BEYOND TERRA:

An Assessment of Stablecoin Benefits and Policy

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MCGONIGLE P.C. (MCGONIGLE WILL BECOME PART OF DAVIS WRIGHT TREMAINE ON JULY 1, 2022)
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Executive Summary

The collapse of the Terra/Luna blockchain (now known as Terra Classic) is a watershed moment for the digital assets industry that warrants level-headed reflection about the future of “stablecoin” products. Given the upick in negative sentiment, this paper dispels harmful myths about the many promising varieties of stablecoins while acknowledging the specific weaknesses of the Terra/Luna protocol and its related UST “algorithmic” stablecoin. To respond to increased scrutiny around stablecoins in the wake of UST’s collapse, we recommend policies such as Self-Regulatory Organizations (SROs), Model Risk Management (MRM) discipline, and Sarbanes-Oxley-style certification for those stablecoins secured with high-quality reserve assets. We believe that this will improve information availability and transparency and therefore reduce, if not completely eliminate, the fear of any “run” or “contagion” on stablecoin assets.

Introduction

While the events of the UST collapse will take time to emerge in full, a lack of sober analysis has not stopped the appearance of an incumbent narrative that is diametrically opposed to the development of decentralized markets or their related innovations. This conclusion is built upon a number of faulty assumptions, including that the failure of UST calls the viability of other stablecoins into question, that the collapse of UST led to a “run” on stablecoins which caused Tether to “break the buck,” that UST is just one example of the “contagion” risk of digital assets that could become “systemic” within the wider economy, and that these events showcase the fatal flaw in blockchain-based decentralized finance as well as the need for severe regulatory intervention, if not the complete dismantling of the digital asset industry.

For example, Andrew Chow of Time writes how “many worry that the Terra crash is the first domino precipitating a long foretold ‘crypto winter’ in which mainstream investors lose interest and values remain low for months.” Edward Harrison of Bloomberg believes that “...some cryptocurrencies will be worthless and that capital investment in the space will slow to a crawl as investors nurse their losses, much as we saw in the Internet bubble.” Perhaps most damning are comments by Professors Hanke and Serkeke of Johns Hopkins University, who argue that given the collapse of UST, “it would be simpler to admit that stablecoins aren’t stable, cryptocurrencies aren’t stores of value, and a parallel, crypto-legal financial system isn’t essential for advancing finance.”

Yet none of these arguments appear balanced or objective, as they fail to refer to the different types of stablecoins available, any evidence that UST’s collapse caused these negative externalities, or even the barest hint that equities markets, and the general economy itself, are themselves in a steep downturn. We therefore contend that these alarmist accounts of the UST failure, along with its wider meaning for stablecoins, is what essayist Nassim Taleb might call a “narrative fallacy.” This occurs when “flawed stories of the past shape our views of the world and our expectations for the future.” Indeed, “narrative fallacies arise inevitably from human need to make sense of the world. The explanatory stories that people find most compelling are simple and concrete, rather than abstract, and focus on a few striking events that happened rather than on the countless events that failed to happen.”

Our assessment suggests that the accepted narrative about the consequences of the UST failure is, at best, a flimsy account of the past, but one which has power given its simplistic attempt to explain and make some sense of this event. Coupled with the many constituencies that wish to persuade us of the veracity of this flimsy and simplistic account, we feel the need to counter this false narrative with an objective review of all of the facts. Stated broadly, the market for stablecoins, the digital asset space and the wider financial services sector did not experience any contagion risk, thanks to the transparency of information on the blockchain. For contagion risk to spread, the owner of a Reserve Stablecoin would need to have believed that the failure of an Algorithmic Stablecoin like UST somehow impacted the quality of the assets in the treasury backing their own holdings, and the evidence shows this never occurred.

Thus, in order to advance such an argument, the first section of this paper explains the differences between Algorithmic Stablecoins like UST, Crypto-collateralized Stablecoins and other, fully-reserved (often referred to as “Payment” or “Fiat-Backed”) Stablecoins which are prevalent in the market. The second section discusses the ongoing uses of stablecoin technology and showcases its growing adoption. Third, we discuss the potential for “contagion risk” and “run risk,” concluding (despite numerous assertions to the contrary) that UST’s failure did not cause a run. Fourth, we address the facts related to the Terra/LUNA failure and compare it to other historic events, such as the run on prime money funds in 2008, while concluding that these scenarios were not identical. Seventh and finally, we make suggestions regarding additional steps market participants should take to enhance transparency and information availability and thus further reduce — if not eliminate — the risk of a stablecoin-driven “contagion” or “run”.

Reserve Stablecoins, Crypto-Backed Stablecoins, and Algorithmic Stablecoins

To analyze the Terra/Luna collapse, it is crucial to understand the difference between various stablecoin architectures, as the term “stablecoin” can mean different things for different digital assets and lacks one consistent definition. Former U.S. Commodity Futures Trading Commission (“CFTC”) Chairman Christopher J. Giancarlo notes that “the catchall term ‘stablecoin,’ though somewhat unavoidable, is not helpful. It obfuscates material design differences, such as the degree to which leading stablecoins are designed for compliance and low-friction Internet payments or to provide prudential care, custody and control of currency reserves supporting the instruments stable value. Not all stablecoins are created equal. In truth, some are more equal than others.”

Broadly speaking, stablecoins can be grouped into four major categories (or types) that vary considerably by design (see below). While all stablecoin assets are created to hold their peg to a stable external value (frequently, though not exclusively, the U.S. dollar) they each attempt to achieve this end through different means, and with varying levels of efficacy.

Summary of Stablecoin Assets

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The most conservative of these are Reserve Stablecoins, which represent two different types of tokens (Fiat- or Commodity-Backed) issued by a centralized organization that holds an equal number of assets or related assets in a corresponding bank or custodial account. While the type and amount of reserve assets varies across stablecoins, high quality assets include cash, cash equivalents and U.S. Treasury Bills for Fiat-Backed Stablecoins, or traditional commodities such as gold or diamonds for Commodity-Backed Stablecoins. Fiat-Backed Stablecoins such as USDC and Paxos are backed at a 1:1 ratio, and can be redeemed for those assets by the holder on demand (in a manner similar to Money Market Funds).

Entities that issue Reserve Stablecoins have often taken steps to embrace regulation, with major issuers such as Circle and Gemini registered as money transmitters. While these stablecoins are the most resilient to market forces and have yet to experience a run, their centralized nature means that they could be vulnerable to seizure or blacklisting by outside parties. Commodity-Backed Stablecoins are similarly centralized, but differ in that the underlying commodity may fluctuate in value with the commodity market and market fundamentals. As a result, such stablecoins have opportunities for asset appreciation (or depreciation) not seen in more traditional Fiat-Backed digital assets.

Crypto-Backed Stablecoins comprise “stable” tokens issued by an automated smart-contract protocol backed by a reserve of other digital assets. These smart contracts, also known as Collateralized Debt Positions (CDPs), are comprised of immutable blockchain computer programs that execute under certain conditions. For example, a CDP can detect when a borrower has deposited a requisite amount of a digital asset (such as ETH) into the on-chain “vault”, and permits the user to mint an equivalent amount of stablecoins backed by the collateralized asset. While these tokens do not require real-world reserves to be custodied by the issuing entity and thus are unlikely to be influenced by outside parties, they also present novel complications (such as smart contract risk) and are vulnerable to liquidation when the value of the underlying collateral drops.

These stablecoins are considered somewhat more secure than purely “Algorithmic Stablecoins” (such as UST, see below) because they are “overcollateralized,” increasing the chances that the user can repay the loan in full with the assets they have already deposited on-chain. For example, as a hedge against non-repayment in the DAI protocol, users must deposit more ETH into the CDP than the value of the stablecoins they wish to mint, giving added resilience to any DAI in circulation.

While such coins may also rely on algorithms to ensure their stability, Crypto-Backed Stablecoins are still considered less-risky than non-backed Algorithmic Stablecoins both because of this overcollateralization, and because of the nature of the collateral on which they depend. As ETH is a coin with its own network, the value of the ETH collateral fluctuates irrespective of the performance of DAI itself (something which was not the case for UST), and in this way, a sudden depegging of DAI would not necessarily harm the price of the underlying ETH collateral in a way that would lead to a cascade of DAI liquidations.

Algorithmic Stablecoins comprise the third and riskiest class of stablecoins. Unlike the aforementioned categories, Algorithmic Stablecoins like UST do not possess any on-chain or real-world collateral, but instead rely on “seigniorage” (the automated minting and burning of another, related asset with value that accrues from network usage) to hold the peg stable. In the case of Terra/Luna, for example, the Terra blockchain stabilized UST through redemptions of its secondary token, LUNA, which could always be traded on-chain for a dollar’s worth of UST. In this way, LUNA holders were incentivized to arbitrage the difference of value between UST and LUNA, returning the peg to a dollar through market forces.

10. Fiat-Backed Stablecoins are sometimes referred to as “Payment Stablecoins,” such as in draft legislation by U.S. Senator Pat Toomey.
However, while the design of Algorithmic Stablecoins theoretically circumvents the need to use underlying collateral to mint stablecoins, it is the lack of collateral that is one of the system’s many weaknesses. For example, when the value of UST dropped precipitously, the protocol automatically minted unsustainable amounts of LUNA as programmed, under the assumption that such large amounts would be redeemed. Instead, it caused the LUNA token to hyperinflate. This system was similar to the early design of Algorithmic Stablecoin Frax as well, but that protocol ultimately switched its design to partial-collateralization when the former proved unsustainable (something that Terra/Luna attempted in vain with BTC).¹⁵

Thus, it should be understood that the highly experimental nature of Algorithmic Stablecoins is in no way indicative of the lesser risk profile of Reserve and Crypto-Backed Stablecoins. Stablecoins vary in design and differ widely in risk profile. To lump them all together as the false narrative proposes is erroneous. To echo the quotation from Chris Giancarlo above: “Not all stablecoins are created equal. In truth, some are more equal than others,” as we demonstrate in the table below, which compares the pros and cons of the various stablecoin categories:

### Characteristics of Different Stablecoin Architectures

<table>
<thead>
<tr>
<th></th>
<th>Fiat-Backed</th>
<th>Commodity-Backed</th>
<th>Crypto-Backed (Over-Collateralized)</th>
<th>Algorithmic Stablecoins</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pro</strong></td>
<td>Reserved 1:1 by traditional financial assets; More Resilient to Runs; Can be regulatory compliant.</td>
<td>Backed by commodities with real-world uses (diamonds, gold, oil); More Resilient to Runs; Can be regulatory compliant.</td>
<td>Decentralized; Backed by on-chain assets; Assets resilient to protocol failure; Transparent.</td>
<td>Do not require underlying collateral; Can be built natively into the network.</td>
</tr>
<tr>
<td><strong>Con</strong></td>
<td>Requires real-world assets; Vulnerable to censorship; Requires collateral attestation.</td>
<td>Requires real-world assets; Vulnerable to censorship; Assets may fluctuate; Not redeemable 1:1 for other currencies; Requires collateral attestation.</td>
<td>Smart-Contract Risk; Debt Position Liquidation Risk; Loans must be “Over Collateralized.”</td>
<td>Highly unstable Peg; Not collateralized; Risk of hyper-inflation of underlying collateral.</td>
</tr>
</tbody>
</table>

### Uses for Stablecoins Today

While some observers have tried to exploit the collapse of UST to argue that all stablecoins are dangerous and without utility, this analysis is deeply flawed given their potential and the increasing demand for the sector. Even the traditionally cautious President’s Working Group on Financial Markets notes in a recent report that stablecoin assets are being “used in the United States to facilitate trading, lending, and borrowing,” acknowledging that their utility is likely to grow over time.¹⁶ Today, market participants and organizations can use stablecoins to access a number of innovative financial solutions. According to the Federal Reserve, stablecoins allow users to move money far more efficiently and cheaply than through traditional banking institutions, given they can be harnessed 24/7/365 without the need for intermediaries. Likewise, firms such as JPMorgan have employed stablecoin technology to move funds between subsidiaries, to manage wholesale transactions, and to make intraday repo settlements.¹⁷

Additionally, consumers are increasingly free to utilize stablecoins when making direct payments for goods and services through software platforms like Solana Pay, as well as for cross border payments and remittances.¹⁸

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According to payments platform Bitpay, 2% of its transactions were made using stablecoins as of 2021; and on Bitrefill, 1% of all purchases towards online gift cards were made using stablecoins. Corporations too can use stablecoins to facilitate the movement of goods along supply chains, and 5.7% of payroll expenses on the platform Gilded were settled using stablecoins between June 2020 and March 2021.

Stablecoins do play a role in speculative digital asset trading as well, and their ease of use and fast settlement time allows traders to quickly and efficiently transfer investment interests between different digital assets and platforms or into and out of fiat denominated assets. When combined with Decentralized Finance (DeFi) protocols, stablecoins permit investors direct access to financial products, opening up opportunities to individuals who might otherwise be cut off from traditional banking services.

In Argentina, for example, where decades of high inflation and financial mismanagement have eroded trust in the banking system and led to a flourishing grey market for money-conversion, cryptocurrency and stablecoin usage has soared to 10th in the world. According to trading firm Beunbit, an Argentine cryptocurrency exchange, the number of companies paying salaries in digital currency has soared by 340% in a year. This growing adoption speaks to a promising future for stablecoin usage in developing countries, particularly because of findings by the U.S. Federal Reserve that dollar-pegged stablecoins exhibit safe haven asset qualities. While the U.S. economy remains a long way from that of Argentina, it is worth remembering that no economy is truly immune from the perils of high inflation or financial mismanagement.

Because stablecoins are tokens, they can also easily interact with smart contracts that allow for pre-programmed or self-executing financial products. A popular use for this programmability is the combination of stablecoins and interest-bearing products, including through institutional-grade services such as USDC Yield. More generally, users can harness stablecoins to send money easily across borders without using a bank or paying predatory rates. This is particularly useful for transmissions to/from emerging economies and the unbanked (which make up an estimated 1.7 billion people). USDC issuer Circle believes its own Reserve Stablecoin, USDC, can help reduce the average cost of remittances from 7% of the total transfer to 3% in line with UN Millenium Development Goals.

In the wake of the calamitous situation in Ukraine, the use of stablecoins such as USDT has skyrocketed for humanitarian assistance and digital savings in a nation with an otherwise non-functional banking system.

While on-chain information about current daily stablecoin usage remains limited given the pseudonymous nature of digital wallets, the market capitalization of the stablecoin asset class has grown exponentially over the last few years, suggesting increased usage. According to London-based Fitch Ratings, the amount of stablecoin assets grew by 450%, to $156B as of December 13, 2021.

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20. Ibid.
Absence of Contagion or Run Risk

Literature on systemic threats to the financial system presumes that an asset has “connectedness.” However, while there may be a correlation between asset connectedness and contagion risk, asset connectedness does not automatically imply substantial risk of contagion, which risks are very typically mitigated through collateralization, hedging, and diversification. For example, no large bank has ever failed as a result of losses incurred in the interbank lending market.30

In the case of UST, there was little connectedness with other stablecoins or digital assets from which risk might spread, as UST was an Algorithmic Stablecoin that was unbacked by traditional assets of any kind. Nor did other notable stablecoins like USDC or Paxos hold any portion of their reserves in UST or LUNA tokens, as neither of these assets met the definition of “reserves.” In addition, although Crypto-Backed Stablecoins hold digital asset collateral that could be vulnerable to a broader market drawdown, and furthermore, the stability of the underlying tokens may be at risk as well; we note [see below] that Crypto-Backed assets like DAI have continued to perform as designed during the UST meltdown.31

In the immediate aftermath of the UST collapse, many commentators attempted to draw analogies to the 2008 crisis, stoking fears that the UST incident might somehow cause “contagion” or “run risk” in the digital asset markets. These comments both misunderstand the causes of the 2008 crisis and have been refuted by the factual record with respect to UST.

Early studies on the Global Financial Crisis first theorized about the role of “interconnections,” as observers assumed that the failure of one large financial institution brought down others through their debts and other obligations to one another (citing Lehman as the prime example). Yet no systemically important financial institutions failed because of Lehman’s sudden collapse, as its debts to other large financial institutions were not great enough to do material damage to its counterparties. Likewise, there was a lack of connectedness between Terra/Luna and other digital asset entities other than indirectly through the assets held by developers using its blockchain.

31. For more information on the specific collateral backing DAI, see chart on Page 9.
Contagion, on the other hand, was a precipitating cause of 2008. With respect to a financial market or system, contagion "occurs when an asset held by many financial firms suddenly loses substantial value.... [In 2008] the firms all had major exposures to the same assets – Private Mortgage-Backed Securities (PMBS) backed by NTM’s [Non-Traditional Mortgages]. When these assets began to lose substantial market value, all exposed firms were adversely affected at the same time." Contagion, therefore, leads to “runs on the bank” and follow-on damage.

In the case of UST, contagion did not spread. There was no “run,” even among Algorithmic Stablecoins, and Reserve Stablecoins held (and have since maintained) their peg at or very near to one dollar. It is therefore misleading to suggest that any financial asset which embeds features of stability and resiliency, such as Reserve Stablecoins, would be somehow fundamentally flawed or doomed to failure. To the contrary, the UST case has shown convincingly that Reserve Stablecoins passed the test of durability and resilience. For that matter, it is inaccurate to refer to rare occurrences like UST as “bank runs,” since the stablecoin objective and model are obviously disproportionate to that of a traditional bank.

**Stability of Dai During the Collapse of Terra in May 2022**

Consideration of the financial definition of “contagion” further suggests that wider damage was unlikely despite the rapid collapse of UST. “Contagion involves run behavior, whereby fears of widespread financial collapse lead to the withdrawal of funding from banks and other financial institutions.... denot[ing] the spread of run-like behavior from one financial institution to an expanding number of other institutions [and] reducing the aggregate amount of funding available to the financial system and in turn to the economy.”

As noted by Professor Hal Scott, financial institutions are vulnerable to contagion due to their dependence on short-term borrowing to fund long-term investment activity. When short-term debt investors suddenly refuse to extend funding, institutions that rely on such funding engage in asset fire sales and may ultimately fail. Similarly, banks and other financial institutions suffer from the issue of “loan maturity”, where borrowed loans cannot be quickly converted back into cash in the event of a margin call. In the case of stablecoins, however, issuing entities

34. Ibid.
do not attempt to convert short-term deposits into longer-term, illiquid loan portfolios. Instead, customers' deposits are converted into cash, short-term government securities, or other holdings that are both transparent (assuming accurate attestation) and can be liquidated so much faster than a mortgage or an industrial loan.

**Performance of Reserved-Backed Stablecoins (Minus Tether) During UST Collapse.**

Indeed, UST investors were not motivated to sell their UST holdings out of a concern for short-term debt, but rather sold because they (correctly) feared that the algorithm supporting the UST peg would fail and lead to a subsequent death spiral of UST value. The reserve balances of other stablecoins like USDC, minus Tether, actually increased in the face of these events by as much as 10%, which counters the narrative that a generalized run on stablecoin reserves occurred in the face of UST’s collapse. This mirrors findings by the Federal Reserve, which notes that the run-risk of stablecoins is limited to Algorithmic Stablecoins, and even then does not threaten the larger crypto-economy (or, for that matter, the wider financial system).\(^\text{36}\) In Tether’s case as well, it is worth acknowledging that the collateralized stablecoin met all $7.6bn of its redemptions without having to engage in a “fire sale” of assets.\(^\text{37}\)

Ever since the failure of UST, Tether has continued to release audits of its reserves, which most recently found that Tether’s assets still surpass liabilities and “far exceed” the amount needed to redeem all USDT issued.\(^\text{38}\) While it is...

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38. Hal S. Scott, Connectedness and Contagion, Protecting the Financial System from Panics, S.
true that the price of Tether traded as low as $0.95 for a brief period of time during the crash, this situation was quickly remedied and seems to have had no lasting impact. Put another way, an owner of a Reserve Stablecoin would have to believe that the failure of an Algorithmic Stablecoin like UST somehow impacted the quality of the assets in the treasury backing their own holdings, and it is difficult, if not impossible, to see a connection between the algorithm supporting UST and the overall quality of those short-term U.S. government securities backing Reserve Stablecoins generally.\(^\text{39}\)

To further quote Professor Scott, “an isolated run by short-term investors on a single financial institution is not an example of contagion. Contagion only occurs when a run at one institution or some other event induces short-term creditors of multiple other institutions to run, including from institutions that are adequately capitalized and have no financial linkage to the same set of problematic risk exposures.”\(^\text{40}\) In the case of the UST collapse, even on-chain analysis demonstrates that holders of other stablecoins were not over-redeeming.

Yet the fundamental transparency of those markets rooted in blockchain-based financial instruments provided protection against contagion as well. In an environment of contagion “the decision to exit is not made on the basis of specific information but rather because investors possess insufficient information to differentiate their own risks from those that others are — or appear to be — facing.”\(^\text{41}\) On-chain analysis revealed what was happening to various other stablecoins during UST’s depeg, and those who traded stablecoins on-chain could always hedge their risk or otherwise diversify, and so were unlikely to suffer from the “information asymmetry” that can be so damaging in other markets.

What happened to Terra/Luna may be better described by Professor Scott as a subset of “Information Economics.” Therein, he cites Gorton and Ordonez (2014) and Dang, Gorton and Holmstrom (2013) for their explanations about a run on repo and collateralized lending during the 2008 Financial Crisis. A lengthy example shows how asymmetric information can cause a run when market participants do not have adequate information about the assets supporting their lending; although it is worth noting that in the case of Terra/Luna, there were no “assets” to support lending in the traditional sense — only the efficacy of the algorithm itself.

“During ordinary periods, short-term collateralized debt is ‘money-like’ in the sense that traders of it are information insensitive. In other words, the prices of these assets are not sensitive to the release of new information, and market participants therefore have a limited incentive to generate this information. However, a small idiosyncratic shock [here, the withdrawal of UST from the Anchor protocol] can trigger investors to become information sensitive, which creates price drops as negative information is generated. In addition the fact that the assets become information sensitive means that some market participants will have superior information to other market participants (“asymmetric information”). Fearing that their counterparty has superior information, purchasers of these assets will offer prices lower than their expected value to avoid adverse selection (i.e., buying at a price higher than the asset is worth given existing information).”\(^\text{42}\)

Unlike a typical run, there was no asymmetric information with respect to the quality and value of the reserves backing fully-reserved stablecoins, particularly where those reserves were completely transparent. Thus, because there was no “new” information about those reserves because of the UST failure, there was no reason for a “run” to begin.

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\(^{39}\) Opponents would seem to demand the “perfection standard” for the digital asset industry, such that any element of the ecosystem operating at less than perfection (no matter the length of time) represents conclusive proof that the industry lacks any merit. Yet the authors wonder if the US financial and regulatory communities could meet such a standard?

\(^{40}\) Ibid. 10.

\(^{41}\) Hal S. Scott, Connectedness and Contagion, Protecting the Financial System from Panics, 10.

\(^{42}\) Ibid., 13.
Predictions of Systemic Disaster Vs. Actual Events — How UST Is Unlike 2008 and 2020

Reactions to the UST collapse on social media and in the more traditional press, as well as amongst regulators and some legislators, has been overblown and led to the biased and erroneous conclusion that all stablecoins are risky. We think it is disingenuous to use the far riskier Algorithmic Stablecoins as a proxy for all stablecoins. Rather, an objective review of the facts should place the UST events in their proper context. After all, the focus should be on the performance of the broader stablecoin marketplace.

Remarks frequently refer to Tether’s approximately 90-minutes of below peg trading as “breaking the buck.” However, much is omitted from such a description, as Tether has traded below one dollar in the past, including for periods longer than 90-minutes. Yet because of Tether’s utility for the transfer of value across blockchains, USDT has continued to grow and remain stable for those who own it. Such resilience should be contrasted with the fact that whenever a Money Market Fund has “broken the buck,” it has either been bailed out by the government or ceased to exist in short order.

In his own remarks at the Blockchain Summit, Acting Comptroller Hsu made the point that no contagion has spread to banks or other parts of the financial system. Yet rather than credit the resilience and transparency of the digital asset markets themselves, Acting Comptroller Hsu gave his agency (the OCC) credit for stopping any alleged “contagion” through the issuance of Interpretive Letter 1179 (in November 2021), which states that banks which plan to get involved in the digital asset markets should ensure they do so consistent with principles of safety and soundness.

However, that principle has always applied to any new product offered by a bank, and it is far-fetched to suggest that in the absence of IL 1179 between November 2021 and May 2022, banks would have done something different which would have generated losses in the Terra/Luna collapse. Of course, in practice, IL 1179 likely did reduce the ability for banks to engage in the stablecoin activities that IL 1170 and IL 1172 had permitted. But IL 1172 only allowed banks to hold stablecoins that were backed 1:1 by a single fiat currency for which they can be redeemed. Thus, IL 1172 never would have permitted a bank to hold UST in the first place, and IL 1170 merely allowed a bank to provide crypto custody services akin to offering a digital safe deposit box. Those assets were never allowed to be held on a bank’s balance sheet and the bank had no liability for the value of those crypto assets themselves.

Therefore, there is no logical basis to conclude that continuing to permit these sorts of activities to the extent they had been before IL 1179 (which in practice, limited the earlier IL 1170 and IL 1172) would have had any negative effect on any bank balance sheets when UST and LUNA collapsed. After all, IL 1172 never allowed any bank to hold UST and IL1170 did not permit a bank to have any involvement with UST or LUNA. What’s more, Acting Comptroller Hsu’s contention is even stranger when one considers that all Reserve Stablecoins (the only sort permitted under IL 1172) either maintained their peg or went up in value in the face of Terra/Luna’s collapse, and as such, the Acting Comptroller appears to be taking credit for avoiding a “disease” to which the patient was already “immune.”

43. 2022, pp. 1-6.
Suggested Courses of Action

As we have demonstrated, the risks of most stablecoins to both the digital asset ecosystem and the larger financial system has been blown far out of proportion. Context is nowhere to be found in these critiques, and at their worst, regulators and incumbents may be seeking to use UST as a “crisis” that only heavy-handed regulation could possibly solve. Indeed, these incumbents are counting on the fact that the worse such a “crisis” appears to be, the easier it will be to convince stakeholders that there is a need for harsh regulation. However, when put into their proper frame of reference, these events appear nothing like major crises of the past. To cite just one example, credit default swaps markets, also a subject of blame for the Financial Crisis, were valued at approximately $45 trillion in 2008, while the stablecoin market today is about 0.4 percent of that, at $180B.

Fortunately, “facts are stubborn things”, and our analysis reveals that the Terra/Luna ecosystem imploded not because of a fundamental flaw in the stablecoin asset class itself, but because of a flawed algorithmic model inherent to that specific protocol. The peg’s failure was observed in real time by the market and did not trigger a cascade of other token failures.

So how should regulators proceed? The best approach relies on voluntary actions taken by industry participants through Self-Regulatory Organizations, or SROs. As has been noted by IOSCO: “self-regulation, typically involving a unique combination of private interests with government oversight, is an effective and efficient form of regulation for the complex, dynamic and ever-changing financial services industry...[and] can be a valuable component to the regulator in achieving the objectives of securities regulation.”

Self-regulation is designed to “preserve market integrity...to preserve financial integrity...and to protect investors.” Adopting this self-regulatory approach, stablecoin issuers can take advantage of specialized industry knowledge, motivation, contractual relationships, transparency and accountability in crafting appropriate rules in a way that top-down governance cannot.

One solution may to create consortia of issuers and user that, through fair and transparent governance, develop standards on a consensus basis. For example, a committee of expert members of the consortia could be appointed to formulate standards for the release of information on the amount and quality of reserves backing stablecoins for the public (and regulators) to scrutinize. In the case of Reserve Stablecoins, this could require issuing entities to publish the quantity and composition of their reserves, featuring a “reserve asset liquidity disclosure” as a measure of liquidity across seven, 30- and 60-day timeframes. Independent auditing could be provided by third-party auditing firms, or in some cases, the banks holding the underlying assets themselves. Circle, the issuer of Reserve Stablecoin USDC, has made great strides in this area, voluntarily conforming to requirements for transparent money transmission in addition to recent moves to become chartered as a bank.

Indeed, key institutions such as the Bank of International Settlements (BIS) see bank oversight as the central component of stablecoin management. In a 2021 Consultative Document, they note the important role that banks play in verifying the ownership of the assets underlying stablecoins. These equities (such as cash, treasury notes and commercial paper) would need to be custodied and managed properly, with a framework to prescribe how assets are monitored regardless of who issues the stablecoin. If a Reserve Stablecoin’s issuer is public, the founders may also agree to obtain Sarbanes-Oxley-style certification for their operations, including founder attestations of internal financial controls, access to the asset treasury, personnel transparency, or reports on IT security and weaknesses.

47. Ibid.
48. Ibid.
While it is less likely that centralized entities will issue riskier Crypto-Backed or Algorithmic Stablecoins directly, an appropriate self-regulatory framework should be drafted for those who do. In some cases, companies may elect to participate in DeFi protocols to maximize a return on their assets, and thus could be exposed to non-Reserve Stablecoins in doing so. Likewise, organizations that issue decentralized stablecoins, most notably MakerDAO (creator of the Dai stablecoin and formerly the Maker Foundation), have begun their lifecycle as centralized organizations with the goal of slowly decentralizing over time.

In this case, centralized entities issuing Crypto-Backed or Algorithmic Stablecoins that have not yet decentralized could adopt self-certification requirements that confirm the algorithm or smart-contract code follows preset standards. This seal of approval would direct consumers toward protocols with a minimum viable level of security and transparency, even as it would need to specify that the traditional stability guarantees of Reserve Stablecoins do not apply. Similar self-attestation ideas have been proposed for Reserve Stablecoins as well, such as from Rep. Gottheimer (D-NJ), who proposed to “qualify” certain stablecoins with a seal of approval under the direction of the Comptroller of the Currency (OCC).52

While the exact circumstances of the Terra/Luna collapse remain contested, some reports suggest that Terraform Labs (possibly through its many detractors) were aware of underlying weakness in UST peg performance.54 If this assertion is ultimately borne out by evidence, it will highlight the need for increased voluntary discipline by Algorithmic Stablecoin issuers in their Model Risk Management (MRM) standards. While in the traditional banking world, MRA reports and enhanced oversight would surely follow such an incident, it would also be seen as a one-off event, and not as a failing on the part of the entire industry.

We commend legislators for taking a cautious approach to digital asset regulation so far, and believe that future policy should embrace the spirit of negotiated regulation, a concept put forward in President Clinton’s Executive Order 12866. This EO notes that “Federal Agencies should promulgate only such regulations as are required by law, are necessary to interpret the law, or are made necessary by compelling public need.”

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A self-regulatory approach should be sufficient to meet most of these demands, but in some circumstances, mandatory regulations will also be necessary. When such actions are undertaken, EO 12866 instructs agencies to “explore and, where appropriate, use consensual mechanisms for developing regulations, including negotiated rulemaking.” Although it may be tempting for regulators to pass down rulings for business to follow with limited consultation, this will lead to a needlessly antagonistic environment that has the potential to halt innovation in its tracks and chill industry enthusiasm for cooperation. Instead of drafting arbitrary standards, regulators could begin with the mandate that requires the backing and functioning of stablecoins to be attested to under penalty of perjury. We also strongly recommend that regulators take note of industry opinions submitted during Public Comment.

Reserves Backing the USDC Stablecoin (June 3, 2022)

<table>
<thead>
<tr>
<th>Balances</th>
<th>MAY 20TH, 2022</th>
<th>MAY 27TH, 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>USDC in circulation</td>
<td>$52.9B</td>
<td>$53.5B</td>
</tr>
<tr>
<td>USDC reserves</td>
<td>$53.0B</td>
<td>$53.7B</td>
</tr>
<tr>
<td>Cash</td>
<td>$12.8B</td>
<td>$12.5B</td>
</tr>
<tr>
<td>Short-duration U.S. Treasuries</td>
<td>$40.2B</td>
<td>$41.2B</td>
</tr>
</tbody>
</table>

More recently, Senator Pat Toomey (R-PA) presented a draft discussion of a bill which would create a federal charter for stablecoins through the OCC, subjecting all stablecoins to uniform standardization requirements. If the federal government elects to pursue this path, it will be crucial that they bring major stablecoin issuers to the table when drafting these rules, as imposing these standards unilaterally risks dampening innovation. Nor do we believe that the government should move to inhibit the development of Crypto-Backed or Algorithmic Stablecoins in their entirety, even as it acknowledges their shortcomings.

While undoubtedly riskier than Reserve Stablecoins and not yet ready for mainstream use, the innovations stemming from this novel financial experimentation may have profound advantages for the future of the digital asset industry within the United States. As one example, Algorithmic and partly-Crypto-Collateralized Stablecoin Frax has seen marked success over the past 18 months, and remains one of the few Algorithmic Stablecoins to have held its peg.

Ultimately, we stand ready to work with any regulator to further the cause of digital assets. However, we feel that a heavy-handed approach will undermine innovation of this novel space and disadvantage US competitiveness. It will be crucial to encourage a collaborative and non-punitive approach that leaves room for industry to state its needs and preferences. We also recommend ratification of the CFTC’s determination that stablecoins are commodities as defined under the Commodity Exchange Act, and that the CFTC is the appropriate primary regulator of these assets.

Conclusion

While the collapse of the Terra/Luna ecosystem warrants careful examination, there is a growing risk that regulators and the general public will learn the wrong lessons from this unfortunate event. So long as there are adversarially-minded observers arguing that UST’s isolated failure confirms the risk of all stablecoins or exemplifies the fatal flaw in the premise of blockchain-based decentralized finance, we are still in danger of over regulation. Indeed, such sweeping condemnation is itself a classic “narrative fallacy,” as a sober analysis of the circumstances of the UST collapse reveals that this isolated event had no bearing on the general utility and security of Reserve or even most Crypto-Backed Stablecoins, let alone posed a systemic risk to the broader financial system.

To capture and leverage the growing upside of stablecoin technology while preventing a repeat of Terra/LUNA’s mistakes, the best regulation will start with voluntary actions, including through the coordination of Self-Regulatory Organizations (SROs). Even when stronger measures are needed, they should be conducted in the spirit of negotiated regulation that was first proposed through President Clinton’s Executive Order 12866. Proposals that establish national charters or a uniform set of standards may also be explored, but should be created in partnership with stablecoin issuers and the private sector.

Ultimately, American firms are working to perfect the “killer-application” of digital assets: the stablecoin, which not only increases efficiency and lowers the costs of payment mechanisms, but promises to extend dollar dominance in this new technological age. While the collapse of UST was deeply regrettable and proves that suitable voluntary regulation has a role to play, misattributing this singular event to the nature of stablecoins in general greatly misses the mark. By advocating for too-harsh regulations, or worse, the dismantling of the digital asset economy, critics risk handing the next generation of financial advancements to other nations and setting the US back immeasurably in the race for digital currency and payment mechanisms. We look forward to ensuring that regulators achieve the best-possible outcome while fostering cutting-edge innovation, but a sober and level-headed accounting of the facts at hand will be necessary to achieve that goal.

*The GDCA is a global self-regulatory association for the digital asset and cryptocurrency industry. We were established to guide the evolution of digital assets, cryptocurrencies, and the underlying blockchain technology within a regulatory framework designed to build public trust, foster market integrity and maximize economic opportunity for all participants. Our broad-based membership includes digital asset trading platforms, proprietary trading firms, institutional investors, fund managers, merchant banks, brokerage firms, miners, node operators, custodians, banks, a DAO accelerator, law firms, auditing firms, insurance professionals, academics, consultants, and others.

To fulfill our mission, we create standards and consensus-based solutions designed to address responsibly the major challenges facing the digital asset and cryptocurrency industry. In doing so, we collaborate with stakeholders around the world, including industry leaders, professionals, policymakers and regulators. In particular, we:

- advocate for a regulatory environment that allows innovation and protects consumers, stakeholders, and the broader public interest;
- provide education, training, certification, and other resources to build human and technical capacity;
- provide thought leadership and facilitate industry engagement; and
- oversee its members through a self-regulatory mechanism that is guided by principles of accountability, integrity, and transparency to promote the highest professional and ethical standards.