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Article

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The Geopolitics of Central Bank Digital Currencies

According to the Atlantic Council's tracker,[1] 114 countries around the world, representing 95% of global GDP, are at some stage of developing central bank digital currencies (CBDCs). For a total of 11 countries, CBDCs are now a reality and operate in parallel to their physical equivalent. Eighteen of the G20 economies have passed the research stage and are into either the development or the pilot stage. Central banks are cautious institutions by nature, so when they invest time and money in a project that could change the nature of their fiat currency, it is key to understand their motivations.

The motivation for using a digital (almost) equivalent of cash is not the same for all central banks (Demertzis and Martins, 2023). According to the Bank for International Settlements (BIS), countries that have been the first to adopt the idea aim to focus on increasing financial inclusion, in other words, access to digital payments for those that are "unbanked". This was clearly the case in The Bahamas, where the Sand Dollar was one of the first projects to go online. But in jurisdictions like the US and the EU, financial inclusion is a second-order problem and is not necessarily best solved with a digital euro or digital dollar. Instead, the motivation for embarking on CBDCs in many advanced economies comes primarily from a desire to compete with the increased degree of digitalisation in finance that threatens to displace physical cash and challenge the monopoly of sovereign money.

It is often argued that cash is the anchor of trust in the financial system. In a world of fiat money, commercial bank deposits are only partially guaranteed. For the consumer, the only money that is guaranteed in full by the sovereign is cash. Being able to revert to cash at any time is what provides trust in the system. With payments being increasingly digitalised, cash is becoming less popular and central banks are worried that they could lose the anchor of trust in the system. At the same time, the emergence of private cryptocurrencies has raised concern among some central banks that their role as the sole provider of money will be challenged, a fact that would compromise their ability to protect monetary and financial stability.

But while motivations differ across countries, there is one common theme – a recognition that payment systems can and should be improved. Think of CBDCs as a high-speed train – in order for that train to work, you need good rails. Not only CBDCs can ride on the rails, but the emergence of a CBDC can push governments to invest in the rails that both the public and private sector will benefit from. For countries with less developed financial systems, if the necessary digital infrastructure is in place, CBDCs can be a way to increase both the reach and effectiveness of domestic payments. But why is that an issue in the US and the euro area? It has less to do with domestic payment systems – the EU is already fast and the US is developing FedNow – and has more to do with cross-border systems that are used to funnel dollars and euros.

Where CBDCs can provide sizeable gains is in cross-border and cross-currency transactions that are subject to inefficiencies related to the current international correspondent banking architecture (Hebert et al., 2023).

International payment systems have not kept up with the size of cross-border financial flows in an increasingly open world. The systems used are costly, slow and complex. Lipsky and Kumar (2023) note that US $23.5 trillion were transferred across borders in 2020, which cost US $120 billion, the equivalent of one year of Morocco's GDP. This, in turn, has meant that many participants from emerging markets and the developing world have been left to pay a heavy premium for access to the global financial system. In an increasingly interconnected world, the need to improve cross-border payments has been established as a priority by the G20, with the Financial Stability Board leading coordination efforts to improve the existing system (Financial Stability Board, 2020).

1 Atlantic Council, Central Bank Digital Currency Tracker, https://www.atlanticcouncil.org/cbdctracker/.

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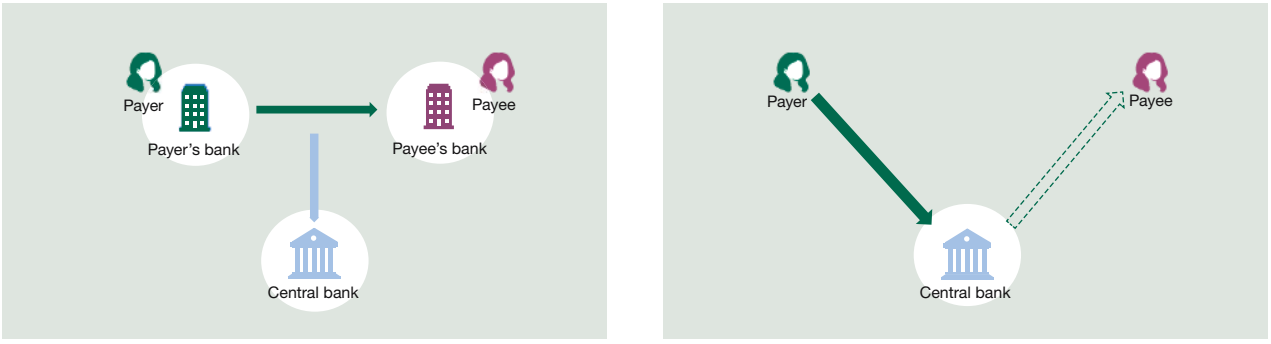
Figure 1
How are retail payments changed with central bank digital currencies?



Source: Authors' own illustration.

But notably, in our view, the creation of CBDCs globally has the potential to massively impact cross-border payments. For the moment, one of the reasons the dollar is the currency of choice globally is because it offers the infrastructure for any two parties to settle a transaction. The dollar is by far the currency of choice in trade invoicing (more than 50% of total trade) and foreign exchange transaction volume (almost 90% of the total) globally (Moronoti, 2022). This also means that US settlement authorities and financial institutions are involved in finalising most global transactions. If two countries have CBDCs, then they in principle would have the ability to settle transactions between themselves with near-instant finality, potentially bypassing the current dollar-based system.

In a speech at the New Development Bank in Shanghai on 13 April 2023, President of Brazil Lula da Silva said, "Every night I ask myself why all countries have to base their trade on the dollar" (Leahy and Lockett, 2023). In the wake of Russia's invasion of Ukraine and the G7 sanctions response, there are renewed geopolitical incentives for many countries to invest in CBDCs or other alternatives to dollar-based systems. While it is true that the rhetoric does not always meet the reality when it comes to efforts of "de-dollarisation", technological developments can provide tools that were previously absent. The US and the euro area cannot afford not to be part of this debate and it is critical to understand the two core types of CBDCs.

Understanding the dual use of CBDCs

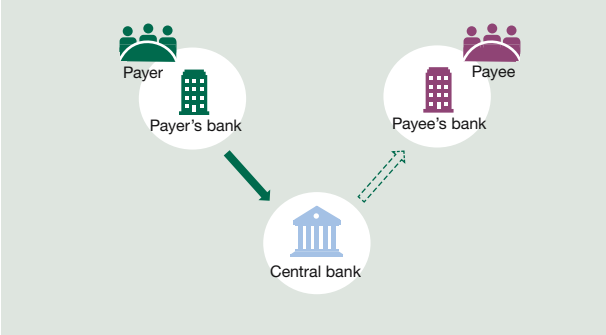
Just like their physical equivalent, CBDCs will have a dual purpose: first, to be used for retail transactions, typically by consumers and small businesses to make daily payments, representing a small part of total payments; and second, to be used for wholesale (i.e. in bulk) purposes by banks and other financial institutions, either domestically or cross-border. In the euro area, most of the efforts so far have focused on how to develop a retail CBDC, and only very recently has there also been an attempt to advance thinking on the wholesale level (European Central Bank, 2023a).

The creation of a CBDC for retail purposes would change the way payments are made in the following manner, schematically presented in Figure 1: currently, a consumer (payer) instructs their bank to make a transfer to the payee's account (left panel). The transaction happens from one bank to the other and is settled by the central bank. With CBDCs, however, both the payer and the payee will have accounts directly with the central bank (right panel). Both the payment and the settlement will happen as a liability of the central bank.[2] On top of that, CBDCs could use new technology, such as distributed ledger technology (DLT), which is being explored to facilitate faster transactions.

However, it is critical to note that all CBDCs currently being developed are intermediated – meaning there is no direct-to-consumer option for a retail CBDC. Instead, the central bank uses existing commercial banks or other providers to manage customer accounts, comply with anti-money laundering/combating the financing of terrorism regulations, and distribute the CBDC. Therefore, it is

2 To be precise, while the consumer will have an account at the central bank, the accounts will be managed by commercial institutions (like banks) so consumers will not necessarily have to do anything different in the way that they issue payments.

Figure 2
Domestic wholesale payments methods remain the same with central bank digital currencies



Source: Authors' own illustration.

unlikely a CBDC could undercut the commercial banking system, as that system is being relied upon for delivery.

What it does mean, however, is that CBDCs as retail accounts in the central bank are guaranteed in full, while retail accounts in commercial banks are only guaranteed partially, through national deposit guarantee schemes.

For wholesale use, CBDCs represent much less of an innovation. In the current system, bank reserves in the central bank available for wholesale transactions are a form of central bank digital currency (see Figure 2). In other words, payers and payees in the wholesale market, namely banks, already have accounts at the central bank. This means that, unlike for retail purposes, wholesale CBDCs do not need to be created from scratch. Rather, it is about using the most modern technology, namely the DLT, to operate wholesale transactions.

The question is whether this new technology can provide efficiency gains in wholesale payments domestically, or between central banks across borders.

Cross-border payments: A CBDC revolution

In countries with more developed financial systems, domestic payment systems are typically very efficient. Examples are the real-time gross settlement systems such as T2, launched by the Eurosystem in March 2023 to improve cost efficiency, provide greater cyber resilience and optimise the use of liquidity by harmonising and integrating various TARGET services (European Central Bank, 2023b). The Fedwire Funds Service, which settles US dollar-denominated transactions is another such example, although it is slower than its European counterpart. Both systems are operated by the respective central bank. Improving the efficiency of the system can still be done in the current technologies.

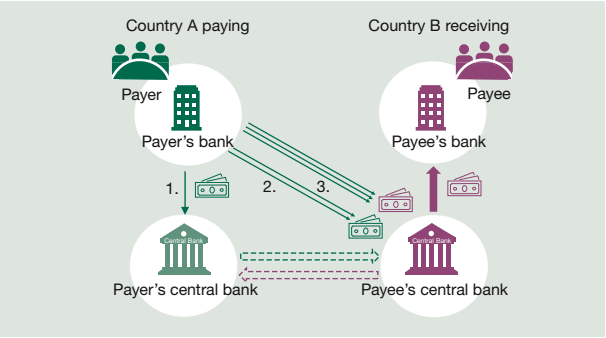
Real gains are possible with CBDCs in cross-border payments (across different currencies). BIS (2021) reports that a transaction that currently takes between three to five days could be completed in less than ten seconds. There are also significant cost savings to be had, but their magnitude would vary between banks and regions. For example, average costs for overseas transactions amount to 2% in Europe, while in Latin America such costs amount to as much as 7%. New payment solutions being explored could reduce this cost to as low as 1%. The way to achieve such savings comes from removing the network of correspondent banks in the chain of transactions and putting direct corridors in place instead that allow banks to communicate.

Such efficiency gains were achieved in a pilot project called mBridge (BIS, 2022). Along with efficiency and cost gains, the project demonstrated an ability to reduce settlement risk and allow for the possibility of local currencies to be used for international payments, a move away from having to rely on international tradable currencies like the dollar and the euro. The pilot revealed though that several complex choices would have to be made that pertain to legal, economic and, importantly, governance issues. mBridge was a joint operation between Thailand, United Arab Emirates, Hong Kong Monetary Authority and China and was the first project to settle real money – US $ 22 million – cross-border on a CBDC platform.

Recently the US released the initial results of its own cross-border wholesale project, called Project Cedar. The results showed it was possible to settle CBDCs between banks cross-border within 30 seconds even if using different technology systems. Similarly, the BIS in collaboration with the Banque de France and the Swiss National Bank successfully concluded a cross-border wholesale CBDC experiment in 2021. However, the European Central Bank although quite advanced in its thinking on how to deal with the complexities of a digital euro, is only actively thinking about its retail usage.

The international financial system has long relied on the dollar as the currency of choice, which in turn meant having to rely on the dollar settlement system. The existence of CBDCs for wholesale purposes has the potential to change this system radically. Central banks would have dedicated corridors that can settle directly between them, without having to rely on correspondent banks. The payer's bank would have an account directly at the country's central bank, which would in turn communicate directly with the central bank of the payee's country. This

Figure 3
Cross-border payments using central bank digital currencies



Source: Demertzis and Martins (2023).

would mean more diversification of currency pairs, with increased liquidity for currency pairs that do not include the US dollar.[3] Also, the more direct relation between parties leads to the de-risking of transactions. Figure 3 shows the three different ways in which a payment could be made. It is true that replacing the liquidity of the dollar in the near-term will present a significant hurdle for cross-border currency corridors, although recent indications show this is possible.

The payer's bank can pay the payee's bank in one of three ways. First, it can hold domestic currency in an account in the domestic central bank, in which case the two central banks will transact on a pre-agreed currency. Second, the payer's bank has a domestic currency account at the foreign central bank and pays with its domestic currency. Third, the payer's bank has a foreign currency account at the foreign central bank and pays with this.

The first method will be the one closest to what happens today and the dedicated corridors between central banks will allow the settlement of any transactions. The mBridge pilot shows that the third method is the most efficient as it involves the smallest number of steps between the two parties that transact.

The oppportunity of standard-setting in CBDCs

Before such dedicated corridors are created, there are a number of choices that need to be made on technical, legal (and governance) and economic issues.

For the system to function, rules must be established to provide legal certainty. Would existing rules for holding foreign securities be sufficient for wholesale CBDCs to function or would there need to be a new legal framework? International coordination on this issue would be necessary for wholesale CBDCs to challenge the current ways of settling international transactions. Arguably, the governance of wholesale CBDCs will be the most significant obstacle to their uptake.

But bilateral recognition of legal systems would also be sufficient for any two central banks to settle between them, provided there is an agreement to do so in one of the two respective currencies and not the dollar. It is not immediately obvious why two countries that currently trade between them in dollars would prefer to (or be able to) trade in their own currencies. The instant settlement requires deep liquidity pools that will be hard for any currency other than the dollar to match in the short-term.

However, if a country was sanctioned by the US, then dollar settlement would no longer be available to them. A case in point is the gas-for-roubles incident last year in the euro area, when European buyers of Russian gas were forced to pay in roubles even though contracts were euro-denominated. Gazprombank was deliberately left outside the sanctions packages that the EU had imposed on Russia, so that European buyers could honour their contracts with the Russian authorities. But as it turns out, that was not enough. Sanctions implied that the Russian authorities did not have access to the euros paid, as they would have to be settled through the euro settlement system, as explained in Demertzis and Papadia (2022).

Having a settlement system that is operational between any two central banks guarantees the continuity of economic activity. Even if this system is more costly than using traditional channels, it may still be less expensive than the current circuitous network of banking relationships that have to be navigated for sanctions evasion today. Many countries that are thinking about strengthening their own resilience will no doubt examine the geopolitical importance of always having a functioning settlement system. It is not a coincidence that in the wake of Russia's invasion of Ukraine, interest in wholesale CBDC projects has more than doubled, according to Atlantic Council (2023) data.

CBDCs are still in the early stages of their development, and it is clear that many difficult questions remain in the months and years ahead. The mBridges pilot showed that the most efficient payment method would be for foreign corporations to have accounts in the domestic central

3 Currently, CLS (https://www.cls-group.com/) is a central player in the clearing and netting of foreign exchange transactions, contributing to reducing settlement risk. However, their services are limited to 18 currencies.

bank, if they trade domestically. What would that mean for monetary sovereignty? How would potential conflicts be resolved? How would countries deal with counterparty risk? Would the domestic central bank agree to carry that risk on behalf of institutions that are not national?

The most pressing issue, however, is not what the questions are but who will be at the table when the questions are answered. If the US and EU want to have a significant impact on this trajectory, it is not enough to poke holes in others' CBDCs; they must bring their own technological solutions to the table and in the process ensure that CBDCs respect privacy and ensure stability in the international financial system. This would be the only way to contribute to setting a global standard and promoting international cooperation.

Conclusions: CBDCs and their geopolitical relevance

The rapid increase in the interest in CBDCs coincides with a visible increase in the deployment of economic statecraft tools since March 2022, when access to the reserves of the Central Bank of Russia were blocked by the G7. This decision and subsequent sanctions on Russia have come to add to the threat of fragmentation in the global financial system.

The question that is of relevance here is not how to prevent countries from developing CBDCs. This would not be possible and it would also not be desirable given the great potential for efficiency gains in cross-border payments that they offer. However, this increased efficiency will come with a major change in the way that global settlements work. If any two central banks are in a position to settle transactions between them, then the dollar (and to a lesser extent the euro) infrastructure will not be needed. Similarly, correspondent banks, which are currently crucial nodes in international financial flows, will see their role eliminated.

Over time, these developments can impact the global role of the dollar and euro. That is why actively participating in the discussions around the development of CBDCs is absolutely essential in order to understand the complex trade-offs that CBDCs entail and how to deal with them. In order to participate in a meaningful way, both central banks need to have models to bring to the table.

Both the EU and the US also need to be active participants in this process that will help create and manage international standards as a way to help preserve their strategic interests. This is not something that will happen overnight. But the general direction is now clear. It would be a mistake to wait too long.

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