

TokenInsight

2021Q1 Crypto Futures & Options Market Research Report

May. 2021



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Foreword

This report is a Q1 research of (delivery) futures and options, and does not include perpetual contracts. For Q1 perpetual contract related transactions, please go to the official website of TokenInsight to read the "2021 Q1 Crypto Perpetual Contract Trading Research Report".

The quarterly total volume of futures contracts was \$2.07 trillion, accounting for 6.77% of the total market volume; while the volume of options contracts was \$133.32 billion, which was only 0.44%. The number of exchanges that carry out futures and options business is relatively small: In 2021 Q1, except for centralized exchanges, there are only 17 exchanges involving futures business and only about 10 exchanges involving options business. In large exchanges, except for OKEx, the volume of futures contracts has generally accounted for less than one-fifth; while the proportion of options trading, except for a small number of exchanges that are active in market segmentation, can even be ignored in the business of most exchanges.

There is no doubt that this is a "neglected corner" in the bull market.

However, the importance of the futures and options market cannot be ignored. As speculators generally turn to perpetual contracts, the futures and the options market has gathered a large number of professional investors, including various institutions. Combining the trends of the futures and the options market, we can observe the views and influence of their actions on the crypto asset market. This is another reason why TokenInsight combined options and futures in this quarterly report and listed perpetual contracts separately.

With the gradual increase in the proportion of professional investors in the futures market segmentation, the "tool attribute" of futures as a hedging tool and risk hedging tool has gradually become higher than the "speculative attribute", so that the impact of the spot market on futures has become no more significant; in the options market, the options volatility skew, which is mainly determined by the behavior of professional investor groups, plays an effective role in predicting the prices of mainstream crypto assets.

Changes in the market share of exchanges are also one of the focuses of this report. Due to the limited expansion of user groups, fierce "stock competition" has begun between major exchanges in the futures and options market segmentation. For smaller exchanges, how to survive this situation is a crucial issue. At the same time, the trading volume of compliance exchanges this quarter exceeded \$100 billion for the first time, and they are gradually catching up with the centralized exchanges in the crypto asset market, making competition even more fierce.

[TokenInsight official website](#) provides a lot of information about futures and options market. Now you can view real-time trading data on different exchanges, different types of contracts and different underlying asset contracts in the options market anytime and anywhere, and relevant real-time data on the futures market will also be available soon.

Please Enjoy the Report, Read Our Insights, and Find the Next Step.

Wayne, TokenInsight CEO
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2021.05.02



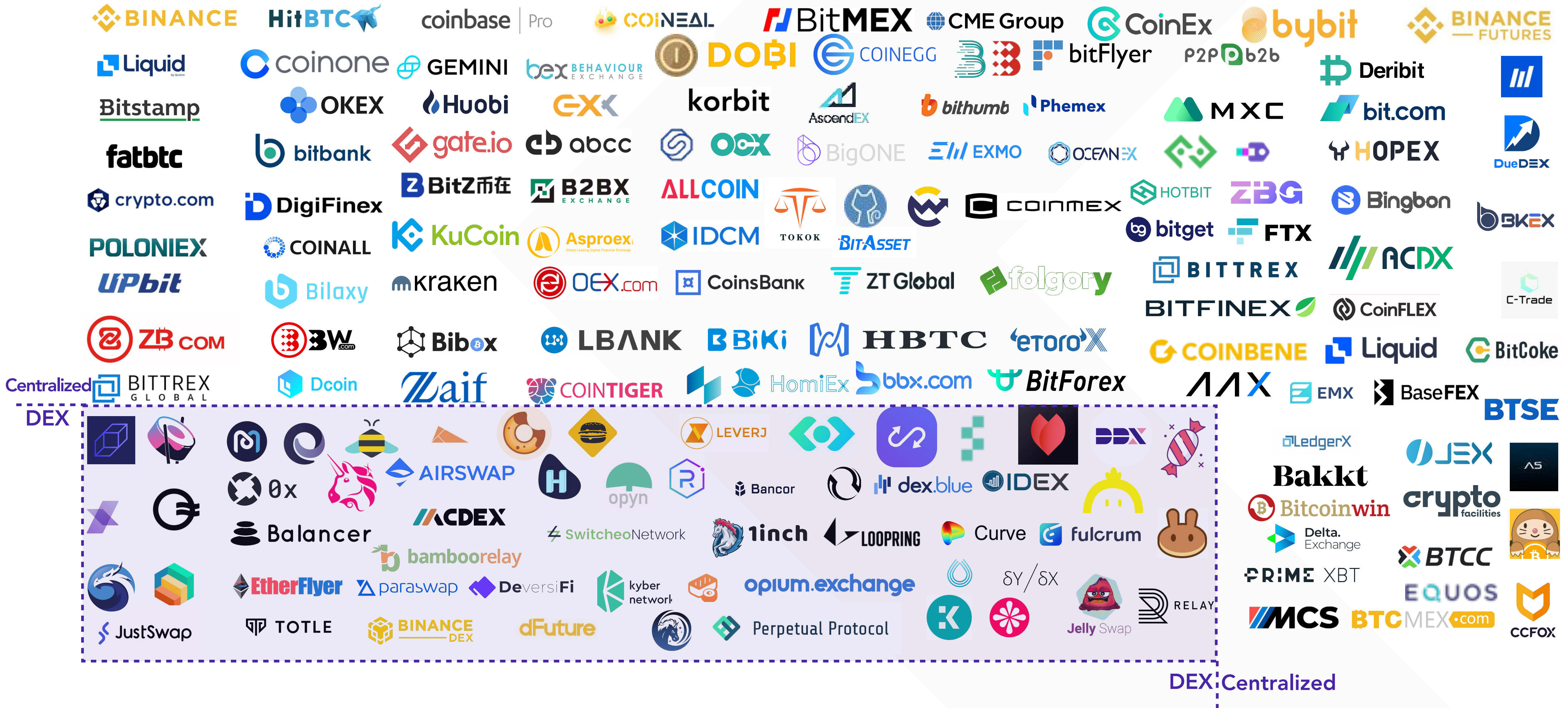
Executive Summary

- In 2021 Q1, there are 17 exchanges conducting futures trading business, with a quarterly total trading volume of \$2.07 trillion, accounting for 6.77% of the total market trading volume. Although compared with last year, the volume of futures has also risen sharply as the Q1 bull market gradually improved, its growth rate is lower than that of perpetual contracts.
- Excluding exotic options products, Q1 options market trading volume reached \$133.22 billion, equivalently 1.73 times last year's full-year trading volume, and is the best-growing derivative market this quarter.
- The increase of Q1 crypto asset futures contract position was higher than that of Bitcoin for most time, but lower than that of Ethereum, indicating that the overall growth of the futures contract position group was relatively slow and the investment group was relatively stable.
- Unlike the "all flowers blooming together" in the perpetual contract market, the futures and options market still continues the old market pattern of "one superpower and many powers". In the futures and options market segmentation, the top three exchanges accounted for 93% and 88% of the trading volume, respectively. Compared with last year, the changes were not obvious, and the market structure was relatively stable.
- There is a significant negative correlation between the current volatility skew of mainstream crypto asset options and the near-future price of the underlying asset. The above character enables volatility skew to predict future price trends to a certain extent.
- **Non-mainstream crypto asset options have developed.** Compared with last year, their liquidity can be guaranteed to a certain extent, and the overall operation situation is relatively stable.
- As speculators turn to the perpetual contract market, the proportion of professional investment groups in the futures market has gradually increased in Q1.
- Compared with last year, the options investor group has changed relatively little. But on the one hand, the influx of individual investors is changing the structure of the options market; on the other hand, it can be found from indicators such as the long-short ratio that individual investors in the options market are gradually becoming rational and mature.



Industry Prospect

FIND, CREATE, AND SPREAD VALUE IN BLOCKCHAIN.

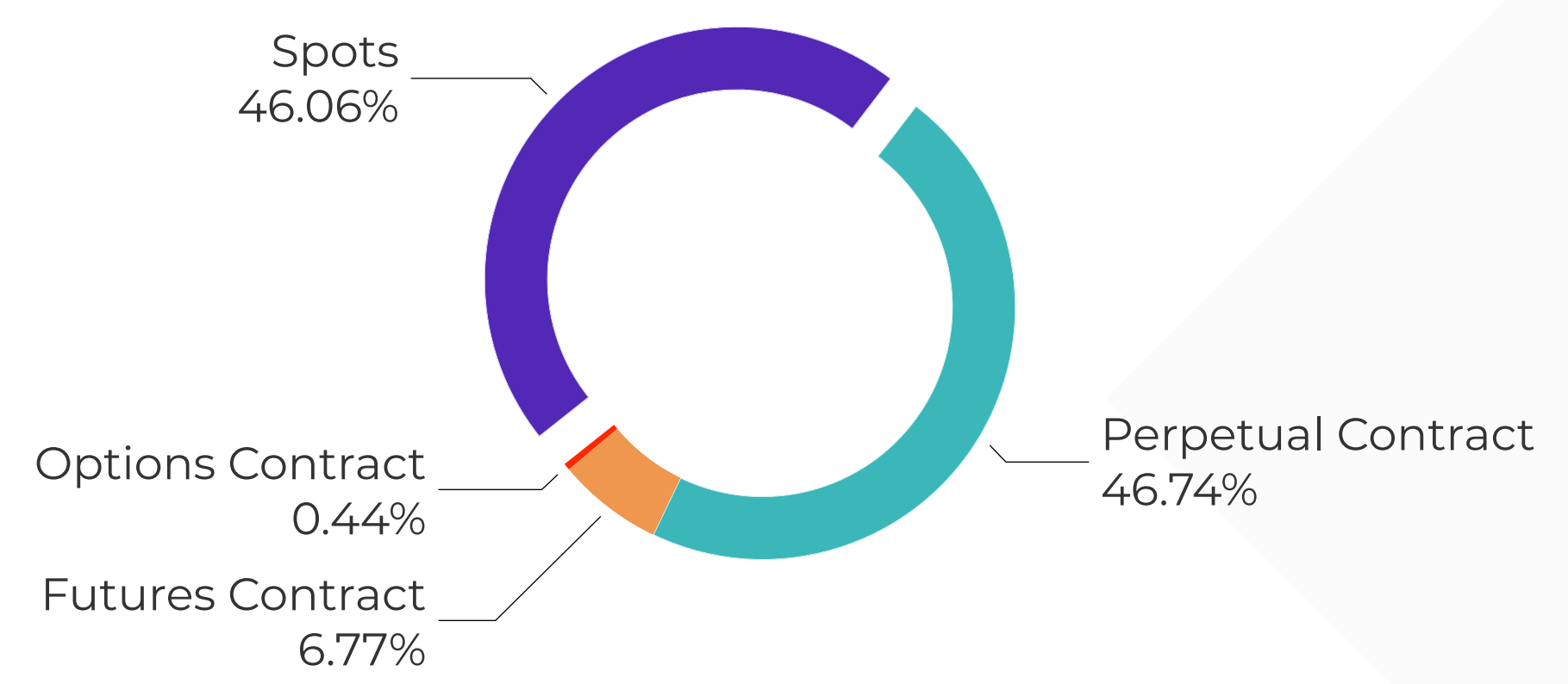




Futures Market Trading Volume

2021Q1 futures market trading volume is \$2.07 trillion

2021Q1 Different Types of Products Market Share



The centralized trading of futures contracts happens mostly at the beginning of the quarter. The reason is that **institutions intensively participated in the allocation of mainstream crypto asset-related futures contracts at the beginning of the quarter.**

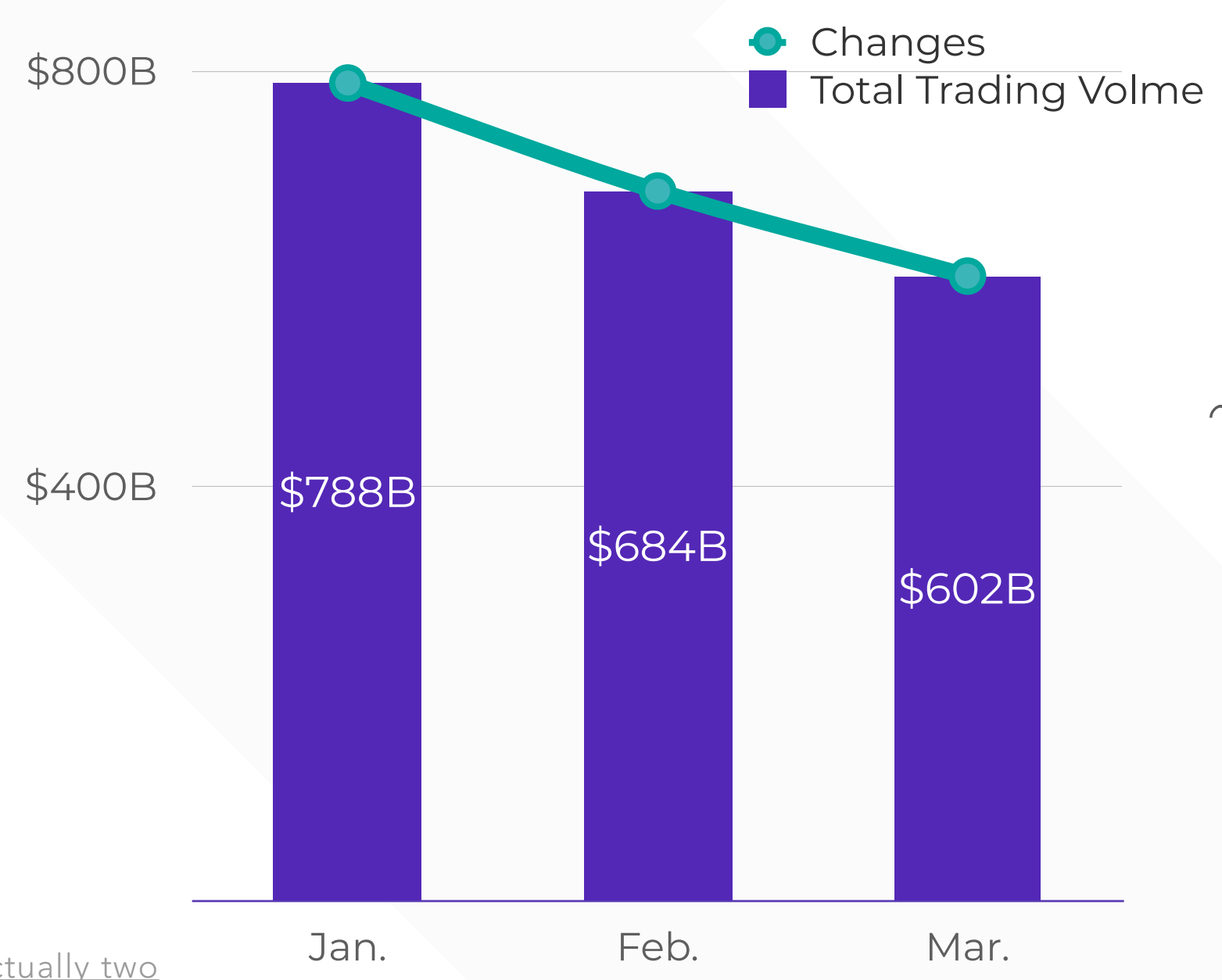
Perpetual contracts have risen since the second half of 2020 and have gradually become more attractive to individual investors, especially speculators. Many users choose to close futures contracts and turn to perpetual contracts. The clearing of individual investors led to a substantial increase in the proportion of institutional investors, resulting in more transactions concentrated at the beginning of the quarter.

Note: In the crypto asset market, delivery futures contracts and perpetual contracts are actually two completely different derivatives. The former belongs to futures, while the latter belongs to Swap, and need to be distinguished. In this quarterly report, "futures" refers to delivery contracts and does not include perpetual contracts.

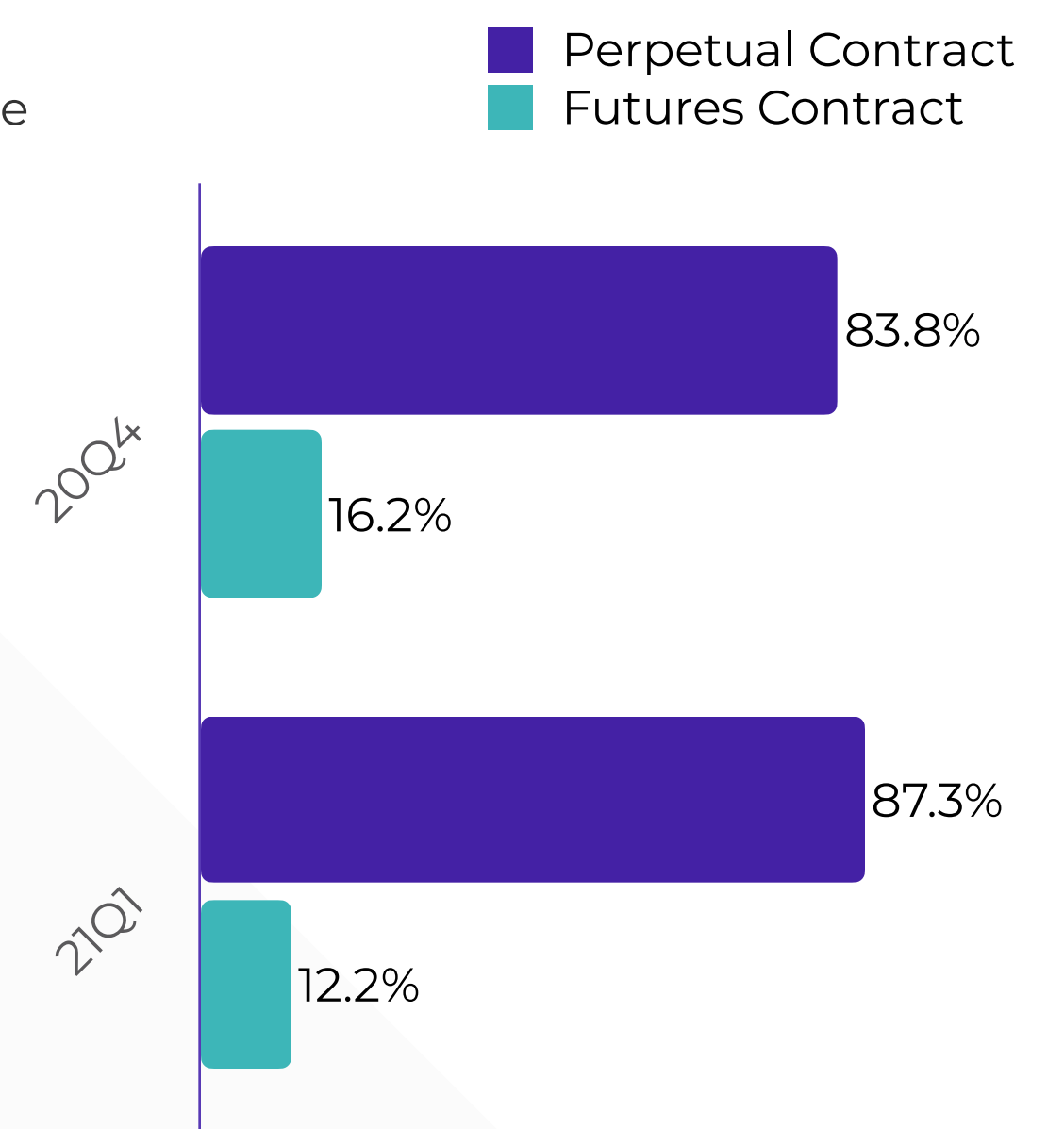
According to TokenInsight data, there are totally 17 exchanges that carry out futures trading in 2021 Q1, with a quarterly total volume of \$2.07 trillion, accounting for 6.77% of the total market volume.

Compared with the fourth quarter, futures trading volume also rose sharply as the Q1 bull market gradually improved, but its market share in the derivatives market further dropped to 12.2%.

2021Q1 Futures Market Trading Volume Changes



Main Derivatives Market Share Changes



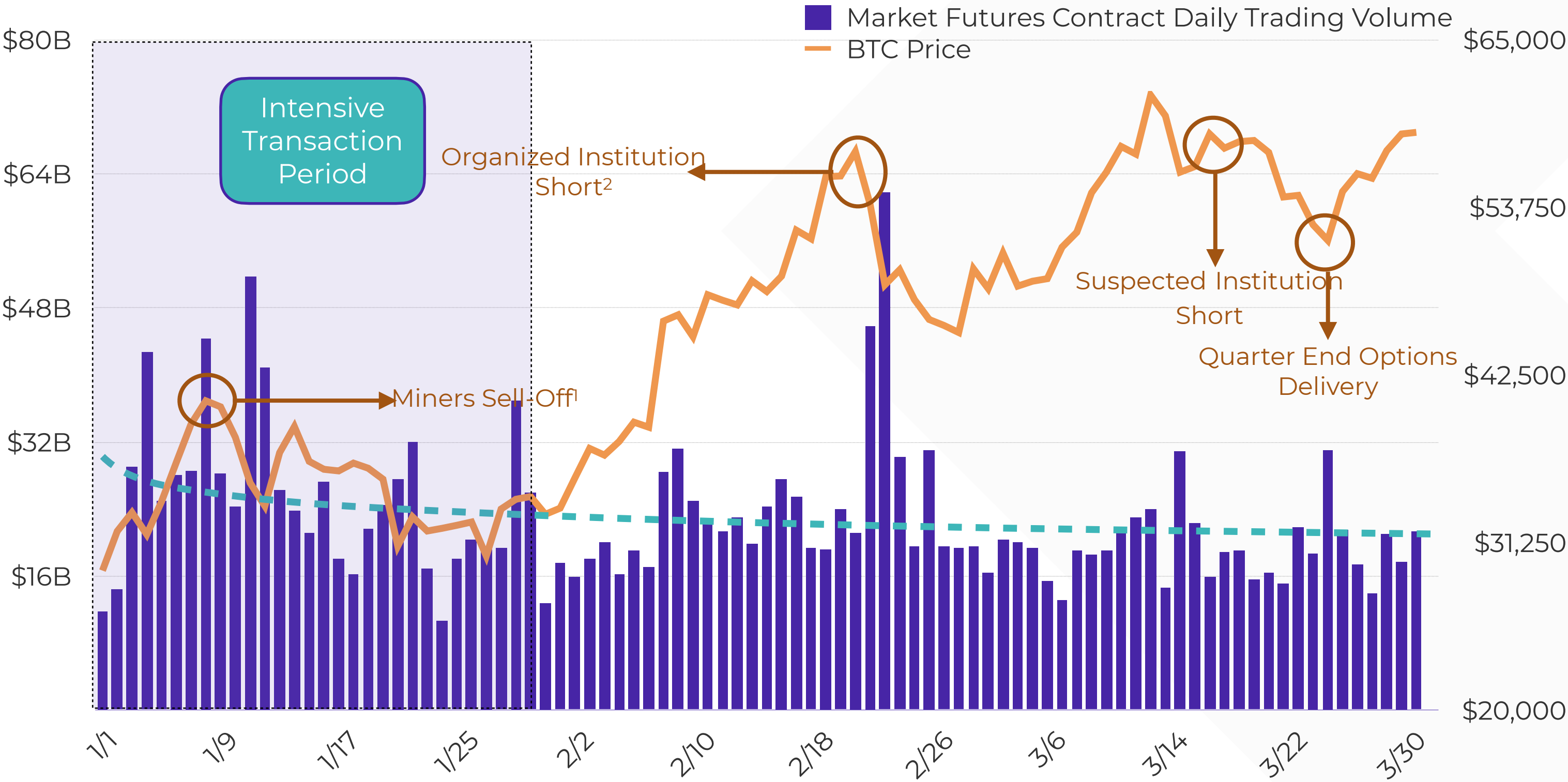


Futures Market Trading Volume

Major market events have gradually weakened the influence of futures trading, and the "tool attribute" of futures surpasses the "speculative attribute"

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2021Q1 Whole Market Futures Contract Trading Performance



Unexpected events that affect price changes have no significant impact on the overall futures trading volume.

Although during the institution short period in mid-to-late February, the futures contract suffered panic trading and liquidation due to large price fluctuations, the trading volume reached a quarterly high of \$61.86 billion on February 23. However, none of the miners' selling-off in January and the quarterly options delivery in March had a significant impact on futures trading.

As a hedging tool and risk hedging tool, the "tool attribute" of futures is gradually higher than the "speculative attribute". Purchasing futures as a risk hedging and hedging tool for regular and quantitative allocation has become a routine operation for professional investors and institutions.

On the other hand, options are widely used by professional investment groups in various combinations of bullish and bearish strategies to hedge against futures risks. Therefore, an increase in futures trading volume often means an increase in the amount of options premiums, and the significant relationship between the two also shows that futures market has gradually become more specialized.

1. <https://www.coindesk.com/bitcoin-plummets-as-miners-sell-inventory-spot-markets-panic>
2. <https://www.coindesk.com/bitcoin-faces-price-turbulence-as-market-liquidity-falls-says-jpmorgan>; <https://www.theblockcrypto.com/data/crypto-markets/futures>



Futures Market Position

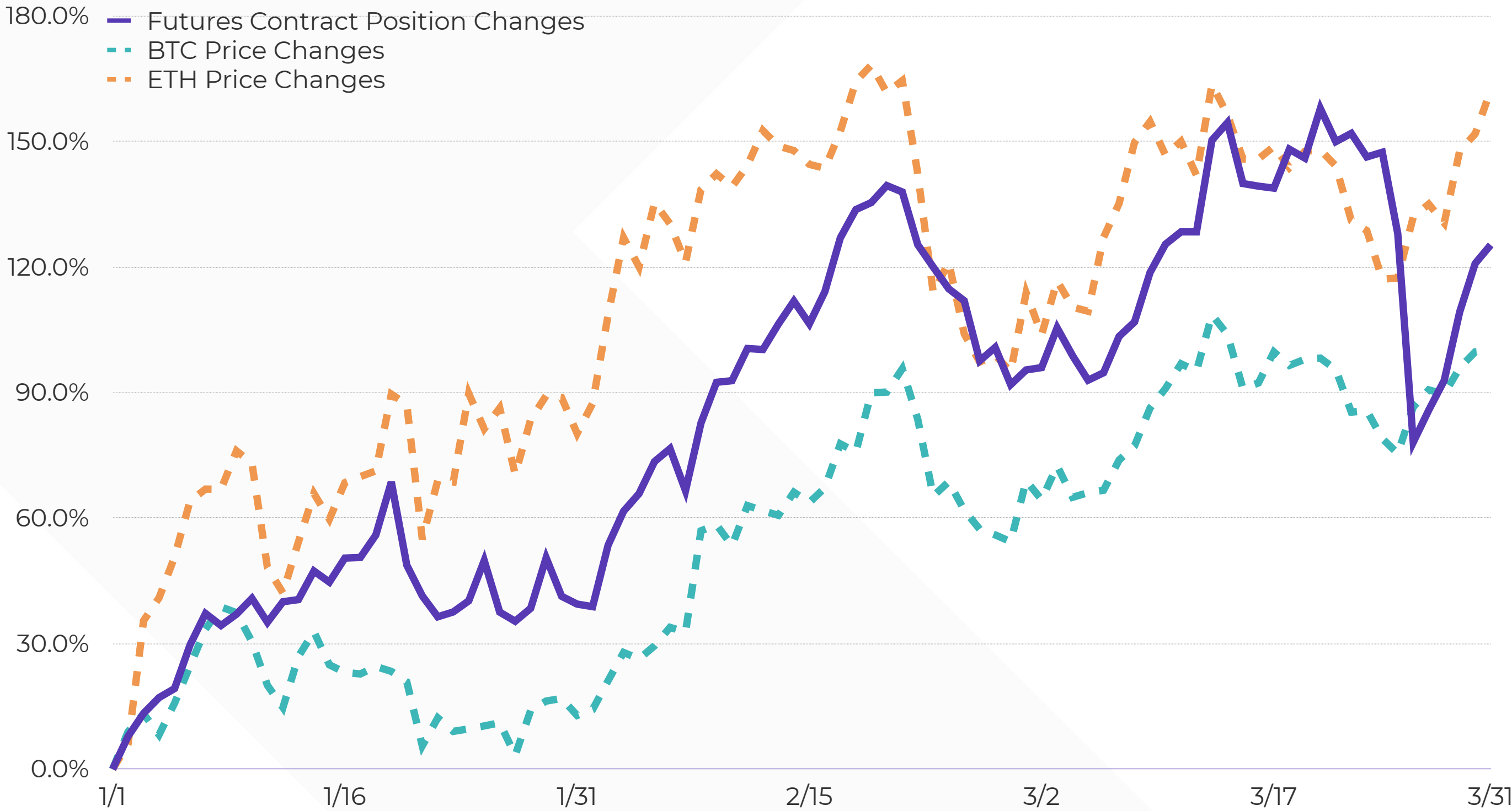
The overall growth of the futures contract position group is relatively slow, and the investment group is stable

Compared with perpetual contract market, the changes of futures market position are relatively stable, with an increase of 125% at the end of the quarter compared with the beginning of the year.

The overall growth of the futures contract position group is relatively slow, and the investment group is stable. Most futures positions belong to Bitcoin and Ethereum contracts, and the increase in Q1 crypto asset futures contract positions is higher than that of Bitcoin but lower than that of Ethereum for most time.

The main force of futures contract growth comes from professional investors and institutions. In most exchanges, the growth rate of perpetual contract positions is significantly higher than that of futures contracts, indicating that compared with futures contracts, perpetual contracts attracted more bull market new investors to participate in Q1. Professional investors and institutions play more and more important roles in futures market.

2021Q1 Comparison of Whole Market Futures Contract Position and Mainstream Crypto Asset Price Changes





Market Basis

Bitcoin futures contract basis is higher than traditional market

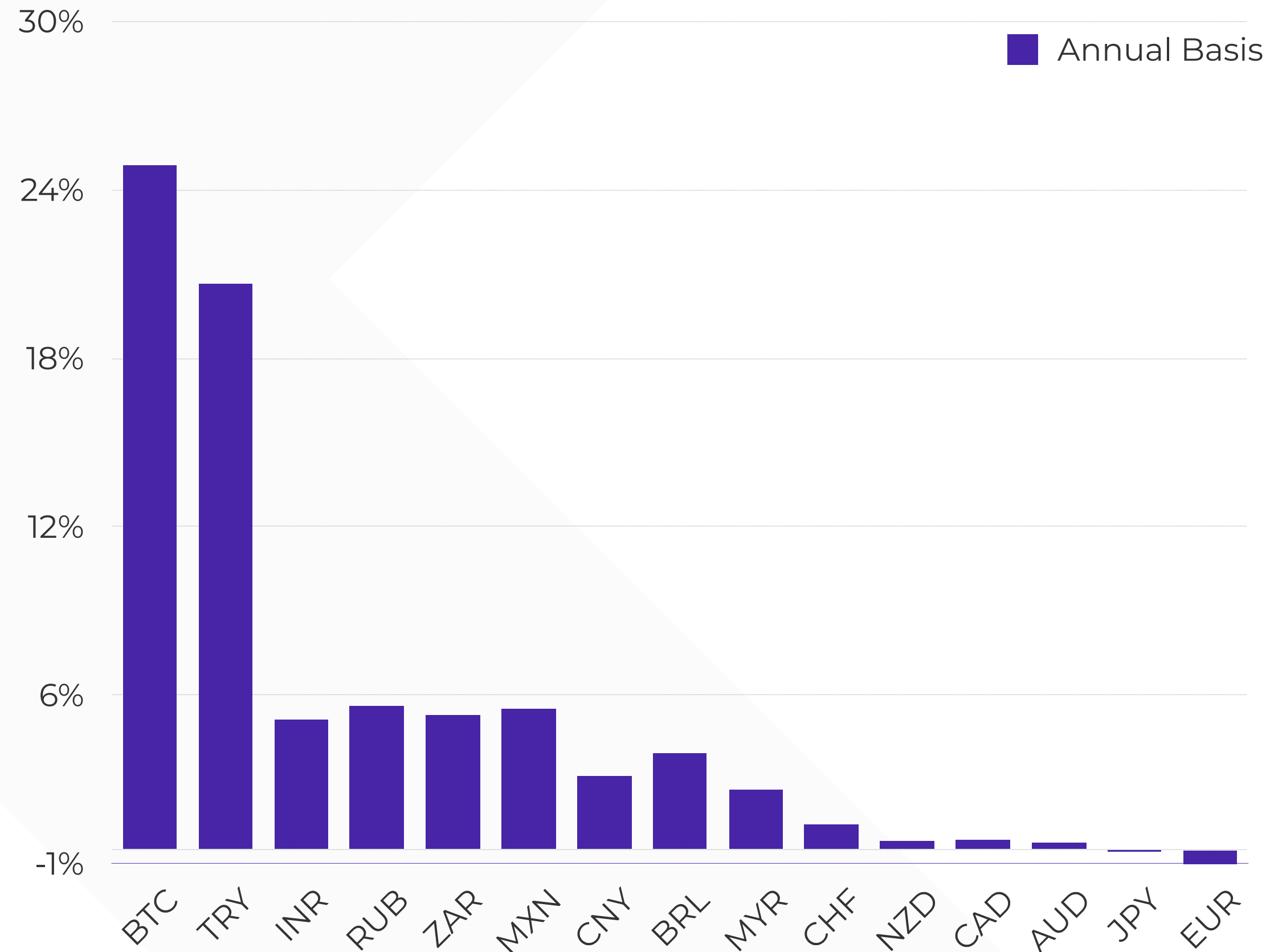
On the crypto asset exchanges such as Binance, FTX, OKEEx, and futures exchanges such as CME, the basis level of Bitcoin futures contracts even reached over 25% at its highest in Q1. It indicates that **the entire crypto asset industry has considerable and stable expected returns. In the absence of credit risk, as long as the spots are held, more than 20% of the annualized return will be got by selling the contract.**

- Reasons for the high premium of Bitcoin futures contracts:
- Investors **frequently use leverage** to push up the basis ratio in the bull market;
 - In a relaxed low interest rate environment, Bitcoin can enjoy a full **valuation premium**;
 - The Fed's easing policy has increased the **risk appetite of asset management institutions.**

JPMorgan says that such a premium (20%) is not sustainable¹. Holders of delivery contracts also need to pay 20% of the capital cost, and "rational investors" will not bear 20% of the capital cost to build their investment portfolio.

1: <https://www.coindesk.com/jpmorgan-bitcoin-etfs-cme-futures-premium>

2021Q1 Comparison of Different Types of Asset Futures Annual Basis





Market Basis

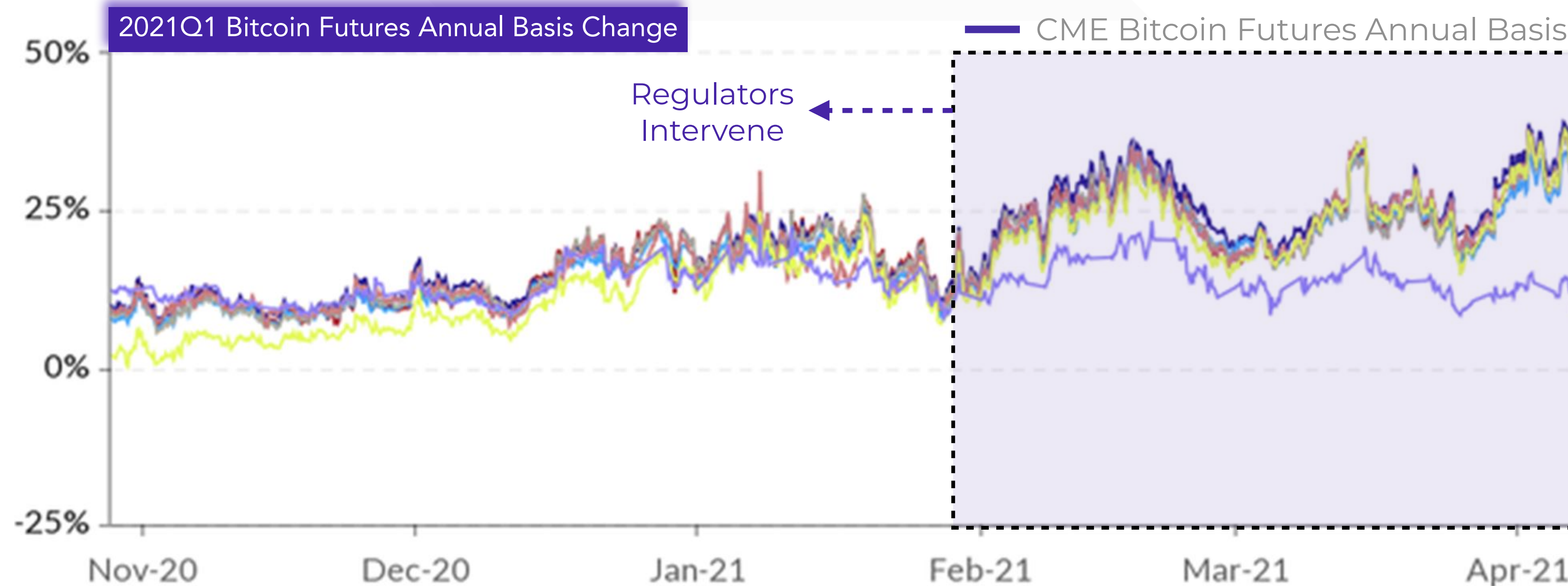
The basis of compliance exchanges is gradually decreasing due to multiple factors

Starting from the end of February, the basis of compliance exchanges such as CME began to gradually decline.

- **The rise in real interest rates on U.S. Treasury Securities** has lowered investors' expectations for the value of Bitcoin. In the context of economic recovery, financial assets that do not have the ability to generate interest will be at a disadvantage.
- The steadily rising asset prices have caused investment managers to ignore the existence of risks. After a series of liquidation, investors began to gradually reduce the leverage **under the supervision**.

Since valuation pressures hinder the rise of currency prices and the deleveraging restricts the use of derivatives, the basis level of CME's delivery contracts has become significantly different from other crypto asset exchanges after February.

As of the end of the quarter, CME's Bitcoin futures delivery contract basis level was only maintained at about 8%, which was close to the traditional market, but other crypto asset exchanges still did not show trends and signals related to basis regression.



Options Market Trading Volume

2021Q1 option trading volume exceeded \$130 billion, achieving a breakthrough of \$1 billion in daily average trading volume

Excluding exotic options products, Q1 options market trading volume reached \$133.22 billion, equivalent to 1.73 times last year's annual trading volume, and become the best-growing derivative market this quarter.

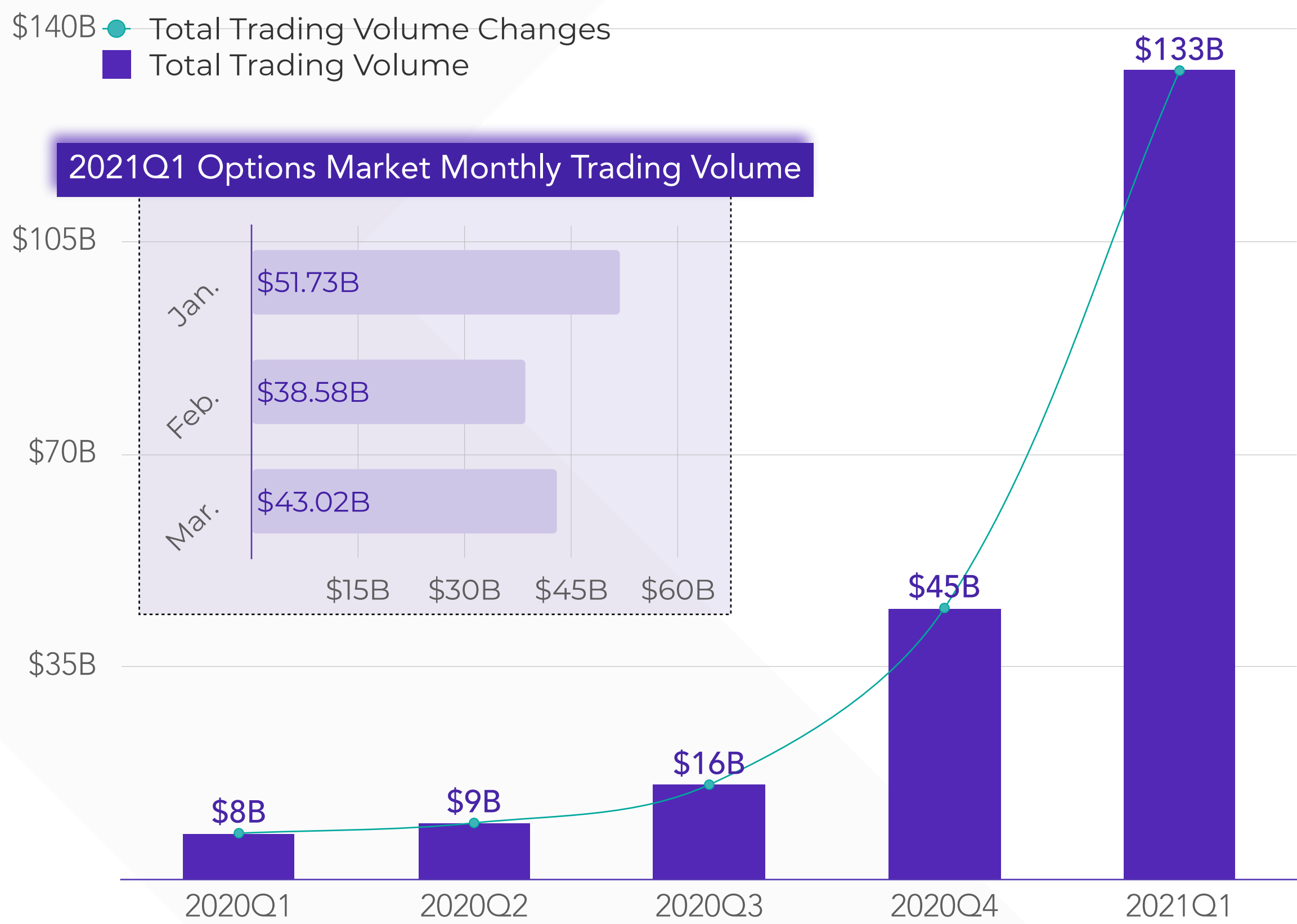
The overall market share of options market in the crypto asset market has reached 0.44%, and its trading volume is equivalent to 6.42% of futures contracts, which is a significant increase compared with last year.

Options trading in this quarter showed obvious **convexity**. The main transactions were concentrated at the beginning and end of the quarter, and the turnover in January was relatively higher.

Possible Causes:

- **Institutional investors** conduct intensive allocation of options for the entire quarter or even the entire year at the beginning of the quarter;
- Options are volatility-related derivatives, and market volatility is mostly concentrated at the end of the quarter and the beginning of the quarter. Therefore, options transactions are concentrated at the beginning and end to hedge fluctuation or speculate profit through volatility.

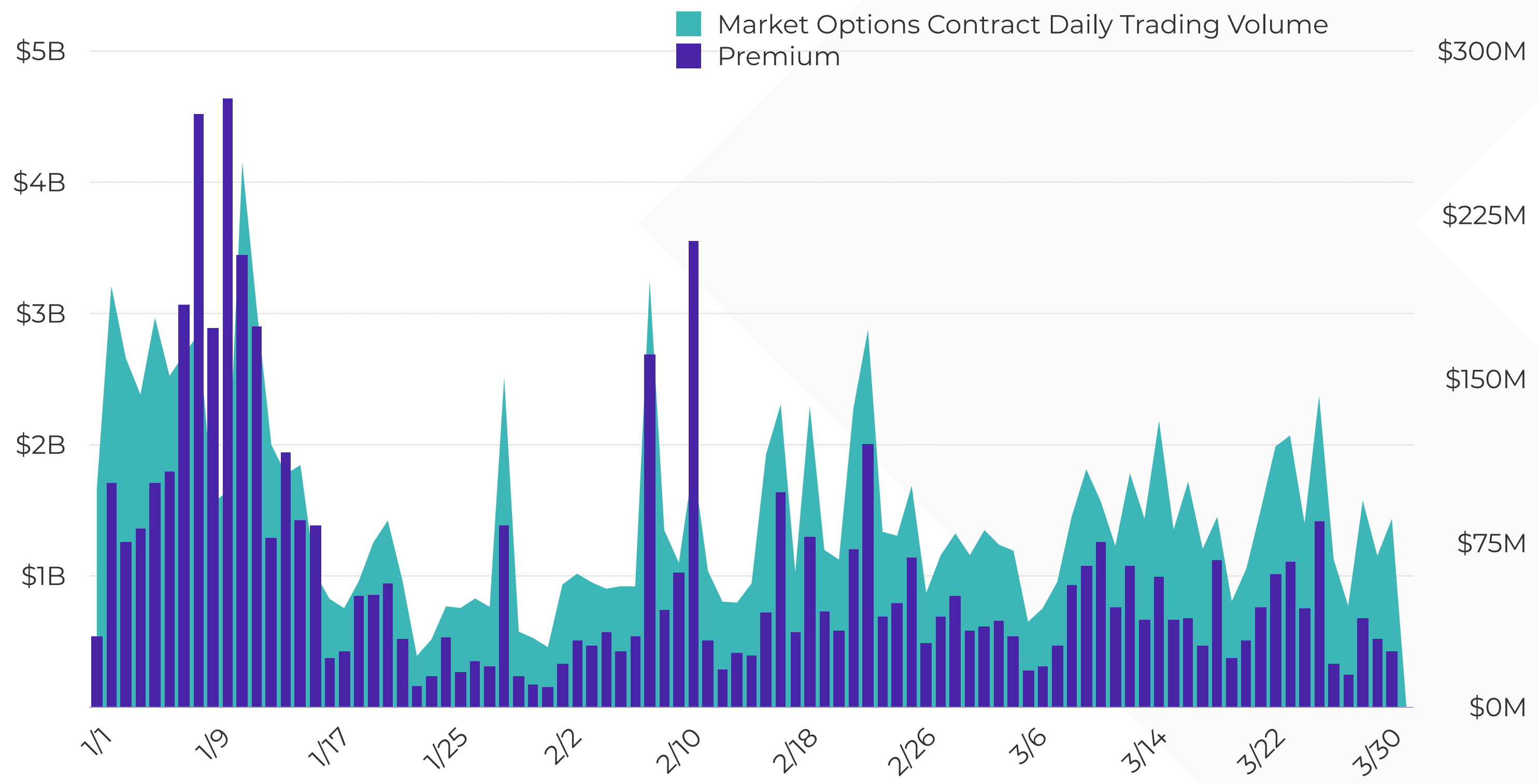
Options Market Quarterly Trading Volume Changes



Options Market Premium

2021Q1 total amount of premium reached \$5.44 billion, and a large number of professional individual investors began to enter the option trading market

2021Q1 Options Market Daily Trading Volume and Premium Changes



In terms of premium, the total amount of Q1 premium reached \$5.44 billion, 2.18 times more than last year (\$2.5 billion).

In addition to institutional investors, a large number of professional individual investors have also begun to enter the option trading market.

In the Q1 options trading record, in addition to the obvious clues to construct options investment strategies (such as straddle option, bull market spread) in block trades, a large number of small-value options traders also used various options investment strategies to arbitrage or hedge risks.

The addition of "fresh blood" has brought more vitality to the options market, and the development of individual professional investor groups is gradually changing the customer group structure of the original options market dominated by institutional investors.



Volatility Skew

The volatility skew of mainstream crypto asset options reflects market speculation and overheating to a certain extent

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The options volatility skew is the difference value between historical volatility and implied volatility of the options.

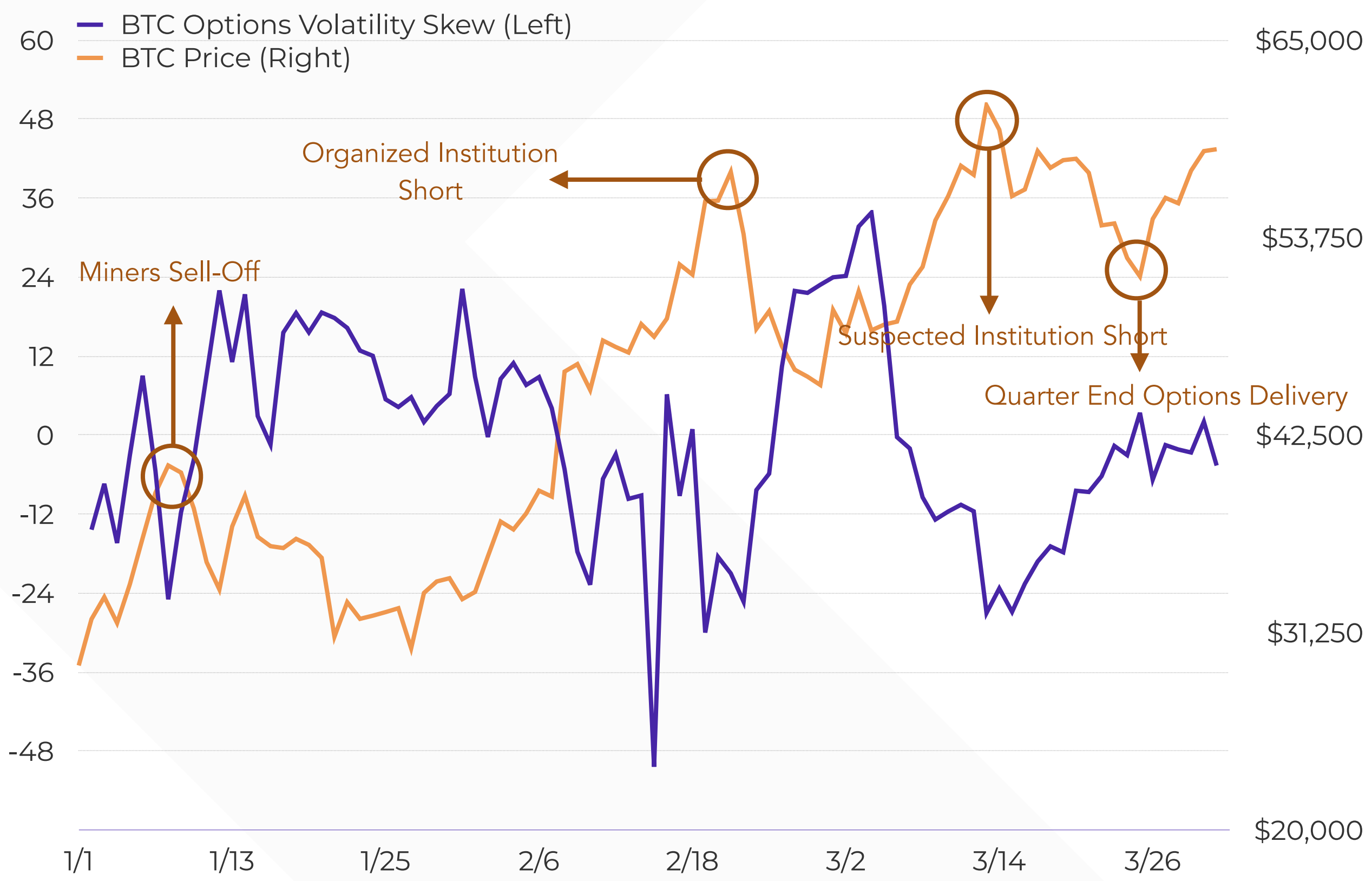
Historical volatility indicates the actual performance of the market, while implied volatility represents the subjective expectations of professional and institutional investors on the market, which can usually be regarded as "rational expectations."

When the difference between the two is greater than 0, it indicates that the market is overheating, and the price is often in a downward trend; when the difference between the two is less than 0, it indicates that the price is lower than the rational expectation, and then the price will rise with a high probability.

There is a significant negative correlation between the current volatility skew of mainstream crypto asset options and the near future price of the underlying asset. The above characteristics enable the volatility skew to predict future price trends to a certain extent.

According to Q1 data, as the Bitcoin volatility skew increased by 1, the average price decline in the subsequent 24 hours was about \$217.4; while as the Ethereum volatility skew increased by 1, the average price decline was about \$4.7 in the next 3 days.

2021Q1 BTC Options Volatility Skew and Bitcoin Price Fluctuation



Note: BTC option volatility difference is data 1 day ago, ETH option volatility difference is data 3 days ago, that is, the volatility difference on January 1 corresponds to the BTC price on January 2 and the price of Ethereum on January 4.



Exchanges Overall Situation

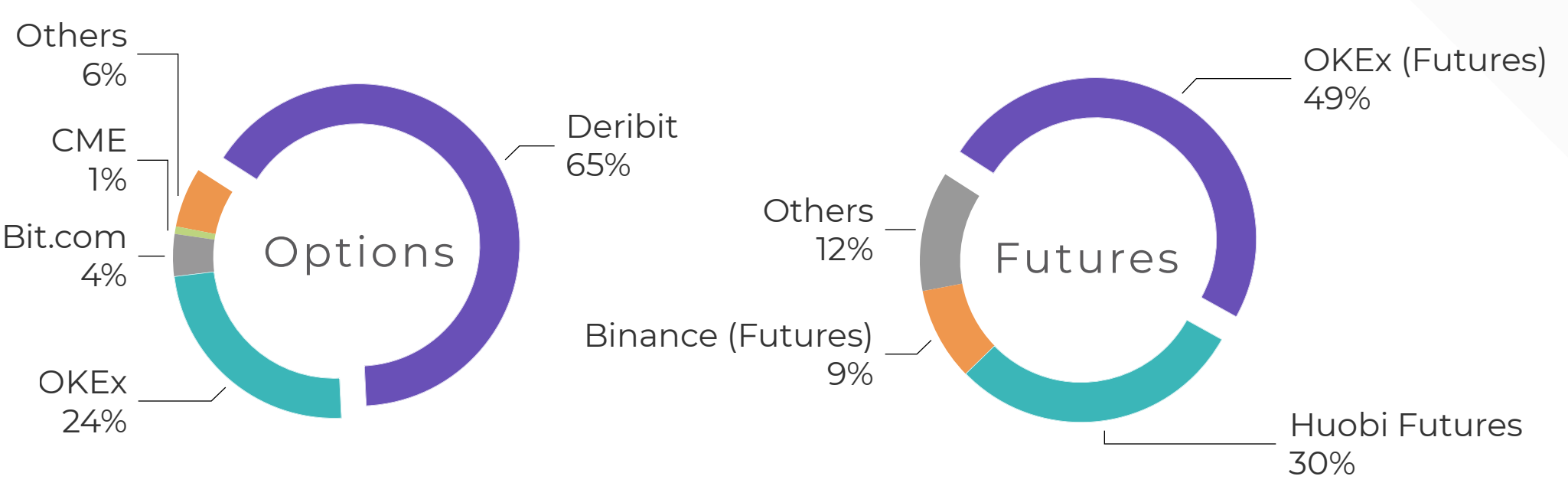
The futures and options market maintains "one superpower and many powers", and the trading volume is concentrated in a few professional exchanges

In terms of futures contracts, **OKEx is the only futures contract exchange with a trading volume exceeding one trillion in this quarter. Its total turnover reached \$1.016 trillion, accounting for 48.98% of the futures market segmentation, nearly half.**

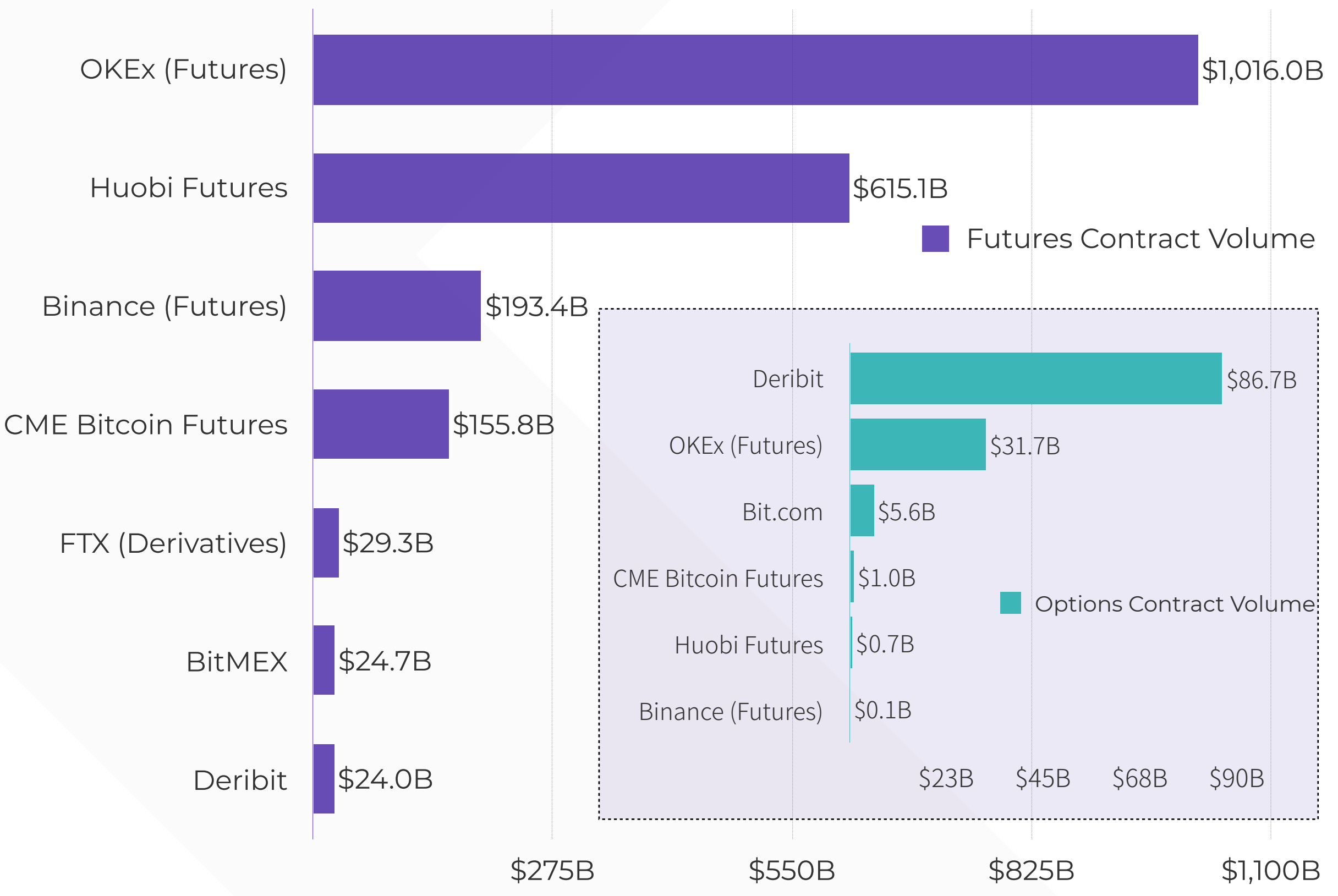
Deribit's dominance in the options market remained untouched this quarter, with its options turnover accounting for 65.1% of the total market, reaching \$86.7 billion.

In the futures and options market segmentation, the top three exchanges accounted for 93% and 88% of the trading volume, respectively. Compared with last year, the changes were not obvious, and the market structure was relatively stable.

2021Q1 Options and Futures Market Concentration Ratio



2021Q1 Futures/Options Trading Volume of Each Exchange¹



¹: As product data on exotic options exchanges and decentralized exchanges is difficult to obtain or is not yet mature, the trading volume statistics in this report only include traditional options exchanges.



Exchanges Category

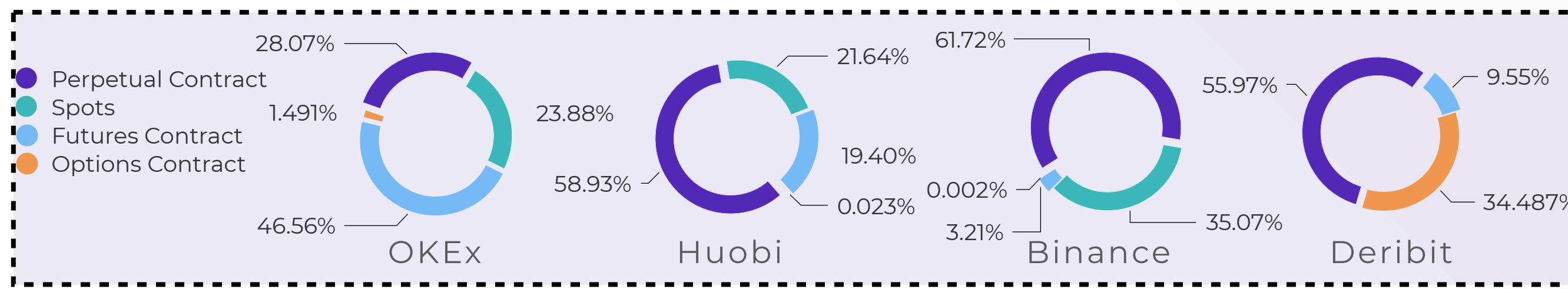
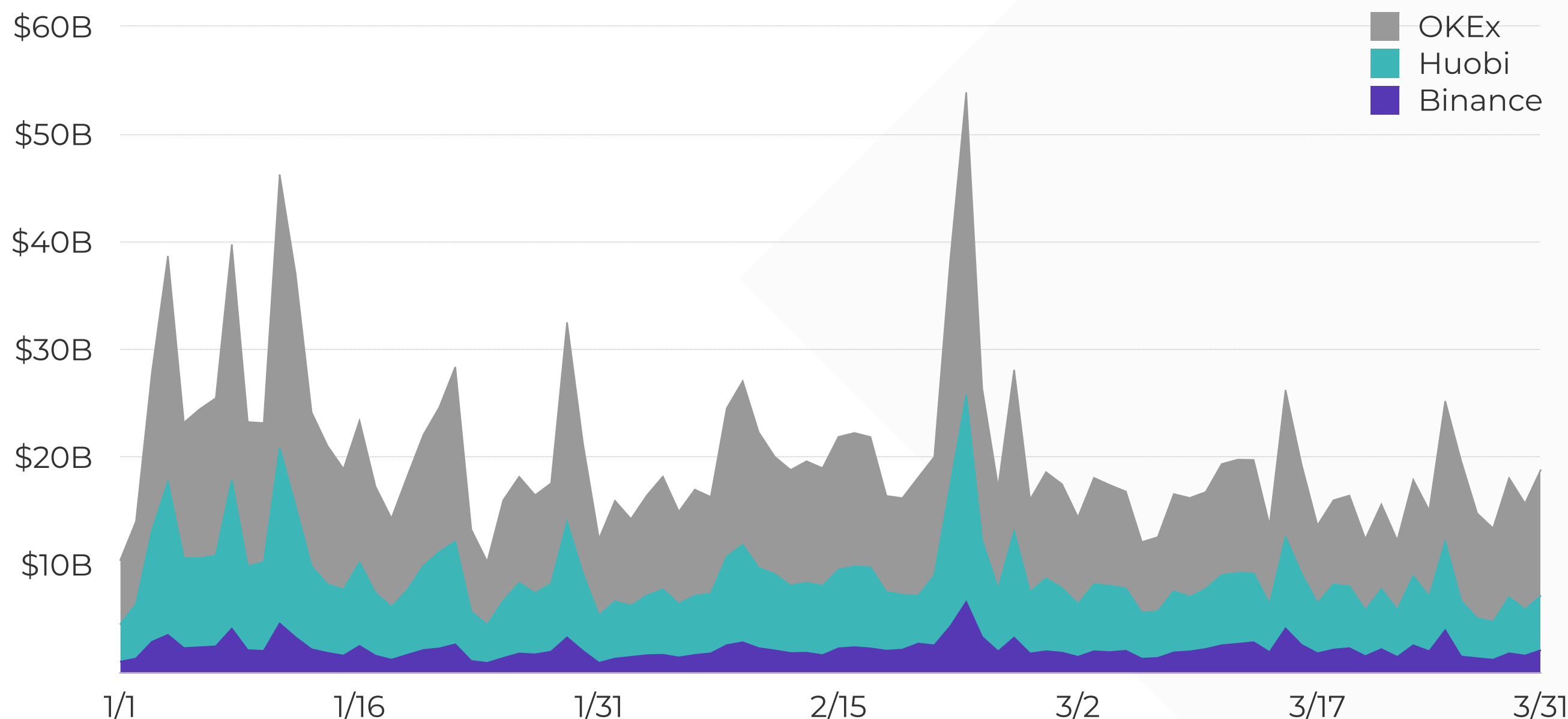
Category	Standard	Amount	Representatives
Large futures/options exchange	The futures/options trading business is officially launched no later than June 2020; Have a comparative advantage in any futures or options market (the quarterly trading volume of futures is greater than \$100 billion or the trading volume of options is greater than \$10 billion); The option products are mainly traditional European/American options; Provide rich futures or options products over multiple periods.	4	Deribit OKEx Huobi Binance
Medium futures/options exchange	Quarterly futures/options trading volume is in the middle of the market (futures are between \$10-50 billion or options are between \$0.1-1 billion); Futures and options trading is not the main business of the exchange.	2	FTX BitMEX
Emerging futures/options exchange	The futures/options trading business is officially launched no earlier than June 2020.	3	Bit.com Bitwell
Compliance exchange	With DCO/DCM and other licenses issued by CFTC and other official institutions in the United States, it can conduct compliant crypto asset futures or options trading.	4	CME LedgerX Bakkt Kraken



Large Futures/Options Exchange

In market segmentation, large futures/options exchanges focus on creating comparative advantages

2021Q1 Large Futures Exchanges Daily Trading Volume Changes and Products Proportion



Both Huobi and Binance chose to focus on the perpetual contract market, while OKEx chose to focus on the futures contract market. In 2021 Q1, futures trading volume accounted for 46.56% of the overall OKEx exchange volume, while in Huobi and Binance, futures trading volume accounted for 19.4% and 3.21% of all, gradually moving away from the business focus.

OKEx also strengthened its layout and competitiveness in the options market in Q1. In Q1, the overall trading volume of the options business on OKEx increased to 1.5%, higher than last year's 0.37%, and its market share was also close to a quarter. Deribit's comparative advantage in this market segmentation has already been substantively affected.

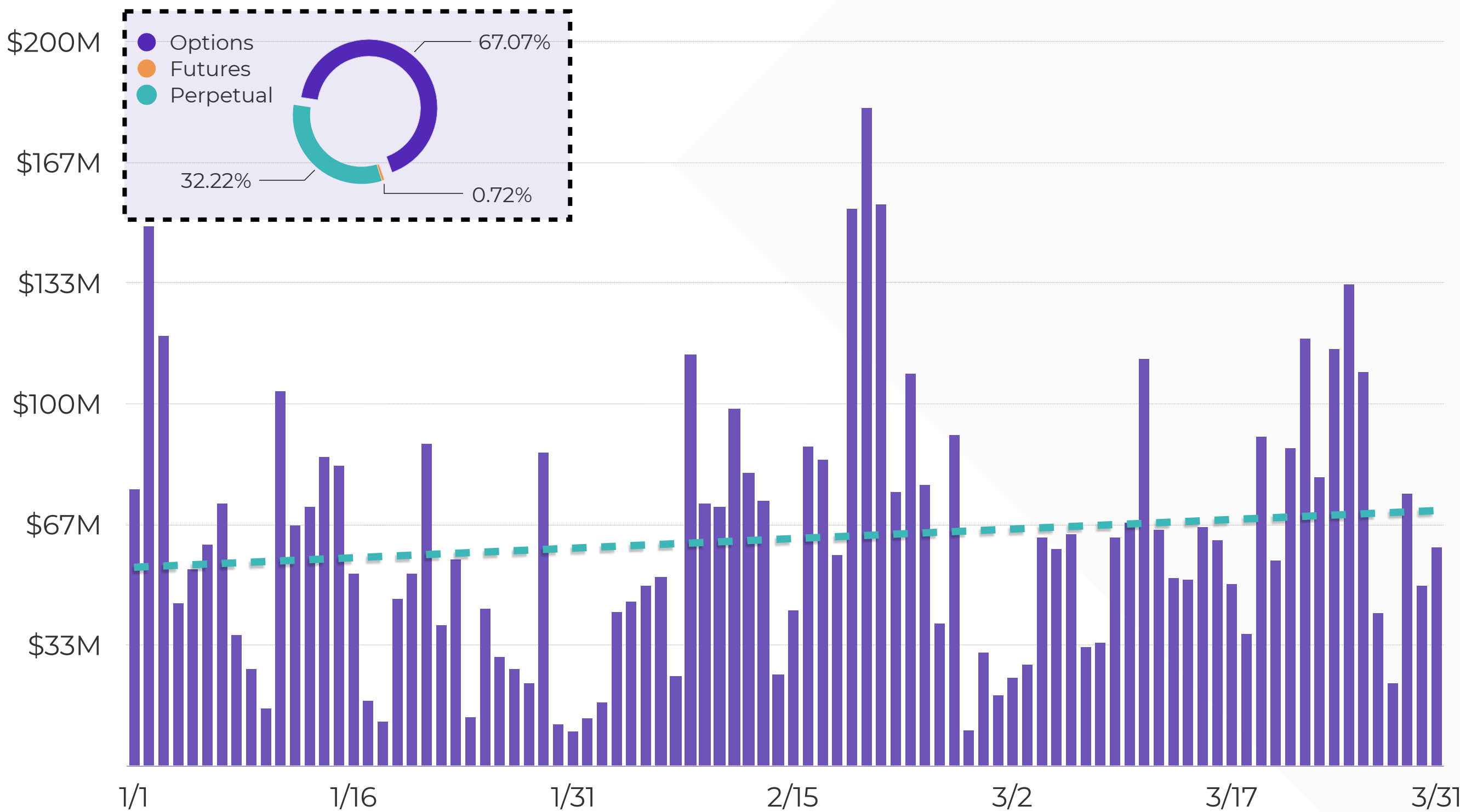
From the perspective of premium, the vast majority of large-value options transactions this quarter are still concentrated on Deribit, and its comparative advantage in institutional investor groups remains strong.



Emerging Futures/Options Exchange

Emerging futures/options exchanges still focus on options in Q1, and begin to try to operate more new business lines

2021Q1 Bit.com Daily Trading Volume Changes and Each Product Proportion



There are only two emerging futures/options exchanges in 2021 Q1, Bit.com and Bitwell. As the threshold of the options and futures markets is increasing, there are no more new exchanges to carry out related businesses for the time being.

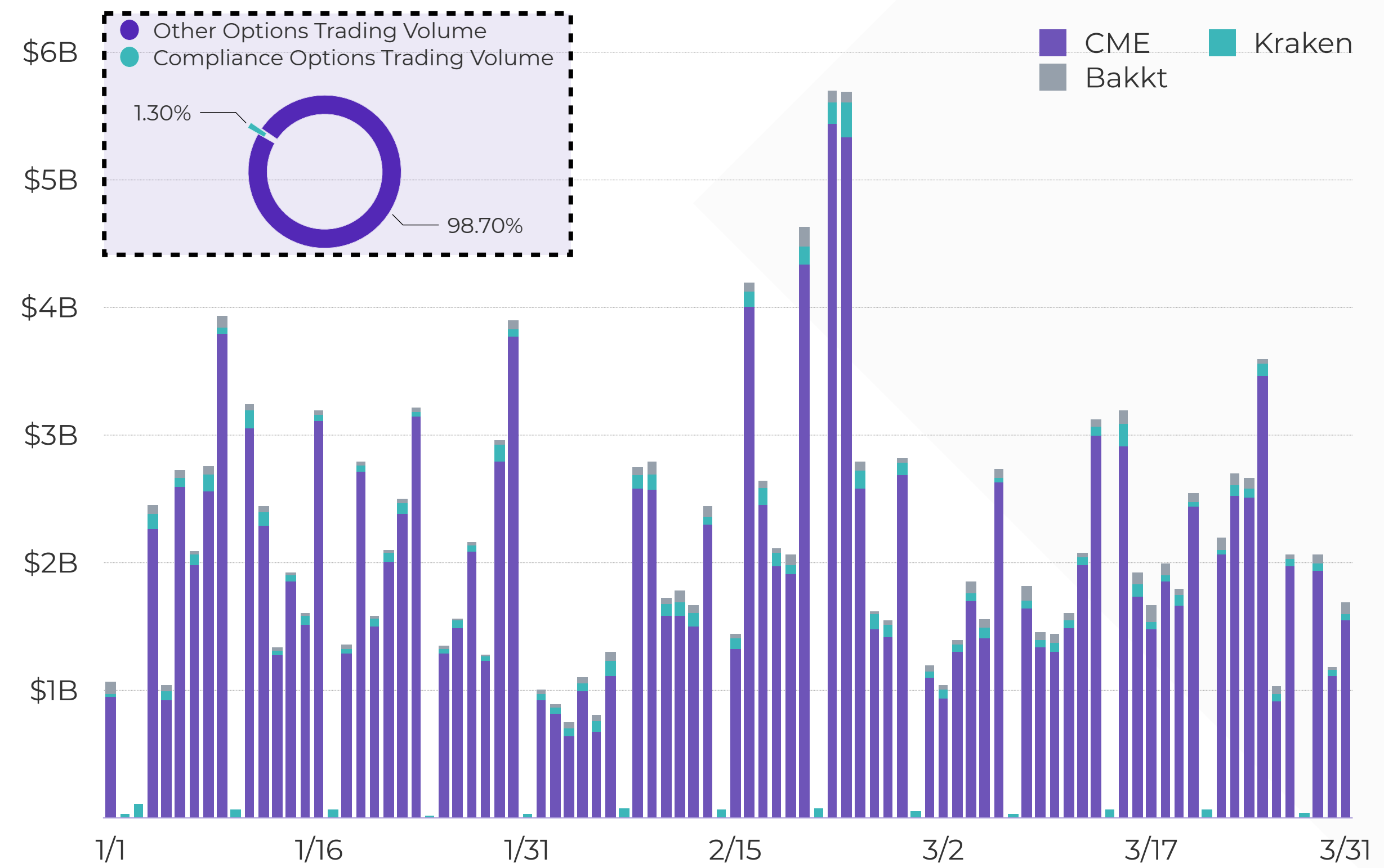
Bit.com is still focusing on the options market in Q1. In Q1's trading volume, its options trading volume accounted for a further step compared to last year, reaching 67.07%, occupying the third place in the options market, while perpetual contract trading volume has shrunk to less than one-third. In addition, Bit.com has also begun to set foot in the delivery futures market, launching current and next-quarter delivery contracts.

In terms of non-mainstream crypto asset options, Bitwell can already guarantee that LTC, XRP, BCH and TRX can keep the liquidity of delivery options between the current and next week, while LINK, UNI and DOT can guarantee the liquidity of delivery options between the day and next day. The exchange also launched new options products such as "Bull/Bear Contract" and began to expand its business lines to perpetual contracts and the spot market.

Compliance Exchange

Compliance exchanges occupy an important position in the futures market, but it is difficult to gain share in the options market

2021Q1 Futures/Options Market Compliance Exchange Trading Volume Changes



Note: Bitwell data is temporarily missing

Compared with options contract market, compliance exchanges play a more important role in the futures contract market.

- As the main channels of institutional trading, CME, Bakkt, and Kraken have undertaken the main compliance futures trading needs. **In Q1, compliance volume reached \$167.1 billion, accounting for 8.05% of the total volume.** CME also launched Ethereum futures for trading in February.
- In addition to CME, contract exchanges such as Kraken choose to focus more on perpetual contract market, using its license advantages to obtain greater profits in perpetual contract compliance transactions, while the futures business has become insignificant: the trading scale of futures contracts is only about 12% of that of perpetual contracts in Kraken.
- **The share of compliance exchanges in the options market has further shrunk compared to last year.** In this quarter, the trading volume of options on compliance exchanges (CME, LedgerX) was only \$1.728 billion, accounting for 1.3% of the total market share. The inherent shortcomings of compliance exchanges (which are subject to more regulatory restrictions and relatively conservative options categories) have caused certain obstacles to the development of compliance trading in options.

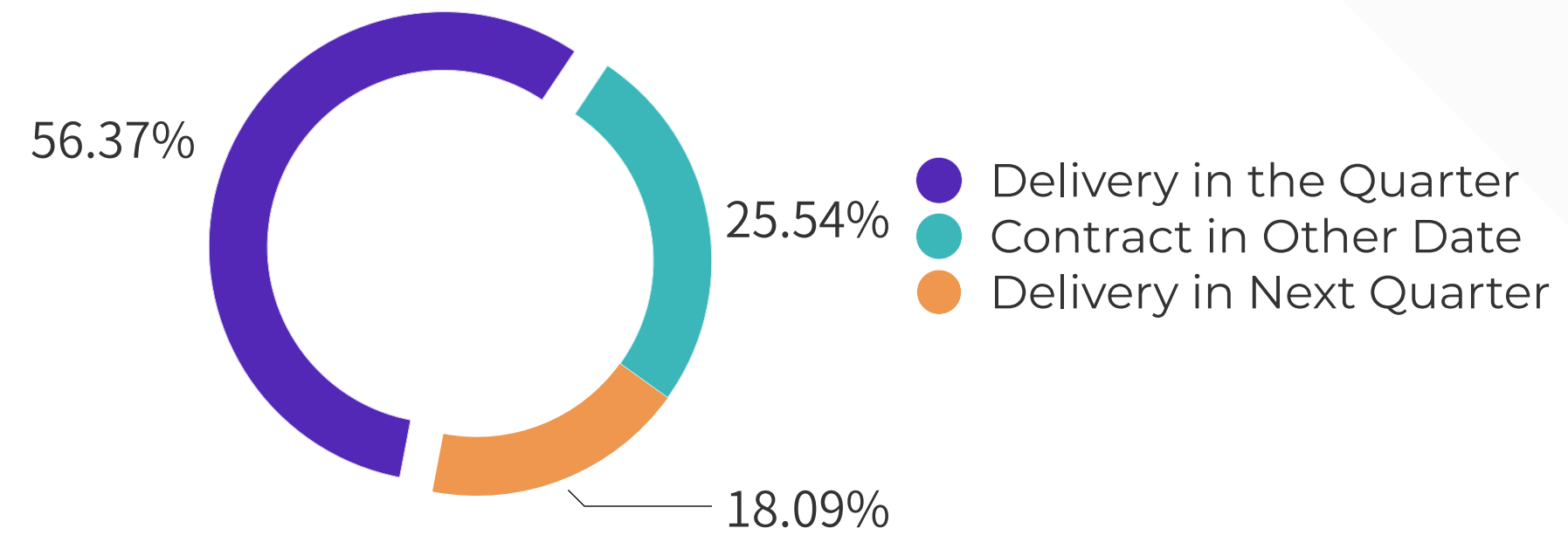


Futures Product Overview

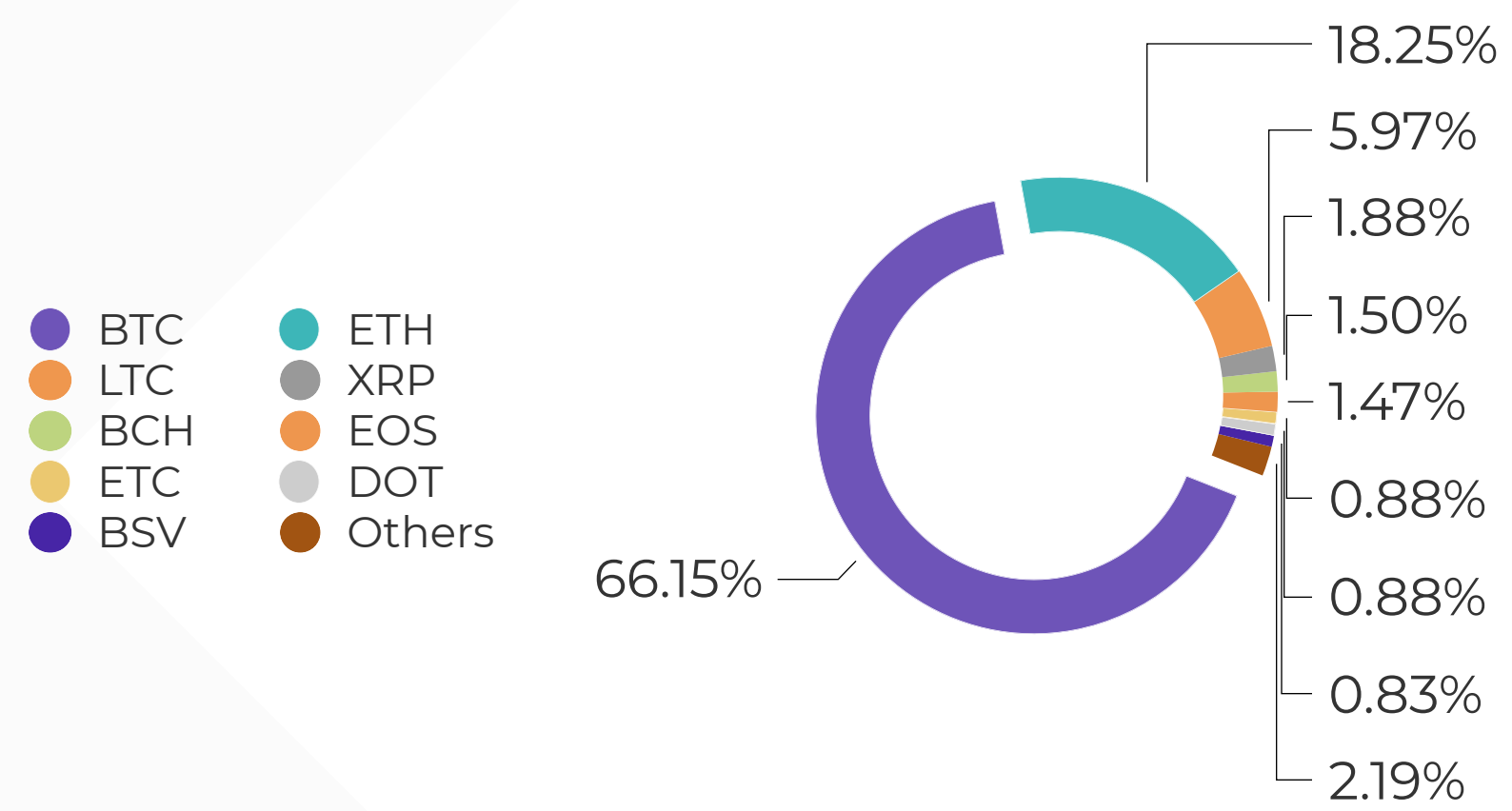
Crypto asset is the largest part in the current-quarter futures allocation, and the trading volume of non-mainstream currency futures is generally less than \$10 billion

- The contract with the highest trading volume is the current-season futures contract due for delivery at the end of the quarter, reaching \$1.17 trillion, accounting for 56.37% of the total futures turnover. Among them, Bitcoin's current-season delivery contracts is \$723.61 billion, accounting for more than one-third of the total market volume.
- The trading volume of \$370.62 billion comes from delivery contract in the next quarter, and the other expiration dates accounted for only 25.54%.
- The speculative nature of futures is gradually weakening in the crypto asset market. Investors tend to hedge and hedge risks through the mid-to-forward allocation of futures, while the speculative nature is taken over by perpetual contracts.

2021Q1 Contract Trading at Different Expiration Dates in Futures Market



2021Q1 Different Underlying Crypto Asset Futures Contract Product Trading



- The non-mainstream crypto asset contract product with the highest quarterly trading volume is LTC contracts, with a trading volume of \$123.91 billion. In addition, only XRP, BCH, EOS, ETC, DOT, BSV and other token-related futures contracts maintain quarterly trading volume at over \$10 billion.
- Trading in DeFi futures contracts is weak, and the quarterly highest YFI contract is only \$360 million.
- Possible reasons: the liquidity of non-mainstream crypto assets is insufficient, and professional investors, who are the mainstream of futures contract users, are also cautious about transactions related to non-mainstream crypto assets.



Options Product Overview

The proportion of Bitcoin option products remained basically unchanged, and non-mainstream crypto asset options further developed

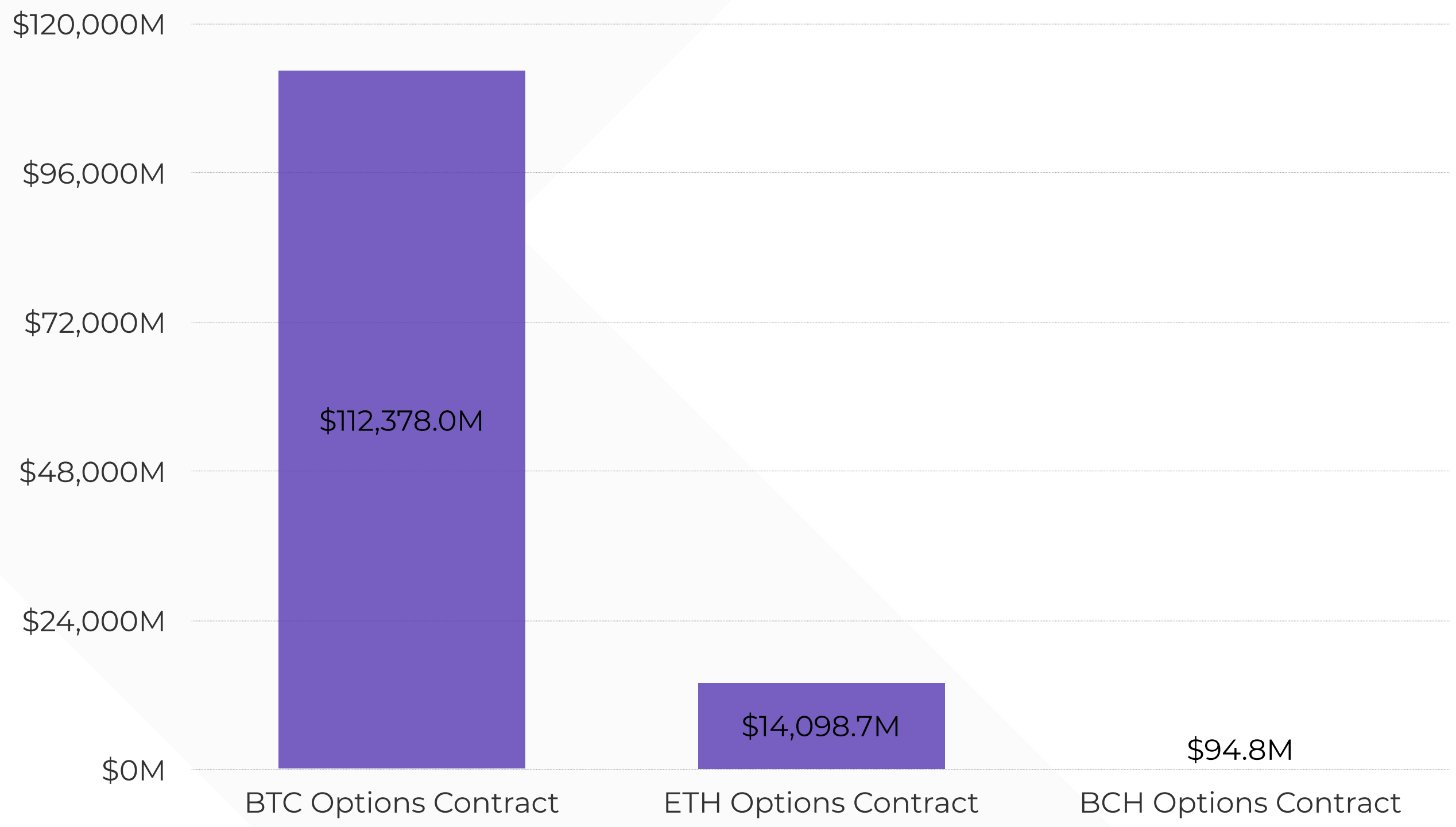
In terms of mainstream crypto assets, the trading volume of Bitcoin options products reached \$112.38 billion, accounting for about 88.8% of the market turnover. Compared with last year, it remained the absolute mainstream; the trading volume of Ethereum products was \$14.1 billion, accounting for 11.1% of the market share.

Judging from the operation of Q1, the liquidity of non-mainstream crypto asset options can be guaranteed to a certain extent compared to last year. Its overall operation is relatively stable, but there is still room for improvement.

With the gradual implementation of the Ethereum 2.0 network upgrade and the activity of Ethereum transactions, the proportion of Ethereum options products in options transactions may further increase.

Since the option user groups are mostly professional investors, their crypto asset allocation is often based on Bitcoin, and options are mainly used to hedge market fluctuations of crypto asset in the investment portfolio. Therefore, the current absolute mainstream status of Bitcoin options will not change in the short term.

2021Q1 Contract Trading at Different Expiration Dates in Futures Market



Note: Bitwell data is temporarily missing, and some data are estimated based on existing data and macro market conditions



Options/Futures Searching Popularity

The keyword "Bitcoin Options" is much less popular than "Bitcoin Futures"

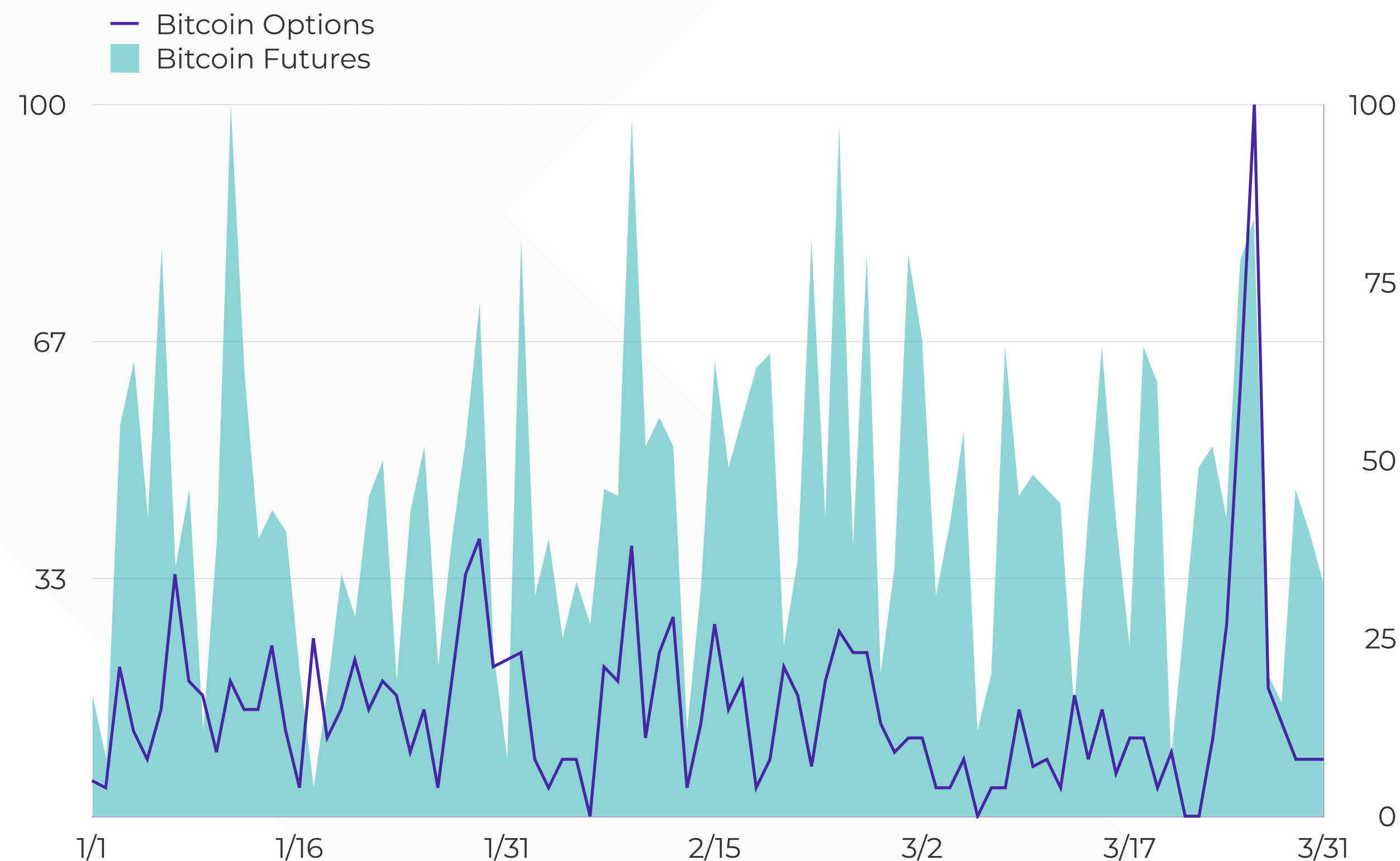
The search for keyword "Bitcoin Options" reached a quarterly peak at the end of March, which corresponds to the concentrated delivery day of options at the end of the quarter, and the characteristics of the quarterly allocation of options users are obvious.

Compared with "Bitcoin Futures", which has an average searching popularity of 43.93, the searching popularity of "Bitcoin Options" is lower (only 15.27 on average).

Changes in the searching popularity of "Bitcoin Futures" are more correlated with market fluctuations. Related to the miners' selling-off wave on about January 11, the organized institution short at the end of February, and the quarterly delivery day at the end of March, the searching popularity for futures-related keywords was close to 100, which is a quarterly peak.

The change of futures contract searching popularity has no close relationship with the change of futures trading volume, but is closely related to the change of perpetual contract trading volume, indicating that **it is often difficult for ordinary users to distinguish between futures contract and perpetual contract. User education urgently need to be strengthened.**

2021Q1 Options/Futures Contract Relevant Searching Popularity Trend





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In Q1 options contract related searching keywords, compared with last year, the searching volume of keywords such as **Reddit, AMC, GME, Robinhood, Bitcoin Cash, and Deribit** has soared.

This seems to indicate that **some individual investors have begun to enter the options market:** individual investors from communities such as Reddit have always been strong fans of crypto assets, and have a certain interest and little experience in the application of investment tools such as options and futures.

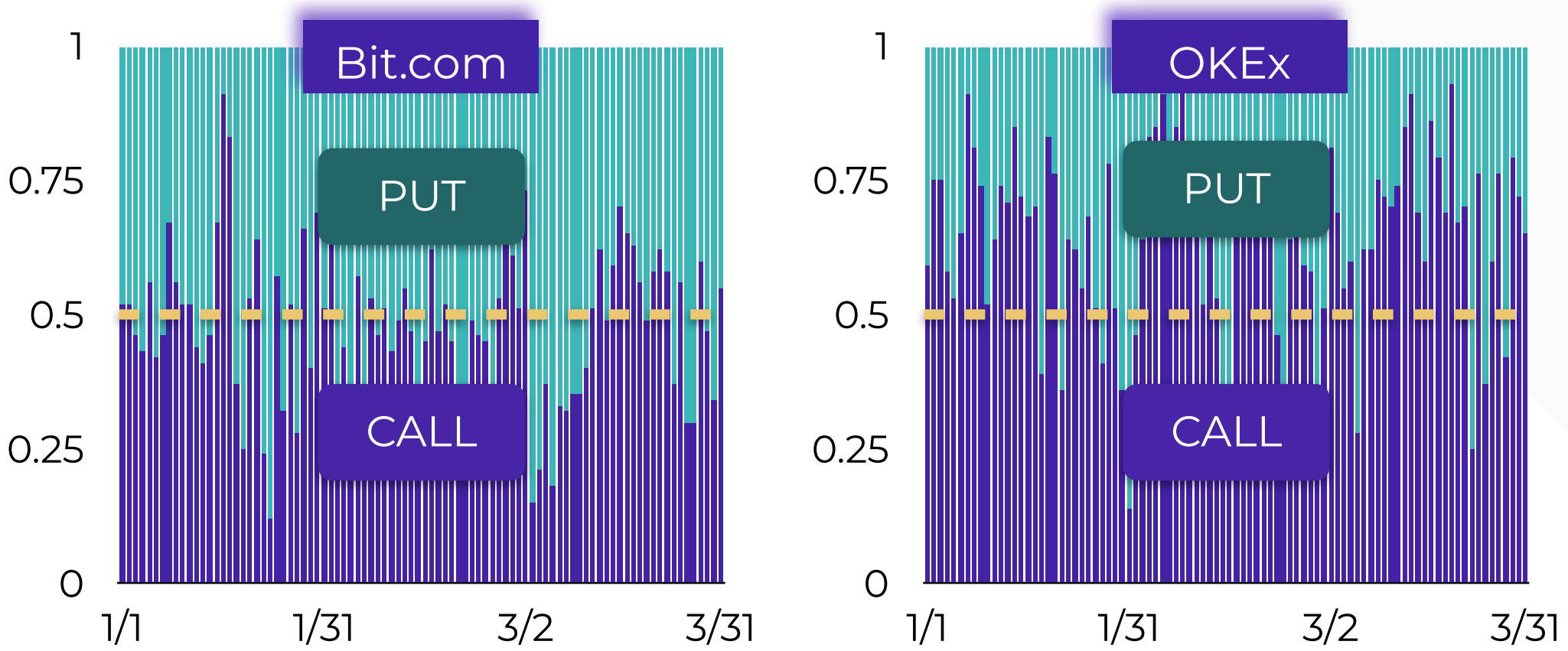
The appearance of non-mainstream crypto assets such as Bitcoin Cash in the searching keywords indicates that **users may not only be satisfied with mainstream crypto asset options products, but have begun to try to find non-mainstream crypto asset options products for investment.**

Options User Features

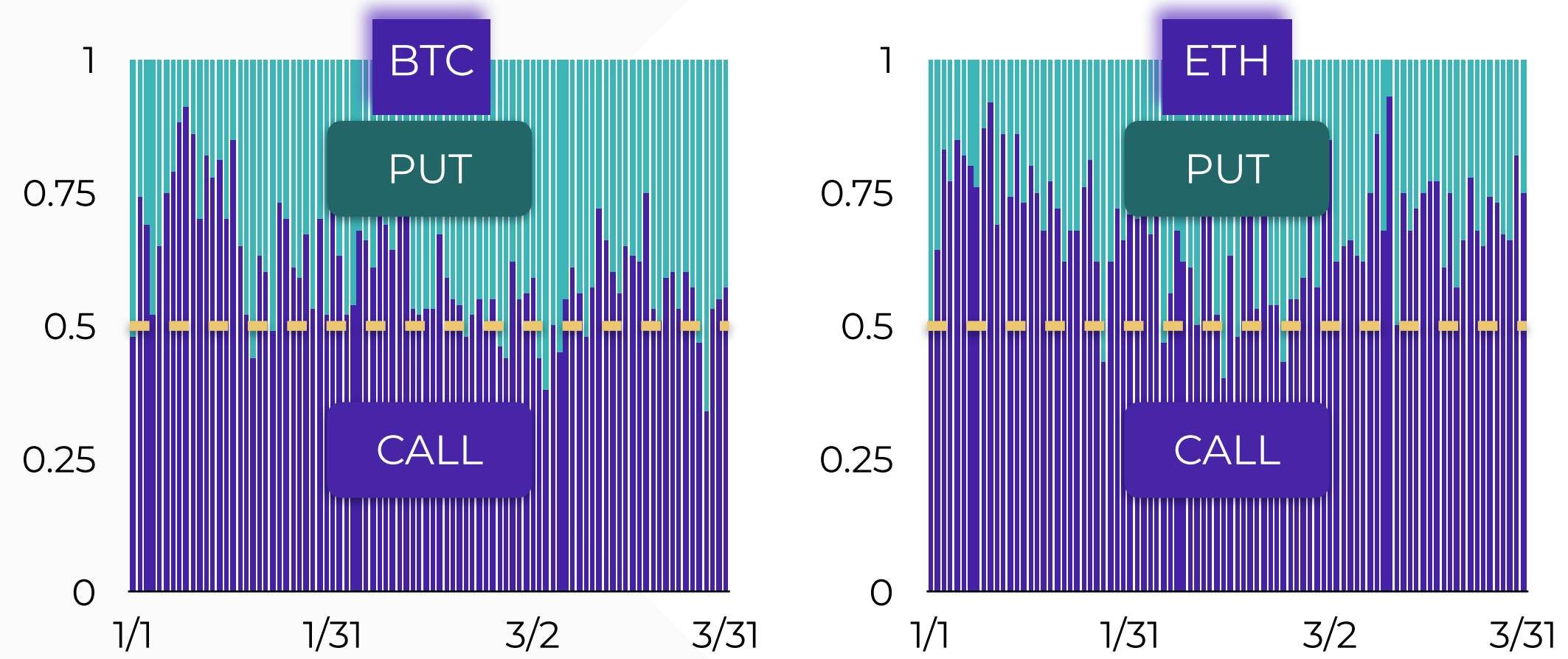
The distribution of options user groups is relatively stable, and individual investors are gradually becoming rational

- On most trading days of Q1, the BTC and ETH call options trading in Deribit were relatively active and stable, and the ETH options had a more pronounced bullish trend. **The general bullishness of options represents investors' long-term optimism towards mainstream crypto assets.**
- The volatility of the long-short ratio in Deribit has increased, but the overall volatility is still the lowest among the options exchanges. Combined with the keywords searching data, it can be inferred that **the number of users in Deribit is "steadily rising", and the entry of a large number of individual investors is an important reason for the upswing of the long-short ratio of options trading.**

2021Q1 BTC Options Trading Long-Short Ratio in Bit.com and OKEx



2021Q1 Options Trading Long-Short Ratio in Deribit



- **OKEx and Bit.com are still dominated by individual investors.** Although the fluctuation of the long-short ratio is still relatively high, the range has dropped significantly compared to last year.
- **The occurrence of major market events still has a greater impact on the mood and investment behavior of individual investors.** However, compared with last year, individual investors participating in options transactions have gradually become rational, and options market users are gradually becoming mature.

Note: Long-short ratio is calculated by premium

Don't Trust. Verify!

Thank You

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