



August 8, 2022

Via the Federal eRulemaking Portal (www.regulations.gov)

Mr. Daniel J. Harty, Director, Office of Capital Markets
U.S. Department of the Treasury
1500 Pennsylvania Avenue, NW, Washington, D.C. 20220

RE: Request for Comment (RFC) – Ensuring Responsible Development of Digital Assets¹
87 FR 40881 (FR Doc. 2022-14588, ID TREAS-DO-2022-0014-0001)

Dear Mr. Dan Harty:

On behalf of Data Boiler Technologies, I am pleased to provide the U.S. Treasury with our comments on the captioned RFC concerning the responsible development of Digital Assets. Data Boiler is a pioneer in patented trade processing and analytic solutions. We have engaged with regulatory agencies in the US and in Europe regarding market data, market structure, and trade surveillance matters. Followings are our responses to Questions 1-6 in the RFC 87 FR 40881.

(A) Adoption to Date and Mass Adoption

(1) What explains the level of current adoption of digital assets? Please identify key trends and reasons why digital assets have gained popularity and increased adoption in recent years. In your responses, please address the following:

We applaud the agency for attempting to define the term “mass adoption” as “a scenario where digital assets are accepted and used by the U.S. public on a large scale” with the example stating, “mass adoption of digital assets as a payment method would translate to use and acceptance of cryptocurrencies as a common and regular payment method for goods and services”. Yet, what constitute as “accepted and used” requires further clarity because “an acceptance” of something valuable for consideration of exchanging another valuable assets, as well as “usage” versus “ownership rights” on assets need appropriate discernment. The example merely point to “payment” as one of the many “functions” of any assets that has certain storage value and/or “capable of” being a “medium of exchange”. We acknowledged that there could be multiple “common and regular payment method for goods and services”. However, there should only be one denomination of “currency” for any particular sovereign nation, or else it would be like the warring states period before Qin dynasty unified currencies with Banliang.²

We came across the Brookings Institution has conducted a seminar on “The future of the US dollar: Are its days as the world’s dominant currency numbered?”³ This is an edgy topic. To some extents, it is related to whether the U.S. should permit the proliferation of digital assets in view of possible rise of ‘separatism’ dividing the America. The logical answer, and most developed countries’ choice, is limiting the adoption of digital assets. The opposing argument is – in order to preserve the U.S. as the world’s dominant power, the U.S. ought to be the pioneer to come up with a “mechanism” (1887 to the late 1910s when professional accounting “standards” were developed)⁴ to delineate all “rights” (assets) must equal to the corresponding “obligations” (liabilities) and accumulation of “capital”, amid the existence of diversified measurements in counting various “assets” in the prior days. We encourage policy makers to objectively approach the development of digital assets with the above economic and accounting frameworks in mind.

¹ <https://www.govinfo.gov/content/pkg/FR-2022-07-08/pdf/2022-14588.pdf>

² <https://min.news/en/history/47db2c389982212a9431a43de2bc81a3.html>

³ <https://youtu.be/htQpXmlcB0k>

⁴ <https://www.thestreet.com/investing/history-of-accounting-timeline-14944095>



- a. **Who are the users, consumers, and investors that are adopting digital assets? What is the geographic composition and demographic profile of consumers and investors in digital assets?**
- b. **What businesses are adopting digital assets and for what purposes?**
- c. **What are the main use cases for digital assets for consumers, investors, and businesses?**

The introductory paragraph of the Whitehouse’s statement⁵ on the President’s Executive Order already stated that “*Surveys suggest that around 16 percent of adult Americans – approximately 40 million people – have invested in, traded, or used cryptocurrencies. Over 100 countries are exploring or piloting Central Bank Digital Currencies (CBDCs), a digital form of a country’s sovereign currency.*” Also, various parties have published different studies and surveys⁶ regarding digital assets adoption and main use cases, so there is no point in repeating that other than affirming that digital assets adoption has already surpassed the critical mass stage. Therefore, policy makers should emphasis on the definitions of “users”, “consumers”, and “investors” to put things into the right contexts about digital assets.

To be a “**user**”, the goods and/or services being used by the person or a group must provide some sort of “use value” or “value-in-use”. “**Use value**” according to Marxist economics refers to the tangible features of a “**commodity**” (a tradeable object) which can satisfy some human requirement, want or need, or which serves a useful purpose. The worth of a commodity can be conceived of in two different ways:

- A commodity’s use-value is its usefulness for fulfilling some practical purpose;
- Value is a measure of a commodity’s worth in comparison to other commodities.

To be a “**consumer**”, the goods and/or services being consumed are primarily for “consumption” and **not for resale or for commercial purposes**. Different schools of economists define consumption differently. Mainstream economists only count the final purchase of newly produced goods and services by individuals for immediate use constitutes consumption, while other types of expenditure — in particular, fixed **investment**, intermediate consumption (e.g. lease and rental paid on use of fixed assets and ordinary maintenance and repair of fixed assets, but excluding value of the depreciation of fixed assets, and major renovations, reconstructions, or enlargements of existing fixed assets), and government spending (collective **services provided by the public sector and social transfers provided by government** to households) — are placed in separate categories. For protection of consumer rights, former President JFK has outlined the integral *responsibility of the government to the consumers* the following **consumer rights**: the right to safety, the right to be informed, the right to choose, the right to seek redressal against unfair trade practices and exploitation, and the right to be represented in courts.

To be an “**investor**”, the **capital** being allocated and/or invested by the person or entity would come with the **expectation of a future financial return and/or to gain an advantage**. The concept of **capital accumulation** (the dynamic that **motivates the pursuit of** profit, involving the investment of money or any financial asset with the **goal** of increasing the initial monetary value of said asset as a financial return whether in the form of **profit, rent, interest, royalties or capital gains**) developed in Marxian economics, has been fitted for use in capitalist system [*it should be emphasized that Marxian economics is distinguished from Marxism as a political ideology, as well as from the normative aspects of Marxist thought*].

⁵ <https://www.whitehouse.gov/briefing-room/statements-releases/2022/03/09/fact-sheet-president-biden-to-sign-executive-order-on-ensuring-responsible-innovation-in-digital-assets/>

⁶ <https://www.gemini.com/gemini-2021-state-of-crypto-us.pdf>;

https://www.statestreet.com/content/dam/statestreet/documents/Articles/Topline_Survey_Presentation.pdf



Where we are going from the above is that those **keywords highlighted in Green** help provide hints and directions of where digital assets should be regulated. The above distinct definitions of “user”, “consumer”, and “investor” if fit with the contexts of Digital Assets, then we can extrapolate that:

- the rights or discretions over the allocation and/or investment of digital assets in the form of “capital”, when accompanied with risks of capital loss and/or liabilities obligation in order to assert the corresponding rights to claim ownership of assets, then the party is an **investor**.
- If a party who has been assigned the rights to use digital assets, then the assignee becomes the beneficiary. **Users** can also obtain certain usage rights of digital assets through a “transaction” of payment, lease, subscribe, borrow or other form of compensation to the rightful owner of the digital assets.
- Depending upon whether the “transaction” has resale or for commercial purposes, the seller or lender of digital assets would **not** be qualified as a **consumer**, hence consumer rights is not applicable to such person or party.
- For consumption of digital assets that warrant the government protection of **consumer** rights, the digital assets must be a commodity worthy of its use-value or worth in comparison to other commodities that can satisfy some human requirement, want or need.
- Sport bets, lottery, or other forms of consumer goods and services that provide entertainment or “use value” other than having resale or for commercial purposes, or motives or the pursuit of capital accumulation, then such buy, sell, or borrow activities over digital assets should be guarded under **consumer** rights laws rather than subjected to investor protection rules.
- Business or not-for-profit entities (NPE) holding or engaging in digital assets transaction for resale or for commercial purposes should **not** be protected by consumer rights laws. Whether digital assets transactions for business or NPE should be classified as investment, operating or financing activities, logics similar to FASB 958-230⁷ should apply.

d. What are the implications for equitable economic growth?

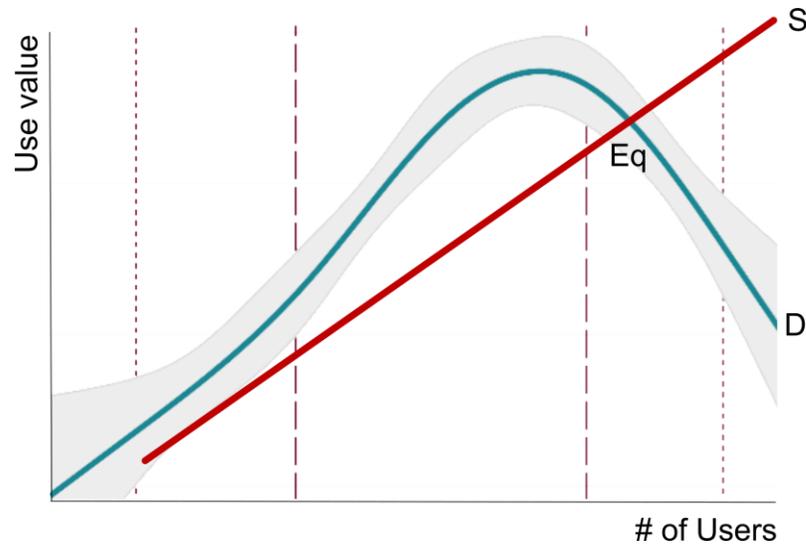
Various parties have published different studies⁸ regarding adoption of digital assets and microfinance / financial inclusion, so there is no point in repeating that other than affirming that there are successes, opportunities, as well as challenges. In general, new technology spurs economic opportunities, business innovations, and enhances customer values. Information technology (I.T.) industry typically has demand side economy of scale. I.T. products, including Distributed Ledger Technology (DLT) and Digital Assets, exhibit network externalities – i.e. its buyer value for those who consume it is higher, the great the number of other consumers who also consume the product. Digital assets in particular demonstrated a self-fulfilling belief that success brings more success, and it already surpassed critical mass (when enough people have bought it so it makes sense for new user to buy even though they expect nobody will buy in the future). We attribute this positive feedback phenomenon to the Metcalfe’s law,

⁷ <https://asc.fasb.org/imageRoot/15/98552915.pdf>

⁸ https://www.afi-global.org/wp-content/uploads/publications/2018-08/AFI_AfPI_Special%20Report_AW_digital_0.pdf;
<https://www.ifc.org/wps/wcm/connect/c2c10c0b-5377-4be2-a1bd-411152ebbc66/AIMM-Micro-and-DFS-Consultation.pdf?MOD=AJPERES&CVID=mHZL7HN>; <https://assets.kpmg/content/dam/kpmg/in/pdf/2018/12/microfinance-digital-fintech-collaboration.pdf>;



where use value increases by n^2 if network size is constant. When network size increase, demand would become an inverted U-Shape.



The chance of “market tip” (not underlying value of the product) is because of high network externalities and low desire of variety – therefore we observe a high concentration in Bitcoin and Ethereum with the largest market cap amid growing number of different digital assets trying to play catch-up. Like the Internet, digital assets reduce geographic boundaries. Unlike the Internet that reduces cost of price shopping, digital assets do not serve to reduce variance of prices for physical goods and services. So, apparent supply is not being increased. When couple with global supply-chain disruptions around the World, both apparent and actual supply reduce pushing up price and exacerbate inflation. Inflation exacerbates inequalities between the ‘haves’ and ‘have-nots’.

After understanding the implications of mass adoption of digital assets, now let’s look at the question about equitable economic growth. What is the definition of “equitable”? Fair and impartial from a US national interest standpoint may not necessarily be perceived the same by countries around the World. The US is blessed with abundant resources comparatively to countries with much higher population and/or productivity. Archbishop Desmond Tutu once said, “If you are neutral in situations of injustice, you have chosen the side of the oppressor”. “De oppresso liber” is the motto of the United States Army Special Forces. As mentioned earlier, the stage of digital assets development is like the warring states period before Qin dynasty unified currencies with Banliang². Until we the American figures out a way to use digital assets to better delineate rights and obligations around the World to eliminate injustice, it is premature to say whether mass adoption of digital assets would or would not advance the goal of “equitable economic growth” for both the US and rest of the World.

Technology in itself is neutral. Back in the days when plane was first design to fulfill the human dream of flying. Plane designers worked tenaciously to improve the aerodynamics in making lighter and faster planes with honorable intents. However, would the designers ever know their well-designed planes would turn into fighter jets during the World War II? This analogy can apply to DLT and Digital Assets. When one looks at the bright side of poverty able to get “money” with a quick scan of QR code, don’t they aware that beggars on the street with a big QR code sign to solicit money may be control, mobilized, and exploited by gangsters in alleged cahoots with the authoritarian! This may be just a tip of the iceberg for challenges in microfinance.



(2) Factors that would further facilitate mass adoption

- a. Describe a set of conditions or pre-conditions that would facilitate mass adoption of digital assets in the future. To the extent possible, please cite any public data related to the responses above.**

As mentioned earlier, digital assets already surpassed the critical mass. It does not require further “facilitation” to achieve mass adoption because of network externalities – a self-fulfilling belief. Besides, why would government agencies want to “facilitate” or use regulatory policy to directly and indirectly intervene the market? Digital assets have nothing to do with inalienable rights of American. The sector is not a public utility. And we are not aware of any antitrust or monopolistic threats in the sector at this time. Therefore, legislators and regulators should refrain from giving the sector a policy boost to avoid showing favoritism to certain commercial or consumer activities.

- b. What developments in technology, products, services, or markets account for the current adoption of digital assets? Are there specific statutory, technology, or infrastructural developments that would facilitate further adoption?**

DLT in itself is not any innovative technology, indeed its history chased back to Rai stones⁹. Thanks to IBM and other big tech firms giving Blockchain and the like a big boost since 5+ years ago, people became more active in considering possible use-cases for the technology. Technically, DLT- Blockchain is not without flaws. In a 2017 press interview¹⁰, I have made the following comments or concerns, which still hold truth as of today:

- “Not all ‘hard-forks’ of Blockchain are beneficial, and some may hurt the consumers and/or participants... Hard forks are like the reset button on a computer. There are points through the hard fork process where Blockchain can do some upgrades to the system. But, like when you hit a reset button on your computer, you incorporate additional details into an algorithm that are not necessarily always beneficial all the time. It could introduce risks into your programs. It all depends on what kinds of upgrades they add through that hard fork process.
- Another main concern ... about Blockchain is the possibility that its two-factor authentication process is vulnerable to breaches because it relies on a reusable login key... the encryption process used to secure access information may not be safe from “keylogging,” a technique used by Microsoft and Google for “machine-learning,” the process through which computers learn without being programmed. He said there are ways that hackers could reverse engineer the Blockchain authentication process to gain access to the data.
- To compare the type of encryption breach he fears for Blockchain to the risk of a “51 percent attack,” ... he is not concerned about such an attack on Blockchain systems... because it will take eight times the power of super-computer to compromise the integrity of Blockchain...
- Don’t get me wrong ... Blockchain-distributed ledger is a revolutionary way to disrupt or ‘disintermediate’ the centralized bureaus, such as banks and the Depository Trust & Clearing Corp. (DTCC). The irony is the DTCC is also a big investor in Blockchain.
- Some potential investors may be resistant to Blockchain because they will not be willing to give up traditional practices that they know and trust to yield lucrative profits, and this could hinder the technology going forward.”

The above-mentioned challenges (e.g., the “reuse” backdoor and keylogging) can possibly be addressed. Yet, many digital assets choose not to implement the corresponding controls because it is either not required or there lack

⁹ <https://www.unblocktalent.com/topics/chronology/history-of-distributed-ledger-technology/>

¹⁰ http://media.octoberresearch.com/pdfs/2017_Mortgage_Technology_Report.pdf



peers' pressure to do it. More significantly, the crypto sector seems totally unprepared for the arrival of Quantum computing. "51 percent attack" could be cracked open within seconds by Quantum, making most if not all of today's DLT-Blockchain and other cryptography security vulnerable.

The risk of a "51 percent attack" is when one entity gaining ownership of more than half of a system's computing power in hacking the "proof of work" algorithm (Bitcoin in particular). Solana uses "proof of stake", while the Ethereum will soon transition from proof of work to proof of stake through a merge¹¹ of two Blockchains. Risks of any merge or hard-forks change are unprecedented, we will have to wait and see the outcomes of these technical developments of DLT-Blockchain and the chain's interfaces (e.g. digital wallets).

Regarding digital assets' products, services, and markets, we think the legacy players in the financial industry are pouring billions in building related infrastructure. Digital asset infrastructure presents an even larger investment opportunity than digital assets themselves.¹² We attribute this phenomenon to these encumbrances' preference for "rent seeking"¹³ over subjecting themselves to the regulatory uncertainty and market volatility of digital assets. Hence, there is the issue about 'skin in the game'. It solidifies the dominant powers of the elites, discourages DeFi to have healthy competition against the legacy TradFi or CeFi,¹⁴ and exacerbates the gap between the 'haves' and 'have-nots'. As a counter response, DeFi of Digital Assets' products, services, and market strategy should focus on digital scarcity (e.g., digital art)¹⁵ and digital property rights ("historically, the only way to 'own' something online has been to have your ownership recorded by a trusted third party in a proprietary database"¹⁶).

All-in-all, we think fostering healthy competition between DeFi and CeFi is a good thing for the society. It's been a long time that legacy CeFi accumulated too much bureaucracy, barriers, and inequity. DeFi have the opportunities to keep CeFi intact by coming up with more efficient and effective mechanisms, smart contracts, and whatnot to better delineate rights and obligations and assert digital property rights. Unfortunately, many of the DeFi initiatives in reality were actually short-sighted, looking to make some quick bucks and expected to be acquired by large elites (legacy FinTECH or dominant Digital Assets players) for exit strategy. At the end of day, the gap between 'haves' and 'have-nots' remains, polarized fights continue, economy suffer because of social unrest.

[Disclaimer: we at Data Boiler, have patented inventions that use time-lock cryptography¹⁷ to make market data available securely in synchronized time to address aggregation distance/ location differential issues, as well as transform trades into music with appropriate obfuscation to enable broker-dealers to claim ownership of data via a proposed Copyright Licensing Mechanism¹⁸. We are not DLT-Blockchain vendor per se. We encourage CeFi to adopt market reforms for improve market integrity. We do not rule out possibility in joining any DeFi to continue to serve the American's best interest if regulators fail to uplift FRAND and weed out conflicts in the legacy space.]

¹¹ <https://www.cnet.com/personal-finance/crypto/ethereum-merge-explained-why-it-matters-for-everyone/>

¹² <https://www.forbes.com/sites/vaneck/2021/05/05/4-reasons-investors-should-look-into-digital-assets-infrastructure/?sh=424215871465>

¹³ <https://corporatefinanceinstitute.com/resources/knowledge/economics/rent-seeking/>

¹⁴ <https://www.forbes.com/sites/dushyantshahrawat/2022/07/27/claims-that-defi-is-unraveling-or-structurally-flawed-are-unfounded/?sh=62128f52491d>

¹⁵ <https://marker.medium.com/the-real-potential-of-nfts-b1bf88b24a1c>

¹⁶ <https://www.cfainstitute.org/-/media/documents/article/rf-brief/rfbr-cryptoassets.ashx>

¹⁷ <https://www.linkedin.com/pulse/market-data-available-securely-synchronized-time-kelvin-to/>

¹⁸ <https://www.databoiler.com/index.htm/files/DataBoiler%20Copyright%20Licensing.pdf>



(B) Opportunities for Consumers, Investors, and Businesses

(3) What are the main opportunities for consumers, investors, and businesses from digital assets? For all opportunities described, please provide data and specific use cases to date (if any). In your responses, please consider:

a. Potential benefits of decentralized and disintermediated systems

Digital scarcity and digital property rights to keep CeFi intact by coming up with more efficient and effective mechanisms, smart contracts, and whatnot to better delineate rights and obligations and assert digital property rights. See our respond to Q2(b) for an elaborated discussion.

b. Creation of new types of financial products and contracts

The financial industry never short of new products by way of digitization – from the day of Microfiche of custodian records, to Electronic Communication Networks (ECNs) that disrupted the Stock Exchange’s floor-based model, to today’s wide adoption of smart contracts. Therefore, digital assets aren’t anything new, but more so the manners of digitization enabling changes in market structure. Among which, we found the FTX direct clearing model¹⁹ particularly interesting and controversial. Such cut out of the middlemen approach is non-novel. We came across suggestions²⁰ by Professor Kurt Dew (whom did project for CME in the past) advocating for a simpler clearing system that routinely provides each retail investor with a simple audit trail to get the retail investors a fairer deal. CME strongly opposed FTX’s model citing risk concerns.²¹ It is a moot point to argue the pros and cons between direct versus a brokerage approach, except: (1) we acknowledge that the existing clearing system has room for improvement (e.g. uncleared margin rules) and, (2) bundling offer that uses affiliated clearing services in attempt to create lock-in for a trading venue could possibly be a form of price discrimination impairing market efficiency.

c. Potential for improved access to and greater ease of use of financial products

Please see our respond to Q1(d) regarding financial inclusion / microfinance.

Regarding access to the capital markets or digital assets space, the current investor protection rules are problematic in itself for all asset classes. What constitute as “professional” versus “retail investors” has caused significant arguments²² within the trading community. For example, a janitor whose work function has nothing to deal with trading decision but employ by a broker-dealer would be considered as a “professional” for his/her occasional trading activities under the current regime. Whereas a FinTECH C-suite whom is well-versed with digital assets and engaged in sophisticated day-trading may be classified as “retail” non-professional at traditional trading venue, whilst Crypto exchange may classify him or her as “professional”.

Also, the existing definition of “accredited investor” is only reachable by the elites, which limiting the access of majority of American to capital accumulation opportunities.

In addition, the MEME stocks phenomenon exacerbates the challenges for regulators. In the cyberpunk era, who has the sophistication to Gamma-squeeze the hedge funds, mobilize the naive to move prices (the gag would have been prohibited if it occurred at a broker-dealer), lambast the top market-makers to advance controversial agenda on payment for order flow... a rebellious move by an insurgent or who has the war chest to orchestrate a market

¹⁹ <https://www.sifma.org/resources/general/house-ag-ftx-hearing/>

²⁰ <https://seekingalpha.com/article/4457021-simplified-transparent-retail-trading>; <https://seekingalpha.com/article/4459314-when-retail-traders-confront-wall-street>

²¹ <https://docs.house.gov/meetings/AG/AG00/20220512/114729/HHRG-117-AG00-Wstate-DuffyT-20220512-U1.pdf>

²² <https://www.nasdaq.com/articles/who-counts-as-a-retail-investor-2020-12-17>

wide shake-up? Foreign adversaries would like to see the US engage in “unhealthy” competition to possibly erode the US's prominent market position. Many don't seem to realize the emerging threats against capitalism, or dare to admit it. DeFi and De-dollarization movements are on the rise and reap benefits out of chaos.

We think the definition of “professional” versus “non-professional” would be better delineated as – those who are able to compose a full “song”²³ versus those who play only a few single “notes”. For the “featured artists” wanting to earn the royalties, they will identify themselves and bear their fair share of responsibilities (profit/ liabilities). This will help identify bad actors if their composed trades end up causing market chaos/ manipulation. This copyright licensing mechanism¹⁸ is applicable to be implemented across all asset classes, including digital assets.

d. Potential opportunities for building wealth

Process of building wealth must accompany with corresponding risk taking. Currently the regulatory regime is “prescribing” what risks various market participants (retail in particular) are allowed to take. This mentality is like overprotective parents being obsessed with their children. It takes practices overtime to accumulate knowledge to become good at a certain thing. Regardless of children or adults of all age, gaming is an effective way to learn whilst the current securities exams emphasized on memorization of the entire SEC and FINRA rules. “Gamification” does not necessarily equate to a negative connotation of nourishment or tempting behaviors. It can be a mean to learning through creating similar experiences or simulations to get a person ready for the real World. Indeed, game theory is an important economics subject that underpins the society's market structure. The US has the best online Gamers in the World that got higher viewership than many Olympic Sports. It is not about whether an individual passing the FINRA professional series 7 or 63 exam, income greater than \$200,000 to qualify as accredited investor, or giveaway “degrees” to more people (UK failed policy in around the millennium that resulted in high unemployment rate among higher educated population). Why not release this enthusiasm and positive power of gaming to enable the general public's willingness to use independent critical thinking to research, learn, and apply skills to take educated risk in investing? Youngsters in foreign countries learn about economics, statistics, and accounting since middle-to-high school and exposed to investing, options and index trading before turning adult. If the US does not want to turn into a socialist country that majority of people rely on government subsidies to survive, then let's create an environment for our next generations where they can build wealth through tenacious studies and practices (including chance of failures and quick recoveries) to learn, unlearn, and re-learn²⁴ about the capital markets and free economy. Our suggestion here is applicable to both digital assets and the subject of finance in general.

e. Potential benefits of interacting with counterparties, suppliers, vendors, and customers directly

Without repeating the long list of benefits that digital assets can provide in interacting with counterparties, suppliers, vendors, and customers, we just want to emphasis the key challenge in realizing these benefits – existing encumbrances or the CeFi unwilling to give up their lucrative stakes in pushing papers. Their resistant to fully embrace DeFi, DLT-Blockchain could hinder the technology going forward.

Take electrification of paper-based Letter of Credit (L/C) for example. It has proven that billions can be saved by digitizing this trade finance process. A consortium of major banks around the world established Bolero system

²³ <https://www.linkedin.com/pulse/trading-venue-perimeter-related-market-data-issue-kelvin-to/>

²⁴ <https://pacs.ou.edu/blog/learning-how-to-learn-reflecting-on-the-work-of-alvin-toffler/>



about three decades ago in pursuing that goal. There are also countless systems and projects²⁵ that use Blockchain, smart contracts, and/or digitized networks to streamline the paper-intensive trade finance practice. Reality is – none of these initiatives have been able to sunset the Uniform Customs and Practice for Documentary Credits (UCP). Our point is – the technology in itself only plays a small part; it is the business models and market structure that determine whether related economic opportunities can be realized in achieving the desirable outcomes to benefit the end-users/ customers.

f. Potential for improved cross-border payments and trade finance

Please see our respond to Q3(e).

(C) General Risks in Digital Assets Financial Markets

(4) Please identify and describe any risks arising from current market conditions in digital assets and any potential mitigating factors. Identify any such responses that directly relate to:

We are thankful that the Financial Stability Board (FSB)²⁶, the Bank of England (BOE)²⁷, and others have already compiled several comprehensive assessments of risks to financial stability from digital assets. In particular, this Table 2 exerted from the IMF’s report²⁸ Chapter 2 is noteworthy:

Table 2.1. Financial Stability Challenges

Crypto Ecosystem	<ul style="list-style-type: none"> Operational, cyber, and governance risks Integrity (market and AML/CFT) Data availability/reliability Challenges from cross-border activities
Stablecoins	<ul style="list-style-type: none"> How stable are stablecoins? Domestic and global regulatory and supervisory approaches
Macro-Financial	<ul style="list-style-type: none"> Cryptoization, capital flows, and restrictions Monetary policy transmission Bank disintermediation

Source: IMF staff.

Note: AML/CFT = anti–money laundering/combating the financing of terrorism.

To add and augment to the list of risks, we have the following comments:

²⁵ <https://www.finextra.com/blogposting/17117/trade-finance-consortia-a-market-overview>;

https://www.wto.org/english/res_e/booksp_e/blockchainrev18_e.pdf ;

https://ieg.worldbankgroup.org/sites/default/files/Data/reports/chapters/gtftp_chap2.pdf

²⁶ <https://www.fsb.org/wp-content/uploads/P160222.pdf>

²⁷ <https://www.bankofengland.co.uk/-/media/boe/files/financial-stability-in-focus/2022/cryptoassets-and-decentralised-finance.pdf>

²⁸ <https://www.elibrary.imf.org/downloadpdf/books/082/465808-9781513595603-en/ch002.xml>



a. Market transparency, including pre- and post-trade transparency

The SEC in the US, the FCA in the UK, and other jurisdictions among major markets in the World have established Pre-and post-trade transparency. In general, digital assets should follow similar regulatory oversights amid these pre- and post-trade transparency rules are undergoing major reviews.²⁹ In particular, we are perturbed by the SEC's propose rules regarding Investor Protections in Communication Protocol Systems (CPSs) and Alternative Trading Systems (Release No. 34-94062).³⁰

Per our comment letter to the SEC in April 2022³¹, "Transparency does not always help advance the goals of the Commission. The larger firms may have wider "shoulders" to bear the burden through big law or consulting firms which smaller players cannot afford, yet this does not mean smaller firms have higher risk than their larger counterparts. Heighten disclosures in the beautified name of "improve transparency" may indeed be bad policies for an uneven playing field hurting the smaller players, increase costs to operate an ATS and deter new entrants into the ATS space. Privacy of commercial transactions should be respected. Extending recordkeeping requirements to technology vendors / CPSs beyond FINRA registered firms, would give government regulatory agencies an overly invasive power over private information. These private records would otherwise be unobtainable unless under summons for suspicious illicit activities. Being noseey may create resentments, discomfort feelings, and civic concerns about massive government surveillance³²."

Do market participants need better ability to evaluate potential conflicts of interest of multilateral trading venues? No. Market participants are not "Cops" to regulate trading venues, the SEC is. The public relies on market regulators and Self-Regulatory Organizations (SROs) to assure that they are not scammed in the open market. Such a market is called the Exchange. Otherwise, civilians are left with reading all the "small print" (Form ATS, ATS-N, ATS-R, ATS-G and other enhanced disclosures) on their own and taking risk engaging with a trading partner or counterparties. These are called bilateral deals or multilateral trade agreements. The trade terms and corresponding recordkeeping are subject to privacy protection. Regulators should refrain from intervening legitimate private practices.³³

b. Accuracy and reliability of market data

For accuracy and reliability of market data, we would argue that even if the SEC Market Data Infrastructure Rules (MDIR) – decentralized competing consolidation model were applicable to Digital Assets, the hope is glimpse. The aggregation distance/ location differential issues among exchanges have long been identified. The Honorable Former SEC Chair Mary Jo White has famously said "deemphasize speed as a key to trading success..."³⁴ Denying the need to enforce a 'Speed Limit' is either naïve or disrespect to her wisdom.

The assumption of the SEC's MDIR that based on 10G speed is fundamentally flawed. The SEC let the NYSE to implement 100G connections for their proprietary feed in April 2020. Widening the latency gap with overly frequent upgrades and exploiting any residual data disparity exacerbate inequalities between the "haves" and "have-nots". For years, we have been pushing the SEC and the industry to adopt time-lock encryption¹⁷ (rest

²⁹ <https://www.fca.org.uk/publication/consultation/cp22-12.pdf>

³⁰ <https://www.sec.gov/rules/proposed/2022/34-94062.pdf>

³¹ <https://www.sec.gov/comments/s7-02-22/s70222-20123888-280067.pdf>

³² <https://cs.stanford.edu/people/eroberts/cs181/projects/ethics-of-surveillance/ethics.html>

³³ <https://www.linkedin.com/pulse/trading-venue-perimeter-whose-interest-being-protected-kelvin-to/>

³⁴ <https://www.sec.gov/news/speech/2014-spch060514mjw>



assure this is NOT another speed bump), so there will be a synchronized start line in making market data available securely for all market participants. “Same manner and methods” under MDIR may merely be a standard price list offered by Exchanges under the MDIR. It would be a shame if MDIR implementation for the US electrified stock markets adopts a lower latency equalization standard than the time-lock encryption used by many in the online gaming industry.

Besides, we doubt Competing Consolidators (CCs) without the CT-Plan’s governance oversight (struck down by the US court of Appeals on July 5, 2022) would be able to spread their fixed cost across a larger base of consumers (in benefiting the industry to strike for a “fairer, reasonable and non-discriminatory” (FRAND) outcome? Also, the Odd-Lot proposal for the Securities Information Processor (SIP) may be a curve ball to the SEC. Ingesting a lot of data through a single integrated feed raises the concern about bandwidth connectivity. Lacking depth-of-book data undermines the usefulness of Odd-Lot data. Nevertheless, compilation of protected quotes is complicated. What you see may not be what you get. One will need to upgrade to higher bandwidths and add depth-of-book data, or else face being disadvantaged to prop feed subscribers. There are many more concerns we have highlighted in this article.³⁵

c. Technological risks, including attacks, bugs, and network congestion

Please see our respond to Q2(b) – the “reuse” backdoor and keylogging in particular.

d. Smart contract design and security

The crypto sector seems totally unprepared for the arrival of Quantum computing. “51 percent attack” could be cracked open within seconds by Quantum, making most if not all of today’s DLT-Blockchain and other cryptography security vulnerable. Please see our respond to Q2(b) for an elaborated discussion.

e. Settlement and custody

We think the cited risks (e.g., capital requirements, counterparty due diligence, financial resources for managing participant defaults, use appropriate stress scenarios for sizing financial resources) by CME concerning the FTX proposal mentioned in Q3(b) footnote [21](#) in this letter are addressable. Some custody platforms operate outside of the U.S. jurisdiction’s regulatory perimeter or are not in compliance with applicable laws and regulations is a bigger problem. As cited by the FSB assessment²⁶, this presents the potential for concentration of risks, as well as underscores the lack of transparency on their activities. Nevertheless, stable-coins aren’t as stable as one thinks, there could be maturity and liquidity mismatches underpin its structure that similar to money market funds. After all, risk of redemption run and vulnerabilities of digital assets holding up its value are high. We do agree that “turning stable-coin issuers into banks is a recipe for disaster”.³⁶

f. Jurisdictional and legal conditions

We applaud the Brookings Institutions for hosting the “The Future of Crypto Regulation” event on July 25, 2022.³⁷ It highlighted many of the jurisdiction issues. “Regulating Crypto: The Bid To Frame, Tame, Or Game The Ecosystem” by the S&P³⁸ is another good read to get snapshot views on: (1) the US domestic fight over who should

³⁵ <https://www.linkedin.com/pulse/market-data-reform-without-ct-plan-kelvin-to/>

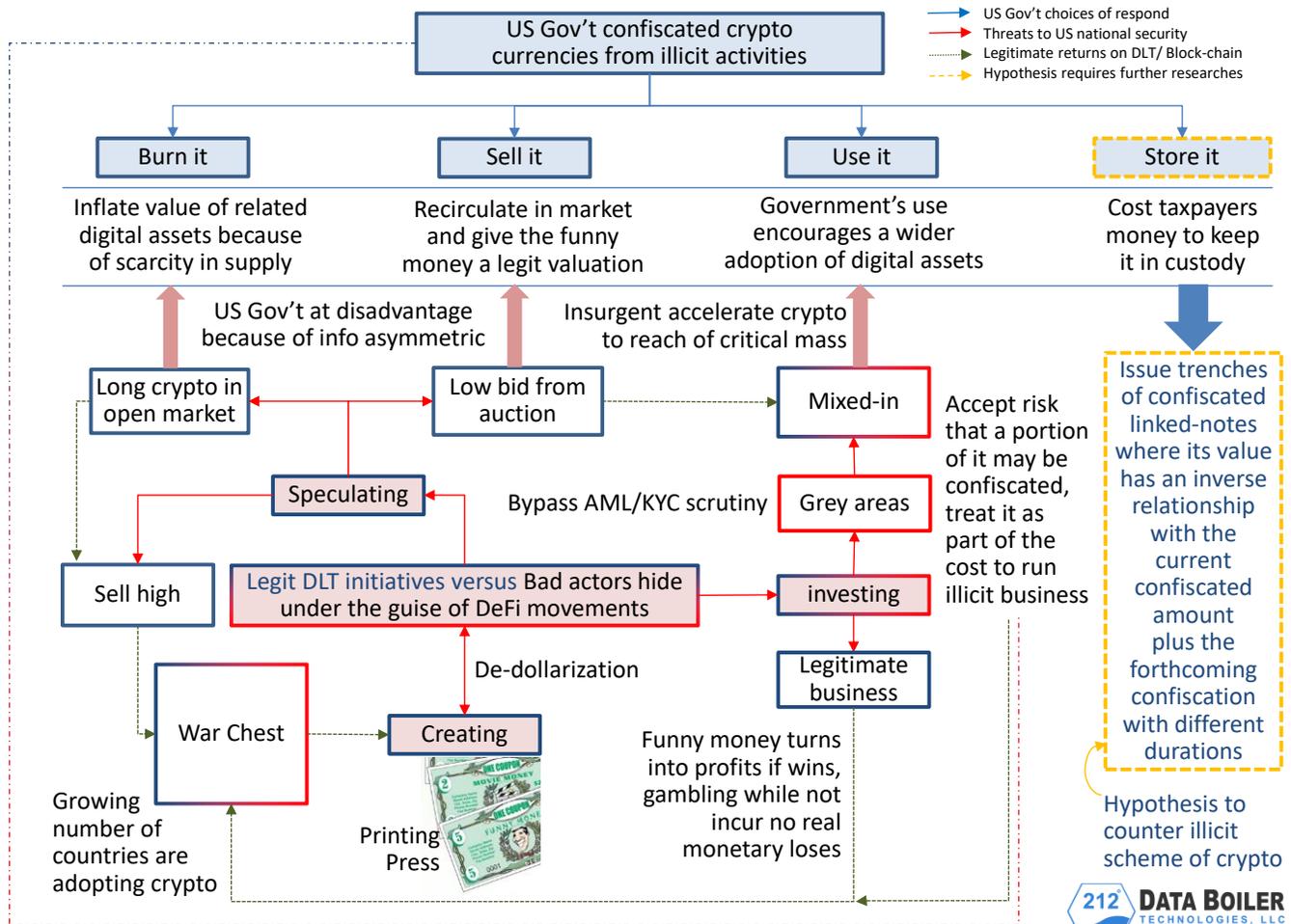
³⁶ <https://thehill.com/opinion/finance/582792-turning-stablecoin-issuers-into-banks-is-a-recipe-for-disaster/>

³⁷ https://www.brookings.edu/wp-content/uploads/2022/07/es_20220725_crypto_regulation_transcript.pdf

³⁸ https://www.spglobal.com/division_assets/images/articles/regulating-crypto/regulating-crypto-final.pdf



supervise what in digital assets; (2) the diverging global views on the future of money; (3) borderless issues and competitive dynamics globally. Talking about cryptocurrency and the future of money, this study³⁹ by IE University in Spain have pointed out that “existing cryptocurrencies have failed to achieve the objectives envisioned by their pioneers and would generally not be considered as money” and “modern discussions and debates about cryptocurrencies tend to confuse ‘money’ with ‘systems of payments’ or, the mechanism by which transactions are processed and settled.” The IE authors seem to indicate “trust” being a crucial factor for digital assets, while those who view cryptocurrencies negatively may compare such “trust” aspects to alleged Ponzi scheme.⁴⁰ So, please allow us to play the devil advocate in deciphering what and what not to trust using the US Government confiscated cryptocurrencies from illicit activities as an example:



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There is really no good way for the US government to deal with confiscated cryptocurrencies from illicit activities. Burn it, sell it, or use it, all leading to undesirable outcomes. As illustrated from the above, legitimate DLT initiatives versus bad actors / foreign adversaries hide under the guise of DeFi / De-dollarization movements, which the entire flow to legitimize or mixed-in together with funny money, growing their War Chest, and creating insurgent or disadvantages for the US Government should make all policy makers feel horrified. Storing those

³⁹ <https://docs.ie.edu/cgc/research/cryptocurrencies/CGC-Cryptocurrencies-and-the-Future-of-Money-Executive-Report.pdf>

⁴⁰ <https://www.newsweek.com/cryptocurrency-ponzi-scheme-its-time-regulate-it-opinion-1721965>



confiscated cryptocurrencies may be the least harmful choice, but it would cost taxpayers money to keep the confiscated amount in custody. Preliminarily, we have a hypothesis to counter illicit scheme via the issuance of trenches of confiscated linked-notes by the US Government. Its value has an inverse relationship with the current confiscated amount plus the forthcoming confiscation with different durations. Further research is required, while it would our honor to engaging in any discussions and/or opportunities where our expertise might be helpful.

(D) Risks to Consumers, Investors, and Businesses

(5) Please identify and describe potential risks to consumers, investors, and businesses that may arise through engagement with digital assets. Identify any such responses that directly relate to:

- a. Frauds and scams**
- b. Losses due to theft**
- c. Losses of private keys**
- d. Losses from the failure/insolvency of wallets, custodians, or other intermediaries**
- e. Potential losses associated with interacting with counterparties directly**
- f. Disclosures and amount of fees**
- g. Disclosures of other relevant terms**
- h. Authenticity of digital assets, including NFTs**
- i. Ability of consumers, investors, and businesses to understand contracts, coding, protocols**

The layout of this question by the above subparts “a” through “i” seems to indicate the agencies’ intents or mentality to use existing regulatory frameworks to guard against digital assets risks. How sad! As illustrated from our diagram in Q4(f), there is an insurgent situation where legitimate DLT initiatives being mixed-in with the bad actors / foreign adversaries. Also, as pointed out in our respond to Q3(c), in the cyberpunk era, who has the sophistication to Gamma-squeeze the hedge funds, mobilize the naïve to move prices (the gag would have been prohibited if it occurred at a broker-dealer), lambast the top market-makers to advance controversial agenda on payment for order flow... a rebellious move by an insurgent or who has the war chest to orchestrate a market wide shake-up? Foreign adversaries would like to see the US engage in “unhealthy” competition to possibly erode the US's prominent market position. Many don’t seem to realize the emerging threats against capitalism, or dare to admit it. DeFi and De-dollarization movements are on the rise and reap benefits out of chaos. Before the agencies develop capabilities to discern or knowing who are consumers, investors, and businesses that the US Government should step in to protect, regulators should curb chaotic / manipulative activities of users, consumers, and/or investors by the nature digital assets of transactions as reference to our respond in Q1. Other than that, this is a dilemma where the general public should be warned to “Bear their own risks” and do not expect the US Government for a bailout.

(E) Impact on the Most Vulnerable

(6) According to the FDIC's 2019 “How America Banks” survey, approximately 94.6 percent (124 million) of U.S. households had at least one bank or credit union account in 2019, while 5.4 percent (7.1 million) of households did not. And roughly 25 percent of U.S. households have a checking or savings account while also using alternative financial services. Can digital assets play a role in increasing these and other underserved Americans' access to safe, affordable, and reliable financial services, and if so, how?

Again, per our respond to Q1(d), when one looks at the bright side of poverty able to get “money” with a quick scan of QR code, don’t they aware that beggars on the street with a big QR code sign to solicit money may be control,



mobilized, and exploited by gangsters in alleged cahoots with the authoritarian! This may be just a tip of the iceberg for challenges in microfinance.

- a. In your responses, please describe specific ways in which digital assets can benefit the underserved and the most vulnerable vis-à-vis traditional financial products and services. Address factors such as identify verification process, costs, speed, ease of use, and access.**

Various parties have published different studies regarding adoption of digital assets and microfinance / financial inclusion, please see Footnote [8](#). Per our respond to Q1(d), fair and impartial from a US national interest standpoint may not necessarily be perceived the same by countries around the World. The US is blessed with abundant resources comparatively to countries with much higher population and/or productivity. Archbishop Desmond Tutu once said, “If you are neutral in situations of injustice, you have chosen the side of the oppressor”. “De oppresso liber” is the motto of the United States Army Special Forces. As mentioned earlier, the stage of digital assets development is like the warring states period before Qin dynasty unified currencies with Banliang². Until we the American figures out a way to use digital assets to better delineate rights and obligations around the World to eliminate injustice, it is premature to say whether mass adoption of digital assets would or would not advance the goal of “equitable economic growth” for both the US and rest of the World.

In terms of domestic policy to use digital assets in helping the underserved and the most vulnerable, the best way is to better regulate the legacy TradFi and CeFi, as well as the internet providers. There are the antitrust laws and other regulatory tools to help level the playing field, curb exploitive rent seeking behaviors and alleged conflicts. The sufferers only ask the US Government to do its job and not get in the “revolving doors” with the elites. Politicians are no saviors in the sufferers’ eyes. We believe – get out of the way from overly regulating the market, is likely what the majority of American wanted the most.

- b. In your responses, please describe specific ways in which digital assets can pose risks to the underserved and the most vulnerable given rapidly developing and highly technical and nature of the industry. Address factors such as financial and technical literacy and accessibility.**

Per our respond to Q1(d), technology in itself is neutral. Back in the days when plane was first design to fulfill the human dream of flying. Plane designers worked tenaciously to improve the aerodynamics in making lighter and faster planes with honorable intents. However, would the designers ever know their well-designed planes would turn into fighter jets during the World War II? This analogy can apply to DLT and Digital Assets.

Risks pose to the underserved and the most vulnerable may indeed arise from legacy players in the financial industry. These elites poured billions in building related infrastructure. Per our respond to Q2(b), digital asset infrastructure presents an even larger investment opportunity than digital assets themselves¹². We attribute this phenomenon to these encumbrances’ preference for “rent seeking”¹³ over subjecting themselves to the regulatory uncertainty and market volatility of digital assets. Hence, there is the issue about ‘skin in the game’. It solidifies the dominant powers of the elites, discourages DeFi to have healthy competition against the legacy TradFi or CeFi,¹⁴ and exacerbates the gap between the ‘haves’ and ‘have-nots’. As a counter response, DeFi of Digital Assets’ products, services, and market strategy should focus on digital scarcity (e.g., digital art)¹⁵ and digital property rights (“historically, the only way to ‘own’ something online has been to have your ownership recorded by a trusted third party in a proprietary database”¹⁶). Besides, weed out the bad actors / foreign adversaries hide under the guise of DeFi / De-dollarization movements and consider our suggestion in Q4(f). This will help the underserved and most vulnerable tremendously.



Other Remarks

We applaud the US Treasury and other agencies for the honorable goal to ensure Responsible Development of Digital Assets. Yet, we do not want to present rosy picture that undermines the risks and challenges in Digital Assets. Our comments may appear to be unconventional while we serve to unveil aspects that the mainstream stakeholders are shy to discuss. Please do not get us wrong, we believe surfacing up these controversial matters would help policy makers engage in meaningful debates that comprehend the overall plan for sustainable development of our US economy in the digital or cyberpunk era. Many may claim to be 'Nomad' when they represent the 'Corpo'. While 'Street Kid' may not be the underserved and the most vulnerable that people generally stereotyped. Be mindful of the gap and realize that an inverse relation between DeFi and CeFi, and a healthy competition between the two would help maintain the appropriate balance to deal with insurgent and foreign adversaries.

Hope this comment letter is informative for the work of the U.S. Treasury in carrying out its mandate under section 5(b)(i) of the Executive Order. Feel free to contact us with any questions. Thank you and we look forward to engaging in any discussions and/or opportunities where our expertise might be helpful.

Sincerely,

Kelvin To

Founder and President

Data Boiler Technologies, LLC

CC: Dr. Nellie Liang, Under Secretary for Domestic Finance
Joshua Frost, Assistant Secretary for Financial Markets
Natalia Li, Deputy Director, Office of Financial Institutions Policy
Amanda Shulak, Attorney-Advisor, Office of General Counsel

This letter is also available at:

https://www.DataBoiler.com/index_htm_files/DataBoiler%20Treasury%20Digital%20Assets%20202208.pdf