

The Evolution of Crypto :

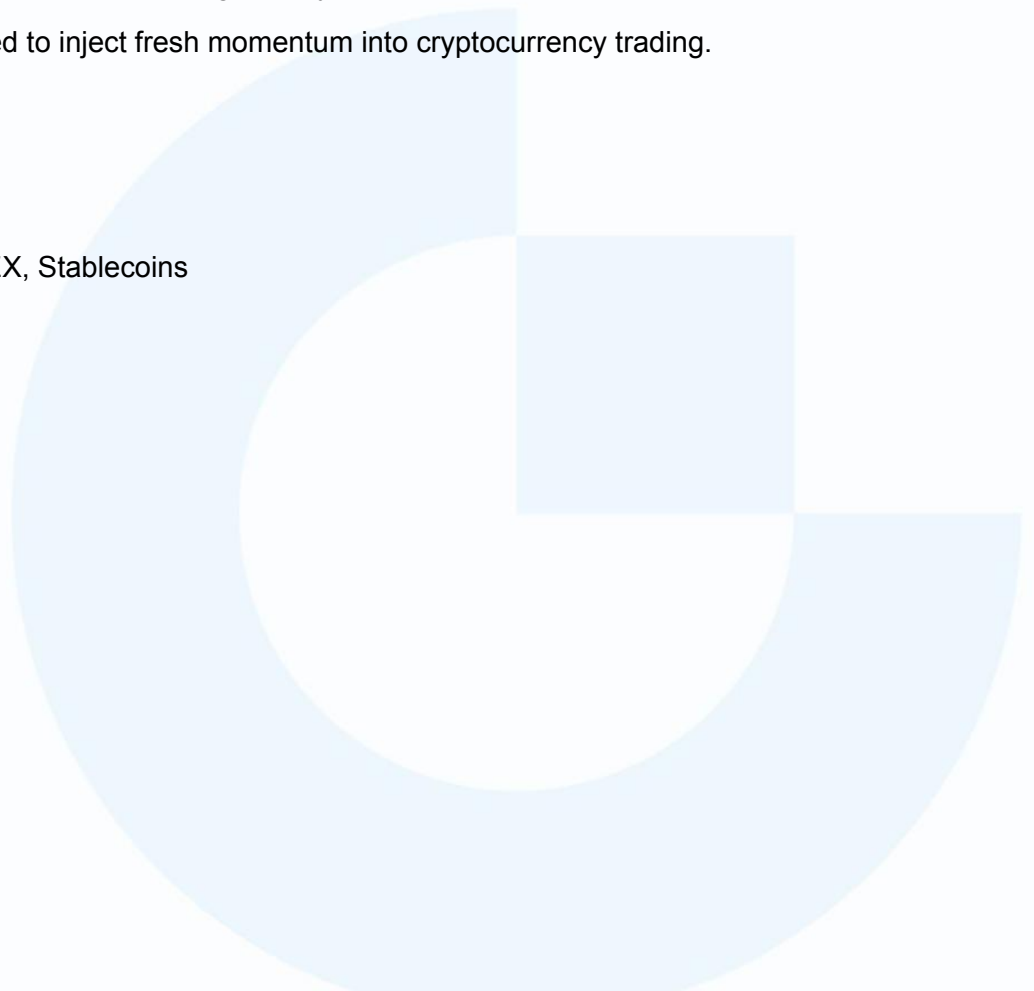
Trading Platform & Trading Volume

Key Takeaways

- Over the past decade, demand for cryptocurrency trading has surged, with annual trading volume surpassing \$24 trillion in 2021.
- This explosive growth led to the number of centralized exchanges (CEX) exceeding 180, with 63 new CEXs launched in 2018 alone.
- The collapses of Mt.Gox and FTX highlighted transparency and risk management issues in CEXs, spurring industry-wide regulatory improvements.
- "DeFi Summer" accelerated the rise of decentralized exchanges (DEXs), with innovative platforms like Uniswap and Curve leading the charge. By 2021, the number of DEXs had skyrocketed to 260.
- Although CEXs still dominate the market, DEX's market share surged from 0.33% in 2020 to 11.91% by 2024—a remarkable 36-fold increase.
- DEXs show advantages in areas like long-tail assets and cross-chain trading, while CEXs are enhancing user experience through Web3 integrations and service consolidation.
- Stablecoins constitute roughly half of the market's trading volume, while Real World Assets (RWAs) are seeing increased trading activity. The influx of Traditional Finance (TradFi) players is anticipated to inject fresh momentum into cryptocurrency trading.

Keywords:

Gate Research, CEX, DEX, Stablecoins



The Evolution of Crypto: Trading Platform and Trading Volume

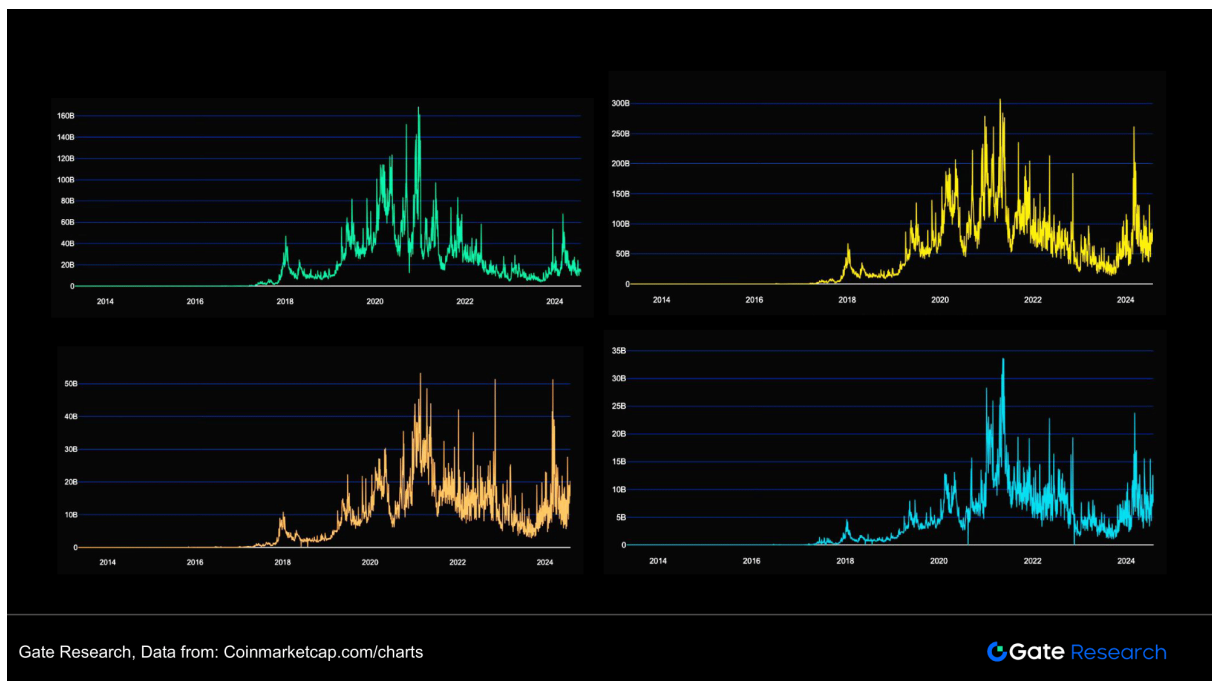
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1 Introduction

Trading Platforms are a vital part of the cryptocurrency ecosystem. In 2017, trading volume skyrocketed, driven by the ICO (Initial Coin Offering) boom and the emergence of forked coins. This surge sparked rapid growth in trading platforms. Beyond Bitcoin and Ethereum, demand for altcoins accelerated even further, making 2017 and 2018 peak years for CEX (Centralized Exchange) launches. The subsequent "DeFi Summer" then gave DEXs (Decentralized Exchange) a significant boost, providing liquidity for a wider range of tokens outside the top 10. Notably, trading volumes for these tokens grew faster than those of Bitcoin and Ethereum.

Figure 1: Total Trading Volume and Changes in Individual Asset Volumes



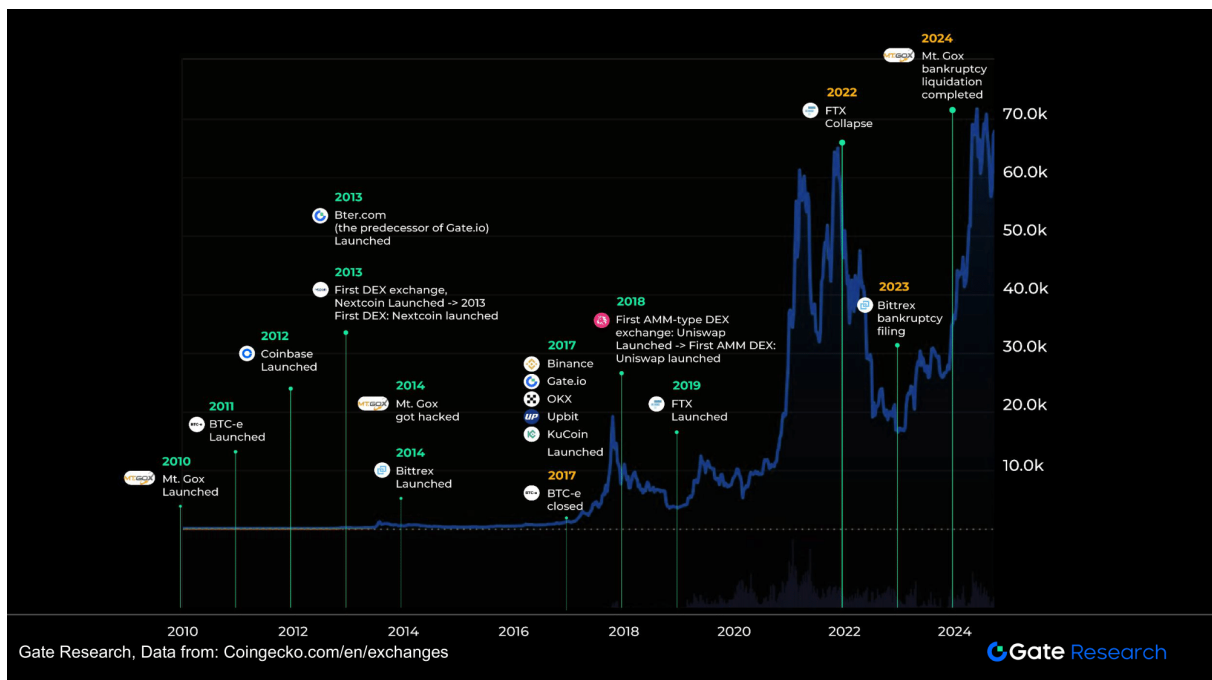
Currently, CEXs serve as one of the largest entry points for Web3, with hundreds of millions of registered users. CEXs handle over 88% of the total cryptocurrency trading volume. However, as the industry evolves, the barriers to entry for CEXs have risen. DEXs, with their non-custodial nature and ease of asset issuance, have rapidly gained market share, establishing themselves as significant players. This article analyzes key events, trading volumes, and trends in the number of exchanges over the past decade, highlighting crypto trading platforms' evolution and future outlook.

2 Key Events: Industry Maturity Amid Crisis and Competition

In 2010, the launch of Mt.Gox marked the beginning of early cryptocurrency exchanges, replacing traditional peer-to-peer (P2P) trading methods with centralized exchanges. Platforms like BTC-e, Coinbase, and Bter.com (now Gate.io) were established between 2010 and 2013. However, the hacking of Mt.Gox caused a major loss of trust in exchanges and led to a market downturn. The ICO boom reversed this trend, driving demand for trading, and in 2017, prominent CEXs such as Gate.io, OKX, and Binance were launched. The subsequent DeFi Summer further intensified competition with the rise of DEXs.

In 2022, FTX's collapse due to liquidity crises and financial mismanagement triggered a wider market crash and exacerbated the crypto bear market. The failures of Mt.Gox and FTX highlighted common problems—lack of transparency, poor governance, and vulnerability to risk. These events underscored the need for future exchanges to improve transparency, auditing, risk management, and regulatory compliance to protect user assets. Exchanges like Gate.io, Binance, and OKX have since implemented reserve fund mechanisms to disclose their asset ratios publicly.

Figure 2: Timeline of Key CEX Events



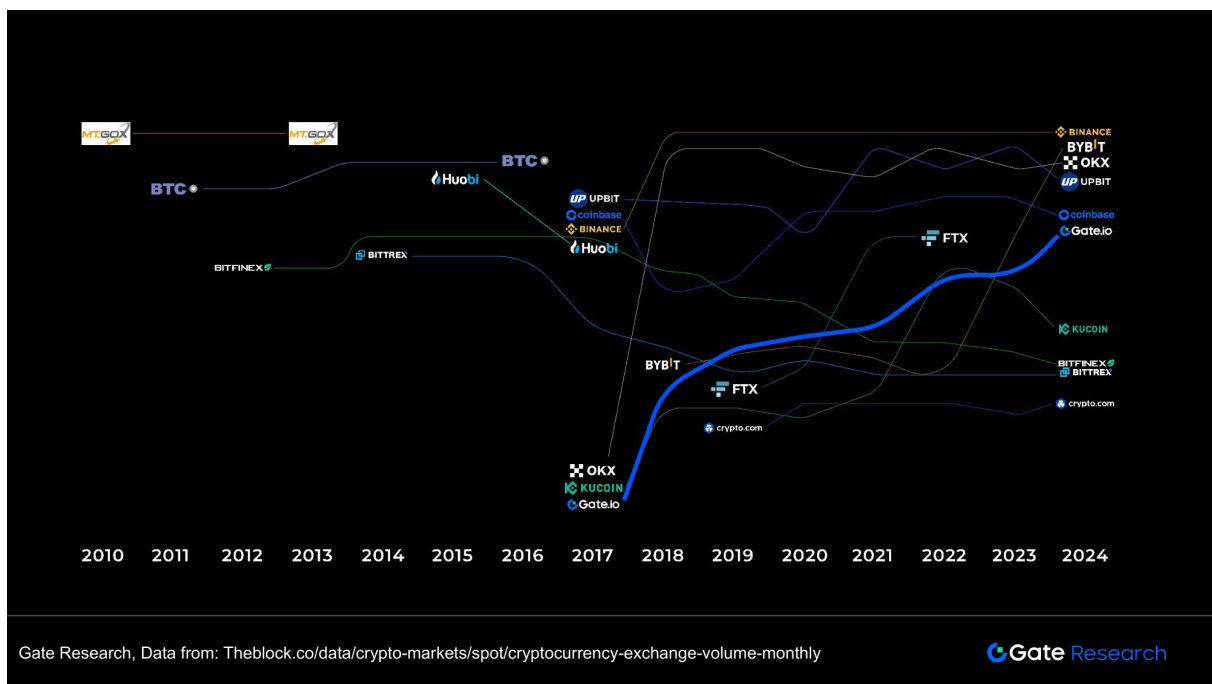
3 Exchange Rankings: 2017 Was the Most Competitive Year

Amidst fierce competition, some exchanges gradually exited the stage. Early exchanges like Mt.Gox dominated from 2010 to 2013 but quickly left the market in 2014 due to security issues. BTC-e, Bitfinex, and Bittrex were active around 2014 but gradually lost their competitive edge by 2017.

Post-2017, Binance quickly rose to the top and has remained dominant. Bybit, OKX, and Upbit also gained significant traction after 2018. FTX's rapid ascent after its 2019 launch was cut short by its collapse due to mismanagement and customer fund misuse. On the other hand, Gate.io has steadily risen in prominence since 2017, driven by strategic market adjustments, technical innovations, and a focus on user experience. From 2020 to 2022, Gate.io achieved significant upward momentum.

Between 2018 and 2024, competition among top exchanges intensified, with a few platforms capturing most of the market share.

Figure 3: Changes in CEX Rankings



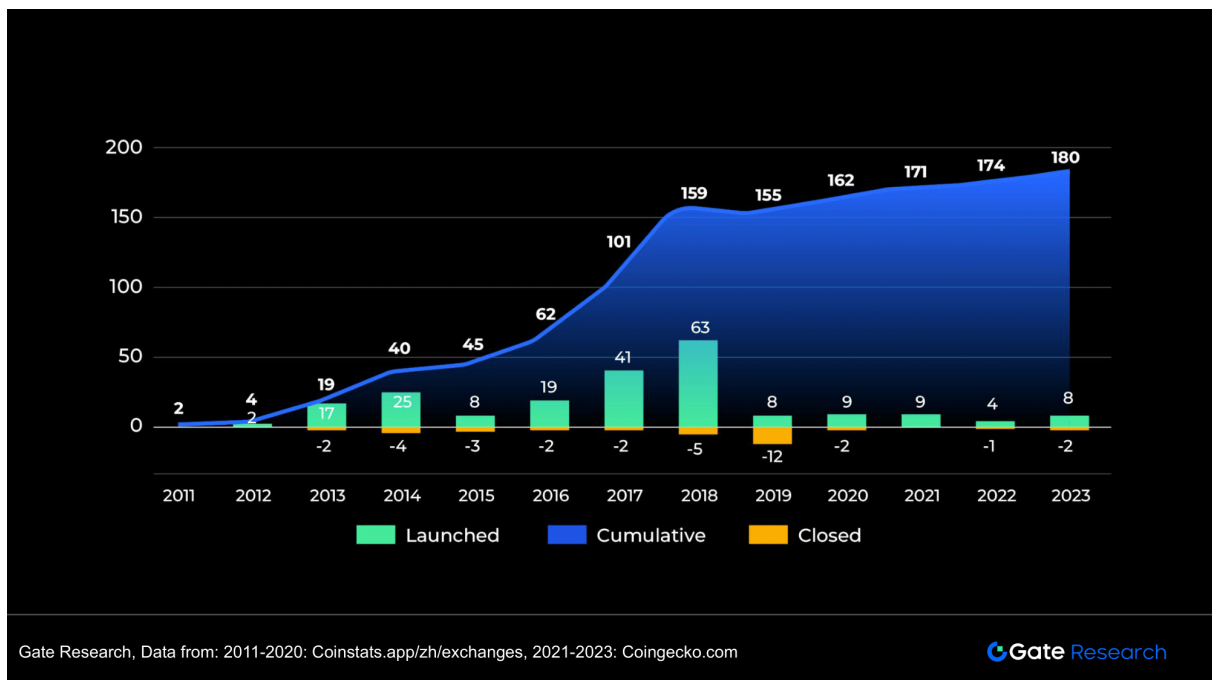
4 Changes in the Number of CEXs: Higher Barriers Limiting New Entrants

As mentioned, leading exchanges like Gate.io and OKX emerged in 2017, when about 40 exchanges were launched. The ICO boom and the popularity of ERC-20 tokens generated immense trading demand, making 2018 the peak year for CEX growth, with 63 new exchanges created. This reflected increasing market demand for trading services and growing acceptance of cryptocurrency.

However, 2019 saw the highest number of CEX closures. The influx of numerous competitors had already raised industry barriers, and providing greater liquidity depth and better user services required substantial investment in human resources and capital. Moreover, regulation and compliance gradually became industry consensus, meaning CEXs faced high entry barriers and needed more specialized teams.

Despite the increasing difficulty of entering the industry, as the market capitalization of crypto assets gradually expanded and gained acceptance from mainstream regulatory bodies, some new CEXs still saw opportunities and entered the market.

Figure 4: Changes in the Number of CEX Launches and Closures



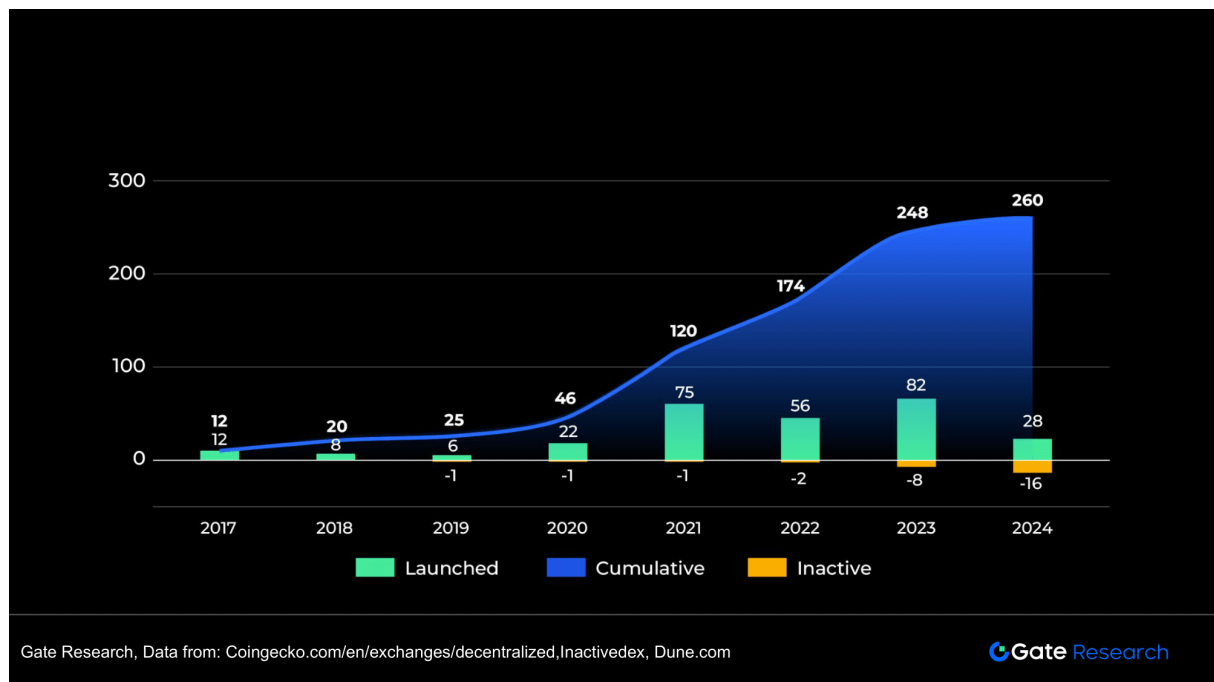
5 DEX Trends: DeFi Summer Drives Rapid Rise of DEXs

Similar to CEXs, 2017-2018 was a critical period for DEX development. Bancor, a DEX pioneer, introduced the Automated Market Maker (AMM) model in 2018. Uniswap launched in November of the same year and quickly overtook Bancor in trading volume by February 2019, securing its market leadership.

Some entrepreneurs, recognizing the immense potential of DEXs and the high barriers to entry for CEXs, chose to build DEXs to enter the trading platform arena. The year 2020 was crucial for DEX development, with several important projects launching: Curve, which used the Stable-Swap algorithm to overcome the slippage problem in stablecoin exchanges; Uniswap V2, which allowed direct swaps between any ERC20 tokens; and Sushiswap, which offered generous liquidity mining incentives.

Simultaneously, projects led by Compound introduced the concept of "liquidity mining," where users could provide liquidity to DEXs to earn rewards, including fee sharing and project token airdrops. Multiple projects conducted airdrops during this period, stimulating users' trading enthusiasm, with aggregators like 1inch and Uniswap distributing tokens to their users. This period, known as DeFi Summer, saw tremendous growth for DEXs, with the number of new DEX platforms reaching 75 in 2021.

Figure 5: Changes in the Number of DEX Launches and Closures

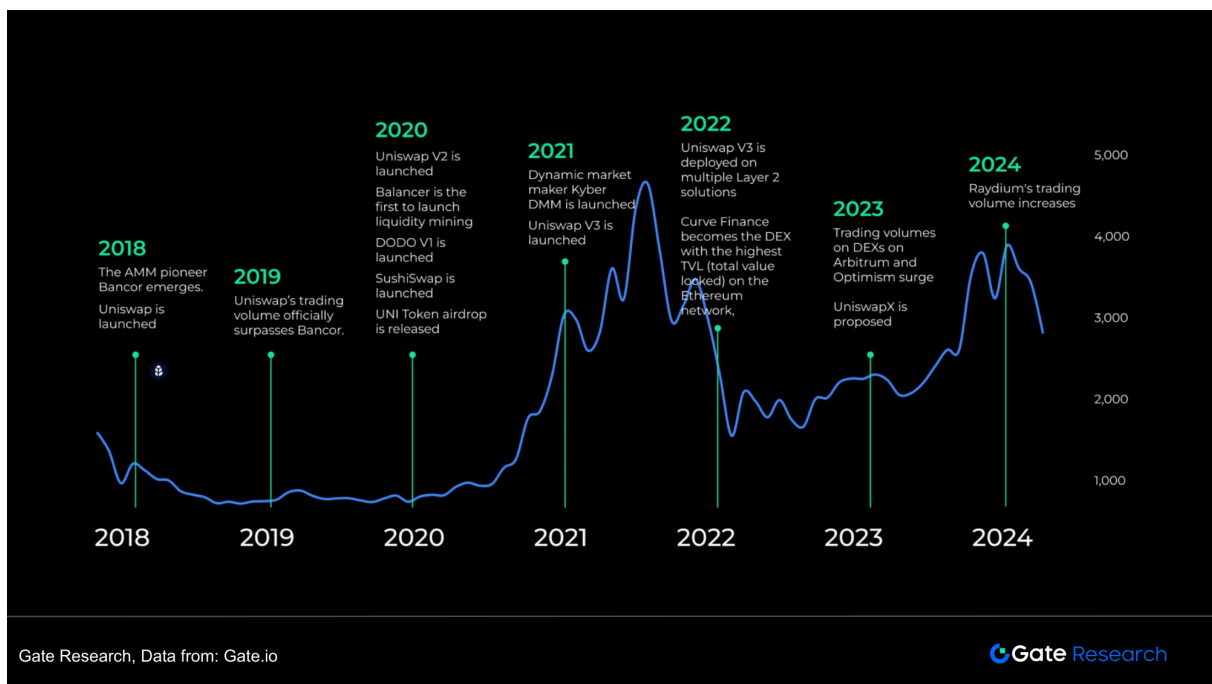


Since then, DEXs have continued to innovate to enhance product quality and user experience.

Uniswap V3 launched in 2021 with the concept of “concentrated liquidity,” leading to further industry innovation. Other platforms like MDEX, Balancer V2, and Curve V2 followed suit, improving market-making mechanisms and reducing slippage. The DEX ecosystem has continued to grow, with Uniswap V3 expanding onto multiple Layer 2 networks, reducing gas fees, and speeding up transactions.

Recently, DEXs like Raydium on Solana and Aerodrome on Layer 2 Base have seen rapid growth in trading volume thanks to their Meme token launchpads. The emergence of aggregators like UniswapX has made liquidity depth and user “intent” parsing core solutions for DEXs. Anti-MEV measures and support for cross-chain and multi-token trading are gradually becoming standard features. Moreover, DeFi infrastructure for new assets like inscriptions continues to improve, allowing fungible tokens (FTs) to be traded alongside non-fungible tokens (NFTs). As DEX technology matures, asset trading is becoming increasingly convenient.

Figure 6: Timeline of Key DEX Events



6 CEX vs DEX: CEX Maintains Dominance, While DEX Market Share Steadily Climbs

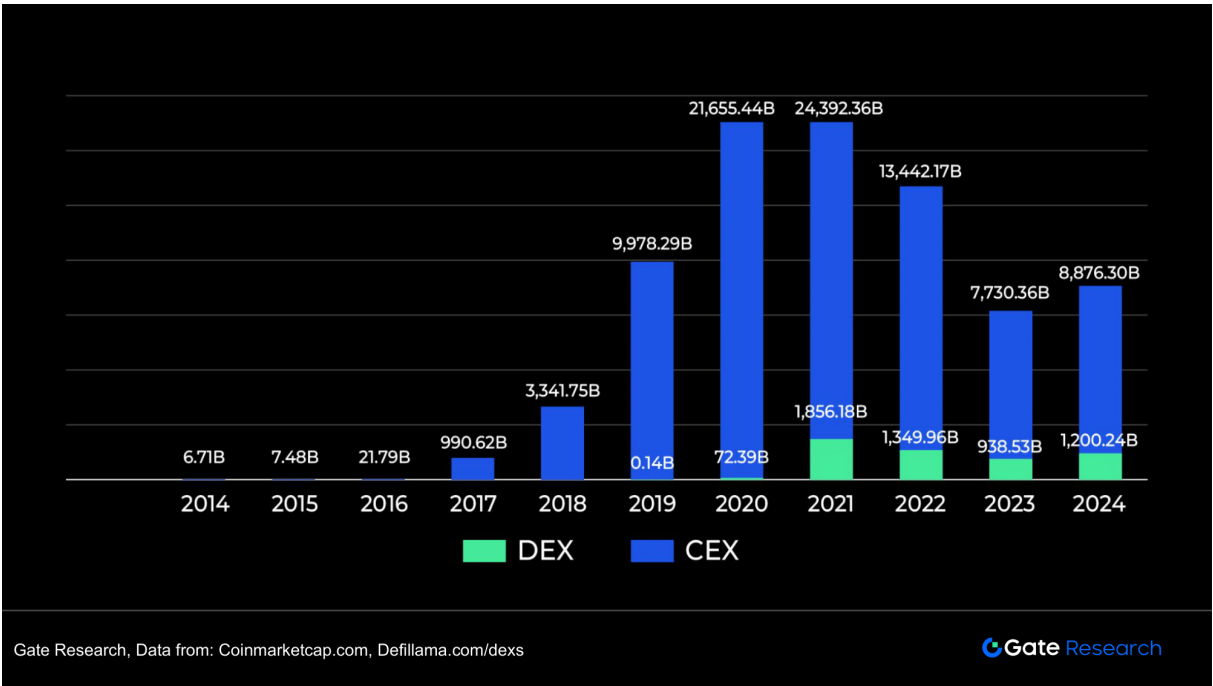
6.1 Impact of Market Cycles and Development Phases

The first-mover advantage allowed CEXs to gain more early users than DEXs, and substantial investments in capital and human resources have given CEXs an edge in user experience and

the number of product services. Over the past decade, CEXs have consistently held most of the market share.

However, both CEXs and DEXs have been influenced by industry development stages and cycles. The DeFi Summer of 2020 and 2021 brought enormous on-chain liquidity and many tokens, with annual trading volumes exceeding \$20 trillion in both years. Subsequently, trading volumes were significantly impacted as the DeFi narrative faded and the market gradually turned bearish. In 2024, with the price increase of mainstream crypto assets like BTC, market enthusiasm has recovered, and trading volumes have shown improvement.

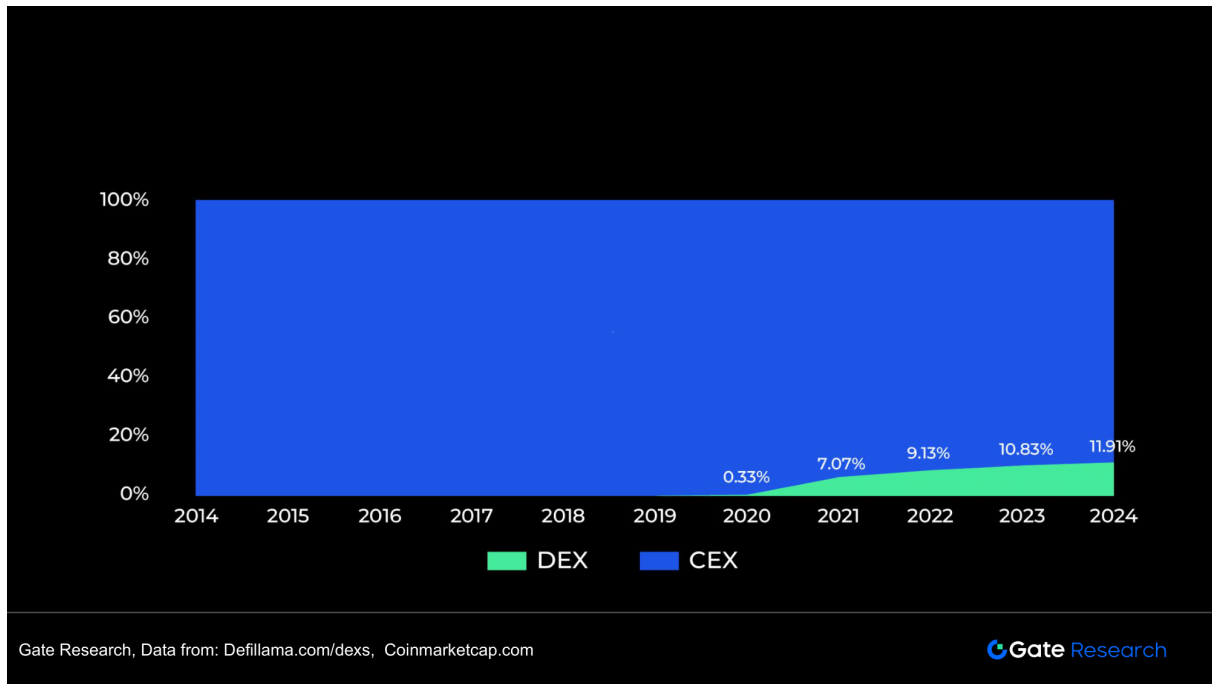
Figure 7: Changes in Annual Trading Volume of CEXs and DEXs



6.2 DeFi Summer Propelled DEX Market Share Growth

A comparison of CEX and DEX market shares over the past decade reveals that despite CEX dominance, DEX trading volume has grown steadily, increasing from 0.33% in 2020 to 11.91% in 2024. The fastest growth occurred during DeFi Summer, when DEX's market share jumped from 0.33% to 7.07%, a 20-fold increase.

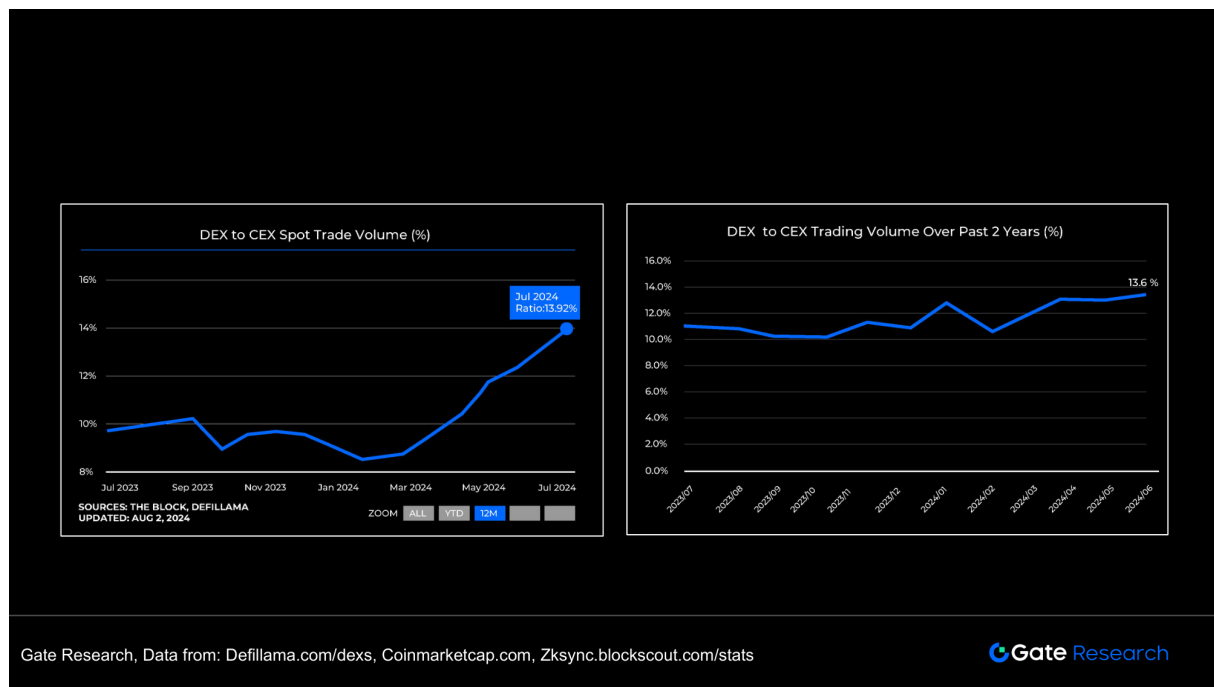
Figure 8: Changes in DEX and CEX Market Share



6.3 Long-Tail Assets as a DEX Advantage

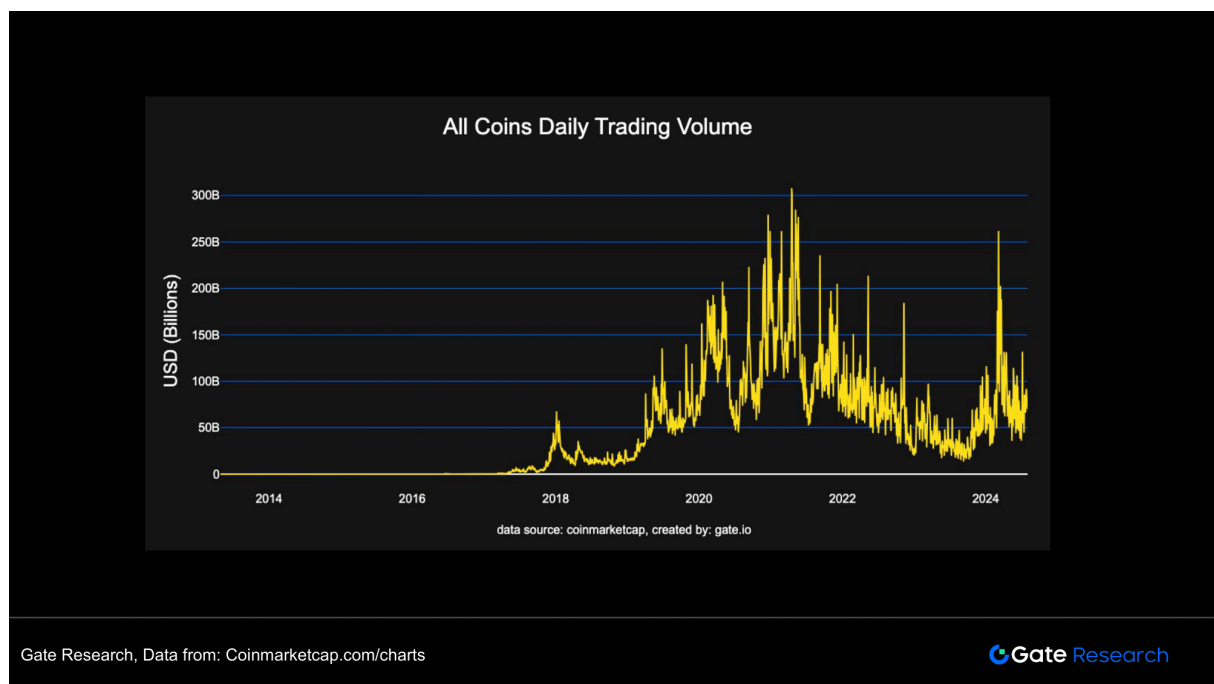
Comparing on-chain trading volumes over the past two years, the proportion of DEX trading volume has not changed significantly, fluctuating between 10% and 13.6% in line with market conditions. However, the DEX to CEX spot trading volume ratio has risen sharply within these two years, growing from less than 10% in 2023 to a new high of 13.92% in 2024, showing rapid growth. The main reason behind this is the enrichment of long-tail and tokenized assets on-chain, especially the large-scale explosion of Meme tokens (as shown in the first section of this series). This also demonstrates the advantage of DEXs in trading long-tail assets.

Figure 9: Changes in Total and Spot Trading Volume of DEX vs. CEX (July 2023 - July 2024)



DEXs have also shown this advantage in trading volume. As the industry continues to evolve, token concepts are emerging rapidly. Most tokens, such as BRC-20, SocialFi, and GameFi tokens, are issued on blockchain platforms, with DEXs often serving as the initial liquidity deployment platform. Since CEXs are centralized, with dedicated teams and listing criteria, they cannot match DEXs' ability to issue tokens and trade-related assets without permission. This gives DEXs a significant advantage in terms of timeliness and the variety of tokens available.

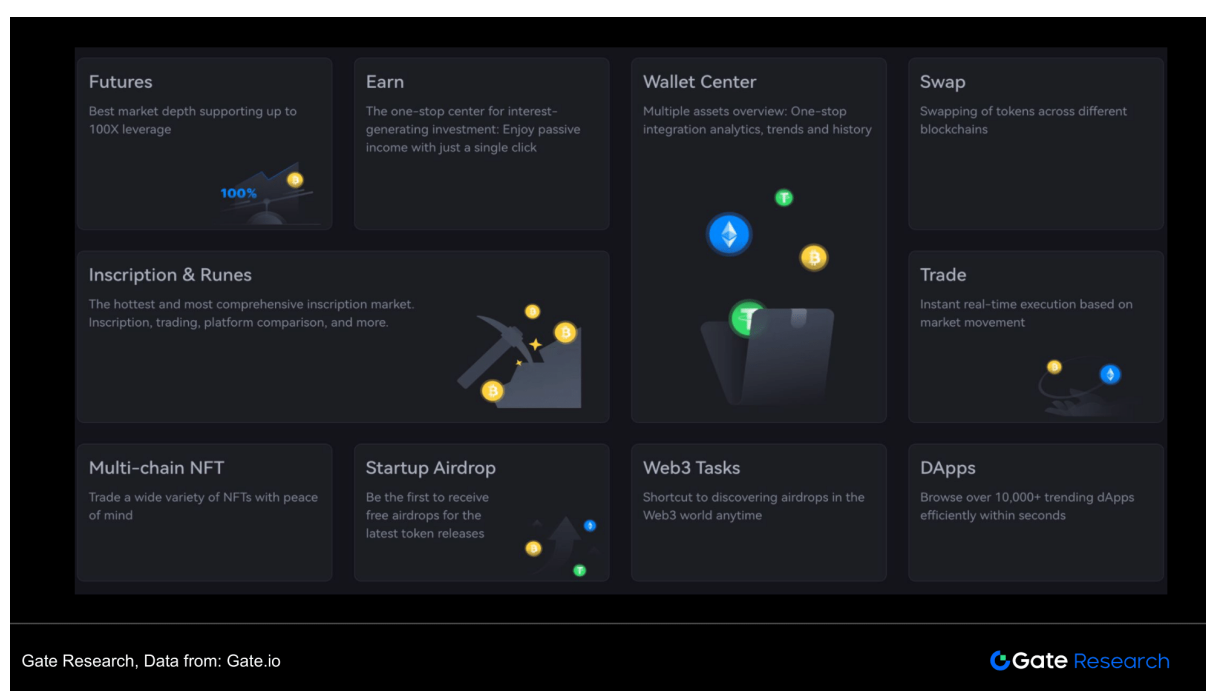
Figure 10: Changes in Trading Volume of Different Asset Types



6.4 The Convergence and Cross-Pollination of CEX and DEX

Both DEXs and CEXs are vital components of the crypto infrastructure. Recognizing their respective limitations and each other's strengths, they're working to refine their models. Several CEXs are venturing into the Web3 space to offer decentralized trading solutions. Platforms such as Gate.io, Binance, OKX, and Bitget have rolled out their own Web3 offerings. Supported by centralized teams and funding, these solutions have rapidly evolved, providing services like token trading, on-chain contracts, cross-chain transactions, wealth management, and NFT/inscription trading. Currently, no single DEX can match the comprehensive range of services offered by CEX Web3 solutions.

Figure 11: Showcase of CEX Web3 Services (Using Gate.io Web3 as an Example)



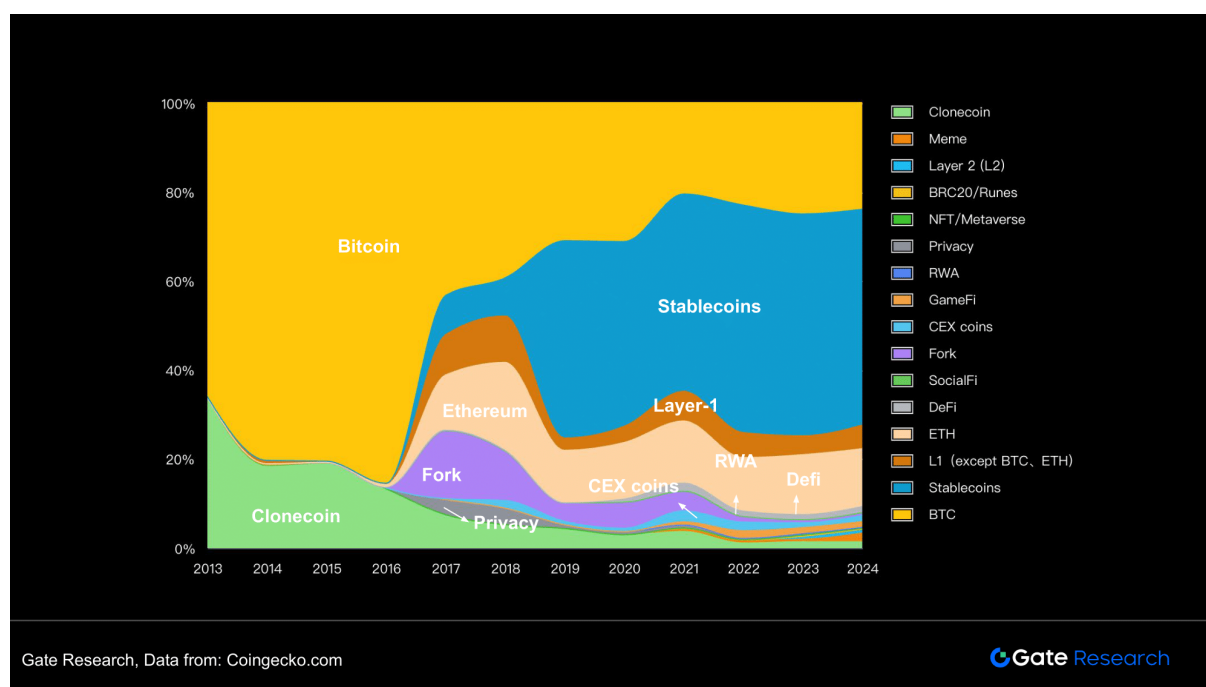
In response to CEXs' massive investments in service diversification, DEXs are zeroing in on enhancing user experience and exploring novel business models. Tech breakthroughs have paved the way for more efficient trading: dYdX, for instance, leverages Rollup technology to merge on-chain settlement with off-chain order books, while some DEXs have embraced a centralized limit order book (CLOB) model. Uniswap has rolled out its own aggregator, UniswapX. The rise of "intent-based" solutions—exemplified by Everclear and CowSwap—has lowered entry barriers, with products boasting zero gas fees and MEV resistance becoming increasingly common. Concurrently, DeFi modular services enable cross-chain and trading features integration across a wide spectrum of DEXs. Business-to-Business (B2B) solutions are also gaining traction, with GameFi and SocialFi projects embedding trading modules that allow users to swap game and on-chain assets directly within their apps.

6.5 Stablecoins and RWAs as New Market Drivers

Looking back at the composition of trading volume over the past decade, besides BTC and ETH assets, there was a sudden surge in stablecoin trading volume in 2019. This was partly due to exchanges adopting trading pairs of stablecoins and tokens (such as BTC-USDT, ETH-USDC). Compared to tokens like BTC and ETH, stablecoins possess both the attributes of convenient circulation and value preservation, making them more suitable as anchor tokens. The enormous demand has driven the development of stablecoins, and even during the DeFi Summer, stablecoins accounted for about half of the trading volume.

New assets continue to emerge, with popular trends such as Clonecoins, NFTs/metaverse tokens, and GameFi assets taking center stage in their respective cycles. RWAs (Real-World Assets), tied to real-world financial instruments, have also seen growing trading volumes in recent years. Stablecoins themselves are a type of RWA, pegged to fiat currencies. While crypto assets are gaining mainstream attention, they still represent a small portion of the market. Tokenizing real-world assets opens up new avenues for liquidity, with TradFi giants like Citi, BlackRock, Fidelity, and JPMorgan now entering the RWA space.

Figure 12: Trends in Market Share of Different Types of Tokens (2013-2024)

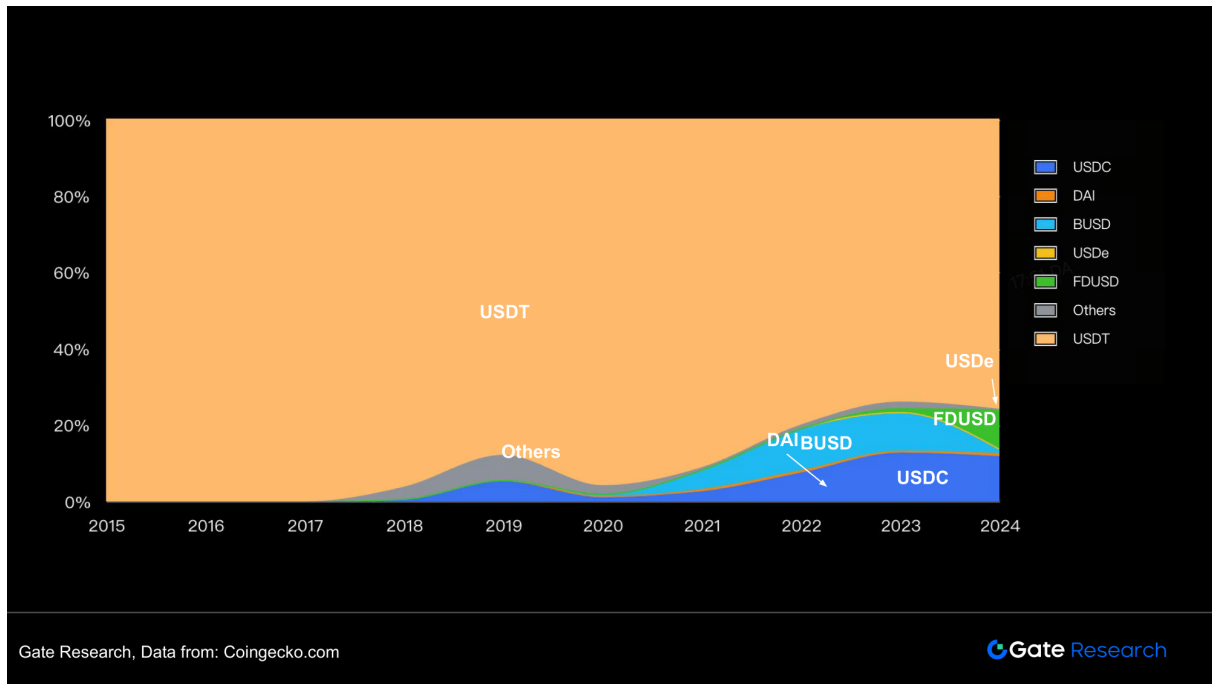


Not only are TradFi institutions entering the RWA sector, but stablecoins, which account for half of the trading volume, are also attracting new players. Before 2017, USDT issued by Tether dominated the stablecoin market, but competitors like BUSD and USDC have since eroded their market share. As stablecoin use cases expand, new entrants such as FDUSD, PYUSD, and EURI are emerging. Decentralized stablecoins like DAI, though not dominant in market share,

have been pioneering innovations, inspiring new decentralized stablecoins like USDe to gain attention and market share.

In addition to crypto asset trading, countries and regions, including the U.S., Hong Kong, Japan, Dubai, and the EU, are exploring using stablecoins for settlement and digital currency solutions and drafting related regulatory frameworks. These developments could bring new inflows of capital from outside the crypto market.

Figure 13: Market Share Trends of Different Stablecoins (2015-2024)



7 Conclusion

Over the past decade, both CEXs and DEXs have played crucial roles in the cryptocurrency market. CEXs have leveraged their resource advantages and extensive user bases to offer "one-stop" service experiences through Web3 ecosystem integration. However, they face challenges related to user concerns about data security and increasingly stringent regulatory requirements. In contrast, due to their decentralized and non-custodial nature, DEXs have demonstrated unique advantages in trading long-tail assets. As tokenization and asset issuance become more accessible, DEXs have provided broader options for community-driven and niche asset trading, showing significant advantages, particularly in liquidity and market participation.

At the same time, the development of tokenization and RWAs is accelerating the integration of traditional finance with the DeFi ecosystem. On-chain trading and settlement of RWAs are becoming an important part of the global financial market, with major financial institutions like Citi, BlackRock, Fidelity, and JPMorgan entering the RWA space. This trend promotes the widespread use of on-chain assets and provides new market opportunities and growth potential for DEXs.

However, with the rapid development of DEXs and increasing market significance, regulators are paying closer attention. As important financial entities, DEXs will face growing challenges in transparency, compliance, and user protection. Over the next decade, the competitiveness of trading platforms will depend on their ability to harness the strengths of decentralization and long-tail assets within a regulatory framework while driving innovation in tokenization and RWAs to compete with traditional finance and market competitors.

The cryptocurrency market has seen extraordinary growth in the last decade. Therefore, Gate Research has launched a special series titled '10-Year Review of the Cryptocurrency Market' to detail this growth. The series aims to explore the industry's evolution using detailed data analysis and charts to identify key trends. The report is divided into four parts: token issuance methods, cryptocurrency trading platforms, development of public blockchains, and trends in market capitalization and user growth. This article is the second in the series. To view the remaining reports, please click [here](#).

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