Written Testimony of Alexis Goldstein
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before the
Committee on Banking, Housing, and Urban Affairs
United States Senate

"Stablecoins: How Do They Work, How Are They Used, and What Are Their Risks?"

December 14, 2021

Chair Brown, Ranking Member Toomey, and Members of the Committee:

Thank you for the opportunity to testify today. I am Director of Financial Policy at the Open Markets Institute, where my work focuses on financial regulatory policy and investor and consumer protection. Previously, I worked as a programmer at Morgan Stanley in electronic trading, and as a business analyst at Merrill Lynch and Deutsche Bank focused on equity derivatives. There, I worked primarily as a product manager for the trading and risk management software used by the global equity options flow trading desks.

I want to start by thanking the Committee for holding today's hearing. I would like to highlight several areas that the Committee may wish to examine further as it relates to stablecoins, including their role in facilitating speculation in cryptocurrency markets, their centrality to decentralized finance, high cumulative fees as stablecoins move across the crypto ecosystem, and national security concerns.

I. Introduction

Stablecoins are crypto assets that attempt to maintain a stable value, either through a basket of reserve assets acting as collateral (asset-backed stablecoins), or through algorithms (algorithmic stablecoins). Often, stablecoins hold themselves out as being "pegged" to the U.S. dollar or to another currency. There are two major types of stablecoins: asset-backed stablecoins and algorithmic stablecoins.

Stablecoins are an integral part of speculative cryptocurrency trading, as nearly 75% of crypto asset trading involved a stablecoin.[1] Stablecoins are also central to the functioning of decentralized finance ("DeFi"), a section of the cryptocurrency markets largely out of compliance with Know Your Customer ("KYC"), Anti-Money Laundering ("AML"), Countering the Financing of Terrorism ("CFT"), and sanctions checks.

Stablecoins play multiple roles in DeFi, including: simplifying the valuation of crypto assets that only trade on DeFi and acting as a store of value in between speculative trades. Recent research from the World Economic Forum found no financial inclusion value in stablecoins, but many increased risks due to potential hacks, insolvency, or technical failures.[2] Additionally, stablecoins and their usage across DeFi also have implications for national security and illicit finance.

II. Asset-Backed Stablecoins

While there is no universal nomenclature for stablecoins, asset-backed stablecoins are generally understood to be crypto assets whose value is collateralized by "a fiat currency, a basket of fiat currencies or other stable-value assets."[3] There are two main categories of asset-backed stablecoins:

1. Custodial stablecoins, collateralized by assets that are stored off the blockchain ("off-chain"). Examples include Tether, U.S. Dollar Coin, Pax Dollar, and Binance USD; and
2. Stablecoins collateralized by other crypto assets that are stored "on-chain": an example of this is MakerDAO's Dai token.

A brief discussion of four asset-backed stablecoins, Tether, U.S. Dollar Coin, Pax Dollar, and Binance USD, follows.

Tether (USDT)

Tether is an asset-backed stablecoin that has made its tokens available on several blockchains: Ethereum, EOS, Tron, Algorand, Solana and OMG.[4] Tether and the cryptocurrency exchange its executives co-runs it, Bitfinex, paid $42.5 million in October to settle charges with the Commodity Futures Trading Commission of making untrue or misleading statements and omissions of material fact in connection with Tether.[5] Tether and Bitfinex have both been barred from doing business in New York state under the terms of a settlement reached with Attorney General Letiticia James.[6]

As a condition of the settlement with the Attorney General James, Tether must provide quarterly "documents substantiating Tether's reserve account(s)".[7] Tether's latest attestation, conducted by the Cayman Islands-based accounting firm Moore Cayman states that Tether is backed by a combination of commercial paper, cash and cash equivalents, corporate bonds, and "other investments" which include other cryptocurrencies.[8]

According to Tether's website, the fee to redeem to fiat currency is $1,000 or 0.1% of the total redemption, whichever is larger.[9] Tether requires a minimum deposit of $100,000 in order to issue new Tether, and charges a fee of 0.1% of the deposit amount.

30 Day Transaction Value Sum Range‡	Fee per fiat Withdrawal	Fee per fiat Deposit	Fee per Tether tokens Deposit or Withdrawal
100,000† USD and over	The greater of $1,000 or 0.1%	0.1%	FREE

‡ Fees are calculated based on the sum of completed transactions over the previous 30 days.

† This represents the current minimum amount required for a fiat withdrawal or deposit.

Screenshot from Tether's fee page (https://tether.to/fees/), accessed December 12, 2021.

As of January 1, 2018, Tether **stopped allowing redemptions from U.S. residents**, and also stopped issuing Tether to U.S. individual and corporate customers, though they allow for carve outs at Tether's "sole discretion".[10] Despite this, major cryptocurrency exchanges serving U.S. customers like Coinbase,[11] Binance.US,[12] Kraken[13] and FTX.US[14] still allow U.S. customers to purchase Tether.

Reporting by the cryptocurrency news site *Protos* has shown that the two biggest purchasers of Tether are the crypto market making giant Cumberland and the crypto trading fund Alameda Research.[15] In an interview with Bloomberg's *Odd Lots* podcast, the majority owner of Alameda Research[16] (and CEO of FTX) Sam Bankman-Fried was asked to explain the process of redeeming Tether. When answering, he stated four separate times that the process was "messy".[17]

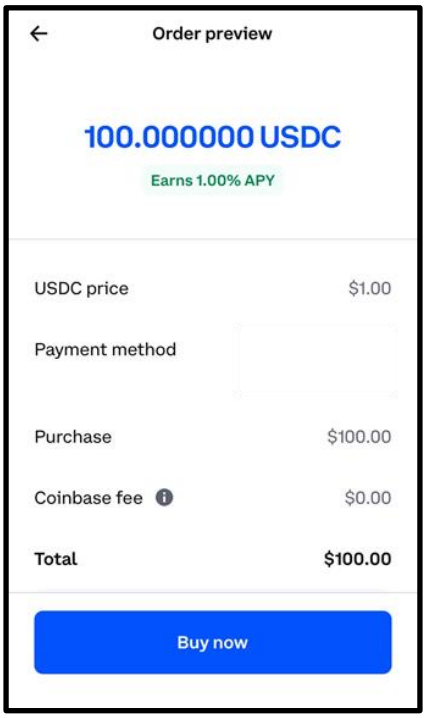
Circle, Coinbase, and U.S. Dollar Coin (USDC)

U.S Dollar Coin ("USDC") is an asset-backed stablecoin issued by Circle. Circle has made its tokens available on several blockchains: Ethereum, Tron, Algorand, Solana and Hedera.[18]

According to the whitepaper for Centre (a stablecoin consortium co-founded by Circle and Coinbase) Circle's strategic investors include "IDG Capital, one of the largest venture capital firms in China", Breyer Capital, founded by Jim Breyer, the "first investor in Facebook", and others including "Goldman Sachs, CICC Alpha, Baidu, WanXiang, CreditEase and EverBright Bank."[19]

Circle maintains a **revenue sharing agreement with Coinbase for USDC**, allowing Coinbase to profit off the sale of USDC on its exchange.[20] These profits are likely substantial, as USDC has seen rapid growth in 2021[21] and Coinbase stated in a February SEC filing that they are the "principal reseller of the USD Coin".[22] This revenue share agreement is the likely reason that Coinbase does not charge users to purchase USDC, but does charge them for purchasing competing stablecoins like Tether (and other crypto assets), raising questions of price discrimination and steering of its customers towards USDC.

Currently, Coinbase pays a 1% APY on US Dollar Coin by default, with no action needed from the user apart from purchasing US Dollar Coin (The rate used to be 0.15% APY[23]). This appears to create an automatic expectation of profits for US Dollar Coin on Coinbase:



Screenshot of the Coinbase app, displaying an "Earns 1.00% APY" message in the Order Preview screen when attempting to purchase USDC, accessed December 7, 2021.

Circle and Coinbase Change Reserves, Website Terms Following Press Scrutiny

For many months during 2021, Coinbase stated that for every dollar offered to investors in U.S. Dollar Coin, there was one dollar "in a bank account" backing it. But a July disclosure from Circle showed their assets "actually include commercial paper, corporate bonds and other assets that could experience losses and are less liquid if customers ever tried to redeem the stablecoin en masse," as *Bloomberg*'s Joe Light reported.[24] Following the press scrutiny, the Centre consortium said it would shift its reserves into cash and short-term U.S. Treasuries.[25]

Circle's October attestation, conducted by the auditing firm Grant Thornton LLP, claims that Circle is backed by "cash and cash equivalents" which they define to be "include US dollar deposits at banks and short-term, highly liquid investments that are readily convertible to known amounts of cash and have a maturity of less than or equal to 90 days from purchase". It is unclear what percentage (if any) of these are U.S. Treasuries, and if so, what their maturities are.[26]

Paxos: Pax Dollar (USDP) and Binance USD (BUSD)

The Pax Dollar ("USDP") is an asset-backed stablecoin issued by Paxos. The Pax Dollar is built on the Ethereum blockchain and adheres to Ethereum's ERC20 token standard, according to the Pax Dollar white paper.[27]

Paxos' website states that they post monthly attestations for the Pax Dollar. The latest attestation posted is from October 2021, and states that the 981,753,175.81 million in Pax Dollar supply has a Reserve Account with "U.S. dollars / amounts backed by U.S. treasuries".[28] The attestation does not specify which portion is in Treasuries versus U.S. dollars, nor does it specify the maturities of the Treasuries in their Reserve Account.

The majority of the current supply of Pax Dollar is locked into DeFi (over 65% of the Pax Dollar supply as of November 11, 2021[29]). Given that there virtually no KYC/AML checks in DeFi applications, there are risks that Pax Dollars may be utilized to convert ransomware payments from one crypto asset to another. (These risks are discussed further in the "National Security Concerns" section below).

Paxos also runs Binance's stablecoin BUSD. Binance has been subject to regulatory actions by Germany's BaFin,[30] Japan's Financial Services Agency,[31] Malaysia,[32] Hong Kong[33], and the UK's FCA.[34] The latest attestation posted by Paxos for BUSD is from October 2021, and states that 13,156,917,361.68 in BUSD supply has a Reserve Account with "U.S. dollars / amounts backed by U.S. government guaranteed instruments."[35] It is unclear from the attestation what these government guaranteed instruments are, and what maturities they have.

III. Asset-Backed Stablecoins Usage of Forced Arbitration Clauses and Class Action Bans

In traditional financial markets, consumers and investors are often subject to forced arbitration clauses and bans on class action lawsuits. These forced arbitration clauses prevent users from suing financial firms in a court of law, instead conducting dispute resolution in private arbitration, where the outcomes are typically secret and there is no right to appeal. Many asset-backed stablecoin issuers also include binding arbitration and class action bans in their terms of service.

A review of four major asset-backed stablecoins showed forced arbitration and class action bans present in every single one's terms of service:

Stablecoin	Issuer	Link to terms	Forced Arbitration?	Class Action Ban?
U.S. Dollar Coin	Circle	https://www.circle.com/en/legal/us-user-agreement	Yes	Yes
Tether	Tether	https://tether.to/legal/	Yes	Yes
Binance USD	Paxos	https://paxos.com/2019/03/29/general-terms-and-conditions/	Yes	Yes
Pax Dollar	Paxos	https://paxos.com/2019/03/29/general-terms-and-conditions/	Yes	Yes

I attempted to review the terms of service for the three algorithmic stablecoins discussed below, but I was not able to find any terms of service for the stablecoins or their platforms (OlympusDAO, Abracadabra Money, and Iron Finance).

IV. Algorithmic Stablecoins

Algorithmic stablecoins are uncollateralized crypto assets that attempt to maintain a stable value through a variety of means, which can include: an ongoing rebalancing of a basket of other crypto assets or even just the mere expectation of future market value. Professor Ryan Clemens of the University of Calgary writes that algorithmic stablecoins operate in a "perpetually vulnerable state".[36]

Below is a brief discussion of three algorithmic stablecoins: Olympus DAO, Magic Internet Money, and IRON.

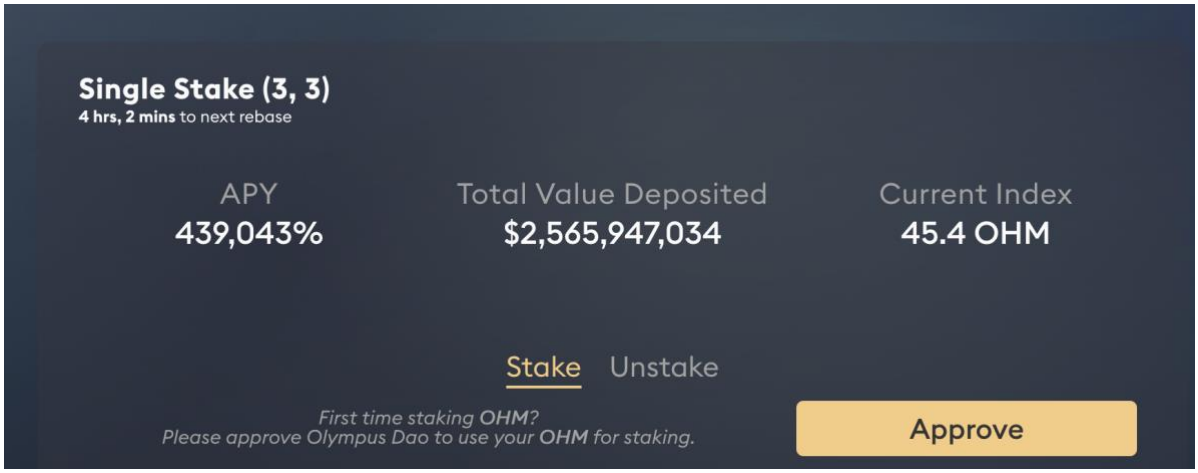
OlympusDAO

OlympusDAO is an Ethereum-based project founded by a pseudonymous developer known as "Zeus" which issues a token called OHM. According to the Olympus DAO Frequently Asked Questions ("FAQ"), they "a free-floating reserve currency, OHM, that is backed by a basket of assets."[37] Strictly speaking OlympusDAO rejects being defined as a stablecoin in its documentation. However, it defines its project as aspiring to create "an algorithmic reserve currency backed by other decentralized assets."[38]

Olympus DAO claims to utilize a different stablecoin, DAI, as its backing, writing that "Each OHM is backed by 1 DAI, not pegged to it."[39] (DAI is a stablecoin issued by MakerDAO and collateralized with crypto assets.[40]) Cryptocurrency users can purchase OHM on decentralized exchanges or "mint" OHM at a discount by locking in other crypto assets to OlympusDAO.

OlympusDAO then uses these crypto assets to "accumulate its own liquidity."[41] The OHM a user receives in exchange is not delivered immediately: there is a vesting period.[42]

Once users obtain OHM tokens, Olympus DAO advertises an eye-popping, six-figure APY (over **439,000% APY** as of December 13, 202) in exchange for locking their OHM tokens onto the platform:



Screenshot from Olympus DAO, displaying a **439,043% APY** for staking the crypto asset OHM, accessed December 13, 2021.

Some in the Crypto Industry have Warned that Olympus DAO may be a Ponzi Scheme

Many in both the financial services and cryptocurrency industries have raised alarms about OlympusDAO and its stablecoin OHM. *Bloomberg*'s Matt Levine described OlympusDAO as having "Ponzi economics".[43] Scott Lewis, the founder of the cryptocurrency metrics site *DeFi Pulse* tweeted "ohm is a ponzi. it's clear as day"[44] And the cryptocurrency news publication *Coin Desk* wrote of OlympusDAO, "Yes, it's a Ponzi scheme. But who cares?"[45]

Despite multiple allegations that OlympusDAO is a Ponzi scheme, the project's popularity has led to dozens "forks" of the project[46] – a fork is when a software project's code is copied in order to be modified and adjusted for a new and different software project.

Magic Internet Money and Abracadabra Money

Magic Internet Money describes itself as a "pegged stable coin that is backed by interest bearing tokens". Its platform,called Abracadabra Money, states in its documentation that it always considers this [Magic Internet Money] token to be worth 1USD".[47]

Co-founded by pseudonymous developers[48], Magic Internet Money claims their peg to one U.S. dollar is maintained through arbitrage, conducted by trading bots: "a lot of the Market to Market

arbitrage is done by automated bots that constantly monitor pools for opportunities to capitalize on these price differences."[49]

Screenshot from Abracadabra.Money (https://abracadabra.money/), stating "THE FORMULA IS STRAIGHT FORWARD. COLLATERAL IN - POOF - STABLE COIN OUT", accessed December 12, 2021.

Cryptocurrency investors that own certain crypto tokens can use them as collateral in order to borrow Magic Internet Money.[50] The collateral accepted by Abracadabra can change: for example, it recently added support for borrowing Magic Internet Money by using the Shiba Inu crypto token as collateral.[51]

The market cap of Magic Internet Money is estimated to be some $3.95 billion – higher than Pax Dollar's $1.14 billion market cap as of December 13, 2021.[52] In addition, the stablecoin has received some legitimacy from other crypto market platforms. For example, although Coinbase does not offer the ability to purchase Magic Internet Money, it has an entire section of its website dedicated to the stablecoin that explains where users can purchase it.[53]

IRON and the IRON/TITAN Collapse

In mid-June, the price of the cryptocurrency token TITAN collapsed from $60 to close to zero over just a few hours. The protocol that created the TITAN token, Iron.Finance, lost more than $2 billion in total value locked (TVL).[54] TITAN was linked to the algorithmic stablecoin IRON. IRON attempted to retain a dollar peg by relying on arbitrageurs. As Dr. Ryan Clemens writes, "If IRON lost its peg and traded below $1, an arbitrageur could purchase it on the secondary market and redeem it for $1 of combined USDC and TITAN."[55] But this worked better in theory than practice:

> "Iron Finance unraveled when the value of its unlimited supply governance token, TITAN, fell precipitously in the DeFi secondary market. Iron Finance reported that there was significant selling by certain 'whale' holders. The market for TITAN was already thin, and

> this large-value sale triggered a cascade selloff of TITAN and an IRON redemption 'negative feedback loop.' This caused the IRON token to lose its peg, which in turn 'triggered' the algorithmic minting mechanism for TITAN and an arbitrage opportunity in a resulting 'death spiral.'"[56]

Some theorized a design failure in IRON,[57] made by the largely anonymous development team, is what led to the collapse.[58] Billionaire investor Mark Cuban also lost money in this collapse, and in the wake of it, told Bloomberg that "There should be regulation to define what a stable coin is and what collateralization is acceptable".[59]

V. Stablecoins and Financial Inclusion

In a recent report, the World Economic Forum ("WEF") found that "where regulation is evenly applied, stablecoins are subject to the same adoption and inclusion hurdles as other forms of retail finance."[60] The WEF also found that stablecoins may introduce risks that include "financial failure at the stablecoin provider from illiquidity or insolvency, lost or stolen access to funds in digital wallets or exchanges, and technical failure at the underlying blockchain or smart contract levels."[61]

Because stablecoins largely cannot be exchanged for goods and services outside of the crypto ecosystem, stablecoin users still require a bank account to convert their stablecoins back to U.S. dollars. The details of Facebook's most recent cryptocurrency pilot, Novi, is an informative example, as they make it clear that Facebook understands the users of its pilot will need to have a bank, and will need to pay wire fees in some cases to withdraw their funds. The "Learn More" section of Novi's website states that users can "add money to their account with a debit card" and they can withdraw funds by "picking up cash at a nearby location or transferring it to their bank account".[62] This means that the Facebook pilot will not help the unbanked and underbanked, nor drive any new financial inclusion. Further, by utilizing banks as on- and off-ramps for the Pax Dollar, Facebook's pilot will be free riding off the banking system.

Fees to Send Stablecoins to Others Appear to Exceed Fees for Traditional Systems

Let's assume that Person A is in the United States, and wants to send $200 in the stablecoin Tether to Person B, who is in Europe. At the end of the process, Person B converts it back to Euros in order to withdraw it to their bank. ($200 was chosen because the minimum crypto withdrawal amount on Binance for stablecoins is $135). An examination of the total fees incurred by utilizing stablecoins and cryptocurrency exchanges is more expensive ($5.98 on the low end, and $86.44 in fees on the high end) than utilizing a payment system like Western Union ($4.88 in fees).[63]

Here is an estimation of the total fees buying, sending, and cashing out $200 worth of Tether would incur across exchanges:

	Western Union	Kraken	Coinbase	Binance.us to Binance.com	FTX.us to FTX.com
Fund account	Person A: $0 (ACH)[64]	Person A: $0 (ACH)[65]	Person A: $0 (ACH)[66]	Person A: $0 (ACH)	Person A: $0-$0.50 (ACH)
Convert USD to Stablecoins	n/a	0.26% or $0.52[67]	$2.99 (buy $200 Tether)[68]	0.1% or $0.20[69]	$0.20 - $0.80 (0.1% Maker fee - 0.4% Taker fee)[70]
Send to Person B	$0 (send to bank)	$20 (send to Person B on Kraken)[71]	0 - $3.60[72] Fee depends on if it's an "off-chain"[73] or "on-chain" send.[74]	$65[75]	$5.00-$10.00[76]
Convert to EUR / Sell stablecoins for EUR	n/a	0.26%[77] or $0.52	Person B: $2.99 (sell $200 Tether)	0.1% or $0.20[78]	$0.04 - $0.14
Person B sends to Bank	Person B: Receives €172.84 (1.00 USD: 0.8642 EUR)	Person B: €5-€35 (SWIFT)[79] (equiv to $5.64 - $39.50)	$0 (SEPA)[80]	Person B: (SEPA withdrawals for Binance are not available) There is a 0.05% fee to use an Etana custody account to withdraw[81]	Person B: $75 wire to withdraw to bank for amounts less than $10,000 (SEPA)[1]
Total Fees (to send $200)	$**4.88** (Western Union)	$**26.68** - $**60.54** (Kraken)	$**5.98** - $**9.58** (Coinbase)	$**66.40** (Binance)	$**80.24** - $**86.44** (FTX)

VI. Stablecoins' Role in the Cryptocurrency Ecosystem

Stablecoins are Dependent on the Existing Banking System

[1] *Depositing & Withdrawing Fiat* FTX.COM, https://help.ftx.com/hc/en-us/articles/360042050452-Depositing-Withdrawing-Fiat-. ("Fiat withdrawals below $10,000 in value will have a $75 fee. This is a fee our bank charges us. Otherwise, there are no fees.") (last visited December 13, 2021).

Because major retailers and vendors outside of the cryptocurrency ecosystem don't accept stablecoins as payments, cryptocurrency investors need a bank account to convert their stablecoins back to U.S. dollars to pay for goods and services. To obtain cryptocurrency in the first place also requires purchasing some on an exchange, and connecting that exchange to a bank, debit card, or another payment mechanism. Tim Swanson, the head of market intelligence at the blockchain firm Clearmatics, wrote that "it is clear that from trading activity and total-value-locked up (TVL), that the DeFi ecosystem (and all coin worlds really), are reliant on maintaining frictionless U.S. banking access."[82]

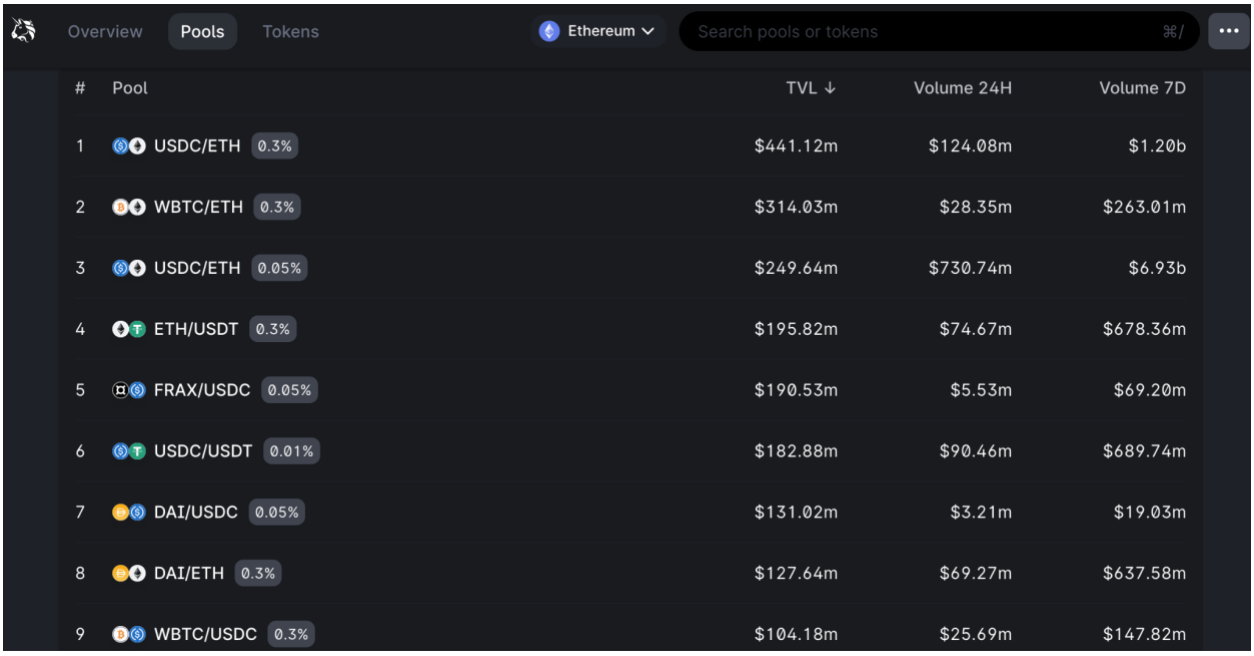
Stablecoins are Integral to DeFi

Decentralized finance of "DeFi" is marketed as purely peer-to-peer programs that operate without intermediaries.[83] However, market participants, including crypto metrics providers, have raised questions as to whether or not DeFi is truly decentralized given factors such as protocol fees, governance token control, and platform treasuries.[84] Marketing oneself as "decentralized" may be opportune from regulatory, legal and marketing standpoints; however, when crises happen that warrant quick action, many DeFi platforms take actions with many indicia of centralized control. For example: the crypto borrowing and lending platform Compound threatened to report user's income to the IRS following a bug, and Curve Finance shut down a competitors' presence on their system via an "Emergency DAO".[85]

The true size of the DeFi market remains unclear, as metrics vary wildly: crypto metrics provider Glassnode estimates there is over $248 billion locked into DeFi on the Ethereum blockchain,[86] while CoinGecko ranks it at $135.8 billion,[87] and DeFiPulse.com puts it at just shy of $100 billion.

As the President's Working Group wrote in their Stablecoin report, stablecoins "play a central role in facilitating trading, lending, and borrowing activity in DeFi." *DeFi Pulse* estimates that the total value of all stablecoins circulating on DeFi is $104.6 billions of December 12, 2021,[88] while the cryptocurrency research site *The Block* estimates the total supply of the top 8 stablecoins to be $148.45 billion.[89] This indicates that the percentage of the total stablecoin supply on DeFi is in the realm of 70 percent.

Eight out of nine of the top Liquidity Pools on Uniswap – the largest decentralized exchange – have at least one leg in a Stablecoin, as of December 13, 2021:



Uniswap's top liquidity pools, sorted by Total Value Locked ("TVL"), https://info.uniswap.org/#/pools, accessed December 13, 2021.

Finally, industry participants have noted the importance of stablecoins to DeFi. The head of policy for the Blockchain Association tweeted that "the point" of DeFi is to "let people get rid of their fiat" and that stablecoins ("a decentralized fiat instrument") are required to do so.[90]

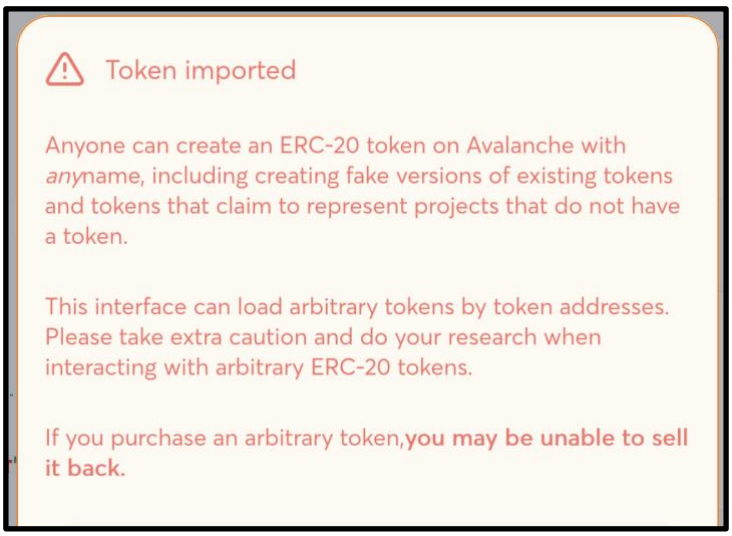
For new tokens to gain ground, users need to be able to purchase them on DeFi. Token creators enable this by creating new Liquidity Pools on platforms like Uniswap. This involves taking two tokens: (1) the new token; and (2) another token (often a stablecoin), and calling a decentralized exchange's smart contract in order to issue a new "LP token" representing those two deposits. The assets supplied to the liquidity pool enables users to swap between them. The Liquidity Provider earns a fee, but may also experience losses (which the industry calls "impermanent loss").

Investor Protection Concerns in DeFi

Given stablecoin's critical role in facilitating DeFi, it's worth briefly examining some of the investor protection concerns present in this section of crypto asset markets.

There are certain basic assumptions in traditional financial markets, including that, barring a serious liquidity crisis, you will be able to sell back a product that you buy. But in DeFi malicious actors can design tokens that can be bought, but not sold. One recent example of this phenomenon is the Squid Game token. The token gained considerable popularity following a series of uncritical headlines in the financial press, touting its 83,000% gains, all before the anonymous development team pulled all the liquidity out of the project -- causing the price of Squid Coin to plummet to zero (a technique known as a "rug pull").[91]

Scams are prevalent enough that some DeFi websites include an explicit warning on their website if you attempt to import a custom token (by searching for the token by its alpha-numeric address). For example, the Avalanche blockchain-based exchange Trader Joe displays the following warning when you import a custom token[92]:



According to the website TokenSniffer.com, which scans for new token contracts and attempts to track known scams, there are nearly one million crypto tokens (999,546) trading on DeFi. Of those, 65,654 are known scams (more than 6.5% of all tokens TokenSniffer tracks).[93]

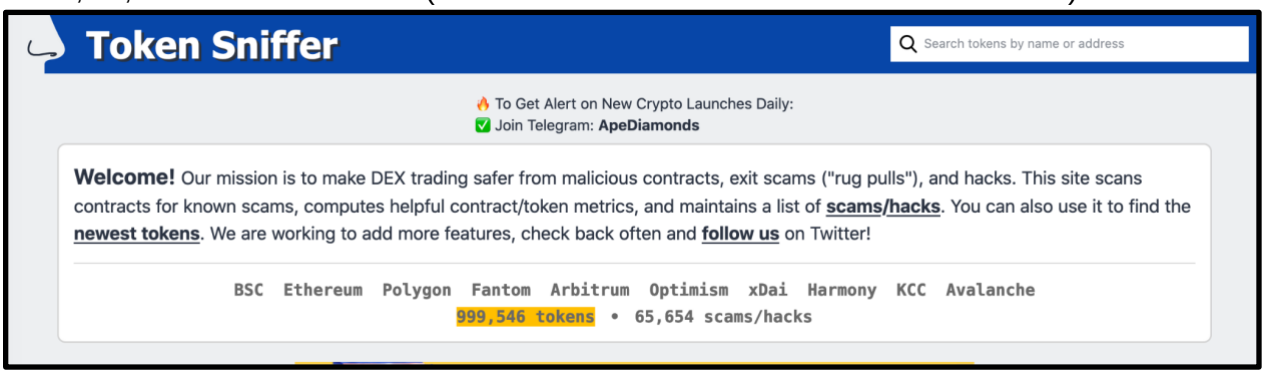


Image from TokenSniffer.com, noting 999,546 crypto tokens trading on DeFi, with 65,654 confirmed scams/hacks.[94]

VII. National Security Concerns

A report by the cryptocurrency compliance firm Elliptic, “DeFi: Risk, Regulation, and the Rise of DeCrime” outlined two of the challenges that asset-backed stablecoin issuers face when it comes to AML compliance: “First, they must ensure that the issuance of a coin is not used to directly facilitate money laundering activity. Such a situation could arise if, for example, a drug dealer were to obtain a virtual asset as a payment and then exchange that asset for a stablecoin. Likewise, the bad actor could convert fiat dollars into a gift card, and use that card to

purchase stablecoins directly from the issuer…Secondly, They should seek to understand whether the stablecoin ecosystem that they facilitate is itself being used for bad activity."[95] One of the major challenges for stablecoin issuers to ensure their stablecoins aren't facilitating illicit finance is their importance to DeFi – which raises its own concerns for ransomware and money laundering.

An October report from ("FinCEN") found that DeFi was being used to convert ransomware-related payments to other types of cryptocurrency.[96] Elliptic's DeFi report found that "DeFi presents criminals with the opportunity to launder proceeds of crime by exchanging it for other assets or hiding the blockchain money trail."[97]

A large amount of many stablecoins' supply are locked into smart contracts on DeFi – either as one (or more) leg of a liquidity pool, that allows anyone to swap from their stablecoin to another asset; or locked into crypto borrowing and lending arrangements:

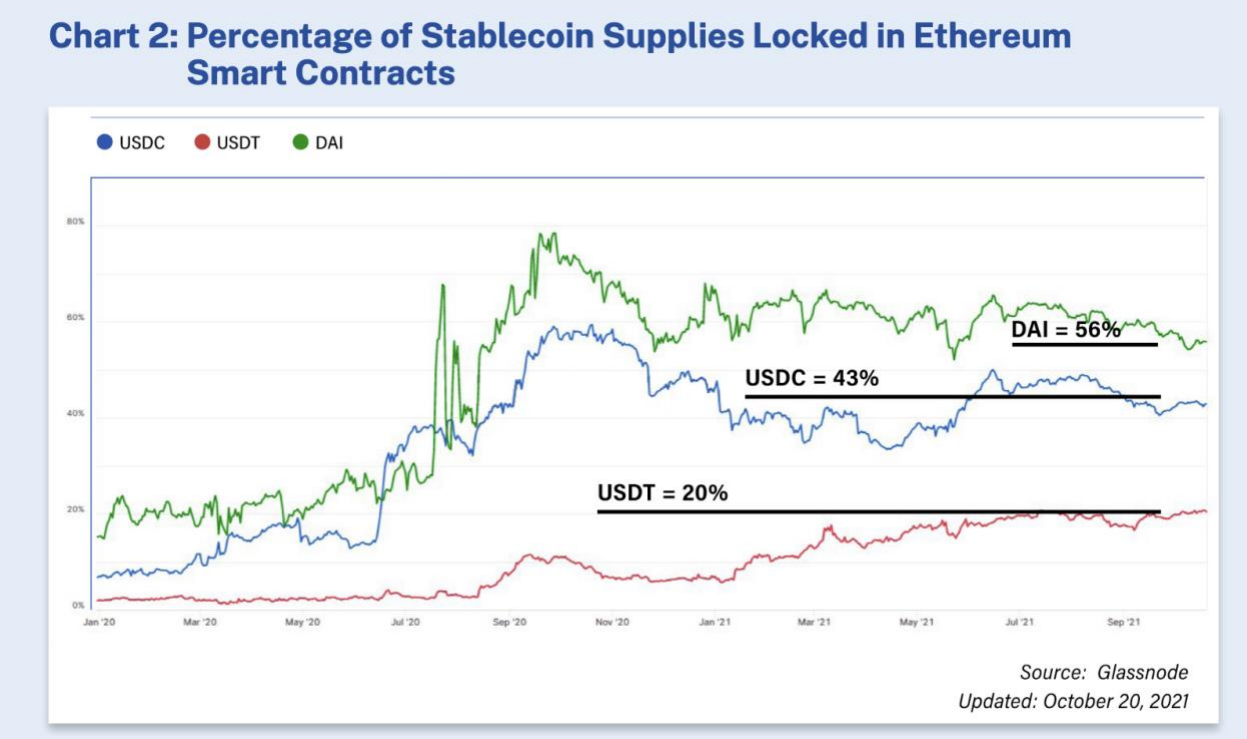


Image from the President's Working Group on Financial Markets report on Stablecoins.[98]

Smart contracts on DeFi exchanges typically do not compare the cryptocurrency addresses executing their code against the Specially Designated Nationals and Blocked Persons list ("SDN list"). Thus, stablecoins locked into Ethereum smart contracts could be helping to facilitate various forms of illicit finance, including the swapping of ransomware payments for other crypto assets.

In October, the Treasury Department's Office of Foreign Assets Control (OFAC) clarified this October that all actors in crypto asset markets are expected to comply with sanctions.[99] OFAC's

October guidance states that "[a]ll companies in the virtual currency industry, including technology companies, exchangers, administrators, miners, and wallet providers, as well as more traditional financial institutions that may have exposure to virtual currencies" should consider incorporating the controls outlined in OFAC's guidance into their sanctions compliance programs.[100] The secondary market for stablecoins, and the outsized portion of many stablecoin's supply in DeFi smart contracts, presents challenges for issuers for ensure full compliance with OFAC's October sanctions guidance and other illicit finance checks. Wherever possible, stablecoin issuers should proactively work to ensure that the stablecoins they issued aren't used for illicit finance in any part of the ecosystem – not just conduct checks at the point of issuance or redemption.

VIII. High Fees to Move and Trade Stablecoins on Ethereum

Many stablecoins utilize the Ethereum blockchain and adheres to Ethereum's ERC20 token standard, including the Pax Dollar,[101] U.S. Dollar Coin, Tether, and Binance USD. The Ethereum blockchain remains the dominant blockchain for DeFi, with an estimated 70% of all decentralized finance ("DeFi") activity, according to an analysis by JPMorgan.[102]

As many reports[103] have made clear, the Ethereum blockchain faces challenges of scalability, congestion, and extremely high fees.[104] The mean Ethereum transaction fee was $56.45 on November 11, 2021, according to metrics provider Glassnode. Fees to merely transfer a crypto asset from one wallet to another were an estimated $22 on November 5, 2021 at 6 p.m., some $54 on November 11, 2021 at 9:45 p.m, according to Etherscan.[105]

As the Ethereum network can only process approximately 30 transactions a second,[106] fees often spike to extreme levels whenever there's increased congestion, as investors become increasingly willing to pay higher fees in order to get their transaction executed by an Ethereum miner. Ethereum blockchain fees are frequently prohibitively expensive for users with smaller holdings.[107] All of this creates heightened risks for stablecoin holders in the event of a run on a stablecoin, or the loss of its peg. It's likely that the fees to move stablecoins off DeFi (or to swap them for another crypto asset) would be highest, and most regressive, at moments of volatility and crisis.

IX. Stablecoin's Ethereum Usage Raises Climate Concerns

Most major asset-backed stablecoins have a version of their token that runs on the Ethereum blockchain. Ethereum still uses "Proof of Work" to validate transactions, a type of cryptocurrency mining that creates a number of extensive climate harms, which include annual energy consumption akin to that of entire nations[108], 30,700 tons of electronic waste (computer hardware is notoriously difficult to recycle)[109] annually, higher electricity bills for residents of states with crypto mining[110], and quality of life issues[111]. More than 70 climate, economic, racial justice, business and local organizations recently wrote to Congress, asking them to mitigate the considerable contribution portions of the cryptocurrency markets are making to climate change.[112]

In addition, Proof of Work cryptocurrency mining has been exacerbating the shortages of semiconductors.[113] Senators Maggie Hassan and Joni Ernst recently introduced a bill calling on the Treasury Department to compile a report on how cryptocurrency mining operations are impacting semiconductor supply chains. It is unclear how stablecoin issuers plan to mitigate the increasing carbon footprint that follows the ongoing growth of their tokens.

Conclusion

There are many investor, national security, and usability concerns with both algorithmic and asset-backed stablecoins. Congress should continue to examine if there are regulatory gaps that require new legislation to ensure consumer and investor protection as it relates to stablecoins, and regulators should continue to monitor stablecoins and ensure compliance with existing laws.

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