The rise of
Central Bank Digital Currencies

April 2021
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1. Introduction

What are Central Bank Digital Currencies (CBDCs)? What is the impetus behind CBDCs when the ethos of crypto goes against the very role of central banks? How will CBDCs affect the widespread use of cryptocurrencies or the need for crypto altogether? Does the decline of physical cash in societies, and in turn anonymous payments, call for the need for CBDCs? And if so, will CBDCs protect the privacy of users? These are some of the questions that have followed the rise of CBDCs, with central banks announcing new digital currencies as their next innovative and efficient payment system that will coexist with fiat. According to a survey conducted by the Bank of International Settlements (BIS), roughly 56 of 65 central banks indicated that they are actively engaging in and exploring CBDCs. Some are already running tests to see if a CBDC could support existing monetary policies and also achieve their financial objectives while promoting flexibility in payment systems.¹ To understand the full extent of the developments and intentions behind CBDCs, we consider the structure, possible use cases, benefits and limitations, current landscape, and implications of a central bank digital currency. By looking at these various elements, one can come to understand the continuing need for cryptocurrencies.
2.

CBDCs: a digitized fiat currency

Definition

As the name suggests, Central Bank Digital Currencies (CBDCs) are digital currencies proposed and issued by the central bank of a sovereign country. Generally, they take on a digital form of the nation’s existing fiat currency. While the concept of CBDCs was inspired by cryptocurrencies like bitcoin, the ethos of CBDCs show a stark contrast from the ethos of cryptocurrencies in that they are issued by the state as a centralized form of digital money.

Governments have taken interest in the idea of CBDCs not only with the rise of bitcoin, but following Facebook’s efforts to delve into the world of digital assets with its digital stablecoin - Diem (formerly known as Libra until its rebranding on December 1, 2020). Many CBDCs still remain in the research & development stage while some countries are beginning to pilot CBDC programs. Although the utility of CBDCs and their impact on societies and governance has yet to be seen, we believe the global rise of CBDCs has begun.

Retail vs. Wholesale

Though the applications of CBDCs are endless, they are generally broken down in two different segments: retail and wholesale. The difference between the two categories lies in potential usage. Retail CBDCs, or general purpose CBDCs, refer to digitized fiat money that will be used as a mode of payment or legal tender for wider retail transactions by a broader group of people, like citizens and corporations. Wholesale CBDCs are for restricted groups, such as financial institutions that hold reserves with a central bank and are
designed to facilitate payments and settlement transactions. The purpose of wholesale CBDCs is to facilitate efficient value transfer between a sender and a receiver without the need for intermediaries, especially in transactions involving securities and derivatives. Many countries are exploring CBDCs for its merit with both retail and wholesale digital tokens.

*Figure 1*

**Taxonomy of money from the viewpoint of central banks**

Source: The Bank of International Settlements (BIS)

**Usage**

According to the BIS’s quarterly report, retail CBDCs may help overcome the limitations of national payment systems and act as a convenient and affordable payment method of transferring funds across accounts held at different Payment Service Providers (PSPs) while reducing the costs and inefficiencies associated with low interoperability. Furthermore, in cases of low cash circulation, cash access points, or cash acceptance, CBDCs could guarantee the public access to central bank money. Figure 2 illustrates how CBDCs could work as a hybrid system and partner with the private sector as the default
payment operator. End-users would access existing or familiar payment apps or online banking services and tools, but instead of intermediaries recording transactions on their own balance sheets, they'll update their CBDC balance with the central bank. Essentially, CBDCs could be interoperable with private sector retail payment platforms while the central bank assumes the role of settlement and record of change. This seamless integration of CBDCs into existing payment systems could lead to mass adoption of the digital currency, depending on the popularity of chosen retail payment platforms. Also, mode of value transfer and payment systems could see a dramatic shift if CBDCs allow users to directly connect to the central bank and other users through a CBDC wallet. The movement of money could be cheaper and frictionless, especially on an international level, if CBDCs become interoperable and allow people to make low-cost transactions on a real-time basis across countries and e-currencies. Traditionally, cross-border transactions rarely go directly from sender to receiver and instead rely on several intermediaries and transactional accounts to facilitate the transfer, which is slow and expensive. With CBDCs, transfers could go through wallets directly from sender to receiver seamlessly and at little-to-no cost.

Figure 2

Hybrid CBDC private-public partnership in payments

Source: BIS
In addition to the simplification of cross border payments, interoperability of CBDCs, or multi-CBDC arrangements, could tackle friction between banking systems, such as differences in opening hours, communication standards, exchange rates, and fees.

![Figure 3]

**Potential models for CBDCs to facilitate cross-border payments**

From the viewpoint of central banks, the risks associated with a CBDC include disintermediation of the commercial banking sector, accelerated bank runs at times of stress, and central banks having too large of a role in the existing financial system. From an end-user perspective, a successful CBDC could significantly lessen the need for intermediaries, such as commercial banks. If a large number of people flock to CBDCs and choose to store their wealth in these digital assets, the commercial banking sector or other deposit collecting institutions could see their balance sheets shrink as bank account deposits shrink. In times of crises, this disruption to monetary systems could also come in the form of “bank runs.” With financial instability, it’s possible to see a further run-on bank deposits as individuals will be incentivized to flock and hold onto “risk-free” CBDCs,
thus further destabilizing the economy and the commercial banking sector. Even if the intent behind retail CBDCs is to facilitate payments, it can severely stress markets in times of financial crises. This widespread usage of CBDCs can change the relationship between central banks and a society especially if CBDC holdings are not limited and are interest-bearing. If CBDC holdings outgrow bank deposits, it can impact monetary policies and lead to a larger systemic and digital footprint of central banks in society. The BIS claims, however, that such risks can be mitigated by paying interest on CBDC holdings at a lower rate than the rate paid on commercial bank reserves at central banks, or by imposing limits on the amount of CBDCs that can be held by individuals and firms.

*Figure 4*

**Motivations for wholesale CBDCs, according to central banks**

Following the COVID-19 outbreak in early 2020, governments & central banks around the world began redirecting their attention to CBDCs as the advantages of having a digital currency that is easily accessible and distributable became apparent. In countries like Colombia, Brazil, and Chile, governments embraced the use of cashless mediums such as digital wallets or simplified bank accounts that are free and remotely accessible with national ID documents. With the start of the pandemic, Latin America saw a significant
decline in cash withdrawals and Point-of-Sale (POS) transactions in 1H20, while seeing an expansion of mobile, phone, and internet banking usage.

Figure 5
Change of transaction trends in Latin America during the COVID-19 pandemic

As a number of countries were seeing a change in pace and methods of payments, governments began to research and test out CBDCs in an attempt to find more affordable, convenient, and inclusive means of payment.

The Impetus for CBDCs

If successfully created, issued, and widely utilized, CBDCs could provide governments the ability to track or trace transactions effectively and provide real-time updates of economic activity within a given jurisdiction; payment systems could also operate seamlessly and efficiently while offering near-instant settlements at lower costs. Both of which are too appealing for central banks to ignore. However, digital wallet security
would also become of paramount importance should an attack vector exist that hackers could exploit. All of these factors will invite broader regulatory discussions of digital assets, blockchain technology, and digital wallets. Merchants and businesses in particular will have to adopt and evolve with the development of CBDCs and their underlying technologies by redesigning traditional frameworks and payment structures to facilitate digital currency transactions.

Given the properties of digital currencies, CBDCs could be useful in any direct financial transfers from governments to individuals or businesses. **Domestically, the government could use CBDCs as a monetary-policy tool, where stimulus can be directly delivered to individuals.** With CBDCs, central banks can assume the role of a provider and act on behalf of the government to provide funds, which would theoretically give the central bank greater and quicker control over economic activity stabilization, especially in times of financial crises. **Because CBDCs would theoretically reach anyone with an e-wallet, it would allow for an efficient and widespread transfer of money even to those who may have historically been unable to benefit from such payments or who have not been able participate in the traditional banking system.** With greater transparency in payments, central banks would aid governments in providing targeted relief to select areas or people groups. **Direct payment using CBDCs could also resolve some of the current existing inefficiencies with emergency payments or stimulus checks from governments.** As we witnessed in 2020 amid the pandemic, emergency funding from governments was mostly inefficient, slow, or impractical. For example, in March 2020, the US announced its first round of stimulus checks worth $1,200 or less to those unemployed or struggling due to the COVID-19 pandemic. However, despite the promised 3 week roll-out for direct deposits, not all 150M eligible Americans had received their checks, with delay in payments caused due to: (1) outdated bank information causing the IRS to deposit checks into closed bank accounts; (2) lack of direct deposit information hindering the use of direct deposits and rerouting to paper checks; (3) or constraints in payments systems that only operate during business hours and take couple of business days to credit accounts, among other reasons. The Brookings Institute estimated 70M people living paycheck to paycheck in the United States would have to wait a few months to receive their stimulus checks, thereby causing
the most vulnerable to resort to expensive alternatives to access funds. By November 2020, eight months after the emergency funds were approved, many had still not received their stimulus checks. With the usage of CBDCs, we can imagine a far more efficient and responsive process where economic activity is stabilized by direct transfer of money from central banks to qualifying individuals.

We argue that another impetus for CBDCs, and a determining factor in a successful digital currency, lies in cross-border payments. Central banks and governments could allow CBDCs to improve remittances as individuals can make faster and cheaper payments using digital currencies. Traditional methods of cross-border transactions invite a flurry of intermediaries that hold accounts on behalf of customers or banks, known as a payment corridor. The less volume of payments a currency pair has on a global scale, the more correspondent banks are involved, and thus the higher the transaction cost and longer processing time that is incurred for senders and receivers of funds.

Figure 6
Cross-border payments for banks with foreign counterparts, usually for higher-volume currency pairs
If CBDCs are made interoperable on a global scale, in a manner where one digital currency can be settled or interchangeable with other sovereign digital currencies, remittance payments would also see a dramatic shift and disintermediation. That said, these changes are likely to invite regulatory complexities involving the application of banking and payment laws, data privacy laws, and the relationship between law and a country's ability to affect monetary policy domestically and across borders, which could deter central banks from developing CBDCs for internationalization purposes. Furthermore, nations that restrict the inflow and outflow of its national currency with strict capital controls make international transactions via CBDCs highly unlikely. Alongside strict capital controls, in countries experiencing rampant hyperinflation, people are seen flocking to cryptocurrencies in an effort to mitigate the devaluation of their fiat currency. In these scenarios, as CBDCs are governed by a central bank and are likely to be subject to the same restrictions imposed by governments as fiat, CBDCs will be unable to be a store of value or a means for transferring money internationally for those facing such economic instability.
3. Current landscape:
major developments & intended use

According to a survey by the Bank of International Settlements, participating central banks representing advanced economies responded that it was possible to issue a general purpose CBDC in the “short- or medium-term.” With growing awareness and appetite for a future that includes CBDCs in some shape or form, interest seems more pronounced in emerging and developing economies.

Figure 8
Global landscape of CBDCs

Source: Reuters research, Harvard Kennedy School Belfer Center & Atlantic Council
Europe

In 2020, the president of the European Central Bank (ECB), Christine Lagarde, took a positive stance on the concept and theoretical implementation of a digital Euro. However, Lagarde noted that there are still many issues with CBDCs that need to be addressed before the reinvention of its sovereign money. She also stated that stablecoins, particularly those owned and issued by big tech firms, pose serious risks and “if widely adopted, they could threaten financial stability and monetary sovereignty.” She added that “using stablecoins as a store of value could trigger a large shift of bank deposits to stablecoins, which may have an impact on banks’ operations and the transmission of monetary policy.” The ECB noted the threat of global tech giants creating new payment systems, the rise of stablecoins, and the alarming potential for foreign CBDCs to penetrate their markets and undermine European sovereignty as reasons for exploring CBDCs. This has led to the ECB and its members exploring the implementation of a digital currency to not only solve existing payment-related problems, but to combat external threats with a new future of money on the horizon. Recently, the ECB and European Commission (EC) created a joint technical group to tackle policy, legal, and technical issues involved in the issuance of a digital Euro that holds the potential to be used worldwide. Though nothing has been formally announced or openly tested, it seems inevitable that there will be further investigations in Europe for a digital currency in the near future.

United Kingdom

In BIS’s guide on CBDCs, which was authored by the Bank of England alongside other central banks, digitization of payments were recommended to complement cash and other legal tender given that their roles will be to support existing monetary and financial policies. However, the governor of the Bank of England made it clear that despite the need for digital innovation in payments, the design and governance models of cryptocurrencies, such as bitcoin, are not fit for the purposes of England’s own CBDC and there is still research to be done and discussions to be had before deciding on a Bank of England digital currency.
Sweden

As one of the first countries in Europe to prototype CBDCs, Sweden has been progressing towards the roll out of a CBDC since the start of the Riksbank’s project E-Krona in March 2017. The E-Krona pilot testing began in 2020 and is set to take place until November 2022, after which the Riksbank will decide on issuing the CBDC.13 This initial testing phase of the E-Krona is in the form of a non-interest-bearing CBDC and intends to ensure instant payments freely and examine offline usability. The pilot project is created to have a two-tiered operational structure, as per figure 9.

Figure 9
Operating structure of the E-Krona (pilot project)

Source: The Riksbank

France

The Bank of France (BDF) completed its first wholesale digital Euro pilot transaction in January 2021 on a private blockchain, after issuing the digital currency in collaboration with London-based settlement and payments infrastructure provider, SETL.14 France was one of the countries that pushed for collaboration with the private sector in developing
a monnaie digitale de banque centrale (MBDC, French for CBDC). In its development phase, a total of eight private partners were chosen to develop the digital currency for interbank settlements, namely Accenture, Euroclear, HSBC, Iznès, Liquidshare, ProsperUS, Seba Bank, and Société Générale Forge. Its first successful CBDC transaction in January was the live settlement of a fund; the experiment was carried out on the SETL blockchain, which powers the Iznès fund platform. The pilot transaction successfully used the CBDC to simulate a cash transaction of over €2M globally. This experiment was the first of eight wholesale CBDC trials the BDF intends to conduct, with a follow up report on trials expected to be released in mid-2021. With France currently at the forefront, this trial marks a leap forward in the European race to CBDCs.

**Switzerland**

The Swiss National Bank (SNB) successfully trialed a wholesale CBDC with SIX Digital Exchange. The experiment, known as Project Helvetia, was run by Swiss bourse operator SIX Exchange and the Bank for International Settlements (BIS). The objective of the experiment was to test fluid settlement and wholesale transactions between financial institutions, and also examined the possibility of connecting SIX Digital Exchange with Switzerland’s existing wholesale payments system. Despite the success of the experiment proving the feasibility of CBDCs from a technical and legal standpoint, SNB has not declared a commitment to the issuance of a digital currency. According to BIS, the next stage of CBDC trials are said to be underway, where cross-border transactions will be tested and studied, set to be completed by 3Q21. The SNB is not yet studying the possibility of retail CBDCs at this time.

**Americas**

**United States**

US Federal Reserve Chairman Jerome Powell has previously stated that the US has no plans on creating a CBDC, though they are monitoring developments of central bank digital currencies very closely. However, recent developments are showing that active research is
being carried out for the digital dollar and a sharper focus is being placed on CBDCs with Chairman Powell stating that CBDCs must be developed to coexist with existing payment systems.\textsuperscript{17,18}

**Latin America**

In Latin America, CBDCs were first kicked off by the Ecuadorian Central Bank (BCE) with the introduction of the Dinero Electrónico (DE) in 2014, though eventually suspended two years later. The DE was halted for not demonstrating material improvements in payments and was criticized for the lack of credibility of the central bank backing the currency.\textsuperscript{19} The central bank of Uruguay (BCU) followed suit with the E-peso, which ran its first pilot program from Nov. 2017 to Apr. 2018. The E-peso enabled instant payments at registered businesses and P2P transactions through the use of digital wallets subject to storage and transfer limits. The E-peso saw a greater acceptance rate in economic sectors more concerned with the costs of existing payment platforms while also reaching remote areas with unbanked populations. The second pilot program of the E-peso planned to include the participation of other financial institutions and banks, though no decision has been made regarding its launch.\textsuperscript{20} The Eastern Caribbean Central Bank (ECCB) launched a pilot program for its CBDC in March 2019, known as DCash, and the Bahamian
central bank (CBTB) was the first to launch a general purpose CBDC in end-2020 under the name Sand Dollar. Both the Sand Dollar and DCash were created to allow individuals to transfer money and make payments free of charge through non-interest bearing digital wallets subject to transaction limits.

Asia Pacific

China

The People’s Bank of China (PBoC) was one of the first banks to develop a CBDC and continues to be the leader in terms of development pace. It had set up a CBDC task force as early as 2014 though development efforts were only released in 2020 as CBDCs gained attention globally. The testing of a prototype was announced in April 2020 under the name DC/EP (digital currency/electronic payment) and a series of pilot programs have already been conducted. In May 2020, on-the-ground trials began in four major Chinese cities (Shenzhen, Suzhou, Chengdu, and Xiongan) and the PBoC announced plans to put its digital currency to use at the 2022 Beijing Winter Olympics. It was also announced that the trial would extend to government employees/civil servants, who would receive 50% of employee transportation subsidies in the DC/EP. The DC/EP was trialed in different sectors of the economy, such as subsidizing transport for employees in Suzhou and targeting food and retail companies in Xiongan. Approximately 19 retailers, including Subway and McDonalds, were invited to participate in the trial in Xiongan. As of April 2021, the PBoC has partnered with four commercial banks and other platforms to issue the digital currency to end-users and citizens are able to convert money in their bank accounts into the DC/EP and make any DC/EP deposits through the use of digital wallets.

By August 2020, the trial expanded to a number of larger cities including Beijing, Tianjin, Hebei province, Yangtze Delta, Guangdong province, Hong Kong, and Macau, as well as some central and western regions of the country. In October 2020, the biggest pilot testing of the year was conducted by the government of Shenzhen, where 10M Yuan (roughly $1.5M) worth of DC/EP was given away to 50K winners through a DC/EP app. The winners could spend their DC/EP at over 3,000 participating retailers within a given
district of Shenzhen. By October 2020, over 1.1B Yuan (roughly $162M) worth of DC/EP transactions had been processed in more than 3M transactions across various areas of spending such as bill payments, transport, and government services. Over 113K personal DC/EP digital wallets and 8.8K corporate DC/EP digital wallets were downloaded due to the ongoing CBDC trials across the nation, signaling an increased level of acceptance and participation by Chinese citizens.

The city of Shenzhen conducted a second trial in January 2021 where $3M worth of DC/EP was given away to 100K local winners through another lottery. A third lottery was announced for Shenzhen soon after the second trial for a total of 20M Yuan worth of DC/EP (roughly $3M). The first trial resulted in 47K of the winners spending 8.8M Yuan (roughly $1.3M) across 62K transactions; the second trial had over 95K winners activating their DC/EP wallets to spend over 18M Yuan (over $2.8M) through nearly 140K transactions. Other cities also participated in trials, with Suzhou city conducting a lottery worth a total of 30M Yuan (roughly $5M) for 150K winners, and Chengdu announcing a giveaway worth a total of 40M Yuan (roughly $6.2M), for 200K winners in February 2021. In the same month, China’s capital city of Beijing also announced a DC/EP lottery for increased involvement and utilization of the digital currency. Precisely 200 Yuan worth of DC/EP was confirmed to be given out to 50K winners, resulting in a total issuance of 10M Yuan (roughly $1.55M) to Beijing residents.

According to the PBoC, the intention behind a CBDC is to accommodate changing trends in payments since cash payments in China are declining amid a surge in digital payments, which was further exacerbated by COVID-19 induced lockdowns. The PBoC noted that this trend would bring high dependency on private sector companies offering digital payment methods, which they claim runs a high default risk should these platforms go bankrupt. As an increased dependence on scattered private payment platforms further restricts the central bank’s control over the flow of funds, a CBDC was envisioned as a substitute that could blend well with societal trends of going cashless while monitoring cash flow in real-time, as CBDCs would be owned, issued, and backed by the central bank. The operating structure of the CBDC is planned as a two-tiered system with the PBoC issuing and redeeming the CBDC exclusively to select firms, banks, and companies.
As innovative as the DC/EP is, concerns have been raised over how the technology allows the PBoC to deeply examine the flow of transactions. The PBoC can not only track the movement of the currency, but also supervise transactions. An intent behind the DC/EP was listed as “controllable anonymity,” meaning transactions would be hidden from the public and only viewed by China’s PBoC. While that is not far off from the nature of other CBDCs, the DC/EP has been designed to allow for Chinese authorities to have greater insight into financial transactions. To little surprise, concerns have surfaced over how the technology grants the government greater oversight and control of those participating in the Chinese economy, more-so than any other central bank around the globe.

Another main motivation seems to be in curbing demand for cryptocurrencies or private big-tech digital currencies (i.e. Diem, formerly Libra) that would threaten the bank’s monetary sovereignty. With the development of the DC/EP, China could protect its capital borders from external payment systems and unmonitored cash flows. Furthermore, a CBDC could aid in the internationalization of the Renminbi (RMB) through the expansion and improvement of cross-border payments with the use of a digital Yuan. While we believe that China’s capital controls make this goal a lot more unrealistic, it appears the PBoC recognizes dedollarization and internationalization of the RMB as a potential benefit of creating a CBDC. Though it’s unclear whether the PBoC will focus on internationalization as a primary reason for a CBDC, if issued, the digital yuan will be a non-interest bearing currency. It will not require a bank account and will offer near-instant transactions that could even work without an internet connection, through the use of Bluetooth technology. By being in close vicinity to another person, payments could be made possible through a simple tap motion of two devices. It’ll also be interoperable with widely used Chinese payment apps such as WeChat Pay and Alipay.
4.

Implications: cryptocurrencies vs. CBDCs

Because countries are preemptively preparing for a world where CBDCs become a global reality, we ought to consider the implications their developments and eventual rollout. Though there are multiple use cases, as we discussed in the earlier ‘Impetus of CBDCs’ section, that can prove useful for the government in ironing out inefficiencies both in retail and wholesale markets, a few central questions remain. Specifically, could CBDCs render cryptocurrencies useless or conversely, could crypto hinder the widespread adoption of CBDCs?

Exclusive Power of the Issuer

 Though at first glance CBDCs and cryptocurrencies can seem interchangeable, the two are strikingly different both in ethos and design. Cryptocurrencies were founded on the idea of decentralization, privacy, and inclusion. CBDCs are under centralized ownership by the government, traceable, and are inclusive only within the realms of the government’s chosen boundaries. While crypto empowers individuals to take control of their own finances and creates new boundaries of financial privacy, CBDCs do not deviate too far from the status quo except for the central bank’s increased presence in the financial system. This would likely mean that governments and central banks will try to control CBDCs tightly to monitor the pace and scope of usage, leading to further lack of personal security and privacy for consumers.

Given that central bank or governmental authorities will be able to track all users and the blockchain will make all transactions immutable, data privacy and consumer data protection are important areas of focus. If enough people favor privacy or anonymity, the
issuance of CBDCs may be rendered useless and fail to be widely adopted and utilized. Also, if there is a lack of faith in the issuing central bank itself, as was the case with Ecuador’s CBDC launch in 2014, it will also fail to be widely accepted. Depending on the design of the digital fiat, it’s also possible that it might not reach all those who it theoretically intends to reach, perhaps those unbanked or those without presentable legal identification.

Cryptocurrencies are often a safe haven for those in hyperinflated economies and unstable political regimes that sometimes impose strict capital controls due to the instability. In this environment, CBDCs will be nothing more than another unstable store of value that is likely ineffective in providing stability against a devaluing fiat. We believe that for those looking to skirt oppressive governments or regulations and rely on crypto as a source of value and means for transferring money will eventually flock to cryptocurrencies for privacy and financial security. Even if cryptocurrencies are purchased to simply be exchanged for other fiat currencies, such as the USD, cryptoassets offer stability against devaluing currencies as they are programmed to be disinflationary.

It’s evident that CBDCs and cryptocurrencies serve very different purposes, which is why we believe the two will likely continue to coexist. Some believe that CBDCs will eventually lead to a wider adoption of cryptocurrencies, as CBDCs familiarize the average person with the idea of a digital money and the corresponding ecosystem, including digital wallets. The rollout and wide usage of a CBDC could also have a ripple effect with businesses, increasing the number of retailers or merchants equipped with the infrastructure to accept and handle payment methods in the form of cryptocurrencies. However, the lack of privacy, control of issuing entities, and limited potential for international usage of CBDCs could be reason enough for users to switch over to decentralized systems like bitcoin or tokenized fiat, such as stablecoins.42

Some argue that given the nature of stablecoins, CBDCs will directly compete with fiat-pegged stablecoins and will eventually make stablecoins redundant. Fiat-pegged stablecoins retain their value through the trust placed on the issuer of the coin to hold the fiat claimed to be backing the stablecoin, in reserves held in a bank account. For instance, if a stablecoin is backed by the USD, users trust the issuer to hold sufficient funds in USD. One must ultimately be able to verify that the coins are, in fact, asset backed. As evidenced by past events where reserves of stablecoins came into question, this is no small task.43 Until proven otherwise, the stability of prices are arguably maintained by a collective trust. This trust is the biggest factor behind a stablecoin’s price parity and
looking at historical prices of popular stablecoins like the USDT or USDC, prices rarely deviate from the price of the asset backing the stablecoin. There are also decentralized algorithmic stablecoins that maintain price parity through smart contracts that implement a price stabilization algorithm and operate without the reliance of a central issuer holding fiat reserves. Though stablecoins are essentially tokenized fiat money, they are different from CBDCs in that transactions are settled on public blockchains and provide the privacy of a cryptocurrency. Currently, stablecoins are often used to facilitate the international transfer of money much more conveniently than through existing systems. It’s enabled through lower fees and less intrusive verification requirements, and in some cases allows users to circumvent extreme capital controls imposed by governments.44

However, assuming CBDCs and fiat-pegged stablecoins are similar in utility from an end-user standpoint, some point out the advantages of a state-owned and issued fiat token. Banks, institutions, or platforms that participate in the issuance of CBDCs can tap into its large user base, distribution network, and reputation. It can be interwoven into its existing applications and platforms where users would be seamlessly connected to CBDCs through applications they are familiar with and already use. Also, CBDCs won’t come with the regulatory scrutiny and pressure of fiat-pegged stablecoins and cryptocurrencies. Perhaps this is why some believe that even if decentralized cryptocurrencies and fiat-pegged stablecoins reach a tipping point of mass adoption, people will opt for the upgrade of existing monetary systems (i.e. CBDCs) even if they recognize it as inferior.45

As cryptocurrencies and stablecoins continue to threaten the dominance of existing financial institutions and the monopoly of governments in money issuance, we believe central banks will continue to work towards developing a CBDC in an effort to retain control and curb decentralized monetary systems. The issuance and successful widespread adoption of CBDCs could create a new financial infrastructure where governmental entities have full visibility into the transactions of its jurisdictions, with control over every detail of individual and collective spending.
Conclusion

The proposed designs and concept of CBDCs leads us to conclude that countries have yet to decide on the limits of a CBDC that is in line with current financial structures while ensuring minimal disruption in its existing financial markets. Though it’s early to speak to the effectiveness of CBDCs, or even identify the specific intentions for CBDCs of each issuing central bank, we do not believe they will replace other cryptocurrencies or even fiat currencies. At the end of the day, each serves its very own purpose. If anything, for those who expect their privacy ensured, those who suffer from rampant hyperinflation of their national currencies, or those constrained by capital controls, all of these priorities will point to the continuing need for cryptocurrencies. Also, in light of changing payment trends and the decline of physical cash usage globally, there is little recourse for anonymous payments. Kraken understands that people and businesses value their privacy, that’s why we’re one of the few exchanges that offers clients access to digital assets like Monero (XMR), Zcash (ZEC), and Dash (DASH), which facilitate much stricter transactional privacy for users. Ultimately, we believe CBDCs could effectively be an accelerator of crypto as more people open their eyes to the realities of fiat and digital fiat. As we see CBDCs unfold on a global scale, we urge central banks to consider how they can protect citizens’ privacy with a CBDC, and we ask individuals to be thoughtful and thorough in assessing the privacy ramifications of any central bank digital currency before ultimately deciding to dive in.
Footnotes

4. Payment Service Providers (PSPs) are third-party payment processing companies that offer businesses access to various forms of electronic payments (ie. credit cards, direct debit, bank transfer, etc) by connecting to multiple banks and payment networks. They allow merchants to accept various modes of payment from clients and assume all financial risk of businesses.
7. Short (~3 years) and medium (~6 years) term, according to the BIS Survey (https://www.bis.org/publ/bppdf/bispap114.pdf)
34. https://www.theblockcrypto.com/linked/91578/shenzhens-digital-yuan-140k-transactions
42. Stablecoins are supposedly backed 1:1 by another asset, rarely deviating from the price of its reference asset.
45. https://cointelegraph.com/news/should-crypto-stay-decentralized-or-are-cbdc-better-experts-answer
We appreciate your feedback! Please visit https://surveys.kraken.com/jfe/form/SV_asKlvOmDv4KbscPQ to participate in a brief survey. For all future Kraken Intelligence content, sign up here. For comments, suggestions, or questions related to this article or future topics you’d like to learn more about, you may also direct your communication to intel@kraken.com or to your account manager.

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