

A Modest Proposal for Central Banks: Remaining Relevant in the Digital Age

By Charles M. Kahn¹

Thank you very much for inviting me to speak at this extremely interesting and timely conference. Like Harish I think you will find I am one of the few remaining centrists in this discussion.

SLIDE: **Digital currencies are a hot topic right now**, and for good reason. Technological change is occurring rapidly in the payments arena. The possibilities are enormous and there are a large number of important reasons for central banks to be involved in their development, and there may be good reasons to launch their own versions of digital payments platforms and technologies.

First, in many countries there is impatience with the pace with which technological change translates into widely useable products—customers see new forms of payment being adopted in other countries and yet it is still not easily available to them. There is a suspicion that progress is being held up by entrenched forces in the financial industry. Perhaps prodding by the central bank would speed things along; perhaps introduction of a central bank service would kick the private sector into action; perhaps the central bank could simply do a better job.

Meanwhile, cash is expensive to provide. It is often associated with illegal transactions. Those who admire modern developments find it insulting that such an un-cool technology as paper, persists as medium of exchange. With more encouragement from the central bank through provisions of electronic alternatives, perhaps we could further reduce our dependence upon paper—even eliminate cash.

One of the problems with the persistence of cash is the fact that it makes monetary policy more difficult in low interest environments. Recently some central banks have been impelled by macroeconomic conditions to impose negative short term interest rates. When this happens, the availability of cash as an alternative holding puts limits the central bank's powers. If all money were in electronic form, it would be possible for policy makers to impose interest rates—positive or negative—on all money holdings, as conditions warranted.

Another concern of central bankers in many countries is the fact that large numbers of citizens have no alternative to cash—other means of payment require banking services, and banks have low penetration. Providing a modern electronic interface will increase financial inclusion, allowing unbanked individuals access to financial and payment services.

Finally, moving from the realm of retail to the realm of wholesale transactions, existing systems for financial settlement are complex and sometimes slow. The central banks remain the nexus for clearing and settlement of the cash side of such transactions; it would make sense for it to act as the innovator, bringing in new arrangements to tie together the back offices of the various trading venues, possibly enabling more complex transactions and smoother flows internationally.

SLIDE. All of that sounds great, and it certainly justifies the Central Banks' interest in digital payments developments. But these arguments have been around for a while. To tell the truth, I detect **a greater urgency in central bank discussions and investigations now than just a couple of years ago, as the realization begins to dawn that the latest developments in electronic payment have the potential to take away many of the existing functions of central banks.**

Perhaps “irrelevancy” is an overstatement—central bankers will still have jobs, but the role of central banks could be smaller. In countries with heavily developed financial markets, it is hard to imagine central banks losing the business of wholesale payments anytime soon. But the innovations we have seen in many developing

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countries begin to make it look feasible in the foreseeable future for a retail payments systems to largely bypass the central bank. As for monetary policy, as long as it retains a link to wholesale payment, the central bank still retains a lever with which to carry it out. But without the link to retail, that lever is seriously restricted.

And if you question whether this has made much difference to central banks in their thinking, I would point to the difference in activity level around the world in central banks in response to the Libra proposal versus their response to Bitcoin. The response to bitcoin was real, but relaxed—it is as if central bankers were saying to each other “the activities of these computer geeks is interesting, but they do not pose any immediate threat; we can always deal them if and when problems arise.” With Libra, the mere proposal initiated a flurry of activity and response. The Central Banks seemed to be saying: “These computer geeks are also serious business people with enormous bankrolls and customer bases.” Regulatory alarms were sounded and warnings went out. In the short run this flurry of activity may have been enough to frighten off or at least slow down the established players who backed the Libra project. But the episode has focused central bankers’ attention on the potential that revolutions in payments could undermine the role of central bank money in the economy.

SLIDE Now to be fair there is always a revolution going on in payments. SLIDE Here is a cover from the American news magazine Time. It is an issue devoted to the future of Money in the payments revolution. The cover ponders “What the mergers mean.” As the new forms of payment become more widely accepted, and as the synergies become more apparent, the natural scope and scale economies of payments systems lead to consolidations—and these lead to concerns about market concentration. And since so many of these new systems are outside the realm of banking, there’s a worry about whether commercial banks will continue to be viable. So the cover asks, “Are banks really necessary?”

SLIDE. And so in the winner-take-all environment we’ll have to worry about the overarching power of the victors. So the cover asks “Will Microsoft control it all?”—wait, Microsoft? Why aren’t we talking about Facebook? SLIDE. Well, we’re not talking about Facebook because Facebook hadn’t been invented when this issue of Time ran back in 1998.

SLIDE. So revolutions in payments are nothing new. What is different this time? What’s different is that the challenge is now not just to the commercial banks. This time it’s to the role of the central banks as well. And that challenge has led central banks worldwide to engage in serious and much more practical studies and pilot programs for CBDC.

I’ve examined the Analytical Report of the National Bank of Ukraine on the E-hryvnia. SLIDE. It’s an excellent analysis considering the advantages and disadvantages of a variety of potential structures for a CBDC in general and in the Ukrainian context. And the pilot program reaches a conclusion that is in line with those found by other central banks: It is certainly feasible for the National Bank of Ukraine to develop a CBDC—they have the capacity and expertise. What is less clear from this and other studies, is whether there are in fact significant advantages in doing so, in comparison with the platforms that can be developed privately.

The National Bank’s analysis surveys studies from a variety of other central banks. One of the striking things about these studies is, not only the difference in the potential forms a CBDC can take, but the difference in the use cases that are used to justify CBDC. Of course, this variety is partially due to the differences in various countries’ needs. But it is also because of the enormous uncertainty about the uses the citizens of any country will ultimately have for these digital currencies.

Now, private companies are infinitely better at figuring out use cases, and infinitely better at risking their capital in betting on them. After all, the Central Bank can only put its resources on a single bet; private companies can each pursue their own best guesses.

SLIDE. **So here is my modest proposal for developing central bank digital currencies. The central banks should not try to guess about use cases.** (Indeed they shouldn’t deal with the public at all; in my opinion central banks and retail customers are an unnatural combination.) **Instead the role of the central bank should be to focus on coordination and interoperability:** reducing frictions and ensuring that whatever digital currencies develop can readily be used throughout the economy.

SLIDE. I am not claiming this concept is new; this design principle is inherent in a variety of payments arrangements existing and proposed. For instance, a fundamental principle of the Australian Fast Payment Strategy now in operation is to provide the rails along which the most basic payments services can run, but then leave value-added services to competitive service providers. Similar principles were envisaged in the US Federal Reserve's strategy proposals a couple of years ago for a faster payments system, although it is still an open question how the vision will turn out in execution.

In the case of a Central Bank digital currency, the same point would be worded slightly differently: the central bank should provide the medium, but let the private sector provide the value-added rails along which it travels.

SLIDE. I think there are some clear advantages to this approach. First of all it is I believe **the most effective way to encourage further innovation in payments**. The payoffs to innovation are potentially enormous for any entrant into the industry, but the payments business is dominated by network externalities: I want to use a payments medium that is widely used by other people. Platforms which already have a customer base have sometimes insurmountable advantages over challengers. While monopolies can be innovative, they are unlikely to voluntarily innovate in ways that destroy the value of their existing assets. We want to encourage upstarts.

And the best way to do that is to offer them the benefits of the central bank's network advantage. In isolation a new payments platform cannot succeed unless its users are convinced that a large number of others will also attach to the platform. But the scale is no longer so important if the platform is already attached to the ubiquitous platform of the central bank's payment facilities.

Even better, such a policy strengthens the position of central bank payments arrangements. Far from becoming irrelevant, central bank money's role as the common medium is reinforced and its network advantages increase.

SLIDE. But following this approach means that the central bank avoids having a direct electronic relationship with individuals in the economy. What about the goal of encouraging inclusion?

I would argue that this goal as well is better served by stimulating the development of alternative payments platforms than by trying to provide them directly. A central bank's powers to reach underserved communities electronically is nothing compared to that of, say, mobile phone operators. Far better to encourage development of private payments apps by facilitating their integration into the mainstream payments systems.

In this world I envisage, the public need not hold the central bank digital currency directly—it could be intermediated by the platform providers. In a well-functioning system in normal times, customers would make little distinction between the solvency of a central bank e-hryvnia and a fintech company's e-hryvnia, any more than they distinguish between a paper hryvnia and a deposit in a sound bank.

So while there are interesting theoretical and policy distinctions between having the new payments arrangements using e-hryvnia directly and having the arrangements issue private e-hryvnia backed by central bank e-hryvnia (a distinction similar to that described in the National Bank's analysis as "centralized" versus "decentralized") the distinction is secondary for many purposes.

In particular it will matter little for the effectiveness of monetary policy. Direct holdings of central bank money could decrease dramatically, as individuals move from cash to a fintech-provided currency. But as the fintechs become even more dependent on central banks for transmission of the currency, monetary demand is, if anything, solidified.

SLIDE. Now one objection to my perspective might be the following: "Why are we even calling this central bank digital currency? Aren't you simply expanding the use of central bank reserves to non-traditional institutions?"

And to be fair, most of what I am proposing could be implemented in precisely that way, **by expanding access to reserve accounts. This alternative has the advantage of requiring much less institutional modification to do so.**

But there could still be advantages in establishing CBDC as a category of central bank liability distinct from reserves. Maintaining the distinction could be useful for keeping large value and small value transactions separate: we would probably want different standards of speed, security and anti-money laundering verification for different kinds of transactions. While it would be possible to maintain those distinctions by different regulations and by different standards for companies involved in different sizes of transactions, it might be easier to base the distinction on the difference between using CBDC and using reserves. CBDC-based payment systems would be limited to smaller, safer transactions, while companies with access to reserves, such as commercial banks, would be held to higher standards of supervision. In particular, when banks convert CBDC to reserve-backed accounts, they would be responsible, for example, for the anti-money laundering and know-your customer requirements at that point.

And this brings us to a related and important issue—privacy. In the past many people have been skeptical about the importance of privacy. Many would argue that the phrase “private transaction” is simply a euphemism for “illegal activity.” I disagree. In work with my colleagues James McAndrews and Will Roberds, we’ve shown that transactions privacy can have legitimate economic value—and so the maintenance of privacy in some circumstances is desirable.

The problem is most people are happy to protect privacy of transactions they personally approve of but unwilling to protect privacy of transactions they personally disapprove of. As a consequence it is often difficult for governments to provide meaningful guarantees of privacy. What is unusual about cash is it is a government-run payments system that can nonetheless provide privacy of transactions, at a degree that cannot be emulated with, for example, electronic bank transfers or credit cards.

And so, **to the extent that central bank digital tokens can make it easier to develop systems which maintain privacy in appropriate circumstances**—and that’s an argument that needs to be worked through in detail in concrete cases—**it may make sense for governments to develop a smaller value token-based CBDC** to complement the mainstream system of central bank reserves and accounts.

SLIDE. So even though my proposed point of view does not have the central bank operating the platforms that customers see, it still has the central bank playing crucial roles in maintaining the payment system. I’ve hinted at these roles in passing; let me point them out explicitly.

First of all **the central bank has responsibilities for deciding which platforms can link to the services it offers** to guarantee communication with all other agents in the economy—in effect deciding which platforms can be viable payments services. Its decisions in this respect will balance two goals: on the one hand, the more systems can link to one another through the central bank’s facilities, the more valuable the central bank’s network is. On the other hand, the central bank also wants to maintain the integrity of the network—ensuring that participating platforms meet standards of safety and soundness, and do not endanger other network participants.

A second balancing act arises in the **regulation of transaction information, setting standards** for the anti-money laundering and know your customer policies required for various kinds of payments platforms, as well as establishing and clarifying privacy protection standards maintained by the various platforms.

SLIDE. **So to summarize—central banks are discovering that it is not that difficult for them to establish digital currencies.** But I would still argue that **their more important role is likely to be in the background, standard setting, coordinating, and providing the common medium for private vendors and applications.** I hope I’ve convinced you that this work will be not only essential but also complex, despite its relative invisibility to the average user. In other words, the central bankers will still have lots of job opportunities and job security in my CBDC world.