



B L O C K Z E R O



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Digital assets

How regulation strengthens trust

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Digital assets: How regulation strengthens trust

Depending on which side you are, the aftermath of the FTX's fiasco is seen differently. What is at stake, hearing the arguments of both sides, is a choice between two post-FTX collapse crypto futures: one is unregulated, uncompromising and pure, therefore marginal; the other is regulated, compliant and traded-off, therefore massively adopted. Regardless, attempting to predict what the future will be is fruitless, random and definitely not our role. Much more mind nurturing and prospective would be to understand, in regards to the past, why and how decentralized finance could benefit from regulation.

This is the main purpose of this paper.

Why is regulation such a hot topic in crypto community?

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Censorship resistance is at the heart of decentralized public blockchains like those used by cryptocurrencies. This principle determines three key features of this technology: 1) anyone can use these blockchains, 2) transactions are irreversible and no one can be blacklisted, 3) public blockchain architecture prevents any rewriting of the history of the blockchain to suit personal interests. As a result, as long as one follows the rules of the network protocol, anyone wishing to transact on the network can do so. No need for central or external regulations: in theory, the system regulates by itself.

Philosophically, this censorship-resistant enthusiasm makes sense. Satoshi Nakamoto issued his iconic bitcoin's whitepaper in 2008, just after the subprime crisis which exposed the fatal flaws of the global financial system and undermined the global trust in the system. Its title embodied his main objective: "[A Peer-to-Peer Electronic Cash System](#)". Considering this decentralized spirit which originally fuelled bitcoin and the crypto movement, it is easy to understand why crypto-maximalists are so skeptical when they hear about regulations, blocklists or Office of Foreign Assets Control (OFAC) compliance. Even when

this regulation would concern points of centralization like exchange platforms, wallets, and other facilitating financial services that are centrally located and controlled, the hypothesis is seen as countercultural.

If this situation reminds something to the web veterans, this is not a coincidence at all:

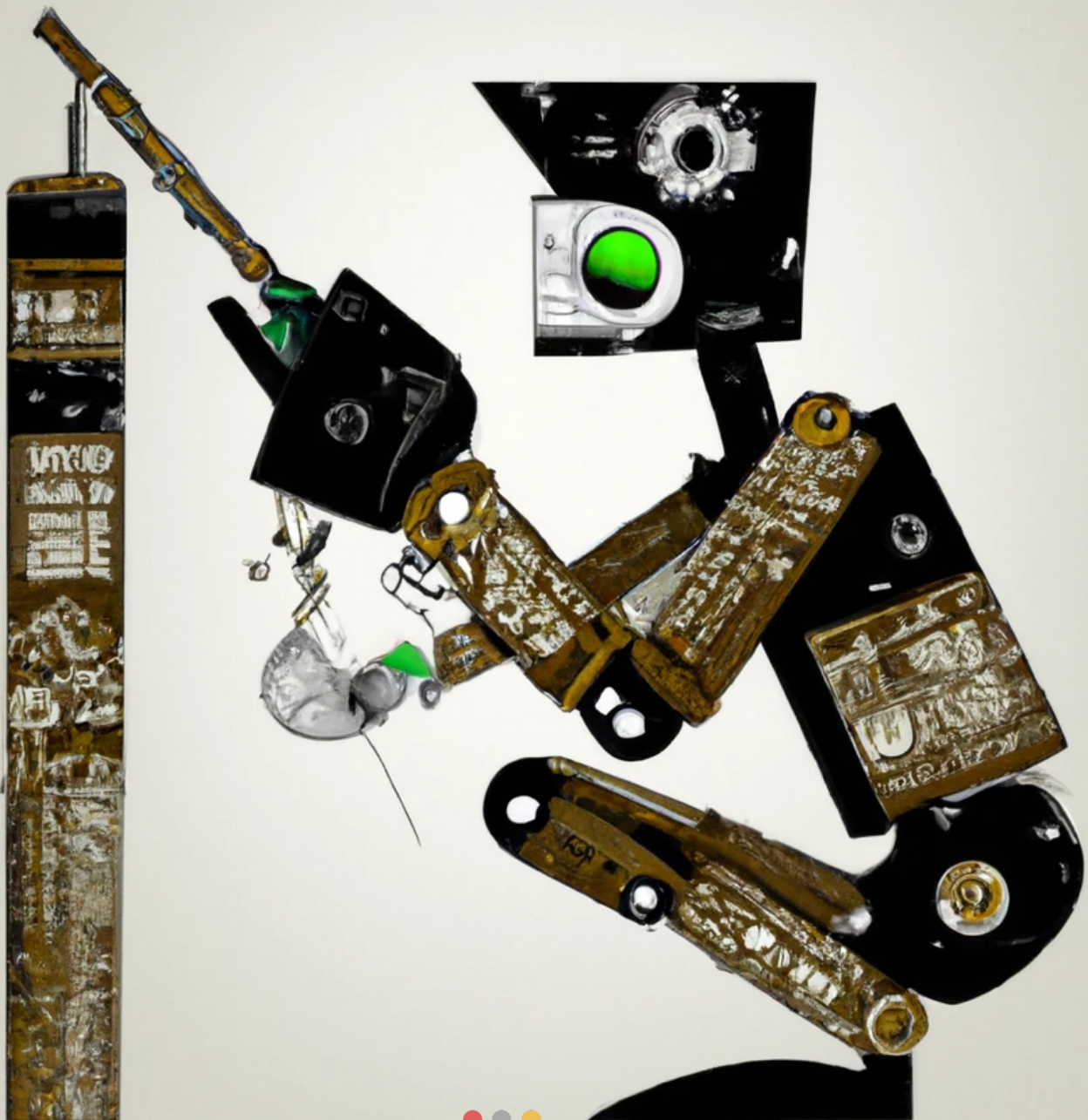
"The exciting thing about the Internet is it is decentralized. The nasty thing is in fact there is a centralized point: the control of the domain names. (...) So we decided to give [the control of the domain names] to a company, The Internet Corporation for Assigned Names and Numbers (ICANN), but nobody realized that suddenly any point of centralization could be a weak spot. And so had to be managed and basically had to be governed. Yes, we need a little bit of governance. And for Internet people the idea of requesting governance to be set up is sort of... counter-cultural. Because, the main Internet phenomenon was: "My Goodness! If we make a decentralized system, it will work even though there is nobody controlling it! Isn't it wonderful?"

This statement is from Tim Berners Lee, the inventor of the World Wide

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Web himself, one of the most prominent advocates of decentralization. And it was not uttered [on Charlie Rose's microphone](#) this year, nor in the last decade, or even the previous, but in 1999. This quote should remind us that the problem of regulation and censorship resistance so heavily discussed in the blockchain community is not a new one. By nature, the Web as conceived by Berners Lee is a

decentralized and censorship resistant network, which has been progressively covered with central points easing its usage, central points who needed regulation (data privacy laws, for instance). As blockchain technologies are looking to become mainstream and some platforms gain in influence and take positions more and more central in the system, they are facing the same counter-cultural question of regulation.



Regulation builds trust

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Regulation supports the cornerstone of every financial system: trust. The very same trust we place in bankers to keep and manage our money diligently, because they are constrained by regulators and rule of law. The very same trust that regulators tried to restore after the 2008 subprime crisis by voting the [Dodd-Frank Wall Street Reform and Consumer Protection Act](#), a law which introduced steps designed to regulate the financial sector's activities and protect consumers. The very same trust that Satoshi and DeFi built by relying less on human intermediaries and replacing them with cryptographic blockchain's algorithms. Trust is the bedrock of any society. And whether it is operated by human institutions or a decentralized network, the role of regulation is to keep this trust up to date.

But theory and practice sometimes go part ways, and trust and confidence suffer as a consequence. Decentralization and censorship resistance sound good, and reflect the theoretical and idealistic outcomes promised by blockchain's algorithms. But bad actors are going to try to exploit the loopholes of the system to their advantage, especially if no censorship is present: [terrorists](#), scammers, thieves will seek to benefit from it. Even good

actors are prone to errors, and their unconsciousness or their inexperience can lead them to [underdevelop their crypto platform](#), which allows hackers to come along and raid (and we have seen a fruitful year for hackers, [exploiting DeFi flaws](#)). Adding to that, we have gregarious reflexes able [to bring down a cryptocurrency](#) in a matter of hours.

Regulation, monitoring and supervision are a potential way to counteract all types of bad behaviors and failures in the markets. Systemic issues, market imperfections such as information asymmetries, agency problems and conflicts of interest are some examples. Those problems are extremely dangerous and could break down a market, as was brilliantly explained by Nobel Prize George Akerlof in his "[Market for Lemons](#)" [research](#).

Yet another motivation is the protection of individual rights when even a well-functioning market fails to reach the optimal outcome. In this case, regulation serves to set standards by which to abide to safeguard these rights and to enforce compliance. The individual rights can be viewed as a boundary not to be crossed. Both market failures and protection of individual rights are foundations of the

current financial regulatory regimes in developed economies.

The evolution of financial regulation is illustrative, and as you can read in the *Table 1* below, some examples from the United States history could put the importance of basic regulation and its impact in perspective ([here](#), a complete set of cases).

In essence, the financial system has had its historic dosage of risk exposure, sometimes almost bringing down the whole industry, and it was the regulation that lifted the public's confidence and trust to cautiously return. So, is it possible that the path trod by the banks many decades ago is not that much different from the way that the crypto industry is marching into?

- **The National Bank Act:** Facing a free, unregulated and perilous banking area (institutions could print private money without being backed), the National Bank Act of 1863, eliminated the free banking practice and introduced a uniform national currency.
- **The Banking Act:** Following the failure of thousands of banks during the 1929 crash, the Banking Act redesigned the US financial system to restore confidence and introduced features such as deposit insurance, separation between commercial and investment banking, minimum capital requirements, more power to the Fed...
- **The Dodd-Frank Act:** Voted in the aftermath of the Great Financial Crisis of 2007-2008, the Dodd-Frank Act aimed to overcome sources of excessive leverage and systemic risk. Positive steps to make the banking system safer included elevating the required capital from banks, restricting certain lending activities, performing stress

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Table 1: Examples of banking regulation laws to restore trust

Let's dive into the risks.

As during the infancy of the traditional financial system, the risks associated with digital assets are legion and can be as well financial as non-financial (*Table 2*, page 9)

To start, the use of blockchain innovation in digital assets and the financial services industry remains relatively youth and immature, resulting in a number of inherent technological limitations, whether in terms of scalability, infrastructure and security. But beyond these limitations (which in part caused the collapse of the algorithmic stablecoin TerraUSD), the relative youthness of the ecosystem itself also gives rise to other risk factors. Risk factors that in turn translate into a set of both financial and non-financial risks for the individuals, the businesses, the government and the economy. For the most part, these risks are not foreign to the financial industry. What changes is the context: one of digitalization of the financial services industry through technological innovations, such as blockchain (*Figure 1*, page 10).

This relative immaturity of the industry also has implications in terms of governance standards, which remain limited and not unanimously applied across all players. The crypto ecosystem is mostly comprised of smaller non-traditional / fintech players,

whose primary expertise is not necessarily that of finance or risk management for that matter - although the growing involvement of traditional financial services institutions and executives who have joined crypto firms has grown over the past couple years and necessarily influenced the strategic approach taken by at least some of the ecosystem, Coinsquare and Tetra being two notable examples here in Canada.

Add to that, amidst the level of complexity related to digital asset technology, the level of technological knowledge and understanding of individual investors remains insufficient. As the Autorité des Marchés Financiers of Quebec stated in its insightful [last report](#):

“More people than ever consider themselves to be self-directed in their financial decision making and are therefore at risk of being offered new products or services that are not suited to their circumstances, are overly complex, or are based on incomplete or inadequate information. The Internet gives consumers access not only to local financial sector participants’ products and services, whose distribution is regulated, but also to the products and services of many other companies located elsewhere in the world, including some that are

unregulated or simply ill-intentioned or fraudulent.(...) We are also concerned about the low level of financial literacy among consumers, who must also acquire the digital skills needed today to securely use financial services.”

All these risks are further amplified in a market where the value of the (digital) assets remain highly volatile and highly correlated, increasing the associated financial risks (market, credit and liquidity risks). Following that of Terra’s, the collapse of Celsius showcased the risk of insolvency and liquidity risk to which DeFi lending apps were exposed, with an overreliance on predetermined governance logic and programmatic design, along with a lack of internal shock absorbers in times of stress.

Ultimately, the overall immaturity of regulations, which is mostly unclear or unadapted to varying extent, in a market

that is global and borderless, facilitates regulatory arbitrage across states and countries, increasing the risks of hacking, fraud, misappropriation, conflicts of interests, money laundering, terrorist financing, and market integrity risks from manipulative/deceptive trading (again, not so foreign to the financial industry). The decentralization of the financial infrastructure further directly impacts and limits potential regulatory oversight, while also making enforcement difficult, further contributing to the risks outlined above. [The United States sanction of the Tornado Cash blending tool](#) in August 2022 is an example of the complexity of the situation.

And then came along the collapse of FTX, one of the biggest centralized crypto exchanges worldwide. It could be argued that FTX is the epitome of risk

NON-FINANCIAL RISKS	FINANCIAL RISKS
<p>Technology risks : due to failures of systems used for transactions, pricing and integrity. e.g. code developed by individuals lacking in either expertise, not using robust development practices or that do not embed robust risk management mechanisms (e.g. Terra Luna stabilizing algorithm).</p>	<p>Credit risk : Arising from 1) lack of traditional underwriting protocols (no due diligence, so it is difficult to assess creditworthiness of borrower), 2) lack of pursue recourse (beyond collateral), and 3) high volatility of underlying digital assets (serving as collateral). This could lead to insolvency (assets unable to repay liabilities). (e.g. Celsius).</p>
<p>Legal compliance and security risks (cyber/fraud) : Use of blockchain technology to engage in illicit activity or to evade regulatory obligations, incl. risks of hacking, fraud, misappropriation, conflicts of interest, money laundering, terrorist financing, and market integrity risks from manipulative/deceptive trading (e.g. Tornado cash - mixer tool; managing private keys). This is exacerbated by regulatory uncertainty, which makes DeFi prone to security risks (e.g. Chainalysis: \$692 million and \$900 million from ransomware payments, and money laundering in 2020).</p>	<p>Liquidity risk : possibility of insufficient funds available to borrow or redeem deposited assets, which could trigger market panic and a deflationary spiral, or forcing a pause (e.g., Celsius). DeFi applications face limits to such situations due to reliance on predetermined governance logic and programmatic design, and lack of internal shock absorbers (e.g., banks), that can provide liquidity at times of stress. Flash loans add risks through short-lived creation of artificial liquidity, which could be used to manipulate prices.</p>
<p>Operational and governance risks : human errors with impact on key management, protocol development or governance (i.e. dependance and overreliance on underlying digital asset technology). (e.g. Beanstalk: hackers used a flash loan to take over DAO governance, and stole \$200 million. Developers’ code did not have protection against flash loans).</p>	<p>Market risk : Although simple to understand (risk of financial loss from movements in market prices), this risk is usually exacerbated for crypto assets due to potential market manipulation, which gives rise to schemes such as pump and dump, whale wall spoofing, and wash trading. (e.g. cryptocurrency Squid: pump and dump \$3 million scam).</p>

Table 2: Financial and non-financial risks not mutually exclusive

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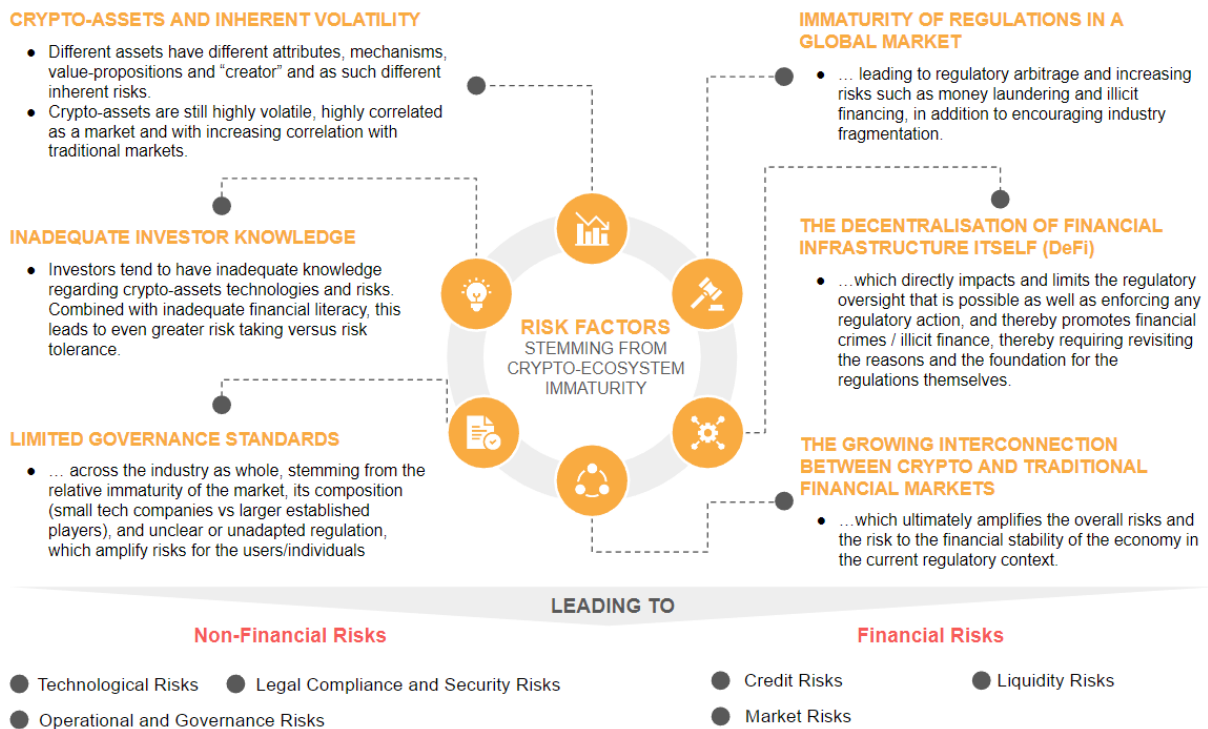


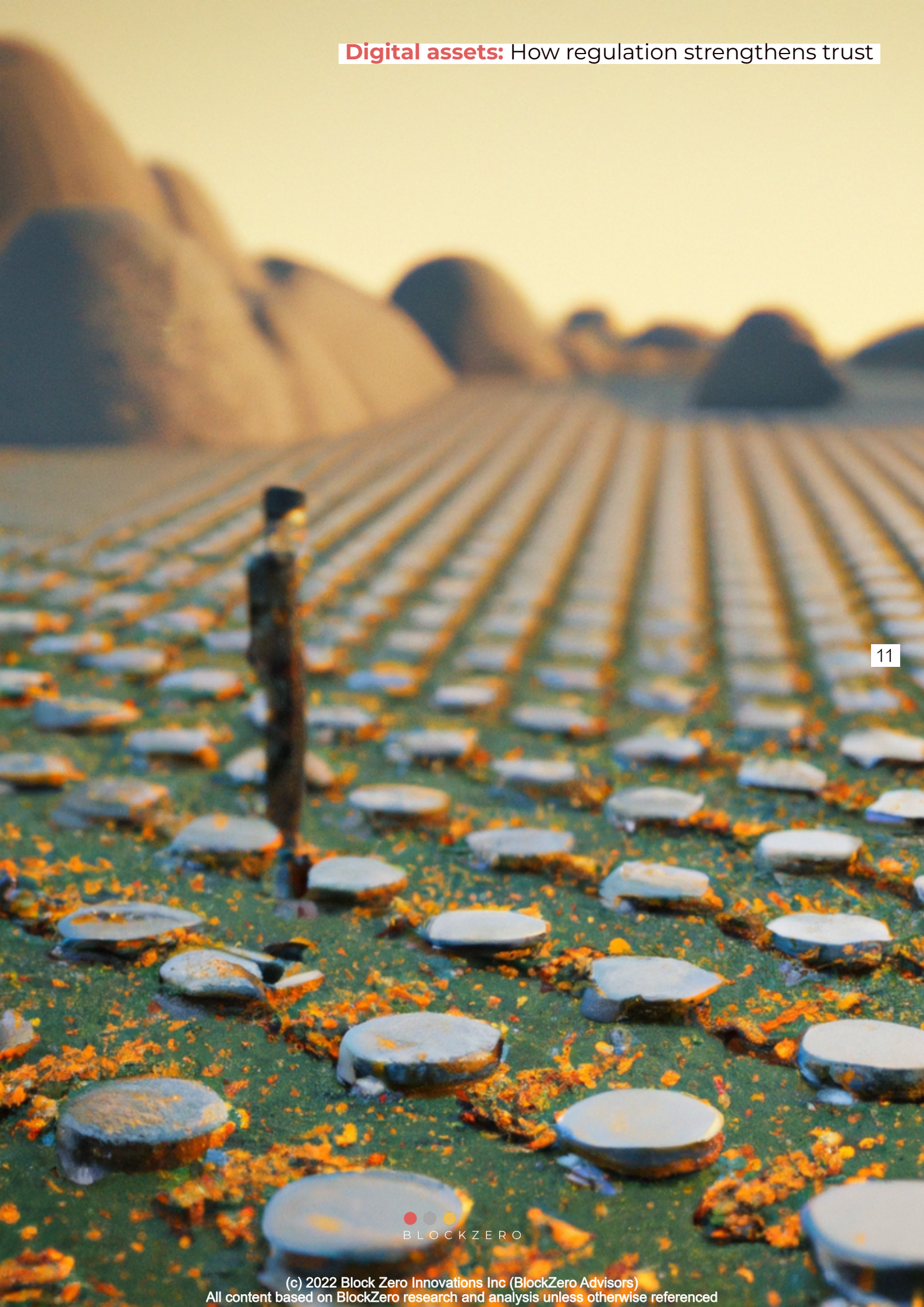
Figure 1: Risks generated by the level of maturity of the crypto ecosystem (sources: analyses BlockZero et [Deloitte](#))

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exposures and market failures tormenting the crypto industry nowadays. While it is true that FTX is a CeFi (and therefore lacks the transparency mechanisms of its decentralized cousins, such as Uniswap), it is also true that, after the collapse of FTX, all the crypto industry was in tremendous trouble, even bitcoin, which depreciated 26% in just four days after the crash. This is by far the scariest scenario for an immature ecosystem becoming mainstream: domino effect could bring down even the fairest players and disruptive technologies.

The FTX’s CEO, Sam Bankman-Fried, was one of the most popular and trusted figures of the crypto ecosystem: MIT graduate, billionaire, philanthropist, political activist, deeply humble and reachable. The industry gave him the nicknames of “[Crypto’s white knight](#)”

and “[next Warren Buffett](#)”. What happened? FTX is accountable for a major fraud and staggering funds mismanagement by illegally using customer money for his personal ventures and risky activities in Alameda Research, the sister trading company, with which [the level of intertwining was astonishing](#). Then, as with Terra, when worried clients tried to withdraw their money, FTX faced a massive liquidity crisis that further increased the panic and triggered the company’s catastrophic failure.



What can be done?

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We know that *Regulation* is a dreaded word - if not “a forbidden word” - by some in the industry, and the crypto community may be partially right in being suspicious of regulation. Definitely not all regulation is good, and it could be a double-edge sword. It was another Nobel prize, George Stigler, who understood this well, and named it: regulatory capture and the idea of rational ignorance. A person or a group might not be interested enough in a topic because doing so would cost more than the benefit from the potential new knowledge. However, the opposite is true for interest groups who will spend time and resources to get informed and sway regulation in their favor. If regulatory capture occurs, regulation does take place... but in favor of groups of power. This is a no-no not only for crypto, but for any industry.

The serie of collapses that occurred this year in the crypto industry have undeniably affected the public's confidence in “crypto”. While some might argue that this will be the end of crypto, the technological innovations that have occurred over the last decade through blockchain innovation are unlikely to just disappear. Digital assets range from non-fiduciary digital money (including bitcoin, ethereum, but also stablecoins) to fiduciary digital money

(that is, retail and wholesale CBDC, and bank coins) to a wide array of non-monetary crypto/digital assets (tokenized assets: utility tokens, security tokens, NFTs...). And, as one takes a closer look at the past decade of blockchain innovation applied to digital assets and DeFi, the path appears to be one of potential disruptive innovation rather than sustaining innovation (see *Figure 2* page 13 or [this video](#) from Harvard Business Review).

As an actor of this potential disruptive innovation, the crypto community fight should be for good regulation and not against all types of regulation. We are talking about regulation that promotes competition and innovation, protects consumers' interests, and individual rights, and shut the door in the faces of criminals and terrorists, and manages market failures resolutely. This year's collapses pinpoint low-hanging fruits such as the risks behind runs from stablecoins (with particular emphasis on algorithmic ones, as you can read in this other [paper](#) we published this year), the multiple hackings of DeFi and other problems such as rug pulls and finally the third parties reliabilities illustrated by FTX's fall.

Behind all the discourses about the end of the trust era and the advent of

cryptographic proof, all these flaws just prove that trust is still the central component of this new financial system's success. Trust in the blockchain, but also trust in men and women, trust in companies, trust in third parties, trust in what you read, trust in what you buy... And as we said above, balanced regulation can help achieve that. As brilliantly demonstrated by Matt Levine in [The Only Crypto Story you need](#) published by Bloomberg Newsweek, it is as if trust is so well rooted in us, that we can't help but constantly rebuild it:

"Trust in institutions is so strong and resilient that all of crypto's bluster can't stamp it out. "Not your keys, not your coins, put your trust only in verifiable code," crypto evangelists yelled, and people heard them and said, 'Yes, that is nice, but I'm busy, I'm going to trust these nice strangers with my Bitcoin'.

Crypto, in its origins, was about abandoning the system of social trust that's been built up over centuries and replacing it with cryptographic proof. And then it got going and rebuilt systems of trust all over again. What a nice vote of confidence in the idea of trust."

Fortunately, the work should not be done on a clean slate. As we have expressed, many of the same problems that affect the financial markets are shared with the crypto industry. For starters, crypto regulation could borrow from financial regulation, and build up from there.

If the crypto community is involved and vigilant of the regulatory process, all the present woes will be soon in the past, for the annals of history.

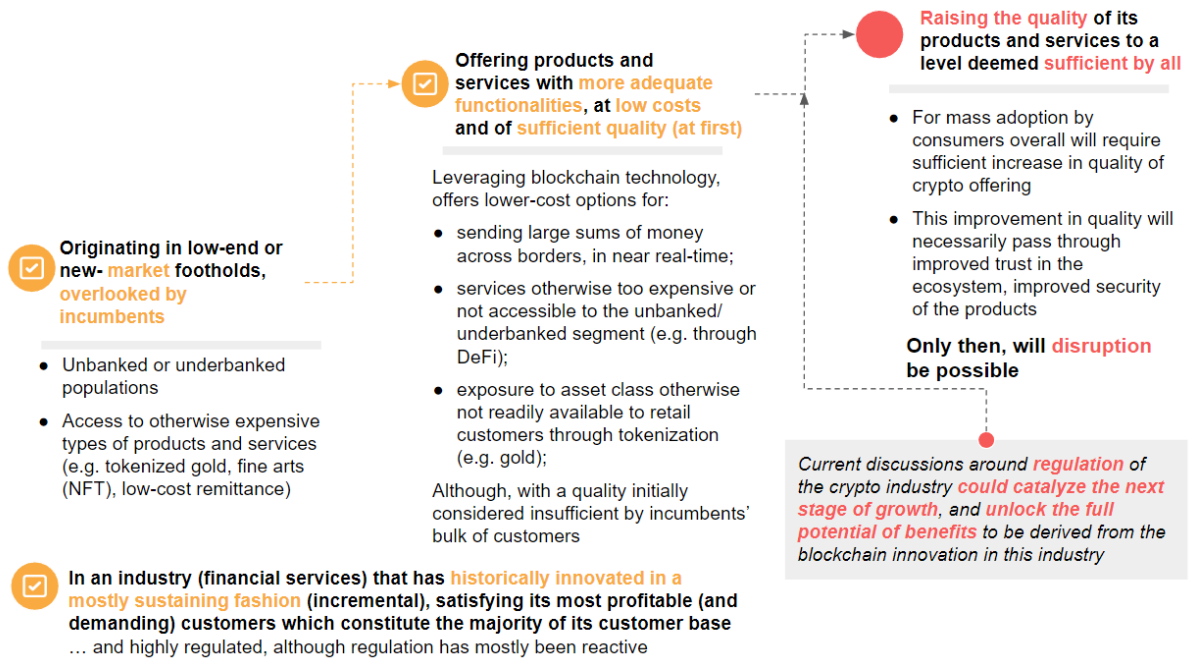


Figure 2: Digital assets and DeFi: A potential for disruption (sources: Analyse BlockZero (2022); Harvard Business Review (2015); PWC (2017))

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How can BlockZero Advisors help?

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Our mandates with players in the Canadian and international ecosystems allow us to have an up-to-date perspective on the evolution of the market, the value chain and the ecosystem of cryptocurrencies and digital assets, as well as the issues and risks specific to them and the regulatory environment that is evolving daily. In addition, strategic coaching for some of our clients leads us to work closely with Canadian regulators. In addition, our daily technology watch and market intelligence service ensures that we stay on top of the latest developments in the field.

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