency, changes value daily, sometimes by substantial percentages. During the three-month period ending in June 2021, Bitcoin traded as high as \$60,000 per token and as low as \$35,000.<sup>7</sup> A customer who believed that Bitcoin would rise in value would not rationally use one for a purchase on that day since they would be over-paying. They would only use the coin if they thought the price would fall. Conversely, a vendor who believed Bitcoin would fall would not accept the coin, since it would be an underpayment, and would only accept the token if they believed the price would rise. In other words, a fluctuating price stifles the use of Bitcoin as a vehicle of market exchange.

Second, the promise of cost-free transactions has also proven illusory. The cost of transactions for Bitcoin are substantial and vary greatly. In the last year, they have reached \$300 for each transaction.<sup>8</sup>

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<sup>6</sup> Lev Menand, *Testimony*, U.S. SENATE BANKING COMMITTEE (June 9, 2021)

<https://www.banking.senate.gov/imo/media/doc/Menand%20Testimony%206-9-21.pdf>

<sup>7</sup> *Bitcoin*, COINDESK (website accessed June 11, 2021) <https://www.coindesk.com/price/bitcoin>

<sup>8</sup> *Bitcoin Average Cost Per Transaction*, YCHARTS (website accessed June 11, 2021)

[https://ycharts.com/indicators/bitcoin\\_average\\_cost\\_per\\_transaction](https://ycharts.com/indicators/bitcoin_average_cost_per_transaction)

Related to this, the same population that lacks a bank account, and who are most sensitive to financial fees, may also lack the technology assets to interact with digital currencies.

Third, the number of crypto-currencies is staggering, and growing. By one estimate, as of April 2021, there were more than 10,000 different cryptocurrencies.<sup>9</sup> That is a greater than the number of banks in the United States. One of these, namely Dogecoin, was created as a “joke,” according to its founders.<sup>10</sup> The total dollar value of this universe is around \$2 trillion, but that amount itself swings substantially. Bitcoin’s total value is the largest, at about \$700 billion. Ethereum is the second largest at about \$288 billion. The 100<sup>th</sup> largest is Ravencoin, with a market capitalization of \$640 million. The 200<sup>th</sup> largest is Traval.com, at \$135 million.<sup>11</sup> With 10,000 separate crypto-currencies, it appears unfathomable how customers and vendors can agree on which one to use. A few retailers have experimented with accepting Bitcoin for payment, but many have stopped.<sup>12</sup>

Fourth, the claim that crypto-currency cannot be stolen or tracked has proven untrue. While it may not be as vulnerable to street theft as cash may be, or to cyber criminals hacking a bank account, a cyber-criminal might be able to hack into a personal computer where bitcoin codes are kept. Recently, a ransom paid by Colonial Pipeline to hackers that took over their system (which led to a temporary decline in gasoline supplies on the East Coast), was recovered by the FBI. Reported the *Wall Street Journal*, “Crypto experts say it is at times easier to track than hard currencies such as U.S. dollars.”<sup>13</sup>

Fifth, crypto-currencies also serve as a medium of payment for illicit activities. One study found that “approximately one-quarter of Bitcoin users are involved in illegal activity” and that an estimated \$76 billion in illegal activity per year involve bitcoin (46% of bitcoin transactions), “which is close to the scale of the U.S. and European markets for illegal drugs.”<sup>14</sup>

Finally, and counterintuitively, the promise of environmental benefits from friction free commerce through cryptocurrency without the need of paper documents coursing by way of vans and other transport through physical roads has also proven illusory. In fact, many cryptocurrencies are major energy users. Many cryptocurrencies are created through “proof-of-work” mining that involves using computers to solve useless mathematical puzzles in exchange for newly minted cryptocurrency tokens. This mining absorbs considerable amounts of electricity. Bitcoin miners alone annually use an estimated 130 Terawatt-hours, which is about 0.6 percent of world electricity consumption, according to one estimate.<sup>15</sup> At a time of climate change crisis, tapping our energy supply for specious cryptocurrency should not be promoted.

<sup>9</sup> *Understanding the Different Types of Cryptocurrencies*, SOFI LEARN (Jan. 15, 2021)

<https://www.sofi.com/learn/content/understanding-the-different-types-of-cryptocurrency/>

<sup>10</sup> Avi Salzman, *Dogecoin Was Started as a Joke*, BARRONS (May 5, 2021)

<https://www.barrons.com/articles/dogecoin-started-as-a-joke-now-its-too-important-to-laugh-off-51620229273>

<sup>11</sup> *All Cryptocurrencies*, COINMARKETCAP (website accessed June 11, 2021) <https://coinmarketcap.com/all/views/all/>

<sup>12</sup> Steve Fiorillo, *How to Use Bitcoin for Purchases*, THE STREET (April 18, 2018)

<https://www.thestreet.com/investing/what-can-you-buy-with-bitcoin-14556706>

<sup>13</sup> James Uberty, *How the FBI Got Colonial Pipeline’s Money Back*, WALL STREET JOURNAL (June 11, 2021)

<https://www.wsj.com/articles/how-the-fbi-got-colonial-pipelines-ransom-money-back-11623403981>

<sup>14</sup> Sean Foley, et al, *Sex Drugs and Bitcoin*, THE REVIEW OF FINANCIAL ECONOMICS, (May 2019)

<https://academic.oup.com/rfs/article/32/5/1798/5427781>

<sup>15</sup> *Cambridge Bitcoin Electricity Consumption Index*, UNIVERSITY OF CAMBRIDGE, (website visited July 1, 2021)

<https://cbeci.org/>



While crypto-currencies are not truly a legitimate alternative medium of exchange in a payment system, they have become the subject of frenzied speculative investment. As such we are concerned they constitute a series of Ponzi schemes. Many investment professionals share a similar view. Berkshire Hathaway CEO Warren Buffett recently called crypto-currency “rat poison squared.” His associate Charlie Munger labelled trading in this market as “dementia.”<sup>16</sup> Investor Mark Cuban said he’d prefer bananas to bitcoin, “Because at least as food, bananas have intrinsic value.”<sup>17</sup> JPMorgan CEO Jamie Dimon said he’d fire any employee he found investing in Bitcoin. Other skeptics include Allianz economist Mohamad El-Erian, economist Paul Krugman, and Oaktree Capital Management founder Howard Marks.<sup>18</sup> Investment scams involving cryptocurrencies abound. In a five-month period ending March 2021, the Federal Trade Commission reported 7,000 cryptocurrency scams covering some \$80 million in reported losses. That is 12 times the number of scams reported during the same period a year earlier, with a 1000 percent greater estimated loss.<sup>19</sup> Alexis Goldstein, financial policy director of the Open Markets Institute, reviewed some of these scams in testimony before the House Financial Services Subcommittee on Oversight and Investigations. For example, she detailed how some malicious actors created digital coins that can be purchased but not sold and how others promised enormous returns that proved untrue.<sup>20</sup>

In conclusion, we believe that the current bank payment system fails to serve a significant portion of the population and therefore we commend efforts to answer this deficiency such as exploration of a central bank digital currency. However, we also urge the full committee to continue focusing its attention on the perils of privately sponsored crypto-currencies.

Thank you for the opportunity to provide testimony for this hearing and we appreciate the subcommittee’s exploration of this important issue.

Please contact me at [bnaylor@citizen.org](mailto:bnaylor@citizen.org) with questions.

<sup>16</sup> James Royal, *Warren Buffet Says to Avoid these Two Types of Hot Investments*, BANKRATE (May 6, 2019) <https://www.bankrate.com/investing/warren-buffett-says-avoid-these-hot-investments/>

<sup>17</sup> Taylor Locke, *Mark Cuban: Bitcoin Is ‘More Religion Than Solution’ And Won’t Help In ‘Doomsday Scenarios*, CNBC (Dec. 17, 2020) <https://www.cnbc.com/2020/12/17/mark-cuban-bitcoin-is-a-store-of-value-that-is-more-religion.html>

<sup>18</sup> Trisha Phillips, *Bill Gates and Other Powerful People Who Hate (or Love) Bitcoin*, SHOWBIZ CHEATSHEET (MAY 25, 2018) <https://www.cheatsheet.com/money-career/powerful-people-love-or-hate-bitcoin.html/>

<sup>19</sup> Emma Fletcher, *Cryptocurrency Buzz Drives Record Investment Scam Losses*, FEDERAL TRADE COMMISSION (May 17, 2021) <https://www.ftc.gov/news-events/blogs/data-spotlight/2021/05/cryptocurrency-buzz-drives-record-investment-scam-losses>

<sup>20</sup> Alexis Goldstein, *Testimony*, HOUSE FINANCIAL SERVICES COMMITTEE (June 20, 2021) <https://financialservices.house.gov/uploadedfiles/hhrg-117-ba09-wstate-goldsteina-20210630-u1.pdf>

