



Economic Affairs Committee

Corrected oral evidence: Central bank digital currencies

Tuesday 12 October 2021

3 pm

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Members present: Lord Forsyth of Drumlean (The Chair); Lord Bridges of Headley; Viscount Chandos; Lord Fox; Lord King of Lothbury; Baroness Kingsmill; Baroness Kramer; Lord Livingston of Parkhead; Lord Skidelsky; Lord Stern of Brentford.

Evidence Session No. 1

Virtual proceeding

Questions 1 - 10

Witnesses

I: Simon Gleeson, Partner, Clifford Chance; Professor Darrell Duffie, Adams Distinguished Professor of Management and Professor of Finance, Stanford University.

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Examination of witnesses

Simon Gleeson and Professor Duffie.

Q1 **The Chair:** Welcome to the Economic Affairs Committee. For the first session we have with us Simon Gleeson, a partner in Clifford Chance, and Professor Darrell Duffie, Adams Distinguished Professor of Management and Professor of Finance at Stanford University.

Before I put the first question, in view of the subject of the inquiry I should declare an interest as chairman of Secure Trust Bank.

Simon Gleeson, what are the main issues driving central banks to explore central bank digital currencies?

Simon Gleeson: There is a carrot and there is a stick. The stick was created by Facebook when it launched Libra, because the primary concern of central banks is that, if these things are created, the central banks need to be in control of them. This cannot be done through domestic regulation, simply because the nature of the internet is such that the creator of these instruments can be anywhere in the world, and to create a set of rules that keeps them out of the country is for all practical purposes impossible. It would be a kind of reverse exchange control. One of the things we all learned in the 1970s was that exchange controls did not work, even with paper currency, and they certainly would not work with electronic tokens.

As far as central banks are concerned, one of the single most important things is to ensure that, if these things are created, they are within the control of the central bank. That takes us to the carrot, because all central banks are very interested in the efficiency of the payments system, in particular cutting down processing times and reducing the risk exposure that exists within that system. If by creating central bank digital currencies central banks can improve the efficiency or robustness of their domestic payment systems, that is a prize worth fighting for in itself.

Professor Duffie: I agree completely with my colleague Simon Gleeson. To add to his remarks, a further threat for some is the fact that China has introduced a central bank digital currency, which will probably be deployed next year, and some countries, including the United States, have expressed concern that this may give China an undue advantage. There is a lot of discussion among central banks and a kind of fear about missing out, that if China is doing this, then they should do it as well. That is the "stick" side of it.

I agree with Simon's comments about the threat of cryptocurrencies, not so much Facebook's because it is highly regulated by the United States but cryptocurrencies that are coming from almost nowhere. Even if they are relatively compliant legally, they are not necessarily operationally resilient, so having an official central bank digital currency may provide a resilient digital currency for the economy.

On the carrot side, as Mr Gleeson put it, there are quite a few advantages to central bank digital currencies, such as improving cross-border payments, lowering the cost of providing physical money to the economy, which is quite expensive, and the future digital economy, where smart contracting and programmable money will probably become quite important.

Most of this could be done by banks. The question is whether central banks need to introduce their own digital currencies, because banks are not moving along. Banks are insufficiently competitive, and it may be necessary to trigger some competition by introducing either a central bank digital currency or some sort of compliant fintech payment service, including stablecoins that are well designed. There are multiple reasons. There is also growing popularity for getting on with the digital economy and expectations that central banks will help with that. That puts central banks under a bit of pressure.

The Chair: If I were to draw a conclusion from these very helpful answers, basically you are saying, “If you can’t beat them, join them”.

Simon Gleeson: I do not think that is an unreasonable summary.

The Chair: It does not really take account of some of the risks, but perhaps we will come on to that in other questions.

Q2 **Lord Stern of Brentford:** I also declare an interest. I advise NatWest on climate and I am in discussions with the Citibank about advisory work.

I want to ask about the private side—in particular, stability. To what extent do you think that privately issued digital currencies, particularly stablecoins, are a threat to financial stability?

Simon Gleeson: These things do not matter in small size. The digital pound is not a threat for financial stability. The question is whether these things become a threat to financial stability once they are in substantial circulation. I think the answer to that question is that absolutely they are.

The reason for it comes back to the nature of money. I am sorry if this is a bit theoretical, but it comes to a point. The definition of money is that it has two characteristics: it is both a medium of exchange and a store of value. If these things were simply a payment mechanism, or just an alternative to PayPal, it would not matter. The problem is that, if these things become a store of value, in a funny sort of way it almost takes us back to the gold standard, because we will then have potentially an asset circulating within the economy that cannot be controlled by the central bank and cannot be created in times of crisis, because the central bank cannot create a private stablecoin. It gives rise to a potential run risk, for want of a better expression—remembering that the theory behind some of the earlier stablecoins was absolutely and specifically that they wanted to be a kind of digital gold that would act as a check on the activities of government. If that were to happen, for all practical purposes we would be back to the gold standard. The reason we had to come off the gold standard was precisely because it deprived central banks and

Governments of some of the policy tools they needed to manage crises and difficult events in the economy generally.

Therefore, I think the answer to the question is that, if these things were to circulate beyond a certain level within the economy, their very existence would potentially impose curbs upon the ability of the authorities to respond to crises, and that is a bad thing.

Professor Duffie: Let me add to Simon Gleeson's remarks, with which I agree. I believe there are additional sources of financial instability from large stablecoins. Small stablecoins still pose investor protection issues, which could be handled by disclosure but once they become very large, in addition to what Mr Gleeson said, there is a risk of a run in either direction from bank deposits into stablecoins. I think that is overplayed by most commentators. There is also a risk of a run out of stablecoins if the assets that back them are not trustworthy; if there is the slightest hint that a very large stablecoin issuer comes under scrutiny and the investors that rely on financing by that stablecoin issuer are suddenly not able to roll over their finances, that could be serious.

The additional stability concern I have is that once they get very large you are relying on technology that is not 100% bulletproof. Recently, for example, there have been some outages at some of the fintech stablecoins, including one of the larger US stablecoins. If many in the economy are relying on these, simply operationally, and they have an outage, that could be quite serious as well. There are also international stability concerns. If these stablecoins become very large internationally—for example a dollar stablecoin invades the monetary system of a foreign country—that country would have financial stability concerns. We can talk about that later if you prefer.

Lord Stern of Brentford: Do you think there is anything you can do to handle those stability issues, or are they irretrievably difficult?

Professor Duffie: Yes, we could have the same sort of compliance we require of banks. If they are required to meet equally strong capital requirements—asset-backing resiliency requirements and legal requirements for appropriate use cases—stablecoins have a place, especially until a central bank digital currency is issued. They are adding to the economy and they have a good place, but they need to be as compliant as any other form of payment service or deposit account.

Lord Stern of Brentford: Could you regulate those at national level?

Professor Duffie: That is another question. As Simon Gleeson said, some of these do not exist anywhere in particular. One can regulate the on-ramps and off-ramps in the local economy, so if they have not got into enormous usage already you can stop them before they get too big, if they are not compliant, by outlawing investing in them or taking funds out of them and into your local banking system.

The Chair: I think Lord Stern's question about how this would be

enforced is central, but you did begin by pointing out the difficulties.

Simon Gleeson: I want to make one point about that. It depends on why the coin is being used in the first place. If the answer is that it provides a cheaper or what is regarded as a safer method of payment and store of value than the currency of the country concerned, it is probably impossible to keep it out. You can hypothesise things such as exchange controls or, more accurately, reverse exchange controls, but, as we have seen in a number of places around the world, the people of a country can adopt a different currency from their own if they want to do so, and there is not a hell of a lot the Government of that country can do about it if that thing is regarded as preferable to the domestic currency.

Q3 **Lord Skidelsky:** How concerned should we be about the disintermediation risk to the commercial banking sector posed by CBDCs?

Professor Duffie: If I were a bank shareholder, I would be quite concerned. I would worry that my credit card franchise, deposit franchise and other payment-related franchises would be disintermediated and my shareholders would suffer a bad return on their shares, but for overseers of the economy, such as you, that disruption should not be feared as much as some suggest.

As I mentioned earlier, the banks have not been doing what they might have done to improve the payments system, and some disruption might be necessary to get them moving along on that project. These losses of profits for banks do not necessarily imply that credit provision in the economy will decline. Loans may still be forthcoming, although banks will then need to fund the loans in wholesale financial markets that are more expensive, if they are forced by competition from central bank digital currencies to bid higher for deposit funding.

To summarise it, as a matter of policy I am not as worried about the disruption that would occur to banks, but if I were a bank shareholder I would be quite concerned and would try to move by making my payment services more competitive and get ahead on the digital asset economy that seems to be coming anyway.

Simon Gleeson: I confess that I am not as sanguine about this as Professor Duffie. I believe the impact is potentially very serious.

The problem is that, when I place a deposit with a commercial bank, the bank lends it out. If I buy a stablecoin, under most existing arrangements the money that the stablecoin issuer gets will be invested in the securities of the Government with whose currency the stablecoin is linked. Therefore, instead of money going into the commercial banks and being lent out again, effectively it goes into the government machine.

The real fear there is that what you have done is effectively nationalise the credit creation process within the economy, such that if the deposits effectively go through the stablecoin to the Government they will then have to be lent out again by the Government. It is suggested that that Government could solve the problem by lending the money back to the

commercial banks, but I think it is impossible to envisage the Government doing that without imposing fairly serious restrictions on what could be done with that money, at which point you have effectively got back to the nationalisation of the creation of credit. That is why this model is sometimes referred to as the Gosbank, because that is effectively what it is.

Lord Skidelsky: I was interested in your reference to the gold standard but a bit confused, because to my thinking the gold standard was a device for financial stability or economic stability, whereas we are talking about central bank digital currencies creating instability. What am I missing, please?

Simon Gleeson: The gold standard was intended to act as a disciplining mechanism on Governments and, for that matter, central banks in the creation of money and credit. I view that from the other end. From the perspective of government and central banks—and, in particular, as somebody whose formative professional experience was the financial crisis of 2008—the idea of a Government or central bank that is not able to intervene in those ways seems to me to be profoundly destabilising.

Lord Skidelsky: The source of it is the inability to intervene and it being subject to an automatic limitation.

Simon Gleeson: Exactly.

Q4 **Lord Bridges of Headley:** I should declare that I am an adviser to Banco Santander.

I am very interested in Professor Duffie's reference to banks being lethargic, to use a different word from the one he used, in their approach to this disruption. I see disruption everywhere in the financial sector. Banks may be slow, but it does not mean innovation is not happening. As you know, tech companies, from the biggest to the smallest, are also moving into payments at lightning speed.

I come back to the purpose of CBDCs. What is the problem that they are trying to solve? If the problem that they are trying to solve is efficiency of payments, is that not being dealt with by the enormous disruption we are seeing right across the world on payments and, therefore, CBDCs are not needed? However, if as Mr Gleeson just said, the issue is one of control, not so much efficiency, I can see the reason for it. Maybe both of you could quickly comment on that interpretation of where we are.

Professor Duffie: Fintech firms are entering and they will trigger competition and improved payments. As you put it, the issue is one of control. Do you want that disruption coming from the fintech firms that are currently less well regulated, such as cryptocurrency providers, or do you want it coming from the central bank? My personal preference would be to see the banks disrupt themselves by getting ahead of the fintech firms and the central banks and, for example, providing their own stablecoins and higher-speed payment services at lower cost. The United States is particularly behind, but even in the United Kingdom payments

are not as efficient as they might be. Banks do not currently need to compete so hard, so why would they give up some of their profitable franchises if they can continue to earn high rents the way that they are?

I understand that some banks are moving ahead. For example, Citibank in the United States has been putting out some good work in the area of cross-border payments using fintech. I expect that some banks will cross the divide and provide much better services for the future digital economy, but unfortunately some will get left behind. My preference would be that central banks did not need to intervene with a central bank digital currency. As some have suggested, it is a solution in need of a problem, but the problem is mostly that regulators have been either slow to push the banks to do it or the banks have been slow to do it on their own.

Simon Gleeson: I absolutely agree with that. The banks in this area have faced a very profound version of the innovator's dilemma. Why should they cannibalise their own business? They are now to some extent being forced to do so out of fear that the existing internet incumbents will do it for them. If you are a large UK bank, I suspect your real concern in this area is probably Amazon rather than Citibank, but when you talk to those who know about American banking history you find that there is the awful spectre of the American system in the 19th century when every bank produced its own money. The resulting confusion is highly undesirable, to put it mildly.

I think there is a very good argument that, if this is to be done, it would be nice to have banks putting the effort into processing transactions and not the creation of a plethora of tokens that would potentially differ in value from one another.

Q5 Lord Livingston of Parkhead: First, I declare an interest. I am on the board of S&P Global, which provides services to the financial services sector.

Before I turn to the question I want to ask, I shall pick up the issue of who does all of this. Who is going to pay for a central bank digital currency? Is it provided free? Clearly, you can get a competitive advantage if you are a central bank and the taxpayer is paying for it. I would be interested to hear whether you have any thoughts on that.

Professor Duffie: It is likely that a digital currency will be much cheaper to provide than paper money, which is incredibly expensive: all the printing, minting, disposal, transmission and so on is quite expensive. That alone will save central banks money. In addition, if a central bank digital currency becomes popular, it will be a source of profit for the central bank, which is called seigniorage, in the same way that paper money is profitable for central banks, because it does not pay any interest, yet central banks are able to invest in government securities and receive interest. Therefore, regarding the cost to the taxpayer in introducing it, this is probably actually a benefit.

There are also the indirect benefits associated with a more efficient payment system. Everyone has registered concerns that with a (*unintelligible*) system, perhaps we could do even better with improved banking. If the banks do not move, a central bank digital currency would improve the cost of payments quite a lot, especially cross-border payments. It would also reach potentially many taxpayers and households that do not have good banking services right now. This is an issue of financial inclusion. By the way, how much you can improve financial inclusion is not yet a settled matter, but here in the United States many millions of households do not have proper access, or any access, to it, and it is possible that a central bank digital currency could improve the lives of many.

Lord Livingston of Parkhead: Assuming that there are many other ways in which you could achieve the same end, your first point is that banks should be prepared to make the investment because for seigniorage it can get the money back. Of course, there are macroeconomic or social policy benefits, but that does not stop it being state aid.

Simon Gleeson: I agree with everything Professor Duffie says. If the central bank can make for a pound something that does not cost it even a penny, that has to be a good thing.

We also have to think about the potential cost to the taxpayer of the circulation of private tokens. The point is simply that, if a private token went into widespread circulation and failed for whatever reason, if the circulation was sufficiently large, government—and therefore the taxpayer—would have very little choice but to intervene to restore the value of that token, simply because the collapse in value of that monetary instrument within the economy would do significantly greater damage than the potential cost of intervention.

Q6 **Lord Fox:** Professor Duffie, on the question of inclusion, how will a digital currency of this nature include people, given that millions do not have bank accounts? Perhaps they have mobile phones, and that is your route. Will you explain further the mechanism by which inclusion could occur?

Professor Duffie: You mention mobile phones. It is true that many with mobile phones do not have bank accounts, so that is one on-ramp. Some households do not have even mobile phone accounts.

Lord Fox: They are paying for their mobile phones with cash at the moment.

Professor Duffie: Yes, they are.

Lord Fox: You are introducing a barrier to their having a mobile phone rather than freeing them up to have money.

Professor Duffie: I am concerned—I said it was not a settled matter—that a central bank digital currency would increase financial inclusion, but it has the ability to do that if properly designed. Mobile phones are not

the only method. One could use physical payment cards and other methods by which the central bank digital currency can be obtained and then used, but currently many are simply afraid of taking out bank accounts, and one must be careful that they might be equally afraid to take out central bank accounts. All of this has to be carefully thought through, as I emphasised. The design process is not complete and financial inclusion is a promise but not a guarantee.

Lord Fox: I should have said that I have no relevant interest to declare.

Q7 **Lord Livingston of Parkhead:** A CBDC would obviously hold a lot of financial information and personal data. I would be interested in your thoughts on the balance between privacy concerns and security, and the fact that the more one federates that information and makes it available through open APIs, et cetera, the greater the functionality and usability of a CBDC, and the more inclusive of the private sector it would be as well. I would be interested in your thoughts on how you balance the two challenges.

Simon Gleeson: There is a reason that bank secrecy is one of the most prominent bits of the law of banking. Information about what people do with their money is almost the most sensitive information about them that there could possibly be. I believe that a good part of the worry about the Facebook proposal was precisely the idea that, if this was a method of acquiring for sale information about people's behaviour, not only was it not protected but it was quite threatening.

There is an enormous confidentiality issue here, but the problem is that there is a kind of toxic rectangle between data privacy and money laundering and identity checking. The interests of the efficiency of these systems tend to revolve around the free passing of information very quickly, transparency and the ability to be able to provide information about what is going on to those who need to know it and when they need to know it.

This is a big problem everywhere. The European data protection regulator has just produced a paper that tries to square the circle of how banks make payments, personal privacy is protected and there is sufficient information to identify the payee for money-laundering purposes. You do it by pretending that the problem does not exist. It is a very difficult issue and is part of the reason why, if you follow this to the end of the chain, you can come to the conclusion that, if this is to be done, it has to be done by a central bank or governmental authority. If it was done by anybody else, the suspicion is that the temptation to monetise the data would be just too great—but it is essential that this data, more than practically anything else, is kept confidential.

The Chair: I should think that HMRC is very enthusiastic about the prospect.

Simon Gleeson: Absolutely.

Professor Duffie: To add to Simon's remarks, with which I agree, China's central bank has not hesitated to concentrate all the data for its central bank digital currency at the central bank, but I sense that here in the United States—I am not sure about the United Kingdom—there is a lot of hesitancy about concentrating private payment data all in one space held by the central bank, or accessible to the Government.

This is a sensitive matter. It is not only a question of cybersecurity and whether the central bank can guarantee it will maintain all that data privately; it is a question of whether the people trust that the data will be kept privately. The noted cyberattacker Edward Snowden just this week considered a central bank digital currency to be a fascist idea because the state is now concentrating more and more data in its own hands. Therefore, the issue you raise is one of the most difficult design issues facing a central bank digital currency. Computer scientists are working on methods by which the data can be protected from cyberattack, eavesdropping or surveillance and, at the same time, money laundering can be detected.

Having said that, they have not yet arrived at a design that is complete. For example, my suggestion to the United States Senate banking committee is to begin work now on developing the technology so that in several years perhaps you will have solved it, if you wish to use the central bank digital currency. It would not be a good idea to discover five years from now that one needs a central bank digital currency because the banks have not moved and stablecoins have entered the economy and only then begin the technology. I would strongly recommend having not just small research projects or sandbox projects but full-on development projects and pilot testing to make sure that you know the limits of the technology as well as the advantages before finally making the decision.

Lord Livingston of Parkhead: Surely, we have an analogous issue in the UK about National Health Service data, which is kept centrally, and how that is used or made available.

Q8 **Baroness Kramer:** I have no relevant interests to declare. I am beginning to feel quite bereft.

Professor Duffie, you spoke of the risk that a large dollar stablecoin that is popular and widely accepted would pose to countries' financial stability. Mr Gleeson, you followed along similar lines. The suggestion almost seemed to be that a central bank digital currency would be a counter to that; it would get ahead of the curve and head that off at the pass. Would central bank digital currencies have implications for the current international monetary system—for example, exposing countries to increased economic competitiveness via those CBDCs?

Professor Duffie: Yes, absolutely. They would put some countries under such competitive pressure that they might not be able to withstand the pressure of dollarisation or renminbi-sation of their monetary systems, so one must tread very carefully. Central banks should have conversations

and finally agreements that they will not allow their central bank digital currencies to invade foreign monetary systems.

If I were advising a small open market economy, especially an emerging market economy, I would get busy immediately on shoring up the quality of the payments system, perhaps using a digital currency to fend off the attractive idea to some consumers of using a dollar stablecoin or dollar central bank digital currency. I do not think that the larger central banks, such as the Bank of England or Federal Reserve, would allow their central bank digital currencies to circulate freely in foreign countries, but stablecoins might be used to do that, and they could serve for some countries as a proxy for a central bank digital currency. That may tempt countries such as the United States to say, "If China is allowing a stablecoin to circulate through a region, perhaps we should allow our dollar stablecoin to do the same, or perhaps not try to stop it". These are difficult situations for small emerging market economies that need to be thought through quite carefully, so your question is very apt.

Simon Gleeson: You may recall that Lord King's successor at one point was suggesting that the development of an international private stablecoin would be a splendid idea because it would dethrone the dollar, and certainly those of us who are old enough to remember the Asian crisis know that any economy that becomes largely dependent on the currency of a country other than its own potentially places itself in very severe danger.

The issue here, however, is the extent to which central banks will be prepared to allow their CBDCs to circulate outside their own territory to any great degree. When you look at China in particular, although the concerns are that it might internationalise its currency, the experience to date is that the Chinese have absolutely no desire to do anything of the kind for fear of losing control of that currency.

In imagining a UK CBDC, I find it impossible to imagine the Bank of England encouraging widespread circulation of it outside the UK simply because the risk of flowback, for want of a better expression, or that fairly wild swings in demand externally would create a degree of monetary instability that would pose a severe threat—so it is not just a threat to the economy that starts using somebody else's CBDC. If your CBDC itself starts being used internationally, that presents a problem for you.

The key point for us is that we are used to a world where payments may not be perfect but they are not bad. There are large chunks of the world in which the making of a cross-border payment is an amazingly painful business that will take anywhere up to a week and cost you four percentage points of the value of the payment. There are problems out there that these things would solve, but I struggle to imagine any central bank allowing its CBDC to circulate widely, so hopefully intelligent self-interest will restrain the problems that Professor Duffie perfectly correctly identified as being potentially out there.

Baroness Kramer: As far as you know, are the central banks engaged in this kind of mutual discussion to create, as it were, a common framework?

Simon Gleeson: There are certainly discussions in Asia. There are exercises going on between the Monetary Authority of Singapore, the Hong Kong Monetary Authority and the Thai central bank to try to exchange CBDCs. Therefore, those projects are under way today.

Professor Duffie: There are also discussions at the Bank for International Settlements. Seven leading central banks, including your own central bank and the Federal Reserve, among others, are setting down principles for CBDCs, although they are not yet at the technical level of what the recommended standards will be. I think those discussions are a good idea and should continue.

The greatest promise, as suggested by Mr Gleeson, is that CBDCs could be used in an international setting for cross-border payments to make such payments much more efficient than they are today.

Q9 **Baroness Kingsmill:** I declare an interest as recent former chair and indeed founder of a very productive fintech, which we think has helped the banking system along a little bit to improve its customer service.

How will CBDCs influence the balance of global power between economic foreign policy and the geopolitical influence of different countries? The first thought is China and the US—that is probably the most obvious one—but we need to look at other countries. I would love to hear the views of both of you on this matter.

Professor Duffie: The European Central Bank is a very large central bank that is quite active in developing central bank digital currency design, and there is a reasonable expectation that it will come out with a CBDC in the next few years. That will provide a certain impetus to the euro in the global economy and give some leadership to the European Central Bank.

For the time being, the United States is content to let other central banks move ahead. China has taken the pole position in international discussions of CBDC and standard setting.

At this point, it is to some extent a question of prestige and leadership in setting global standards, but in the long run the question is whether the US dollar will retain its position as by far the dominant global currency for exchange, foreign exchange reserves of central banks, trade, invoicing and so on. I think it will be quite a long time before China, for example, will be able to rival the dollar, even on its current track. I would not be worried about that for a decade or two. At the margin, if China is able to increase the position of the renminbi simply by improving cross-border payments, having a modern payment system and setting standards, it would reduce the position of the dollar, but I am not as alarmed by that as some.

Baroness Kingsmill: Do you see the euro as having a balancing influence?

Professor Duffie: Yes. Of course, the eurozone project is not complete; it does not have a capital union. Until it does, it will be difficult for the euro to dominate totally, but as it moves that project along it is a larger economy and is very advanced. Currently, it is showing more interest in moving ahead on digital technology for payments. Therefore, I do see the euro as having potentially an improved position in the future.

Simon Gleeson: I think the answer to this question depends very much on whether the CBDC is deployed offensively, which seems to me to be unlikely as a matter of basic economics. One of the points that floats around is that the development of the eurodollar market based on commercial bank dollar deposits is a matter of no relevance at all to the United States economy. That is relatively straightforward.

The widespread export of US CBDCs outside the territory of the United States would be significant. To that extent, it appears unlikely that any central bank will want to see broad use of its CBDC outside its territory. If that is right—I think it is—because CBDCs are by definition domestic and national, the direction of travel would seem to be in the direction of the creation of a private sector CBDC exchange, a version of CLS bank, if you like, which would facilitate the making of CBDC payments between people in different countries, because effectively it would have to do that by exchanging one CBDC for another. If that is the future, it will be complicated and difficult, but it is unlikely to have a significant geopolitical effect.

Lord Fox: I am slightly confused about the question of imperialism. I remember living in several countries where the dollar was the de facto currency even though it was not the national currency. Why would this be different? Indeed, it would be easier with a digital currency, so why would there be restraints where there have not been in the past?

Professor Duffie: Responsible central banks in countries such as the United Kingdom or United States would not want to upset the monetary arrangements in another country. They might be more sanguine about that in a country that is corrupt or has illegal foundations, but in most countries they would not want to do that.

It is a big responsibility to maintain accounts at a central bank for depositors all around the world, but that does not rule out the use of dollars as a stablecoin, for example, in a small country for either legal or illegal payments.

There is a big positive of a digital currency. It is not as cumbersome, it can be transferred at distance electronically, you should not have to hide it in pallets in warehouses, and so on. On the other hand, digital currencies are more traceable than people realise, so if a criminal element in a country wants to store wealth in dollar form it might prefer paper currency for that reason.

Lord Fox: I was not referring specifically to criminals. Ordinary people used dollars in Argentina when the currency tanked.

Professor Duffie: Yes, and, if allowed, they would probably prefer to hold digital dollars. I agree with you, Lord Fox.

The Chair: I would like to move on to the next question because I am conscious of time.

Q10 **Lord King of Lothbury:** May I declare an interest as a consultant to Citigroup Global Markets?

As I listen to both of you speaking very persuasively about the issues involved, I keep coming back to the essential point: to what questions are central bank digital currencies the answer? Darrell, you spoke about the fact that the banking system could do it itself, but if only there was enough competition. It seems slightly odd to introduce a central bank digital currency, which after all is not a currency at all; it is digital bank notes, in many ways—it certainly is not a new currency. Do we really need to create it in order to have a bit more competition?

As Simon said, we will not go back to free banking. It is quite instructive that we have over 7,000 cryptocurrencies, but we have not had the problems that we had in the 19th century with free banking.

Darrell, it is very nice to see you. Thank you for joining us. Do you think there is a role for a central bank digital currency in monetary policy?

Professor Duffie: That is a wonderful question. I anticipate that central banks will generally not want to pay remuneration on their digital currencies in the form of interest, but the European Central Bank has openly discussed the idea of tiering and using it as a monetary policy tool for larger deposits or positions in the central bank digital currency. That is another possibility, and it would be quite important in a currency zone with significant negative interest rates not to allow people to stock up on their digital currency to avoid negative interest rates. I would expect that in most countries, such as the United States, a digital currency would not pay interest and be used for monetary policy other than for providing a stable medium for payment, which is an aspect of monetary policy. I am not sure that answers your question.

Lord King of Lothbury: It tends to go to the issue of negative interest rates, which is not the issue of the moment as it once was.

Let me extend this and ask Simon a variant on the issue that we were discussing. There was some discussion about the use of CBDCs in other countries. You have both spoken about why central banks might be cautious about allowing their CBDC to be used too widely. Simon spoke about the risk that the demand for it could be much more volatile, making monetary management more difficult.

How do we react to the fact that more than half US dollars, as a paper currency, are used outside the United States? This brings great seigniorage to the US, and no one in the US seems to think that they

should try to stop it. What would be the difference with a CBDC?

Simon Gleeson: On the seigniorage point, it is absolutely right that the US deliberately created the old silver trade dollar for precisely that purpose. This would take you back to a world of old-fashioned monetary economics—Wicksellian economics, if you like. This is why I think the gold standard is a helpful concept. If you are to create things that you export that have a value, you have almost lost control of the exchange rate of your currency against other currencies because you cannot manage that except by huge intervention to buy and sell. You would be going back to gold points.

To go back to an earlier question about monetary policy and whether you can remunerate a CBDC, which I think is absolutely essential, my answer is a clear and definite no. The reason is that it takes us to the third function of money, which is a unit of account. It is perfectly correct that one way of looking at a CBDC is that the CBDC itself is not money; it is merely a tokenised form of a claim against a central bank. Therefore, the question becomes: could we remunerate pound coins? I suggest that the answer to that question is no, because something with a fluctuating value cannot constitute a unit of account. The point is simply that, if you were to remunerate coins, the coin would have a different value after a period of time because it would have accumulated an entitlement to interest. Managing this does not seem at all plausible.

If you think about these things as simply tokenising accounts maintained with a central bank, you could remunerate the accounts with the central bank, which I think is part of the ECB's tiering idea, but that would still create a token of fluctuating value. I cannot see how a token with a fluctuating value can perform the function of a unit of currency.

Lord King of Lothbury: At present, much of the discussion has been about CBDCs available to retail investors. At present, the Bank of England and the Fed offer CBDCs to the commercial banking system and they remunerate that. What is the difference between what the Bank is doing now in extending its reserves to commercial banks on a very large scale and the CBDC?

Professor Duffie: As you will know better than almost anyone, the US Federal Reserve did not remunerate dollars until after the financial crisis, when it had to offer interest to get banks to hold so many dollars in central bank deposits.

When the retail users of a CBDC are thinking, "Why do I want to hold these digital dollars or pounds?", they are thinking not about remuneration but about the payment services and the convenience they enjoy. In most cases they would be quite happy to hold digital dollars without remuneration. Therefore, I do see a distinction between wholesale remuneration and retail lack of remuneration. Those are quite consistent in my mind.

Viscount Chandos: May I pick up Mr Gleeson's point about fluctuating

value? Sterling has had a more volatile value in recent years against a basket of currencies than emerging market currencies. Therefore, a fiat currency fluctuates in value.

The scenario that seems to me to be driving a central bank towards doing a CBDC is that the private sector produces a much more efficient payment system based on, say, stablecoin, but that stablecoin could move from being linked to its initial fiat currency to something else—for example, special drawing rights—which, at least in theory, should in trading terms be less volatile than any single major currency.

Simon Gleeson: You would reinvent the Keynes “bancor”.

The Chair: We are out of time, but I cannot resist asking the following. For the ordinary lay person, what will it change for them and how will it help them?

Simon Gleeson: What the ordinary lay person wants from any internet service is only two things: it should be instantaneous and it should be free. If we could get ourselves to a position where the payments system worked that way, it would be brilliant.

The Chair: On that note, I thank Mr Gleeson and Professor Duffie. This has been a really good session. You have given such straightforward, clear answers, which is very much appreciated by the committee. Thank you so much for your time and for shedding light on this complex area.