

## Could Cryptocurrency drop its “crypto” prefix?

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Money is a fundamental part of the modern world. Almost everything humans do is thought of in monetary terms. Even things that are not innately bought and sold are ascribed value by economists, this is easily seen in the global push for cap-and-trade programmes for carbon. Most money transactions today are performed using a fiat, that is, government issued currency not backed by any commodity. People tend to use the currency ascribed as legal tender in their region for local transactions; in global markets they tend to use hard currency such as USD. Currencies are listed as commodities, with the currency exchange (ForEx) being the largest exchange in the world. By definition, they are the most liquid asset, since the liquidity of other assets is measured by the difficulty of converting them into currency. Today most currency is not held in notes or coins but rather electronically in trusted institutions like banks or credit unions, and transactions are processed via the global financial system through money transmitters (or directly by the banks).

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Currencies are judged based on their performance, i.e. how liquid, volatile, inflationary, and accepted they are. The most important thing is acceptance, since money is only valuable if others accept it. The inflationary status of a currency reflects the value of the currency over time. Currency also must maintain a low level of volatility. If it is too volatile it will fail to act as a store of value which business and individuals would be willing to accept or account with, e.g. accounting with a volatile currency could make it impossible to manage inventories without nonsensical results even over an annual period. Lastly, the currency must be able to be converted into other currencies quickly and reliably<sup>2</sup>. The G10 currencies: British Pound (GBP), Euro (EUR), Japanese Yen (JPY), Swiss Franc (CHF), United States Dollar (USD), Canadian Dollar (CAD), New Zealand Dollar (NZD), Australian Dollar (AUD), Norwegian Krone (NOK) and Swedish Króna (SEK) hold their status because they are stable and very liquid.<sup>3</sup>

In short, money needs to serve as three things: (1) a medium of exchange, (2) a unit of account, and (3) a store of value.<sup>4</sup>

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<sup>1</sup> <https://imtconferences.com/who-comes-to-imtc/>

<sup>2</sup> [https://www.bis.org/statistics/rpfx19\\_fx.pdf](https://www.bis.org/statistics/rpfx19_fx.pdf)

<sup>3</sup> <http://www.merkinvestments.com/insights/glossary/g10.php>

<sup>4</sup> <https://open.lib.umn.edu/principleseconomics/chapter/24-1-what-is-money/>

**(1) As a medium of exchange**

As a medium of exchange cryptocurrency has several problems. Cryptocurrency exists on a blockchain which is distributed, meaning that transactions are ultimately very slow.<sup>5</sup> Bitcoin can process transactions at a rate of roughly 4.6 transactions per second,<sup>6</sup> as compared to Visa which is capable of processing at least 1700 per second and likely far more.<sup>7</sup> If Bitcoin was used once a day by each person in the small country of El Salvador the worldwide network would collapse. Even if El Salvadorans use it weekly, the system would overload. Bitcoin can do roughly 400,000 transactions per day, so each resident of El Salvador could only use it once a fortnight. Such a slow transaction rate makes it unlikely that it is scalable for the rest of the world. Ethereum (another major blockchain) is faster, but only about 3 times as fast, and it also supports options more complex than transactions like smart contracts, which use far more data and congest the network.<sup>8</sup>

There are several solutions to the scalability problem that have been proposed but none of them have satisfied the community as of date of this writing. It is unlikely that they ever will achieve the same throughput as a centralized payment system since coordination between decentralized nodes requires time and resources, though it does provide security.<sup>9 10</sup>

Considering this, no crypto currency can serve as the principal medium of exchange in a large polity. This means that cryptocurrency fail to work as a reasonable medium of exchange, as they cannot be used for most transactions or the payment system will simply collapse. While in the future some cryptocurrencies could work as currency, at present they will likely only work for either a small market or only high value transactions (at present they are really used as currency in high-value illicit transactions). Basically, cryptocurrency is more on track to be gold than geld.

**(2) As a unit of account**

Cryptocurrencies are famously volatile with daily changes sometimes exceeding 10%.<sup>11</sup> Stable coins deal with volatility by tying the value to the USD or some other material store of value. Thus, using USDT, USDC or Dai is the same as using USD. In contrast, non-stable coins

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<sup>5</sup> [www.comp.nus.edu.sg/~prateeks/papers/Bitcoin-scaling.pdf](http://www.comp.nus.edu.sg/~prateeks/papers/Bitcoin-scaling.pdf)

<sup>6</sup> <https://www.blockchain.com/charts#block>

<sup>7</sup> <https://dk.review.visa.com/dam/VCOM/global/about-visa/documents/visa-fact-sheet-july-2019.pdf>

<sup>8</sup> <https://cointelegraph.com/news/ethereum-network-congestion-shuts-down-crypto-gaming-casino>

<sup>9</sup> <https://doi.org/10.1016/B978-0-12-819816-2.00015-0>

<sup>10</sup> <https://doi.org/10.1016/j.ict.2021.08.015>

<sup>11</sup> [https://www.cftc.gov/media/4246/TAC071620\\_BTCTStockVolatility/download](https://www.cftc.gov/media/4246/TAC071620_BTCTStockVolatility/download)

are too chaotic for use as a unit of account, it would be too difficult for businesses and consumers to manage accounts with frequent seemingly random fluctuations.

(3) **As a store of value**

Cryptocurrency, if it achieved widespread acceptance, would likely be able to serve as a store of value, since many cryptocurrencies such as Bitcoin have a finite supply.<sup>12</sup> Bitcoin can only decrease in number once the 21 million coins (the maximum set forth in the code) are mined.<sup>13</sup> This finite number is not a guarantee of value however since the network may not stay cohesive in the long run. While at present Bitcoin has maintained a relatively stable community, it is not impossible for several cryptocurrencies to fork in the future from it, potentially destroying long term value. Cryptocurrency is by nature decentralized, so individuals could simply switch to a new cryptocurrency leaving the older coin almost worthless. Generally, when people use currency as a store of value they refer to timelines in years or decades, which cryptocurrency cannot guarantee due to its short history. The other concern for cryptocurrency as a store of value lies in potential political risk. Several countries, most notably, China have implicitly banned cryptocurrencies, and it is possible that other countries will do so in the future. This matters little for black market transactions, but it may make it difficult to use as a legitimate store of value.

Considering all of these factors, it is unlikely that any cryptocurrency, at least in their present form, will be able to become the primary currency of a country or other large polity. Cryptocurrencies will continue to exist, but in a status much more closely aligned with gold and other sorts of commodities that are used in certain transactions, alongside the rise of small cryptocurrencies which will serve as a vehicle for transactions in small groups similar to air miles or video game currencies.<sup>14</sup>

## Global Stable Coins and Central Bank Digital Currency

Existing Cryptocurrencies fail to meet the requirements of a currency, but two proposed cryptocurrency types are Global Stable-coins (GSC) and Central Bank Digital Currencies (CBDC). Facebook's Libra was a GSC that was to be backed by a basket of assets and validated by a pool of authorized users. GSC are meant to be permissioned in that they are cryptographically verified but only by a smaller pool of actors. A GSC is distinguished from other stable coins by the scale of their adoption. They are generally envisioned as being backed by a cryptocurrency issued by a

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<sup>12</sup> <https://bitcoin.org/en/bitcoin-paper>

<sup>13</sup> Ibid.

<sup>14</sup> <https://blogs.imf.org/2021/07/26/cryptoassets-as-national-currency-a-step-too-far/>

well reputed company or the group of companies backed by a basket of stable assets. A GSC can fulfill the three aspects of a currency rather easily, but it is unlikely that they will become a currency—at least in the near future. The Bank of International Settlement, Financial Stability Board, Financial Action Task Force, International Monetary Fund and others have raised concerns about the creation of GSC which reflect several issues from fraud, capital controls, security among others. While a GSC could in theory work without backing or in a manner similar to Dai, it is unlikely that that would gain widespread acceptance, so any GSC would first have to pass the test of the world's financial regulatory institutions. Facebook's Libra failed such a test after US Senate questioning, and the Swiss authorities failing to grant their approval. The new project Facebook Diem is based out of California and is much less ambitious. It seeks to create multiple stable coins tied to individual currencies and a single international currency tied to an asset basket.

Central Bank Digital Currency (CBDC) are distinct from Global Stable coins and do not need to be cryptocurrencies.<sup>15</sup> These are effectively a digital currency issued by a central bank with the same force of law as cash, meaning they would have more weight than commercial paper.<sup>16</sup> There are pilot projects in Japan<sup>17</sup> and China<sup>18</sup> for their use but their exact form is hard to determine. These would almost certainly be currency. Nevertheless, these instruments are antithetical to Satoshi Nakamoto's (founder of Bitcoin) idea of cryptocurrency. It is expected that CBDC will continue to be trialed and it is probable that they will be tried as a way for sanctioned countries to escape capital restrictions or for countries to more closely monitor how their citizens spend money.<sup>19</sup>

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<sup>15</sup> <https://www.imf.org/en/Publications/Policy-Papers/Issues/2021/07/09/Central-bank-digital-currencies-for-cross-border-payments-461850>

<sup>16</sup> <https://www.imf.org/-/media/Files/Publications/FTN063/2019/English/FTNEA2019001.ashx>

<sup>17</sup> [https://www.boj.or.jp/en/announcements/release\\_2021/rel210405b.pdf](https://www.boj.or.jp/en/announcements/release_2021/rel210405b.pdf)

<sup>18</sup> <http://www.pbc.gov.cn/en/3688110/3688172/4157443/4293696/2021071614584691871.pdf>

<sup>19</sup> <https://www.imf.org/-/media/Files/Publications/FTN063/2019/English/FTNEA2019001.ashx>