The SEC Effect: Liquidity And Derivatives Insights

JUNE 2023

About CCData

CCData is an FCA-authorised benchmark administrator and global leader in digital asset data, providing institutional-grade digital asset data and settlement indices. By aggregating and analysing tick data from globally recognised exchanges and seamlessly integrating multiple datasets, CCData provides a comprehensive and granular overview of the market across trade, derivatives, order book, historical, social and blockchain data.

About This Report

The digital asset market has undergone significant shifts during the first half of 2023. In this report, we explore how regulatory scrutiny has impacted liquidity across markets, particularly in the U.S., and how this has been driven by key events such as the recent accusations made by the SEC. Additionally, we delve into the consequences of the largest BTC long position liquidations since the FTX collapse and the increasing dominance of the derivatives market amidst declining spot trading volumes.

Explore the data on CCData's API

For those interested in accessing CCData's API and data solutions for their own purposes, including cryptocurrency trade data, order book data, blockchain data, social data or historical data across thousands of cryptocurrencies and 200+ exchanges, please take a look at CCData's API here.

Disclaimer

Table of Contents

Key Summary

Liquidity Dries Up Across All Markets, But More Severely In The US

The increased regulatory scrutiny has significantly impacted liquidity across various markets, including the digital asset market. Currently, the aggregate liquidity for Bitcoin (BTC) stands at approximately 3,400 BTC (for 14 analysed exchanges), a 53.4% decrease from its peak prior to the FTX collapse on October 25th and a 40.8% decrease compared to the beginning of 2023. These regulatory actions have been particularly pronounced in the United States, where market makers have exited the space, resulting in a greater impact on liquidity.

Stability in Spread and Slippage Disrupted by USDC Depeg and SEC Announcements

Since the start of the year, spread and slippage on centralised exchanges has stabilised, with certain exchanges improving their bid and ask spread and slippage while others maintained their previous records. However, significant events, such as the depeg of USDC and a recent SEC announcement, have caused disruptions in bid and ask spreads, as well as slippage records, leading exchanges like Binance.US to report noteworthy increases in their spread and slippage figures.

Open Interest Plummets as Markets Record the Largest Liquidation Event Since FTX

The SEC's statement on June 5th set off a major wave of BTC long liquidations at a scale which hasn’t been seen since the collapse of FTX. As a result, aggregate open interest in the markets fell by 4.51% within an hour, highlighting the scale of leverage in the markets. The announcement caught bullish traders by surprise, particularly affecting altcoins, such as Cardano and Solana, which were specifically mentioned in the lawsuit and are now considered securities by the SEC. These tokens experienced the most substantial declines.

Derivatives Market Dominance Continues to Trend Upwards

Derivatives market share continued to rise for the third consecutive month in May to 79.8%, hinting at the speculative nature of the market at present. Meanwhile, spot trading volume fell 21.8% to $495bn in May, recording the lowest monthly trading volume since March 2019, highlighting the lack of liquidity and accumulation of crypto assets under the current uncertain macroeconomic conditions.

Regulatory Landscape

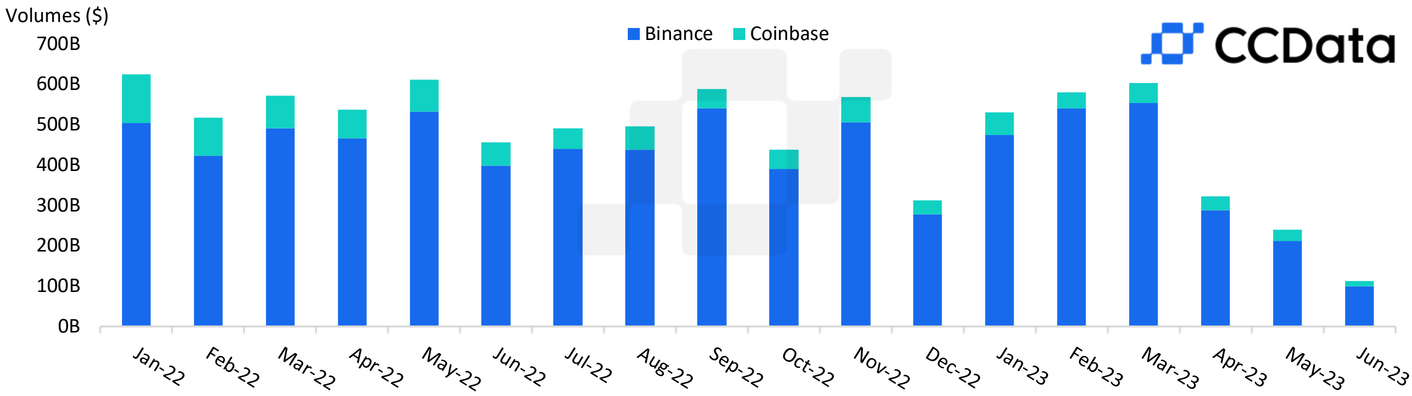
The Securities and Exchange Commission (SEC) initiated legal action against two of the most prominent cryptocurrency exchanges in the industry, Coinbase and Binance. This development is expected to have a significant impact on the current landscape of centralised exchanges. The SEC's actions create opportunities for alternative exchanges that have have focused on operating in jurisdictions with clearer regulatory frameworks, such as Europe or Asia. It is crucial to pay attention to the accusations levelled against Coinbase and Binance in the US, as the outcomes could set precedents that reshape the exchange landscape for the foreseeable future.

Binance and its founder, Changpeng Zhao, (CZ) have faced legal charges from both the Commodity Futures Trading Commission (CFTC) and the SEC. The CFTC accused Binance of operating an illegal digital asset derivatives exchange and deliberately avoiding federal laws. The SEC's allegations mirror those of the CFTC, emphasising the involvement of Binance's leadership in helping US-based investors bypass compliance regulations. The accusations include actively promoting non-compliant actions, such as using VPNs and offshore entities to evade geographical restrictions. The SEC also claims that Binance engaged in the sale of unregistered securities, including its own token Binance Coin (BNB). Additionally, CZ is accused of exerting control over market makers, Sigma Chain and Merit Peak, on the Binance exchange, raising concerns about wash-trading activities. The most concerning aspect is the lack of separation between Binance's US entities and market-making firms, which includes allegations of commingling funds.

Coinbase, a publicly listed company, has been accused by the Securities and Exchange Commission (SEC) of operating its cryptocurrency trading platform without proper registration as a national securities exchange, broker, and clearing agency. The SEC claims that since 2019, Coinbase has facilitated the illegal trading of crypto asset securities without meeting registration requirements, leaving investors without necessary protections. Additionally, Coinbase is charged with not registering its staking-as-a-service program, which allows customers to earn profits through validating blockchain transactions.

Although the accusations made against Coinbase are less severe than those made against Binance, they directly challenge Coinbase's ability to serve its primary market as a publicly listed company focused on serving US customers. Notably, the SEC's enforcement actions against Coinbase have been criticised over a lack of transparency, as Coinbase has sought regulatory clarity from the SEC on multiple occasions without receiving a comprehensive response.

Figure 1: Binance and Coinbase Volumes YTD

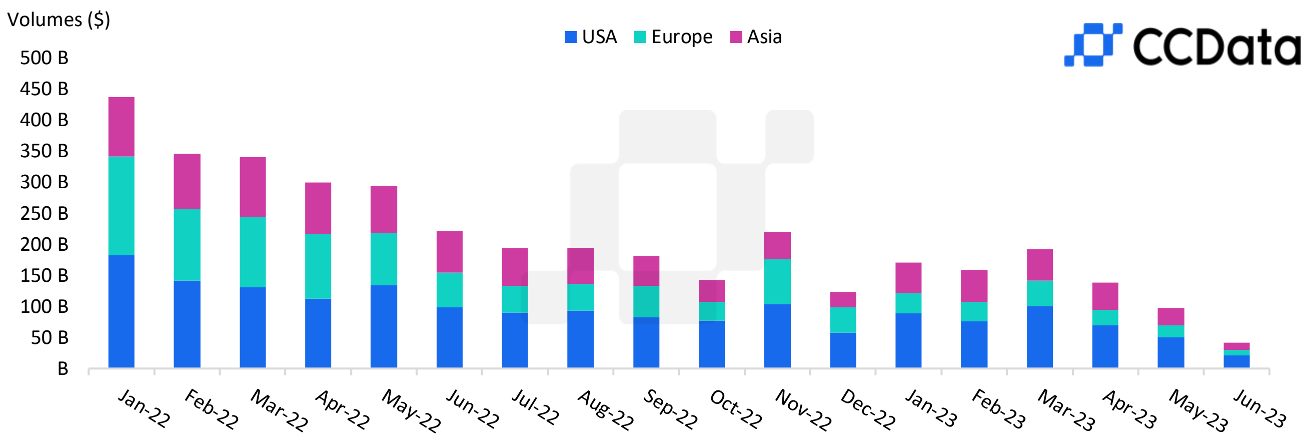


Is Pragmatic Legislation the Solution?

In contrast to the regulatory efforts of the United States, many other jurisdictions are approaching digital asset regulation with pragmatism. For example, the European Union recently published the European Union's Markets in Crypto-Assets (MiCA) legislation in the Official Journal of the European Union (OJEU), with some rules potentially enforced as early as the end of June, with the rest applying by the end of the year. They aim to publish a comprehensive set of guidelines which remains consistent amongst EU member states, bringing clarity to exchanges, wallet providers and issuers of cryptocurrencies.

Hong Kong's Securities and Futures Commission (SFC) has also embraced regulatory clarity, allowing crypto exchanges to register for licenses, as well as publishing clear, but strict guidelines on which assets are tradeable within their jurisdiction. Overall, the legal actions taken against Coinbase and Binance could drive regional shifts of influence within the market, with Europe and Asia becoming more attractive to digital asset entities who are seeking to operate compliantly under clear rules and regulations.

Figure 2: Volumes by Geography, Jan 2022-Jun 2023

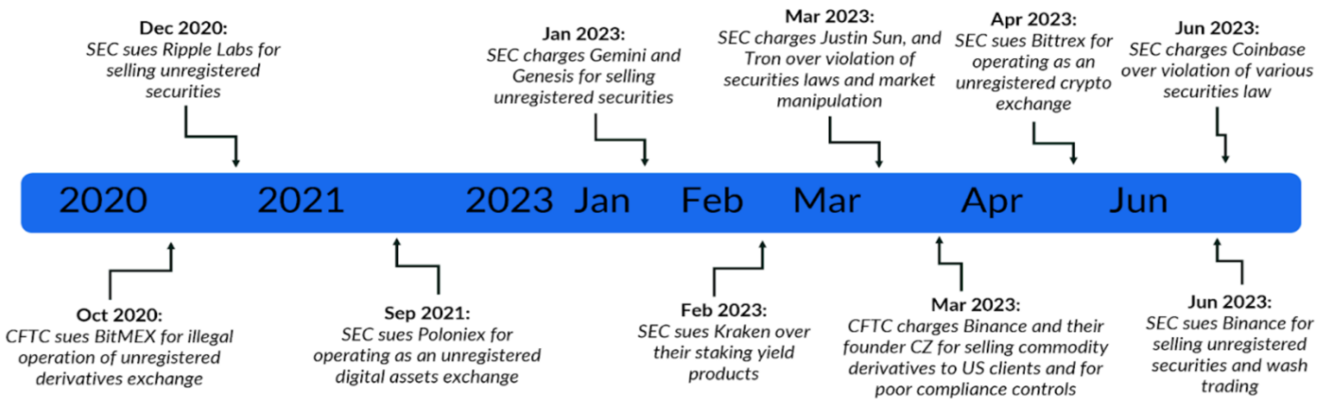


Please contact research@ccdata.io for methodology inquiries

Enforcement Action in Crypto - Historical View

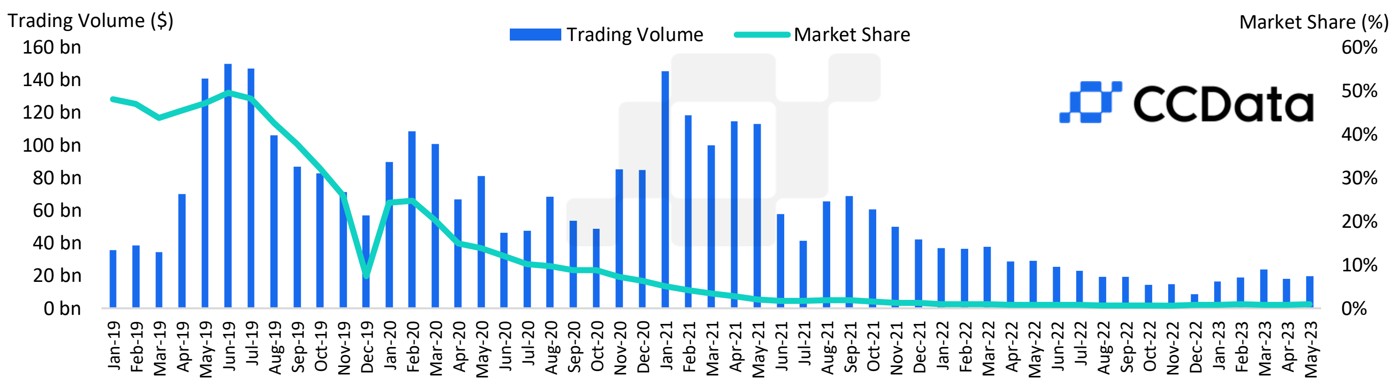
Timeline 1 outlines some of the key enforcement actions taken by US regulators against prominent players in the digital asset space. From the actions taken so far this year, it is evident that regulators are looking to take a much harsher stance going forward, with a view to clean-up the industry in an aggressive manner.

Timeline 1: High Profile US Enforcement Actions in Crypto



BitMEX was the first high-profile crypto target, charged with illegally operating a cryptocurrency derivatives exchange. They are a crucial case study in this context, seeing as they were initially the largest exchange within crypto derivatives. As they didn't register with the CFTC, nor did they have an effective anti-money laundering policy, the CFTC were able to force BitMEX to shut down their US operations and pay $100mn in civil monetary penalties. BitMEX derivatives offerings boasted an all-time high monthly volume of around $150bn, owning 50% of derivatives' market share at the time. However, as a result of the enforcement action, BitMEX lost its derivatives dominance. This also provided the opening necessary for exchanges such as Deribit, Bybit and Binance to establish themselves as competitors, which culminated in their domination of the derivatives market.

Figure 3: BitMEX Derivatives Trading Volumes and Market Share



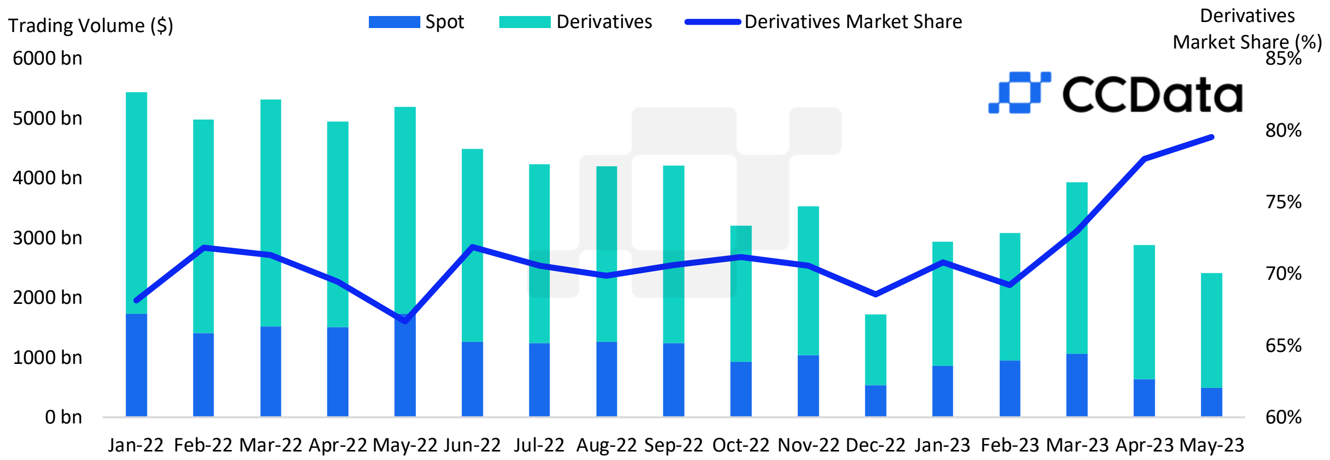
Macro Recap - Liquidity & Derivatives Insights

Although the digital asset markets have rebounded strongly since the capitulation event of FTX, it has witnessed significantly lower volumes and liquidity. Throughout the year, the macroeconomic backdrop has continued to worsen, driven by quantitative tightening, an aggressive rate hiking cycle, and multiple bank failures occurring in the US. As these events create uncertainty and drive tail-risk, this creates a less favourable environment for market makers to operate within crypto markets. Therefore, due to these conditions, spot volumes as a proportion of market share have continued to drop off, alongside dwindling retail interest.

Volumes

Derivatives usually benefit from worsening conditions, given the flexibility in trading bi-directionally and having an opportunity to hedge against uncertain market conditions. Figure 4 shows this divergence, with derivatives market share increasing from a yearly low of 70% up to its current level of 80%. As conditions remain uncertain, we are likely to see this trend continue, given the cost of business for market-makers on the spot side and the additional counterparty risks associated with holding spot assets on exchanges.

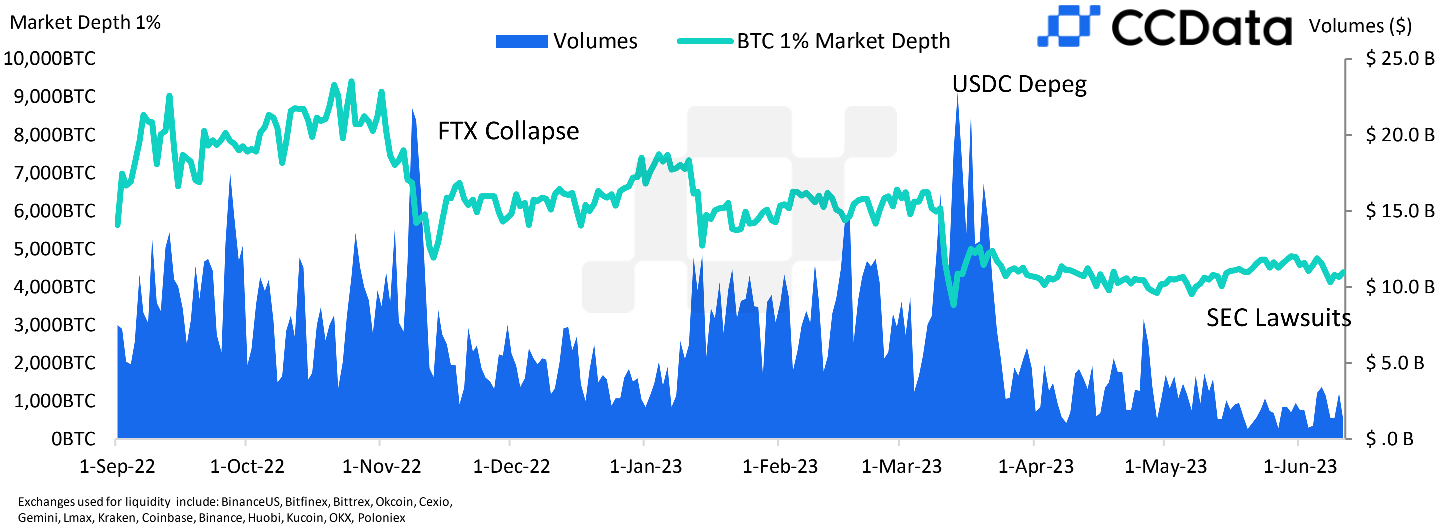
Figure 4: Trading Volumes of Spot and Derivatives, 2022 - 2023



Notwithstanding the challenging macroeconomic conditions, US regulatory scrutiny has increased materially throughout the year. Following this, we have recently seen Jump Trading and Jane Street scale back their market-making activities, winding down U.S. operations entirely. Their decision occurred prior to the announcement of the SEC's enforcement action on Coinbase and Binance, which ultimately reaffirmed their concerns.

As large market-makers scale back, the effect is a net negative; with spreads widening and execution on all pairs suffering as the market fails to replace liquidity. As execution suffers, this ultimately disincentivises trading in size, driving away larger investors due to higher trading costs.

Figure 5: Aggregate BTC Liquidity and Volumes



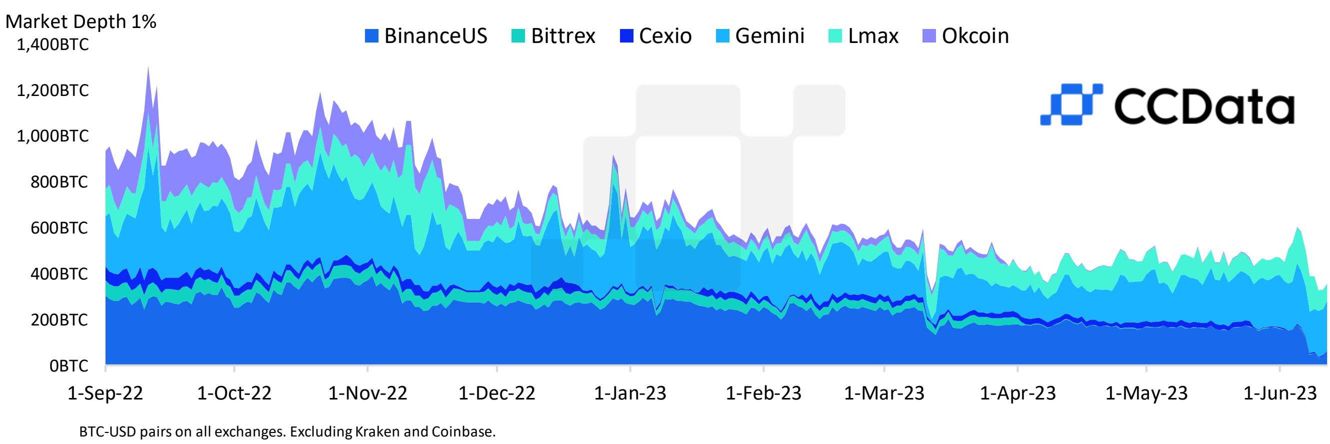
Exchanges used for liquidity include: BinanceUS, Bitfinex, Bittrex, Okcoin, Cexio, Gemini, Lmax, Kraken, Coinbase, Binance, Huobi, Kucoin, OKX, Poloniex

Market Depth

Figure 5 shows BTC's market depth at the 1% level for both bids and asks, aggregated across 14 key exchanges, including BTC-USD and BTC-USDT pairs. By drawing on an aggregation, we can explore BTC's overall liquidity on a macro scale.

Since November last year, there has been a clear downtrend in liquidity at the 1% level, which FTX, the USDC depeg and recent lawsuits against Binance, Binance.US and Coinbase catalysed. Current liquidity is at 3,400 BTC levels for the analysed exchanges, down 53.4% from the highest point recorded on the 25th of October (just before the FTX collapse), and 40.8% compared to the beginning of 2023.

Figure 6: Drying Liquidity of US-Domiciled Exchanges



BTC-USD pairs on all exchanges. Excluding Kraken and Coinbase.

At a high level, there has been a severe reduction in liquidity, with 1% market depth experiencing a sharp decline from around 1,500 BTC to around 400BTC since November 2022. This could signal that US exchanges are bearing the brunt of increased regulatory uncertainty and harsh macroeconomic conditions, in comparison to their foreign counterparts.

However, we have seen this drop in liquidity impact some U.S. exchanges more than others. OkCoin (97.6% YTD decline), Bittrex (99.2% YTD decline), Cexio (70.6% YTD decline) and BinanceUS (78.4% YTD decline) have all experienced a significant decline in liquidity, with Bittrex and Binance.US being on the receiving end of SEC enforcement action. Conversely, LMAX Digital remained the most resilient at a 1% level followed by LMAX Digital (5.01% YTD decline), followed by Gemini (34.3% YTD decline) and Coinbase (36.7% YTD decline).

Spread and Slippage

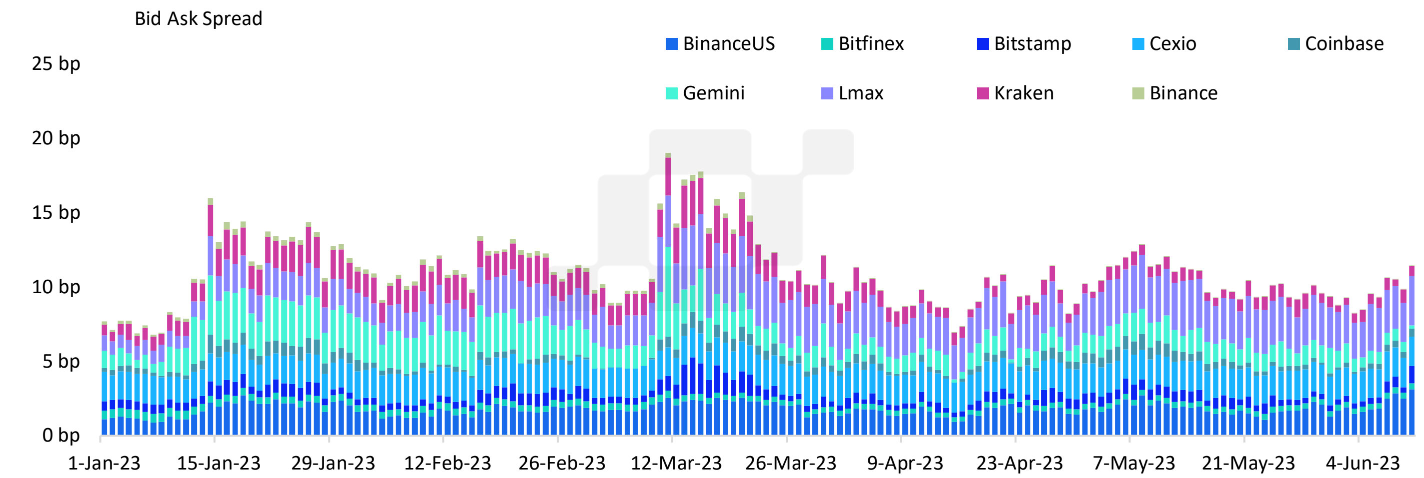
Table 1: Spreads Across US (*) and Non-US Exchanges

Date	Bitfinex	BinanceUS*	Bitstamp	Cex.io*	Gemini*	Coinbase*	Lmax*	Kraken*	Binance
Jan-23	0.502723	1.778462	0.678347	1.833427	2.268413	0.632077	1.55324	1.493382	0.284305
Feb-23	0.430047	1.622659	0.623447	1.969385	2.514209	0.317323	1.959434	1.662124	0.265634
Mar-23	0.400993	2.048091	0.913957	1.979132	1.907528	0.529922	3.021142	1.865089	0.207889
Apr-23	0.34718	1.602528	0.531685	1.978026	1.07346	0.402028	2.484899	0.885531	0.00339
May-23	0.364148	1.822189	0.632074	1.971485	1.351816	0.522525	2.850592	0.728085	0.003556
Jun-23	0.375579	2.131818	0.528679	1.967537	0.822406	0.344149	2.763641	0.663337	0.003668

Table 1 denotes average monthly spreads across both US and non-US exchanges. Analysing the data, Binance consistently exhibits the lowest spreads, which indicates the most competitive pricing and deepest liquidity in the market. Coinbase, Bitfinex and Bitstamp also offer competitive spreads, maintaining a level below 1 bp consistently. These exchanges have all improved their spreads YTD, whilst also maintaining a low spread volatility, which is crucial to maintain trust from market participants.

Cex.io, Gemini and Kraken maintain moderate spreads with higher levels of spread volatility, meaning their liquidity is less consistent month-on-month than the better performing exchanges. Notably, Gemini and Kraken have improved their spreads drastically since January, suggesting they could be exchanges to watch if both Binance US and Coinbase start to give up significant market share in the US.

Figure 7: Spread Across US and Non-US exchanges



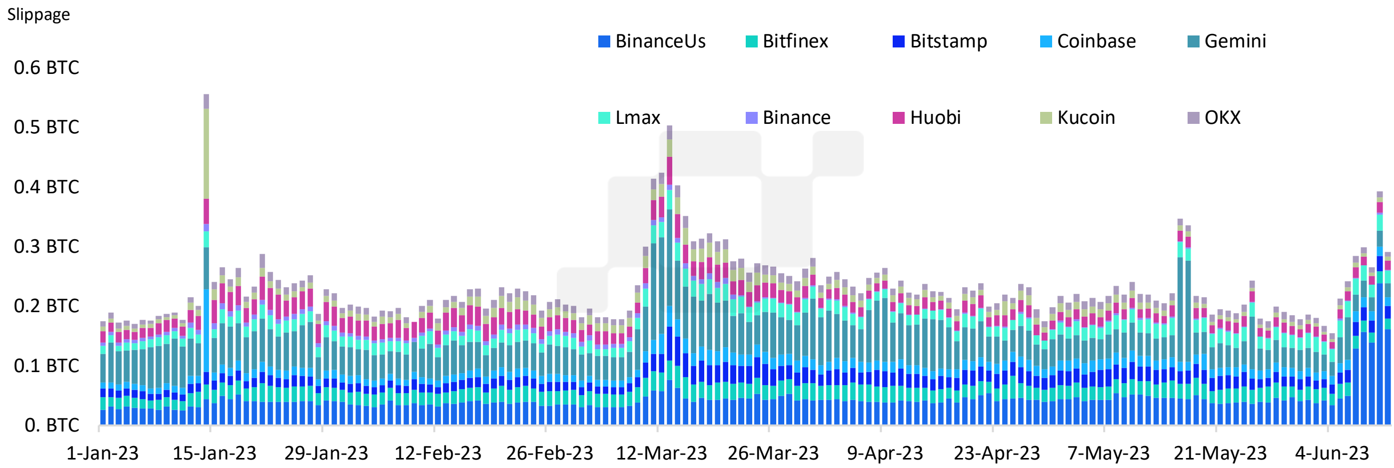


Figure 7 shows the daily spread of bid-ask, as well as a simulated $100K order slippage for BTC-USD and BTC-USDT. Bid-ask spread reflects the difference between the highest bid and the lowest ask in the book. It acts as a measure of transaction costs for trading BTC, with narrower spreads providing cheaper execution due as a result of higher immediate liquidity. Slippage, on the other hand, refers to the difference between the expected price of a trade and the actual executed price on a market order. Slippage occurs when the size of the market order exceeds the available liquidity at the best price in the order book.

By examining both bid-ask spread and slippage, we can understand the overall picture of liquidity YTD, due to their complementary relationship in identifying top-of-book liquidity. Looking at Figure 7, we observe a more sporadic distribution of bid/ask spread compared to slippage, which has a much smoother distribution. A narrower bid-ask spread indicates favourable trading conditions, but slippage needs to be considered as overlooking price impact on large orders could result in high slippage. In this case, we see BTC is sufficiently liquid at the best price to execute $100k market orders without much slippage, which explains the more sporadic distribution of bid-ask compared to slippage.

However, recent events have shown a large uptick in spread and slippage, suggesting that large orders are starting to suffer from greater price impacts; likely a result of increased volatility due to operational uncertainty for liquidity providers and market-makers, who have had to scale down operations.

Open Interest

Figure 8: Aggregate BTC Open Interest, Jan 2023-Jun 2023

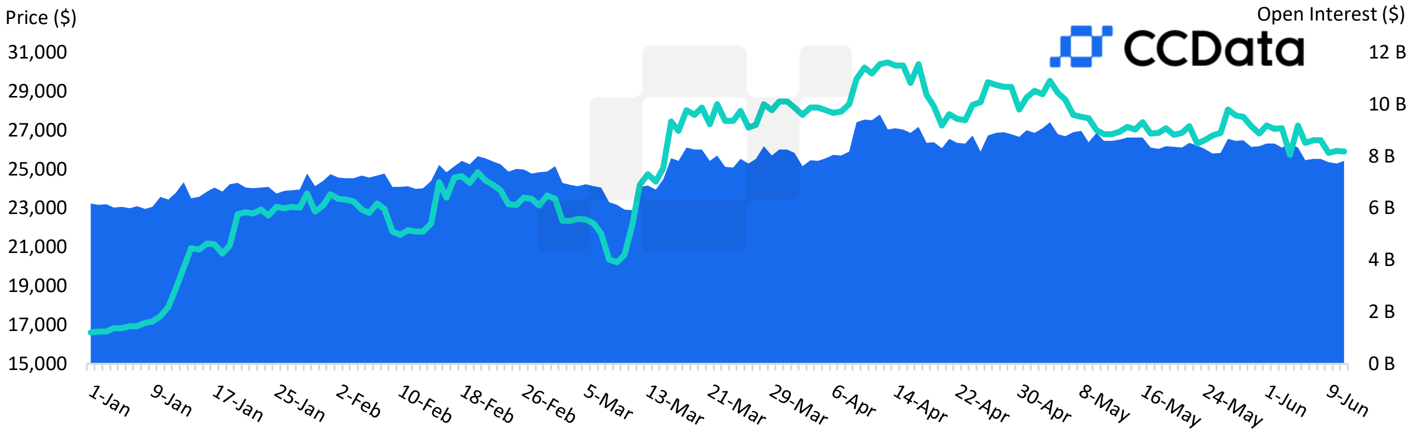


Figure 8 depicts aggregate open interest for BTC collected across Binance, Deribit, OKX and Kraken. Rising open interest shows increased market participation in derivative-based trading instruments, such as perpetual futures and calendar-dated futures. As explored in Figure 4, there has been a large decline in spot volumes relative to futures. As such, we have seen declining volumes and liquidity, but increased open interest for BTC. YTD aggregate open interest has increased from around $6bn to around $7.8bn. Additionally, the BTC price has increased from $16,500 to $25,900.

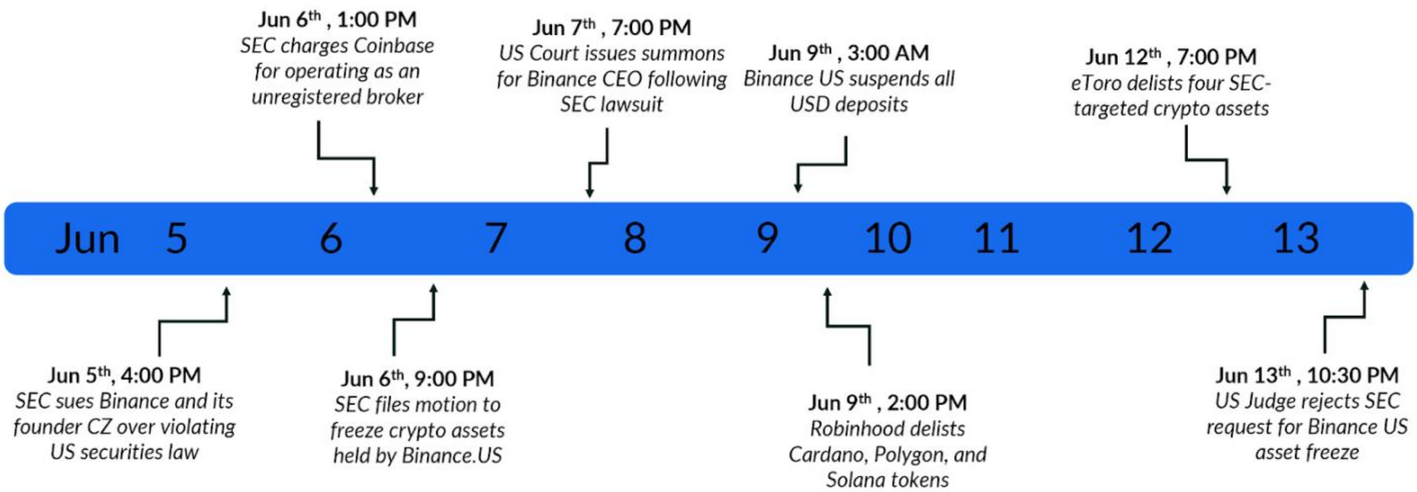
Considering the current events, open interest displays more neutrality than pure spot volumes, given the bidirectional nature of derivatives instruments. Speculating on the downside is most accessible via shorting on perpetual futures contracts. As a result, although we may expect to see open interest fall drastically during deleveraging events, it quickly builds up again, as shown by the drop and subsequent rally of open interest following the banking crisis in March of this year.

Market Microstructure

Examining microstructure is incredibly important when considering the market's health. It provides valuable insights into market efficiencies, execution costs and risk management, which are all key factors to consider when deciding to trade a market.

By zooming in and assessing monetary flows in the order book, trends begin to emerge, providing a better understanding of how the market reacts to impactful news events. In this case, we can analyse liquidity metrics such as market depth, slippage and spread to understand how recent regulatory actions have immediately impacted the underlying health of the market. Similarly, we can examine derivatives data, such as open interest and liquidation data, to see how the market has responded to changes in the microstructure.

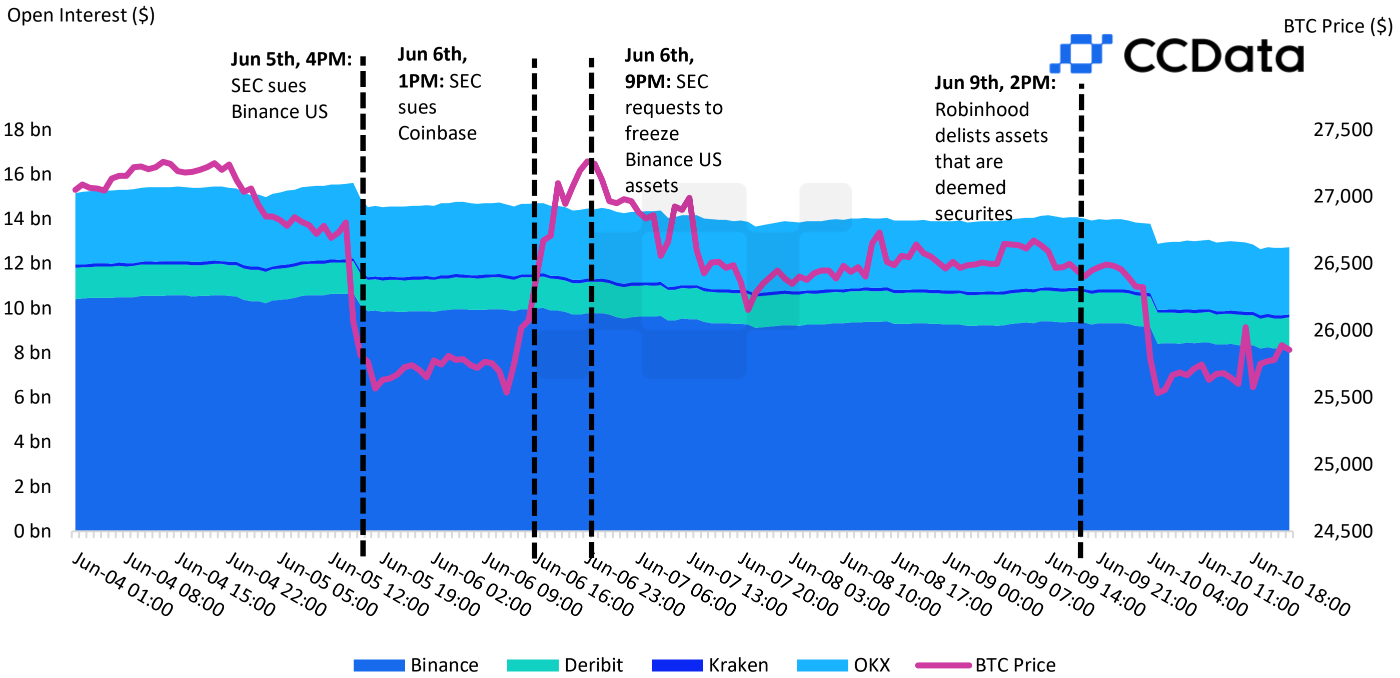
Timeline 2: Timeline of Key Market Events in June 2023



On the 5th of June, the SEC announced an enforcement action against Binance and Binance.US. As the lawsuit incorporated claims such as fund commingling and wash trading, the industry was seemingly unprepared for the size of the threat facing Binance and Binance.US. The lawsuit also mentions several altcoins which have now been identified by the SEC as securities.

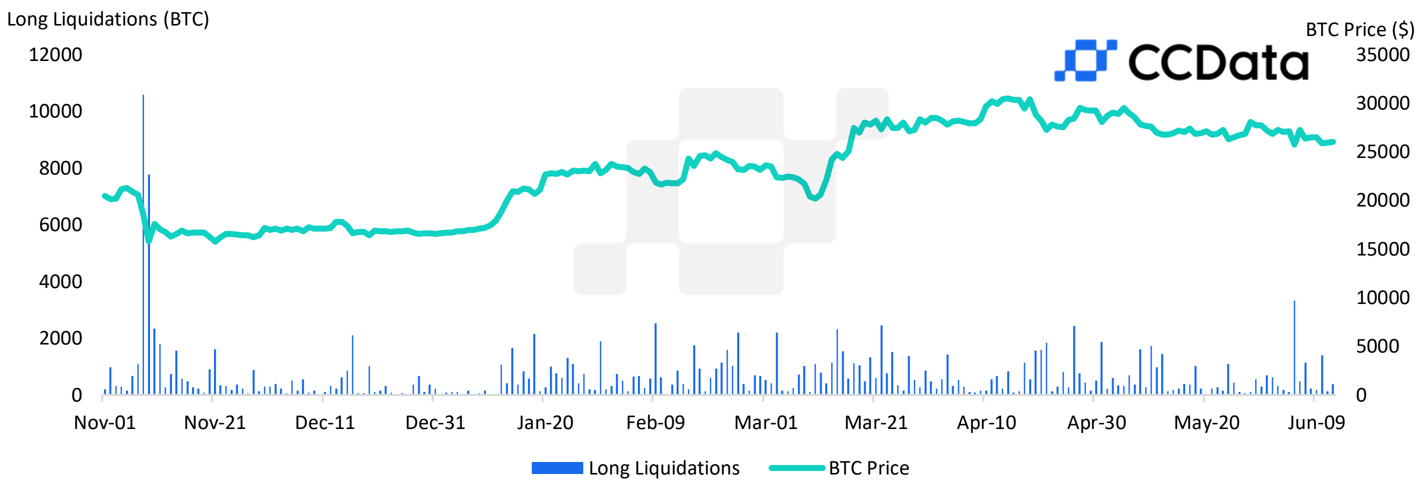
Examining the initial impact of the Binance announcement in Figure 9, we observe a sharp decline in the price of BTC, which fell from ~$26,800 to ~$25,500, with the market reacting negatively to the severity of the allegations. Exploring aggregate open interest, which incorporates altcoins into the analysis, we observe a large decline of 4.51%.

Figure 9: Aggregate Open Interest on Selected Exchanges – Micro Look



Additionally, the SEC announcement on the 5th of June catalysed the largest long liquidation cascade in BTC since FTX, which suggests that the announcement caught bullish traders offside. However, the largest declines were seen in altcoins, as many of them have now been directly named within the lawsuit as being potentially non-compliant with US securities law.

Figure 10: BTC Long Liquidations and Price



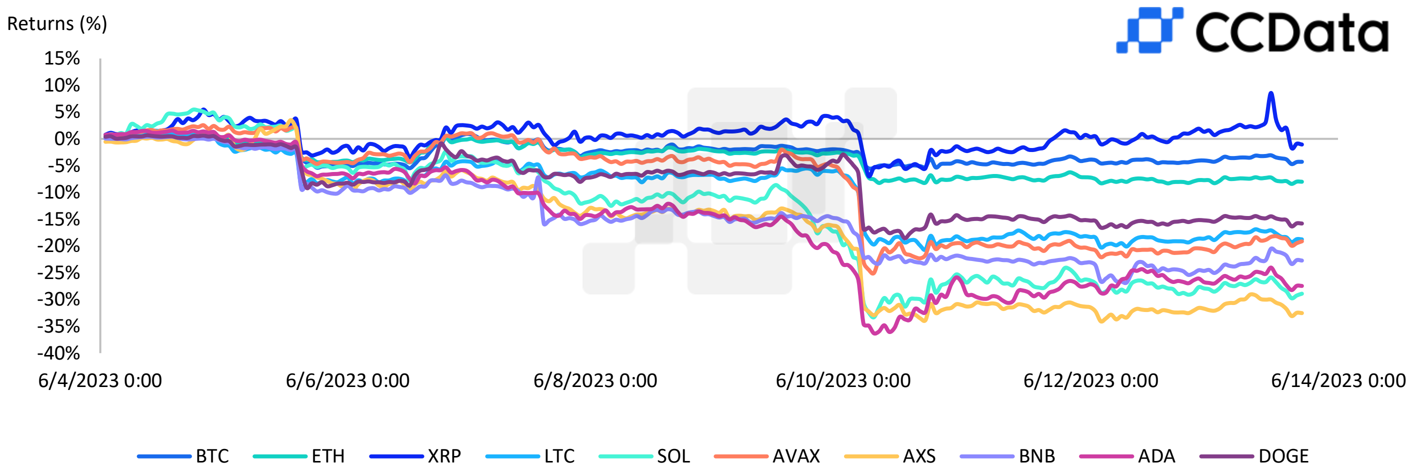
On the 6th of June, the SEC announced enforcement action against Coinbase for operating an unregistered broker-dealer agency and clearinghouse. News also broke that the SEC applied for a

restraining order against the assets held in Binance.US, effectively freezing them if agreed upon by the judge. These added risks are not compensated for and therefore drives liquidity providers and traders to pull funds from the platform immediately to mitigate counterparty risk and ensure optimal capital efficiency in case worst-case scenarios occur. Surprisingly, the markets reacted positively to the charge against Coinbase, however, the move was short-lived with open interest data showing that the rally was primarily led by derivatives trading.

By the 7th of June, Binance.US announced it would be halting all fiat-related activity, removing fiat trading pairs and disabling deposits and withdrawals by the 13th of June.

By the 10th of June, the market had digested a barrage of negative news flow. As we typically see in crypto markets, weekends provide even lower liquidity than usual, due to traditional markets being closed and less trading activity. On the 10th, we saw another market-wide liquidation event occur, except in this case, the bulk of the liquidations were due to altcoins. Figure 9 shows that aggregate open interest declined by 6.59%, even more so than at the time of the announcement. The illiquidity proved fatal for the market, with all assets dropping significantly in price, as shown in Figure 11.

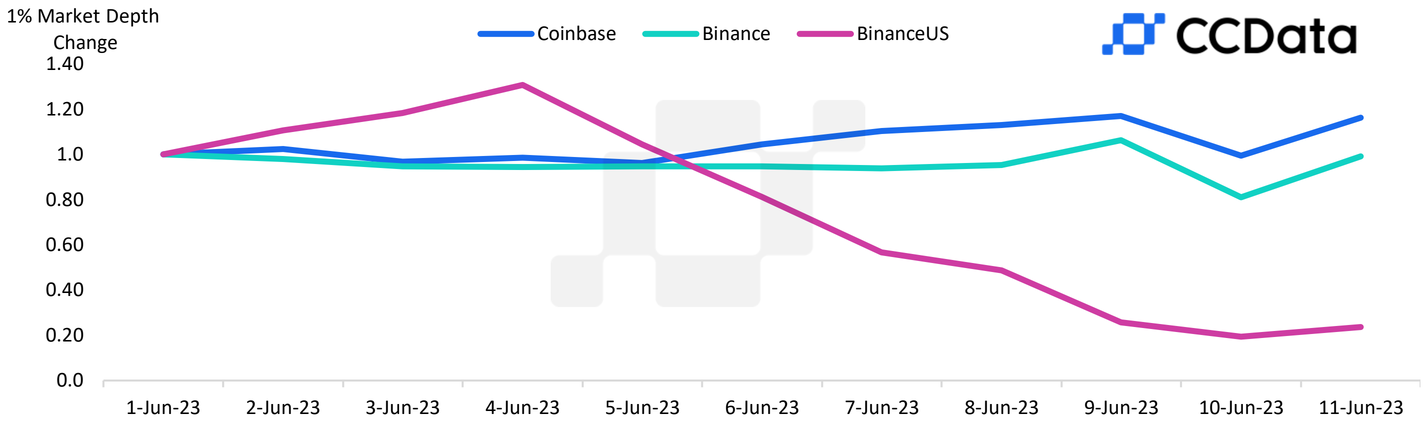
Figure 11: Returns of Selected Assets, June 4th - 13th



Impact on Liquidity Microstructure

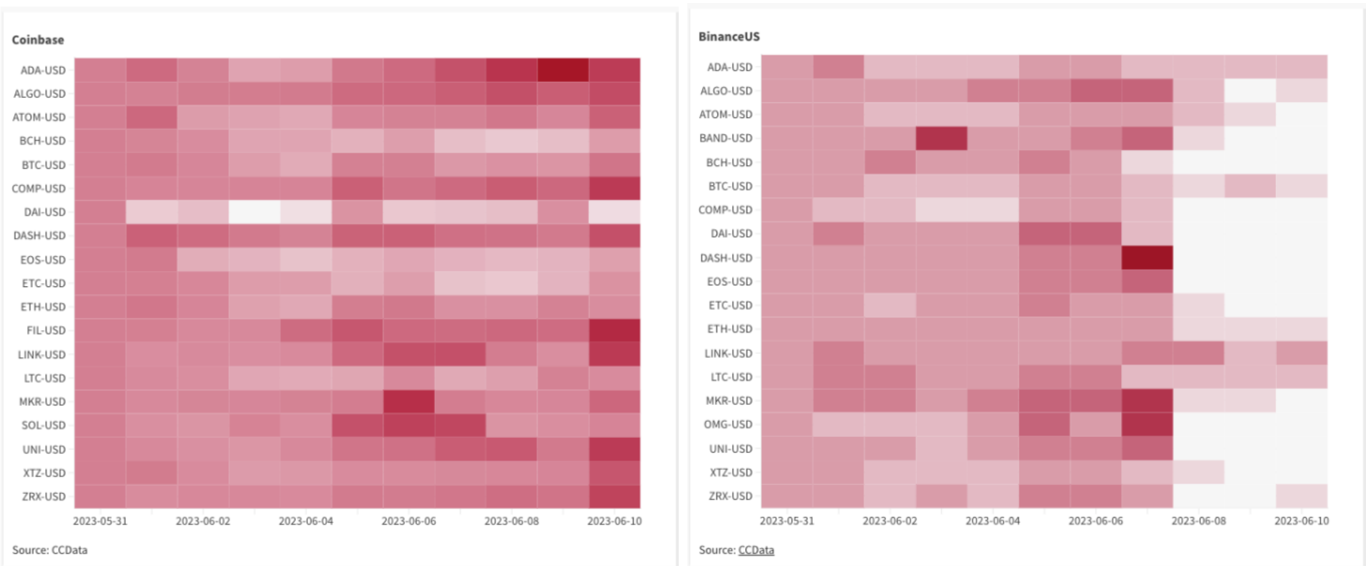
As shown in Figure 12, both Binance and Binance.US have been severely impacted by the events of the past month, seeing 1% market depth, which had already been trending down YTD, continue to decline following the announcement. Binance.US saw the largest drawdown in liquidity of 80.6%, followed by Binance with 18.9%. On the other hand, Coinbase's liquidity has picked up since the announcements, benefiting from the capital flight seen by its closest competitor in the U.S market. At an immediate level, many liquidity providers who left Binance.US may only have Coinbase as an option due to internal liquidity and counterparty requirements. It may also be the case that the market feels Coinbase are able to continue operating as usual, given the accusations were far less severe.

Figure 12: Altcoin Liquidity on Different Exchanges



As Binance.US continues to face regulatory pressure from the SEC, market makers and liquidity providers such as Wintermute and Keyrock, have started to pull their inventory from the exchange. The main bulk of inventory was removed on the 7th of June, when Binance.US confirmed they would be disabling fiat services within a week. By the 8th of June, over 80% of its market depth amongst the top assets had disappeared. The displacement of liquidity from Binance.US seems to have flowed right into Coinbase, which can be observed by comparing the liquidity heatmaps in Figure 13.

Figure 13: Coinbase vs Binance.US Altcoin Liquidity Heatmap



Conclusion

The cryptocurrency market has been significantly impacted by the increased regulatory scrutiny and enforcement actions conducted by the Securities and Exchange Commission (SEC). This has led to a notable decrease in liquidity and trading efficiencies within the market. Prominent market-makers and liquidity providers, such as Wintermute Jump Trading, and Jane Street, have reduced their operations, resulting in wider spreads and higher trading costs. A clear disparity can be observed when comparing the volumes and liquidity of US markets to other exchanges.

Shifting regulatory landscapes and enforcement actions in the digital asset industry are causing a transformation in the exchange sector. Jurisdictions that offer practical legislation are becoming increasingly appealing to crypto entities seeking to operate in a compliant manner. This raises doubts about the future of digital assets in the United States and has prompted discussions about the direction the industry will take in the country – especially as an increasing number of crypto friendly guidelines are established elsewhere.