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WEBINAR

BANK OF ENGLAND GOVERNOR ANDREW BAILEY
ON THE FUTURE OF CRYPTOCURRENCIES AND STABLECOINS

Washington, D.C.

Thursday, September 3, 2020

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P R O C E E D I N G S

MR. WESSEL: Good morning. I'm David Wessel, director of the Hutchins Center on Fiscal and Monetary Policy at the Brookings Institution. We'll begin this program shortly. We're having some transatlantic technological problems. Let me give you a little sense of the order of the day so you know what we're doing. We're going to begin with my colleague Don Kohn at Brookings, former vice-chair of the Federal Reserve and a member of the Bank of England's Financial Policy Committee who will introduce Governor Andrew Bailey of the Bank of England. Governor Bailey's remarks will be about 25 minutes or so. And then we'll be joined by a panel of experts where we're very fortunate to have a very strong group of people to respond to the Governor's remarks. And we'll to turn them later.

A number of people have sent questions. I can tell you right now we're not going to get to all of them. But if you do have questions, please do send them because we may try and follow-up later with some kind of written Q&A.

Let me introduce the panelists now just to save time. Because my last name begins with W, I'm adopting a practice of doing alphabetical order in reverse to make up for all those years of grammar school where I was always the last one called on. So, I'm going to start with Fennie Weng, who's a lawyer by training, associate general counsel of MakerDAO, which has a stablecoin called Dai, and has a consulting firm called Dionysus, and has been active in this space for some time.

Eswar Prasad is a senior fellow here at Brookings, a professor at Cornell. He's been writing quite a bit about digital currencies and particularly central bank currencies. He has a recent paper out, a very extensive report with some colleagues called “Design Choices for Central Bank Digital Currency Policy and Technical Considerations.”

Blythe Masters, who like Don Kohn, is a member of a financial stability task force that the Hutchins Center is sponsoring, was a former senior executive at JPMorgan Chase. And after that, she made the transition to the brave new world of distributed ledger. Was the founding CEO of Digital Asset Holdings, which is a financial technology firm that was developing distributed ledger technology for wholesale financial services, not for cryptocurrency. And she's now doing lots of interesting things, which she can tell you about.

And, finally, Chris Brummer is a research professor at Georgetown University Law

School, faculty director of its Institute on International Economic Law. He has done quite a bit of work on fintech and related things. He almost made it to the Commodity Futures Trading Commission. He was nominated by President Obama, got through the Senate Finance Committee, but then someone else got elected president and somehow his nomination evaporated. Chris' second appearance on a Brookings forum, earlier this week a very interesting report on the rather shocking absence of African Americans on financial regulatory posts.

So, my colleagues tell me we're working on getting Governor Bailey online. And as soon as he does, we'll begin the program. Thank you.

Okay, Governor Bailey is on I'm told. So, Don, why don't you begin. Well, let's wait for them to get down the slide.

MR. KOHN: Welcome to this virtual Brookings event on the future of cryptocurrencies and stablecoins featuring address by Andrew Bailey, governor of the Bank of England as David was just saying. Andrew and I have served together on the Financial Policy Committee at the Bank of England since shortly after its inception in 2011, as an element of reforming the UK financial system in the wake of the global financial crisis. Initially was there as the head of the microprudential authority overseeing banks and insurance companies, having come to that from a variety of positions at the Bank of England.

He moved on to head the Financial Conduct Authority in the UK, also a member of the Financial Policy Committee. And he came back to the Bank as governor just as the pandemic was shutting down the global economy. Great timing, Andrew. Just last Thursday, he gave a major address at virtual Jackson Hole on lessons for the Bank of England's balance sheet from the Bank's monetary policy and financial stability response to the pandemic.

Today, he will be addressing issues around some of the ongoing innovations in payments. That's a tribute to the reach of Andrew's intellect and interests. But it's also an important lesson for the rest of us policy makers and their thinktank kibitzers are sharply focused on how to minimize the damage from the pandemic. But technical change wasn't shut down by the pandemic. Indeed, it accelerated in a number of dimensions including in payments. And policy makers, globally, can't lose sight of the important public policy implications of these developments. And that word, globally, is important. Many new payment systems will cross national boundaries, will take a coordinated effort to

set and enforce regulations that protect consumers and stability.

Last December, the Financial Policy Committee published three principles to guide our assessment of the regulation and supervision of payments. Payments regulation should reflect the financial stability risk, rather than the legal or technological form of the activities. Regulation should ensure end-to-end operational and financial resilience across systemic payment chains. Sufficient information from firms in the payments chain should allow monitoring of emerging risk to financial stability.

Andrew will now discuss some of the implications of payments innovations and address particular financial stability risks of stablecoin applying these principles. Andrew, the screen is yours.

MR. BAILEY: Thank you, Don. Can I just check if I've come through because I was having a bit of a problem connecting. So, I apologize for being late into the event. But hopefully everything's working now. Great. Well, look thank you, and it's -- oh, excellent, thumbs up -- but thanks.

So, this is an important subject area as Don mentioned. And I want to set out the (inaudible) this morning so I stopped in here this morning, you know, how we are thinking about a number of key issues around payments, around stablecoins, and around the idea of central bank digital currency as well. And I want to sort of in a sense put a theme around that about how we balance regulation and innovation.

Don is a huge experienced central banker in his own right, more so than I am actually. And, you know, it's sometimes said that central bankers can be accused of overusing language. The world is always more uncertain than ever, except that at the moment in the current conditions, it probably really is so. And another favorite saying that I often hear is that innovation is all around us except in productivity numbers uncertain in UK. The one area where innovation really is around us is the world of payments. And that's what's going to be the focus of my remarks today.

I want to start with a pretty sort of simple statement. Innovation is a good thing. As authorities and regulators, it's not in our interest. It's not in the broad public interest that we represent to stop innovation. Moreover, I think when it's supported by clear standards and expectations, innovation can support the pursuit of public interest objectives such as greater inclusivity and the resilience of networks. Making such standards clear early is in my view, much preferred to attempting to claw back the ground later. And particularly if that clawing back happens after things go wrong. And so, this is the

backdrop to innovation and payments, and particularly in the area of so-called digital currencies developed to offer new forms of money in inverted commerce.

There's no question that the way we pay for things is changing rapidly. People are increasingly turning, certainly in this country, turning away from the transactional use of cash, which, of course, in its own right comes after the decline of checks and the innovative alternatives that are emerging are certainly in many respects flourishing. I think the focus of that innovation, or the use of it anyway, has so far been more so within domestic markets. The picture of payments going across borders is less encouraging at the moment. It can still take as long as 10 days to transfer money to different jurisdictions. And the transaction cost can sometimes be up to 10 percent of the value of the transfer, which is pretty striking, shocking actually.

So, as part of the global G20 and Financial Stability Board and, indeed, Committee on Payments and Market Infrastructures Initiative, the recent reports on enhancing cross-border payments and building the blocks of a global roadmap, clearly sets out the challenges and frictions that exist in this world. These include significant barriers to entry, long transaction chains with multiple currencies and intermediaries involved, legacy technologies, limited operating hours, and high operating costs coming from compliance checks and funding requirements, for instance.

So, the CPMI Task Force on Cross Border Payments, which involves the Bank of England and other central banks and other standard setting bodies, has led this work, and set out an ambitious plan for a joint public and private sector vision: global regulatory, supervisory and oversight coordination, improvement of existing payment infrastructures, enhancing data quality and exploring the potential of new innovations.

But with these benefits do come risks and challenges for the authorities. And we should treat this as being in the nature of change. We shouldn't resist it. We should treat it as being in the nature of what we do. As Don was saying, the Bank of England's Financial Policy Committee has set out principles to respond to the significant changes in the payments landscape. Payments regulation should reflect the financial stability risk, rather than the legal or technological form of payments activities. Firms that are systematically or systemically important should be subject to standards of operational financial resilience that reflect the risks they pose with sufficient data available to monitor emerging risks. Now,

these may sound like very commonsense points, but innovation is increasingly challenging regulators' ability to ensure that these points are met.

Let me return to the theme of central banks and their particular use of language. There's an important distinction we often refer to between central bank and commercial bank money. Taken literally, this is the distinction between money, which is a direct claim on the balance sheet of a central bank and money that is a claim on the balance sheet of an authorized and regulated commercial bank, to which the local deposit protection rules apply.

Central bank money takes two forms. Reserve accounts are held by banks and other financial institutions and provide part of the stock of high quality liquid assets. And from that the balances used to effect the making and settlement of payments between banks. They are also a crucial part of how central banks set monetary policy. The second form, cash, is the only form of central bank money accessible by the general public.

Another important term to bring in here is fiat money. This is state-backed money denominated in the national currency. Cash is a form of fiat money. Commercial bank money is only acceptable for wide scale use in the UK if it is denominated in sterling, convertible into sterling fiat money at par value, and convertible on demand. Private providers of commercial bank money need to demonstrate they can meet these obligations so that individuals and businesses can have confidence in being able to regard different types of money as indistinguishable from cash, and be able to change it one-for-one on demand.

Until recently in the UK, cash accounted for the largest number of transactions that is by number, not value. But in the UK, the use of cash in transactions was declining even before the COVID pandemic. With the impact of COVID and the UK lockdown, cash withdrawal volumes have dropped further. At their lowest during the UK lockdown, cash withdrawals were 60% lower, that's in April, than the year before. And even as the UK lockdown has eased, cash withdrawal volumes have remained low. In July, they were around 40 percent lower than the year before. So, the increased use of non-cash payments places even greater importance on payments systems, and that, incidentally, underlies the work the Bank is doing to upgrade its real time gross settlement systems.

But there is an increasing paradox in the area of cash. And I can speak from personal

experience on this as a former chief cashier of the Bank of England. I became chief cashier at the start of 2004, when the value of notes, the banking in notes in circulation was £34 billion. When I moved on in March 2011, it was £49 billion. Today, it stands at £77 billion. So, it took 310 years from 1694 onwards to get to £34 billion. And then just over 16 years to move on to £77 billion. And it hasn't actually fallen in terms of the stock in circulation.

So, the paradox of cash is obvious. Use in payments is declining, but the value of the stock in issue is not. For the sake of brevity, I'm not going to discuss the possible explanations of that paradox here. I'm going to go on to talk about how innovation in payments is picking up pace.

Traditionally, outside the use of cash, payments have been made in commercial bank money using systems that settle in central bank money across the reserve accounts held by the banks at the central bank. Central banks have increasingly brought these systems under regulatory oversight with the intention of ensuring appropriate legal finality of settlement and operational resilience. More recently, innovation has started to strain at this framework in a number of ways. And I'm going to set out three forms that this innovation has taken and why it raises questions.

Let me start with crypto-assets, such as bitcoin, which have appeared in the last 10 years or so. They don't have any connection to money at all. They may have extrinsic value. You may like to collect them, for instance, and as such they are a highly risky investment opportunity. Their value can fluctuate quite wildly, unsurprisingly. But they strike me as fundamentally unsuited to the world of payments, where certainty of value matters.

The next innovation is alternative payments such as e-money, which in Europe has grown up under the auspices of the Second Electronic Money Directive and the Second Payment Services Directive. And to be clear, those two directives have been translated into UK law and regulation as part of the on-shoring process in the context of Brexit. Now, this regime creates something which is more money-like in the sense of commercial bank money, but doesn't have the same direct link to fiat money. And the safeguarding regime it contains does not have all the features of deposit protection. It is therefore a hybrid.

I think it's important that we ensure that users fully understand the difference in protection. And I have to say I suspect at the moment that's probably not widely the case. The standards

of protection are less developed than those for banks. There's no depositor protection scheme, and firms are subject to only limited capital and liquidity requirements. And nor is there a resolution, a special resolution or administration regime. So, if a provider does fail, holders of it's "money" would be forced to pursue any recovery through a corporate insolvency procedure, which would be neither quick nor guarantee to return the funds.

The third innovation, and the one that I'm going to focus on more, is so-called stablecoins. Now, while many earlier forms of crypto-assets, such as bitcoin, have proved unsuitable for widespread use in payments, stablecoins, and particularly global stablecoins, aim to do just that. Not all stablecoins are intended for use in making payments. Some of the proposals we've seen may be used to facilitate investments. However, where a stablecoin is used to facilitate the transfer of money for buying goods and services and the settling of debts, then it may become widely used as a means of payment and store of value.

Global stablecoins seek to apply new technology, stemming from the world of crypto-assets, as well as changing some of the fundamentals of the underlying payment chain. They change not only how you pay, but what you pay with. Rather than a transfer of money between bank accounts, stablecoin systems transfer the asset itself, the stablecoin, from one person to another.

Now, they could offer some useful benefits. They could further reduce frictions in payments by potentially increasing the speed and lowering the cost of payments, particularly if global stablecoins were to be established. They may offer increased convenience, including via integration with other technology, such as social media platforms or retail services. But if stablecoins are to be widely used as a means of payments, they must have equivalent standards to those that are in place today for other forms of payment types, and the forms of money transferred through them. That's an important principle. It will ensure they are safe and resilient and that consumers can use them with confidence.

To reiterate a key principle of payments is that users can be confident that the instrument they use to transfer value can be converted into fiat money at any time. And in the rare circumstances that the entity that issued that instrument fails, there are clear rules and protections for the payment recipient and for the consumer. It's this assurance that stabilizes the value of the transfer asset so that all parties in the economy can rely on it. Banks achieve this by giving the customer a money claim at par,

supported by their access to central bank facilities and extensive regulation, including the depositor protection scheme up to a certain amount.

These protections mean that if you're an individual shop owner, you don't need to worry about scrutinizing which bank issued your debit card before you use it to pay. It is these protections that prevent a return to the literal wild-west in which individual banks issued their own private currencies, which were worth different amounts depending on the recipient's assessment of the soundness of the issuing bank.

What I think is not acceptable is to fall between regimes. For instance, to argue that by holding backing assets such as sovereign bonds that are, in general, much safer than those on a bank's balance sheet. This is good enough to ensure convertibility into fiat money at par, because low risk is not the same as no risk. This is why the Bank of England's Financial Policy Committee set out in its Financial Stability Report that stablecoins used in systemic payment chains should meet the standards equivalent to those expected of commercial bank money in relation to stability of value, robustness of legal claim, and the ability to redeem at part in fiat.

Now, some major stablecoin proposals don't appear at the present to meet this expectation. They don't include a legal claim for coin-holders. And some stablecoins propose backing in instruments that may have material market, credit and liquidity risk, and do not have the money protections that I've outlined. This might be acceptable for speculative investment purposes, but it would not be for payments widely relied upon by households and businesses. Stablecoins need to offer coin-holders a robust claim, with supporting mechanisms and protections to ensure they can be redeemed at any time one-to-one into fiat currency.

Now, some may ask whether that would rule out a multi-currency stablecoin. I think that's the wrong place to start. It raises questions around the value of the coin, and the underlying money it represents. I think the starting point for a global stablecoin should be based on single currencies. Let's not run before we can walk.

It's, therefore, important I think to set standards early on so that integration can take place with confidence on what will be required. This gives certainty not only to regulators and users, but also to innovators. And the international community has agreed that no global stablecoin project should

begin operation until the legal, regulatory and oversight challenges and risks are adequately addressed through appropriate designs and by adhering to regulation that is clear and proportionate to those risks.

But, of course, given the novel form of the proposed instrument, existing standards do not necessarily easily apply. There need to be minimum international standards for stablecoins. In addition, any stablecoin with potential for wide scale use in the UK must meet our domestic expectations.

A stablecoin which intends to launch with sterling-based activities in the UK should first meet relevant standards and be appropriately regulated. And if a sterling retail stablecoin wishes to operate at scale in the UK, then we will strongly consider the need for an entity to be incorporated in the UK. This is similar to the subsidiarization of banks that we require if they're holding UK retail transactional customer deposits above a de minimis level.

But a global stablecoin is a cross-border phenomenon. It can be operated in one jurisdiction, denominated in another's currency, and used by consumers in a third. And of course, the regulatory response therefore needs to match that. The response must therefore be grounded in internationally-agreed standards as we do in banking. Global issues require a global response, particularly for multi-currency stablecoins intended for cross-border transactions.

Along with the G7, the Financial Stability Board has been leading coordination of the international response to global stablecoins. The FSB consulted in April on the regulatory and supervisory challenges they present, with a final report due in October. And at the Bank of England, we support the efforts to set a baseline set of expectations. These include that stablecoins should be regulated based on the functions they perform and the risks they create. And that there should be comprehensive domestic and international regulation and supervision. Global stablecoins should have robust governance and risk management, and be transparent about their stability mechanisms and coin-holders' rights.

The baseline set of expectations will help avoid regulatory fragmentation and is an important and necessary step. But alone it isn't sufficient. Existing standards must be examined and updated where necessary. There needs to be a clear G20 mandate for the various sectoral standard-setting bodies to consider their standards and whether they need to be refreshed or clarified in light of stablecoins. This will be necessary to truly deliver on the principle of same risk, same regulation. Now,

the CPMI and IOSCO are working to ensure that it is clear to stablecoin developers how international standards of regulation and supervision for financial market infrastructures, including payment systems, will apply to them, including where stablecoins are used in systemic payment systems. Other standard setters, such as the Financial Action Task Force and the Basel Committee will also need to respond.

Coordination between regulators is also essential. In particular, host regulators of global stablecoins must, and are, working with other regulators in other jurisdictions to ensure that they are appropriately regulated and gaps in coverage, opportunities for regulatory arbitrage, in other words, don't emerge.

At the Bank of England, we look forward to the conclusions of the FSB's consultation, and the subsequent finalizing of international work to ensure a comprehensive framework can be put in place. Current proposed global stablecoin offerings will need to demonstrate how they meet these key domestic and international standards. And they must do so before the global regulatory community can be comfortable with their launch and widespread adoption.

Now, a very reasonable and important question is whether a better outcome would be for central banks themselves to harness much of the technological and IT systems innovation and directly digitize cash. A Central Bank Digital Currency, a CBDC, would be an electronic form of central bank money that could be used by households and businesses to make payments. Digital central bank money would surely address the decline in the use of paper money without the complications of creating the protections required around stablecoins. I think the answer to that is yes and no. It's a good question and it is being considered and should be. But it's a big one, and the answer is not yet in.

Offering a CBDC would allow broad access to central bank money in a digital form. But launch of such a thing would require careful prior consideration to fully explore all the issues and implications in order to make an informed decision, including by the way, ascertaining that there would be demand for such a thing.

I think a CBDC, while offering much potential, also raises profound questions about the shape of the financial system and the implications for monetary and financial stability and the role of the central bank. There are very fundamental questions in play here. What might a CBDC mean for monetary policy transmission? Would it bring new tools and fuller, faster transmission of policy choices?

To what extent would it disintermediate the banking sector? And what impact would this have on the cost and availability of credit and the resilience of banking business models and funding? And what services and infrastructure should a central bank offer as part of a CBDC and what might best be left to the private sector?

I thought the paper that Brookings did in July on *Design Choices for CBDC* very helpfully explored a number of these issues, as well as key technological points on the need for interoperability and connectivity between and among central and commercial bank systems for CBDC to function effectively. Such standards are even more important in a world where there might be a need for interoperability and friction-free movement between CBDC, private stablecoins and other payment mechanisms. And we, along with our international counterparts are considering these issues very closely.

The Bank of England is exploring them and published its discussion paper on CBDC earlier this year, setting out key considerations, and an illustrative model based on central bank core ledger and private payment interface providers offering overlay services to users. We got a wide range of responses. We're currently working through them continuing to engage with stakeholders, and look forward to setting out more information next year. We're also working closely with our international counterparts who are facing the same questions.

So, you're really talking about, we do start from sort of the position that stablecoins and CBDC are not necessarily mutually exclusive. They could, depending on design choices, sit alongside each other, either as distinct payment options or with elements of the stablecoin ecosystem, such was wallets, providing consumers with access to a CBDC. So, there will, I think likely be a role for the private and public sector working together in the future of payments in this respect.

Moreover, stablecoins and CBDC are not the only ways to meet changing demands and reducing frictions in payments. We need to continue to enhance existing infrastructure, including by renewal and harmonization of RTGS systems. And that work is continuing and will continue in parallel with other developments.

Let me finish with a few words on the public policy questions raised by digital currencies. The rise of stablecoins and the emerging proposition of CBDCs pose fundamental questions about the

role and responsibilities of private firms and central banks in the world of payments. I've outlined the key role of authorities in ensuring the stability of money, through issuing and ensuring confidence in central bank money, from monetary policy through to making it hard to counterfeit, and regulating banks to ensure commercial bank money is stable and convertible on demand. Oversight of payment systems transferring this money ensures they're resilient and can be used with confidence.

But the changing nature of money causes us to pause and consider the importance and implications of money, which extend much further than a simple exchange of value or financial transaction. And the policy implications are much greater than the specific mission of the central bank. In short, money has a social and not just financial function.

Who should be responsible for the integrity and security of the architecture of digital payments? They will create not just a novel form of money, but also a new payment infrastructure, which while likely bringing benefits to payment efficiency, will raise questions around transparency and how resilience and consumer protection will be ensured. Central banks might be involved in this infrastructure too, but where might the role of the central bank start and stop?

Privacy and data collection issues are also a key question. Digital currencies, depending on their design, could provide considerable information on how people spend their money, and we cannot compromise on the protection of our privacy. Private firms might seek to use these data, with appropriate user consent, to offer improved services, but, of course, we've also seen widespread misuse of data. Digital payments could entail greater data on users' identities and transactions being centrally visible. Of course, these data could have huge opportunities for the detection and prevention of financial crime, but this must be balanced with the risk of surveillance into private financial matters.

These questions, as well as issues of encouraging inclusion and promoting competition, are not ones for central banks and regulators alone to answer. They go the heart of how we use money and who should be responsible for safety and security. There needs to be a wider debate between policy makers, governments, and society as a whole.

So, to sum up, we've reached the point in the cycle of innovation in payments where it's essential that we set the standards and thus the expectations of how innovation will take effect. It shouldn’t happen the other way around with the standard setting playing catch up. The answer is not to

strangle innovation, and it does therefore require a strong dialogue between the parties, which I think we have. It also, if I may say so, requires the sort of very thoughtful input that Brookings scholars have made.

If I can end with one overarching point, I think the public expects its payments to carry the assurance of value that comes with money. Now, at this point, my mother would have said firmly to me, thank you for that statement of the blindingly obvious. To which I would say, well, I look at some of the debate going on, and it isn't so obvious anymore, but it should be. Thank you.

MR. WESSEL: Thank you, Governor Bailey. And I want to let everybody know we're going to extend this until 11:15 because we started late and I hope you can all stay with us. I'm going to turn immediately to the panel and I'm going to pose some questions to the panel, but I want to invite the panel if they want to pose some questions to Governor Bailey, to feel free. And I want to start Fennie Wang with you. Fennie, as I said earlier, is the associate general counsel of MakerDAO and has a consulting firm called Dionysus because she seems to think that having the god of wine inspiring digital currencies is a good idea.

Fennie, I wonder if you could put in a little bit of context for us. So, stablecoins, of course, are a form of electronic money that are linked to something like the dollar or the pound. And you have a firm that has a stablecoin called Dai. Are you comfortable with the Governor's standard setting, the idea that the central banks and other regulators should set rules now so that people can be sure that if they use stablecoins, they're not getting ripped off? Or do you think that there's going to be too much regulation to soon and we'll never get the benefits of stablecoins?

MS. WANG: Thank you, Dave, for the question. Thank you, Governor Bailey. Just one note of correction. I have left MakerDAO (inaudible) independent and can express my own views on matters. I think that's a very good question and Governor Bailey raised some very valid points about (inaudible) that are perhaps some of the clichés about stablecoins. So the most typical deliverer of stablecoins that are existing today are supposedly stablecoins that are backed one-to-one by, for example, (inaudible) reserves in a bank, so they're backed by commercial money as reserves, right?

And as Governor Bailey pointed out, this is modelled for all of these stablecoin issuers is to earn interest on those reserves that are sitting in a bank account. And now, that we're in a low a rate

environment, there is a question as to whether or not the stablecoin issuers will have to replace their reserves with riskier assets to chase those kinds of returns and to be profitable.

And second, your redemption question for stablecoins, there is no direct contractual relationship between a holder of a stablecoin, certainly a retail holder of a stablecoin, and the issuer of that stablecoin. So, normally, as a retail holder, I have to go through an exchange that effectively functions as a market maker for the stablecoin. Now, for all the extant stablecoins that people actually use today, I would say that it's the primary use case right now is not for payments, but it is for crypto trading. So, crypto traders are using stablecoins as a proxy for cash, as a proxy for on chain, you know, fiat settlement in quoting the value of these various digital assets. And so, because of this activity profile, they can accept these kinds of risks because they're not actually holding on to the stablecoin for very long. The velocity of money of these stablecoins is quite high, meaning the frequency in which the asset changes hands, right? So, they're doing a lot of these in and out between positions, and they have a larger appetite for risk.

So, I don't think given that activity profile, that the current usage of stablecoins may not actually be appropriate for a general public use case that is actually trying to use stablecoins for payments. And in that context, we do need better regulatory protections and clearer legal rules around the rights that a holder of a stablecoin has in terms of redemption, in terms of the financial stability, if you will, of the underlying reserves and so forth.

MR. WESSEL: Great, thank you. Blythe, I have a question for you, but you should feel free to ask the governor a question as well. As the governor mentioned, it is still frustrating for many people that it takes so long and can cost so much to use bank payments these days. So, I'm wondering if this whole market of stablecoins is basically just a reaction to the fact that the banking system and their regulators haven't found a way to have faster, cheaper payments, especially cross-borders.

MS. MASTERS: I think that's a very fair question. And the governor made a comment that in parallel to the work that needs to happen to establish the correct and prudent regime for stablecoins and/or central bank digital coins, that there needs to be ongoing work investing in existing payment systems and infrastructure. And, in fact, if you look around the world in many jurisdictions, that work is both ongoing and has produced significant improvements. Although in many cases, they tend to

be primarily oriented towards domestic applications. And so, I think there's a reason why the cross-border use case is often emphasized by those advocating the case for digital currencies and/or stablecoins, it's emphasized is that those cross-border instances are where the real inefficiencies and the high execution costs tend to arise.

So, I think it's a fair point. I think that there are forces in play. In part, I would say as a beneficial side effect of the fact that stablecoins and cryptocurrencies have received so much attention, there is increased focus on improving existing payment rails, both from central authorities and private actors. And I think that competition is healthy and that pressure is very important to continue.

Having said that, in many cases, those systems and infrastructures have their ending points in banks and/or bank deposits -- and/or bank accounts, I should say. And as you know, there remain in many jurisdictions around the world, not just in less developed countries, but even in developed countries, significant, a component of un and/or underbanked populations who are essentially excluded from integration into the financial system. And so to the extent that that situation continues, there will continue to be a case for the development of alternatives that offer lower cost access. And unfortunately, sometimes the cause of that lower cost access is regulatory arbitrage in the sense that providing the traditional access, results in incurring a burden of regulation and results in a concomitant risk aversion that is what results in portions of the population being uneconomic to bank in the traditional fashion.

And so, I think, you know, there's a case, a very important case to be made for continued focus on not just improving performance of the existing infrastructures, but looking at in particular, those areas where bringing the underbanked or unbanked into digital inclusion or financial system inclusion becomes possible and ensuring that that is done in a fashion that both offers consumer protections and doesn't create undue systemic riskiness, which I think has been, obviously a large part of the focus of the Governor's remarks. So, I don't know if that really answered your questions or went a bit beyond it, but it was a good question.

MR. WESSEL: And you had a question for --

MS. MASTERS: Yeah, I did have a question for the governor as well. I thought your point on the fact that PSD2 and EMD2 have created a framework for e-money that is distinct from central bank money and/or fiat money or traditional fiat money, but is not the same thing as stablecoins or

CBDCs. And that that regulatory framework is, you know, really falls quite far short of the rigor that is imposed on the traditional banking system in the case of -- because of the absence of deposit insurance, recovery, and resolution regime. So, there's kind of a hybrid effect there.

And my question for the governor is to the extent that e-money usage becomes prevalent and on a systemic scale, surely you would have the same concerns that you've articulated around the situation or the need to properly regulate stablecoins and the like, but perhaps not. And if not, then why not? And if the hybrid framework that exists around e-money is acceptable, is there something similar to that that could be adopted for stablecoins that fall short of the full-fledged essentially you regulate it as if it were essentially the same as the full banking system standard?

MR. BAILEY: Did you want me to comment on that? I think it's a great question actually.

MS. MASTERS: Yeah, please.

MR. BAILEY: It's a great question.

MS. MASTERS: If you don't mind.

MR. BAILEY: Because you're right. And I think, I mean, the way I look at it is that I think you have got, I mean, generally in regulation in this area, you've got a sort of dichotomy. You've got, as you said, you've got sort of banking regulation on one side of the transit deposit protection attached to it. In the world of securities in the investment world, you don't tend to have that. I mean, in the UK regime, you have what we call client money regime.

Now, yeah, that creates a sort of protection, but it's a different sort of protection. It's not actually so much sort of a mutualized underpinning, or it can be that. But it's more of a sort of what I might call an auditing regime to say, you know, are your funds where they're supposed to be? You know, in the same way it operates in the securities world. It's a very detailed regime, but it doesn't have the same umbrella protections, actually. It takes a different approach to come in protection.

Now, your question's really good because I think if you translate that to the electronic money world, I think the origin of this using that approach to regulation was that this was a relatively small thing that was coming into being. And in the interests of innovation, let's not hit it with a sort of full, you know, the full force of what goes with banking regulation and capital liquidity and deposit protection of the cost factor.

So, in a sense it was there to sort of enable innovation. But I strongly agree with the point you made that you get to a point where if it takes off sufficiently, and if it is sufficiently systemic, then I think the question becomes, you know, are we comfortable with, first of all, having a different and I think arguably less rigor, or less robust form of protection. But secondly, and even more powerfully as I mentioned earlier, are we clear that the public understands this difference?

Now, if I'm honest with you, I would probably wager that the public doesn't understand it and in a way, you know, why should they because it seems like very sort of technical and, you know, world to have to understand if you're a member of the public choosing how you buy things. So, like you, I think that if it moves to that world of being more generalized payments and, you know, and it could, then I think the question about the trans-prevalence issue set, then those concerns arise. And I think the case for putting the more robust or rigorous system around it becomes strong.

MR. WESSEL: Thank you. Just so people understand the distinction here. When we're talking about electronic money, we're talking about something like Venmo, where you have a payment, but it's in dollars and there's a bank account somewhere at the end of the process. And that's different from stablecoins, which are an alternative to the dollar, but are linked supposedly to the value of the underlying currency and rely on the people who issue them to make sure they're backed up and can maintain that link.

I'm going to turn to Chris now. I have a lot of questions, but you probably have more answers than I have questions. So, I'm just going to hand you the mic and then we'll go --

MR. BRUMMER: And this is a great and really interesting conversation. I've been getting, I'm sure so have others, a number of interesting questions. And one very interesting comment was, you know, whether or not we're applying our standards consistently when one wants to really compare commercial bank money to stablecoins. I mean, the comment that I received was, the claim may be at par, but where it takes three weeks and costs a lot, is that really better, especially when you think about the fees often involved in say, a cross-border payment and the confusion. All right, so in other words, when you go about that standard setting process, are we applying the same level of scrutiny to the legacy infrastructure as we would be applying to stablecoins?

I wanted to offer also one or two observations that's closely connected to this. There

have been some studies by most recently from Nick Carter, sort of a crypto hedge fund person, who's quite smart, that as an individual nation, stablecoins already boast a broad monetary base larger than that of 72 countries. So, at what point, you know, when we talk about, you know, a global stablecoin or a kind of global infrastructure, do we already have one? You know, is there a difference between being a systemic infrastructure and being a global one? Because certainly when you think about how many of these stablecoin infrastructures operate, they are inherently cross-border.

And does that inherently cross-border aspect inherent to the operation of your typical stablecoin challenge or complicate the overall question of cross-border regulatory coordination? What's involved in that process of reaching standards where some countries may have more consumers and then the banks that hold the funds that are ultimately backing the stablecoins may lie in other countries? You know, is there a kind of a political economy behind this process of international standard setting precisely because many of the stablecoins are already global that complicate things and, you know, does then finally this issue of a CBDC, does that help to bring more pressures on the standardization process? Does it lend more weight and add more energy to that process? Or does it complicate that process as well?

MR. WESSEL: Reminds me of that great Mervin King line about how banks are global in life and national in death.

MR. BRUMMER: That's right.

MR. WESSEL: Governor Bailey, did you want to respond to that?

MR. BAILEY: Yes, I think it's an important point. So, I think it's important to make the cross-border comment points. So, I think what you run into here is that I think when I look at us and I look at other central banks and authorities, I think we are within a framework of regulation. And I think we're instinctively more comfortable about wholesale business being conducted on what I might call that sort of cross-border basis with regulatory coordination and standard setting than we are retail.

And I think that in the political economy world, I think that's a fairly sort of common underpinning assumption. It's not always tremendously explicitly articulated, but I think you can if sort of you don't have to look far below the surface to find that. And I think that goes to a point that was made earlier about, you know, while stablecoins are in I think what was described as quite -- their use is in the

crypto use world. Well, those you rightly say that, you know, taken in aggregate that could be quite a sizeable amount.

In a political economy sense, it's a world of its own as it were. You know, we went for a period with crypto-assets I think when we were worried about will, you know, will they spread widely in the general public? Will people put them in investments and, you know, what follows will be, you know, very volatile value wise, there'll be trouble. You know, certainly in the UK when we've done surveys, you know, I think, the ownership pounds are not vibrant for the moment.

I think what we're talking about here is obviously is then moving stablecoins into the world of retail payments, or payments more broadly. And you rightly put the political economy question and that's where it gets difficult because as I said, I think there a different expectation in terms of protection for the retail here. The retail user different expectations of preserving value. You're into a whole different world of political economy and a whole different world of regulatory standards of that world. And I think, you know, that is sort of in a sense a consistent, actually, is why as I mentioned in my remarks, on the whole, many authorities where we're one of them, are not comfortable with retail bank accounts being operated cross-border in size. It's a difficult world to explain to the public when it goes wrong, to be honest, and from time to time it does.

MR. WESSEL: Eswar Prasad, almost everything I know about central banks issuing their own digital currency comes from things you've written or said. The Governor carefully said put central bank issued digital currency on the table, but stopped short of saying that the Bank of England's going to do that. I think that was intentional. But I wonder if you could talk a little bit about what are the pros and cons of central banks issuing their own digital currency, their own stablecoins? And where do you think we are on that curve?

MR. PRASAD: Thanks, David. As a card carrying economist, I shall indeed make the case both for and against retail CBDC, which could in principle, replace cash. I think there are good reasons to think about retail CBDC providing a useful function in an economy. Experiments in countries such as Uruguay and the Bahamas, show that it can help in increasing financial inclusion among the economically disadvantaged. It can also serve as a backstop to the fully private sector managed payment system and infrastructure, which is sort of the motivation for Sweden thinking about a central

bank digital currency.

It also brings economic activity out of the shadows, broadens the tax base, and could in principle, make monetary policy implementation a lot easier if it was done in the form of central bank accounts to which these monies are managed. You could effectively have potentially helicopter drops of money to the entire population becoming a lot easier. Negative nominal interest rates, although they're not necessarily the most virtuous way to don monetary policy, might become much more feasible. So, I think there is a lot to be said in favor of CBDCs.

But there are potential downsides. In particular, if you think about the problems we're really trying to solve here, which is about more efficient payments, both domestically and cross-border. There are certainly lots of frictions and I think there is a legitimate question here about whether the central bank or the government should be playing a role that the private sector might be able to perfectly adequately manage. So, you pose the risk of squelching innovation if rather than letting 1,000 payment systems bloom, you have a government retail payment system that blooms and causes other payment systems to basically get strangled in the cradle, to use the metaphor the governor used.

You also run the risk of financial stability, precisely the problem that you're trying to solve if in a moment of financial crisis or concerns, you have money getting swept out of the commercial banking system into central bank accounts, you set off precisely the problem you're trying to avoid.

So, there are these issues, but I think there are technical work arounds. The governor referred to this Brookings paper, which I was part of the team that wrote that paper. And they argue that the dual-layer approach, where the central bank issues the CBDC, but this is managed through digital wallets that are handled by commercial banks could take care of the problem of not disintermediating the commercial banking system. But I think there is still a risk that the commercial banking system starts becoming less important and that has implications of monetary policy transmission. The Governor pointed out that the creation of credit by commercial banks is very important. If you have commercial banks becoming less important players, there are questions about who creates the credit and if there are alternative players who create the credit, then will they be supported by the central bank because there will be no direct channel through which these institutions are connected to the central banks. So, what happens in a moment of crisis when you need a big infusion of liquidity?

But in addition, I think there are much broader societal questions and the Governor referred to them. I could not buy the governor, if he so wished, a cup of coffee or a Pret a Manger sandwich without either a private payments provider or the government knowing about it. And I think there are real questions about whether that is the world we want to live in.

So, finally, I think when central banks approach this issue, there really isn't much of a choice. I think for central banks taking a passive approach is really not going to work well. I think a more proactive approach where we think about the fundamental problems that need to be resolved, and what sort of mechanisms either provided by the private sector with adequate regulatory and supervisory control. All alternatives are important.

On the issue of stablecoins, I think the key issue here is that while we think of them as better methods of payment, it's clear the cryptocurrencies are not right now working very effectively as methods of payment. Stablecoins are going to do what private cryptocurrencies were going to do, but here I will differ a bit with the governor. I think the notion that stablecoins could become independent stores of value seems to me untenable. I think it's clear that what gives stablecoins the ability to function as effective means of payment is really the fact that they are backed by fiat currencies. So, I think fiat currencies are going to retain the principality as stores of value, but I think on the means of payment, we could certainly see a lot of innovations and I hope that central banks will not squelch them, but create the right sort of environment where these can, as I said, bloom.

MR. WESSEL: Thank you. Fennie, I want to invite you to respond to anything that was said, but I also wonder if you could speculate a little bit? Do you think that in, say the next five to seven years, that stablecoins will be a retail method of payment that I'll be paying for this cup of tea we're buying the governor with stablecoins? Or do you think there will be largely the preserve of people who are speculating in cryptocurrencies?

MS. WANG: Thanks for that question. I do think that it's still a move towards more traditional type retail payments as use cases. It's a question of who's in the best position to do that and provide those kinds of regulatory assurances, and also in terms of the feature set. So, there's been a lot of talk about Libra as being that kind of provider of this type of instrument. And is there sufficient user research to understand what would cause someone to chose this form of payment versus using the

electronic money as they are used to using today with PayPal or Venmo? So, there's a number of design choices that have to go into that. And one of them is around the anonymity issue and AML KYC that also plays into the financial inclusion questions. So, --

MR. WESSEL: I need to interrupt. I'm trying to avoid acronyms. So, KYC, know your customer.

MS. WANG: Know your customer. Know your customer and anti-money laundering. So, those are regimes that are placed on digital payments and electronic payments that require information about the sender and collecting this kind of information. And if we're really talking about financial inclusion use cases, remittance as micropayments, a lot of these folks that are excluded from the banking system today, they lack identity. So, they don't have the ability to meet these know your customer requirements, which is part of the reason why they're excluded from the system.

So, in parallel to creating this kind of digital, global digital payment system that's actually used for payments, we're also going to have to think about digital identity to go along with that. So, can we create an identity layer for people that is more user centric that allows for this balance between the privacy needs, user ownership of data, and the regulatory concerns, and have those regulatory concerns be applied in a risk adjusted manner.

MR. WESSEL: Interesting. Chris, you don't like Eswar's use of the word, backed.

MR. BRUMMER: Well, I'll try to sort meld sort of Eswar's comments into Fennie's comments. It's just that, you know, when you think about stablecoins, and I think it's really important to keep in mind, you know, just how heterogeneous the universe of stablecoins is, right? And one of the challenges is that when we use the term, backed, you know, well, the term back, now, I don't want to say, you know, it depends on what the definition of is, is, but you do get into this world as to whether or not you mean backed by, you know, is there a stablecoin that's merely looking to replicate the kinds of returns on a particular set of assets, and some people will use the term, backed. Does it mean that there is actually some kind of resource that's being held somewhere and being custodied, right? I mean, is that what you mean by, backed? And then the question of backed is sort of rich with all this legal significance, which is what exactly is the nature of the redemption rights that the holder of the cryptocurrency has vis-a-vis a backed resource, assuming again, that there actually is something that's being custodied.

And this sort of set of sort of multilayered set of definitions, I'm not just bringing up as a lawyer, but I think that there is a technological sort of underpinning to it as well that I think needs to be underscored. And that is that the growth of stablecoins and potentially the really interesting applications for CBDCs even when it comes to things like financial inclusion, is that they're not just a means of payment. That the definition of what money is is changing because now, you know, when you can reduce money down to code, you're thinking about more than just, you know, an instrument of exchange, a store of value, and a unit of account, now all of a sudden you have other kinds of use applications that are possible. Especially where, as in the case of many stablecoin issuers, you've issued a currency that's on a public block chain that's using interoperable standards. Because that presents this whole idea of money as a platform and not just money as say a medium of exchange.

And that really pushes on the boundaries, obviously, on how economists think about money. But it also then is useful to think about both from a sense of understanding the demand side of the stable currency curve, right? As to what could drive the increased interest in stablecoins. But it's also very, very useful for policy makers when they're trying to think about how they would like to design a CBDC. Do you want design and infrastructure on top of which other kinds of applications can be made? Say a digital identity layer. Say other kinds of applications to help bring those what then sort of on the margins of the economy into the financial system.

MR. WESSEL: Eswar, do you have a quick response to that? We're almost out of time.

MR. PRASAD: A quick response is that in the context of backing, it seems that most stablecoins including Libra do seem to be getting the sense of stability of their value from custody and assets in some for or the other. Whether the custody is credible or not, is an open question. But certainly the markets seem to take stablecoins, such as Tether, at their face value.

MR. WESSEL: Right. We're out of time. I'm sorry, because it's a very lively discussion and I'm sure it's one that we will be continuing. For some closing remarks, I want to invite Glen Hutchins, who is not only the benefactor of the Hutchins Center, but cochairman of the Brookings board and has particular interest in the cryptocurrencies. Glen.

MR. HUTCHINS: Thank you, David. I want to just close this very quickly, I know we're late, by thanking Governor Bailey for joining us today. And I want to especially thank you for the

important work you're doing leading the Bank of England concerning the financial stability and regulatory issues surrounding cryptocurrencies.

I, by the way, bring you Andrew Green, through our mutual friend Jay Clayton, the chairman of the SEC, who has also spent time with us at the Center on the securities law implications of crypto. I raise Jay's name because both of you recognize the importance of creating regulatory frameworks inside of which entrepreneurs can thrive. And as a long time technology investor, I want to underscore how critical your constructive approach is in fostering innovation, particularly in regulated sectors. So, thank you.

As we close here, I also want to thank the panel who did such a terrific job, particularly our friend, our Brookings colleague, Eswar, my pal, Blythe, an entrepreneur in the sector, and our distinguished guests Fennie and Chris. Finally, David, I want to compliment the team at Hutchins Center for putting this together. When you and I created our Center, this is precisely the kind of substantive and though provoking met with potential for real world impact that we envisioned. Well done. Thank you very much everyone. Stay safe.

MR. WESSEL: Thank you very much, Glen. And thank you to Governor Bailey for your time, to my colleagues for helping to solve our technical problems, and to Fennie, Chris, Blythe, and Eswar, and Don Kohn as well, for joining us today.

I think this is a conversation we'll be continuing in. There were a lot of questions that we got online and I guess Chris Brummer has gotten even more on Twitter. So, we may try and do some kind of written Q&A with questions that people didn't get a chance to ask. So, again, thank you all. Thank you for joining us. I'll look forward to continuing this conversation and stay safe.

MR. BAILEY: Thank you.

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