FIN 593/ECO 493/Spring 2024

Case Study #4: Epic Failure of Governance: the FTX Collapse

"Never in my career have I seen such a complete failure of corporate controls and such a complete absence of trustworthy financial information as occurred here."
—John Ray newly appointed CEO for FTX in bankruptcy

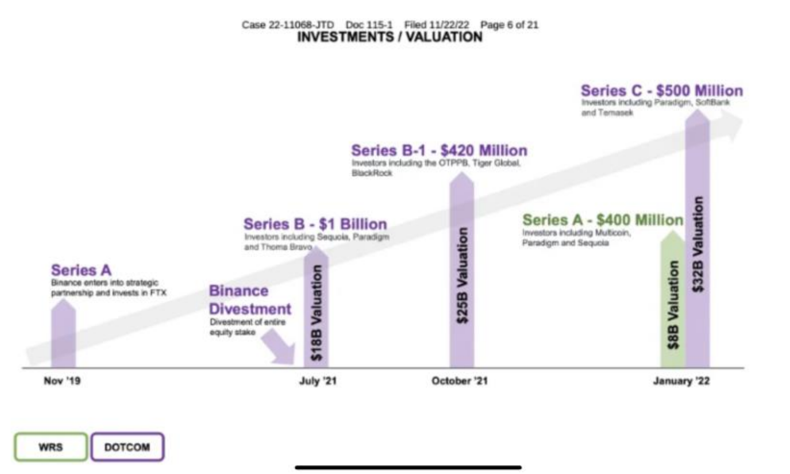
The collapse of the FTX cryptocurrency exchange and its affiliate, Alameda Research, in November 2022 stunned many backers of the founder, Sam Bankman-Fried (SBF), and left institutional and retail investors facing potentially billions of dollars of losses. On March 28, 2024, SBF was sentenced by US district Judge Kaplan to 25 years in prison for fraud. The purpose of this case study is to drill down into the widespread and profound governance failures in the FTX Group, and draw lessons from the experience for risk culture and controls, proper investor due diligence and regulation.

1. The fall of a rising star

Sam Bankman-Fried's (SBFs) first major foray into the crypto business was with Alameda Research, a hedge fund he founded in 2017 with Gary Wang. In its early days, Alameda used complex algorithms to exploit arbitrage opportunities across a number of crypto exchanges. Over time, its assets grew to include a combination of altcoins, crypto companies, public equities and venture investments; by late 2021, it had a purported net asset value of $99 billion according to a Substack post by SBF (Bankman-Fried 2023).

Just two years later, SBF and Wang founded the FTX digital currency exchange because they were fed up with dealing with what SBF referred to as "crappy" crypto exchanges (Robertson 2020).[1] In seizing this new business opportunity, SBF tried to distinguish FTX from its competitors, such as Binance and Coinbase, by promoting it as a "safe, responsible crypto asset trading platform" with sophisticated risk measures to protect customer funds (SEC 2022). FTX was successful in attracting many celebrity promotors, even featuring Larry David in a Super Bowl commercial in 2022.[2]

Figure 1: FTX's rapid growth



Source: SWFI (2022)

The valuation of FTX grew rapidly, particularly over the latter half of 2021 (Figure 1). At its peak in early

[1] Co-founder and Chief Technology Officer Gary Wang owned 17% of FTX and 10% of Alameda Research, and SBF owned the rest. In December 2002, Wang pleaded guilty to wire fraud and three counts of conspiracy.
[2] In November 2022, FTX customers filed a federal class-action lawsuit, accusing FTX of being a fraudulent cryptocurrency scheme and Bankman-Fried and FTX's celebrity promoters of duping unsophisticated U.S. investors; promoters named include , including Stephen Curry, Shaquille O'Neal, Shohei Ohtani, Naomi Osaka, Larry David, Tom Brady, and Kevin O'Leary (Rocher 2023).

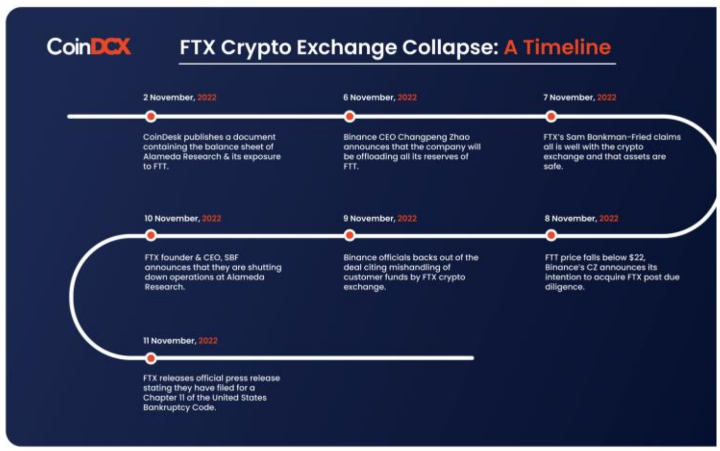
2022, it was valued by venture capitalists at $32 billion and boasted over 5 million users (Roberston 2022). Growth between series B-1 and series C capital raises was particularly remarkable because it occurred even as bitcoin was falling precipitously from its peak in November 2021. It is also notable that major traditional players, including BlackRock and Ontario Teachers Pension Plan (OTPPB), were investors in FTX.

With the Terra Luna collapse in May 2022 and continued slide in prices of prominent crypto assets such as Bitcoin and Ether, SBF stepped in to provide financial help to struggling crypto firms like BlockFi and Voyager, among others. his self-proclaimed motivation at the time was altruistic (Rooney 2022):

> *"I do feel like we have a responsibility to seriously consider stepping in, even if it is at a loss to ourselves, to stem contagion…I want to do what can help it grow and thrive."*

It is this type of claim (and, there were many of its ilk) that makes it all the more shocking that the FTX Group was based on fraud and had poor financial health. The death spiral lasted only 11 days before they wound down Alameda Research's operations and FTX filed for bankruptcy under Chapter 11.

Figure 2: FTX's death spiral lasted 11 days



It began the same way as many collapses do, with news from a leaked report to CoinDesk that Alameda's purported assets were highly concentrated in holdings of the FTT token that was issued by FTX "out of thin air," rather than assets whose value were determined independently (Allison 2022).[3] Moreover, unknown until then by investors, Alameda had used these tokens as collateral to raise more debt. Binance CEO "CZ" was fast out of the block and announced that he would sell his considerable FTT holdings, prompting a valiant attempt by Alameda CEO Caroline Ellis to say that the firm would buy what Binance offloaded. For his part, SBF tried to reassure investors and accused CZ of trying to undermine his companies. As shown in the Annex, supporting documents used in these efforts were not reassuring at all; a balance sheet using "rough values" revealed that FTX had less than $1 billion in liquid assets and $9 billion in runnable liabilities (FT Alphaville 2022). It is unsurprising that these efforts were in vain, and attempts to find a buyer (e.g., Binance, Tron) ended in failure.

In late 2022, federal prosecutors charged Bankman-Fried and other top FTX executives with misappropriating over $8 billion in customer deposits, and fabricating false financial statements. Specifically, the federal complaint alleged that SBF "conspired to defraud customers by misappropriating their deposits; to defraud lenders; to commit securities fraud and money

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[3] FTT was issued by FTX to grant holders a discount on trading fees on its platform.

laundering; and to violated campaign finance laws" (United States Attorney's Office 2022). The SEC and CFTC brought their own set of charges, along the same lines (SEC 2022, CFTC 2022).

A high-profile part of these complaint was the allegation that SBF "used commingled FTX customers' funds at Alameda to make undisclosed venture investments, lavish real estate purchases, and large political donations" (SEC 2022). In late March 2024, SBF was sentenced to 25 years in prison and ordered to pay $11 billion in forfeiture for his part in these fraudulent schemes (U.S. Department of Justice 2024).

2. Epic failures of governance

The collapse of FTX and Alameda was due almost entirely to epic failures of governance, with these errors leading to unwise business decisions, too much leverage, not enough liquidity and even illegal activity. Governance is often overlooked and undervalued, but it is central to the success of any business, as it establishes the rules of engagement, controls, and incentives that produce organizational effectiveness, efficiency, and risk management (Berner et al. 2023).

To put these failures into context, it helps to be reminded of five overarching pillars of good governance in any business:

i. Transparency in the corporate structure.
ii. Constraints on the connections between the firm and its affiliates, as well as between activities carried out within a firm to avoid conflicts of interest.
iii. Custodial arrangements to ensure safety of client funds.
iv. Checks on power, including by an independent Board of Directors, external and internal audits and other controls.
v. Risk culture that guides behaviour.

FTX's governance failures were classic, and touched on each of these pillars: its complex and opaque business model obscured conflicts of interest, safe custody of customer funds was not assured, audit and controls were deficient, and more (see Table 1).[4] These had little to do with crypto assets themselves; they echoed flagrantly illegal activities at firms such as Enron and MF Global.

That said, governance flaws in the crypto industry may be widespread. For instance, FTX is not the only entity in the crypto space with a complex corporate structure and opaque dependencies across affiliated entities. Digital Currency Group (DCG), for instance, owns a number of crypto entities with opaque financial connections. One entity, Genesis Global Capital, has filed for bankruptcy, in part due to the fallout from FTX as well as unpaid loans from its parent, DCG. Moreover, what happened at FTX is not the only example of poor control environments accommodating illegal activity, such as companies behind Tether using falsified documents and shell companies to obtain bank accounts (Foldy 2023).

[4] See the first interim report of John J. Ray III for a complete discussion of governance failures within the FTX Group (Ray 2023).

Probably the most flagrant governance issues that afflicted FTX related to conflicts of interest that arose because there were no constraints on the connections between FTX and Alameda Research. Caroline Ellison, the CEO of Alameda, admitted in court to having used the FTT it held as collateral in loans from third parties, which were ultimately paid back using FTX's customer deposits. Alameda also received concealed loans from FTX using customer funds that were supposed to be held in custody. Not only that, FTX accepted its own unbacked crypto asset (called "FTT") as collateral in loans on its platform, creating exposure though leverage, concentration, collateral evaluation, and wrong-way risk.[5]

Table 1: FTX's governance faults in many areas

Expectation	Outcome
Transparency in the corporate structure	FTX operated as a relatively complex conglomerate with opaque relationships between activities within firm and acros affiliates
Constraints on connections and activities to avoid conflict of interest	FTX accepted its own unbacked crypto asset as collateral in loans on its platform (created exposure through leverage, collateral valuation and wrong way risk). Affiliate Alameda research charged by SEC of having manipulated the price of FTT.
Custodial arrangements ensure safety of client funds	Alameda research allegedly received loans from FTX using cli funds.
Proper governance, including audits and controls	SBF and other FTX exes allegedly received loans from Alamed Research Armanino (accounting firm) gave FTX's financial statements green light
Behaviour/risk culture	Criminal and civil charges against CEO Sam Bankman-Fried a other executives

That this could happen undetected raises serious questions about audits and controls. FTX did not have a Board with independent directors that might have curbed SBF's unchecked power (Wasserman 2022). The board could have worked to develop a risk culture that reflected sound corporate values and, at a minimum, eschewed illegal activity. A board of directors might also have insisted on sounder financial reporting and audits of financial statements. Armanino, the accounting firm that gave FTX's financial statements the green light in 2020 and 2021, is facing a lawsuit by FTX customers. This is reminiscent of the Arthur Andersen failure in the case of Enron in conducting due diligence about how earnings and value were being created.

[5] See, for example, Gary Gorton and Guillermo Ordoñez, "Collateral Crises," American Economic Review 104, no. 2 (2014): 343–78, https://doi.org/10.1257/aer.104.2.343

3. The wake-up call

It will still take time to fully digest the circumstances surrounding the failure of FTX. That said, the FTX collapse makes it painfully clear that, regardless of the technology or protocols that are in place, financial institutions and activities should be subject to some basic and fundamental requirements. Moreover, these requirements should follow the principle of "same risk, same regulatory outcome" (Berner et. al. 2022).

In this context, FTX is a wake up call to redouble efforts to improve the crypto ecosystem in five areas:

a. The entire crypto ecosystem needs to deliver better governance, not just exchanges

While it might be tempting to focus solely on centralized crypto exchanges like FTX, the entire industry needs to work on better governance to rebuild and strengthen trust. Without trust, crypto will find it even harder build strong links to the real economy, it likely will fail to demonstrate whatever value might be there.

One roadblock to improving governance is that crypto advocates are deliberately avoiding centralised control and embracing a so-called "trustless" crypto ecosystem with completely decentralized governance. The issue is that, even in a permissionless, proof-of-work blockchain, such as Bitcoin, governance is far from being completely decentralised (Berner et. al. 2023).[6] There are similar concentration issues in proof-of-stake systems such as Ethereum.

There are a number of ways the industry itself could lead to advance on this front: i) develop and adopt shared codes of conduct and best practices for coders, money service businesses and exchanges; ii) implement high expectations for transparency to help assure fair and effective markets. Codes of conduct and transparency expectations developed in traditional finance are good places to start to achieve fair dealing, standardized and comparable reporting, and appropriate protocols for sharing information (Berner et al. 2023).

b. Investors need to perform more thorough due diligence

Governance questions extend well beyond FTX to institutional investors, such as the Ontario Teachers' Pension Plan and Sequoia Capital, that appear to have failed to perform sufficient due diligence.[7] They also extend to the range of promoters, that did not do a thorough vetting of FTX and have come to regret their support of this company and its leader (Rocher 2023). Boards of Directors of companies should review and reinforce controls around investment mandates, particularly around due diligence.

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[6] One study found that fewer than 50 miners control half of the mining capacity for Bitcoin (https://www.nber.org/system/files/working_papers/w30006/w30006.pdf)

[7] For more on due diligence, see Brooke Masters, "Doesn't Anyone Do Due Diligence Anymore?" Financial Times, November 29, 2022, https://on.ft.com/3XUWGZe.

c. Legal and regulatory gaps must be closed

FTX was an offshore exchange (headquartered in the Bahamas) that was not regulated in the US. It is fair to say that US regulators dropped the ball by not creating clarity about the rules, and thereby pushing many crypto businesses and investors offshore (Velasquez 2022). SEC Commissioner, Hester M. Pierce, rightly said that this episode could be a catalyst to create clear regulations and that it would be more productive if the SEC and CFTC would work together (Velasquez 2022).

Lawmakers and regulators should be open to constructive exchange with the crypto industry, particularly given their dearth of experience with this financial innovation. Advisory committees of practitioners and experts have been useful in traditional finance in informing decisions about new laws and regulations. Global coordination is also critical, although challenging. The fact that regulation in traditional finance is entity-based complicates the task for crypto. The crypto ecosystem consists of diverse business models and activities – many with no legal entity – which do not fit the boxes established by the current regulatory regime (Berner et al, 2023).

Discussion questions:

1. Was FTX a basically sound business idea that went wrong through illegal activity, or was it doomed from the start?
2. What were the causes of the failure of FTX and Alameda and how were they similar to other failures (e.g., SVB, Terra Luna Collapse, other). Do you agree that governance failures were at the core of many major failures, and if not why not?
3. What is it about the US regulatory system (or political environment) that contributes to it often being behind the curve on regulation of new types of financial products and entities?
4. How much trust would you have in industry-led initiatives to produce codes of conduct and improve transparency? Would it be better done solely by the regulator, and if so, why?

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Annex: FTX Balance Sheet November 2022 (FT Alphaville 2022)

This is reported to have been created by SBF to show investors

Note: all of these are rough values, and could be slightly off; there is also obviously a chance of typos etc. They also change a bit over time as trades happen.

Liabilities	
	-8,859,042,572
Ticker	**Liability**
LayerZero	-45,000,000
EUR	-114,536,254
Genesis	-200,000,000
BlockFi	-215,000,000
USDT	-796,482,404
ETH	-671,542,668
BTC	-1,412,738,406
USD	-5,135,280,129
Other	-268,462,711

Assets		
Liquid	**899,859,124**	**1,012,262,574**
Ticker	**Deliverable now**	**Before this week**
HOOD	472,291,833	579,183,374
USD in Ledger Prime	200,000,000	200,000,000
USDB	73,001,646	73,223,641
DAI	28,491,686	28,464,601
DOT	28,384,450	32,522,098
PAXG	23,767,062	23,244,430
JPY	21,758,186	21,979,251
TUSD	15,991,381	16,034,265
EURT	12,117,879	11,847,808
BRZ	9,049,093	8,708,731
BRL	7,017,295	6,753,417
WXRP	6,987,896	9,298,681
PAX	1,000,714	1,002,277

Less liquid	**5,449,513,085**	**15,415,519,517**
Ticker	**Deliverable**	**Before this week**
FTT	553,903,773	5,905,299,356
SRM	2,187,876,172	5,430,110,335
SOL	981,902,267	2,245,516,953
MAPS	616,372,827	865,376,279
Locked USDT	500,000,000	500,000,000
OXY	54,008,094	100,105,976
STG	45,511,034	66,499,913
ETHE	53,155,549	64,420,529
FIDA	36,492,962	62,127,831
MSOL	26,558,417	60,394,582
ASD	33,946,248	49,967,401
BITW	26,527,697	31,939,957
Others	17,860,159	29,105,657
GBTC	3,304,945	4,387,145
APT	312,092,943	267,602

Illiquid	**3,232,059,943**	**3,223,752,915**
Ticker	**Deliverable**	**Before**
other ventures	1,475,000,000	1,475,000,000
GDA	1,150,000,000	1,150,000,000
Anthropic	500,000,000	500,000,000
PYTH	63,766,000	63,766,000
TWTR	43,293,943	34,986,915
TRUMPLOSE	7,394,877	7,394,877

Hidden, poorly internally labled "fiat@" account	-8,000,000,000
Withdrawals on Sunday	5,000,000,000

There were many things I wish I could do differently than I did, but the largest are represented by these two things: the poorly labeled internal bank-related acount, and the size of customer withdrawals during a run on the bank

						Liabilities + liquid				Short term deliverability vs demand	
		Liabilities	Liquid	Less Liquid	Illiquid	without fiat@	Total	Actual leverage	Perceived leverage	Normal	Accute Fear
	Today's prices	-8,859,042,572	899,859,124	5,449,513,085	3,232,059,943	40,816,552	722,389,579	12.02x	0x	3.60x	0.20x
	October's prices	-8,859,042,572	1,012,262,574	15,415,519,517	3,223,752,915	153,220,002	10,792,492,434	1.73x	0x	4.05x	0.23x
Before Sunday	Today's prices	-13,859,042,572	5,899,859,124	5,449,513,085	3,232,059,943	40,816,552	722,389,579	12.02x	0x	23.60x	0.85x
$5b of withdrawals	October's prices	-13,859,042,572	6,012,262,574	15,415,519,517	3,223,752,915	153,220,002	10,792,492,434	1.73x	0x	24.05x	0.87x