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Central Bank Digital Currencies Highlight Bitcoin's Value Proposition

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Bitcoin's growing popularity, the digitization of payment systems, and the demand for stablecoins have prompted countries to explore central bank digital currencies (CBDCs). In the wake of COVID-19, CBDCs have also been discussed as a way to improve stimulus distribution. CBDCs are sometimes viewed as synonymous to, or as replacements for, digital currencies like Bitcoin, but they represent a meaningful departure from the decentralized protocols inherent to many cryptocurrencies. CBDCs attempt to upgrade payment infrastructure while Bitcoin is an attempt to upgrade money. If CBDCs gain traction, they may actually bolster the value proposition for Bitcoin and other digital currencies. As the discussion around CBDCs intensifies, it's important to understand what they are, how they would work, and what the implications are for investors.

"Quantitative easing is a tool that central banks, like us, can use to inject money directly into the economy. Money is either physical, like banknotes, or digital, like the money in your bank account. Quantitative easing involves us creating digital money." - Bank of England[1]

What are they?

Since Bitcoin's introduction in 2008, countless digital assets have come to market, many attempting to resolve and improve upon challenges in our existing financial system. One such innovation is the introduction of stablecoins, digital currencies designed to maintain their value by tying themselves to a stable underlying asset such as a fiat currency. Stablecoins reduce the volatility inherent in digital currencies by allowing users, often traders, to hold their wealth without an intermediary and avoid the need to convert from a digital currency into fiat currency. To date, there has been strong demand for stablecoins because they can function outside of the existing financial system, be transferred globally, and maintain a peg to an asset like the US dollar. It's worth noting that if the asset(s) underlying a stablecoin becomes more volatile, that stablecoin will also become more volatile.

1. Source: Bank of England. What is quantitative easing? https://www.bankofengland.co.uk/monetary-policy/quantitative-easing

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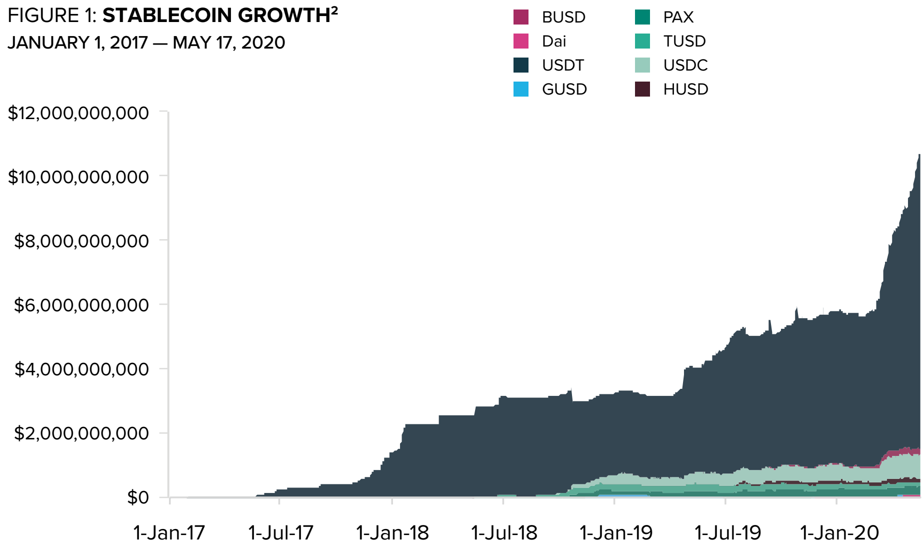
Figure 1 below shows the growth in US dollar stablecoin demand, recently surpassing $10 billion in aggregate supply. Demarcated on the graph by their respective issuers, these assets are differentiated from fiat by delivering 24/7 settlement, less regulatory overhead, and generally lower barriers to entry in comparison to traditional banking services.

FIGURE 1: **STABLECOIN GROWTH**[2]
JANUARY 1, 2017 — MAY 17, 2020



The development of stablecoins has been supported by large corporations as well as national economies. In the summer of 2019, Facebook announced plans to launch a stablecoin called Libra for its 2.7 billion users, sparking reactions from central banks that their monetary sovereignty was being undermined.[3] The announcement of the Libra project, along with strong demand for stablecoins, has accelerated central banks' interests in issuing their own digital currencies.

In contrast to Bitcoin and other decentralized digital currencies, CBDCs are issued and tracked by central banks. CBDCs are intended to be digital versions of fiat currencies and represent many of the same features. If successful, CBDCs could streamline benefits distribution and provide automated Know Your Customer (KYC) and Anti-Money Laundering (AML) controls through a centrally managed digital ledger.

In January 2020, a survey by the Bank of International Settlements showed that nearly all central banks of advanced economies were actively analyzing the potential impact of stablecoins, and over 80% of respondents are working on a CBDC.[4] The Fed, ECB, BoE, and BoJ are all actively exploring the space. In fact, in the same month, the World Economic Forum announced a global consortium for designing governance around digital currencies and stablecoins.[5]

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2. Source: Coinmetrics
3. Source: Wall Street Journal. Facebook Unveils Cryptocurrency Libra in Bid to Reshape Finance. June 18, 2019. Jeff Horwitz, Parmy Olson https://www.wsj.com/articles/facebook-unveils-crypto-wallet-based-on-currency-libra-11560850141
4. Source: BIS. Impending arrival – a sequel to the survey on central bank digital currency. Codruta Boar, Henry Holden, Amber Wadsworth. January 2020. https://www.bis.org/publ/bppdf/bispap107.pdf
5. Source: World Economic Forum. Governing the Coin: World Economic Forum Announces Global Consortium for Digital Currency Governance. January 24, 2020. https://www.weforum.org/press/2020/01/governing-the-coin-world-economic-forum-announces-global-consortium-for-digital-currency-governance/

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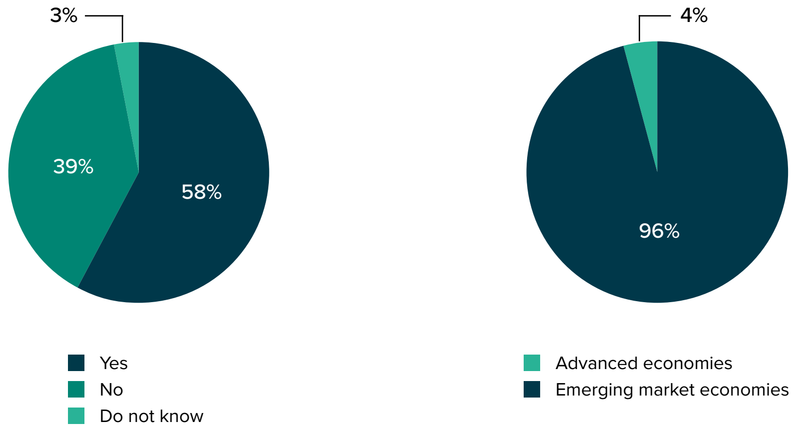
FIGURE 2: **CENTRAL BANK SURVEY ON CBDCs**[6]
JANUARY 2020

Are you analyzing the potential impact on monetary and financial stability of stablecoins?

Central banks that responded "no".



How would they work?

In January 2020, former CFTC Chair, Christopher Giancarlo, launched The Digital Dollar Project, an initiative that may provide a glimpse into the goals of a US-dollar-based CBDC.[7] A digital dollar could be distributed directly to end users, used in cross-border transactions and offshore securities settlement, and used to support stable international monetary conditions. Implementation details aren't available, but the potential issuance of CBDCs raises a number of challenges.

If CBDCs are issued as bearer assets, they could pose a threat to commercial banks because depositors would have the ability to transact and store the currency outside of the banking system. This scenario would alter the deposit to lending ratios, reduce continuous funding for commercial banks, and impede traditional lender profitability.[8]

The introduction of CBDCs would necessitate upgraded financial infrastructure, which might include merchant payment solutions, digital asset custody, exchange services, and wallets for users. Operationally, this sort of change would also require new policy and management practices at several different levels, including oversight of hundreds of millions of users' digital wallets.[9] This would represent a significant shift in managing the control, movement, and accounting of money. As CBDCs bring control and

6. Source: BIS. Impending arrival – a sequel to the survey on central bank digital currency. Codruta Boar, Henry Holden, Amber Wadsworth. January 2020. https://www.bis.org/publ/bppdf/bispap107.pdf
7. Source: The Digital Dollar Project. January 2020. https://www.digitaldollarproject.org/issue-briefing
8. Source: BIS. Central bank digital currencies. March 2018. https://www.bis.org/cpmi/publ/d174.pdf
9. Source: Federal Reserve. Digital Currencies, Stablecoins, and the Evolving Payments Landscape.
Governor Lael Brainard. October 16, 2019. https://www.federalreserve.gov/newsevents/speech/brainard20191016a.htm

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surveillance of both issuance and transfer of money under government watch, the potential implications of this centralization deserve careful scrutiny.

An important feature of the Bitcoin network is its censorship resistance and decentralization, meaning users are able to transact and store Bitcoin without the risk of their payments being blocked or their funds being stolen, arbitrarily seized, or confiscated. In all likelihood, most CBDCs would sit on the opposite side of the spectrum: every transaction would be screened, and funds could be frozen at will. If China succeeds in launching their version of a CBDC, called Digital Currency Electronic Payment (DCEP), later in 2020, it will provide their authorities with unprecedented surveillance capabilities.[10] The value proposition for governments is clear, but it may raise concerns around privacy, especially from citizens in democratic societies who may not welcome this level of oversight.

What are the implications for investors?

The interest in developing and implementing CBDCs may be accentuating Bitcoin's role in the global digital economy. Whether or not CBDCs are successfully introduced, they already strengthen the case for non-sovereign digital currencies, like Bitcoin, by forcing institutions to consider adopting digital currency infrastructure, while also educating users on digital bearer assets and the characteristics of good money. Bitcoin is unique not only because it is digital, but because it is scarce and available for anyone to use.

CBDC initiatives tend to focus on the payment advantages over legacy systems, but don't highlight how a CBDC would maintain its value in an environment characterized by monetary inflation. If a central bank successfully digitizes its currency, it would still have the ability to dictate and implement monetary policy. In fact, with logic encoded into a CBDC, it would be easier for a central bank to issue new currency and even set effective rates on assets held in personal custody. In sharp contrast, Bitcoin's monetary policy is fixed, a feature widely known by its users.

Figure 3 emphasizes not only why CBDCs should not be confused with Bitcoin, but also that they may not represent a meaningful departure from the status quo. Just as with fiat, policy makers will decide how a CBDC is used. Bitcoin can be thought of as an apolitical alternative.

10. Source: Reuters. China's proposed digital currency more about policing than progress. Brenda Goh, Samuel Shen. November 1, 2019. https://www.reuters.com/article/us-china-markets-digital-currency/chinas-proposed-digital-currency-more-about-policing-than-progress-idUSKBN1XB3QP

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FIGURE 3: **BITCOIN VS. CBDC**

	Bitcoin	CBDC
Monetary Policy	Fixed and understood by its users. Only 21M Bitcoin will be created. Bitcoin cannot be debased.	Determined by policy makers. CBDCs are susceptible to monetary inflation.
Geography	Global. Accessible to anyone in the world with Internet.	Determined by policy makers. International settlement may mirror current practices.
Storage	Anyone can securely receive and store value with a Bitcoin private key.	Determined by policy makers. Users could be at risk of seizure if they don't meet requirements.
Transfer	Anyone can transfer value with a private key and Internet access.	Determined by policy makers. Users could be at risk of censorship if they don't meet requirements.
Hours of Operation	99.9% uptime since inception.	Determined by policy makers. Automated monitoring may allow 24/7 uptime.

CBDCs would likely increase a government's ability to oversee transactions. This will require buy-in from all participants, be it citizens, merchants, or corporations. Because of this requisite participation, CBDCs may even lack the liquidity and acceptance of current forms of cash. A CBDC might reduce user freedoms without providing monetary policy assurances – a combination which may hinder widespread adoption.

An important driver of Bitcoin's adoption is the freedom and assurances it provides to its users. No one has to ask permission to use Bitcoin – it's permissionless. Bitcoin allows anyone to store and transfer value without the risk of debasement, censorship, or seizure. CBDCs may censor non-ordained addresses, and central banks will continue to control the monetary policy. On the surface it seems like a digital dollar might displace Bitcoin's growth because they are both digital, but it actually fails to address these principal concerns.

Bitcoin was invented so that users don't have to trust central banks to administer monetary policy or trust third parties to hold and transfer money.[11] Instead, users are asked to trust the code and incentive mechanisms that make Bitcoin secure, reliable, and open for all to use. With public trust in governments waning, this paradigm may prove to be a tailwind for Bitcoin.[12]

11. Source: Nakamoto Institute. Bitcoin open source implementation of P2P currency. https://satoshi.nakamotoinstitute.org/posts/p2pfoundation/1/
12. Source: Pew Research Center. Public Trust in Government. April 11, 2019. https://www.people-press.org/2019/04/11/public-trust-in-government-1958-2019/

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Take Away

CBDCs are a popular subject of analysis, particularly as the People's Bank of China gears up to launch their CBDC in 2020 and as legacy banking infrastructure hinders stimulus distribution in the wake of the COVID-19 pandemic. CBDCs have the potential to streamline payments, but may compete with commercial banking, further politicize financial services, and fail to gain widespread adoption. Bitcoin isn't waiting for CBDCs – it is rapidly gaining mindshare on its own. But if CBDCs are successfully launched, the infrastructure and education that would accompany the use of these bearer assets could serve as a gateway for further adoption of Bitcoin and other digital currencies. Moving fiat currencies to digital infrastructure would highlight that Bitcoin is special not because it is digital, but because Bitcoin is a scarce, uncompromising, apolitical currency that is open for anyone to use.

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