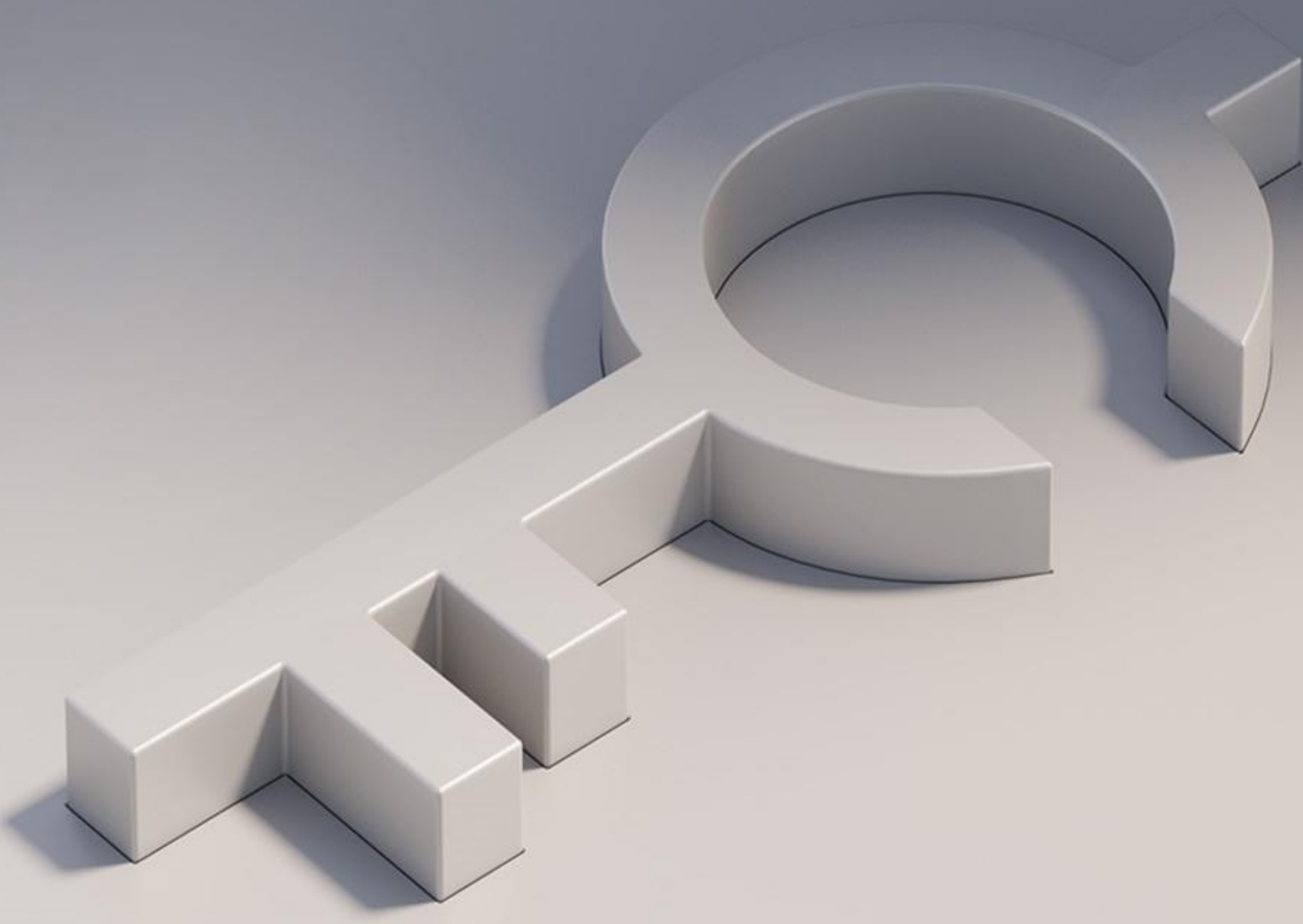
CRYPTO FINANCE
DEUTSCHE BÖRSE GROUP

POST-FTX CONTAGION EFFECTS & RISK FACTORS FOR MARKET PARTICIPANTS

AN IN-DEPTH ANALYSIS OF GENESIS, GBTC, DCG, AND MORE



December 12th, 2022

EXECUTIVE SUMMARY

As a follow-up to Crypto Finance's previous report on the collapse of FTX, this report analyses how and why various major players in the crypto asset industry, including Genesis, Grayscale, DCG, Gemini and BlockFi, have been presumably affected by recent market events.

Caught in the crossfires of both the LUNA crash in May, and the FTX ecosystem collapse in November, Genesis, one of the industry's largest full-service prime brokers, has been navigating through extremely turbulent waters. The defaulting of over-leveraged crypto asset companies, such as hedge funds Three Arrows Capital (3AC) and Alameda Research, has led to major liquidity issues, which have forced Genesis to pause the withdrawals of its lending unit. This has in turn affected retail-oriented crypto asset companies such as Gemini, whose Earn programme is reliant on Genesis' services. BlockFi, another large crypto asset lender has filed for bankruptcy, as a post-3AC-crash bailout from FTX was no longer feasible due to Sam Bankman-Fried (SBF)'s group of legal entities collapsing. In addition, Grayscale's bitcoin trust (GBTC) has been trading at a 40% discount, and its affiliate companies DCG and Genesis are stuck holding large amounts of GBTC shares, while overall demand has significantly dried up given the current market conditions.

This "domino effect" showcases how issues with the financial engineering of the current crypto asset ecosystem have significantly weakened it. The values of crypto assets and blockchain technology are not the root cause of the current market environment. The issues lie within how poor risk management methodologies and high-risk investment strategies have precipitated the industry into a prolonged bear market. The answer to avoid such events unfolding again in the future lies in enforcing existing regulatory measures and standards. In parallel, established regulatory practices will at the same time require partial adjustments to fully capture any inherent properties of the crypto asset market and its participants. Long term trust in the market and its participants can be built through more transparency, using a combination of both the advantages offered by blockchain as well as traditional industry practices such as proper governance, risk management, and auditing practices. In their mission to protect users, regulators have every incentive to enforce regulation using both traditional financial frameworks and on-chain aptitudes, such as open transaction monitoring, and data transparency. Moving forward, this report suggests applying this hybrid set-up, taking full advantage of the best features from both worlds, thereby creating synergies that will build and support a more resilient industry.

INTRODUCTION

The year 2022 will be remembered as a tumultuous year in the crypto asset space. The Luna crash in May shocked the industry, and shortly after, the whole FTX ecosystem collapsed in November (please refer to Crypto Finance's report[1]). These two incidents, commonly referred to as "black swan events" have introduced significant contagion effects that are still cascading, and which have resulted in several market participants' bankruptcies. At the same time many investors, both on the institutional and retail side, were left feeling shaken.

The FTX ecosystem collapse has caused many stakeholders, most notably, the Digital Currency Group, Inc., (DCG) and its subsidiaries Genesis Global Trading Inc., (Genesis) and Grayscale Investments, LLC, (Grayscale), to experience extreme levels of financial strain. This report aims to analyse the "domino effect" that is being observed throughout the crypto asset markets, and determine what this means for the industry.

After giving some context to the situation and describing the roles of the various relevant organisations, this report presents the timeline of events that have transpired since the collapse of the FTX ecosystem, affecting major market participants in the space one after the other. In the following section, a detailed analysis aims to better understand how and why these events unfolded the way they did, and tries to shed some light on the reasons why some key market participants, like Genesis, Grayscale, DCG and Gemini, are under a lot of financial strain, and others, such as BlockFi, have gone on to file for bankruptcy. Finally, important takeaways are presented in the outlook section to better understand what all of this implies for the wider crypto asset industry.

[1] Crypto Finance's FTX Post-mortem Report - link

BACKGROUND

To better understand the series of events that the FTX collapse has triggered, it is essential to outline and describe who the main stakeholders are and what their role in the crypto asset space is.

Genesis Global Trading, Inc., (Genesis)

- Full-service crypto assets prime broker
- Offers OTC trading, custody, and credit services for institutional stakeholders

Founded in 2013, Genesis launched as the first over the counter (OTC) crypto asset trading desk. In 2021, during the bull market, the company's spot trading volumes were over \$100 billion, they originated \$130 billion in loans and traded over \$50 billion in derivatives[2].

Part of the wider Digital Currency Group (DCG), Genesis offers select qualified individuals and global institutional investors a platform for the trading, borrowing, lending and custody of digital assets.

The company also backs the borrowing and lending products of retail-oriented crypto asset companies, such as Gemini, and its Gemini Earn programme, and Circle, operator of the USDC stable coin, among others.

Grayscale Investments, LLC, (Grayscale)'s GBTC

- Fully backed bitcoin trust, holding over 600,000 BTC (about 3% of total supply) as of November 2022
- Genesis was the authorised market maker of GBTC up until October 2022

Founded in 2013, Grayscale, which is also part of DCG, positions itself as one of the world's largest digital currency asset managers. It enables

[2] Genesis Trading - link

investors to access the digital asset space through a wide range of investment products.

The company is most notably known for its bitcoin trust, GBTC, which is not registered under the Securities Act or any state securities law in the U.S.[3]. Accredited investors can exchange their bitcoin and convert them to shares of GBTC, that, up until October of this year, were distributed over the counter by authorised participant, Genesis[4]. The shares can then be sold on the secondary public market, where both institutional and retail investors are able to trade them using their own brokerage account.

As of December 8, 2022, the Grayscale bitcoin trust holds $10.6 billion assets under management. With 692,370,100 shares outstanding, and 0.00091407 BTC per share, the trust holds over 600,000 bitcoins, held in offline, "cold" storage, with Coinbase Custody[5].

Digital Currency Group, Inc., (DCG)

- Major venture capital company in the crypto asset space, with a stake in over 200 companies
- Parent company of Genesis, Grayscale, and five other subsidiaries

DCG is a privately held venture capital company that was founded in 2015 by Barry Silbert, an early and active investor in the crypto asset space. In addition to its vast investment portfolio, DCG owns Grayscale, Genesis, and five other major subsidiaries, including CoinDesk, a popular crypto asset focussed news website. DCG's portfolio includes investments in both public and well-known private companies such as Coinbase, FTX, Kraken, Ripple, and Ledger, and over 200 other companies.

Gemini Trust Company, LLC, (Gemini) Earn

- Gemini's retail-oriented borrowing and lending product
- Partnered with third-party borrowers, including Genesis

Gemini Earn is a lending programme, launched by Gemini, the Winklevoss brothers' centralised cryptocurrency exchange, which is regulated by the New York State Department of Financial Services[6].

By using Gemini Earn users can lend out their crypto assets to institutional borrowers to earn interest of up to 8% APY[7]. The Gemini Earn product is partnered with accredited third-party borrowers including Genesis[8]. More than a year ago, Gemini raised $400 million, valuing the company at $7.1 billion[9].

BlockFi, Inc., (BlockFi)

- Platform for retail crypto asset trading and lending
- Received financial support from FTX after the 3AC collapse

Founded in 2017, BlockFi, which is a U.S. based entity, provides credit services in the crypto asset markets. Users that use BlockFi can trade, borrow, and earn interest on their coins. The company is backed by industry leaders such as Galaxy Digital, Winklevoss Capital, and Coinbase[10].

In July 2021, in the aftermath of the Luna and Three Arrows Capital crash, BlockFi which had high exposure to the fallen organisations, signed a deal with FTX US, in the shape of a $400 million revolving credit facility, which also included an option for FTX to purchase the company at a maximum price of $240 million[11]. At the time, this offer was perceived as being at a large discount given BlockFi's latest $3 billion valuation from its Series D funding round in 2021[12].

[3] Grayscale important information - link
[4] GBTC Factsheet - link
[5] Grayscale - link
[6] Gemini - link
[7] Gemini Earn - link
[8] Gemini - link
[9] PRnewswire - link
[10] BlockFi - link
[11] MarketWatch - link
[12] TechCrunch - link

TIMELINE OF EVENTS

The severity of stress events in the crypto asset markets throughout 2022, including the collapse of FTX, combined with the interconnectedness of significant industry participants has led to major contagion effects. Here is a timeline of events that occurred as known at the time of writing:

06.11 – 11.11 | FTX collapsed

In the span of one week, FTX faced the equivalent of a bank run, paused withdrawals, and ultimately filed for Chapter 11 bankruptcy on November 11th[13]. This collapse was particularly significant for creditors of FTX and investors with large amounts of funds, about $8 billion in total according to various sources, including SBF[14], "stuck" on the exchange[15].

This also left the crypto asset markets feeling anxious about the consequence of FTX's bankruptcy on other major market participants. Panic and mass selling ensued causing prices to drop.

08.11 – 11.11 | Genesis claimed to have no net exposure to FTX, before revealing a $175 million net loss

During the crisis, Genesis frequently communicated on its alleged exposure towards FTX. The company first announced that it had no material net credit exposure on November 8th[16]. It then announced that it had lost $7 million[17], before finally disclosing that their derivatives business had $175 million locked on FTX that were potentially lost[18].

11.11 | DCG injected $140 million into Genesis

On November 11th, Genesis sent a letter to its clients, stating that it had obtained an equity infusion of $140 million from its parent company DCG[19]. This was done in an effort to strengthen the company's balance sheet during tough market conditions[20].

16.11| Genesis paused withdrawals of its lending unit

A week later, Genesis announced that it was pausing withdrawals of its lending unit[21].

> **Genesis**
> @GenesisTrading
>
> Our #1 priority is to serve our clients and preserve their assets. Therefore, in consultation with our professional financial advisors and counsel, we have taken the difficult decision to temporarily suspend redemptions and new loan originations in the lending business.
>
> 2:08 PM · Nov 16, 2022

The company stated that "the default of 3AC negatively impacted the liquidity and duration profiles of [their] lending entity". Ultimately, the market turmoil caused by FTX resulted in an abnormal frequency of withdrawal requests that exceeded Genesis' purported liquidity levels at the time, forcing them to pause withdrawals[22].

16.11| Gemini warned about withdrawal delays

In an important message to its Earn clients, Gemini announced that because of the paused withdrawals on Genesis, it would not be able to meet customer redemptions within the agreed-upon service-level agreement (SLA) of five business days[23].

21.11| Genesis warned of bankruptcy without immediate funding

Bloomberg announced that Genesis executives were seeking financing after the company's lending unit had suspended withdrawals post FTX collapse[24]. Bankruptcy rumours started looming over Genesis.

[13] FTX bankruptcy filing - link
[14] Wall Street Journal - link
[15] Crypto Finance's FTX Post-mortem Report - link
[16] @GenesisTrading tweet from 08.11 - link
[17] @GenesisTrading tweet from 09.11 - link
[18] @GenesisTrading tweet from 11.11 - link
[19] @WuBlockahin tweet from 11.11 - link
[20] Coindesk - link
[21] @GenesisTrading tweet from 16.11 - link
[22] @GenesisTrading tweet from 16.11 - link
[23] Gemini - link
[24] Bloomberg - link

22.11| Genesis hired investment bank to explore options while seeking solutions to resume lending operations

Genesis hired Moelis & Company to explore options, including a potential bankruptcy[25] . Barry Silbert, CEO of DCG, disclosed in a note to shareholders that the venture capital company had a roughly $575 million liability to Genesis, due in May 2023, insisting that both companies were financially stable[26]. Genesis was also in talks with potential investors and its largest creditors and borrowers, including Gemini and DCG[27].

In an update to Earn customers, Gemini announced that it was continuing to work closely with Genesis and DCG to resume user fund redemptions[28].

> **Gemini**
> @Gemini
>
> 1/5 Update for Earn customers: we continue to work with Genesis Global Capital, LLC (Genesis) — the lending partner of Earn — and its parent company Digital Currency Group, Inc. (DCG) to find a solution for Earn users to redeem their funds.
>
> 2:33 AM · Nov 22, 2022

28.11| BlockFi filed for voluntary Chapter 11 bankruptcy under the U.S. Bankruptcy Code

BlockFi and eight of its affiliates commenced voluntary cases under Chapter 11 of the U.S. Bankruptcy Code[29].

> **BlockFi**
> @BlockFi
>
> Today, BlockFi filed voluntary cases under Chapter 11 of the U.S. Bankruptcy Code.
>
> 4:37 PM · Nov 28, 2022

At that moment in time, BlockFi had $256.9 million in liquid assets, while possessing billions in liabilities[30]. In addition, the company stated that it had over 100,000 creditors. The company cited that this action followed the collapse of FTX and the decision it had to make at the time to pause all activities on its platform[31].

ANALYSIS

After describing the main events that have unfolded during the past weeks in a domino-like fashion, this next section aims to connect the dots between stakeholders and events based on publicly available information at the time of writing. This analysis breaks down how and why 2022 has been such a challenging year for major parts of the crypto asset industry, by outlining the turmoil caused by the collapse of several significant market participants.

Genesis' role in the ecosystem and the reasons for its suffering

Genesis plays a significant role in the crypto asset trading markets. It is one of the entities that comes closest to a "prime broker" in the industry, by providing credit facilities for hedge funds, miners, and leveraged traders. It also offers borrowing and lending services to retail-oriented organisations such as Celsius and Gemini[32].

Genesis took several hits throughout 2022. Firstly, its lending operations with now bankrupt companies, like 3AC, resulted in the company incurring severe losses, including $2.3 billion owed by the bankrupt hedge fund. It then also allegedly lost at least $175 million in the aftermath of the FTX ecosystem collapse[33].

According to a letter sent to investors, DCG clarified that Genesis paused withdrawals because of

[25] NY Times - link
[26] Coindesk - link
[27] Coindesk - link
[28] @Gemini tweet from 22.11 - link
[29] BusinessWire - link
[30] AbcNEWS - link
[31] BlockFi - link
[32] @ramahluwalia Twitter thread from 20.11.2022 - link
[33] @GenesisTrading tweet from 11.11 - link

"liquidity and duration mismatch issues" in the company's loan book[34]. Eventually, Genesis had to pause its lending unit's activities and is now seeking solutions, in the shape of a liquidity facility which would bridge the asset to liability mismatch on their balance sheet, in order to resume operations.

Back in August 2022, Genesis acknowledged that it occasionally offered unsecured loans to its "strategic partners"[35], who used the borrowed money to fund leveraged activities during the bull market (2020-2021). When such overleveraged trades went south in the bear market (2021-2022), Genesis was left with very illiquid collateral (and sometimes no collateral at all) to collect from failed companies, such as 3AC[36] (more on this in the next section).

Genesis reportedly suffered losses of hundreds of millions of dollars due to loans made to the failed crypto asset hedge fund[37]. According to its latest quarterly report, Genesis still held $2.8 billion of active outstanding loans as of Q3 2022[38].

According to an investigation led by Quartz, Genesis might have also on occasion lent out its clients' collateral to other borrowers, instead of keeping the funds locked: a practice known in traditional finance as rehypothecation that helped set off the great financial crisis in 2008[39]. While CoinDesk reported that Genesis' rival Celsius Network had been making unsecured loans and rehypothecating collateral pledged by borrowers, Genesis had not confirmed at the time whether they were rehypothecating client collateral[40]. In any case, such practices significantly increased risks compared to a properly collateralised, lending-only, collateral-retained model. Genesis' difficulties are, in addition, closely linked to its parent company DCG and to Grayscales' GBTC. This interconnectedness is explored in the next section.

The explanations behind the major discount of Grayscale's GBTC bitcoin trust

To properly understand the troubling situation in which Grayscale's bitcoin trust is finding itself, it is crucial to better understand its unique design and set-up.

Grayscale accepts BTC from accredited investors in exchange for shares of GBTC, each equal to about 0.0009 BTC. The bitcoin is locked up in the fund permanently and the shares of GBTC can then be traded on the secondary public market[41]. It is important to note that, as per the trust's structure, all accredited investors must wait at least six months before selling their shares on the secondary market[42].

While GBTC shares mostly traded at a 10 to 40% premium of the Net Asset Value (NAV), i.e., bitcoin, during the bull market in 2020-2021, the share price started declining faster than the price of bitcoin, and shares were trading at about a 40% discount as of Q4 2022.

Figure 1. Grayscale's GBTC discount/premium to NAV over last three years[43]

Here is how the GBTC "discount" is calculated (prices as per time of writing):

$$1\ GBTC \approx \ \$8.20\ (0.00091407\ \ BTC)$$

$$1\ \text{BTC} \approx \$16{,}000$$

1 share of GBTC trades at about $8.20, which is equivalent to 0.00091407 BTC. Meanwhile, on the spot market 0.00091407 BTC trades at about $14.6, given that 1 BTC trades at $16,000. This means that the BTC in the GBTC shares is around 45% "cheaper" than the same BTC traded on the spot market.

So, how did GBTC go from having such a high premium in 2020-2021 to trading at a massive discount in 2022?

For several years, many investors accepted to pay a "premium" on shares of GBTC, as it gave them direct exposure to bitcoin without having to hold the crypto asset directly. During the crypto asset bull run, many institutions recognised this attractive trade and thus leveraged, borrowed, and

[34] @ramahluwalia Twitter thread from 25.11.2022 - link
[35] CoinDesk - link
[36] Quartz - link
[37] CoinDesk - link
[38] Genesis Q3 2022 Quarterly Report - link
[39] Quartz - link
[40] CoinDesk - link
[41] ChainPulse Insights - link
[42] Grayscale - link
[43] Ycharts - link

invested heavily into GBTC. Traders and hedge funds, such as 3AC, exchanged their bitcoin for shares of GBTC, which traded at a premium between 10% and 40% for a long period of time (2018-2020)[44]. In May 2020, 3AC purchased over 21 million shares of GBTC[45], making it one of the largest holders of the trust's shares at the time.

In practice, during the 2020-2021 bull market, recognising the attractive trade, 3AC was exchanging their bitcoin for shares of GBTC at NAV. They then sold some of the GBTC on the secondary market at a premium and pledged the rest of GBTC as collateral to obtain loans from Genesis[46]. With these loans they would then purchase bitcoin, exchange it for GBTC, and perform the same lucrative process all over again. However, this worked only as long as market momentum and prices kept increasing[47].

Once the price of BTC dropped, along with the discount on the GBTC share price, 3AC's overleveraged and one-directional trade took an unfavourable turn. As 3AC got liquidated, its creditors had access to the company's illiquid GBTC collateral and started selling the shares on the open market to recoup their losses. This caused a massive increase in the supply of GBTC, while most buyers had now been turning away from the investment given the downturn in the crypto markets. As institutions holding illiquid GBTC shares grew more and more anxious to sell, the discount against NAV gradually increased.

In addition, the emergence of publicly traded ETFs in Canada, such as the Purpose Bitcoin ETF[48], in February 2021, presumably weakened the position of Grayscale's bitcoin trust even more, further driving prices down, and turning the premium into a discount.

At the same time, the six-month lockup period incurred by institutional investors who had exchanged their bitcoin for GBTC, meant that they could not necessarily react fast enough to avoid heavy losses.

As time went by, the discount on GBTC kept increasing, plunging to lows of nearly 50% in November 2022[49]. There is no conclusive evidence at this point in time as to why exactly GBTC is trading at such a huge discount, but overall, the over-accumulation and then off-selling of this illiquid asset, combined with weak global market conditions and the lack of buying interest from retail has driven the price of GBTC shares to trade way under their net asset value.

DCG is unable to sell its 67 million shares of GBTC

As revealed by Bloomberg Intelligence's James Seyffart, DCG and Genesis owned almost 67 million shares of GBTC as of September 2022[50], or nearly 10% of the outstanding shares of GBTC of over 692 million[51].

It is likely that Grayscale, owned by DCG, does not have much economic incentive to voluntarily liquidate its trust because of the high revenues it generates from the 2% fee it takes on all holdings. Revenues from these fees are considerable even in a bear market, amounting to about $300 million a year[52]. Also, if DCG wanted to sell its GBTC holdings to raise liquidity, given the trust's structure, it would only be able to sell about 6.9 million shares every three months, meaning that it would take over two and a half years of constant selling before they would be able to fully close their position[53]. Finally, GBTC is not an ETF, but rather a publicly listed vehicle that falls under the Securities and Exchange Commissions' (SEC) 'Rule 144[54]'. This rule imposes two major affiliate selling restrictions: firstly, the affiliate must put out a notice of proposed sales. Secondly, there is a cap on sales of 1% of outstanding shares or weekly trading volume[55]. In other words, it would be extremely complex and take a huge amount of time for DCG and Genesis to sell their large holdings of GBTC, making it a highly illiquid asset for both companies to hold on to at the moment.

According to a letter published to investors, DCG clarified several points[56], "DCG stepped in and

[44] Ycharts.com - link
[45] SEC filing - link
[46] CoinDesk - link
[47] Crypto Finance - link
[48] Purpose Invest - link
[49] Ycharts - link
[50] @JSeyff twitter thread from 23.11 - link
[51] Grayscale - link
[52] @JSeyff twitter thread from 23.11 - link
[53] @JSeyff twitter thread from 23.11 - link
[54] Grayscale – Not an ETF - link
[55] ecfr.gov - link
[56] @ramhluwalia Twitter thread from 25.11.2022 - link

assumed certain liabilities from Genesis to the Three Arrows Capital default". DCG has outstanding loans of $575 million and $1.1 billion due to Genesis in 2023[57]. Available information suggests that between March 2021 and June 2022, DCG borrowed the $575 million from Genesis using GBTC holdings as collateral to purchase $778 million of GBTC shares at discount hoping that the NAV would close[58].

3AC was once the largest holder of GBTC with 38 million shares, mainly purchased using loans from Genesis collaterised in GBTC itself[59]. But as they defaulted, DCG stepped in to assume some if not all the GBTC posed as collateral when they margin called[60]. DCG took possession of 3AC's illiquid collateral to provide Genesis with some much-needed liquidity, but consequently left the parent company holding more GBTC and assuming its illiquidity.

Since 2021, DCG has accumulated a huge amount of GBTC, but the price and discount have kept plunging further down. As of the day of writing, Genesis and DCG own nearly 10% of all GBTC shares but are basically unable to sell them to raise liquidity. Their exposure to GBTC is very high, and the design of the trust makes it very complicated for them to sell shares in the market, leaving them stuck with a by-design illiquid asset.

Gemini Earn is caught up in the mix because Genesis paused lending operations

At the same time, Gemini was affected by the unfolding market developments, as Genesis, which paused withdrawals of its lending unit, was the main borrowing and lending partner of the centralised exchange's Earn programme[61].

In practice, retail clients deposited their crypto assets in Gemini's Earn programme with the intention to earn interest on their holdings; those holdings were then lent out to Genesis; Genesis then lent out those assets to institutional market participants, such as 3AC and DCG, who used such loans to finance leveraged trading strategies.

But, as the institutional players starting defaulting and were not capable of paying back their loans, Genesis faced liquidity issues, forcing them to pause withdrawals, which ultimately obliged retail-oriented companies like Gemini to halt their own borrowing and lending programme. This scenario showcases one example of the domino effect that has affected significant parts of the crypto asset industry.

BlockFi – another domino to fall post-FTX

The relationship between BlockFi and FTX began around the time 3AC defaulted in June 2022.

> *"3AC was one of BlockFi's largest borrower clients, and its collapse led to material losses for BlockFi, which were mitigated by BlockFi's credit policies."*
>
> *- BlockFi's bankruptcy court filing[62]*

To save BlockFi from collapsing in June 2022, FTX offered the company up to $400 million as an emergency line of credit [63]. In return, FTX received the rights to acquire BlockFi at a maximum price of $240 million as soon as July 2023, a sharp drop from its latest valuation of $4.8 billion. Nevertheless, it seemingly survived the events following the 3AC default. However, another crisis was waiting to hit BlockFi. When its rescuer, FTX, went into bankruptcy filing, BlockFi shortly followed suit. The filing revealed that the key source of BlockFi's bankruptcy was its $680 million loan made to Alameda Research LLC (Alameda) [64]. Combined to the frozen assets on FTX, BlockFi is owed more than $1 billion from FTX and Alameda[65].¨

[57] @ramhluwalia Twitter thread from 25.11.2022 - link
[58] @ramhluwalia Twitter thread from 25.11.2022 - link
[59] Protos - link
[60] Beincrypto.com - link
[61] Gemini's Earn program - link
[62] BlockFi Bankrupty Court filing - link
[63] MarketWatch - link
[64] BlockFi Bankrupty Court filing - link
[65] BlockFi Bankrupty Court filing - link

OUTLOOK

After analysing the situation of some of the largest market participants that have been caught up in the crypto asset market contagion effects ever since the collapse of FTX, this report provides some perspective on what this means for the industry at large.

Issues of overleveraging in bull markets are inherent to financial systems

Despite the collapse of major crypto asset companies, blockchain as a technology emerged unscathed. The fundamentals of blockchain technology and its essential functions of information and value transfer remain uncompromised. This is a key advantage of trustless systems and infrastructures. Although many involved organisations are being severally affected financially, the decentralised ledger continues to record transactions and the blocks are still mined.

Based on what we know today, efforts should rather be allocated to improving the overall financial engineering in the crypto asset market.

In a bull market, hot money floods the market. Loans are readily available and can be simply collateralised with illiquid assets. To incentivise more money to feed into this system, very high yields are provided to investors. Under such market conditions, the origins of such “low-risk high-yield” investments are under little scrutiny as long as they continue to offer what they promise. However, as most investors and traders know, “low-risk high-yield” investments are in many cases not economically sustainable over longer periods of time.

The limited resilience of such investment types is laid bare in scenarios of economic downturn. Investors will, in these scenarios, typically start to demand their money back, only to realise that they bought into an unviable product.

At this point, trust between counterparties starts to dissipate. Without proper information, companies overall have limited insight into potential additional contagion effects that are spreading through the industry. This absence of trust slows down the flow of liquidity between participants, which is the exact opposite of what happens in a bull market where capital flows freely without question.

What has been observed is a problem inherent to financial systems that are driven by overleveraging in bull markets. An unprecedented bull market, a highly speculative asset, and questionable overleveraged practices with limited regulated oversight, are all contributing factors to an uncontrolled market downturn. The difference between this new industry and traditional finance, is that there is no government bailout regardless of the criticality of the infrastructure or the service provider. This begs the question: is regulation the solution?

Enforcing regulation in the crypto asset industry

The observed lack of transparency and excessive leveraging of many large market participants in the crypto asset industry is leading many to defend that regulatory oversight is the key to avoid such scenarios to repeat in the future.

The key lies in the systematic application of existing regulatory standards for financial intermediaries, while adjusting these standards and requirements to any proprietary element of blockchain-based financial servicing models. In fact, regulators are likely incentivised to adapt to the space in an efficient manner and leveraging modern tools for regulation and oversight (“SupTech”).

Regulation is particularly required when more traditional, centralised elements are introduced into an in principle-decentralised ecosystem. Particular scrutiny should fall on top of onramps and offramps, such as centralised exchanges, custodians and payment service providers. In practice, many established standards of the existing financial industry, e.g., with respect to appropriate risk management, auditing, and various other standards, will become minimum requirements in the crypto asset industry of tomorrow. For example, the European Union legislation for “Markets in Crypto Assets” (MiCA) will come into force in 2024 which will regulate digital assets, specifically stable coins, and focus on the services of intermediaries, whereas decentralised finance itself is largely not in scope of the upcoming regulation.

Against this backdrop, it will be essential that blockchain-native service providers and respective parts of the academia are systematically involved in the dialogue between policymakers and the private sector, as they will assist in developing efficient supervisory mechanisms for the future oversight of the crypto asset market as a whole. This systematic collaboration will eventually net benefits for both the regulatory community (for the development of an efficient supervisory toolkit) as well as the crypto asset industry (as affected supervised market). In the short term, policymakers will have an inherent interest to limit currently existing opportunities for regulatory arbitrage (as evidenced by the offshore nature of the FTX corporate structure for example[66]).

Trust as the way forward, and potential routes to regain it

Putting trust into a centralised intermediary party may come antithetical to the governing paradigms and principles of blockchain technology. As suggested by its proponents, crypto assets should be able to operate efficiently within a trustless, decentralised system. But trust is a key component to the transition between what is currently understood in traditional finance and what truly trustless system actually are.

There are only a few alternatives to trust. That is why investors, retail and institutional alike, rely on centralised exchanges to interact with this new asset class. Because of the recent failures of centralised exchanges, trust seems to be at its lowest.

One of the ways major players within the crypto asset space, especially these centralized exchanges, are trying to restore trust within the community is by publishing Proof of Reserves. Proof of Reserves, which have been discussed in Crypto Finance's previous report[67], are being used as a way for exchanges to prove that they in fact have possession of client assets that they hold in custody, and that unlike FTX for example, all assets are available for withdrawal. Whether Proof of Reserves are actually truly helpful, is still up to debate, but nonetheless exchanges seem to have chosen this method to restore user trust.

Since the collapse of FTX, more information has emerged on the actual functioning of theses Proof of Reserves. Notably, Binance, the largest exchange in the world has published an announcement detailing the system behind their own Proof of Reserves[68]. Binance, like others, have built and implemented a Merkle Tree (see Annex 2), which allows users to verify their assets on the platform. Binance stated that their goal is "that every user will be able to verify their asset holdings using their own generated Merkle hash/record ID, [and] this way people will be able to confirm that their funds are held 1-to-1 and they can have it verified by a third-party audit agency"[69]. This process sounds promising in theory, but without the trust in a third-part audit agency that verifies that the Proof of Reserves are accurate, it will be difficult to restore confidence in the system. There will always be the need for trusted and regulated players in the centralized crypto asset space, and this is why proper auditing and regulatory practices are crucial.

Following the FTX ecosystem collapse, Changpeng Zhao (CZ), CEO of Binance, also announced that his company is creating an industry recovery fund[70]. The company initially committed $1 billion, and quickly increased that amount to $2 billion in the following days. Other players participating towards this initiative have allocated an aggregate amount of $50 million. The SAFU insurance fund, as CZ calls it, is roughly split between BTC, BUSD, a stable coin issued by Binance, and BNB, a token issued by Binance, and which is the native currency of the organisation's own blockchain. Whether or not this fund would be efficient in the event of a market downturn is to be further discussed, as the fund is largely concentrated in Binance-issued coins, namely BUSD and BNB[71].

In a world where the central banks are not accountable for stopping the contagion that is being observed in the crypto asset markets, industry participants are aiming to raise funds to prevent the industry from imploding even more. Whether this initiative will have an impact is yet to

[66] Crypto Finance's FTX Post-mortem Report - link
[67] Crypto Finance's FTX Post-mortem Report - link
[68] Binance – Proof of Reserves System Announcement - link
[69] Binance – Proof of Reserves - link
[70] Binance announces Crypto Recovery Fund - link
[71] CZ tweet on SAFU fund - link

be seen, but ideally it should increase resilience within the ecosystem.

Capitalising on the benefits offered by both worlds: the potential of a "hybrid" regulatory set-up

The argument that is presented in this final section suggests the idea that to maximise regulatory clarity and protect users, regulators have every incentive to enforce traditional regulatory measures while leveraging the on-chain capabilities offered by crypto assets and blockchain technology. In a similar way to which the Proof of Reserves systems are being pushed forward by centralised exchanges to regain user confidence, a combination between traditional regulatory practices and innovative blockchain-enabled transparency could establish trusted relationships and build resilience in the industry.

There is an obvious need to enforce regulatory standards in the crypto asset space such as proper risk management, auditing, and know your customer (KYC) practices. In addition, the on-chain screening of transactions, and overall transparency of the blockchain provides individuals, companies and regulators tools that traditional finance typically veils in secrecy. While Proof of Reserves, an intrinsically on-chain native concept is almost worthless without proper auditing from an external, regulated, third-party intermediary, purely traditional regulation that matches that of the traditional financial system will not resolve the issues behind the lack of transparency and trust that affects it.

This hybrid regulatory set-up could be an efficient way of enabling a highly innovative industry to keep growing and create value for all users. The innovations of distributed ledger technology should not be dumped in favour of the usual regulatory framework of traditional finance, but synergies should rather be created between blockchain transparency and traditional regulatory frameworks to make sure that participants are following proper standards and are properly protected.

As a matter of fact, new regulated financial intermediaries in the crypto asset space, such as Crypto Finance follow such practices. On the one hand there exists a strong compliance towards traditional state-of-the-art regulatory practices, such as risk management, KYC, Anti-Money Laundering, and proper auditing practices. And on the other hand, the powerful transparency features offered by cryptocurrencies and blockchain technology enable new methods of conducting transaction monitoring in a public and transparent way, to ensure the system's and the consumer's protection.

Overall, traditional regulatory financial frameworks combined to the unique capabilities of cryptocurrencies and blockchain could allow the industry to gain in resilience and for all participants, including regulators, to gain in clarity.

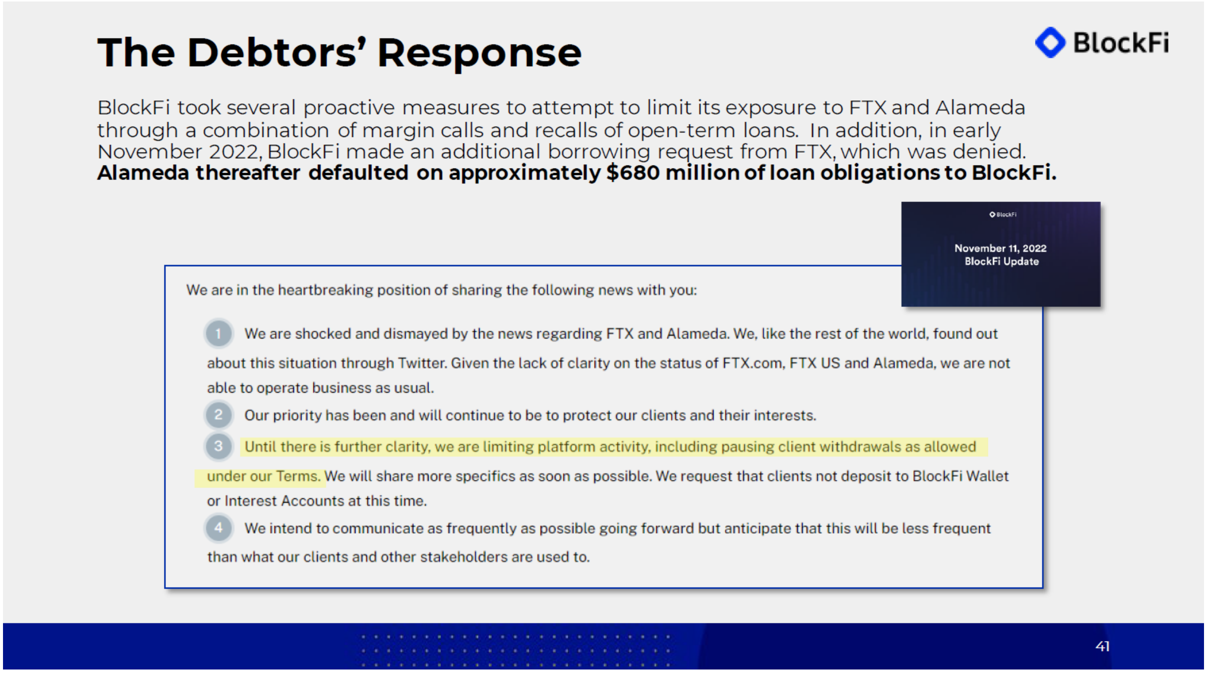
CONCLUSION

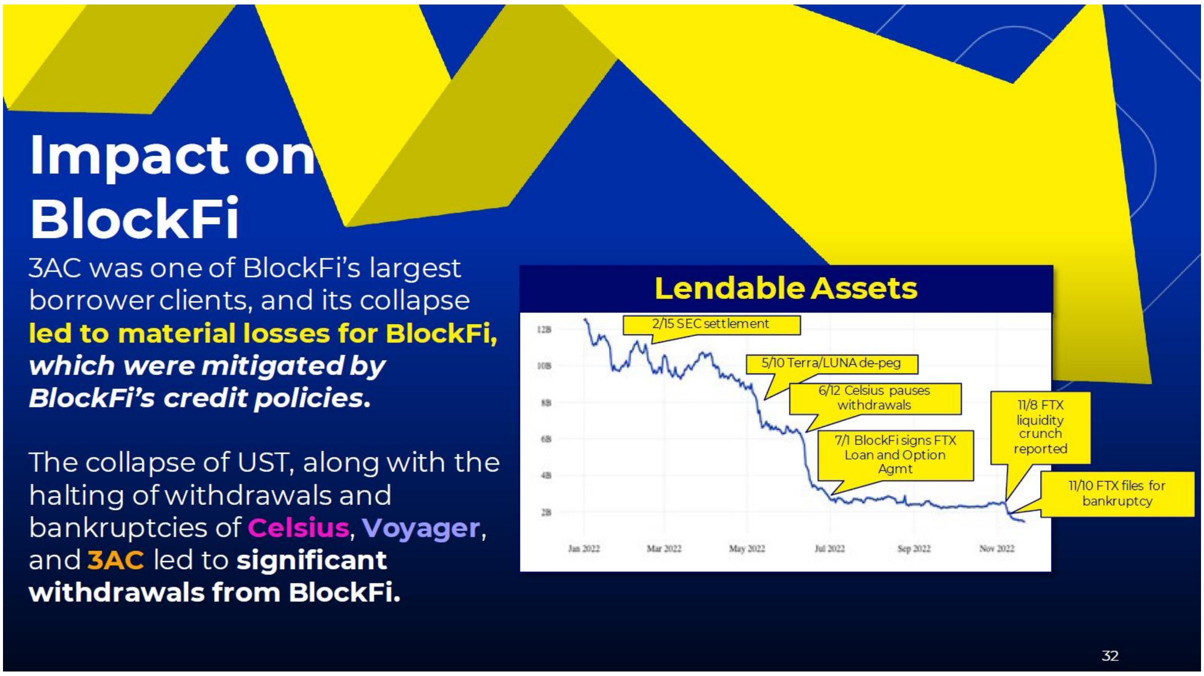
After presenting some context around the various organisations involved in this cryptocurrency domino effect, this report has presented a timeline of events which have unfolded since the collapse of the FTX ecosystem. This series of events has highlighted just how interconnected the major players within the cryptocurrency ecosystem are, and that poor financial engineering and over confidence have brought the industry to its knees. As the market turned from bull to bear, many organisations, often overleveraged or involved in the borrowing and lending business have fallen on top of each other.

In order for the cryptocurrency industry to resiliently move forward, it is crucial to enforce proper regulatory measures without overregulating the space. The values of cryptocurrencies and blockchain technology are not the root cause of this crisis. The issue is much more about poor financial practices combined to a lack of suitable regulatory clarity. It is in regulators best interest to enforce frameworks that encompass and capitalise on both the values of traditional finance and on-chain information.

APPENDICES

Annex 1 – Court Filings[72]



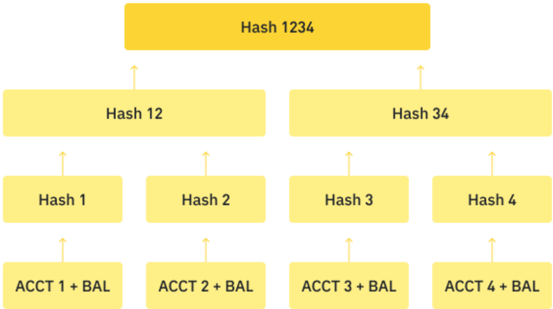


72 BlockFi's court filings - link

Annex 2 – What is a Merkle Tree? [73] (Source: Binance)

What is a Merkle Tree?

A Merkle Tree is a cryptographic tool that enables the consolidation of large amounts of data into a single hash. This single hash, called a Merkle Root, acts as a cryptographic seal that "summarizes" all the inputted data. Additionally, Merkle Trees give users the ability to verify specific contents that were included within a particular set of "sealed" data. We use these properties of Merkle Trees during our Proof of Reserves assessments to verify individual user accounts are included within the liabilities report inspected by the auditor.



[73] Binance - link

About Crypto Finance

The Crypto Finance Group - comprising two FINMA-regulated financial institutions and part of Deutsche Börse Group - offers professional digital asset solutions. This includes one of the first FINMA-approved securities firms with 24/7 brokerage services, custody, infrastructure, and tokenisation solutions for financial institutions, as well as the first FINMA-approved manager of collective assets for crypto assets, with an active, rules-based and index-based alternative investment fund offering, including the first Swiss crypto fund. The Crypto Finance Group is headquartered in Switzerland and has a regional presence in Singapore and Germany.

For more information, please visit: www.crypto-finance.com

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AUTHORS

William Ery
Partnerships Manager

Vanessa Thien
Corporate Development

Christopher Tse
Product Manager

Patrick Heusser
Chief Commercial Officer

David Scheuermann
Sales Trader

If you would like to learn more about Crypto Finance and receive additional industry insights, please send an email to:
salesteam@crypto-finance.com or assetmanagement@crypto-finance.com

www.crypto-finance.com

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