

FTX Bankruptcy Shakes Confidence in Movement's Long-Term Promise

Andrew Hacker, CFA, Senior Research Analyst

Crisis struck the cryptocurrency industry in early November as FTX, the second-largest crypto exchange, filed for bankruptcy. It appears that FTX founder Sam Bankman-Fried engaged in fraudulent activity, including the pilfering of customer deposits to prop up losses at his trading firm Alameda Research. Impacted are over one million retail users, dozens of institutional investors, and several crypto-related companies. While the FTX episode is perhaps the darkest hour for the industry, it is one in a string of recent damaging events. The collapse of Terra USD in May of 2022 - the algorithmic stablecoin project – which wiped out over \$40 billion of paper wealth, rippled through the crypto credit markets resulting in several high-profile bankruptcies. In 2019, Canadian exchange QuadrigaCX filed for bankruptcy due to a shortfall of \$250 million under mysterious circumstances. In 2014, the Mt. Gox exchange declared bankruptcy following a catastrophic hack enabled by negligent management. Mt. Gox handled approximately 80% of all crypto trading volume at the time.

FTX's collapse is unique, though, due to its large public profile and lobbying presence. Celebrity endorsements, stadium naming rights, and Superbowl commercials were pervasive over the past several years. Founder Sam Bankman-Fried ("SBF") became a staple on Capitol Hill as both a crypto advocate and political donor. The nearly \$40 million SBF donated to the Democrat Party for the 2022 midterms was the second-highest donation in the world. Sam positioned himself as the pragmatic, pro-regulation industry stalwart poised to bring crypto into the mainstream. Instead, he caused the largest setback in its history.

The crypto asset markets have taken a beating in 2022. The total market capitalization of cryptocurrencies has shed over 60% this year, with a total paper loss of over \$2 trillion from its peak. Newer crypto investors and industry veterans alike are questioning their allocation decisions and re-evaluating their future participation in the space.

While new technologies are often speculative in their early stages – in which this industry currently remains - we are optimistic about the long-term potential of crypto and blockchains despite elevated near-term risks. Economic and developer activity remain relatively strong, especially relative to past "crypto winters." Progress has also been made in crypto infrastructure, usability and use-cases over the past several years, all of which should underpin continued innovation. Additionally, regulators' response to the FTX scandal is an open question – and likely a significant factor in crypto's path forward. Although risk of a draconian response exists, we see a silver lining in true and necessary regulatory reform serving as a potential turning point for the industry.

In this piece, we will re-examine the promises of crypto and blockchains and lay out our views going forward on fundamentals, regulation, and the industry overall.

The Promise of Crypto & Blockchains

Crypto assets and networks rely on and are supported by what are known as blockchains – public, distributed networks of specialized computers which collectively “run” the blockchain. These networks can be thought of as a new type of computer whose capabilities can vary just as widely as any other. The Bitcoin blockchain is relatively simple – its functionality is limited to storing and transferring balances of coins. Others are much more complex, such as Ethereum, which can run virtually any program that can be written into code. Each network has its strengths, weaknesses, and specialties – but several core characteristics underpin the value of successful iterations.

What makes these “computers” so special?

- Blockchains are decentralized, running simultaneously on physical machines located all around the world. This distributed network of physical computers syncs up on a regular basis (reaches consensus) to agree upon the state of the blockchain and move it forward to the next “block.”
- These networks are public and transparent. Anyone can audit and verify every single line of code in the “computer.” Any individual or company with an internet connection and some mid-level hardware can participate in running these blockchains.
- Transactions are typically cheap, fast, and final. Users can rely on quick and reliable settlement of transactions. Established blockchains such as Bitcoin are often referred to as being “censorship resistant” and potentially useful as enablers of human rights and financial empowerment. Cheap peer-to-peer financial activity, without trusted third parties and related frictional costs, could possibly improve the lives of everyday consumers around the globe.
- These are open systems with a level playing field. Opportunities abound for entrepreneurs and developers to build applications. Interconnectivity and low barriers to entry create strong network effects for both builders and users.

Countless essays and thought pieces have expounded on the merits and implications of these characteristics. Current use-cases leveraging them include cross-border payments in emerging markets, sheltering from hyperinflationary currencies or financially repressive governments, charity crowdfunding, fully programmatic collateralized lending, gaming and digital artwork. Crypto proponents believe that blockchains and related applications could underpin a new global, internet-native open financial system.

Critics have argued that the potential of blockchains only holds true in theory, but not in practice. They note that as of today, the main applications of this technology are rampant speculation, fraud, and scams. Crypto has no shortage of high-profile critics, now emboldened by recent events. Jamie Dimon, Warren Buffett, and Nouriel Roubini are among the most prominent.

Both critics and proponents can likely agree that blockchains are novel innovations whose impact on the world remains to be seen. However, real economic activity on these networks has grown substantially even during the current “crypto winter”:

- Annualized transaction fees paid by users on the Ethereum network have averaged between \$500m and \$1.5bn during the month of November per tracking site cryptofees.info.
- Annualized transaction fees generated by Uniswap, the largest Ethereum-based application, ranged between \$400m and \$1.4bn during November.
- The Bitcoin network settled \$168bn of transactions in October across roughly 28 million active wallets

per The Block's data dashboard.

- Development activity remains at or near record levels based on publicly available data tracking smart contract deployment and the use of open-source developer tools.

These resilient metrics of economic and development activity stand in stark contrast to past crypto downdrafts. Crypto is much more useable – and useful – than in 2018, largely due to new and popular blockchain-based applications such as Uniswap.

Custody Tradeoffs and Challenges

Crypto assets can be held in one of two ways: by a third-party custodian or directly by an individual. Ultimately, all balances of crypto assets are held in a wallet directly on the blockchain. If that wallet's private key (essentially a password) is controlled by the ultimate owner, those coins are held in what is known as "self-custody." If a third-party custodian such as Coinbase or Fidelity control the private key on behalf of customers, those coins are held "custodially." There are positives and negatives to each method of custody.

Self-custody is the most secure solution when implemented correctly. No trusted third party is involved, and the end-user has full control over their assets. Recent innovations extend the potential of self-custody beyond simply holding the assets. So-called decentralized finance ("DeFi") applications such as Uniswap allow users to trade, borrow, lend, and more - directly from their self-custodial wallet. These blockchain-based financial applications remain nascent but offer a potential alternative to opaque offshore exchanges like FTX. Unfortunately, securely storing a private key can be a daunting task for many people. Tools exist to improve the process, but it remains true that for most crypto users and investors, it is far easier to use a custodial solution.

The industry needs to improve its custodial offerings for those unwilling to embark on the journey of self-custody and better align them with the unique characteristics of blockchains. Transparency is one of these – all crypto balances and transactions are publicly viewable on the underlying blockchain. Custodians can and should leverage the available tools to cryptographically prove their digital asset holdings. Established norms for this process exist, collectively known as Proof of Reserves. Assets can be matched against attestations of client liabilities to effectively prove the solvency of an exchange or custodian. This would build trust and give users peace of mind that their deposits are fully backed by corresponding crypto assets. Unfortunately, only a handful of existing companies engage in this process today. We expect it will see increased adoption going forward.

Silver Lining

Ironically, the collapse of FTX may be the very thing the crypto industry needed for its long-term legitimacy and viability. Many have advocated for more robust and clearer regulations, and FTX may be the watershed event that gets it done. Ultimately, FTX was a failure of corporate governance and custodianship. We hope that regulators draw a distinction between decentralized, transparent blockchain networks and opaque offshore companies like FTX. The US regulatory environment has protected onshore consumers in some ways – regulated onshore firms like Coinbase remain stable.

The full FTX story is still unfolding. But as the Bernie Madoff, Theranos, and Enron scandals did not mark the ends of the investment, biotech, and energy industries respectively, we do not expect FTX to be the end of

the crypto industry. We believe the promises of crypto and blockchain networks have merit. But we believe just as strongly that it, like any nascent industry or technology, will suffer missteps, scandals, and idiosyncratic collapses along the way.

We hope to see a renewed focus from the industry on the characteristics which make blockchains valuable. Blockchains should be used to remove trusted third parties and intermediaries, not enable them. The custodial companies who survive the coming months should embrace transparency and real-time auditability via processes like Proof of Reserves. Entrepreneurs and investors should focus on improving the technology and user-experience for decentralized protocols to hopefully reduce the impact of future custodial failures.

While the crypto industry is over 12 years old, it remains in its early stages. Crypto assets and related investments are speculative in nature. Those who remain optimistic and invested in crypto assets should be thoughtful and diligent in how and where they store them. Self-custody solutions such as hardware wallets are safest for those who are willing to invest the time and effort to learn best practices. US-domiciled and regulated custodians like Coinbase and Fidelity are best for those unwilling to take custody into their own hands.

As always, we are here to help in any way we can. Please reach out to your Ballentine Partners advisor with any further questions.

Andrew Hacker, CFA, Senior Research Analyst



Andrew is a Senior Research Analyst at the firm and is responsible for research coverage of global equity markets. He is responsible for portfolio construction & manager selection for publicly traded equities. His research also contributes to our overall market outlook. Andrew joined in 2016 from Brown Brothers Harriman where he worked in Fund Accounting Services, generating net asset values for large mutual funds and resolving issues related to derivatives pricing, capital stock transactions, and manager performance fees. Previously, Andrew was an associate at PwC in their Risk Assurance practice where he audited investment industry clients' internal control and regulatory frameworks. Andrew graduated with a B.A. in Economics from Colorado College, where his senior thesis analyzed incentive structures surrounding public company boards of directors in relation to takeovers and acquisitions. He spent his junior year at the London School of Economics & Political Science studying Finance and Accounting. Andrew is a CFA Charterholder. Andrew resides in Cambridge and spends time golfing, snowboarding and watching F1 racing. He is also passionate about investing, technology and movies. He grew up in the mountains of western Colorado but has also lived in Chicago, Dallas and London.

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