TOKENIZED DEPOSITS: HOW I LEARNED TO STOP WORRYING AND LOVE STABLECOINS

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Abstract

Stablecoins are crypto assets sold on the promise or understanding that they are redeemable for fiat currency at par. Like bank deposits, they may be used for payments, and may pose risks to the financial system. Like banks, stablecoin issuers exchange money for claims on assets and engage in maturity transformation by using those short-term funding to fund longer-term investments and can run. And to protect against runs, some commentators have argued that stablecoins should be insured, much as how the Federal Deposit Insurance Corporation (FDIC) insures bank deposits up to $250,000 per person if banks fail.

This article is the first to examine the prudence, legality, and feasibility of insuring stablecoins, and concludes that only tokenized deposit stablecoins—digital representations of traditional bank deposits that trade over private, permissioned blockchains—address the myriad concerns posed by stablecoins. First, it examines stablecoins' risks and the benefits that would be brought with deposit insurance, concluding that stablecoins should be prohibited unless insured and regulated. Next, it evaluates the application of FDIC insurance to stablecoins, identifying two potential means of insuring stablecoins—insuring stablecoins as bank deposits and insuring stablecoins issued by banks—and concludes that the former would not fulfill the policy rationales for deposit insurance and the latter is likely not permissible. This article further finds that the FDIC would face operational challenges in insuring stablecoins, and that incorporating traditional stablecoins into the national payments system would be detrimental. It concludes by noting that tokenized

[1*] Principal, Phillips Policy Consulting, LLC. The views expressed are the author's alone and not of any affiliate or employer. The author thanks Alex Fredman, John Parsons, John Popeo, Art Wilmarth, Dan Awrey, Hillel Nadler, and the participants of the 2022 AALS Financial Regulation Conference for their thoughtful discussions. The title is a reference to "Dr. Strangelove," a film directed by Stanley Kubrick in which the Dr. Strangelove character articulates a positive rationale for nuclear bombs' existence despite their potentially catastrophic uses.

deposit stablecoins are the optimal stablecoins from a financial stability and payments perspective; however, they appear to be no better—but at least not worse—than the existing payment system.

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I. *Introduction*

In May 2022, the value of the crypto asset Terra (UST) collapsed.[2] Holders of UST tokens lost over $18 billion as their tokens lost all value;[3] holders of its companion token Luna lost over $40 billion as their holdings were diluted;[4] and the crypto market lost $600 billion in paper wealth as contagion set in[5]—all within a matter of days. Similarly, over the weekend of March 11th, 2023, the value of the crypto asset USD Coin (USDC) broke the buck, dropping from $1 to $0.97[6] as Silicon Valley Bank—one institution with which Circle, USDC's issuer, banked—faced a run.[7] Unlike UST, USDC

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[2] Crypto assets are assets that may be bought, sold, or otherwise traded on a blockchain. Blockchains are the virtual ledgers that record information about crypto asset transfers, including the crypto wallet the asset was transferred from, the wallet it was transferred to, and a time stamp of the transaction. With each transaction, this information is recorded in a new "block" that is added to the end of the online "chain" of prior transactions. The decentralized nature of many blockchains means that validators compete to add new entries and are rewarded or paid fees for validating the new blocks, authenticating new transaction blocks and ensuring that assets are not counterfeited or double-spent.

[3] *TerraClassicUSD*, COINMARKETCAP, https://coinmarketcap.com/currencies/terrausd/ (last visited Oct. 2022) (reporting the drop in UST's value in May 2022 via market data and graphs).

[4] *Terra Classic*, COINMARKETCAP, https://coinmarketcap.com/currencies/terra-luna/ (last visited Oct. 2022) (reporting the decline in Luna's value in May 2022 via market data and graphs).

[5] *Total Cryptocurrency Market Cap*, COINMARKETCAP, https://coinmarketcap.com/charts/ (last visited Oct. 2022) (reporting the decline in value of the total cryptocurrency market in May 2022 via charts).

[6] *USD Coin*, COINMARKETCAP, https://coinmarketcap.com/currencies/usd-coin/ (last visiting May 2023) (reporting the decline in USDC's value in March 2023 via market data and graphs).

[7] *See* Ashley Capoot, *Stablecoin USDC Breaks Dollar Peg After Firm Reveals it has $3.3 Billion in SVB Exposure*, CNBC (Mar. 11 2023), https://www.cnbc.com/2023/03/11/stablecoin-usdc-breaks-dollar-peg-after-firm-reveals-it-has-3point3-billion-in-svb-exposure.html (noting that USDC "lost its dollar peg and fell to a record low Saturday morning after the company revealed it has nearly 8% of its $40 billion in reserves tied up at the collapsed lender Silicon Valley Bank.").

recovered following unprecedented government intervention to save Silicon Valley Bank's depositors.[8]

Although many crypto token holders expect their assets to fluctuate in value, purchasers of UST and USDC did not. These tokens were stablecoins: money-like crypto assets "designed to maintain a stable value relative to a national currency or other reference assets."[9] Stablecoins are instruments sold for fiat on the explicit promise or implicit understanding that those tokens are redeemable for fiat at par. There are generally considered to be two types of stablecoins: collateralized and algorithmic. Collateralized stablecoins are backed by assets held by the stablecoins' issuers with the expectation that issuers can use these assets to pay for redemptions. These assets could be fiat currency, traditional securities like government debt or repurchase agreements (repos), or even other crypto assets.[10] USDC is a collateralized stablecoin, of which $3.3 billion in collateral was held with SVB.[11] Algorithmic stablecoins like UST are designed to maintain their peg by using an algorithm that alters the supply of the stablecoin or facilitate an arbitrage between the stablecoin and an affiliated, unstable crypto asset to ensure an equilibrium between supply and demand at the

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[8] *See* Tom Wilson & Shubham Kalia, *Major crypto coins stabilise after U.S. intervenes on SVB collapse*, REUTERS (Mar. 13, 2023), https://www.reuters.com/technology/bitcoin-usdc-stablecoin-rally-after-us-intervenes-svb-2023-03-13/ ("Major cryptocurrencies stabilised on Monday after U.S. authorities announced plans to limit the fallout from the collapse of Silicon Valley Bank (SVB) and the issuer of the USD Coin stablecoin said it remained redeemable with the dollar.").

[9] PRESIDENT'S WORKING GROUP ON FINANCIAL MARKETS ET AL., REPORT ON STABLECOINS 1 (2021), https://home.treasury.gov/system/files/136/StableCoinReport_Nov1_508.pdf [https://perma.cc/5NEV-PUHD] [hereinafter "PWG Report"].

[10] *See What Are Stablecoins?*, CRYPTOPEDIA (last updated June 28, 2022), https://www.gemini.com/cryptopedia/what-are-stablecoins-how-do-they-work (explaining stablecoins' various collateral structures).

[11] Capoot, *supra* note 6.

pegged value.[12] Stablecoins are currently valued at just over $127 billion.[13]

Many crypto supporters argue that stablecoins are the future of payments.[14] The U.S. payment system is antiquated; without a unified and effective means of accomplishing real-time payments, "a patchwork of payment vehicles and providers, often lacking interoperability with one another or the ability to combine billing invoice information with a payment," have developed.[15] Fedwire Funds and the automated clearinghouse (ACH) network facilitate wholesale payments, but payments may take several days to settle.[16] Visa, MasterCard, and other payments networks that facilitate retail payments settle via ACH.[17] The Clearing House operates the

[12] UST was undergirded by an algorithm permitting an arbitrage between UST and the unstable asset LUNA. If demand for UST pushed its value above $1, "arbitrageurs could buy $1 worth of LUNA, trade it for 1 UST (worth more than $1) and sell UST for a gain," whereas if demand for UST weakened and allowed the value of a token to fall below $1, "someone can buy $0.99 worth of UST and trade it for $1 worth of LUNA. In both instances arbitrageurs net a profit and ostensibly maintain the peg." CONG. RSCH. SERV., IN11928, ALGORITHMIC STABLECOINS AND THE TERRAUSD CRASH, (2022), https://crsreports.congress.gov/product/pdf/IN/IN11928.

[13] *Stablecoins*, THE BLOCK, https://www.theblock.co/data/decentralized-finance/stablecoins (last visited May 2023) (Reporting the total value of the stablecoin market as of May 2022).

[14] *See, e.g.*, Amit Rajpal & Paul Marshall, *Stablecoin is the future of virtual payments. How wise regulation can foster its growth*, CNBC (July 13, 2021), https://www.cnbc.com/2021/07/13/op-ed-the-future-is-stablecoin-wise-regulation-can-foster-its-growth.html (suggesting that stablecoins could become the core building blocks of our future financial architecture).

[15] Loretta J. Mester, *Modernizing Our Payments System*, FEDERAL RESERVE BANK OF CLEVELAND (Feb. 14, 2020), https://www.clevelandfed.org/en/newsroom-and-events/speeches/sp-20200214-modernizing-our-payments-system.aspx.

[16] *See* Aaron Klein & George Selgin, *We shouldn't have to wait for FedNow to have faster payments*, BROOKINGS (Mar. 3, 2020), https://www.brookings.edu/opinions/we-shouldnt-have-to-wait-for-fednow-to-have-faster-payments/ ("U.S. banks can still take three days or longer to grant customers access to their own deposits.").

[17] *See, e.g.*, DPS Payment Account Solutions, VISA DEVELOPER CENTER, https://developer.visa.com/capabilities/dps-payment-account-solutions/settlement ("ACH deposits are the primary mechanism used for adding funds to a some types of card accounts.").

Real-Time Payments (RTP) network, which settles in real time, but it is available only to insured depository institutions.[18] As a result, advocates argue that benefits would flow from a stablecoin- and blockchain-based payment system. One promoter argued that it "would reduce transaction costs, increase payment speed, raise interest paid on accounts, and allow new services . . . to be provided far more efficiently," and would "lower systemic risk, reduce hacking risk, and reduce the use of the payment system to foster criminal activity."[19] This is all while the Federal Reserve intends to launch its real-time payments network, FedNow, by mid-2023,[20] and while stablecoins are largely used for payments within the crypto asset markets.[21]

Given the perception that each UST token would always be worth $1 and promoters argued that UST could be used for payments,[22] it is no surprise that when the asset—the third largest stablecoin at the time by market capitalization—lost its peg, it would have cataclysmic effects on the crypto ecosystem. Unless explicitly guaranteed by a stable government, assets pegged to a nominal price, redeemable on demand, and backed by longer-term assets (that is, engage in maturity transformation) are prone to fluctuate in value as there is the risk that the asset may not be redeemable for that price in times of crisis.[23] And when those assets are well-integrated into the

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[18] *See, e.g.*, *Real-Time Payments for All Financial Institutions*, CLEARING HOUSE, https://www.theclearinghouse.org/payment-systems/rtp.

[19] Charles W. Calomiris, *Will Fractional-Reserve Stablecoin Banking Replace Bitcoin and Some Traditional Banking Payments?*, 33 J. APPLIED CORP. FIN. 70, 73 (2021).

[20] *Federal Reserve updates FedNow Service timing to mid-2023, marks beginning of full-scale pilot testing*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Aug. 29, 2022), https://www.federalreserve.gov/newsevents/pressreleases/other20220829a.htm.

[21] *See* Garth Baughman et al., *The stable in stablecoins*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Dec. 16, 2022), https://www.federalreserve.gov/econres/notes/feds-notes/the-stable-in-stablecoins-20221216.html ("Stablecoins' primary role is to provide media of exchange – means of payment – within the digital asset ecosystem").

[22] *See, e.g.*, Do Kwon, *Announcing TerraUSD (UST)—the Interchain Stablecoin*, MEDIUM (Sept. 21, 2020), https://medium.com/terra-money/announcing-terrausd-ust-the-interchain-stablecoin-53eab0f8f0ac (emphasizing UST's stability).

[23] *Id.*

financial system, a single broken peg can be disastrous: That instrument can run, propagate contagion to similar runnable assets, and cause wide-spread fire sales that can reduce overall wealth and result in a recession or depression.[24] For that reason, the Federal Deposit Insurance Corporation (FDIC) insures U.S. bank deposits[25] that are redeemable by their depositors and are used by banks to make longer-term loans. Similarly, when money market mutual funds (MMMFs)—investment funds with sponsors that aim to peg shares to $1—appeared bound to fail at the outset of the Great Financial Crisis and the COVID-19 pandemic, the Federal government quickly backstopped them, pledging to support to support the $3.2 trillion (2008),[26] then $4.7 trillion (2020)[27] industry. Due to MMMFs potential to run, efforts have been made since their creation in the 1970s to increase restrictions on their operations[28] or to ban them outright.[29]

With stablecoins' similarities to MMMF shares and their potential to run (since UST's collapse, at least six additional stablecoins have also broken the buck and failed to return to trading

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[24] *Id.*

[25] Although this article generally refers to banks and the FDIC, its logic similarly applies to credit unions and the National Credit Union Administration (NCUA), which insures shares in accounts at credit unions. NCUA share insurance is subject to the same insurance ceiling and many of the same statutory limitations as FDIC deposit insurance. *See generally* 12 U.S.C. § 1787.

[26] Tami Luhby, *Run ends on money market funds*, CNN MONEY (Sept. 29, 2008), https://money.cnn.com/2008/09/29/news/economy/money_market/ (introducing a new federal government insurance program).

[27] *Federal Reserve Board broadens program of support for the flow of credit to households and businesses by establishing a Money Market Mutual Fund Liquidity Facility (MMLF)*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., (Mar. 18, 2020), https://www.federalreserve.gov/newsevents/pressreleases/monetary20200318a.htm; *Money Market Fund Statistics: Form N-MFP Data, period ending March 2020*, SEC, https://www.sec.gov/files/mmf-statistics-2020-03.pdf (exhibiting the support for the flow of credit to households and businesses).

[28] *See* 87 Fed. Reg. 7248 (Feb. 8, 2022) (discussing the history of MMMF reforms).

[29] Greg Robb, *Prime money-market funds on the regulatory hot seat*, MARKETWATCH (Nov. 14, 2020), https://www.marketwatch.com/story/prime-money-market-funds-on-the-regulatory-hot-seat-11605380494 (highlighting the increasing regulatory pressures on money-market funds).

at par),[30] scholars and policymakers have offered several proposals to address stablecoins' run-risk. One would permit only insured depository institutions—banks, credit unions, and other deposit-taking entities provided deposit insurance—to issue stablecoins, ensuring "all stablecoin issuers and distributors and their parent companies . . . comply with federal laws that protect the safety, soundness, and stability of our banking system."[31] Another would require stablecoins be issued by uninsured subsidiaries of bank holding companies, subjecting issuers to prudential supervision but preventing banks from being exposed to the "intraday liquidity risk" that may come with "24/7, irreversible, and [real-time

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[30] Jamie Redman, *Another Stablecoin Depegs From USD Parity, Polkadot-Based AUSD Loses 98% in Value*, BITCOIN.COM (Aug. 14, 2022), https://news.bitcoin.com/another-stablecoin-depegs-from-usd-parity-polkadot-based-ausd-loses-98-in-value/ [https://perma.cc/A7T8-JCBA] ("2022 has been the year of broken stablecoins as a myriad of dollar-pegged crypto assets depegged from their dollar value this year. On August 14, the Polkadot-based stablecoin alpaca usd (AUSD) dropped below a U.S. penny in value . . . ."); Rahul Nambiampurath, *HUSD Stablecoin Depegs Again Following Huobi Delisting HUSD Trading Pairs*, BE IN CRYPTO (Oct. 11, 2022), https://beincrypto.com/husd-stablecoin-depegs-huobi-delisting-husd-trading-pairs/ [https://perma.cc/79TV-ABD6] ("The HUSD stablecoin has depegged to $0.96 and is yet to recover its dollar parity after the Huobi exchange recently announced that it would delist HUSD trading pairs. . . ."); Marvelous Akpere, *Waves-backed stablecoin USDN depeg for the fourth time in 2022*, CRYPTO TV PLUS (Aug. 26, 2022), https://cryptotvplus.com/2022/08/usdn-depeg-again-for-the-fourth-time/ [https://perma.cc/N4LY-Z5YL] ("Waves-backed stablecoin USDN has depegged for the fourth time in the year. Following the market crash of Terra's stablecoin, UST, there have been several stablecoins that have lost their pegs. Stablecoins such as DEI ($0.70), USDD ($0.96), aUSD ($0.009) etc. HUSD was the recent stablecoin to depeg after falling to $0.92. . . . The Neutrino Dollar had in April fallen to as low as $0.78.").

[31] Arthur E. Wilmarth, *It's Time to Regulate Stablecoins as Deposits and Require Their Issuers to Be FDIC-Insured Banks*, 41 BANKING & FIN. SERVS. POL'Y REPT. No. 2 (Feb. 2022), at 3–4 ("Congress should adopt legislation mandating that all issuers and distributors of stablecoins must be FDIC-insured banks."). *See also* PWG Report, *supra* note 8, at 2, 16 ("To address risks to stablecoin users and guard against stablecoin runs, legislation should require stablecoin issuers to be insured depository institutions . . . .").

settlement]" blockchain-based payments.[32] A third would entirely prohibit banks and their holding companies from issuing stablecoins, as providing stablecoins with "confidence and legitimacy . . . may counterproductively make runs more likely" and "turbocharge the growth of [systemically risky] DeFi."[33] A fourth would allow both banks and commercial enterprises to issue stablecoins and provide them with deposit insurance since "[s]upporting bank and non-bank innovations in the payment system is key to long-range competitiveness and broad optionality for how dollars move in the 21st century."[34] A fifth would permit banks and nonbank financial

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[32] Michael J. Hsu, Acting Comptroller of the Currency, Thoughts on the Architecture of Stablecoins (Apr. 8, 2022), https://occ.treas.gov/news-issuances/speeches/2022/pub-speech-2022-37.pdf, at 8 ("One way to mitigate ["intraday liquidity risk"] and other blockchain-specific risks would be to require that blockchain-based activities, such as stablecoin issuance, be conducted in a standalone bank-chartered entity, separate from any other insured depository institution (IDI) subsidiary and other regulated affiliates."). *See also* Howell E. Jackson et al., *How We Can Regulate Stablecoins Now — Without Congressional Action*, Brookings (Aug. 2022), https://www.brookings.edu/wp-content/uploads/2022/08/WP76-Massad-et-al_v4.pdf (proposing that stablecoin issuers be OCC-chartered trust companies).

[33] *Stablecoins: How Do They Work, How Are They Used, and What Are Their Risks?: Hearing Before the Senate Comm. on Banking, Housing, and Urban Affairs* (2021) (prepared statement of Hilary J. Allen, Professor, American University Washington College of Law), https://www.banking.senate.gov/imo/media/doc/Allen%20Testimony%2012-14-211.pdf, at 2, 18 ("If lawmakers and regulators treat stablecoins as regulated banking products, that will lend legitimacy to and inspire confidence in stablecoins in a way that is likely to turbocharge the growth of DeFi. . . . Congress should consider whether banning stablecoins is appropriate").

[34] *Gottheimer Announces "Stablecoin Innovation and Protection Act," Critical New Cryptocurrency Legislation*, JOSH GOTTHEIMER (Feb. 15, 2022), https://gottheimer.house.gov/posts/release-gottheimer-announces-stablecoin-innovation-and-protection-act-critical-new-cryptocurrency-legislation; *see also* Stablecoin Innovation and Protection Act Discussion Draft, at 3, 5, https://d12t4t5x3vyizu.cloudfront.net/gottheimer.house.indigov.us/uploads/2022/03/dd._stablecoin_innovation_and_protection_act_of_2022.pdf ("Any person, other than an insured depository institution, may elect to become a nonbank qualified stablecoin issuer . . . A nonbank qualified stablecoin issuer shall participate in the nonbank qualified stablecoin issuer insurance

institutions to issue stablecoins under the supervision and regulation of the banking agencies, without deposit insurance but with access to the Federal Reserve's discount window.[35]

One potential method for addressing stablecoin runs is to ensure stablecoins' value—essentially, insuring the deposits made to stablecoin issuers such that stablecoins can always be redeemed at par from the issuers or the government.[36] Although there are clear differences between bank deposits and stablecoins[37] and because FDIC deposit insurance is largely inapplicable to stablecoins, there is demand for private sector and government-provided stablecoin insurance. Following UST's collapse, recent articles have argued that "[c]rypto customers need FDIC protection"[38] and that "[p]ermitting

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program established under section 52 of the Federal Deposit Insurance Act.").

[35] *See* Discussion Draft: A bill to provide requirements for payment stablecoin issuers, research on a digital dollar, and for other purposes, https://docs.house.gov/meetings/BA/BA21/20230419/115753/BILLS-118pih-Toprovide requirementsforpaymentstablecoinissuersresearchonadigitaldollarandforotherpurposes.pdf.

[36] *See* Part III*, infra* (discussing the ways to ensure stablecoins).

[37] Deposits are account-based instruments held on the balance sheets of depository institutions. Broadly, when a payment is made using bank deposits, the payer's account on Bank A's ledger is debited, the payee's account on Bank B's ledger is credited, and Bank A transfers $10 from its reserves to Bank B. This process occurs whenever one writes a check, swipes a debit card, or conducts an automated clearing house (ACH) transaction. *See* PWG Report, *supra* note 8, at 4 ("A demand deposit held at an insured depository institution is a claim on the issuing bank that provides the depositor with the right to receive U.S. dollars upon request"). Stablecoins are token-based instruments stored in users' crypto wallets and redeemable for fiat from their issuers. When a payment is made using stablecoins, tokens are effectively transferred from the payer's wallet to the payee's. *See* PWG Report, *supra* note 8, at 4–7 ("Stablecoin arrangements typically facilitate the transfer of coins between or among users of the stablecoin arrangement, by having issuers and other participants record the transfer either "on the books" of the wallet provider (for transactions between users of the same wallet provider) or on the distributed ledger (for transactions involving users of different wallets).").

[38] Robert Stevens, *Crypto customers need FDIC protection. Will they ever get it?*, FORTUNE (Aug. 2, 2022), https://fortune.com/crypto/2022/08/02/crypto-customers-need-fdic-protection-will-they-ever-get-it/.

non-bank issuers to forgo deposit insurance [would be] dangerous."[39] After USDC broke the buck, the crypto protocol Etherisc developed a crypto-based insurance scheme for when USDC falls below $1.[40] Former FDIC Chair Sheila Bair has argued that "stablecoins . . . are anything but stable" and are in need of bank-like regulation.[41] Recognizing this, the FDIC has reportedly studied "whether certain stablecoins might be eligible for its coverage."[42]

The FDIC could provide insurance to bank-issued stablecoins through two means: insuring stablecoins themselves as deposits in bank accounts and insuring against stablecoins' collapse of value. As this article observes, the first does not achieve the goals of providing insurance and the second is largely impermissible under current law and difficult to operationalize. Non-bank-issued stablecoins may receive pass-through deposit insurance when assets backing the tokens are deposited with banks (as were USDC's), though this raises operational and policy concerns.

Further, even if FDIC insurance *can* be provided to stablecoins, questions remain as to whether a government subsidy *should* be provided. Today, "stablecoins are primarily used to facilitate trading, lending, or borrowing of other digital assets," rather than facilitating payments in the real economy.[43] And the

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[39] Timi Iwayemi, *Proposed Stablecoin Legislation Is Worse Than Nothing*, AM. PROSPECT (Aug. 4, 2022), https://prospect.org/economy/proposed-stablecoin-legislation-is-worse-than-nothing/.

[40] *See Etherisc Launches USDC Stablecoin Depeg Protection Cover Powered by Chainlink*, PR NEWSWIRE (Apr. 27, 2023), https://www.prnewswire.com/news-releases/etherisc-launches-usdc-stablecoin-depeg-protection-cover-powered-by-chainlink-301809570.html ("As a peer-to-peer parametric product, customers receive automatic payouts should the price of the USDC stablecoin fall below its $1 USD pegged value by 0.5% for a period longer than 24 hours.").

[41] Sheila Bair & Gaurav Vasisht, *Stablecoins Are Anything But Stable*, BARRON'S (Sept. 21, 2021), https://www.barrons.com/articles/stablecoins-are-anything-but-stable-51632165895.

[42] Nate DiCamillo, *US FDIC Said to Be Studying Deposit Insurance for Stablecoins*, COINDESK (Oct 6, 2021), https://www.coindesk.com/policy/2021/10/06/us-fdic-said-to-be-studying-deposit-insurance-for-stablecoins/ [https://perma.cc/4VLJ-FBMK].

[43] THE FUTURE OF MONEY AND PAYMENTS: REPORT PURSUANT TO SECTION 4(B) OF EXECUTIVE ORDER 14067, U.S. DEPT. OF THE TREASURY (Sept. 2022),

decentralized blockchains that facilitate stablecoin transactions may be more inefficient and problematic than current payments rails: Among other concerns, they are fragmented, pose systemic risk concerns, and may be used to ignore anti-money laundering laws.

The only means for effectively providing FDIC insurance to stablecoins and avoiding the downsides of decentralized blockchains is through tokenized deposit stablecoins (TDS), which are digital representations of traditional bank deposits that can be transferred on a blockchain.[44] TDS are superior to other stablecoins in that they "provid[e] for the rapid settlement, low-cost structure and programmability of a stablecoin but with the regulation and protection of a bank deposit.[45]

Some traditional financial institutions have already begun experimenting with TDS. JPMorgan Chase famously use its proprietary "JPM Coin" on its own blockchain for "wholesale payments transactions" between the banks' divisions and clients,[46] and recently completed a first-of-its-kind transfer of TDS on a public blockchain. Similarly, the USDF Consortium created the USDF stablecoin, which is a "bank-minted tokenized deposit" issued by the

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https://home.treasury.gov/system/files/136/Future-of-Money-and-Payments.pdf, at 17.

[44] *See* Ashley Harris, *Banks Can Bring Stability to the Stablecoin Market*, AM. BANKER (May 23, 2022), https://www.americanbanker.com/opinion/banks-can-bring-stability-to-the-stablecoin-market ("Tokenized deposits . . . are the digital representation of existing liabilities — demand deposit claims — that a bank has on its balance sheet.").

[45] *Id*.; *but see* Rod Garratt et al., *The Future of Payments Is Not Stablecoins*, FEDERAL RESERVE BANK OF N.Y. (Feb. 7, 2022), https://libertystreeteconomics.newyorkfed.org/2022/02/the-future-of-payments-is-not-stablecoins/ (describing tokenized deposits as a "better type of money" than other existing stablecoins offerings).

[46] Onyx Coin Systems Product Team, ONYX BY J.P. MORGAN CHASE, https://www.jpmorgan.com/onyx/coin-system.htm; *see* Ornella Hernandez & Ben Strack, *JPMorgan Trade on Public Blockchain "Monumental Step" for DeFi,* BLOCKWORKS (Nov. 2, 2022, 2:54 PM), https://blockworks.co/news/jpmorgan-trade-on-public-blockchain-monumental-step-for-defi ("JPMorgan has used the Polygon blockchain to trade tokenized cash deposits—the latest instance of banks moving into DeFi markets.").

USDF Consortium's member banks and which "represent[] a deposit at a USDF Consortium bank."[47]

[47] Provenance Blockchain Foundation, *What is USDF?*, MEDIUM (Apr. 22, 2022), https://medium.com/provenanceblockchain/what-is-usdf-cf08a4629c27.

This article examines the importance of government-provided deposit insurance, the law governing FDIC insurance, and the potential policy challenges posed by using stablecoins for payments to evaluate the prudence of insuring stablecoins and possibility of doing so under the Federal Deposit Insurance Act (FDIA). Part II explains the economic theory behind and importance of deposit insurance and why uninsured stablecoins should be prohibited. Part III discusses the application of FDIC insurance to stablecoins and concludes that most stablecoins should not or cannot be insured. This Part examines the FDIA's requirements for deposit insurance to find that it may only be provided to debts owed to customer accounts. It next divides the potential for insuring stablecoins into two separate concepts—insuring stablecoins that are deposited in bank accounts and insuring stablecoins issued by banks—and concludes that the former does not meet the policy goals of FDIC insurance, and while the latter would, doing so is likely impermissible under the FDIA and impractical given existing blockchain technology. This Part also discusses the problems with providing pass-through insurance to nonbank-issued stablecoins. Part IV discusses the many problems that using traditional stablecoins for payments would pose. Part V argues that only tokenized deposit stablecoins traded on private blockchains may be effectively provided deposit insurance, sidestep the operational challenges posed by providing insurance to other stablecoins, and avoid the problems of traditional stablecoins. This article concludes by noting that, although tokenized deposit stablecoins are the best kind of stablecoin for payments, they do not appear to be better than other existing payment systems.

II. *The Need to Insure Stablecoins*

A. **Benefits and Risks of Maturity Transformation in Stable-Value Assets and the Importance of Deposit Insurance**

Banks and similar nonbank financial intermediaries (frequently called shadow banks) perform a crucial economic function. At their simplest, these institutions borrow from people and institutions that don't immediately need cash on hand and make loans

or those who do.[48] While bank loans are generally medium to long term (e.g., a five-year business loan, a 30-year mortgage), deposits generally can be withdrawn at a moment's notice. Similarly, fixed-net asset value (fixed-NAV) MMMFs are investment companies that use shareholder equity to purchase longer-dated debt securities but allow shares to be redeemed at par at will.[49] The process of creating long-term funding from shorter-term financing is known as maturity transformation. When combined with pledges that the short-term asset can be redeemed immediately at par, the maturity transformation offered by banking provides significant benefits.

The maturity transformation performed by banks allows households and businesses to maintain liquid savings while permitting those assets to be used productively in the real economy.[50] Whereas depositors may desire liquid and stable assets with which to make unexpected payments, requiring those assets to be available at all times is inefficient.[51] Rather than sitting in vault waiting for such

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[48] *See* Jeanne Gobat, *Banks: At the Heart of the Matter*, INT'L MONETARY FUND, https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Banks ("Although banks do many things, their primary role is to take in funds—called deposits—from those with money, pool them, and lend them to those who need funds. Banks are intermediaries between depositors (who lend money to the bank) and borrowers (to whom the bank lends money.").

[49] *See* Hester Peirce & Robert Greene, *Opening the Gate to Money Market Fund Reform*, 34 PACE L. REV. 1093, 1093–94 (2014) (describing MMMFs).

[50] *See* DOUGLAS J. ELLIOTT, BROOKINGS, BANK LIQUIDITY REQUIREMENTS: AN INTRODUCTION AND OVERVIEW 3 (2014), https://www.brookings.edu/wp-content/uploads/2016/06/23_bank_liquidity_requirements_intro_overview_elliott.pdf ("Maturity transformation is useful because households and businesses often have a strong preference for a substantial degree of liquidity, yet much of the useful activity in the economy requires assured funding for multiple years.").

[51] *See id*. (explaining that although "[d]emand deposits can theoretically all be withdrawn in a single day," in reality, "households and firms seldom take advantage of the liquidity they have obtained"). *See also* William C. Dudley, More Lessons from the Crisis, Remarks at the Center for Economic Policy Studies (CEPS) Symposium, Princeton, New Jersey (Nov. 13, 2009), https://www.newyorkfed.org/newsevents/speeches/2009/dud091113.html ("The need for maturity transformation arises from the fact that the preferred habitat of borrowers tends toward longer-term maturities used to finance long-lived assets such as a house or a manufacturing plant, compared with the preferred habitat of investors, who generally have a preference to be able to access their funds quickly.").

time as it may be spent, cash is lent out to borrowers or debt issuers.[52] According to the most recent data, FDIC-insured institutions maintain almost $19.5 trillion in total deposits with which, in addition to shareholder capital and other assets, they have made more than $11.5 trillion in loans and made almost $6 trillion in securities investments.[53] U.S. MMMFs have issued shares of more than $5 trillion.[54]Additionally, banks permit savers to gain yield while keeping their savings secure and liquid. Rather than storing cash in shoeboxes or personal safes or paying institutions to store cash in their own vaults, the interest earned from deposits or MMMF shares allows depositors and shareholders to grow their wealth. According to recent data, the national average savings account APY is 0.37 percent, and the average retail prime MMMF net yield is 2.91 percent.[55] Despite its importance, maturity transformation is inherently risky.[56] Banks must make decisions about borrowers' creditworthiness, earn sufficient returns to provide depositors with yield, and maintain sufficient reserves as necessary to meet

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[52] *See* ELLIOTT, *supra* note 49 at 3 ("Banks square this circle by relying on the fact that households and firms seldom take advantage of the liquidity they have obtained. . . . Therefore, banks can lend out the funds for longer periods with a fair degree of assurance that the deposits will remain available.").

[53] *Quarterly Banking Profile: Third Quarter 2022*, 16 FDIC QUARTERLY 9 (2022) (listing $19.36 trillion in total deposits, $11.82 trillion in net loans, and $5.92 trillion in securities).

[54] SEC, DIVISION OF INVESTMENT MANAGEMENT ANALYTICS OFFICE, MONEY MARKET FUND STATISTICS 1 (2022), https://www.sec.gov/files/mmf-statistics-2022-09.pdf (listing a total of $5.096 trillion in MMMF net assets in September 2022).

[55] BANKERS RESOURCE CENTER, NATIONAL RATES AND RATE CAPS, FDIC, https://www.fdic.gov/resources/bankers/national-rates/index.html (last visited Apr. 2, 2023) [https://perma.cc/SK86-AWKW] (sourcing data from S&P Capital IQ Pro and SNL Financial Data); SEC, *supra* note 26, at 2 (listing data from Form N-MFP Data filings received through October 18, 2022, for the period ending September 2022, from filings received through October 18, 2022).

[56] *See* ELLIOTT, *supra* note 49, at 3–4 (noting that banks are "prone to runs" because "sometimes depositors lose confidence in a bank," triggering a liquidity crisis).

redemption requests.[57] When all goes well, banks profit and contribute to a growing economy.

However, when things go poorly, banks can run.[58] From the perspective of depositors, institutions' loans are "opaque," as they rely on the institutions to "evaluate[] and monitor[]" borrowers' creditworthiness.[59] The maturity transformation process requires that banks do not have sufficient cash on hand to meet all requests if all depositors withdraw at the same time.[60] Combined with the promise to redeem deposits at par and the fact that liquidating loans prior to maturity to meet redemption requests can result in losses,[61] this creates a "first-mover" advantage for those who withdraw their short-term collateral while reserves are still available.[62] "First movers" are made whole while later redemptions are made with haircuts.[63] Accordingly, skittish uninsured borrowers can withdraw their deposits at the earliest sign that their depository institution may face losses, resulting in a run.[64] Even otherwise healthy banks can fail if depositors fear that their savings are at risk.[65]

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[57] George G. Pennacchi, *Deposit Insurance Reform*, *in Public Insurance and Private Markets* 21, 22 (Jeffrey R. Brown, ed., 2010) ("A bank's ability to create liquid transactions deposits can break down if its capital declines and default risk rises.").

[58] *Id.* at 24 ("Bank runs occur if individuals decide to withdraw their deposits en masse in an attempt to avoid individually suffering losses should the bank need to liquidate its loans.")

[59] *Id.* at 22 ("another role for banks is to efficiently lend to 'opaque' firms and individuals: those borrowers whose creditworthiness needs to be evaluated and monitored in order to avoid excessive defaults.").

[60] *See* ELLIOT, *supra* note 49, at 3 ("[N]o bank that engages in a normal level of maturity transformation can survive a bank run unaided.").

[61] *See* Pennacchi, *supra* note 56, at 22–23 ("If a bank needs to sell such loans prior to maturity, value can be lost by liquidating them" because "loan buyers suspect that a bank is selling its worst-quality loans").

[62] *See id.* at 22 (observing that individuals participating in bank runs try to avoid suffering losses once the bank runs out of short-term capital).

[63] *See id.* ("Bank runs occur if individuals decide to withdraw their deposits en masse in an attempt to avoid individually suffering losses should the bank need to liquidate its loans").

[64] *See* Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401, 401 (1983) ("In fact, the sudden withdrawals can force the bank to liquidate many of its assets at a loss and to fail.").

[65] *See id.* at 402 ("[B]ank runs can cause real economic problems because even 'healthy' banks can fail . . . .").

Deposit insurance is one of the key means by which governments ensure that banks' maturity transformation continues to benefit the economy while thwarting bank runs, preventing contagion (wherein a run on one bank spreads to otherwise healthy banks), and ensuring the safety and soundness of depository institutions and their customers' assets.[66] This is the first primary rationale for deposit insurance. With deposit insurance, insurers will reimburse depositors for lost deposits if their banks fail.[67] "[D]eposit insurance prevents runs because, for all possible anticipated withdrawal policies of other [depositors], it never pays to participate in a bank run" and "[a]s a result, no strategic issues of confidence arise."[68] Stopping runs before they start can also help prevent systemic contagion effects.[69] Accordingly, one study found that "deposit insurance . . . had positive stabilization effects during the recent global financial crisis."[70]

The second primary rationale for deposit insurance is that it allows unsophisticated individuals to easily use banks to save for the future without regard to credit risk.[71] Without deposit insurance, "to determine which bank to use, the depositor must assume the role of a security analyst and analyze the balance sheets of the bank, its management, and overall market conditions to determine the risks," and "[e]ven if such analyses are performed, it would be prudent for the depositor to diversify his holdings across many banks."[72] Accordingly, insured banks are a vehicle by which unsophisticated investors are able to provide capital to the broader economy and deposit insurance can increase the amount of deposits available to be

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[66] *See id.* at 407 ("Government deposit insurance can improve on the best allocations that private markets provide.").]

[67] *See id.* at 413 (explaining how government deposit insurance can stop bank runs).

[68] *Id*. at 415.

[69] *See* Kam Hon Chu, *Deposit Insurance and Banking Stability*, 31 CATO J. 99, 100 (2011) ("On the surface, these measures of higher or full deposit insurance coverage have succeeded in containing bank runs, at least temporarily.").

[70] Deniz Anginer, et al., *How Does Deposit Insurance Affect Bank Risk? Evidence from the Recent Crisis*, 48 J. BANKING & FIN. 312, 313 (2014).

[71] *See id.* ("Deposit insurance protects the interests of unsophisticated depositors and helps prevent bank runs which can improve social welfare.")

[72] Robert C. Merton, *An Analytic Derivation of the Cost of Deposit Insurance and Loan Guarantees*, 1 J. BANKING & FIN. 3, 3 (1977).

lent.[73] And not only is it more efficient to have one entity evaluating the health of depository institutions and guaranteeing deposits (e.g., the government deposit insurer) than requiring the thousands or millions of individual savers to do due diligence, but these individual savers lack the ability and capacity to do so.[74] Relatedly, deposit insurance allows transaction accounts to be both an investment vehicle and a liquid transaction account for these depositors.[75]

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[73] *See generally* Alan D. Morrison & Lucy White, *Deposit Insurance and Subsidized Recapitalizations*, 35 J. BANKING & FIN. 3400 (2011) (arguing that general taxation to fund deposit insurance maximizes incentive to make deposits while minimizing adverse selection and moral hazard). However, because insurance ceilings can be low enough to exclude from insurance schemes the deposits of unsophisticated individuals, ceiling increases are frequently explained as a means for ensuring the public's confidence in the banking system, and experience demonstrates that overall bank deposits increase following account ceiling increases. *See generally* Christine M. Bradley, *A Historical Perspective on Deposit Insurance Coverage*, 13 FDIC BANKING REV. 1 (2000) (recounting that Banking Act of 1933 capped guaranteed amount at $2,500, which led to benefits for small banks and depositors and strengthened public confidence). *See also* Lucy Chernykh & Rebel A. Cole, *Does Deposit Insurance Improve Financial Intermediation? Evidence From the Russian Experiment*, 35 J. BANKING & FIN. 388 (2011) ("find[ing] that banks entering the new [Russian] deposit-insurance system increase both their level of retail deposits and their ratios of retail deposits to total assets relative to banks that do not enter the new deposit insurance system").

[74] *See* R. Mark Williamson, *Regulatory Theory and Deposit Insurance Reform*, 42 CLEV. ST. L. REV. 105, 115 (1994) ("Depositors will have great difficulty determining whether a bank's portfolio actually contains the degree of risk for which they are bargaining. Depositors might try to bargain with institutions for the level of risk they desire: If depositors want a risk-free investment, they will accept a risk-free rate of return. However, they might find that after the transaction is complete, they have absolutely no idea whether the investment sold to them truly contains the level of risk it has been represented to contain. Furthermore, even if the portfolio could be effectively assessed before the depositor and bank contract for a particular rate of return, without ongoing monitoring, the bank will have strong incentives to remove shareholder capital or increase the riskiness of the portfolio.").

[75] *See* Gary Gorton & George Pennacchi, *Financial Intermediaries and Liquidity Creation*, 45 J. FIN. 49, 65 (1990) (demonstrating that the combination of banks and deposit insurance "provide[s] a riskless transactions medium that eliminates the need of uninformed agents to trade in assets whose returns are known by better informed agents").

Deposit insurance is especially important given that only 58% of households reportedly invest in securities,[76] whereas 95.5% of households reportedly have a checking or savings account.[77] The federal government has made clear that incentivizing Americans to save for the future is beneficial public policy; for example, the government subsidizes retirement investments through tax-deferred 401(k) plans and individual retirement accounts and educational investments through tax-deferred 529 plans. However, because the numbers show that Americans are more likely to use a bank account than a brokerage account, it is important to subsidize those investments as well. Importantly, households are not the institutions that can bring market discipline to bear on institutions, but they will face difficulty later in life if their savings disappear when healthy banks run or unhealthy banks collapse.

Deposit insurance can create moral hazard on the part of bankers; institutions may extend loans to unduly risky borrowers that they would not make with their own capital because insured depositors have little incentive to police the risks that bankers take or demand appropriate compensation for those risks. Banks reap the rewards of risky yet profitable loans, while the deposit insurer bears most of the losses if the loans fail. Because of this moral hazard and lack of market discipline, some argue that deposit insurance is more harmful to banking systems than not.[78]

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[76] *See* Lydia Saad & Jeffrey M. Jones, *What Percentage of Americans Owns Stock?*, GALLUP (May 12, 2022), https://news.gallup.com/poll/266807/percentage-americans-owns-stock.aspx [https://perma.cc/LR55-E5BX] ("Gallup finds 58% of Americans reporting that they own stock, based on its April Economy and Personal Finance survey.").

[77] *2021 FDIC National Survey of Unbanked and Underbanked Households*, FDIC (Nov. 14, 2022), https://www.fdic.gov/analysis/household-survey/. ("An estimated 4.5 percent of U.S. households (approximately 5.9 million) were 'unbanked' in 2021, meaning that no one in the household had a checking or savings account at a bank or credit union.").

[78] *See* Deniz Anginer et al., *How Does Deposit Insurance Affect Bank Risk? Evidence from the Recent Crisis*, 48 J. BANK. & FIN. 312, 312–13 (2014) ("We find that generous financial safety nets increase bank risk and reduce systemic stability in non-crisis years. However, bank risk is lower and systemic stability is greater during the global financial crisis in countries with deposit insurance coverage. Nevertheless, the overall effect of deposit insurance . . . remains negative since the destabilizing effect during normal times is greater in magnitude compared to the stabilizing effect during

There are ways to mitigate this moral hazard. Evidence demonstrates "that discipline can be maintained and even intensified in systems that impose appropriate combinations of loss-sharing rules, risk-sensitive premiums, and coverage limits," as well as other prudential regulatory measures.[79] For example, in order to permit unsophisticated depositors to easily utilize the banking system for savings and payments while requiring larger depositors to conduct the due diligence necessary for market discipline, many of the world's deposit insurance programs have account ceilings, which provide that insurance will not cover deposits above that amount.[80] Requirements to provide operational disclosures to the public may help depositors, deposit brokers, and capital markets investors accurately assess risks. Similarly, risk-based deposit insurance premiums (including increased premiums on the largest and most

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global turbulence"). *See also* Erlend Nier & Ursel Baumann, *Market discipline, Disclosure and Moral Hazard in Banking*, 15 J. FIN. INTERMED. 332 (2006) (finding that, with deposit insurance, moral hazard exists and that market discipline plays a role in mitigating banks' risk of insolvency); John D. Wagster, *Wealth and risk effects of adopting deposit insurance in Canada: evidence of risk shifting by banks and trust companies*, 39 J. MONEY CREDIT BANK. 1651, 1651 (2007) (concluding that "adopting explicit deposit insurance expanded risk-shifting incentives for Canadian Banks and Trust Companies"); Vasso P. Ioannidou & Maria Fabiana Penas, *Deposit insurance and bank risk-taking: evidence from internal loan ratings*, 19 J. FIN. INTERMED. 95, 95 (2010) (analyzing "the effect of deposit insurance on the risk-taking behavior of banks in the context of a quasi-natural experiment using detailed credit registry data" in Bolivia); Xing Yan et al., *Market discipline and deposit guarantee: evidence from Australian banks*, 14 INT. REV. FIN. 431, 431 (2014) (Examining "depositor market discipline of Australian banks and its interaction with the 2008 deposit and wholesale funding guarantee."); Chernykh & Cole, *supra* note 72, at 388 ("find[ing] strong evidence of moral hazard following implementation of deposit insurance in the form of increased bank risk-taking").

[79] Armen Hovakimian et al., *How Country and Safety-Net Characteristics Affect Bank Risk-Shifting*, 23 J. FIN. SERV. RES. 177, 202–03 (2003).

[80] *See* The World Bank, 2019 Bank Regulation and Supervision Survey, https://www.worldbank.org/en/research/brief/BRSS (noting that 95 of the world's 115 deposit insurance systems have some form of ceiling); Asli Demirguc-Kunt & Enrica Detragiache, *Does deposit insurance increase banking system stability? An empirical investigation*, 49 J. MONETARY ECON. 1373, 1373 (finding that "the adverse impact of deposit insurance on bank stability tends to be stronger the more extensive is the coverage offered to depositors").

systemically-important banks) means that depository institutions with riskier activities will pay more for coverage than banks with safer activities, creating an incentive to make less-risky loans.[81] Capital and liquidity requirements require that banks' owners are in a first-loss position in the case that loans go south and that banks have adequate cash on hand to pay depositors asking for their cash back.[82] Finally, prudential supervision can help ensure banks are being prudent with their investments.[83] Deposit insurers are wise to regulate and supervise insured institutions to limit their activities to only those that would otherwise be made with shareholder capital.[84]

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[81] *See* Aida Barkauskaite et al., *Measurement of Systemic Risk in a Common European Union Risk-Based Deposit Insurance System: Formal Necessity or Value-Adding Process?*, 6 RISKS 137 (2018) (finding that "the introduction of a risk-based deposit insurance system would redistribute payments to the deposit insurance fund between banks [and] would contribute to a reduction in the negative effects of the deposit insurance system and would improve the stability in the financial system"); Hovakimian et al, *supra* note 78, at 203 (finding that "risk-sensitive deposit insurance premiums" "temper" moral hazard); Acharya et al., *Systemic Risk and Deposit Insurance Premiums*, 16 FRBNY ECON. POL'Y REV. 89, 89 (2010) ("the actuarially fair deposit insurance premium . . . should not only increase in relation to individual bank failure risk but also in relation to joint bank failure risk").

[82] *See* Elijah Brewer III, *The Impact of Deposit Insurance on S&L Shareholders' Risk/Return Trade-offs*, 9 J. FIN. SERV. RES. 65, 65 (1995) ("poorly capitalized S&Ls have used these assets to increase the volatility of the asset portfolio, in turn raising the value of deposit insurance and the value of shareholders' equity"); Claudia Lambert et al., *How do insured deposits affect bank risk? Evidence from the 2008 Emergency Economic Stabilization Act*, 29 J. FIN. INTERMEDIATION 81, 82 (2017) (finding that "increased risk-taking is specifically exercised by affected banks that are relatively low capitalized, and not by relatively high capitalized banks").

[83] *See* Robert J. Cull et al., *Deposit Insurance and Financial Development*, 37 J. MONEY CREDIT & BANKING 43, 43 (2005) (observing that supervision can reduce the risk of bank failures in countries "where the rule of law is well established and bank supervisors are granted sufficient discretion and independence from legal reprisals"); Demirguc-Kunt & Kane, *supra* note 79, at 192 ("Providing strong incentives for private parties to remain vigilant is critically important in weak contracting environments where private monitoring must overcome weaknesses in official supervision").

[84] *See, e.g.*, Michael C. Keeley, *Deposit Insurance, Risk, and Market Power in Banking*, 80 AM. ECON. REV. 1183, 1183 (1990) (finding that "[a] fixed-rate deposit insurance system provides a moral hazard for excessive risk taking and is not viable absent regulation"); Asli Demirguc-Kunt &

Without these protections, deposit insurance schemes may cause moral hazard and redirect capital to bank shareholders rather than to the capital markets.[85] But with them, deposit insurance can be an effective way to help depositors save for the future, circulate depositor savings to borrowers, and ensure financial stability.

B. Uninsured, Unregulated Stablecoins Should Be Prohibited

Despite the benefits that insurance would provide to any asset that promises a stable value but is backed by maturity-transformed assets, such as balances at many nonbank money transmitters[86] and fixed-NAV MMMF shares, deposit insurance only insures bank deposits. There is good reason to prohibit such assets from existing without both insurance and prudential supervision, and these rationales similarly apply to stablecoins.[87]

Edward J. Kane, *Deposit Insurance Around the Globe: Where Does It Work?*, 16 J. ECON. PERSP. 175, 192 (2002) ("In institutionally weak environments, it is hard to design deposit insurance arrangements that will not increase the probability and depth of future banking crises.").

[85] *See* Charles W. Calomiris & Matthew Jaremski, *Deposit Insurance: Theories and Facts*, 8 ANN. REV. OF FIN. ECON. 97 (2016) ("[I]t may be that deposit insurance is employed as part of a government effort to redirect credit to favored borrowers . . . thus crowding out high-productivity investments.").

[86] *See, e.g.*, Press Release, PayPal, Third Quarter 2022 Results 13, https://s201.q4cdn.com/231198771/files/doc_financials/2022/q3/PYPL-Q3-22-Earnings-Release.pdf (providing that PayPal "earn[s] revenues from interest and fees earned on our portfolio of loans receivable and interest earned on certain assets underlying customer balances," meaning there is some lending that occurs with customer assets).

[87] *See* MORGAN RICKS, THE MONEY PROBLEM: RETHINKING FINANCIAL REGULATION (2016) (arguing for a proposed blueprint for revamping money and banking framework that is focused on modern financial stability policy); Robert C. Hockett & Saule T. Omarova, *The Finance Franchise*, 102 CORNELL L. REV. 1143, 1215 (2017) ("In order to restore the proper mode of interaction between finance and real economic enterprise, the currently absentee-franchisor must reassert its leadership with respect to both (1) the generation and modulation of credit; and (2) the allocation of that credit to productive activities. In other words, the franchisor must proactively counteract and minimize the closely related evils of over-extension and misallocation of credit by private profit-driven

Two points must be made about stablecoins to justify this claim. First, stablecoins must be stores of value (i.e., their value must be fixed) for them to be used as a means of payment. If stablecoins' values float, purchasers may be unwilling to part with them for fear that they may soon increase in value and sellers may be unwilling to receive them for fear that they may soon decrease in value, leaving one party to the transaction worse off. Whether used to purchase other crypto assets (as they largely are now)[88] or for payments within the real economy (as advocates propose), stablecoins' values must not fluctuate. Importantly, the only way that stablecoins would be useful with floating values is if they were held as investments or simply places to park cash until needed (as are bank savings accounts and MMMFs). However, because most stablecoins do not provide yield,[89] holding them as investments or bank account and MMMF replacements would be unwarranted.

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franchisees."); Dan Awrey, *Bad Money*, 106 CORNELL L. REV. 1, 4–6 (2020) (providing justification for bank regulation of cash-like assets); Art Wilmarth, *supra* note 30 ("That requirement would compel all stablecoin issuers and distributors and their parent companies to comply with federal laws that protect the safety, soundness, and stability of our banking system and obligate banks to operate in a manner consistent with the public interest.").

[88] Garth Baughman et al., *The stable in stablecoins*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Dec. 16, 2022), https://www.federalreserve.gov/econres/notes/feds-notes/the-stable-in-stablecoins-20221216.html ("Stablecoins' primary role is to provide media of exchange – means of payment – within the digital asset ecosystem").

[89] *See* Jake Simmons, *How to earn a yield using stablecoins*, CRYPTO NEWS FLASH (Feb. 18, 2021), https://www.crypto-news-flash.com/how-to-earn-a-yield-using-stablecoins/ ("Though stablecoins . . . are popular, they don't provide a direct yield for users. Instead, if you're looking to turn a yield with these assets, you'll need to invest them in another platform, and risk them potentially suffering a security breach or being lost . . . .") Nevertheless, it is possible for stablecoins to provide yield without lending the tokens. *See, e.g.*, Andy Choi, Getty Hill & Eddy Lee, *Interest Protocol: Fractional Reserve Banking in Decentralized Finance* 1 (June 2022), https://interestprotocol.io/#/whitepaper (last visited Mar. 31, 2023) ("Interest Protocol is the first fractional reserve banking protocol on the Ethereum blockchain that pays interest to all depositors. Interest Protocol issues a stablecoin, named USDi . . . . USDi holders automatically earn yield without having to stake . . . .").

Second, nearly all stablecoin designs are subject to run, including all currently permitted by U.S. law and regulators. All existing collateralized stablecoin issuers engage in some form of maturity transformation, in that they hold debt securities (e.g., government bonds, commercial paper, other loans)[90] that may result in losses when sold quickly, and/or have placed cash with commercial banks that themselves engage in maturity transformation.[91] Similarly, although algorithmic stablecoins do not technically engage in maturity transformation, the end result is the same: If holders believe that their stablecoins or the value of the assets backing the stablecoins (i.e., the unstable affiliated tokens) will not keep their values if sold quickly, they are incentivized to redeem their stablecoins before the stablecoins or their affiliated tokens are worthless.[92] The only stablecoin arrangement that would not run would be stablecoins fully backed by Federal Reserve deposits; however, although only banks may have Fed accounts,[93] regulators are not letting them issue stablecoins.[94]

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[90] *See, e.g.*, Steven Ehrlich & Nina Bambysheva, *Inside Tether, Crypto's (So Far) Unbreakable Buck*, Forbes (Dec. 21, 2022) (describing the Tether stablecoin's collateral as including "crypto tokens, loans, and other illiquid investments").

[91] *See, e.g.*, INDEPENDENT ACCOUNTANTS' REPORT, DELOITTE (May 30, 2023), https://www.circle.com/hubfs/USDCAttestationReports/2023/2023%20USDC_Circle%20Examination%20Report%20April%202023.pdf (identifying nearly $4.5 billion in assets backing the USDC stablecoin as "Cash held at U.S. regulated financial institutions").

[92] This phenomenon is understood to be what caused UST's collapse. The withdrawal of large amounts of UST from a defi protocol running on UST's blockchain prompted UST holders to be concerned about the future of the blockchain, leading to mass sales of UST for less than its peg and its affiliated token LUNA. *See* Caitlin Ostroff, Elaine Yu, & Paul Kiernan, *Cryptocurrency TerraUSD Plunges as Investors Bail*, WALL ST. J. (May 11, 2022), https://www.wsj.com/articles/cryptocurrency-terrausd-plunges-as-investors-bail-11652256429.

[93] *See* 12 U.S.C. § 342 (providing that the Federal Reserve "may receive [deposits] from any of its member banks, or other depository institutions, and from the United States").

[94] *See* BANK ISSUANCE OF STABLECOINS AND RELATED SERVICES: LEGAL AUTHORITY AND POLICY CONSIDERATIONS, THE CLEARING HOUSE (2022), https://mc-e3a82812-8e7a-44d9-956f-8910-cdn-endpoint.azureedge.net/-/media/New/TCH/Documents/Payment-Systems/TCH_Stablecoin_White_Paper_November_2022.pdf ("the federal banking agencies have required that

Given that stablecoins cannot serve their purposes while floating and that they by definition engage in maturity transformation, prudential supervision and deposit insurance is imperative to prevent runs.

Other reasons exist to prohibit uninsured, unregulated stablecoins from existing. If banks were permitted to offer both insured bank deposits and uninsured stablecoins, stablecoin holders would likely erroneously assume that their bank-issued stablecoins to also be insured. There are precedents for this type of confusion. As an FDIC chair testified to Congress, "[a]s bank sales of nondeposit investment products increased in the early 1990s, so did . . . reports of confusion among bank customers about whether federal deposit insurance covers the products and who ultimately is responsible if there is a loss in the investment,"[95] and a 1993 SEC survey found that half of respondents believed "that mutual funds purchased through banks or thrifts are federally insured."[96] Similarly, prior to 1967 regulatory amendments, "the FDIC relied of state laws to define what constituted different forms of deposit ownership," which, "[b]ecause state laws often different on this topic, . . . often led to confusion and sometimes hard feelings on the part of depositors in closed banks" who did not receive insurance payments they had expected.[97] As this confusion has occurred in the past, it is easy to imagine retail savers to expect both their Chase checking accounts and Chase-issued stablecoins to be FDIC insured as they are functionally equivalent means of storing dollars for future use and means of making payments.

Confusion even appears when it arguably should not. Media outlets reported depositor confusion as to whether their stablecoins

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IDIs receive approval for those activities on an individual IDI basis, but there have been no public statements of approval granted to federally regulated banking institution to proceed with an issuance of customer-facing stablecoins").

[95] *Business Practices of FDIC-Insured Institutions Selling Nondeposit Investment Products: Hearing Before the Subcomm. on Cap. Mkts. Sec., and Gov't Sponsored Enters. of the H. Comm. on Banking and Fin. Servs.*, 104th Cong. 71 (1996) (statement of Ricki Helfer, Chairman, Federal Deposit Insurance Corporation).

[96] *Id*.

[97] FED. DEPOSIT INS. CORP., THE FIRST FIFTY YEARS: A HISTORY OF THE FDIC 70 (1984).

were insured in the wake of crypto bank Voyager's collapse.[98] Voyager was not a state or federally chartered bank, yet accepted deposits of dollars and crypto assets which Voyager would then lend to borrowers, paying depositors yield.[99] However, because Voyager claimed that "[y]our USD is held by our banking partner, Metropolitan Commercial Bank, which is FDIC insured, so the cash you hold with Voyager is protected," many depositors were alarmed to learn that neither their dollars nor stablecoins were insured against Voyager's collapse.[100] If depositor confusion can occur because an institution discusses how dollars are insured against loss in a very particular situation, it certainly can occur when uninsured stablecoins are issued by institutions that also offer insured deposit accounts.[101]

Beyond explicit confusion as to whether bank-issued stablecoins are insured, history demonstrates that savers expect dollar-pegged assets to not fluctuate and to not consider the tail risk that pegged assets will break the buck, especially if they see a marquee name sponsoring the asset.[102] According to the Financial Crisis Inquiry Commission, although MMMFs lacked insurance, "[n]evertheless, consumers liked the higher interest rates, and the stature of the funds' sponsors reassured them [as t]he fund sponsors implicitly promised to maintain the full $1 net asset value of a

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[98] *See* David Benoit, *Crypto Broker Voyager's Marketing on Safety of Customer Accounts Draws FDIC Scrutiny*, WALL ST. J. (July 8, 2022), https://www.wsj.com/articles/fdic-scrutinizing-voyagers-marketing-on-safety-of-customer-deposit-accounts-11657212266 ("Still, some customers online said they were only just learning their deposits weren't insured by the Federal Deposit Insurance Corp. in the way they thought. Voyager had marketed the accounts as protected by that national safety net, an attractive pitch in the volatile world of cryptocurrency.").

[99] *See* Danny Nelson & David Z. Morris, *Behind Voyager's Fall: Crypto Broker Acted Like a Bank, Went Bankrupt*, COINDESK (July 12, 2022), https://www.coindesk.com/layer2/2022/07/12/behind-voyagers-fall-crypto-broker-acted-like-a-bank-went-bankrupt/ ("To depositors, it looked an awful lot like a bank with a few twists. Up front, users deposited cryptocurrency rather than government fiat. Around the back, while Citibank or the teachers' credit union might generate revenue by turning deposits into home loans, Voyager was engaged in (it turns out) much riskier lending.").

[100] *See id.*

[101] *See e.g.*, *id.* ("In the rare event your USD funds are compromised due to the company or our banking partner's failure, you are guaranteed a full reimbursement (up to $250,000) . . . .").

[102] *See e.g.*, *id.* (discussing customer confusion in the face of Voyager collapse).

share."[103] As the great financial crisis showed, the maturity transformation necessary for MMMFs to attain those higher interest rates was still inherently risky, and fund sponsors were incapable of fulfilling their implicit promise to not break the buck. Just as with MMMFs, it is easy to imagine stablecoin holders expecting their crypto assets to maintain dollar pegs because of marquee names attached to them. To the extent that regulators wish to stop maturity transformation from occurring outside of banks, they should put a stop to it where they have the legal authority to do so.[104]

Legislators have proposed several bills to address stablecoins' run risk, but without providing deposit insurance, allowing for maturity transformation, and providing appropriate regulation and supervision, they are all insufficient.[105] Some limit

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[103] FIN. CRISIS INQUIRY COMM'N, FINANCIAL CRISIS INQUIRY COMMISSION REPORT 30 (2011).

[104] Similar to how marquee sponsors of MMMFs—including Merrill Lynch, Fidelity, and Vanguard—legitimated not just their own MMMFs but *all* MMMFs, allowing banks to issue stablecoins does not just legitimates those bank-issued stablecoins, but legitimates *all* stablecoins. *See id* at 29–30 ("To the extent that regulators wish to stop maturity transformation from occurring outside of banks, they should put a stop to it where they have the legal authority to do so.").

[105] *See, e.g.*, Stablecoin Transparency Act, S. 3970, 117th Cong. (2022) (requiring issuers of "fiat currency-backed stablecoins" to hold collateral in government securities with a maturity of a year or less, fully collateralized repos, or fiat currencies); *Digital Assets and the Future of Finance: Understanding the Challenges and Benefits of Financial Innovation in the United States Hybrid Hearing before Comm. on Fin. Services*, 117th Cong. (2021) (proposing to subject "payment stablecoin" issuers to prudential supervision and requiring reserves to be backed by U.S. dollars, bank deposits, Treasury bills with up to 90-day maturities, seven-day repos backed by Treasury bills with up to 90-day maturities, and central bank deposits); *Stablecoin Innovation and Protection Act*, https://gottheimer.house.gov/uploadedfiles/dd._stablecoin_innovation_and_protection_act_of_2022.pdf (providing issuers of "qualified stablecoins" insurance and requiring collateral to be "held in United States dollars, securities issued by the Federal Government, and such other assets as the Comptroller of the Currency determines appropriate."); *Stablecoin Transparency of Reserves and Uniform Safe Transactions Act*, https://www.banking.senate.gov/imo/media/doc/the_stablecoin_trust_act.pdf (permitting state-licensed money transmitters to issue stablecoins without limitation on reserve assets). Note, however, that many state money

stablecoin reserves to high-quality liquid assets—including cash, Federal Reserve balances, Treasury bills, and short-term repos. However, if stablecoins are a rough substitute for demand deposits, limiting the backing of these assets would be cutting off funds that previously would have been used to make loans to new borrowers, permitting new shops to open, goods to be created, and services to be offered.[106] As one scholar noted, without being able to lend the assets backing stablecoins to new borrowers, "stablecoins will be a giant sucking sound in the financial system: soaking up safe collateral and killing its velocity."[107] Further, even limiting stablecoin maturity transformation to seven-day repos is still maturity transformation, which still poses a systemic risk—though it is unlikely to occur on any given day, one day might see the repo market seize up at the same time as stablecoin holders demand redemption in dollars, as the repo market did during the financial crisis.[108] Such an occurrence could necessitate immediate government intervention to stabilize the

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transmitter laws are insufficient to effectively supervise stablecoin issuers and prevent runs and lack deposit insurance. *See* Awrey, *supra* note 86, at 1.

[106] Although banks today hold more than $3 trillion in central bank reserves, *see Credit and Liquidity Programs and the Balance Sheet*, BD. OF GOVERNORS OF THE FED. RSRV. SYS., https://www.federalreserve.gov/monetarypolicy/bst_recenttrends.htm, implying that it is unlikely holding stablecoin collateral in high-quality liquid assets would meaningfully affect lending, it is unlikely for this to be the case forever. For the past 15 years, the Federal Reserve has effectuated a very accommodative monetary policy. If/when the Federal Reserve gets back to a more neutral monetary policy, it may be affectatious for banks to do more lending.

[107] Steven Kelly, *Stablecoins do not make for a stable financial system*, FIN. TIMES (Aug. 11, 2022), https://www.ft.com/content/0f979c98-ea78-4848-8282-52c2b68a9d19 ("Replacing traditional bank loans with an increased demand for these high-quality assets "risks causing collateral shortages, incentivizing the creation of private alternatives (which are never really as safe), and putting downward pressure on interest rates.").

[108] *See* FIN. CRISIS INQUIRY COMM'N, *supra* note 102, at 293 ("Market participants believed that the tri-party repo market was a relatively safe and durable source of collateralized short-term financing. It was on precisely this understanding that Bear had shifted approximately $30 billion of its unsecured funding into repos in 2007. But now it was clear that repo funding could be just as vulnerable to runs as were other forms of short-term financing.").

market, as the Federal Reserve did in 2008.[109] And even if a mass liquidation of Treasuries and repos does not harm stablecoin holders, it "risks cannibalizing normally dependable short-term funding" for other assets, nonetheless harming financial stability.[110] Finally, with one exception,[111] these bills would allow other forms of stablecoins to exist, such as those that are crypto versions of MMMF shares that can trade on a blockchain. These stablecoins would have all the qualities of MMMF shares, including limitations on their investments,[112] their ability to trade over-the-counter—essentially, serve as a means of payment—and their capacity to run. Accordingly, Congress and regulators should prohibit the issuance of stablecoins by unsupervised and uninsured entities. The lack of deposit insurance still permits runs to occur and threatens those who may rely upon stablecoins for payments.[113]

III. *FDIC Insurance and Traditional Stablecoins*

Although Congress is considering stablecoin legislation, insurance is unlikely to be included in any bill that becomes law. This Part evaluates whether the FDIA could provide stablecoins with insurance without further amendment.

Theoretically, stablecoins could be provided deposit insurance in either of two ways: when deposited in bank accounts or when issued. This Part evaluates these two scenarios to conclude that neither is likely permissible under the FDIA and that neither fully achieves the policy rationales for deposit insurance in the first place.

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[109] *See id*. at 294 ("On the Sunday of Bear's collapse, the Fed announced the new Primary Dealer Credit Facility . . . to provide cash, not Treasuries, to investment banks and other primary dealers . . . . [T]he PDCF offered overnight cash loans in exchange for collateral. In effect, this program could serve as an alternative to the overnight tri-party repo lenders, potentially providing hundreds of billions of dollars of credit.").

[110] Kelly, *supra* note 106.

[111] *See* Stablecoin Transparency Act, S. 3970, 117th Cong. (2022) (providing regulations for "fiat currency-backed stablecoin[s]," which are assets "that maintain[] price stability by backing the value of the digital asset to a nondigital currency that is denominated in the same currency in which the digital asset is issued; and [are] redeemable on a one-to-one basis in the denominated currency to which the digital asset is backed.").

[112] 17 C.F.R. § 240.2a-7.

[113] *See* FINANCIAL CRISIS INQUIRY COMMISSION REPORT, *supra* note 102 (for an example of runs occurring in a market that lacked deposit insurance).

It also evaluates the prudence of applying pass-through deposit insurance to nonbank-issued stablecoins backed by deposits.

A. The Federal Deposit Insurance Act

Since the enactment of the Banking Act of 1933, also known as the Glass-Steagall Act, the United States has had a federal deposit insurance system.[114] Among other things, Glass-Steagall put into place a temporary deposit insurance scheme: It created the FDIC and required it "to purchase, hold, and liquidate" assets of FDIC member banks, required national banks and state Federal Reserve member banks to become FDIC members and permitted state nonmember banks to join, and provided up to $2,500 of deposit insurance per account from enactment to July 1, 1936.[115] Congress later made permanent the FDIC and increased the insurance threshold to $250,000, where it stands today.[116] Until recently, "every state required state-chartered banks that accepted deposits from the general public to obtain federal deposit insurance."[117] Insured banks

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[114] *See* FED. DEPOSIT INSURANCE CORP., A BRIEF HISTORY OF DEPOSIT INSURANCE IN THE UNITED STATES 25–27 (1998).

[115] Banking Act of 1933, Pub. L. No. 66-73 § 8. *See also* Charles W. Calomiris & Eugene N. White, *The Origins of Federal Deposit Insurance*, *in* THE REGULATED ECONOMY: A HISTORICAL APPROACH TO POLITICAL ECONOMY 173 (Claudia Goldin & Gary D. Libecap, eds., 1994) (noting that the $2,500 insurance ceiling in the Glass-Steagall Act "covered 97 percent of depositors and 24 percent of deposits" and "provided for less than 100 percent coverage even of small deposits [in order to] reduce problems of moral hazard.").

[116] *See* Dodd-Frank Wall Street Reform and Consumer Protection Act § 335, Pub. L. No. 111-203, 124 Stat. 1376, 1540 (increasing the deposit insurance ceiling to $250,000).

[117] Arthur Wilmarth, Comment Letter to the U.S. Dept. of the Treasury on Executive Order No. 14067, "Ensuring Responsible Development of Digital Assets" (Aug. 2022), https://www.regulations.gov/comment/TREAS-DO-2022-0014-0203. In 2019, Wyoming permitted state banks that can take deposits of fiat and crypto assets, *see* Special Purpose Depository Institutions Act, 2019 Wyo. Sess. Laws 328, and in 2021, Nebraska permitted state banks that can take deposits of crypto assets, *see* NEB. REV. STAT. § 8-3005 (2022) (permitting "controllable electronic record exchange, staking, controllable electronic record lending, and controllable electronic record borrowing" but "shall not accept demand deposits of United States currency or United States currency

pay assessments to the FDIC based on risk-based formulas defined in regulation,[118] and the FDIC maintains a deposit insurance fund of at least "1.35 percent of estimated insured deposits."[119]

When banks fail, the FDIC uses three principal means of ensuring depositors are paid: purchase and assumption agreements, in which the FDIC sells failed banks' assets to the highest bidders, creates new accounts for depositors at purchasing institutions, and supplements the difference between insured deposits and purchase prices; deposit payoffs, in which the FDIC issues checks to depositors for the insured balance of their accounts; and bridge banks, in which the FDIC assumes the operation of failing institutions while winding them down, providing depositors access to their insured deposits during this process.[120]

Determining whether deposits are insured under the FDIA is a multistep process. First, one must determine whether a "deposit" has been created. The term "deposit" is broadly defined with five separate definitions, the primary of which holds that deposits are "the unpaid balance of money or its equivalent received or held by a bank . . . for which it has given or is obligated to give credit . . . to [an] account . . . ."[121] In the three subsequent definitions, deposits are similarly obligations of depository institutions for the benefit of an accountholder or other party.[122] The fifth provides that deposits include "other obligations of a bank" that the FDIC "shall find and prescribe by regulation to be deposit liabilities by general usage," with limitations.[123] When examining this definition, the Supreme Court noted that Congress created the FDIC to "safeguard[] the assets . . . that businesses and individuals have entrusted to banks" such that "someone who put tangible assets into a bank could always get those assets back."[124] This interpretation is consistent with the traditional understanding that banks hold deposits as debts, where depositors transfer ownership of their assets to bankers, rather than as

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that may be accessed or withdrawn by check or similar means for payment to third parties").

[118] 12 C.F.R. Part 327 (providing different formulas for small, large, and highly complex institutions).

[119] 12 U.S.C. § 1817(b)(3)(B).

[120] CONG. RSCH SERVS., IF10055, BANK FAILURES AND THE FDIC (Jan 23, 2015), https://crsreports.congress.gov/product/pdf/IF/IF10055/2.

[121] 12 U.S.C. § 1813(*l*)(1).

[122] *See id*. § 1813(*l*)(2)–(4).

[123] *Id*. § 1813(*l*)(5).

[124] FDIC v. Philadelphia Gear Corp., 476 U.S. 426, 435 (1986).

bailments, where depositors retain ownership of their assets stored for safekeeping), which is why the FDIC insures deposit accounts but not safe deposit boxes.[125]

While helpful, this definition still begs the question of what constitutes "money or its equivalent," and it is not clear that FDIC insurance is necessarily limited to deposits of dollars. In economics, an asset is "money" if it is used as a medium of exchange.[126] The Federal Reserve maintains several definitions of money, which include hard currency, reserve balances held at the Fed, "transaction deposits at depository institutions" (i.e., deposits in checking accounts), "savings deposits" (i.e., deposits in savings accounts), "small-denomination time deposits" below $100,000, and "retail [MMMF] shares" with stable NAVs.[127] Other central banks include "repurchase agreements" and "debt securities with a maturity of up to two years."[128]

Several of these assets may only be used in particular situations.[129] Institutions, for example, may sell MMMF shares and

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[125] *See* Thompson v. Riggs, 72 U.S. 663, 680 (1866) ("General rule of law is, that if a merchant deposits money with a bank, the title to the money passes to the bank, and the latter becomes the debtor of the merchant to that amount"). *See generally* Timothy C. Harker, *Bailment Ailment: An Analysis of the Legal Status of Ordinary Demand Deposits in the Shadow of the Financial Crisis of 2008*, 19 FORDHAM J. CORP. & FIN. L. 543 (2014).

[126] *See* N. GREGORY MANKIW, PRINCIPLES OF ECONOMICS 30-1a (10th ed. 2024) ("Money is the set of assets in the economy that people regularly use to buy goods and services from each other").

[127] *What is the money supply? Is it important?,* BD. OF GOVERNORS OF THE FED. RSRV. SYS. (last updated Dec. 16, 2015), https://www.federalreserve.gov/faqs/money_12845.htm (explaining what money is and the role that the Federal Reserve plays in managing America's supply of money and economy at large).

[128] *See, e.g.*, *Monetary Aggregates*, EUROPEAN CENTRAL BANK, https://www.ecb.europa.eu/stats/money_credit_banking/monetary_aggregates/html/index.en.html; *see also* Zoltan Pozsar, *Shadow Banking: The Money View* at 8–9 (OFR Working Paper 14-04, 2014), https://www.financialresearch.gov/working-papers/files/OFRwp2014-04_Pozsar_ShadowBankingTheMoneyView.pdf (cataloging the types of money).

[129] *Id*. (observing that "[t]he net payments of dealers and money funds, and those of all other actors in the broader financial ecosystem, are settled using demand deposits," that "net deposit flows between banks are settled via transfers of reserves between banks' reserve accounts maintained at the central bank," and that "[o]vernight repos and constant NAV shares . . . cannot be used for settlement purposes.").

repos into the open market but cannot use them for payments to commercial vendors.[130] Additionally, to be useful for transactions, money "must also satisfy the no-questions-asked (NQA) principle, which requires that the money be accepted in a transaction without due diligence on its value."[131] If merchants must spend time considering whether to accept a particular asset, it makes settlement a more contentious activity.

While cash and commercial bank deposits clearly qualify as "money or its equivalent," repos or MMMF shares could similarly qualify if deposited with a bank.[132] In the antebellum era, banks accepted other banks' notes on the premise that they would be redeemable for specie (though they might have accepted a specific note at a discount or recorded the specific note in which a deposit was made so that withdrawal could be made in the bills).[133] Today, although account contracts might have to be rewritten to accommodate deposits in assets other than dollars, nothing in statute appears to prohibit banks from accepting non-dollar deposits, or the FDIC from insuring them.[134] (Note that the possibility of being deemed money's equivalent does not necessarily mean that a bank *would* or *should* accept them as deposits, or that the FDIC would reimburse for losses if those assets dropped in value before redemption.[135])

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[130] *See* Luhby, *supra* note 25 (discussing the role of MMMFs, and investors' ability to sell and trade MMMF shares).

[131] Gary B. Gorton & Jeffery Y. Zhang, *Taming Wildcat Stablecoins*, 90 U. CHI. L. REV. 909, 912 (2023).

[132] *See* FED. RSRV. BANK, *supra* note 126 ("M2: M1 plus savings deposits, small-denomination time deposits (those issued in amounts of less than $100,000), and retail [MMMF] shares.").

[133] *See* Sumner, *infra* note 213, at 455 ("[T]here were hundreds of banks whose notes circulated in any given community. The 'bank notes' were bits of paper recognizable as a species shape, color, size and engraved work. Any piece of paper which had these appearances came with the prestige of money; the only thing in the shape of money to which the people were accustomed.").

[134] *See* 12 U.S.C. § 1811 ("There is hereby established a Federal Deposit Insurance Corporation (hereinafter referred to as the 'Corporation') which shall insure, as hereinafter provided, the deposits of all banks and savings associations which are entitled to the benefits of insurance under this Act . . . and which shall have the powers hereinafter granted.").

[135] *See* Thompson v. Riggs, 72 U.S. 663, 678 (1866) ("When the banker specially agrees to pay in bullion or in coin he must do so or answer in damages for its value, and so if one agrees to pay in depreciated paper, the

Once it has been established that a deposit has been created, the next step is to determine whether it is insured. An "insured deposit" is "the net amount due to any depositor" based on whether the net amount "exceed[s] the standard maximum deposit insurance amount" under statute.[136] In an account or trust with only one owner, determining whether a deposit is insured is easy; the FDIC currently insures up to $250,000 per depositor per institution; deposits below that ceiling are insured and the rest are not.[137] That limit is multiplied for each owner of joint accounts[138] and the Act provides for pass-through deposit insurance, allowing fiduciaries to open accounts on behalf of clients.[139]

B. **Insuring Stablecoins as Deposits**

Much as how banks accept currency as deposits, they could theoretically also accept stablecoins for deposit. "All deposits made with bankers may be divided into two classes" of bailments and debts, and banks could accept stablecoins as either.[140] As bailments, banks could hold customer stablecoins in individual, bank-hosted crypto wallets such that re-lending is prohibited—akin to a safe deposit box. As debts, banks could comingle clients' stablecoins in its own crypto wallet with the express intent of lending those stablecoins out to borrowers, just as how banks today comingle customers' deposits of currency in its vault or account at the Federal Reserve and use those funds to make loans.

Deposit insurance is certainly unavailable for stablecoins accepted as bailments. The FDIA limits deposit insurance to those assets for which a bank "has given or is obligated to give credit" and

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tender of that paper is a good tender, and in default of payment the promisee can recover only its market and not its nominal value.").

[136] 12 U.S.C. § 1821(a)(1)(B).

[137] *See id.* § 1821(a)(1)(E) ("For purposes of this chapter, the term 'standard maximum deposit insurance amount' means $250,000 . . . .").

[138] *See* 12 C.F.R. § 330.9(b) ("The interests of each co-owner in all qualifying joint accounts shall be added together and the total shall be insured up to the [standard maximum deposit insurance amount].").

[139] *Id*. § 330.7(a) ("Funds owned by a principal or principals and deposited into one or more deposit accounts in the name of an agent, custodian or nominee, shall be insured to the same extent as if deposited in the name of the principal(s).").

[140] Marine Bank v. Fulton Bank, 69 U.S. 252, 256 (1864).

bailments are not owed credit.[141] In addition, the policy rationales for deposit insurance would not be met; because banks could not lend the deposited stablecoins to borrowers, there is no government incentive to protect against maturity transformation and bank runs. However, this situation could be a good candidate for something akin to insurance provided by the Securities Investor Protection Corporation (SIPC), which "protects against the loss of cash and securities – such as stocks and bonds – held by a customer at a financially-troubled SIPC-member brokerage firm."[142] If a bank acts as a custodian for client stablecoins or other crypto assets, there may be value in insuring against custodian malfeasance.

For stablecoins accepted as debts, the availability of insurance turns on whether they can or should be deemed "money or its equivalent."[143] Courts evaluate whether deposits evidence "assets and 'hard earnings' that businesses and individuals have entrusted to banks,"[144] and whether a bank is "'obligated' to give credit to an account."[145] To that end, they have opined as to whether deposits of currency were evidenced from wired funds,[146] standby letters of credit,[147] or other means, not whether those wires or letters were themselves money. This author found no cases questioning whether deposits could be created from assets other than currency—not even cases discussing gold or silver from before the U.S. went off the gold standard. This lack of cases makes logical sense: Although checks may be considered "money or its equivalent," the expectation is that

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[141] 12 U.S.C. § 1813(*l*)(1).

[142] *What SIPC Protects*, SIPC, https://www.sipc.org/for-investors/what-sipc-protects (last visited April 1, 2023).

[143] 12 U.S.C. § 1813(l)(1).

[144] FDIC v. Philadelphia Gear Corp., 476 U.S. 426, 435 (1986).

[145] FDIC v. Fedders Air Conditioning, USA, Inc., 35 F.3d 18, 22 (1st Cir. 1994).

[146] Seattle-First Nat'l Bank v. FDIC, 619 F. Supp. 1351, 1360 (W.D.Ok. 1985) ("These authorities lead the Court to conclude that funds wired through a federal reserve bank are 'money or its equivalent' within the meaning of 1813(*l*)(3) and become 'deposits' in the receiving bank so long as 'final payment' through the Federal Reserve occurs.").

[147] FDIC v. Philadelphia Gear Corp., 476 U.S. at 431 (finding that a standby letter of credit backed by a contingent promissory note "represent[ed] no hard assets and thus . . . does not give rise to a 'deposit' that Congress intended the FDIC to insure.").

depositing checks result in cash being transferred to deposit accounts, not that the check itself would be deposited as a debt.

Query, however, whether stablecoins are more like checks or more like currencies. Prior to the creation of the U.S. dollar and the National Bank Act of 1863, states and banks issued their own currencies[148] and during this period "there were around 1,500 currencies circulating at one time."[149] Although each currency was nominally based on the U.S. dollar, which Congress delineated as the nation's unit of currency in the Coinage Act of 1792,[150] the bills were redeemable for specie from their issuers. Prior to the greenback's creation, these bills could be deposited in banks as debts, and banks were permitted to repay depositors using the same bills or the bills' market value in other currencies if the deposited bills had been devalued.[151] Stablecoins could be akin to these currencies, in that they promise to be redeemable at par from the issuer and could potentially be repaid using the same stablecoins.

Stablecoins today are treated more like currencies than like checks, but it is unknown whether they would stay that way if/when used in the broader economy. Would stablecoins be substitutes for checking or savings accounts wherein holders keep most or all of

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[148] Arthur J. Rolnick & Warren E. Weber, *Free Banking, Wildcat Banking, and Shinplasters*, 6 FEDERAL RESERVE BANK OF MINNEAPOLIS QUARTERLY REVIEW, no. 3, 1982, at 10, https://www.minneapolisfed.org/research/quarterly-review/free-banking-wildcat-banking-and-shinplasters ("Shinplasters, shingles, stump tails, and red dogs are some of the colorful names given to paper money issued by U.S. state banks during what is known as the Free Banking Era, the 26 years from 1837 to 1863.").

[149] Gary Gorton, *The Development of Opacity in U.S. Banking* 3 (Nat'l Bureau of Econ. Rsch., Working Paper No. 19540, 2013), https://www.nber.org/papers/w19540.

[150] 1 Stat. 246 ("[T]he money of account of the United States shall be expressed in dollars").

[151] *See* Marine Bank v. Fulton Bank, 69 U.S. 252, 252–53 (1864) (noting that Marine Bank collected notes on behalf of Fulton Bank "in Illinois currency, at that time *from five to ten per cent. below par*," and when Fulton Bank attempted withdrawal it "was refused, unless the former bank would accept Illinois currency, *now* sunk *fifty* per cent. below par."); Thompson v. Riggs, 72 U.S. 663, 678 (1866) ("When the banker specially agrees to pay in bullion or in coin he must do so or answer in damages for its value, and so if one agrees to pay in depreciated paper, the tender of that paper is a good tender, and in default of payment the promisee can recover only its market and not its nominal value.").

their liquid assets in the form of stablecoins in crypto wallets? Or would they be substitutes for bank debit cards wherein holders keep most or all of their liquid assets in their banks, buy stablecoins just to immediately send them, and recipients redeem them for bank deposits immediately as well?

For policy reasons, stablecoins should not be considered "money or its equivalent" and be acceptable as deposits under the FDIA. Stablecoins that are redeemable from their issuers at par are more akin to payment instruments than to "hard earnings" like cash. Banks accept checks on the basis that they may obtain currency from other institutions and would likely be the same with stablecoins redeemable at par. For these stablecoins that are truly used as payments, banks with which stablecoins are deposited would likely note increased values for depositors' account, redeem the stablecoins from the issuers for currency, and then use those dollars as they do normally. Those deposits would certainly be worthy of insuring, just as they are today.

For algorithmic or other stablecoins that are not redeemable from their issuers, the policy rationales for deposit insurance are similarly not met because it is unlikely that banks could lend the deposited stablecoins, negating the possibility of runs on these assets and any necessity for deposit insurance. Currency deposits are comingled in banks' vaults or on their balance sheets with the explicit understanding that the banks will lend them to borrowers, allowing those assets to be recirculated and put to better use than sitting unused. However, banks are unlikely to be able to loan out stablecoins stored in their own crypto wallets as borrowers are likely to want dollars deposited to their bank accounts or stablecoins issued by lender banks, rather than a grab bag of stablecoins from a variety of issuers that are found in banks' crypto wallets. Because algorithmic stablecoins cannot readily be re-lent, maturity transformation is not a possibility and something deposit insurance is necessary to protect against. Indeed, there are many assets that individuals use as wealth and may post as collateral yet do not receive deposit insurance—and algorithmic stablecoins are more akin to those assets than currency. In addition, they simply should not be promoted for making payments because they do not have the explicit backing of the government like currency or potential for immediate redemption as other, traditional bank deposits.

Another concern—even assuming banks were able to lend deposited stablecoins—is that the FDIC would be asked to insure stablecoins that could see a precipitous drop in value. Because the

FDIA was enacted after the greenback's advent, the FDIC did not have to worry about this problem with non-greenback currencies, but it might with stablecoins. Take a hypothetical in which someone deposited an algorithmic stablecoin nominally worth $1 with a bank, and the stablecoin and the bank both fail at about the same time. The FDIC should not be asked to reimburse the depositor for the value of the stablecoin at the time it was deposited, and so it is imperative that deposit insurance be structured in such a way that the government insures only against the possibility of failure by the bank that accepted the deposit and not the possibility that the deposited stablecoin loses value. Furthermore, even if the FDIC were asked to insure those types of assets, it is unclear what amount it should pay and when. The FDIC traditionally has been able to resolve failing banks over a weekend, coming in Friday evening and reopening the bank the next Monday. However, it may take more than two days for a stablecoin to fully drop to $0. For example, when UST collapsed, it first started having trouble on Saturday, May 7; dropped to $0.30 at 8:00 AM EST on Wednesday, May 11; peaked again at $0.82 at 8:00 PM EST on May 11; and finally dropped from there, though having some additional peaks and troughs along the way.[152] If the FDIC were to have reimbursed depositors for lost UST at any point during this time period, it would have grossly overpaid.

Although deposited stablecoins should not be insured for policy reasons, the final question likely comes down to the FDIC's interpretation of the FDIA as there is sufficient ambiguity in the Act for courts to defer to the FDIC under either *Chevron* or *Skidmore*.[153] The FDIA does not just provide banks with deposit insurance, but it also sets prudential standards for banks' operations and activities and creates a resolution regime for failing institutions.[154] The FDIC has expertise in how the FDIA operates as a whole and may face operational difficulties in resolving failing institutions or paying out insurance claims if stablecoins are accepted as deposits.

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[152] *TerraClassicUSD*, COINMARKETCAP, https://coinmarketcap.com/currencies/terrausd/ (last visited Mar. 31, 2023).

[153] Under *Chevron*, "an administrative agency has been statutorily empowered to act in a manner that creates legal obligations or constraints." Peter L. Strauss, *"Deference" is Too Confusing—Let's Call Them "*Chevron *Space" and "*Skidmore *Weight,"* 112 COLUM. L. REV. 1143, 1145 (2012). Under *Skidmore*, "an agency's view on a given statutory question may in itself warrant respect by judges who themselves have ultimate interpretive authority." *Id*.

[154] *See generally* 12 U.S.C. § 1817(f)–(g).

C. **Insuring Bank-Issued Stablecoins**

The second means of insuring stablecoins would be to insure against the collapse of their value, permitting holders to use bank-, nonbank-, and self-hosted crypto wallets without the value of the stablecoins dropping if the issuer fails. That is, bank-issued stablecoins could be redeemed from the government at par if the issuing banks collapse.

1. *Legal Challenges Under the FDIA*

If stablecoin issuers engage in maturity transformation *and* pass some profit to holders in the form of interest, the two policy rationales underlying deposit insurance could be met.[155] However, the plain language of the FDIA prohibits the FDIC from insuring any bank-issued stablecoins that are redeemable on demand by any holder.[156]

Recall that the FDIA requires that deposits be obligations of depository institutions for the benefit of an accountholder or other party, plus "other obligations" as prescribed by the FDIC.[157] For example, one definition provides that deposits include "trust funds," which implicitly requires funds to be held in accounts for use on behalf of beneficiaries.[158] Another provides that deposits include "outstanding draft . . . , cashier's check, money order, or other officer's check," which are instruments that require the money backing the assets to be held in an account in the name of the issuer before they may be redeemed.[159] Accordingly, absent new FDIC regulations, banks could not issue bearer stablecoins as liabilities of the banks themselves and have them be FDIC-insured.

Nevertheless, banks could issue insured stablecoins on behalf of their accountholders, essentially tokenizing accountholders' deposits (deemed "tokenized deposit stablecoins" or "TDS") and

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[155] Insuring these issuers would protect against the risk of runs by ensuring redemptions from the government, and the ability to provide yield to stablecoin holders would permit small depositors to save for the future without regard for the credit risk of the issuers.
[156] *See supra* note 120.
[157] 12 U.S.C. §§ 1813(*l*)(5).
[158] *Id.* § 1813(*l*)(2).
[159] *Id*. § 1813(*l*)(4).

issuing these tokens akin to checks.[160] One group has taken this route. The USDF Consortium created the USDF stablecoin, a "bank-minted tokenized deposit" issued by the Consortium's member banks that trades on the Provenance Blockchain.[161] Under the USDF scheme, clients of consortium banks can send/receive USDF to/from other clients, with USDF tokens held in bank-custodied crypto wallets.[162] USDF tokens are tied to traditional deposit accounts such that the stablecoins are merely tokenized versions of their traditional bank deposits.[163] Those deposits maintain deposit insurance.[164] Accordingly, "the sending bank will debit funds from the sending customer's deposit account and credit a USDF settlement account at the sending bank" while the receiving bank "credits its customer's bank account with deposits" and "records a debit in its USDF settlement account."[165] Settlement between banks occurs off the blockchain; members must "settle their net obligations over Fedwire

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[160] *See* FDIC v. Fedders Air Conditioning, USA, Inc., 35 F.3d 18, 22 (1st Cir. 1994) (quoting 12 U.S.C. § 1813(l)(1)) (noting that in order for a deposit to be insured, "the money or its equivalent must not only be held or received by the bank, but must . . . be a payment 'for which [the bank] has given or is obligated to give credit . . . to *a[n] . . . account*'") (emphasis added).

[161] Provenance Blockchain Foundation, *What is USDF?*, MEDIUM (Apr. 22, 2022), https://medium.com/provenanceblockchain/what-is-usdf-cf08a4629c27 ("USDF is a token that is minted exclusively by federally-insured depository institutions and represents a deposit at a USDF Consortium bank [i.e., "tokenized deposit"]. The deposits will qualify for insurance up to applicable limits . . . . USDF facilitates . . . transactions on the Provenance Blockchain.").

[162] *See id.* ("USDF can only be sent to customers who have an established relationship with a USDF Consortium bank and have been through standard deposit-account opening processes.").

[163] *See id.* ("USDF is a tokenized deposit . . . . [which is] a new digital format for exchange [tokenized deposits]. USDF represents already existing deposits in centralized databases of different banking institutions on an open, decentralized, and distributed ledger. This ledger being the Provenance Blockchain.").

[164] *See id.* ("The deposits will qualify for insurance up to applicable limits.").

[165] *About Us*, USDF CONSORTIUM, https://usdfconsortium.com/about-us/ (last visited Apr. 3, 2023).

Funds or FedACH and update their books and records accordingly."[166]

Under any TDS scheme—whether one that provides for immediate settlement between banks or one where TDS are able to be transferred to nonbanks—each accountholder's stablecoins would be limited to the $250,000 insurance ceiling in the case of bank insolvency (with the exception of passthrough insurance, which is discussed later); even if a bank issued TDS on behalf of a large accountholder, only $250,000 of the assets backing the stablecoins would be insured.[167] Further, these stablecoins would be rendered worthless if depositors move the assets out of their account or go bankrupt before settlement, even if their banks are solvent, just as how checks may bounce if accounts contains insufficient funds.[168] Importantly, nothing would change for the FDIC, as the TDS are the same deposits held in bank accounts that the FDIC has insured since its creation, even if the means of transacting with them is different.[169]

With the exception of TDS, which would not work well for the purposes for which stablecoins are used today, any stablecoin issued by a bank would be uninsured.

Still, it is possible the FDIC could attempt to insure bank-issued stablecoins by issuing a regulation pursuant to the fifth definition of the term "deposit" in the FDIA, such that bank-issued stablecoins are "obligations of a bank" that are "deposit liabilities by general usage" if it thought doing so would meet the policy rationales of deposit insurance and could feasibly be implemented.[170] But because such a regulation would be so different from the deposits articulated in the four other statutory definitions of the term, it is unclear whether the FDIC would *want* to write such a rule or whether

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[166] *Id*.

[167] *See* Provenance Blockchain Foundation, *supra* note 160 ("USDF is a token that is minted exclusively by federally-insured depository institutions and represents a deposit at a USDF Consortium bank [i.e., 'tokenized deposit']. *The deposits will qualify for insurance up to applicable limits.*") (emphasis added).

[168] *See* Provenance Blockchain Foundation, *supra* note 160 ("USDF represents already existing deposits in centralized databases of different banking institutions.").

[169] 74 Fed. Reg. 67155 (Nov. 13, 2008) (declaring that "all funds underlying stored value cards and other nontraditional access mechanisms [computers] will be treated as 'deposits' to the extent that the funds have been placed at an insured depository institution.").

[170] 12 U.S.C. § 1813(*l*)(5).

courts would reject the regulation for being so unlike the other four definitions that Congress enacted.

2. *Operational Challenges*

The FDIC should not implement a regulation to cover such bank-issued stablecoins (and Congress should not amend the FDIA to do so either) without first addressing significant operational concerns. Even if the two traditional policy rationales for deposit insurance are both met, the mechanics of providing deposit insurance to those bank-issued stablecoins that (1) are redeemable on demand by any holder and (2) are permitted to be held in self-custodied crypto wallets appear difficult, though perhaps not impossible, to implement. The FDIC would have several challenges to address before paying out insurance claims when an issuer fails.

First, the FDIC must determine how to implement the $250,000 insurance ceiling. This requires knowing who owns how many tokens across any number of crypto wallets at the time a bank fails such that stablecoin holders cannot avoid the ceiling by having two wallets, each with $250,000 in stablecoins.[171] This knowledge is technologically available. Each crypto token has its own governance contract (i.e., code) creating a finite number of tokens.[172] When those tokens (or fractions of tokens) trade, tools can be used to view how many tokens were in a wallet at a given time.[173] For purposes of determining insurance ceilings, the difficulty may be in deciding which time to use. The FDIC would also need to have information on the ownership of all crypto wallets holding the failing institution's stablecoins. This can be done by having the stablecoin issuer register crypto wallets, conduct identification verifications on wallet owners,

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[171] *See* 12 U.S.C.§1821(a)(1)(B) ("The net amount due to any depositor at an insured depository institution shall not exceed the standard maximum deposit insurance amount."); *supra* Section III(A) (explaining aggregate insurance cap per depositor).

[172] *See, e.g.*, Peter Kim, *USDC v2: Upgrading a multi-billion dollar ERC-20 token*, COINBASE (Dec. 31, 2020), https://www.coinbase.com/blog/usdc-v2-upgrading-a-multi-billion-dollar-erc-20-token (describing the contract governing the USDC stablecoin).

[173] *See, e.g.,* Benjamin van Adrichem, Note, *Howey Should be Distributing New Cryptocurrencies: Applying the Howey Test to Mining, Airdropping, Forking and Initial Coin Offerings*, 20 COLUM. SCI. & TECH. L. REV. 388, 393 (2019) (explaining Ethereum's blockchain and how transaction data stored includes total supply and balance of tokens in a wallet).

and prevent its stablecoins from being sent to non-verified wallets. But because users are unlikely to verify their wallets with dozens of stablecoin issuers, this could result in walled gardens—inhibiting stablecoins' uses as payments[174]—and would hamper FDIC insurance's ability to stop their run risks.

Second, the FDIC must decide whether to permit or halt the trading of "bad stablecoins" (that is, failed issuers' stablecoins, to be contrasted with "good stablecoins" issued by solvent issuers) or how to remove them from circulation when an issuer fails. Unlike with traditional deposits, which exist as entries on banks' balance sheets and cease to exist along with the banks, stablecoins may remain in holders' wallets in perpetuity even if they are worthless—much as how 19th century bank notes still exist even if they cannot be used as currency.[175]

One option for addressing bad stablecoins is for blockchain oracles, which are programs that provide external information or validation to smart contracts (e.g., providing the spot price for a crypto asset, acknowledging that a payment has been made), to indicate to merchants that a stablecoin is worthless.[176] However, some entity would be required to program and continuously update these oracles, adding costs and intermediaries to the use of stablecoins as payments and still not removing the bad stablecoins from circulation. Those bad stablecoins could still potentially be used on unsuspecting merchants that may not use an oracle. Another option is for stablecoin issuers or the FDIC to freeze all bad

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[174] *See Why is Identify Verification Important for Crypto Companies?*, GBP, https://www.gbgplc.com/en/blog/why-is-identity-verification-important-for-crypto-companies/ (explaining transformation of verification in crypto space due to increased regulation).

[175] *See What does it really mean to burn tokens?*, STACKEXCHANGE (Jan. 10, 2022, 22:16) ("Burning a token means removing it from circulation. . . . Token burn can be done in two ways: 1- manually send it to an unowned Ethereum address which is called "eater" or "burner" address. 2- Or more efficiently, create a contract that is incapable of spending it.").

[176] *See* Vallery Mou, *Blockchain Oracles Explained*, BINANCE ACADEMY (Apr. 28, 2021), https://academy.binance.com/en/articles/blockchain-oracles-explained ("Blockchain oracles are third-party services that provide smart contracts with external information. They serve as bridges between blockchains and the outside world. . . . [A] blockchain oracle is not the data source itself, but rather the layer that queries, verifies, and authenticates external data sources and then relays that information.").

stablecoins, preventing them from being transferred.[177] However, the ability to freeze stablecoins may need to be implemented at a stablecoin's creation,[178] and some blockchains may not allow freezes at all.

One significant challenge with both of these options is that stablecoin holders may attempt to use their newly-bad stablecoins for purchases only to find that they've been frozen or are valueless.[179] As discussed previously, when the FDIC resolves failing banks, it attempts to migrate depositor accounts to acquiring institutions, which also acquire the failing banks' routing information so that "depositors receive continuous deposit processing services."[180] Depositors keep their account and routing information so that ACH and wire transactions started before bank failures can be cleared after resolution. If the FDIC freezes all bad stablecoins or the value of stablecoins drops to $0, stablecoin holders will be unable to transact, even though their stablecoins are insured.

Lastly, the FDIC must decide about how to pay insurance claims. One option is to proactively provide new stablecoins to holders of bad stablecoins. The FDIC could freeze all bad stablecoins from failed issuers, use insurance premiums to purchase good stablecoins from operating issuers, and airdrop those stablecoins into crypto wallets holding bad stablecoins. However, such a distribution would be immensely costly in terms of blockchain transaction fees, which could be a substantive percentage of smaller account balances. The FDIC could alternatively set up new deposit accounts for stablecoin holders with other banks.

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[177] *See* Daniel Phillips, *How Can Cryptocurrencies Be Frozen on a Blockchain?*, https://coinmarketcap.com/alexandria/article/how-can-cryptocurrencies-be-frozen-on-a-blockchain ("developers [can] issue tokens with a global freeze function—this allows the issuer to freeze token transfers.").

[178] Tara Annison, *Can you Freeze or Confiscate Someone's Crypto?*, LINKEDIN (Oct. 22, 2020), https://www.linkedin.com/pulse/can-you-freeze-confiscate-someones-crypto-tara-annison/ ("[T]he 'blacklist' feature [is] a deliberate design choice for the token creator to include.").

[179] *See* Nikhilesh De, *Circle Confirms Freezing $100K in USDC at Law Enforcement's Request,* COINDESK (Feb. 16, 2022, 2:40 PM), https://www.coindesk.com/markets/2020/07/08/circle-confirms-freezing-100k-in-usdc-at-law-enforcements-request/ (exemplifying how stablecoin issuers can freeze the assets while in holders' possession).

[180] FDIC, CRISIS AND RESPONSE: AN FDIC HISTORY, 2008–2013 at 189 (2018).

Alternatively, and particularly if bad stablecoins cannot be frozen, the FDIC could require tokenholders proactively exchange bad stablecoins for cash or good stablecoins. Holders of insured bad stablecoins could send them to a crypto wallet owned by the FDIC, and in exchange the insurer would deposit new good stablecoins into the sending wallets or cash to bank accounts. This course of action would remove bad stablecoins from circulation, but there is no guarantee that holders of bad stablecoins would exchange them, let alone recognize the need to exchange them. There are two solutions to this, but neither is without concern. The FDIC could create a time-limited redemption period in which holders who fail to redeem or have stablecoins above the account ceiling would be left with worthless assets. This would again leave bad stablecoins in circulation that could be used on unsuspecting merchants. The FDIC could alternatively enact an open-ended redemption period, but this would permit bad stablecoins to be used until redemption—that is, in perpetuity—either creating a government-backed stablecoin[181] or causing chaos by enforcing insurance ceilings.[182] In addition, neither of these courses of action would address stablecoins above the $250,000 ceiling as there would be no incentive for holders to exchange them, and would require stablecoin holders to initiate the exchange, forcing them to pay blockchain transaction fees instead of (or in addition to) the deposit insurer. If bad stablecoin holders cannot afford to pay blockchain transaction fees, they would not be able to obtain payouts.

The only way to fully address the above concerns—removing bad stablecoins from circulation, ensuring insurance payouts, and not creating a government-backed stablecoin—would be to insure bank-issued stablecoins that are held in bank-custodied crypto wallets and cannot be transferred to wallets without identify verification.

D. The Problems with Pass-through Deposit Insurance for Stablecoins

[181] As they can be redeemed at par from the FDIC whenever, the result would be an implicit government-backed stablecoin.

[182] Unredeemable coins above an accountholder's insurance ceiling may be spent on unsuspecting merchants who may not know the coins are not redeemable.

Pass-through insurance is the colloquial term for insurance provided to fiduciaries' deposits when held on behalf of beneficiaries. Pass-through insurance allows the $250,000 per depositor insurance ceiling to apply to deposits' ultimate owners, not the fiduciary.[183] For example, a fiduciary could deposit $250,000 from each of four individuals in a single account. Rather than having only $250,000 be insured, each individual would be fully covered and all $1 million in the account would be insured. The FDIC expressly limits pass-through insurance coverage to instances in which banks' records "expressly disclose the fiduciary relationship," banks' or fiduciaries' records "identify the actual owner or owners of the funds in the account and their respective ownership interests in the account," and "the funds actually are owned by the customer(s)."[184]

Some nonbank stablecoin issuers today claim pass-through insurance for their stablecoins, but providing pass-through insurance to nonbank-issued stablecoins is perhaps worse than providing it to bank-issued stablecoins. To obtain pass-through insurance, holders must purchase stablecoins from nonbank issuers with dollars, and issuers must—as their fiduciaries—deposit those dollars as deposits in FDIC-insured banks. Each user's stablecoins would be insured up to the $250,000 ceiling.[185] Banks must note in their records the fiduciary nature of account ownership and nonbank stablecoin issuers must maintain records identifying stablecoin ownership, including information sufficient to identify whether a stablecoin owner maintains other accounts at the bank[186] and evidence that ownership of stablecoins represent ownership of the deposits backing the stablecoins.

At least one stablecoin issuer—Paxos, which operates the USDP stablecoin—claims that FDIC pass-through insurance is available for their stablecoin holders, though insurance is difficult to

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[183] *See Your Insured Deposits*, FDIC (last updated Apr. 3, 2023), https://www.fdic.gov/resources/deposit-insurance/brochures/insured-deposits/ [https://perma.cc/5AA4-M6YQ]; *see generally* 12 C.F.R. § 330.5.

[184] *Guidance on Deposit Placement and Collection Activities by FDIC-Insured Institutions and Their Affiliates*, FDIC FIL-29-2010 (2010), https://www.fdic.gov/news/financial-institution-letters/2010/fil10029.html [https://perma.cc/VK8S-BW4T].

[185] *See id.* ("[T]he insurance coverage (up to the current $250,000 limit) "passes through" the fiduciary to the actual owners of the funds.").

[186] Because if they already have $250k at the bank, none of the stablecoins will be insured.

claim and not available in all situations.[187] Paxos's "US Dollar-Backed Stablecoin Terms and Conditions" state that purchasers of USDP "may elect to 'opt in' to obtain FDIC 'pass-through' deposit insurance for the portion of the reserve account backing [their] stablecoins represented by fiat cash maintained at insured banks . . . ."[188] However, obtaining and maintaining pass-through insurance is more complex than filling out Paxos's form; the company only "agrees to maintain records showing [their] interest in the fiat cash reserves held in deposit at insured banks," and expressly expects purchasers to "prove that these funds are owned by [them] in a manner satisfactory to the FDIC and [that they] meet other requirements necessary for FDIC pass through insurance coverage" without explaining what those other requirements are.[189] Further, pass-through insurance is unavailable if users hold USDP "in an omnibus account with others (such as at an exchange) or otherwise" or "transfer the USD Stablecoins from the wallet(s) identified to us during the opt-in registration to another wallet . . . ."[190] The pass-through insurance section of the terms and conditions concludes by explaining, in all caps, "if you do not opt in and you have acquired the [USDP] from a person other than Paxos, 'pass-through' deposit insurance will not be available to you on deposits backing your [USDP]."[191]

Paxos's limitations demonstrate the operational problems with granting pass-through insurance to stablecoins. Stablecoins could only be insured to the extent that issuers know the identities of their owners, which negates any privacy benefits of using crypto assets for payments; and the primary use of stablecoins today—for purchasing crypto assets—frequently requires the mixing of users' assets in third-party hosted wallets.[192]

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[187] *US Dollar-Backed Stablecoin Terms and Conditions*, PAXOS (July 8, 2022), https://paxos.com/2019/03/29/usdp-terms-conditions/ [https://perma.cc/DLC2-LJET] (claiming Paxos may still incur losses if insolvent because not all deposits are covered by the FDIC or private insurance).

[188] *Id.*

[189] *Id.*

[190] *Id.*

[191] *Id.*

[192] *See* Benedict George, *What Is a CEX? Centralized Exchanges Explained*, COINDESK (May 11, 2023, 11:21 AM),

Further, for those who have submitted identifying information to issuers sufficient for pass-through insurance, it may be difficult for nonbank stablecoin issuers to continuously update ownership records sufficient for FDIC purposes and move deposits into an omnibus bank account sufficient to meet its obligations to users. Issuers can record the identity of initial stablecoin purchasers, but may not know the identity of third-party recipients.[193] Even if issuers do have records of recipients' wallets (because, for example, they have previously been registered with the issuers), it is unclear whether issuers will track transactions and update records with sufficient frequently to match stablecoin ownership with bank deposits.

A hypothetical can help demonstrate. Initially, a stablecoin issuer has a record that User A has $10 worth of stablecoins, backed by $5 in deposits with Bank 1 and $5 in Bank 2; and that User B also has $10 worth of stablecoins, backed by $10 in deposits with Bank 1 and no deposits with Bank 2. Initially, the blockchain and the stablecoin issuer's records will be aligned:

Blockchain Wallet Records	
	Stablecoins
User A	$10
User B	$10

Issuer Deposit Records		
	Bank 1	Bank 2
User A	$5	$5
User B	$10	$0

At some point, User A transfers $1 in stablecoin to User B. User A now has $9 worth of stablecoins, and User B has $11. The

https://www.coindesk.com/learn/what-is-a-cex-centralized-exchanges-explained/ (explaining that centralized exchanges "often require that users deposit their crypto assets at the exchange before trading can happen.").

[193] *See* JP Koning, *What Happens if All Stablecoin Users Have to Be Identified?*, COINDESK (Sept. 14, 2021, 8:13 AM) ("Right now, a large chunk of stablecoin usage is pseudonymous. That is, you or I can hold $20,000 worth of tether or USD coin stablecoins in an unhosted wallet (i.e., not on an exchange) without having to provide our identities to either Tether or Circle, the managers of these stablecoin platforms.")

blockchain will be updated to show this, but the issuer's records may remain unchanged.

Blockchain Wallet Records	
	Stablecoins
User A	$9
User B	$11

Issuer Deposit Records		
	Bank 1	Bank 2
User A	$5	$5
User B	$10	$0

The issuer would be required to scan every blockchain transaction and update their records accordingly. If either bank fails and the issuer does not update their records, User B would be unable to claim pass-through insurance on the new dollar received.

Beyond operational challenges, pass-through insurance for stablecoins raises additional concerns. Stablecoin holders are likely to be confused as to the nature of insurance coverage if stablecoin *issuers* fail. This is no idle concern, as Voyager Digital's failure demonstrates. Voyager acted as a crypto bank, allowing users to deposit crypto that Voyager would then loan. In its advertising, Voyager falsely stated that "USD [U.S. dollars] held with Voyager is now FDIC [i]nsured" and "in the rare event your USD funds are compromised due to *the company* or our banking partner's failure, you are guaranteed a full reimbursement (up to $250,000)."[194] When Voyager failed, many customers were confused about whether they would be able to receive insurance for their dollar and stablecoin deposits with Voyager, asking questions on online forums like "Is our USD on Voyager really FDIC insured?"[195] One user commented that they "moved the [stablecoins] to USD for the 'safety of it,'" but did

[194] The Voyager Team, *USD held with Voyager is now FDIC Insured*, NODE (Dec. 18, 2019), https://web.archive.org/web/20210218190959/https://www.investvoyager.com/blog/voyager-is-now-fdic-insured/ (italics added).

[195] *Is our USD on Voyager really FDIC insured? Are there any loopholes where our USD is not covered for whatever reason?*, REDDIT (June 22, 2022), https://www.reddit.com/r/Invest_Voyager/comments/vib2sb/is_our_usd_on_voyager_really_fdic_insured_are/.

not withdraw their assets entirely.[196] Upon learning that "FDIC insurance does not protect against the failure of Voyager," another asked, "so even my USD in [V]oyager could be erased from existence?"[197] The FDIC and Federal Reserve subsequently sent a cease and desist letter to Voyager's chief executive officer and general counsel, but the damage had been done.[198] The FDIC also sent letters to five other crypto platforms for making similar misrepresentations.[199]

Additionally, allowing non-financial companies to issue insured stablecoins could violate longstanding policies against combining banking and commerce. This principle, imbedded in the Bank Holding Company Act, provides that non-financial entities should not control banks as commercial entities could use control of banks to privilege their activities over those of competitors.[200] Permitting non-financial stablecoin issuers to obtain pass-through insurance for holders would allow commercial entities to offer deposits and payment instruments, receiving the benefits of deposit insurance and Federal Reserve liquidity facilities without being subject to traditional bank regulations or examiner oversight. One

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[196] *Voyager Digital duped customers with FDIC insurance*, REDDIT (comment of u/patoshinakamoto) (Jul. 7, 2022), https://www.reddit.com/r/CryptoCurrency/comments/vtl711/voyager_digital_duped_customers_with_fdic/.

[197] *Statement from Metropolitan Bank regarding FDIC insurance for Voyager customers*, REDDIT (comment of u/curtiswaynemillard) (July 2, 2022), https://www.reddit.com/r/Invest_Voyager/comments/vpky9f/statement_from_metropolitan_bank_regarding_fdic/.

[198] "Joint Letter Regarding Potential Violations of Section 18(a)(4) of the Federal Deposit Insurance Act," addressed to Voyager Digital LLC (July 28, 2022), https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20220728a1.pdf.

[199] *FDIC Issues Cease and Desist Letters to Five Companies For Making Crypto-Related False or Misleading Representations about Deposit Insurance*, FDIC (Aug. 19, 2022), https://www.fdic.gov/news/press-releases/2022/pr22060.html.

[200] Bernard Shull, *The Separation of Banking and Commerce in the United States: An Examination of Principal Issues*, 8 FIN. MARKETS INSTITUTIONS & INSTRUMENTS, Aug. 1999 ("Banking law and regulation in the United States have customarily restricted the non-banking activities of banks and the banking activities of nonbanking firms, producing a separation of banking from commerce.").

scholar has also noted that this pass-through insurance could "compromise the integrity and effectiveness of our bank regulatory system and facilitate the growth of a second generation of shadow banks."[201]

Finally, granting pass-through insurance to nonbank stablecoins could lead to an elevated volume of brokered deposits, increasing risks for banks holding them.[202] Brokered deposits are those accepted by banks from brokers in the business of placing deposits with any number of banks[203] and, according to the FDIC "are correlated with behaviors that increase the risk of failure" for the banks that hold them.[204] "[B]rokered deposits are considered volatile" because deposit brokers are more sensitive to interest rates than core depositors and depositors that use deposit brokers do not have the same relationships with banks as core depositors.[205] This poses risks for banks because, as the FDIC notes, "the more likely a depositor is to leave a bank, for higher rates or when the bank is under stress, the greater the risk that the bank may encounter liquidity problems,"[206] and accordingly, the FDIC permits only those banks that are well capitalized to accept brokered deposits.[207] Although deposits backing nonbank stablecoins need not necessarily be brokered, given issuers' large sizes, they are more likely to use deposit brokers than the

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[201] Arthur E. Wilmarth Comment Letter, *supra* note 116.

[202] Although a December 2020 rule change, *see* 86 Fed. Reg. 6742 (Jan. 22, 2021) ("For brokered deposits, the final rule establishes a new framework for analyzing certain provisions of the 'deposit broker' definition, including 'facilitating' and 'primary purpose.'), may mean that some stablecoin issuers' assets would not be considered brokered deposits under FDIC regulations, they pose the same risks to banks. *See Statement by FDIC Board Member Martin J. Gruenberg on the Final Rule: Brokered Deposits and Interest Rate Restrictions at the FDIC Board Meeting*, FDIC (Dec. 15, 2020), https://www.fdic.gov/news/speeches/2020/spdec1520f.html ("However**,** an examination of the proposed changes indicates they relate less to technological change than to interpreting the Federal Deposit Insurance Act to dramatically narrow the universe of deposits that are considered brokered.").

[203] *See* 12 C.F.R. § 337.6 (2022) ("Brokered deposit means any deposit that is obtained, directly or indirectly, from or through the mediation or assistance of a deposit broker.").

[204] FDIC, STUDY ON CORE DEPOSITS AND BROKERED DEPOSITS 47 (2011).

[205] *Id*.

[206] *Id.*

[207] 12 C.F.R. § 337.6 (2022) ("An undercapitalized insured depository institution may not accept, renew or roll over any brokered deposit.").

average depositor.[208] Accordingly, they could pose flight risks to the institutions that accept them.

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The conclusion of this Part is that, with the exception of TDS, bank-issued stablecoins are unlikely to be insurable under the FDIA. Further, even if they are, significant concerns remain as to whether insurance would facilitate frictionless commerce, promote financial stability, and result in easy insurance payments. The FDIC should not enact a new regulation (nor Congress a statute) to insure bank-issued stablecoins without being able to address these apprehensions.

IV. *The Problems with Traditional Stablecoin-Based Payments*

In addition to the operational challenges, incentivizing the use of stablecoins by providing them taxpayer-backed insurance gives rise to additional policy concerns regarding decentralized blockchains vis-à-vis traditional, centralized payment infrastructure. Recently, the Treasury Department released a report detailing eight overarching policy objectives for payment systems.[209] Decentralized blockchains fail at least four of them. Although some make public blockchain-based payments out to be a payments panacea, they are not.[210]

Expensive, fragmented payment systems: While policymakers debate stablecoin legislation, it remains unclear how the bank-issued stablecoin market would actually develop. It is possible that many banks would take the opportunity to issue their

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[208] *See, e.g.*, *FDIC Pass Through Insurance Disclosures*, PAXOS (last accessed Oct. 28, 2022), https://paxos.com/2022/08/09/fdic-pass-through-insurance-disclosures/ (serving as an example of non-bank stablecoins being more likely to use deposit brokers).

[209] *See* U.S. DEP'T OF THE TREASURY, THE FUTURE OF MONEY AND PAYMENTS: REPORT PURSUANT TO SECTION 4(B) OF EXECUTIVE ORDER 14067 (Sept. 2022), https://home.treasury.gov/system/files/136/Future-of-Money-and-Payments.pdf.

[210] *See, e.g.*, *Go Cashless: The Rise of Stablecoins as Payment*, COINGEEK (last accessed Oct. 28, 2022), https://coingeek.com/bitcoin101/go-cashless-the-rise-of-stablecoins-as-payment/ ("[S]tablecoins are fast becoming a payment alternative and revolutionizing cashless payments").

own stablecoins. In this sense, the market could look similar to the "Free Banking Era" between 1837 and 1863.[211]

Prior to the creation of a federal currency (the greenback) and the National Bank Act of 1863, many states permitted banks to issue their own currencies without government supervision.[212] Although each currency was nominally based on the U.S. dollar, which Congress delineated as the nation's unit of currency in the Coinage Act of 1792,[213] the volume of currencies in circulation meant that holders could not be sure each bill was redeemable from the issuer for specie. According to one scholar who lived through that period, "there were hundreds of banks whose notes circulated in any given community, [each] with the prestige of money."[214] Merchants were required to evaluate each bill that was presented for payment, "regarding it was more probably 'good' if it were worn and dirty than if it was clean, because those features were proof of long and successful circulation."[215] Without the ability to accept currency except after significant due diligence and with risk, "[a] community . . . was deprived of the advantages of money."[216]

Having many bank-issued stablecoins in circulation—even if they are insured—may create problems for commerce. Today, merchants accept cash without considering whether that bills' issuing institutions has collapsed and accept checks, debit card, and credit card payments with the recognition that a third party—the ACH and payment networks like Visa, Mastercard, and American Express—will ensure that appropriate payments are deposited in their accounts. Bank-issued stablecoins will require those same levels of assurance if they are to facilitate frictionless commerce.[217] Some

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[211] Rolnick & Weber, *supra* note 147, at 18 ("The Free Banking Era was a time when entry into banking was nearly unrestrained, when banks could issue their own currency, when the government did not insure banks, and there was little supervision and regulation of bank activity").

[212] *Id*.

[213] Coinage Act of 1792, 1 Stat. 246 (1792) ("the money of account of the United States shall be expressed in dollars").

[214] William Graham Sumner, A HISTORY OF BANKING IN THE UNITED STATES 414, 455 (1896).

[215] *Id*.

[216] *Id*.

[217] *See* PWG Report, *supra* note 8 ("If stablecoin issuers do not honor a request to redeem a stablecoin, or if users lose confidence in a stablecoin issuer's ability to honor such a request, runs on the arrangement could occur that may result in harm to users and the broader financial system.").

intermediary may be required to help merchants validate the stablecoins they receive and stop payments made with those that are not. Oracles could potentially address this problem, but some entity—such as the existing payment networks—must program and continuously update these oracles.[218] Rather than stablecoins being equivalent to greenbacks, in this scenario they may be more like the multitudinous currencies issued by banks before the greenback's creation.

Further, the transaction costs imposed by blockchains are frequently higher than those of existing payment networks. Blockchains charge a flat transaction fee—the Bank for International Settlements (BIS) reports that, although crypto "transaction fees during times of modest traffic average around $1, they can average more than 75 times higher on days with high congestion"[219]—whereas credit card fees are "approximately 1.3% to 3.5% of each . . . transaction,"[220] and ACH fees are between a flat $0.25 and at most $0.75.[221] Stablecoin transactions on blockchains could be efficient for moving large volumes when network traffic is low but may not work for small transactions.

Blockchains' high fees are a consequence of the incentives built into their validation mechanisms, which also incentivize fragmentation of blockchain networks. According to the BIS:

> To maintain a system of decentralised consensus on a blockchain, self-interested validators need to be rewarded for recording transactions. Achieving sufficiently high rewards requires the maximum number of transactions per block to be limited. As transactions near this limit, congestion increases the cost of transactions exponentially. While congestion

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[218] *See supra* note 175 and accompanying text.

[219] Frederic Boissay et al., BLOCKCHAIN SCALABILITY AND THE FRAGMENTATION OF CRYPTO, BANK OF INTERNATIONAL SETTLEMENTS, BIS BULLETIN NO. 56, 3 (Hyun Song Shin ed., 2022), https://www.bis.org/publ/bisbull56.pdf.

[220] Lyle Daly & Jack Caporal, *Average Credit Card Processing Fees and Costs in 2022*, THE ASCENT (Mar. 9, 2023), https://www.fool.com/the-ascent/research/average-credit-card-processing-fees-costs-america/.

[221] *ACH Transaction fees and the Hidden Costs of Check Processing*, HOST MERCHANT SERVICES (last accessed Oct. 28, 2022), https://www.hostmerchantservices.com/articles/ach-transaction-fees-and-the-hidden-costs-of-check-processing/.

> and the associated high fees are needed to incentivise validators, users are induced to seek out alternative chains. This leads to a system of parallel blockchains that cannot harness network effects . . . [222]

The mechanisms needed to operate decentralized blockchains incentivize high transaction fees, which push transacting parties to search for blockchains with lower fees. Accordingly, in addition to having many different bank-issued stablecoins to track, merchants might also have to consider using many different blockchains in order to ensure sufficiently low payment fees (perhaps via an oracle that directs payments to the cheapest blockchain at any given time).[223]

Financial instability: The proliferation of stablecoins and blockchains described above is one possible path that the payment structure for bank-issued stablecoins could take. Another path, with significant concentration in stablecoin issuers, could cause financial stability concerns.

As the FDIC Chair noted, "[t]he development of a payment stablecoin could fundamentally alter the landscape of banking [as e]conomies of scale . . . could lead to further consolidation in the banking system . . . ."[224] Just as how credit card payments have coalesced around several networks, stablecoins could coalesce around several stablecoin issuers. This is plausible as three stablecoin issuers—Tether, Circle, and Binance—have collectively issued more

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[222] Boissay, *supra* note 218, at 1.

[223] To address the problems that come with having many blockchains, entrepreneurs have created cross-chain bridges that hold crypto assets on one blockchain and create equivalent assets on another—essentially, holding tokens on an expensive blockchain and creating tokens on a cheap blockchain that represent the original tokens. Transaction participants can then transact with the new tokens for cheaper. The BIS explains that "[n]ot only do bridges not solve the fragmentation of the blockchain landscape, but they imply that the consensus mechanism is highly concentrated, thereby introducing new security risks." These bridges also may hold significant amounts of crypto and are frequent targets of hacks. *Id.* at 4.

[224] Martin J. Gruenberg, Acting FDIC Chairman, Remarks by FDIC Acting Chairman Martin J. Gruenberg at the Brookings Institution on The Prudential Regulation of Crypto-Assets (Oct. 20, 2022), https://www.fdic.gov/news/speeches/2022/spoct2022.html.

than 90% of outstanding stablecoins.[225] If stablecoins were to become a dominant means of payment, it could result in a significant volume of dollar assets held by just a few institutions. The U.S. has just about 30 bank-holding companies subject to the Federal Reserve's stress tests (that is, they are the ones most concerning for systemic risk purposes)—shrinking that number down to just two or three would make those institutions more of systemic concerns than ever before.[226]

The U.S. payment system facilitated over $97 trillion in 2018 alone,[227] and bank account deposits currently stand at more than $18 trillion.[228] If payments were made via only a few bank-issued stablecoins, and those deposit accounts were migrated to just a few of the largest banks, those institutions would become by far and away the largest financial institutions the U.S. has ever seen—the largest commercial U.S. bank today is JPMorgan Chase, with "only" $3.3 trillion in total consolidated assets.[229] The failure of these institutions, with their massive footprints and importance to the financial and payment systems, could cause immense ripples throughout the economy, cementing their status as them too big to fail. Supervision and regulation would need to be handled accordingly.

Collapse of community banks: Additionally, the concentration of insured stablecoin assets in so few institutions could deprive smaller institutions of the deposits necessary to operate, necessitating their merger with larger institutions or driving them into

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[225] *See Top Stablecoin Tokens by Market Capitalization*, COINMARKETCAP (last accessed Oct. 28, 2022), https://coinmarketcap.com/view/stablecoin/.

[226] *See* BD. OF GOVERNORS OF THE FED. RSRV. SYS.,, 2022 FEDERAL RESERVE STRESS TEST RESULTS, (2022), https://www.federalreserve.gov/publications/files/2022-dfast-results-20220623.pdf.

[227] *See The 2019 Federal Reserve Payments Study*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Jan. 06, 2020), https://www.federalreserve.gov/paymentsystems/2019-December-The-Federal-Reserve-Payments-Study.htm.

[228] *Assets and Liabilities of Commercial Banks in the United States - H.8*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (Oct. 28, 2022), https://www.federalreserve.gov/releases/h8/current/default.htm.

[229] *Federal Reserve Statistical Release*, *Large Commercial Banks*, BD. OF GOVERNORS OF THE FED. RSRV. SYS. (As of March 31, 2023), https://www.federalreserve.gov/releases/lbr/current/.

bankruptcy and further consolidating the banking industry or moving payments entirely outside the banking system.[230]

The closure of community banks harms local communities.[231] Some bank mergers have resulted in lower interest rates paid on deposits and fewer, smaller, and higher-priced loans to individuals and small businesses.[232] Further, when called upon to assist the government in extending Paycheck Protection Program (PPP) loans to businesses affected by the COVID-19 pandemic, larger banks held a disproportionately low share of loans, implying that banks created by a series of mergers did not support the beneficiaries of the PPP program as effectively as their community bank counterparts.[233]

The reason for these results is partially that when banks become larger, they tend to forgo relationship banking with small businesses and individuals in their communities: They have the deposit base to provide loans and other financial services to large companies that they previously could not—and therefore the ability to earn greater returns on each transaction. Also, as lending becomes more automated and requires additional layers of approval in large banks, small businesses may require more individualized underwriting than large banks can provide. The consequences are significant: Fewer community banks results in slowing small

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[230] *See* Gruenberg, *supra* note 223 ("And the network effects associated with payment stablecoins could alter the manner in which credit is extended within the banking system – for example by facilitating greater use of FinTech and non–bank lending – and possibly leading to forms of credit disintermediation that could harm the viability of many U.S. banks and potentially create a foundation for a new type of shadow banking.").

[231] *See generally* Jeremy Kress, *Modernizing Bank Merger Review*, 37 YALE J. ON REG. 435 (2020).

[232] *See* Robin A. Prager & Timothy H. Hannan, *Do Substantial Horizontal Mergers Generate Significant Price Effects? Evidence from the Banking Industry*, 46 J. INDUS. ECON. 433 (1998); Allen N. Berger et al., *The Effects of Bank Mergers and Acquisitions on Small Business Lending*, 50 J. FIN. ECON. 187 (1998); Steven G. Craig & Pauline Hardee, *The Impact of Bank Consolidation on Small Business Credit Availability*, 31 J. BANKING & FIN. 1237 (2007); Paola Sapienza, *The Effects of Banking Mergers on Loan Contracts*, 68 J. FIN. 329 (2002); Mark J. Garmaise & Tobias J. Moskowitz, *Bank Mergers and Crime: The Real and Social Effects of Credit Market Competition*, 61 J. FIN. 495 (2006).

[233] *See The Importance of Community Banks in Paycheck Protection Program Lending*, 14 FDIC QUARTERLY 31 (2020), https://www.fdic.gov/analysis/quarterly-banking-profile/fdic-quarterly/2020-vol14-4/article1.pdf.

business formation, commercial real estate development, and new construction and increasing unemployment and income inequality.[234]

Bypassing anti-money laundering and countering financing of terrorism (AML/CFT) requirements: The existence of self-hosted crypto wallets complicates governmental counterterrorism efforts.[235] Federal law requires financial institutions to verify the identity of every customer and determine whether they appear on any known or suspected terrorist lists.[236] Domestic institutions must also conduct due diligence on correspondent accounts of foreign financial institutions to ensure that assisting foreign institutions in transactions does not facilitate money laundering or terrorism financing.[237] For suspicious transactions—regardless of amount—that occur even after these AML checks are conducted, institutions are required to file suspicious activity reports.[238]

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[234] *See* Bill Francis et al., *Bank Consolidation and New Business Formation*, 32 J. BANKING & FIN. 1598, 1604 (2008) ("small-to-medium size banks have the expertise in gathering 'soft' information, and consequently, making lending decision to small business"); Garmaise & Moskowitz, *supra* note 241, at 496 ("The market for small commercial real estate loans is localized due to information and agency considerations. . . .").

[235] *See generally* U.S. DEPT. OF THE TREASURY, ACTION PLAN TO ADDRESS ILLICIT FINANCING RISKS OF DIGITAL ASSETS (2022), https://home.treasury.gov/system/files/136/Digital-Asset-Action-Plan.pdf ("[T]he use of wallets not hosted by any [institution] is commonly known as an "unhosted" or "self-hosted" wallet. . . . Because unhosted wallet users can transact without involving any financial services provider, many of the most important obligations of [anti-money laundering] regimes applicable to financial institutions may not apply. This can limit authorities' collection of and access to information and reduce the effectiveness of preventive measures by financial institutions.").

[236] *See, e.g.*, 31 C.F.R. § 1020.220(a)(2)–(4) ("The CIP [customer identification program] must include risk-based procedures for verifying the identity of each customer. . . . The CIP must include procedures for determining whether the customer appears on any list of known or suspected terrorists or terrorist organizations").

[237] *See, e.g.*, *id*. § 1010.610(a) (requiring covered financial institutions "to detect and report, on an ongoing basis, any known or suspected money laundering activity conducted through or involving any correspondent account established, maintained, administered, or managed by such covered financial institution in the United States for a foreign financial institution.").

[238] *See, e.g.*, *id*. § 1020.320(a)(1) ("Every bank shall file with the Treasury Department, to the extent and in the manner required by this section, a

Moving payments away from banks and money transmitters that have these requirements could put the onus for stopping money laundering or terrorist financing transactions on individual wallet holders and limit the amount of information provided to the government. Whereas financial institutions are required to stop and/or report on every suspicious transaction, other persons receiving stablecoins in self-hosted wallets would merely be required to report transactions made "in the course of a such trade or business"[239] and that are for more than $10,000. Further, financial institutions are able to comply with such requirements due to their compliance departments; individual firms with self-hosted wallets may not even comply with these requirements.

Minimizing transaction and personally identifiable information collected by the government: While moving transactions to stablecoins and self-hosted wallets may frustrate federal AML/CFT efforts, doing so may also result in the government having insight into more payments than with current payment systems. Today, beyond suspicious activity reports, if governments want information about unreported transactions, the Right to Financial Privacy Act imposes significant hurdles[240] and limits requests to "legitimate law enforcement inquir[ies]."[241]

With blockchain-based payments, however, all transactions are public. Blockchains allow anyone to easily find information on each and every transaction, including the types of tokens transferred, amounts transferred, wallets the tokens were transferred from and to, and timestamps.[242] Importantly, once the government receives ownership information for wallets from financial institutions' customer identification checks or suspicious activity reports, they can

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report of any suspicious transaction relevant to a possible violation of law or regulation.").

[239] 26 U.S.C. § 6050I(a).

[240] *See* 12 U.S.C. § 3402 (requiring governments to have customer authorization, administrative subpoenas, search warrants, judicial subpoenas, or formal written requests before accessing or obtaining customer financial records).

[241] *See* 12 U.S.C. §§ 3405–08 ("A Government authority may obtain financial records under section 3402(2) of this title pursuant to an administrative subpoena or summons otherwise authorized by law only if—there is reason to believe that the records sought are relevant to a legitimate law enforcement inquiry.").

[242] *See* note 1, *supra*.

obtain a detailed picture of those wallet owners' financial activities.[243]

Amplified environmental impacts: The consensus mechanisms necessary to prohibit double spending of crypto assets can increase pollution. Proof-of-work blockchains require validators to solve repetitive mathematical functions to record new transactions (and earn rewards in the process), which is extremely energy intensive, and therefore the computers doing the work have large carbon footprints. The U.S. Office of Science and Technology Policy noted that "[t]he explosive growth of the digital asset ecosystem may contribute to greater energy use and negatively impact the climate."[244] By one estimate, 150 metric tons of carbon dioxide are used to mine a single bitcoin.[245] That equates to 473 kilograms of carbon dioxide per bitcoin transaction, or more energy than that which is required to validate 1.05 million transactions on Visa's network.[246] That study estimates that the annualized carbon footprint for all bitcoin mining is equivalent to that of Kazakhstan.[247]

Some blockchains validate transactions using the energy-efficient proof-of-stake method, which requires validators only to pledge collateral and the network selects pledgers at random (more pledged collateral means larger odds of being selected) for the privilege of recording transactions and receiving transaction fees.[248]

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[243] This is the basis the lawsuit Carman v. Yellen, No. 5:22-cv-00149-KKC (E.D. Ky. Filed June 10, 2022). Plaintiffs argue that reporting requirements "would provide enough information about the transactions to allow the government to identify them in the public ledger. The government could then ascertain the addresses of the individuals involved in the transaction. Using those addresses, it could ascertain the other, unrelated activities of those individuals, regardless of the amount involved in such other transactions and no matter when they occurred." Plaintiffs allege these reporting requirements violate the Fourth Amendment. *See id.* (Plaintiff's Brief at 27).

[244] Request for Information on the Energy and Climate Implications of Digital Assets, 87 Fed. Reg. 17105, 17105 (Mar. 25, 2022).

[245] *Bitcoin Energy Consumption Index*, DIGICONOMIST https://digiconomist.net/bitcoin-energy-consumption (last accessed April 2023).

[246] *See id*. ("1,047,819: The number of VISA transactions with a carbon footprint equal to the footprint of a single Bitcoin transaction . . .").

[247] *See id*. (comparing the annual Bitcoin footprints to Kazakhstan's electrical power consumption of 96.2 TWh).

[248] Jake Frankenfield, *What Does Proof-of-Stake (PoS) Mean in Crypto?*, INVESTOPEDIA (Sept. 27, 2022),

But because proof-of-stake validating may be less secure than proof-of-work and more vulnerable to attack,[249] while several blockchains have transitioned to proof-of-stake, others have remained proof-of-work.[250]

V. *The Benefits of Tokenized Deposit Stablecoins*

The problems with insuring traditional stablecoins are many: Insuring stablecoins as deposits does not further the policy goals of deposit insurance; insuring bank-issued stablecoins and applying per-holder ceilings pose operational challenges; and payment systems based on traditional stablecoins have significant drawbacks, including fragmented payment systems, the potential for financial instability and collapse of community banks, bypassing AML/CFT checks, invasions of privacy, and amplified environmental impacts.[251] The fact that the FDIA should not apply is the least of the many concerns.

Only tokenized deposit stablecoins (TDS) can address these issues. TDS are digital representations of traditional bank deposits that can be transferred on a blockchain.[252] Once TDS have been transferred, bank-to-bank settlement of reserves occurs off-blockchain and the tokens now represent assets held in the recipient's bank account or are removed from the ecosystem

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https://www.investopedia.com/terms/p/proof-stake-pos.asp ("PoS mechanisms require validators to hold and stake tokens for the privilege of earning transaction fees.").

[249] *See, e.g.*, Mickey Koss, *The Security Budget Flaw That Proof-Of-Stake Introduces*, BITCOIN MAG. (Sept. 28, 2022), https://bitcoinmagazine.com/technical/proof-of-stake-security-budget-flaw ("Mining requires hardware and energy inputs, both inherently scarce to begin with. Co-opting a network of scarce technology and energy inputs makes the task infinitely more difficult to perform, especially in a covert manner.").

[250] *See* Frankenfield, *supra* note 276 (noting that Bitcoin remains proof-of-work and Ethereum transitioned to proof-of-stake).

[251] *See supra* Parts III–IV.

[252] *See* Rod Garratt et al., *The Future of Payments Is Not Stablecoins*, FEDERAL RESERVE BANK OF N.Y. (Feb. 7, 2022), https://libertystreeteconomics.newyorkfed.org/2022/02/the-future-of-payments-is-not-stablecoins/ [https://perma.cc/WBK9-HF8P] (describing tokenized deposits as something other than stablecoins);

entirely.[253] Settlement of reserves can happen on a periodic or non-real time basis to make use of netting.[254]

Because TDS are digital representations of traditional bank deposits, providing them with deposit insurance clearly achieves the twin policy goals of allowing for maturity transformation but stopping bank runs and allowing unsophisticated individuals to use banks for investing without regard to credit risk. Similarly, TDS do not have the issues other stablecoins face with imposing deposit insurance ceilings, removing bad stablecoins from circulation, or confusion around whether an asset is insured. Insurers may easily set account insurance ceilings because there need not be any concern with tracking who owns which stablecoin at any given time. Whereas other stablecoins could reside in self-hosted wallets for which the owners' identities have not been verified, the owners of TDS are, by definition, easily identifiable.

Recipients of TDS need not worry about their worth. Because users of TDS will only have in their bank-managed crypto wallets stablecoins equivalent to the value of their deposits—prudentially supervised banks will make sure of it—receiving TDS is guaranteed to result in dollars added to recipients' bank accounts.[255] TDS also allow stablecoin holders to not worry whether issuers are liable to fail.[256] Rather than being

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[253] *See About Us*, USDF CONSORTIUM, https://usdfconsortium.com/about-us/ (last visited Apr. 3, 2023) (explaining that USDF Consortium banks "settle their net obligations over Fedwire Funds or FedACH and update their books and records accordingly").

[254] *See* Marshall Hargrave, *Netting: Definition, How It Works, Types, Benefits, and Example*, INVESTOPEDIA (Updated Nov. 11, 2020), https://www.investopedia.com/terms/n/netting.asp ("Netting is a method of reducing risks in financial contracts by combining or aggregating multiple financial obligations to arrive at a net obligation amount.").

[255] *See* GOKCE OZCAN ET AL., OLIVERWYMAN & ONYX BY J.P. MORGAN DEPOSIT TOKENS: A FOUNDATION FOR STABLE DIGITAL MONEY 2 (2022), https://www.jpmorgan.com/onyx/documents/deposit-tokens.pdf ("Despite the novel technology, in legal and economic terms, an on-chain tokenised bank deposit would be identical to a traditional off chain deposit.").

[256] *See id.* at 19 ("Deposit tokens derive their stable value in the same manner that non-tokenized deposits do today: confidence in the issuing bank's creditworthiness supported by a number of factors, including the bank's balance sheet and capital reserves, the regulatory environment in which it operates, its operational history, and, in some cases, the availability of deposit insurance.").

concerned about the health and safety of a variety of stablecoin issuers, TDS holders need only be concerned about the health of *their* bank, and only if *they* hold TDS above the insurance ceiling.[257] And there need be no concern about bad stablecoins being used on unsuspecting merchants: Not only do TDS disappear when the issuing bank disappears, but private and permissioned blockchains run by banks may be easily re-coded to stop failed crypto tokens from trading.[258]

The fact that TDS recipients need not examine the safety and soundness of issuers in order to decide whether to accept its stablecoins means that TDS have no potential to impose new financial stability concerns or move capital away from community lenders. Because all TDS are likely to be accepted by merchants, there are unlikely to be network effects or other incentives for customers to coalesce around a few large stablecoin issuers any more than there is an incentive for customers to bank with any one institution. This means that the use of TDS is unlikely to result in even larger institutions, nor would it incentivize the withdrawal of depositor capital from community banks.

Beyond the benefits of TDS themselves, the fact that they would most likely transact on private blockchains is similarly beneficial. Unlike public blockchains, which tend toward fragmentation and high fees, it is likely that all TDS would be transferred on a single or a few blockchains that are ubiquitous and low cost. Just as how the banking industry has come to use ACH and FedWire to facilitate payments today due to their ubiquity and low fees, the most universal and cheapest method of making TDS payments is with a single blockchain operated by the central bank or banks themselves. Whereas public blockchains rely on self-interested third-party validators, a bank-operated private blockchain need not produce significant profit as banks' profit comes from making loans with depositors' cash and can operate with low transaction fees,

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[257] *See* Parts II, III, *supra* (describing deposit insurance ceilings).

[258] *See* Gruenberg, *supra* note 223 ("[S]tablecoins would be safer if they were transacted on permissioned ledger systems with a robust governance and compliance mechanisms. The ability to know all the parties – including nodes and validators – that are engaging in payment stablecoin activities is critical to ensuring compliance with anti–money laundering and countering the financing of terrorism regulations, and deterring sanction evasion.").

much as how the Federal Reserve prices FedWire to recover costs[259] and the Clearing House, a consortium of some of the largest U.S. banks, operates ACH for the benefit of its members and other banks.[260] A single central bank- or industry-run blockchain could also easily use the energy efficient proof-of-stake validation method, thereby negating environmental impacts of transacting with crypto assets.

Further, using TDS in bank-hosted wallets that trade on private blockchains preserves banks' ability to comply with AML/CFT requirements. Federal law requires banks to verify the identities of their customers and to not facilitate suspicious customer transactions, including transactions with correspondent banks that do not comply with stringent AML regimes.[261] With TDS, banks can conduct required know-your-customer checks whenever customers open new accounts, and limiting TDS transactions to crypto wallets custodied by other supervised institutions that similarly verify accountholder identities means that TDS would not be transferred in violation of AML laws.[262] Further, the fact that the blockchain would likely be private would also mean that governments could not easily obtain public transaction information as is possible with public blockchains.

TDS have the potential to be used in some, though not all, existing blockchain applications. Stablecoins today are largely used to buy and sell other crypto assets on a variety of centralized and decentralized exchanges.[263] Centralized exchanges, like Coinbase,

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[259] *See* 12 U.S.C. § 248a ("Over the long run, fees shall be established on the basis of all direct and indirect costs actually incurred in providing the Federal Reserve services priced, including interest on items credited prior to actual collection, overhead, and an allocation of imputed costs which takes into account the taxes that would have been paid and the return on capital that would have been provided had the services been furnished by a private business firm, except that the pricing principles shall give due regard to competitive factors and the provision of an adequate level of such services nationwide.").

[260] *See Owner Banks*, The Clearing House (last accessed June 2023), https://www.theclearinghouse.org/About/Owner-Banks ("The Clearing House is owned by the world's largest commercial banks").

[261] *See generally* 31 C.F.R. §§ 1020.200–.220 (specifying the program rules for banks).

[262] *See id*. § 1020.210 (detailing banks' AML/KYC program requirements).

[263] *See* THE FUTURE OF MONEY AND PAYMENTS: REPORT PURSUANT TO SECTION 4(B) OF EXECUTIVE ORDER 14067, U.S. DEPT. OF THE TREASURY (Sept. 2022),

custody client funds in their own crypto wallets and provide for trading off of any blockchain (i.e., individual holdings are determined based on exchanges' personal ledgers, not any blockchain's).[264] When users purchase crypto assets, they would send TDS from their bank-hosted wallets to the exchanges' wallets and the banks would settle via wire transfer. Exchanges record sales of purchased assets on their ledgers, and then remunerate TDS from their bank wallets to the sellers'. Exchanges' and sellers' banks would complete transactions with another wire transfer.

TDS could also be used with decentralized exchanges, which are market making algorithms that match buyers and sellers but do not custody assets themselves.[265] However, for the operators of the private blockchain on which TDS trade to permit decentralized exchanges to be deployed and function, those exchanges would likely need to be controllable by some single party, operating like centralized exchanges but without taking custody of client assets.

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https://home.treasury.gov/system/files/136/Future-of-Money-and-Payments.pdf, at 17 ("today stablecoins are primarily used to facilitate trading, lending, or borrowing of other digital assets").

[264] *See Why can't I see my transaction on the blockchain?*, COINBASE: HELP, https://help.coinbase.com/en/coinbase/trading-and-funding/buying-selling-or-converting-crypto/why-cant-i-see-my-transaction-on-the-blockchain ("when transferring from a Coinbase account to another Coinbase account, the transactions occur off the blockchain").

[265] *See e.g.*, *What Is a DEX (Decentralized Exchange)?*, CHAINLINK (May 24, 2023), https://chain.link/education-hub/what-is-decentralized-exchange-dex ("A DEX (decentralized exchange) is a peer-to-peer marketplace where users can trade cryptocurrencies in a non-custodial manner without the need for an intermediary to facilitate the transfer and custody of funds.").

VI. *Conclusion*

TDS are the best application of stablecoins for payments: TDS are easily insurable under the FDIA without the problems associated with pass-through insurance; TDS use makes conducting AML/CFT requirements on crypto wallets easy; TDS issuers are unlikely to become as concentrated as other stablecoin issuers or remove assets from community lenders; TDS are unlikely to face an expensive, fragmented payment system; TDS preserve transaction privacy from the government; and using TDS would likely adopt energy-efficient transaction validation models.[266] Although TDS may not be perfect, other stablecoins have flaws that make them significantly worse.[267]

But because TDS are likely to be transferrable only to crypto wallets hosted by other banks, they appear to be little better than the current payments system in which deposits are already insured and payments are made cheaply and safely. The benefit of transacting with TDS is that blockchain payments are made in real time, which is an advantage over ACH and FedWire but not over the Clearing House's RTP network or the Federal Reserve's forthcoming FedNow service. Further, until and unless reserves settle at the same speed as retail payments, the speed of retail payments is not as important as it would be otherwise.[268]

If blockchains are more efficient than these other payment rails, then TDS serve a purpose. However, the fact that crypto assets have existed for nearly 15 years without being broadly used for retail payments calls into question whether such efficiency exists. And if blockchains are no better for payments than other systems, is there a point of TDS?

Probably not. TDS likely serve to assuage bankers' FOMO, or Fear of Missing Out, around crypto. The banking industry has pleaded with regulators to let their institutions participate in blockchain-related activities.[269] Consultants have advertised that

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[266] *See supra* Parts III, IV, V.

[267] *See supra* Parts III, IV (addressing the flaws with uninsurable stablecoins and public blockchains).

[268] *See e.g.*, *supra* Part V (discussing the process of how reserves are settled, describing that it may either be done on a periodic or non-time basis).

[269] *See* Michael J. Hsu, Acting Comptroller of the Currency, Remarks to the Harvard Law School and Program on International Financial Systems Roundtable on Institutional Investors and Crypto Assets (Oct. 11, 2022),

banks must engage in crypto transactions lest they lose customers.[270] Banking trade associations have argued for bank participation in blockchain transactions without fully describing how customers or banks would benefit.[271] One association argued that "banks would be able to use [blockchain technology] to modernize how they validate the identity of their customers and build trust faster," which is a tenuous use case at best.[272] Another argued that the "regulatory uncertainty [about the status of crypto assets] inhibits wider adoption and impacts community banks' ability to compete in a rapidly evolving digital economy," without explaining why wider adoption or why community banks' participation in crypto are positive.[273] A collective of 11 trade associations argued that proposed regulatory changes would limit banks "ability to respond to their customers'

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https://www.occ.treas.gov/news-issuances/speeches/2022/pub-speech-2022-126.pdf (noting that bankers "have admitted to me that they don't really understand or trust crypto as it exists today and that they see lots of risk, but they feel pressure to get on board to avoid getting left behind or being perceived as an anti-innovation luddite").

[270] *See, e.g.*, BANKING BLUEPRINT FOR THE CRYPTO WORLD, KPMG (2021), https://assets.kpmg/content/dam/kpmg/cn/pdf/en/2021/05/banking-blueprint-for-the-crypto-world.pdf ("How banks compete in the digital world has forever changed due to growing market acceptance of cryptoassets, the rapid advancement of cryptocurrency technology, and the at-scale participation of financial institutions in the crypto market."); *Digital Assets and Blockchain*, BAIN & CO., https://www.bain.com/industry-expertise/financial-services/digital-assets-and-blockchain/ ("With this [crypto] transition impacting the revenue pools of banking, payments, asset management, and other financial and nonfinancial services players, now is the time to embrace the movement").

[271] *See* Emily Flitter, *Banks Tried to Kill Crypto and Failed. Now They're Embracing It (Slowly).*, N.Y. TIMES (Nov. 1, 2021), https://www.nytimes.com/2021/11/01/business/banks-crypto-bitcoin.html ("And instead of warning regulators away from cryptocurrencies, banking industry representatives now complain that regulators have not acted quickly enough and that their inaction is costing banks valuable time in their mission to compete.").

[272] Letter from Consumer Bankers Association to Chief Counsel's Office, Comptroller of the Currency, *Re: OCC's Advanced Notice of Proposed Rulemaking on Digital Activities* (Aug. 3, 2020), https://www.consumerbankers.com/sites/default/files/FINAL%20-%20CBA%20on%20OCC%20Digital%20Activities%20ANPR.pdf.

[273] *Cryptocurrencies & Digital Dollar*, ICBA, https://www.icba.org/our-positions-a-z/payment/payments/cryptocurrencies.

demand for access to crypto[] products and services[, an] outcome is not in the best interests of customers, investors or the financial system more broadly," despite not explaining how access to those products and services would improve customers' lives.[274]

FOMO should not be a sufficient reason for government-insured institutions to undertake crypto-related activities. However, regulators should feel safe in permitting bankers to adopt tokenized deposit stablecoins in order to feel as though they have participated in what can only be described as crypto-mania.

[274] Letter from trade associations to the Basel Committee on Banking Supervision, *Re: Comments in Response to the Second Consultation on the Prudential Treatment of Cryptoasset Exposures* (Sept. 30, 2022), https://bpi.com/bpi-and-trade-coalition-responds-to-basels-prudential-treatment-of-cryptoasset-exposures/.