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EU Monitor
Global financial markets

Stablecoins

DeFi, Libra and beyond

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Stablecoins are cryptocurrencies with a stable price in fiat currency. Albeit still a small segment of the USD 2.3 trillion crypto asset market, their market capitalization increased multifold to about USD 170 billion in 2021. More importantly, though, they are the most traded coins in the entire crypto space.

Today, stablecoins are mostly used for trading, lending and borrowing crypto assets. They are a crucial facilitator of decentralized finance (DeFi) – financial services performed by applications on a permissionless blockchain.

However, stablecoins first became widely known as a potential means of global retail payments when Meta (then Facebook) announced its Libra project in 2019. This far-reaching plan failed because governments were concerned about losing sovereignty. But there are other projects with more limited and step-by-step approaches targeting retail and corporate needs.

Stablecoins can roughly be split into three groups according to their collateral and price stabilization mechanisms: i) Off-chain collateralized (e.g. Tether), ii) on-chain collateralized (e.g. Dai), and iii) uncollateralized, purely algorithmic stablecoins.

Stablecoin arrangements entail operational and financial risks and often lack transparency and regulation. Asset-backed coins are subject to run risk and could spread financial distress via asset markets to traditional finance. The potential crowding-out of national fiat currency by a stablecoin would have macroeconomic implications.

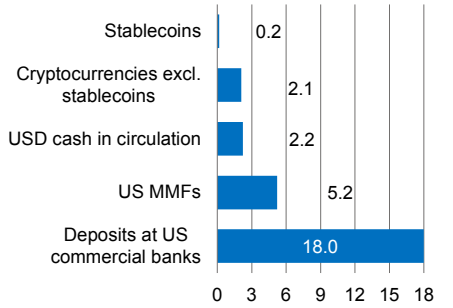
International and national standard-setting bodies largely agree that prudential regulation will be necessary. In the EU, stablecoins will fall under the Regulation on Markets in Crypto Assets (MiCA). In the US, a high-level working group recommended that Congress issues prudential regulation on stablecoins. Due to the war in Ukraine, tighter supervisory scrutiny can be expected in order to prevent the evasion of sanctions via (stable) cryptocurrencies.

The future use of stablecoins will depend on the development of DeFi as well as on the outcome of projects for retail payments or corporate solutions. Regulation will likely support broader adoption. However, stablecoins will compete with traditional payment offerings and – as regards DLT-based business – with other emerging solutions: tokenized deposits and central bank-issued digital currencies.

Stablecoins

Stablecoin market cap still small despite strong growth in 2021 — 1

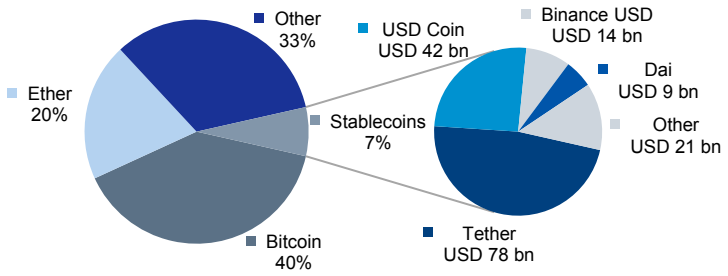
USD tr, December 2021



Sources: CoinMarketCap, Office of Financial Research of the US Treasury, Deutsche Bank Research

Stablecoins are cryptocurrencies with a stable price in fiat currency. They are neither new to the crypto universe nor big when compared to the "traditional" cryptocurrency market, which was valued USD 2.1 tr at the end of last year. But stablecoins saw spectacular growth in 2021, increasing their market capitalization multifold to about USD 170 bn. More importantly, though, they are the most traded coins in the entire crypto space. While currently about 100 stablecoins exist, the four most important ones are Tether, USD Coin, Binance USD, and Dai, all pegging their value to the US dollar (1:1). First issued in 2014, Tether was among the first stablecoins created. It still accounts for about half of this market's capitalization, while it represents only about 3% of the entire cryptocurrency market. But Tether's share in cryptocurrency trading fluctuates around an impressive 50%. Thus, it surpasses even the "top dogs", Bitcoin and Ether.

Distribution of the crypto market capitalization, December 2021 — 2

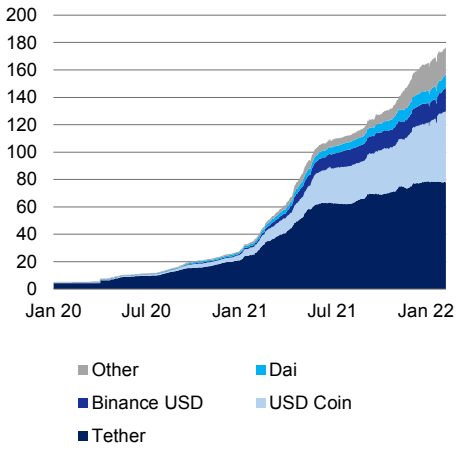


Sources: CoinGecko, Deutsche Bank Research

Stablecoins grow with DeFi

Stablecoin market cap — 3

USD bn



Sources: CoinGecko, Deutsche Bank Research

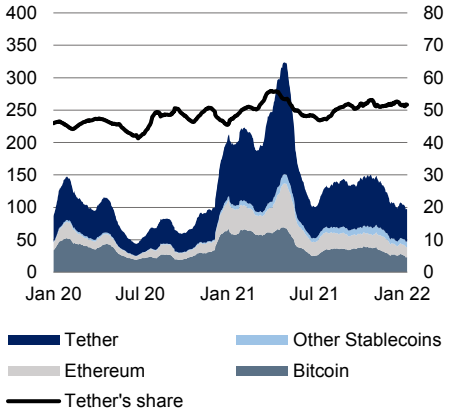
In fact, stablecoins are now mostly used for trading, lending and borrowing crypto assets. They are a crucial facilitator of decentralized finance (DeFi) – financial services performed by applications on a permissionless blockchain. DeFi has been thriving on the back of innovation and speculative capital attracted by the prospect of higher returns than in traditional ("centralized") markets. Total value locked (TVL) – i.e. the value of crypto assets placed in DeFi applications as collateral or liquidity – grew from USD 30 bn to USD 234 bn during 2021.[1] Stablecoins are commonly used for trading crypto assets on and between exchanges, offering fast and efficient transactions without requiring users to convert their assets into fiat currencies or to use bank wire transfers during the process. Holders can earn income by depositing stablecoins just like other cryptocurrencies in liquidity pools which provide the funds needed for decentralized trading or lending platforms. Of course, this does not go without the risk of loss.[2] Stablecoins are essential for the functioning of DeFi, as they provide an anchor of stability and means of payment built on distributed ledger technology. Thus, they make risk management and investment decisions easier in the crypto world. At the same time, stablecoin use flourishes with DeFi expansion.

[1] CoinGecko (2022). Yearly Report 2021. Figure refers to assets locked in 20 different blockchains. TVL is the common way to estimate the size of the DeFi market, but figures vary between sources due to incomplete capture of collateral, double counting and volatile cryptocurrency prices. The Financial Stability Board (FSB) reported TVL of USD 100 bn in December 2021. For more details on TVL, see Cryptonews (2021), Total Value Locked in DeFi is a 'Deceptively Complicated Metric', July 28.

[2] Adachi et al. (2021). The expanding functions and uses of stablecoins, in: ECB, Financial Stability Review, November.

Daily trading volumes 4

USD bn (left), share in % (right),
30 days moving average



Sources: CoinGecko, Deutsche Bank Research

Decentralized Finance

DeFi claims to democratize finance: applications are built on decentralized technology and governed collectively. Intermediaries are no longer needed. In an ideal setup, DeFi applications are run by decentralized autonomous organisations (DAOs) via governance tokens which are held by its users and work as votes. The promise is to break the power of centralized institutions and dominant internet players to share the value created.[3] Access is not restricted, code is open source, and existing DeFi applications can easily be "composed", i.e. re-arranged and assembled to new offers. DeFi caters to financial needs like trading, credit, investment and insurance.[4]

To use DeFi applications, blockchain-based assets are needed. Commercial bank money can be exchanged at a centralized trading platform into cryptocurrency and transferred into a wallet. DeFi applications are accessed directly or via platforms which aggregate access to different applications for user convenience. The applications themselves are smart contracts, i.e. computer programs stored on the blockchain. They are not contracts in a legal sense but define the conditions under which certain crypto assets placed in a smart contract will be transferred. Frequently, conditions relate to prices or similar data observed in traditional financial markets, which specialized providers ("oracles") channel into the blockchain-based system. Transactions triggered by a smart contract are automatically executed on the blockchain by the validator nodes according to the consensus mechanism and are registered in a new block of information which is added to the chain.

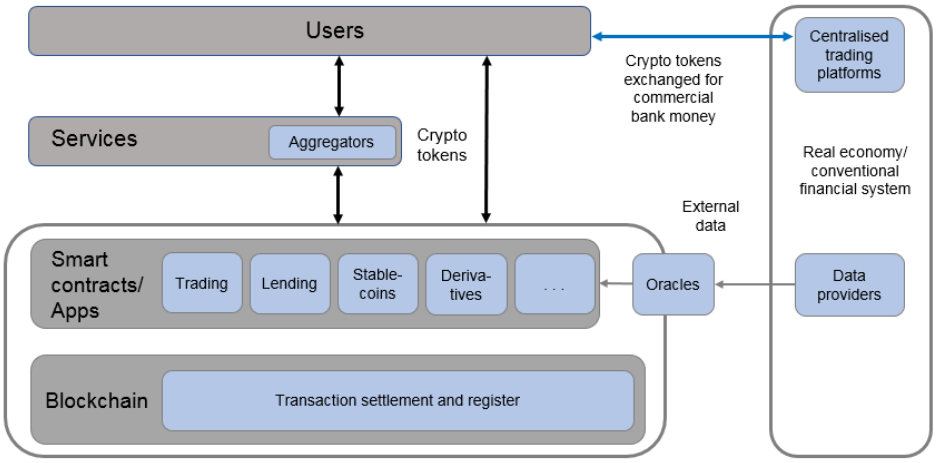
The blockchain is the foundation of the entire DeFi ecosystem, as it settles transactions, stores ownership information and smart contracts, and allows for the issuance of crypto assets (tokens). There is a large variety of tokens: native assets (like Ether), stablecoins, governance tokens, non-fungible tokens (NFT, representing unique assets), tokens similar to shares or bonds or tokens that derive their value from the performance of an underlying asset or event. The Ethereum blockchain underpins two-thirds of DeFi in terms of TVL.[5] Interoperability between blockchains and their ecosystems remains limited.

DeFi has come up with some new and innovative solutions to financial problems, enabled by blockchain technology. Settlement of both legs of a trade in one transaction makes intermediaries like custodians or central counterparties obsolete. Automated market makers (AMM) allow for the exchange of currencies in a novel way without order books, funded by liquidity pools.[6] "Money" is successfully created by applications which issue stable-value tokens (on-chain stablecoins, see below) in return for volatile crypto asset collateral.

However, there are signs that DeFi might not live up to its promise of decentralization and democratization as regards governance and market power of individual applications.[7] Moreover, composability is an advantage but also creates spillover channels between applications.[8] Leverage seems to be high. Scalability, transaction costs and energy consumption are issues the DeFi community is working on. Investors/users can incur hefty losses due to cyber and operational risks (e.g. if an application's code is faulty).[9] Last but not least, there is no regulation or supervision, and transparency is very limited for those who cannot read code. This might open the door to illicit activities and abusive market behaviour.[10] Laws to enforce on-chain results in the off-chain world do not exist. So far, DeFi mostly serves speculation and is used for real financial needs to a very limited extent only.[11]

[3] The Economist (2021). Adventures in DeFi-land, September 18.
[4] For an overview and description of such DeFi solutions, please see Schär, Fabian (2021). Decentralized Finance: On Blockchain- and Smart Contract-Based Financial Markets, in: Federal Reserve Bank of St. Louis Review, Second Quarter.
[5] CoinGecko (2022).
[6] For a more detailed explanation of liquidity pools, please see https://academy.binance.com/en/articles/what-are-liquidity-pools-in-defi , for automated market makers https://academy.binance.com/en/articles/what-is-an-automated-market-maker-amm.
[7] Aramonte, Sirio, Wenqian Huang and Andreas Schrimpf (2021). DeFi risks and the decentralization illusion, in: Bank for International Settlements (BIS) Quarterly Review, December.
[8] Deutsche Bundesbank (2021). Crypto tokens and decentralized financial applications, Monthly Report, July.
[9] OECD (2022). Why Decentralised Finance (DeFi) Matters and the Policy Implications, January.
[10] SEC Commissioner Caroline A. Crenshaw (2021). Statement on DeFi Risks, Regulations, and Opportunities, in: The International Journal of Blockchain Law, Vol. 1, November.
[11] The Economist (2021).

Decentralized financial (DeFi) applications and their ecosystem 5



Sources: Deutsche Bundesbank, Deutsche Bank Research

Stablecoins for (global) retail use – step by step instead of a big bang

Although stablecoins are now mostly used in the crypto community, they first became widely known in 2019 when Meta (then Facebook) announced its plan to issue Libra, a stablecoin backed by a basket of fiat currencies and tailored to meet real-world retail payment needs on a global scale. A coin issued by a company with a huge captive client network could quickly be adopted by a large number of consumers and businesses to pay for or charge daily purchases, send remittances or store value.[12] After much political and supervisory attention and resistance, the Libra project was changed and renamed Diem. The Diem was to be backed by USD only – other fiat versions were to follow. In January 2022, though, the project was cancelled altogether, and its assets were sold to the US bank Silvergate.[13] The Libra/Diem global ambitions failed because governments were concerned about losing sovereignty. But there are similar projects with a more limited approach which could develop step by step. PayPal confirmed it is working on a proprietary stablecoin for payment purposes, cooperating with financial authorities from the very beginning.[14] Visa and Mastercard have partnered with crypto firms to offer stablecoin card payments.[15] Meta is piloting payments via WhatsApp and the Novi wallet, which was originally created for Libra but is now holding USD Paxos stablecoins.[16] Building on the newly acquired Diem technology, Silvergate bank plans to launch a USD-pegged stablecoin for real-world use this year.[17]

[12] Mai, Heike (2019). Libra – a global challenger in payments and for central banks? EU Monitor, Deutsche Bank Research, July 22.
[13] Diem Association (2022). Statement by Diem CEO Stuart Levey on the Sale of the Diem Group's Assets to Silvergate, Press Release, January 31.
[14] Bloomberg (2022). PayPal Explores Launch of Own Stablecoin in Crypto Push, January 7.
[15] Forbes (2021). Despite Regulatory Scrutiny Of Stablecoins, Mastercard Joins Visa In Offering Crypto-Friendly Payment Services, July 20.
[16] PYMNTS.com (2021). Is Paxos the New Diem? The Stablecoin Issuer's Facebook Pilot Just Expanded to 2B WhatsApp Customers, December 10.
[17] CNBC (2022). Here's what the bank that bought assets from Zuckerberg's crypto project plans to do with them, January 31.

General characteristics and different types of stablecoins

Contrary to traditional crypto assets, which typically entail sizeable price volatility, stablecoins are tokens which aim to minimize price fluctuations by pegging their value to another asset or a pool of assets. They use collateral and/or employ market-based strategies to keep their price stable relative to the reference asset. Revenue for stablecoin issuers may come from different sources. Depending on the design, income can include interest earned on the reserve assets (usually not paid out to coin holders) and fees for transactions, issuance and redemption. More novel revenue sources are secondary tokens which can be issued in addition to the actual coin for special functions within the arrangement. They are designed to generate income for the issuer.[18]

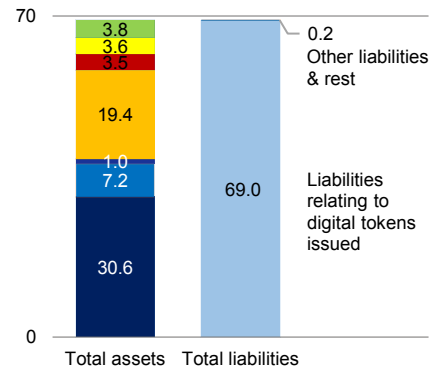
While there are many different approaches to classifying stablecoins, a fairly obvious one is to look at their collateralization and price stabilization mechanisms[19]. Following this approach, stablecoins can roughly be split into three groups: i) Off-chain collateralized, ii) on-chain collateralized, and iii) uncollateralized, purely algorithmic stablecoins.

i. Off-chain collateralized stablecoins use traditional reserve assets to stabilize their value. These are typically fiat-currency bank deposits or short-term debt, with the US dollar being the most prominent reference currency. However, commodities or various other assets are also used as collateral. Off-chain stablecoins are tokens issued by a real company and redeemable at par. Users buy coins from the issuer against fiat currency or in secondary markets. As the reserves are not on the blockchain, a custodian is required. In order to maintain price stability, all outstanding stablecoins must be backed by reserve assets. If the coin is traded in secondary markets above or below its peg, arbitrageurs can buy or redeem coins, thus re-establishing parity across markets.[20] Prominent off-chain collateralized stablecoins are Tether, Binance USD and USD Coin.

ii. On-chain collateralized projects, on the other hand, back their stablecoins with other crypto assets. They are typically issued by DeFi applications as collateralized debt positions, i.e. a user locks in collateral and in return receives coins created by the application. Thus, the collateral is held directly in the application on the blockchain and no external custodian is needed. This puts investors in a better position to check the collateral holdings of the coin arrangement. Given that the value of the locked crypto assets can be very volatile, most projects overcollateralize their coins. On top of collateralization, on-chain stablecoins usually rely on several additional stabilization mechanisms embedded in their smart contracts. For example, interest rates to be paid on the stablecoin – a debt position – can be adjusted to reduce or increase demand for the coin as a means to support price stability.[21] Some coin arrangements (e.g. Dai) allow for redeemability, leading arbitrageurs to support price parity as with off-chain coins – albeit to a lesser degree, since arbitrage is riskier given the volatility of the collateral. Instead, or on top, coin arrangements can use the collateral or accumulated "own funds" (e.g. from interest payments received) for open market

Tether's collateralization 6

USD bn, September 2021



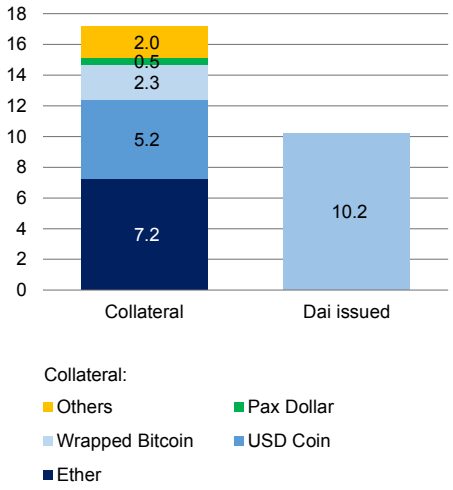
Total assets:
- Other investments (incl. digital tokens)
- Corporate bonds, funds & precious metals
- Secured loans
- Treasury bills
- Money market funds
- Cash & bank deposits
- Commercial papers & certificates of deposit

Sources: Tether Holdings Limited, Deutsche Bank Research

[18] Lipton et al. (2020). From Tether to Libra: Stablecoins, Digital Currency and the Future of Money, papers 2005.12949, arXiv.org.
[19] Berentsen, Aleksander, and Fabian Schär (2019). Stablecoins: The quest for a low volatility cryptocurrency, in: VoxEU, The Economics of Fintech and Digital Currencies.
[20] Lyons, Richard K., and Ganesh Viswanath-Natraj (2020). What keeps stablecoins stable?, NBER, Working Paper Series, May.
[21] Schär, Fabian (2021). For a detailed description of Dai, the most prominent on-chain stablecoin, please refer to https://makerdao.com/en/whitepaper/#the-maker-protocol.

Dai: Stabilisation by overcollateralization 7

USD bn, 18 February 2022



Sources: daistats.com, Deutsche Bank Research

operations to stabilize the coin's peg similar to a real-world central bank managing its foreign exchange rate (e.g. TerraUSD)[22].

iii. Uncollateralized stablecoins try to keep prices constant by algorithmically adjusting the outstanding number of tokens according to demand. If prices are above the peg, the algorithm will distribute new coins to users, thereby eventually reducing the price. If prices fall below the peg, the system will sell a sort of bond to users in exchange for stablecoins. The stablecoins received will then be destroyed, leading to a price increase. If prices then move above the peg again, bondholders will be prioritized in the distribution of new coins. In theory, this system incentivizes users to buy bonds if prices fall below the peg and rewards them afterwards as prices exceed the peg again. However, this approach has yet to prove its functionality. The pioneer coin Basis Cash broke its peg.

An alternative criterion to categorize stablecoins can be the redemption regime – for example, if the holder is entitled to redeem the stablecoin at all, if the claim is legally enforceable or based on good faith, and if repayment is in fiat currency or collateral assets. Stablecoins can also be distinguished by the extent of the arrangement's decentralization, i.e. if the different functions are provided by one or more mechanisms or entities.

Risks to financial stability and the real economy

For the time being, stablecoins and DeFi are a small segment of financial markets. However, the volume of stablecoins issued and their importance as a transaction infrastructure could grow substantially and come to pose risks to financial stability and the real economy. In the crypto universe, stablecoin use is fuelled by growing volumes and services in DeFi, albeit largely driven by speculation so far. But stablecoins may also serve corporate and retail needs in the near future, as established financial firms prepare to offer stablecoin-based payment services to their clients. A widely used retail stablecoin – maybe even across jurisdictions – would pose risks which can quickly become systemic due to size and close interlinkages with the traditional financial system.

Like any financial infrastructure, stablecoin arrangements carry operational risks. Coin holders must be able to transact at all times, but stablecoins and the underlying blockchain might not always meet the same operational standards for scale, robustness, reliability and safety as established financial infrastructures do. For example, the time and cost to settle transactions on the Ethereum blockchain increase considerably with heavy traffic. It remains difficult to combine high levels of safety and efficiency on permissionless blockchains. Weak technical setups can increase the risk of cyber-theft from applications or of compromised ledgers.

As regards stablecoin use in DeFi, the dominant use case today, a lack of transparency and regulatory oversight – which is typical of new markets – gives rise to concerns about market integrity. There is little transparency about stablecoins' setup and financial transactions, especially for those who cannot read code. This opens the door for abusive market behaviour, theft and illegal payment flows.[23]

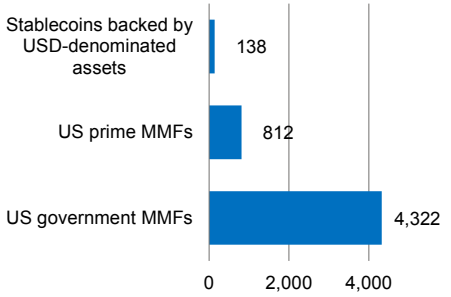
Off-chain stablecoins in particular can be prone to fraud, as holders are in a weak position to check if the issuance is fully collateralized as promised. Indeed,

[22] For other possible stabilization mechanisms, please see Bullmann, Dirk, Jonas Klemm and Andrea Pinna (2019). In search for stability in crypto-assets: are stablecoins the solution? ECB, Occasional Paper Series, August.

[23] In 2021, growth in DeFi was accompanied by a rise in money laundering, illicit transactions and theft, according to Chainalysis (2022). The 2022 Crypto Crime Report, February.

USD-backed stablecoins at 17% of US prime MMFs – but small vs total MMFs 8

USD bn, December 2021



Sources: CoinGecko, Office of Financial Research of the US Treasury, Deutsche Bank Research

reserve compositions often remain relatively opaque, given a lack of detail and no auditing of disclosures. Issuers could be tempted to cover their outstanding coins only fractionally or to lend reserve assets on – practices seen before in nascent and unregulated markets throughout monetary history. The market leader Tether has often been criticized for its non-transparent reserve composition and was fined USD 41 m by the Commodity Futures Trading Commission (CFTC) because "from at least June 1, 2016 to February 25, 2019, Tether misrepresented to customers and the market that Tether maintained sufficient U.S. dollar reserves to back every USDT in circulation".[24]

Asset-backed stablecoins are subject to credit and liquidity risks. Doubts about the soundness of a stablecoin's reserves or the operational resilience might lead to a "bank run" scenario, with users massively looking to redeem their coins for the collateral. This could leave stablecoin issuers with the need to sell reserve assets at fire-sale prices. Turmoil in the markets of the respective short-term debt reserve assets could quickly spill over to the broader financial system, depending on the stablecoins' scale. Corporate borrowers might find it difficult to roll over their debt.[25] This is already relevant today: Tether, for example – which claims to have all its coins fully backed by reserves – compares in size to large European money market funds (MMFs).[26] Indeed, Tether's holdings of commercial papers might exceed those of large prime MMFs in the US and Europe.[27] Off-chain stablecoins purportedly held collateral of about USD 138 bn in USD-denominated assets in December 2021, which is equivalent to almost a fifth of the USD 812 bn in assets of US prime MMFs, albeit less than 3% if compared to the USD 4.3 tr of US government MMFs.[28] In fact, stablecoins backed by traditional fiat assets may not be so different from MMFs, as their reserves are quite similar (short-term debt). MMFs, however, are subject to regulation in order to mitigate credit and liquidity risks so that they will not "break the buck".

Given stablecoins' crucial role and the interconnectedness of applications, operational failures or substantial investor losses due to a broken peg can easily trickle through the DeFi system. Cryptocurrency exchanges and liquidity pools, which rely heavily on stablecoins in their day-to-day operations, could be severely hampered in their business. Investors incurring losses in the crypto space might have to liquidate positions in traditional finance, thus transmitting financial distress from broken stablecoins and DeFi losses to established markets.[29]

Macro-financial challenges similar to dollarization loom if domestic currency is crowded-out by a more attractive stablecoin. This might concern specifically, but not only, emerging and developing economies with inefficient payment systems, or a high share of unbanked or underserved people.[30] From an individual's point of view, a stablecoin pegged to a foreign fiat (reserve) currency can offer protection against domestic inflation, instilling currency competition. Even if a successful retail stablecoin is "only" pegged to the domestic currency, it can still have repercussions throughout the economy. Banks could lose a substantial part of their retail deposit base to the stablecoin issuer. To maintain their loan volume, banks would have to rely more on relatively expensive capital markets

[24] CFTC (2021). CFTC Orders Tether and Bitfinex to Pay Fines Totaling $42.5 Million, Release Number 8450-21, October 15.
[25] FSB (2022). Assessment of Risks to Financial Stability from Crypto-assets, February.
[26] Adachi et al. (2020), A regulatory and financial stability perspective on global stablecoins, in: ECB, Macroprudential Bulletin, Issue 10.
[27] FitchRatings (2021). Stablecoins Could Pose New Short-Term Credit Market Risks, July 1.
[28] CoinGecko, US Department of the Treasury (Office of Financial Research), own calculations.
[29] OECD (2022).
[30] For a discussion of crypto asset adoption in emerging and developing markets and its macroeconomic implications, please see IMF (2021). The crypto ecosystem and financial stability challenges, Global Financial Stability Report, October.

funding. A stablecoin issued by a BigTech leveraging its existing digital ecosystem and data base can give rise to antitrust concerns. Economies of scale and scope (e.g. bundling financial with non-financial services), as well as network externalities, could reinforce competition issues in platform economics.[31]

Stablecoins are moving in the spotlight of regulators

Though spillover risks from stablecoins to the broader financial system are currently limited, they could quickly become reality. Therefore, international standard-setting bodies and national authorities largely agree that appropriate regulatory treatment will be necessary. The Committee on Payments and Market Infrastructures (CPMI), the International Organization of Securities Commissions (IOSCO)[32] and the FSB[33] are looking at how to apply existing regulatory principles to stablecoin arrangements following the "same business, same risks, same rules" approach.[34] Based on their results, they have issued recommendations to national authorities, some of which are starting to draft legislation.[35]

In the EU, the Regulation on Markets in Crypto-Assets (MiCA) proposed in September 2020 will be the regulatory basis for stablecoin arrangements and other crypto assets. It is currently in the legislative process but could be finalised by mid-2022. Stablecoins will probably be classified as (i) e-money tokens (backed by a single fiat currency) subject to the existing E-Money Directive unless otherwise specified or as (ii) asset-referenced tokens (ARTs, referencing a basket of assets). The latter will be subject to standards regarding the investment and custody of reserve assets, as well as regarding own funds, governance, disclosure and consumer protection. MiCA will prohibit all stablecoin issuers from paying interest to users and will require any arrangement, including existing ones, to obtain authorization before commencing operations. In addition, "significant stablecoins" will have to meet higher requirements as regards liquidity management, interoperability and own funds.[36]

In the US, the top government and oversight authorities (Treasury, Federal Reserve, SEC, CFTC, FDIC and OCC) jointly recommended in a Report on Stablecoins that Congress acts promptly to regulate stablecoins. The agencies urge legislators to require stablecoin issuers to be insured depository institutions in order to guard against run risks, and to comply with measures limiting systemic risk and the concentration of power (e.g. restrictions on affiliation with commercial entities, standards for interoperability between stablecoin arrangements). Moreover, custodial wallet providers should be subject to

[31] BIS (2021). Big techs in finance: on the new nexus between data privacy and competition, October.
[32] CPMI-IOSCO (2021). Application of the Principles for Financial Market Infrastructures to stablecoin arrangements, consultative report, BIS, October.
[33] FSB (2020). Regulation, Supervision and Oversight of "Global Stablecoin" Arrangements, Final Report and High-Level Recommendations, October 13.
[34] However, there is some concern about strictly activity-based regulation. If the coin issuer is a BigTech platform, entity-based regulation could be more appropriate. See Panetta, Fabio (2021). Stay safe at the intersection: the confluence of big techs and global stablecoins, speech, October 8.
[35] For an overview of regulatory initiatives regarding cryptocurrencies and stablecoins, please see Laboure, Marion (2021). Cryptocurrencies: When regulation becomes mainstream, Deutsche Bank Research, October 28.
[36] European Commission (2020). Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937, September 24.

appropriate risk management standards and federal oversight to mitigate payment system risk.[37]

Russian invasion of Ukraine shows political implications of stablecoins

Trading of cryptocurrencies against Russian roubles and Ukrainian hryvnias rose strongly after the Russian invasion of Ukraine. The biggest increase was recorded for USD-pegged Tether.[38] Probably, citizens in both countries exchanged their national currencies to escape inflation and capital controls.[39] Similarly, cryptocurrencies could help persons and entities to evade sanctions. The Ukrainian government is using cryptocurrencies as a political tool to raise funds from private donors for supplies and defence-related expenses. Also, it has asked crypto exchanges to block all Russian customers.

In fact, the war in Ukraine highlights the various political and economic implications of stablecoins as an alternative way to store und move funds. Stablecoins and cryptocurrencies in general offer an “escape” for two reasons: they run on a technical infrastructure which is less dependent on national authorities, and the community developing and offering crypto services tends to hold libertarian views. While current sanctions by Western countries target specific persons or entities, many traditional payment service providers and banks have gone beyond such legal requirements and have decided to suspend their business altogether in Russia. Leading crypto exchanges, by contrast, have announced that they will fully comply with the sanctions but continue all non-sanctioned business.

Crypto exchanges, coin issuers and the entire ecosystem might find themselves in a dilemma between their libertarian aspirations and real-world pressure to choose a side in times of war.[40] On the one hand, crypto services could lose the support and trust of the libertarian community if they were to take political views and actions as many traditional financial institutions have. On the other hand, staying open to all parties in times of war might let public opinion turn against stablecoins and cryptocurrencies. Stricter regulation and tighter controls could follow. In any case, transactions on blockchains can be traced, as they are not anonymous, but only pseudonymous.

Outlook

Although currently a niche financial instrument, stablecoins might become established as a means of payment and store of value outside of the crypto market. Future regulation and the potential involvement of BigTechs or payments companies could make stablecoins an option for retail payments and support quick adoption by many users. Such stablecoins may offer an attractive solution for inefficient markets like remittances and cross-border payments. Corporate demand could also become a driver for stablecoins adoption. As firms are increasingly interested in distributed ledger technology to underpin their internal processes, they will be looking for DLT-based financial services for seamless integration and as an enabler of new technical solutions like programmable payments. However, incumbent players are also preparing to

[37] President’s Working Group on Financial Markets, FDIC and OCC (2021). Report on Stablecoins, November.
[38] BusinessToday (2022). USDT Tether, Bitcoin, Ethereum see surge in trading volume amid Ukraine conflict, March 2.
[39] Center for Strategic and International Studies (2022). Cryptocurrency’s Role in the Russia-Ukraine Crisis, March 15.
[40] Danielsson, Jon (2022). Cryptocurrencies and the war in Ukraine, VoxEU, March 11.

cater for DLT-based payment needs, as they expect client demand to rise. Banks are involved in projects to tokenize deposits, i.e. to offer their clients commercial bank money on a blockchain.[41] Moreover, many central banks are considering issuing a digital version of their fiat currency (CBDC, central bank-issued digital currency) based on distributed ledger technology (but a CBDC can also run on conventional infrastructure).[42]

However, decentralized technology still has to prove its capacity to reliably process high payment volumes, especially if blockchains are truly decentral, i.e. permissionless. DeFi has been fuelling stablecoins growth, but its resilience and attractiveness might get tested with more restrictive monetary policies ahead. In the longer term, though, successful DeFi services could become mainstream. Stablecoins might move from permissionless to permissioned blockchains on their way to wider adoption.

To sum it up, stablecoins can cater for DLT payment needs outside the hitherto parallel world of crypto assets but will face competition. As of now, DLT-based money types are all in their infancy. Stablecoins are already being used – but are restricted to the crypto space and carry a number of risks attached to them. Tokenized deposit solutions and CBDCs are mostly at conceptual or test stages, but first projects have gone live. The race between the different DLT-based money types is open. Technical innovation and development, regulatory measures and market demand for DLT services will determine how the relationship between stablecoins, CBDCs and tokenized deposits will play out. Moreover, efficient traditional payment systems will rival blockchain-based solutions. In any case, regulatory authorities will probably act if or when stablecoins volumes become significant in order to enhance the stability of the financial system – be it traditional, crypto or merged – as well as the means and mechanisms of exchange it is built on. In the short term, due to the war in Ukraine, tighter supervisory scrutiny can be expected in order to prevent the evasion of sanctions via (stable) cryptocurrencies.

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[41] See for example Die Deutsche Kreditwirtschaft (2021). Europe needs new money – an ecosystem of CBDC, tokenised commercial bank money and trigger solutions, July 5.
[42] See https://cbdctracker.org for an overview of current CBDC projects.

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