

## DEMYSTIFYING CRYPTO: DIGITAL ASSETS AND THE ROLE OF GOVERNMENT

Joint Economic Committee  
November 17, 2021

### Testimony of Timothy Massad<sup>1</sup>

Chair Beyer, Ranking Member Lee, and members of the committee, thank you for inviting me to testify at this hearing on “Demystifying Crypto: Digital Assets and the Role of Government.” It is an honor to be here.

This hearing is a very helpful step toward developing appropriate policies that can encourage innovation, but also protect against excessive risks, with respect to digital assets. I also want to thank Chair Beyer for introducing a thoughtful legislative proposal in this regard.

I would like to begin by making eight brief points, and then elaborate on a few of them.

#### Executive Summary

*First*, there is no question that digital asset innovation is incredibly important and beneficial overall. But there should also be no question that the time to strengthen and clarify regulation of digital asset markets is long overdue. If done responsibly, it will support, not suppress, innovation.

*Second*, stablecoins are one of the most urgent challenges. If properly regulated, they might help modernize payments, but today they pose significant risks and they have grown rapidly, as described in the [report](#) just released by the President’s Working Group on Financial Markets (PWG). I support its findings, but while it calls on Congress to adopt legislation that limits stablecoin issuers to insured depository institutions, I would prefer a more tailored regulatory approach. I think this can be a better way to address risk and foster competition and innovation, as I describe below.

*Third*, I agree with the PWG report on the need to regulate stablecoin arrangements generally, not just the issuer, and the report’s focus on DeFi or decentralized finance. Once issued, stablecoins trade on decentralized blockchains pursuant to smart contracts, as well as on centralized exchanges. This means there is no single authority responsible for overall operation of a stablecoin. We need to regulate these stablecoin arrangements and other actors as well. As a general matter, while decentralization can be a good thing, calling something DeFi should not make it a regulatory-free zone. The point is not to regulate the technology, but to have appropriate standards for financial market activities conducted on such platforms.

*Fourth*, Bitcoin is neither a widely accepted means of payment<sup>1</sup> or a stable store of value today; it is a highly volatile, speculative investment. It might be tempting to just say caveat emptor,

let the buyer beware. But the continued growth of a largely unregulated crypto market poses risks to society—including risks of illicit activity, tax evasion, ransomware and potential harm to broader financial markets.

We do not have sufficient information or transparency about this market. Neither the SEC nor the CFTC has authority today to regulate the cash market for digital assets that are not considered securities. That is where most trading activity occurs today.<sup>2</sup> We should expand that authority and increase the resources of both agencies to exercise their responsibilities. We should also consider the best way to make sure our regulatory policies are adequately informed by technological expertise, so that we balance innovation with protecting the public interest.

*Fifth*, in regulating crypto generally, we must balance reasonable expectations of privacy in transactions with the government's legitimate interests, such as preventing illicit activity and tax evasion. FinCEN has done a great job but this continues to be a challenge.

*Sixth*, the evolution of digital assets has made it clear that we need to modernize our payments system. It is relatively slow and expensive. A central bank digital currency is one way of doing so, but there may be other ways. My concern is we are not moving fast enough to develop and implement the best strategy, for reasons I will discuss.

*Seventh*, CBDCs, stablecoins and digital assets generally are often cited as a means to achieve greater financial inclusion. We should consider their potential for doing so, but we should also act to improve access to financial services now through other means. The need is too great and should not be deferred.

*Finally*, the challenge we face today is not unusual, because the financial sector constantly innovates and our regulatory system has to catch up. The early days of subprime mortgages improved access to the American dream of homeownership for many Americans; but it later gave rise to destructive products. The swaps industry created a lot of beneficial hedging, but the industry resisted regulation and eventually generated excessive risks that substantially intensified the 2008 financial crisis. It was only after that we took action.

The U.S. should exercise leadership globally. The path to regulating the swaps industry started with core principles that the G-20 leaders endorsed, which each country then implemented. The same approach could be taken here. A national strategy to modernize our payments system will also be critical for continued U.S. leadership in the global economy.

I elaborate below on a few of these points.

## **Innovation and Regulation**

First, the innovation launched by bitcoin has been dramatic. It has shown the need to modernize our payments system, and led to stablecoins and central bank digital currencies,

which could be tools for that modernization. Blockchain, distributed ledger technology and smart contracts are all dynamic innovations whose potential value goes well beyond payment mechanisms. Our economy generally is becoming more and more digital. But innovation should not cause us to refrain from creating sensible regulation. Digital asset markets today pose significant risks to investors and society at large due to a regulatory framework that is inadequate and sometimes confusing. This includes risks of investor fraud, malfeasance and illicit behavior, tax evasion and potentially broader risk to financial markets. The time to strengthen regulation is long overdue.

The U.S. financial markets have been the envy of the world for decades in part because we have created sensible regulatory policies within which a strong private sector could operate and innovation could take place. We need the same here – policies that provide clarity, and permit and encourage our dynamic private sector to continue to innovate, while at the same time ensuring transparency and integrity in markets, prohibition of illicit activity, financial stability and investor and consumer protection.

Digital assets used for financial activities do not fit neatly into our existing financial regulatory scheme. Trying to regulate digital assets solely under existing laws is a bit like trying to force a round peg through a square hole. But the principles behind the laws that govern other financial instruments and markets – transparency, integrity and fairness in trading, adequate disclosure and reporting, and prevention of fraud and illicit activity – are still applicable.

Developing appropriate standards requires careful thought and ingenuity. It needs to be thoroughly informed by technological expertise, not just by debates about policy principles. While we may need legislation in some areas as noted below, Congress may also want to direct an executive branch entity to focus on these issues. The Financial Stability Oversight Council could also create a standing committee, coordinate the work of different regulators and make appropriate recommendations to Congress. I would also note that the legislation introduced by you, Mr. Chairman, calls for a number of useful studies in this regard.

## **Stablecoins**

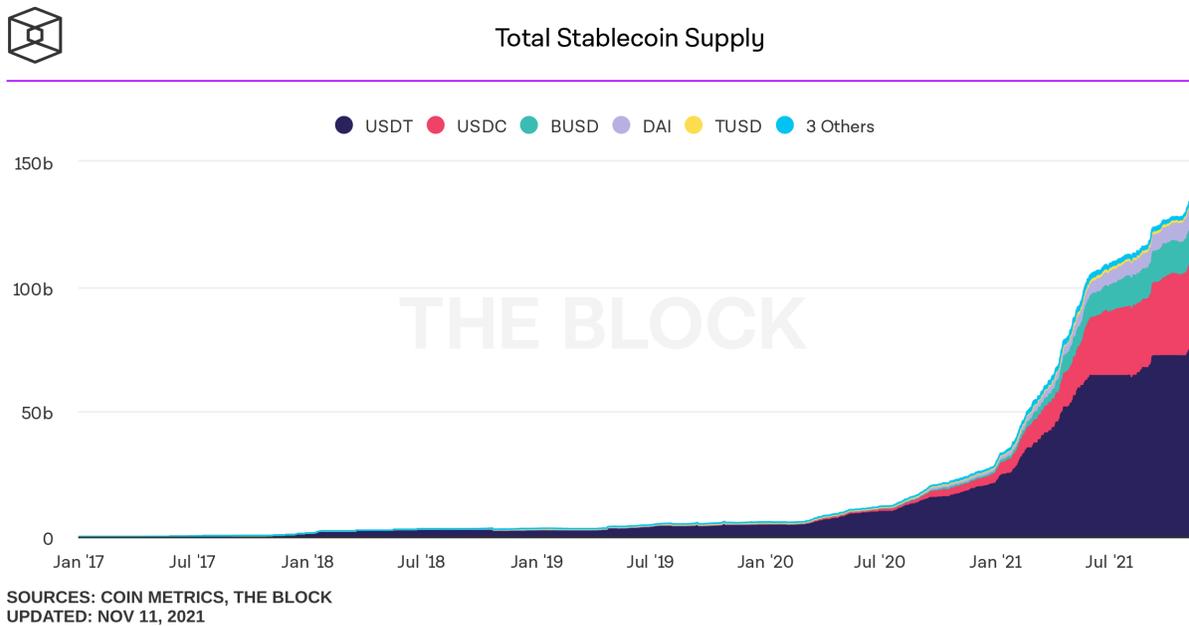
Stablecoins present one of the most promising opportunities as well as most urgent challenges in the digital assets world. I will discuss why they have grown dramatically, the risks and opportunities they pose, and what we should do to regulate them.

Stablecoins are digital tokens whose value is pegged to the dollar (or another currency or asset). Today, they serve to grease the wheels of the crypto industry, enabling investors to easily transfer value between different crypto exchanges and cryptocurrencies without converting back and forth into dollars or another fiat currency. This is particularly useful because of arbitrage opportunities that exist between the many crypto exchanges and platforms, given the absence of any routing system or combined centralized order book. It is also useful given the many cryptocurrencies that exist and the high degree of volatility.

Settlement of stablecoins is instant, consistent with how cryptocurrencies trade. This avoids the delays of traditional means of payment.

In addition, some investors may be using stablecoins to evade taxes, avoid legal or regulatory constraints on trading crypto, or engage in illicit activity. The fact that many banks, for regulatory or other reasons, may be reluctant to fund customers trading crypto may have also contributed to the popularity of stablecoins.

These attributes, coupled with the explosive growth of the crypto market, explain why the market capitalization of stablecoins has increased from \$20 billion twelve months ago to over \$130 billion today, as shown by the chart below.



The following chart lists the largest stablecoins by market capitalization:

Ranking	Coin	Market Cap
1	Tether (USDT)	\$72.68B
2	USD Coin (USDC)	\$34.43B
3	Binance USD (BUSD)	\$13.55B
4	DAI	\$6.48B
5	Terra USD (UST)	\$4.02B
6	TrueUSD (TUSD)	\$1.20B
7	Pax Dollar (USDP)	\$949.37M
8	FRAX	\$899.93M
9	Liquidity USD (LUSD)	\$720.17M
10	Neutrino USD (USDN)	\$567.46M

Source: [coincodex.com](https://coincodex.com), Stablecoins by Market Cap and Volume, as of 11/12/2021

The volume of trading of stablecoins is also quite large. The trading volume of Tether, the largest stablecoin by market cap, is roughly twice that of bitcoin. The velocity of dollar stablecoins—the number of times one unit changes hands over a given time period—was said to average [over 100 times](#) a year. By comparison, the velocity of the dollar (M2) is in the low single digits according to a [Federal Reserve report](#).

Although their use is largely confined to the crypto industry today, stablecoins have the potential for broader applicability. That is because they are a means for faster payments. The recent [report](#) of the President’s Working Group on Financial Markets recognized this in saying that stablecoins, if properly regulated, “could support faster, more efficient, and more inclusive payments options.”

The risks and opportunities related to broader use of stablecoins were first widely raised by Meta’s (Facebook Inc.’s) proposal for Libra in June of 2019. It wanted to create a “simple global currency” or stablecoin that would be pegged to a basket of fiat currencies. The proposal met harsh reaction. It has since been revised to be a series of stablecoins, each pegged by a single fiat currency (and renamed as Diem), but it is not yet operational because regulators have not approved it. (I discuss the Libra proposal in detail, and related issues of mobile payments, CBDCs and financial inclusion, [here](#).)

The PWG report is a clear and comprehensive summary of the risks of stablecoins. (I have also written about these risks, [here](#) and [here](#).) I agree with the report’s call for standards to guard against stablecoin runs, to minimize payment system risk, to prevent use of stablecoins for illicit activity, and to address concerns about systemic risk. I believe bringing this activity within the

general rubric of bank regulation makes sense. While money market mutual fund regulation is another approach, stablecoins are really payment instruments, not investments.<sup>3</sup>

I have two concerns with the report's primary recommendation, which is that we adopt legislation that would require a stablecoin issuer to be an insured depository institution, and be subject to existing supervisory standards. The first is the time it may take to enact legislation, and what happens in the meantime. I urge Congress to prioritize this issue. I also urge the FSOC to act in the meantime. The report notes its power to do so. It could commence a review to determine whether stablecoins are, or are likely to become, a systemically important payment activity. If it then reached such a conclusion, the Federal Reserve would have the responsibility for developing risk management standards. In addition, while individual agencies have certain powers with respect to stablecoins as well, the FSOC can help coordinate the exercise of such authorities so that we avoid conflicting actions.

My second concern pertains to the substance of the recommendation. I believe we should consider developing a more tailored model of regulation for stablecoin issuers, which would enable us to design standards that are more specific to the risks posed and which would also facilitate more competition in the payments industry.

We should require that stablecoins are at all times fully backed by cash that is deposited with a bank, or in a master account with the Federal Reserve. This will eliminate the risk that exists today where stablecoin reserves may be invested in other assets that could lose value, or be difficult to liquidate, or whose sudden liquidation might drive asset prices down. Such a requirement would effectively prohibit maturity transformation by stablecoin issuers—the practice of taking demand deposits, which are short-term liabilities, and using them to fund longer-term loans or investments. We could also restrict the activities of a stablecoin issuer so that it does not engage in many of the activities that a traditional IDI might engage in. We should require some capital, even if the tokens are fully backed by cash, because there can be operational or other losses. This approach could be implemented through novel or special purpose charters.

The PWG report refers to the possibility of “access to appropriate components of the federal safety net.” While it is unclear whether or on what terms this might include deposit insurance, we should consider whether that is necessary if the tokens are fully reserved with cash, the entity's activity is sufficiently isolated and other safeguards are in place. Deposit insurance has been an important protection against bank runs, particularly given the inherent risks in maturity transformation-- or what former Bank of England Governor Mervyn King called the “alchemy” of banking. But if the stablecoin activity is effectively ringfenced and not combined with a variety of other bank activities, query whether deposit insurance is appropriate.

I am also concerned that the recommendation to limit stablecoin issuers to IDIs under present supervisory standards could result in limiting competition as a practical matter. It is likely to favor existing banks over new entrants because of the length of time it could take new entrants to get a charter and deposit insurance. It could also mean that the largest banks are favored

over all other banks because of capital advantages as well as technological advantages (they may be more able to create the platforms to issue and manage stablecoins, which settle instantly, as discussed below). The more tailored regulatory approach described above would allow new entrants, provided they can meet requirements of the type noted above, which would facilitate more competition in payments. (An existing bank holding company could still enter the stablecoin business by creating a ringfenced subsidiary that meets the requirements.)

Some may object to allowing special purpose payment entities to have master accounts at the Federal Reserve, particularly if they are not FDIC-insured and do not have the same business models as traditional banks. But in fact, the Fed has already granted master accounts to uninsured entities whose business models are very different from traditional banks. Two derivatives clearinghouses have master accounts with over \$100 billion on deposit on a combined basis, which monies represent customer funds.<sup>4</sup> They are not regulated as banks nor insured by the FDIC. They are permitted to have master accounts because they were designated by the FSOC as systemically important financial market utilities under Article VIII of the Dodd Frank Wall Street Reform and Consumer Protection Act. They are subject to Federal Reserve oversight as a result of that designation.

The Federal Reserve has already commenced a review of access to Fed accounts; how we regulate stablecoins should inform, and be informed by, that review. The Fed could develop specific requirements for access to master accounts by stablecoin issuers beyond those standards noted earlier, to ensure that appropriate risk management standards with respect to liquidity, operations and technology are met. In this regard, we must keep in mind that stablecoins settle instantly. An issuer must be able to reconcile its books in real-time; end of day or twice a day reconciliation would not be sufficient, and actually could expose the payment system to greater risk. Many existing IDIs may not have the technological platforms necessary to enter the stablecoin business.

I am in agreement with the thrust of the PWG report with respect to other areas in which regulatory oversight is needed, such as consumer protection standards including standards on how a customer's data can be used, and the need to prevent illicit behavior and tax or regulatory evasion. I want to comment in particular on the issues posed by the broader arrangements involved with stablecoins and decentralized finance.

### **Stablecoin Arrangements and DeFi**

The PWG report wisely notes the need to regulate not just the stablecoin issuer, but the other "arrangements" that facilitate the operation of stablecoins. Once issued, a stablecoin can be traded on centralized crypto exchanges as well as on decentralized blockchains pursuant to smart contracts. This means there is no single entity responsible for operation of the stablecoin. Therefore, it is not enough to ensure that the stablecoin issuer complies with reasonable requirements; we need standards for that trading as well, to ensure transparency overall, and to address in particular operational resilience. The software for the various layers

of operation in the case of decentralized blockchains using smart contracts could have flaws or could be vulnerable to attack. The largest stablecoins run on multiple blockchains but are separate and distinct tokens on each such blockchain, as a [recent post](#) by Neha Narula of MIT explains. That means risks associated with the integrity and reliability of the blockchains and software are multiplied. In addition, a stablecoin could become too large in relation to the capacity of the blockchain itself. The regulatory framework must address these risks as well.

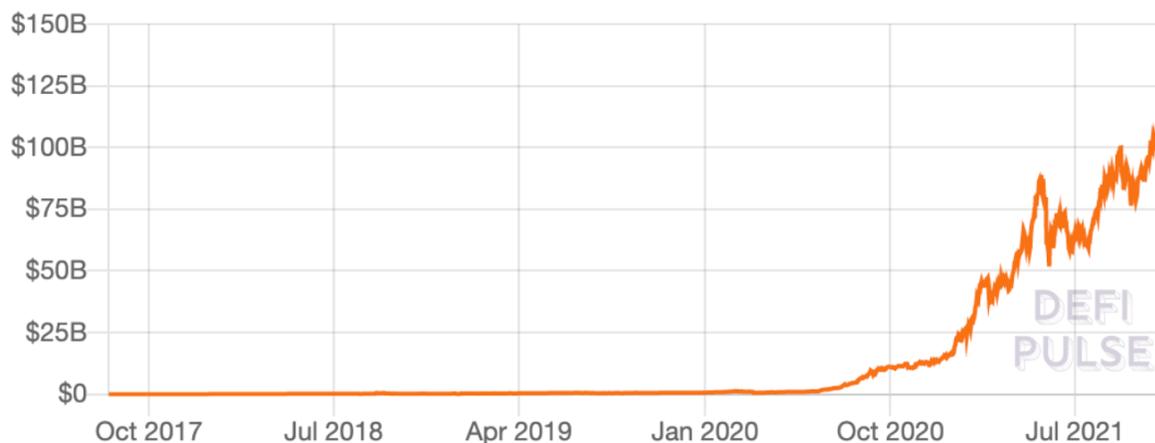
In addition, we must make sure that there are adequate mechanisms to ensure compliance with KYC, AML and CFT standards in the trading and exchange of stablecoins, regardless of trading platform, to minimize the risk that stablecoins are used for illicit behavior, ransomware, tax evasion or other improper activities..

These stablecoin risks raise the broader question of how we protect the public interest with DeFi platforms generally. DeFi has no single meaning. There are degrees of decentralization and different models. DeFi platforms typically have governance arrangements which in some cases mean that in practice, a small group of validators or other entities or individuals can exercise control. There has been a dramatic growth in DeFi platforms, both for trading as well as in lending and related arrangements. The amount of digital assets “locked” in DeFi protocols has increased dramatically and is reported to exceed \$100 billion.

## Total Value Locked (USD) in DeFi

[TVL \(USD\)](#) | ETH | BTC

[All](#) | 1 Year | 90 Day | 30 Day



Source: <https://defipulse.com/>

We need to regulate the *activities* that take place on DeFi platforms—as distinct from the technology itself—when those would otherwise be subject to financial market regulation. Much of what goes on today may implicate securities and derivatives laws. The lack of transparency heightens the concern about risk from multiple rehypothecation of digital assets. Existing regulatory agencies need to examine this activity. I note that Chair Beyer’s legislation calls for a report on this which would be very helpful.

## The Need to Strengthen Regulation of Digital Assets Generally

Stablecoins represent only about 5% of the total market capitalization of crypto today. Bitcoin is by far the largest non-backed coin, but there are thousands of others. The continued growth of the market poses investor protection risks, as well as risks to society. I would like to explain some of the gaps in regulation generally, and the risks that this creates.

It is often said that from a financial regulatory point of view, a digital asset is either a security or a commodity.<sup>5</sup> Some may therefore conclude that digital assets can be regulated by either the SEC or the CFTC, and the two agencies simply need to get together to resolve any regulatory ambiguity. But that is not an accurate depiction of the situation.

The reality is that neither the SEC nor the CFTC has sufficient authority to regulate the “cash” market for digital assets that are not classified as securities (such as Bitcoin and Ethereum)—the buying and selling of such digital assets and the intermediaries that operate in that market. The SEC only has authority if a digital asset is a security. During my tenure at the CFTC, we declared that cryptocurrencies were commodities. That means the CFTC has authority to regulate *derivative contracts* (that is, futures, swaps and options) based on a cryptocurrency, including the intermediaries involved in their distribution and trading. But the CFTC has very little authority over the cash market for that underlying commodity. It’s the same with all commodities: for example, the fact that the CFTC has jurisdiction over cattle *futures* doesn’t give it the power to set standards for the buying and selling of cows.<sup>6</sup>

As a result, the crypto industry has not been subject to federal regulation that is comparable to what we have for our securities and derivatives markets. This has meant that the industry has given rise to a whole new class of intermediaries that are largely not regulated at the federal level, including exchanges such as Binance, Coinbase or Kraken. They may be licensed at the state level as money transmitters, but this is not at all equivalent to the federal standards imposed on securities and derivatives exchanges. There are no federal reporting requirements, prohibitions on conflicts of interest, standards to prevent fraud and manipulation, requirements on order execution, or investor protection standards, among others.

The irony of this is that when Bitcoin was launched, the idea was to create a peer-to-peer system that would eliminate the need to rely on large trusted intermediaries. In fact, it has created a whole new class of large, potentially untrustworthy intermediaries.

This was illustrated by a [recent enforcement action](#) by the CFTC pertaining to Coinbase. The CFTC imposed a small fine on Coinbase related to wash trading—a form of market manipulation where an investor simultaneously buys and sells the same financial instrument in order to inflate volume, distort pricing or otherwise feed false information to the market. The CFTC has the power to bring a manipulation case in the “cash” market for a commodity because such manipulation could corrupt the derivatives market. But the agency does not regulate Coinbase.

It is not registered with the agency, nor required to comply with its investor protection standards. One CFTC Commissioner explained all of this in a [thoughtful statement](#).

Moreover, what is particularly troubling is this was not a case where Coinbase failed to detect wash trading by a customer. This was wash trading by *Coinbase itself*. The absence of any meaningful regulation means that the entity that owns and operates a crypto exchange can engage in proprietary trading on its own exchange. That, of course, creates a risk of front-running a customer's trades, among other things. We prohibit wash trading on securities and derivatives exchanges, and we do not permit those exchanges to even engage in proprietary trading.

The absence of a federal regulatory framework for crypto intermediaries also creates the risk that they can be used to facilitate or obfuscate illicit activity. This includes funding of black market activity, terrorism or ransomware. The work of FinCEN has been critical in reducing this risk, and U.S. exchanges appear to have stepped up their KYC and AML measures as a result. Still, our ability to prevent and detect such activity would be enhanced if we had regulatory standards that required greater transparency and reporting, as well as prohibitions on fraud and manipulation and in particular activities such as wash trading. A [Chainalysis study](#), for example, found that criminal groups typically make thousands of transfers—often through exchanges or other platforms—to avoid detection of illicit profits.

In addition, over the last decade, we have significantly strengthened cybersecurity requirements for entities that play critical roles in our financial infrastructure. We should require crypto exchanges (as well as decentralized platforms engaged in financial market activities) to meet similar standards. The risk of a hack or other failure could have consequences not just for the exchange or platform; it could also result in collateral damage to other financial infrastructure.

Finally, the continued growth of an unregulated market can create financial stability risks, particularly as more and more investors and institutions participate and there are increasing interconnections. This can occur as a result of a sudden and significant movement in price, particularly if there is significant leverage in the system, as was recently discussed by [the Deputy Governor of the Bank of England](#). (He notes that the subprime mortgage market was \$1.2 trillion in size before the 2008 crisis; the crypto market is more than twice that today.) A related concern is that Bitcoin ownership is highly concentrated, and mining capacity even more so, according to a recent [MIT paper](#). All of this argues for greater transparency.

Exchanges and other intermediaries can of course voluntarily adopt standards that address some of the risks I have mentioned, and certainly some are better than others in their policies and practices. Industry self-regulatory groups can also play important roles in defining and promoting adoption of standards. But competitive pressures can undercut good intentions. We need a stronger regulatory framework to lift all exchanges and intermediaries to higher standards and to bring the necessary transparency.

Even without providing new legislative authority, we should make sure that regulators have adequate resources to use their existing powers in this area. We cannot expect them to fulfill their responsibilities in a nearly \$3 trillion market today without additional resources.

### **Central Bank Digital Currencies and Modernizing the Payments System**

I noted at the outset the need to develop a national strategy to modernize our payments system, as it is relatively slow and expensive.<sup>7</sup> The Federal Reserve should be commended for the actions it has taken to date—including its FedNow initiative and commencing policy discussion as well as technological research and development on CBDCs. But I believe a more aggressive approach is needed. (I also note the Chairman’s legislation would give the Fed clear authority to issue a CBDC, which is good.)

The Fed is expected to issue a report any day on CBDCs, which is not expected to take a position on whether we should create a CBDC, but will presumably discuss the various advantages and disadvantages and possible design choices. The Board of Governors’ paper is expected to be followed by a progress report on Project Hamilton, the collaboration between the Boston Federal Reserve Bank and MIT to develop a hypothetical CBDC platform. It will describe the platform architecture and provide some metrics on throughput, speed, resilience and so forth. In addition, the actual code will be made available for inspection. That will enable third parties to give their own assessments of—and suggestions for—the architecture.

This is a good start, but we need a much more intensive effort to design and develop a hypothetical CBDC in order to decide whether we should create one. There is no single way to design a CBDC, and there is debate about potential objectives: how to address Americans’ reasonable expectations of privacy in their personal transactions with government’s legitimate oversight interests, how to balance financial inclusion with the risk of disintermediating banks, and how to maintain the importance of the dollar in international payment systems. That debate can become too abstract unless coupled with a major effort to design and determine what might be possible. We need an iterative process, a continuous feedback loop between technological work and policy discussion. Moreover, the design and development work will likely generate some policy issues we haven’t even thought of.

The fact that China has launched a CBDC does not necessarily mean we must do so, but it should cause us to accelerate our efforts. As other countries explore CBDCs, we must accelerate our development so that we have the technological capability to be at the table in discussions of how to make different national payment systems interoperable and what standards should govern.

The government should involve the best talent from the private sector as well as academia in this effort. It is not quite like putting a man on the moon, but it is certainly of great national importance.

One objective often cited for a CBDC (and stablecoins) is improving access to financial services. While a more intensive development effort will help determine whether a CBDC is a good solution, we should prioritize that goal regardless, because the need is so great. According to the most recent [FDIC survey](#) found 5.4% of American households were unbanked, and an additional 17.2% were underbanked, meaning they have a bank account but still use nonbank services such as check cashing firms or payday lenders. The problem is greatest among Black and Latino households. Moreover, lower-income households represent a [higher percentage](#) of the unbanked in the United States than they do in other countries.

A slow payments system contributes to the problem in a few ways. Households who live paycheck to paycheck often cannot afford to wait the two or three days it may take for a bank to clear a check. By going to a check cashing service, they may pay a fee, but they get cash right away and the service may even pay their bills for an additional charge. The fee may be high but it avoids the risk of overdraft charges which are typically even higher. Federal Reserve data found that [70%](#) of those who use check cashing services have bank accounts, and people with bank accounts present a majority of the checks cashed by such services.

There have been many suggestions as to how to tackle the financial inclusion challenge that do not require development of a CBDC or a regulated stablecoin.<sup>8</sup> We should make it a priority now to address the problem, one way or another.

## **Conclusion**

I noted at the beginning of my remarks that our situation today is similar to what happened with the swap industry. We did not act to create regulatory standards until the industry created excessive risks that intensified the 2008 global financial crisis. I was part of a small group of attorneys that drafted the initial master agreements for interest rate swaps over 30 years ago, and I saw how swaps could create beneficial hedging. Later, as chairman of the Commodity Futures Trading Commission, I oversaw the agency responsible for implementing the regulatory framework to address the damage caused by an unregulated industry. There is no question that the industry is healthier today because of it.

We are faced today with a wave of innovation that is similarly creating benefits as well as risks. We should act now to make sure our regulatory framework is one where investors are protected, legitimate government interests are met, financial stability is not compromised, and innovation can continue to flourish.

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<sup>1</sup> I am a Research Fellow at the Harvard Kennedy School and an Adjunct Professor of Law at the Georgetown Law Center. I also provide advisory services on financial regulatory and fintech matters. I was previously Chairman of the U.S. Commodity Futures Trading Commission, 2014-2017; Assistant Secretary for Financial Stability of the U.S. Treasury Department, 2010-2014; General Counsel, Office of Financial Stability, 2009-2010; and a partner in the law firm Cravath, Swaine & Moore.

<sup>2</sup> I discuss this in my paper, “It’s Time to Strengthen the Regulation of Crypto-Assets,” The Brookings Institute, March, 2019, <https://www.brookings.edu/research/its-time-to-strengthen-the-regulation-of-crypto-assets/>

<sup>3</sup> I suggested in one [article](#) that the SEC could regulate stablecoins as money market mutual funds to be consistent with the theme of the article, which was that stablecoins could “break the buck” just as the Reserve Primary Fund had in September 2008, but I do not think it is the best way to regulate them for the reasons noted above.

<sup>4</sup> The figure is as of December 31, 2020 and is from the Form 10-K reports of CME Group Inc. at <https://www.sec.gov/ix?doc=/Archives/edgar/data/1156375/000115637521000020/cme-20201231.htm> (page 64) and Intercontinental Exchange, Inc. at <https://www.sec.gov/ix?doc=/Archives/edgar/data/1571949/000157194921000003/ice-20201231.htm> (page 16).

<sup>5</sup> I am not suggesting that the security/commodity classifications are meant to cover all digital assets, especially the category of what are often called “utility tokens”, which represent a right to access digitally a blockchain application. I am simply noting that this is frequently how the regulatory picture is explained.

<sup>6</sup> As noted in my 2019 paper, the CFTC can pursue cases of fraud and manipulation in a cash commodity market, and those pertaining to retail leveraged transactions, but this is not a viable means to set standards generally for trading in that market.

<sup>7</sup> See, for example, Christian Catalini and Andrew Lilly, [“Why is the United States Lagging Behind in Payments?”](#), July 27, 2021. While the authors are affiliated with the Diem Association, the paper is nevertheless a very concise explanation of the issues.

<sup>8</sup> The ways in which CBDCs and stablecoins could potentially help address financial inclusion are discussed in many papers, including the [FedAccounts](#) proposal by Morgan Ricks, J. Crawford and L. Menand which proposes creating FedAccounts without waiting for new technology, and my [own writing](#). For a discussion of other means to address financial inclusion, see Aaron Klein, [“Can fintech improve health?”](#), The Brookings Institute, September 24, 2021.