

Exchange Benchmark Report

Assessing the risk of centralised and
decentralised exchanges

October 2022

CryptoCompare Research
research@cryptocompare.com

Contents

1. Introduction & Mission Statement	4 - 12
2. Key Highlights	13 - 19
3. Ranking Methodology Overview	
a. Centralised Exchanges (CEXs)	20 - 26
b. Decentralised Exchanges (DEXs)	27 - 32
4. Results	
a. CEXs	33 - 37
b. DEXs	38 - 41
5. Category Stats	
a. CEX	42 - 46
b. DEX	47 - 51
6. Contact	52

Introduction & Mission Statement

Mission Statement

CryptoCompare's Exchange Benchmark was established in 2019 to bring clarity to the digital asset exchange sector. It provides a **framework for assessing risk** and brings **transparency** and **accountability** to a complex and rapidly evolving market. Since launching, it has become an industry standard for evaluating exchanges. Over time, the methodology has expanded and is now approached in several dimensions using a comprehensive data set, covering 150 exchanges across 8 categories of evaluation:

- Legal/Regulation
- KYC/Transaction Risk
- Data Provision
- Security
- Team/Exchange
- Asset Quality/Diversity
- Market Quality
- Negative Events Penalty

We adopt an innovative and evolving ranking methodology that utilises a combination of **qualitative** and **quantitative** metrics. We assign a grade to each exchange which helps **identify the lowest risk** exchanges in the industry. The Benchmark is backed by thousands of research hours and covers over 80 qualitative and quantitative metrics.

What do the grades mean?

The Exchange Benchmark ranks exchanges from AA-E. We classify a Top-Tier exchange as any in the AA-B bracket and Lower-Tier exchanges as those graded C-E. Exchanges in the Top-Tier meet our minimum threshold for acceptable risk.

What the grading is not

This grading does not connote overall superiority, instead it represents a means of ranking exchanges according to risk. The Exchange Benchmark does not serve as a guide to which platform is superior for trading, nor the reliability of reported volumes.

Including in this latest edition of the Benchmark is a new structure for the assessment of risk of Decentralised Exchanges. More can be found on page 28.

Addition of DEX Benchmark

Over the last four years, we have witnessed the exponential growth of decentralised finance (DeFi). During this time, numerous protocols have surfaced, allowing market participants to carry out asset transactions and other financial activities on-chain, such as borrowing and lending, yield strategies, employment of derivatives as hedging instruments, and more.

Decentralised Exchanges (DEXs) have been at the heart of this on-chain revolution and have cemented themselves as a core part of the digital asset ecosystem. Since 2020, trading activity on DEXs has skyrocketed, in certain instances surpassing volumes of Centralised Exchanges (**CEXs**). Many market participants now view DEXs as a viable alternative to CEXs with differing characteristics and value propositions. These include:

- Decentralised transactions, thereby avoiding counterparty risk
- No KYC/AML requirements, powering the idea of privacy in global finance
- On-chain transactions, allowing for full transparency of trading ecosystems
- Community-driven decision-making via governance voting
- Availability of an extensive list of assets, instruments, and investment opportunities

CryptoCompare has developed a thorough **DEX Benchmark** which assesses decentralised exchanges from a risk perspective, covering over 60 different metrics under the following areas:

- Security
- Community
- Transparency
- Governance
- Market Quality
- Incentives

What do the grades mean?

The DEX Benchmark ranks exchanges from AA-E. We classify a **Top-Tier** exchange as any in the **AA-B** bracket and **Lower-Tier** exchanges as those graded **C-E**. Exchanges in the Top-Tier meet our minimum threshold for acceptable risk.

CEX and DEX Scoring - Key Principles

CEXs and DEXs are inherently different marketplaces, as such, each group has been evaluated using distinct metrics. However, the framework behind each Benchmark is the same. Some key principles of this framework are outlined below:

- A set of **categories** have been devised which represent key risk areas which are relevant for CEXs or DEXs, and relate to their specific value proposition - these have been outlined in the prior two pages. Categories have weightings based on their relative risk importance - these weightings are decided at CryptoCompare's discretion, and may change in future editions of the Benchmark.
- Each category includes a range of **metrics** that can quantitatively or qualitatively measure the performance of an exchange. Metrics are then given points based on their importance within that category - again decided at CryptoCompare's discretion. These are outlined in pages 24 - 26 and 31 - 32 for CEXs and DEXs respectively.
- Points are aggregated within each category and are then scaled to the category weighting. Each category score is summed up to reach a total score. Given the relative advancement of CEXs, these have additional **thresholds** which if not met, will cap the maximum score of an exchange, regardless of the total score. These are outlined on page 18. The capped score is the **final score** received by the exchange.
- Exchanges are granted a **grade** given their final score, ranging from AA - F. The scores required for each grade are outlined on pages 18 and 19. The scores and grades across CEXs and DEXs are comparable, and the weaker performance of DEXs exemplifies their relative immaturity as an industry. We define 'Top-Tier' exchanges as those attained a grade B or higher, whereas those attaining a grade C or lower are considered 'Lower-Tier'. The grading brackets as well as the definition of 'Top-Tier' is subject to change given the developments of the industry.

Who are the Benchmarks for?



Exchanges looking to conduct thorough competitor analysis, understand industry trends and areas for competitive parity.



Funds looking to assess counterparty risk and opportunities in digital asset markets.



Exchange service providers such as insurers, custodians and compliance services who want to gain a better understanding of the industry and identify potential customers.



Regulators who are looking to develop policy, or better understand the global digital asset landscape.



Investors and Traders who want to identify the least risky venues for trading.

Get the Benchmark scores using our [API](#)

Find out More About [Custom Data](#)

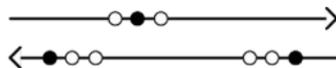
Thanks to Our Collaborators



CIPHERTRACE



Cryptocurrency
Compliance



Monitor Risky
Payments



Identify Money
Laundering



Travel Rule
Compliance



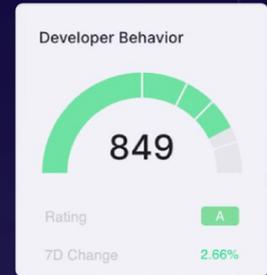
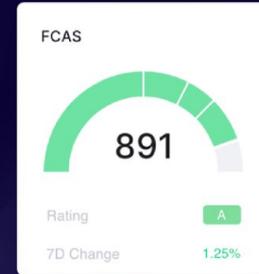
Investigate
Financial Crime

Learn more at www.ciphertrace.com

Proud to have FCAS as a core component of CryptoCompare's Exchange Benchmark

The Fundamental Crypto Asset Score (FCAS™) is a comparative metric used to assess the fundamental health of crypto projects. In this report it is being used to rate cryptocurrency exchanges based on the average score of the coins they offer.

[Flipsidecrypto.com](https://flipsidecrypto.com) →



Key Highlights

Key Highlights - CEXs

Digital asset exchanges receive updated scores and rankings. Coinbase, Bitstamp, and Gemini have received the highest scores in the latest Exchange Benchmark. However, Bitstamp was the only exchange to receive an AA CryptoCompare Grade after Coinbase and Gemini failed to meet all required thresholds, and thus received an A rating.

Top-Tier exchanges maintain volumes market share. The market share of Top-Tier exchanges marginally increased from 91% in the six-month period between September 2021 and February 2022 (based on the April 2022 rankings) to 92% in the six-month period between March 2022 and August 2022 (based on the new rankings).

8 new exchanges reach Top-Tier status. In this edition of the Benchmark, 86 exchanges met the threshold for Top-Tier status (vs 78 in April 2022 and 87 in August 2021). Meanwhile, 15 exchanges have received AA-A ratings, the same amount as in April 2022.

KYC practices significantly enhanced over the last 6 months. A total of 17 exchanges received a maximum score within the KYC category of the Benchmark, all of these being Top-Tier exchanges (rated B or above). Furthermore, only 21% of exchanges are now deemed to have inadequate KYC practices according to CipherTrace, a significant improvement from 35% in April 2022. This is in part due to the closure of poor, underperforming exchanges.

Security standards improve, but hacks remain an industry problem. 6% of exchanges have been hacked in the last year, an increase from 4% in April 2022. The increasing nature of hacks across centralised and decentralized exchanges is a major headwind for continued crypto adoption. However, exchanges are improving their security standards - 24% now hold a security certificate, while 56% of exchanges have a bug bounty program in place.

Market quality data availability grows. CryptoCompare now has a wide range of exchange market data, including both OHLCV and Order Book snapshots. This has meant a restructuring and improvement of Market Quality scores, which now includes Order Book metrics for 105 exchanges and OHLCV metrics for 118 exchanges.

The methodology and rankings themselves are free and transparent and serve as a tool for market participants to choose the lowest risk platforms. The underlying data and custom research is also available to those looking to gain deeper insights. For a deeper understanding of the methodology or underlying data requests, please get in touch by contacting us at research@cryptocompare.com

Key Highlights - DEXs

Decentralised exchanges receive first benchmark scores and rankings. Uniswap v3 has received the highest score in our first DEX Benchmark, and is the only DEX eligible for an A rating. Curve, Balancer, SushiSwap and dYdX also scored highly, achieving BB ratings.

Different protocols offering DEX-like services have been graded. We believe it is critical to differentiate between different types of DEXs to ensure protocols are not misconstrued following inclusion in this report. Graded protocols include:

- **Traditional DEXs:** Protocols that utilise smart contracts to facilitate peer-to-peer trading of digital assets
- **Stableswaps:** DEXs that primarily create markets for the trading of stablecoins
- **Aggregators:** Protocols which aggregate the liquidity of other DEXs to provide users with the best pricing for asset trading
- **Derivatives Trading:** Protocols which enable on-chain trading of derivative instruments

Security vulnerabilities remain prevalent in DEXs. 36.8% of the DEXs covered in the benchmark have been hacked previously, of these, 64.3% have been exploited in the last 12 months. 10 of the 14 DEXs that were hacked lost more than \$1,000,000 in their exploit.

DEXs exhibit high levels of inclusivity. DEXs have an average of 6.8 unique language channels on their Discord, thereby catering to a diverse group of users. Only 18.4% impose some type of restriction on their communities, such as token wallet blacklisting or geoblocking.

Audits Cover Majority of DEX Market. Of all assessed decentralised exchanges, 81.6% have been audited, with 93.5% of these being conducted by external auditors. Of these, 35.5% have been audited in the last 12 months.

DEXs need to provide better incentives to attract liquidity. Only 36.8% of graded DEXs allocated more than 0.25% of the trade amount as rewards for liquidity providers. Without the appropriate monetary incentives, participants may exit a liquidity pool leading to poor pricing and large trading costs for users. 34.2% of DEXs also impose certain penalties including withdrawal fees for removing liquidity from the platform.

The methodology and rankings themselves are free and transparent and serve as a tool for market participants to choose the lowest risk platforms. The underlying data and custom research is also available to those looking to gain deeper insights. For a deeper understanding of the methodology or underlying data requests, please get in touch by contacting us at research@cryptocompare.com

CEX Benchmark: New Metrics

Max Bug Bounties: The previous edition of the Exchange Benchmark included bug bounties, however, some exchanges provide inappropriate financial incentives to white hat hackers to identify security vulnerabilities. For this reason, exchanges that provide superior rewards to ethical hackers should be rewarded, as it incentivises the exploration of security issues and subsequently can lead to improved security for the exchange.

Customer Service: As more individuals enter the digital asset space, it is critical for exchanges to provide adequate customer services for users who may encounter issues with the platform, or who may be exposed to security risks. The type of customer service offered by exchanges varies extensively, and those that can guarantee superior attention to customer issues should be rewarded.

Market Maker Incentives: Operating with sufficient liquidity is an important objective that all exchanges should aim towards. A viable strategy for this is to provide market makers with specific incentives to attract liquidity to the exchange. We have thus considered whether exchanges offer a tailored market maker program in the Market Quality category.

Proof of Reserves: A Proof of Reserves (PoR) audit is a public attestation that an exchange holds a minimum amount of funds on its on-chain wallets that is equivalent or greater than the total amount of user balances, which should be considered a financial liability for an exchange. Through PoR attestations, exchanges are able to show that they are able to redeem user funds at any moment, and thus illustrate that funds are secure.

API Trading: Many market participants carry out automated trading strategies that submit trades via an exchange API. Exchanges that do not provide this functionality will be unable to attract advanced traders, who may prefer to interact with an exchange through coding scripts rather than via a traditional exchange user interface. As such, exchanges that offer API functionality are rewarded.

Flash Crashes: Using CryptoCompare OHLCV and trade data, we are able to identify when exchanges have suffered flash crashes, and more importantly, when trades have been carried out to exploit these crashes. Exchanges which have suffered flash crashes are penalised in the Market Quality category.

CEX Benchmark: Methodology Update

It is necessary that the risk assessment of exchanges continues to develop as financial regulators increase their scrutiny of the industry and a more diverse range of stakeholders enter the market. Because of this, the Exchange Benchmark Methodology has been updated to be more in line with the latest developments in the industry.

These changes include:

- Removal of participation in a Self-Regulated Organisation in the Legal/Regulation category, as we deem these to not have a significant impact on the regulatory stringency of an exchange.
- Deduction of points granted to Security Certificates, given ease of attaining certificates and high weighting on Security category.
- Removed differentiation between external and internal market surveillance systems, given the advanced nature of internal systems.
- Updated scoring of Institutional/Corporate offering, including consideration of retail offering. Now part of 'Team/Exchange' category.
- Deduction of points granted for the use of custody providers, given high weighting on Security category.
- Removed Funding/Investment sources from Team/Exchange category.
- Restructuring of Market Quality metric calculations and scoring. Removed Funding/Investment sources from Team/Exchange category.
- AA-A Thresholds now cap the maximum attainable score for an exchange, rather than update its final grade.

CEX Benchmark - Aggregation and Grading

Scores from each category are aggregated to form a total cumulative score. The **maximum score is 100**.

Minimum Threshold for AA-A Status

To ensure that only the lowest risk exchanges achieve AA - A status, we have created minimum thresholds across certain categories. These include:

- 60% or above for KYC/Transaction Risk, Security, Asset Quality/Diversity, and Legal/Regulatory (each is one threshold).
- 50% or above for Market Quality
- No negative penalties
- Green KYC and Interaction Risk Scores, in line with CipherTrace's transaction risk data

If an exchange breaches one threshold, their score is capped at 75 (i.e. an A ranking). If an exchange breaches two thresholds, their score is capped at 70 (i.e. a BB ranking).

Category	Maximum Points	Minimum Threshold
Security	17.5	10.5 (60%)
Legal/Regulation	17.5	10.5 (60%)
KYC/Transaction Risk	15	9 (60%)
Team/Company	10	-
Data Provision	15	-
Asset Quality/Diversity	5	3 (60%)
Market Quality	20	10 (50%)
Negative Penalty	-5	0
Total Cumulative Points Available	100	

Score	Grade
>75	AA
70 - 75	A
60-70	BB
45-60	B
35-45	C
20-35	D
10-20	E
<10	F

DEX Benchmark - Aggregation and Grading

Scores from each category are aggregated to form a total cumulative score. The **maximum score is 100**.

Category	Maximum Points
Security	25
Community	10
Transparency	15
Governance	15
Market Quality	25
Incentives	10
Total Cumulative Points Available	100

Score	Grade
>75	AA
70 - 75	A
60-70	BB
45-60	B
35-45	C
20-35	D
10-20	E
<10	F

Ranking Methodology Overview: CEXs

CEX Methodology Overview – Scope

Scope and Objectives

We combine over **80 qualitative and quantitative metrics** to assign a grade to **133 active spot exchanges**. Each metric is converted into a series of points based on clearly defined criteria. Metrics were categorised into several buckets and distributed fairly to arrive at a final robust score, ensuring that no one metric overly influences the overall exchange ranking.

Grading

A grading system was implemented to assign each exchange a grade (AA, A, BB, B, C, D, E, F) based on its total cumulative score out of 100. Top-Tier exchanges refer to those that have scored at least 45 points (B and above).

Minimum score thresholds are applied to AA and A ratings to ensure only the least risky exchanges are granted a top grade. If one or two thresholds are not met, an exchange's final score will be capped at 75 and 70 points respectively.

Market Quality

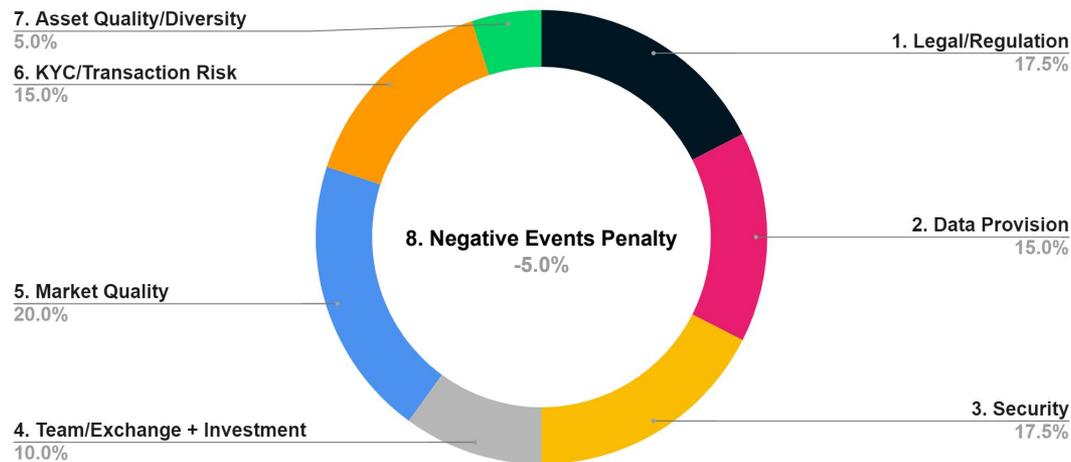
We measure the market quality of each exchange using a combination of volumes figures and 5 metrics (derived from trade and order book data) that aim to measure the cost to trade, liquidity, market stability, behaviour towards sentiment, and “natural” trading behaviour. Exchanges were rated based on a combination of each exchanges' top five markets by trading volume. Points were distributed via a proprietary math function that takes into account the aforementioned data. We then arrive at an overall ranking that is robust across several markets for each exchange.

**For further information on our methodologies, please contact research@cryptocompare.com*

CEX Methodology Overview - Ranking Components

The overall ranking consists of the following components and subsequent weightings:

1. Legal/Regulation
2. Data Provision
3. Security
4. Team/Exchange
5. Market Quality
6. KYC/Transaction Risk
7. Asset Quality/Diversity
8. Penalty Factor: Negative Events (-5%)



CEX Methodology Overview - Data Collection

Due Diligence

Time Period: 01 July 2022 - 31 August 2022

Sources: World Bank
 Transparency International
 LinkedIn Profiles
 Crunchbase Profiles
 Exchange Websites
 Github/Other API Documentation
 Companies House
 Media websites (Coindesk,
 Bloomberg)
 Various MSB Registries
 CipherTrace
 FlipsideCrypto

Method: Manual Data Collection, Exchange Due Diligence Form, Collaborators

Market Quality (Trade)

Time Period: 100 days prior to 3 October 2022

Sources: CryptoCompare Exchange OHLCV Data

Markets: BTC-USD, BTC-USDT, BTC-ETH, BTC-KRW, BTC-JPY,
 ETH-USD, ETH-USDT, ETH-KRW, ETH-JPY...+
 OTHER SIGNIFICANT FIAT MARKETS

Number of Exchanges: 100+

Market Quality(Order Book)

Time Period: 100 days prior to 3 October 2022

Sources: CryptoCompare Exchange Order Book Data

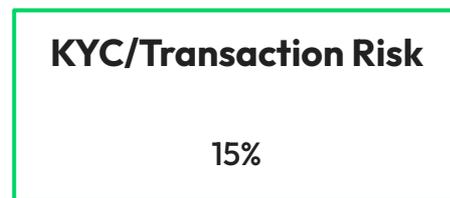
CEX Methodology Overview - Components I.



- Formal security certificate
- SSL rating
- Use of a cold wallet
- % funds in cold wallets
- Geographical distribution of keys
- 2FA
- Custody provider (regulated and audited)
- Hacks data
- Bug bounty programs (inc. max rewards)
- Proof of reserves



- Legal company name
- Registered as an MSB/licensed
- Part of regulatory/industry group
- Insurance against losses (fiat, crypto, self-insured)
- Country rating
- Cryptocurrency regulatory stringency
- Sanctions compliance statement
- PEP compliance statement
- Chief Compliance Officer + experience



- Has market surveillance system in place
- On-Chain transaction monitoring
- Strict KYC/AML procedures
- CipherTrace KYC score
- CipherTrace transaction risk score



CEX Methodology Overview - Components II.

Team/Exchange

10%



- Identity of CEO, CTO, COO, CFO, CCO, CISO (or equivalent)
- Education - Masters degree/formal post-graduate certification
- Experience in years
- Exchange age since launch
- Volume per staff
- Customer service
- Institutional/corporate/retail offering

Data Provision

15%



- API average response time (ms)
- Ability to query historical trades
- Historical candlestick data
- Granularity of candlestick data
- Offers websocket connection or FIX connection
- Provides order book API endpoint
- Maximum order book level offered
- API rate limits
- Ease of API use
- API data quality
- API trading

Asset Quality/Diversity

5%



- Average asset quality based on Fundamental Crypto Asset Scores (FCAS) by Flipside Crypto
- Number of assets available on the platform



CEX Methodology Overview - Components III.

Market Quality

20%



- Market cost to trade (average spread)
- Liquidity (average depth)
- Stability (minute volatility)
- Behaviour towards sentiment (volatility and volume correlation)
- Natural trading behaviour (volume standard deviation)
- Average monthly volumes
- Market maker incentives
- Flash crashes

Negative Events

Penalty Factor - 5%



- Negative events
- Type of negative event (cata breach, flash crash, major or minor fine, withdrawal freezes, lawsuits, others)

Ranking Methodology Overview: DEXs

DEX Methodology Overview – Scope

Scope and Objectives

We combine over **60 qualitative and quantitative metrics** to assign a grade to **38 active decentralised exchanges**. This includes DeFi protocols which may not solely act as decentralised exchanges, but provide similar services, such as DEX Aggregators.

Each metric is converted into a series of points based on clearly defined criteria. Metrics are grouped into several categories, where category weighting is based on relative importance to the risk of an exchange. ‘Risk’ includes but is not limited to security risks, execution risks, management risks, and more.

Grading

A grading system was implemented to assign each exchange a final grade (AA, A, BB, B, C) based on its total cumulative score out of 100. **Top-Tier** exchanges refer to those that have scored at least 45 points (BB and above).

Market Quality

We measure the market quality of each decentralised exchange using four distinct type of metrics, outlined below:

1. **Macro-Liquidity Measures:** Includes top level metrics that assess liquidity, including the innovative nature of the DEX’s pricing function, daily active wallets, and trade execution time
2. **Volumes:** Trading volumes are a simple yet effective way to gauge at a DEX’s liquidity and ability to absorb and manage high levels of activity
3. **Total Value Locked (TVL):** Many DEXs provide liquidity to users via decentralised Liquidity Pools, whose size is measured by TVL.
4. **Pools:** We assess the concentration of individual liquidity pools in the context of the entire DEX, to evaluate whether liquidity is sufficient across all markets offered by the exchange.

**For further information on our methodologies, please contact research@cryptocompare.com*

Methodology Overview - Ranking Components

The overall ranking consists of the following components and subsequent weightings:

- 1. Security
- 2. Liquidity
- 3. Transparency
- 4. Governance
- 5. Community



DEX Methodology Overview - Data Collection

Due Diligence

Time Period: 01 July 2022 - 30 September 2022

Sources: DEX Documentation
Public News Articles
Web3 Bug Bounty Platforms
Web3 Audits
Github
SimilarWeb Traffic Analytics
Discord
LinkedIn
PitchBook
Product Whitepapers
CryptoCompare Data

Market Quality Metrics

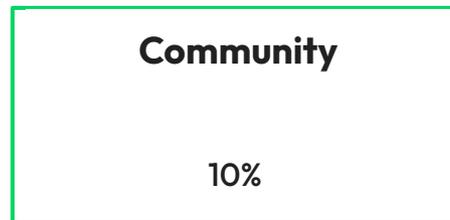
Time Period: September 2022

Sources: Blockchain Nodes

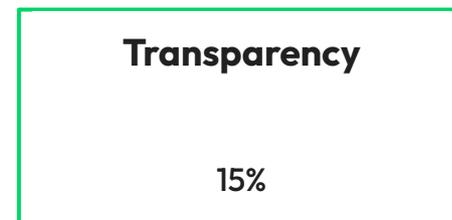
Methodology Overview - Components I.



- Has been hacked, recent hacks
- Number of hacks (within 2 years)
- Value of funds lost in hacks
- Value/TVL
- Bug bounty and max payment
- Type of bug bounty payment
- Identification requirement
- Suspicious activity
- Audits, months since last audit
- DEX downtime
- DeFiSafety security & testing practices scores



- On-site translation (multi-lingual support)
- No. of language discord channels
- Web traffic
- Bounce rate
- Average pages per visit
- Average visit duration
- Github statistics
- Community fund
- Community restrictions



- Public founder/CEO
- Crypto experience of CEO
- Other relevant experience (e.g. no. of crypto projects launched)
- VC Investment
- Known angel investors
- No. of investors
- Latest funding stage
- Total funding known
- Public vesting periods
- Min/Max vesting periods
- DeFiSafety transparency score



Methodology Overview - Components II.

Governance

15%



- Governance token (GT)/GT in roadmap
- Closed voting proposals
- Proposal approval rate
- Theoretical top 10 wallet voting power
- Top 10 wallet voting power (ex-team)
- Average voter turnout
- Clarity of voter rights
- Minimum required voter turnout

Market Quality*

25%



- Pricing function
- Unique developments
- 6-month average daily volume
- 6-month average TVL
- Largest liquidity pool concentration
- Top 10 liquidity pool concentration
- Liquidity pools size
- Market cap: TVL ratio
- Daily active users
- Average trade execution time

**Given the necessity of node connectivity to obtain Market Quality data, some metrics were not available for a limited number of DEXs in the Benchmark*

Results: CEXs

CEX Ranking Toplist

Get the Benchmark scores using our [API](#)

Explore the [full ranking](#) on our Benchmark Dashboard

Exchange	KYC/Transaction Risk	Quality/Diversity of Assets	Legal/Regulation	Data Provision	Security	Team/Exchange	Negative Events	Market Quality	Final Score	Final Grade
Bitstamp	15.0	4.8	12.7	14.1	11.7	8.0	0.0	11.4	77.68	AA
Coinbase	15.0	4.3	14.9	13.2	15.0	9.7	-5.0	15.7	75.00	A
Gemini	15.0	5.0	13.6	12.0	9.3	7.4	0.0	13.3	75.00	A
LMAX Digital	15.0	4.3	13.6	8.6	11.4	7.9	0.0	13.5	74.31	A
Binance	13.5	3.5	12.7	13.4	12.9	6.0	-5.0	16.7	73.68	A
Kraken	9.8	4.3	14.4	8.7	14.2	9.5	0.0	12.8	73.61	A
FTX	13.5	5.0	6.6	14.1	11.8	6.8	0.0	15.5	73.22	A
Luno	11.3	4.0	17.5	11.6	12.5	7.8	0.0	8.4	72.97	A
itBit	13.5	4.3	12.3	12.0	13.6	5.3	0.0	11.2	72.16	A
Cex.io	15.0	4.3	11.8	11.6	12.1	8.2	0.0	8.2	71.09	A
Bitbank	12.8	4.5	13.1	10.2	11.7	5.3	0.0	13.3	70.92	A
Binance US	15.0	5.0	14.0	11.1	9.3	3.8	0.0	12.4	70.69	A
Bitfinex	15.0	3.5	8.8	11.8	11.8	7.4	0.0	12.1	70.34	A
Currency.com	12.3	4.8	12.3	9.7	12.4	7.2	0.0	11.7	70.32	A
bullish	15.0	4.3	13.6	8.4	11.4	6.0	0.0	11.5	70.09	A
FTX US	15.0	4.5	13.1	12.0	10.4	4.6	-1.0	14.5	70.00	BB
crypto.com	15.0	4.3	15.3	12.7	8.6	7.2	-3.0	12.5	70.00	BB
Bitthumb Korea	15.0	3.5	12.7	13.0	8.6	5.7	0.0	11.6	70.00	BB
eToroX	15.0	5.0	12.3	8.9	12.5	7.9	0.0	8.2	69.72	BB
CrossTower	13.5	4.5	11.4	13.0	12.1	5.0	0.0	10.2	69.69	BB

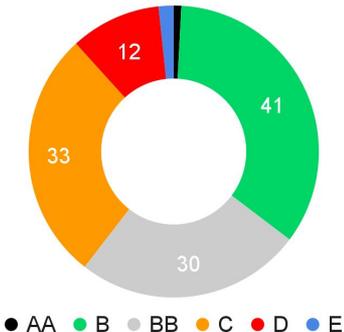
Top-Tier CEX Volumes - Grades B and Above

CryptoCompare has established the notion of **Top-Tier volume** whereby investors can segment the market into higher and lower risk volumes.

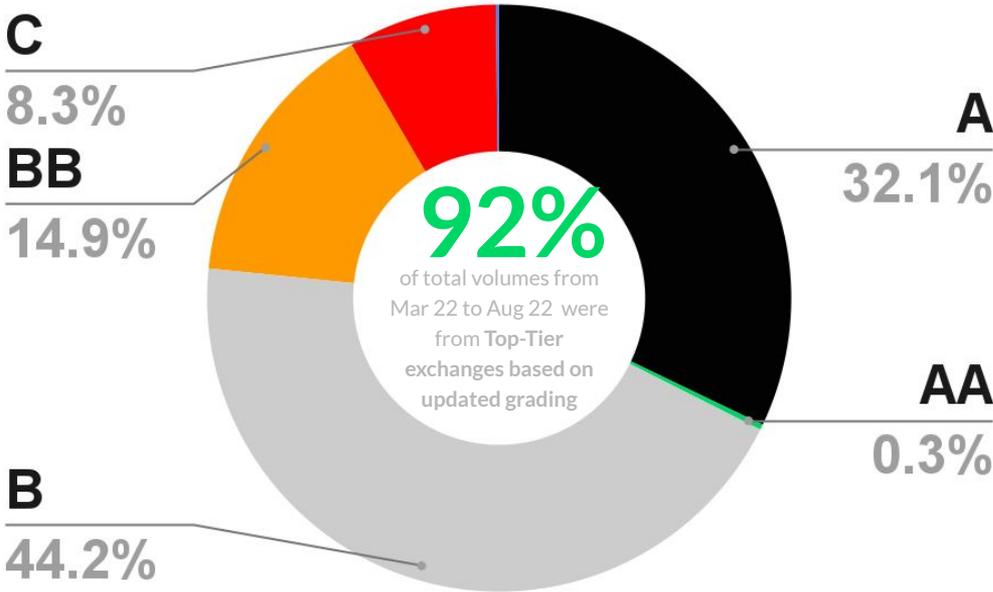
We currently define Top-Tier volume as volume derived from exchanges scoring a B and above.

This equates to a total of **86 exchanges** (vs 78 in Apr 2022 and 87 in Aug 2021) that we have rated **Top-Tier** for the current review.

Exchange Count per Grade



Average Monthly Volume per Grade



CEX News: Significant Staff Layoffs

A major theme over the last 6 months in the digital asset exchange industry has been the abundance of significant staff layoffs. As the industry adapts to a bear market environment, multiple exchanges have reacted by leaning out their workforce. We believe it is difficult to draw out simple conclusions from such layoffs. Some exchanges will have done so in order to keep financially afloat, whereas others may have made the decision preemptively ahead of a potential years-long bear market. Regardless, we believe significant staff layoffs will accelerate the consolidation of the industry towards an oligopoly of dominant, top tier exchanges.

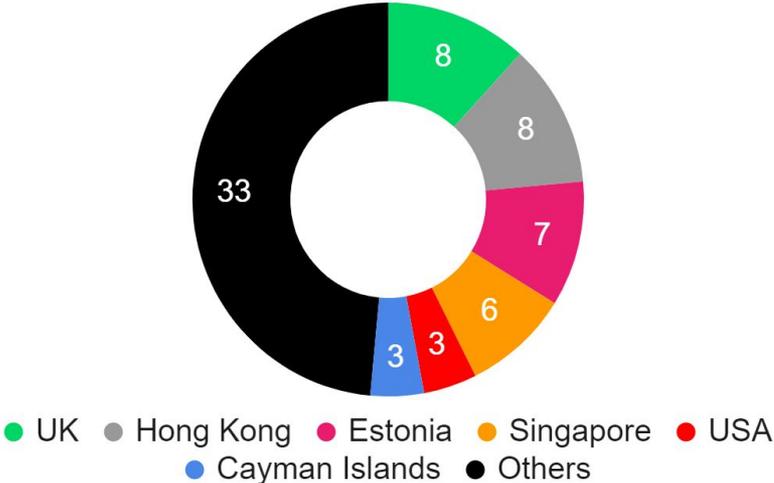
Exchange	News	Date
Bitso	Top Latin American Crypto Exchange Bitso Lays Off 80 Employees	26 May, 2022
Coinbase	Coinbase lays off 18% of its workforce. The CEO cites an upcoming crypto winter	14 June, 2022
Gemini	Crypto exchange Gemini executes second round of layoffs less than two months after axing 10% of staff	18 July, 2022
HuobiPro	Huobi Global Could Cut Over 30% of Workforce as China Crackdown Leads to Fall in Revenue	28 June, 2022
CoinFlex	CoinFLEX announces staff cuts as part of measures to reduce costs by up to 60%	29 July, 2022
Blockchain.com	Crypto startup Blockchain.com lays off 25% of staff as 3AC fallout spreads	21 July, 2022
Bullish	Bullish Joins Rival Crypto Exchanges in Cutting Workforce: Report	06 July, 2022
Bitpanda	Austrian exchange Bitpanda lays off 30% of staff, says it expanded too fast	01 July, 2022
Crypto.com	Crypto.com laid off 260 employees - then quietly let go of hundreds more	18 August, 2022

CEX Industry Consolidation Continues

In the April 2022 edition of the Exchange Benchmark, we highlighted the vast consolidation taken place in the industry; at the time, 54 exchanges had shut down since June 2019. This trend has continued over the summer of 2022, with 14 more exchanges that were previously ranked in the Exchange Benchmark ceasing operations.

The 68 exchanges that have shut down over the past three years are relatively distributed across geographies, however a multitude were registered in the United Kingdom, Hong Kong, and Estonia.

Shutdowns by Jurisdiction



Results: DEXs

DEX Ranking Toplist

Get the Benchmark scores using our [API](#)

Explore the [full ranking](#) on our Benchmark Dashboard

Exchange Name	Security	Community	Transparency	Governance	Liquidity	Incentives	Final Score	Final Rank	Grade
Uniswap	11.6	22.6	14.2	6.4	16.5	13.0	72.4	1	A
Curve	11.6	18.0	12.2	8.4	14.6	8.6	65.2	2	BB
Balancer	13.8	11.6	14.4	8.4	11.3	7.8	61.7	3	BB
dYdX	15.0	12.2	15.6	8.4	7.2	12.0	61.3	4	BB
SushiSwap	9.4	25.2	7.8	9.4	11.0	8.6	58.6	5	B
1inch	14.0	13.0	13.6	8.4	6.5	12.8	58.4	6	B
LoopRing	13.0	20.2	11.8	5.0	5.5	11.6	54.8	7	B
GMX	15.8	13.6	5.8	4.0	10.2	7.2	53.2	8	B
Ref Finance	13.0	11.6	13.8	5.0	7.3	8.8	52.6	9	B
Osmosis	8.8	23.0	9.6	9.4	7.8	5.8	52.4	10	B
PancakeSwap	11.0	19.6	1.4	6.2	13.5	4.2	51.2	11	B
Saber	12.8	14.6	4.2	7.4	8.0	7.8	48.6	12	B
Bancor	11.2	9.2	10.2	8.2	7.7	4.2	46.8	13	B
Platypus Finance	14.8	11.0	5.6	3.0	8.8	5.4	46.8	13	B
Saddle Finance	11.0	12.0	12.8	6.2	4.3	9.4	46.7	15	B

DEX

Stableswap

Derivatives Trading

Aggregator

DEXs - Liquidity

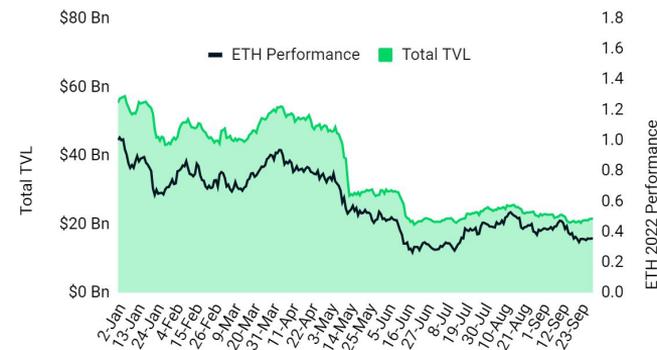
When looking at the **Average Daily Volumes (ADV)** of AA, A, and BB ranked CEXs and DEXs, it is clear that DEX market share is still limited. Uniswap, the highest ranked and most active DEX, averages \$1.32bn in daily volume, ranking 8th when compared to the entire AA-BB exchange universe. dYdX, PancakeSwap, and Curve are the other three DEXs with a BB rating or higher - they sit at 11th, 16th, and 17th with an ADV of \$1.04bn, \$420mn and \$352mn respectively.

This suggests that there is still great opportunity for expansion for decentralised exchanges. As the DeFi space continues to grow over the next few years, we expect their volumes to rise relative to CEXs as their value proposition becomes more evident and important risks are addressed.

Total Value Locked (TVL) quantifies the funds locked into DEX liquidity provision via smart contracts. In \$ terms, the TVL of 33 DEXs assessed in the Benchmark has fallen 60.8% from the start of the year to the end of September, closing Q3 at \$21.7bn.

TVL among DEXs has thus not fallen at the same pace as ETH or other tokens, with the largest smart contract token falling 64.7% in the same period. This suggests that TVL is sticky - market participants are content to hold funds in DEXs which generate yield, a positive sign for the future of the industry as DEX activity will likely be maintained throughout this bear market.

Rank	Exchange	ADV (Mar-Aug)	Type	Grade
1	Binance	\$15013 Mn	CEX	A
2	OKX	\$2271 Mn	CEX	BB
3	Coinbase	\$2190 Mn	CEX	A
4	ftx	\$2017 Mn	CEX	A
5	bequant	\$1544 Mn	CEX	BB
6	HuobiPro	\$1363 Mn	CEX	BB
7	Upbit	\$1320 Mn	CEX	BB
8	Uniswap	\$1316 Mn	DEX	A
9	aax	\$1314 Mn	CEX	BB
10	Gateio	\$1099 Mn	CEX	BB



DEXs - Security/Hacks

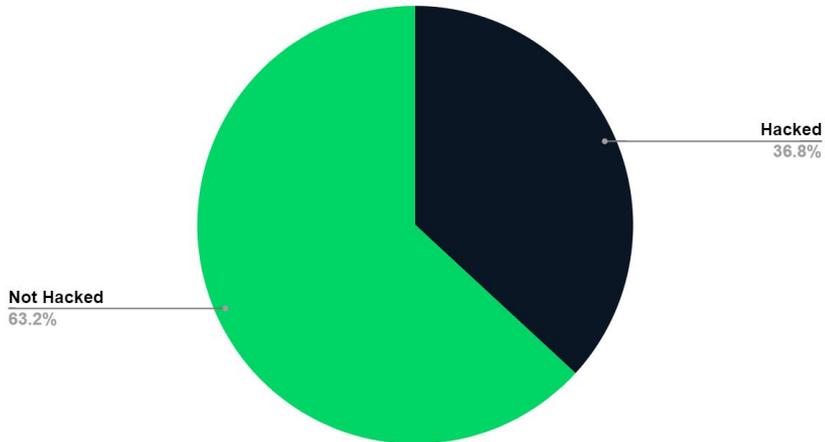
A total of 14 of the 38 Decentralised Exchanges under consideration have been hacked previously. 8 of these exchanges were exploited in the last year. Worryingly, 10 of the hacked exchanges lost more than \$1,000,000 in the exploit.

DEXs tend to be more prone to security breaches than centralised exchanges due to the infancy of the industry. While a major benefit of decentralised exchanges is the transparency of transactions, such transparency comes with inherent risks - deployed smart contracts are publicly available for anyone to see, and errors or vulnerabilities in the code can be exploited by hackers.

It is encouraging that 81.6% of the decentralised exchanges have performed an external audit to minimize the risks of smart contract exploits. However, only 57.9% of the DEXs have a bug bounty program to attract whitehat hackers and bounty hunters.

Security as a whole should be at the forefront of priorities for DEXs and the rest of DeFi if the onboarding of millions of users is to continue in the coming years.

% of DEXs Hacked



Category Stats: CEX

Regulation/Legal

3%

of exchanges do not openly reveal the **legal entities** associated with their exchange (vs 3% in Apr 2022 and 5% in Aug 21)

45%

of exchanges are registered as an **MSB or possess a crypto exchange license** (vs 41% in Apr 2022 and 36% in Aug 2021)

21%

of exchanges formally offer some form of **cryptocurrency insurance** (vs 11% in Apr 2022 and 10% in Aug 2021)

9%

of exchanges claim to **informally insure** users in the case of breach (insurance fund) - (vs 7% in Apr 2022 and 9% in Aug 2021)



KYC/Transaction Risk

29%

of exchanges use an external **on-chain transaction monitoring** provider (vs 27% in Apr 2022 and 25% in Aug 2021)

65%

of exchanges impose **strict ID verification** requirements on users (vs 60% in Apr 2022 and 64% in Aug 2021)

10%

of exchanges were found to send funds to **higher risk entities** for more than 4% (High Risk Range) of transactions according to **CipherTrace** (vs 27% in Apr 2022 and 25% in Aug 2021)

ONLY 11%

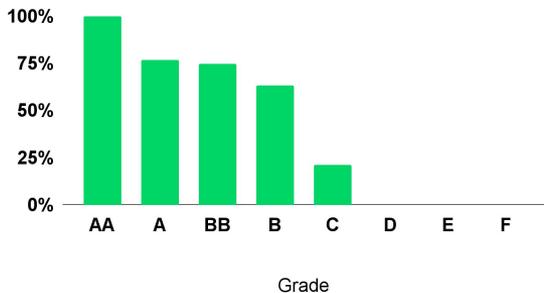
of exchanges formally engage with an external **trade monitoring provider** (vs 7% in Apr 2022 and 6% in Aug 2021)

21%

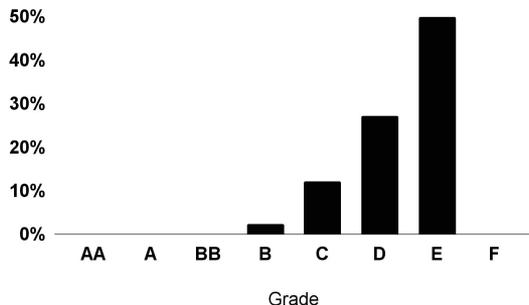
of exchanges were rated as having **poor or inadequate KYC** programs according to **CipherTrace** (vs 35% in Apr 2022 and 34% in Aug 2021)

*These metrics have been sourced using CipherTrace's proprietary risk assessment dataset.

% Exchanges with KYC Procedures rated "Green"



% Exchanges with High Interaction Risk



Security

6%

of exchanges have been hacked in the last year (vs 4% in Apr 2022 and 2% in Aug 2021)

24%

of exchanges possess an ISO 27001 or SOC2 certificate or similar (vs 15% in Apr 2022 and 13% in Aug 2021)

26%

of exchanges utilise the services of a custody provider to store user assets (vs 24% in Apr 2022 and 23% in Aug 2021)

23%

of exchanges state they **hold more than 95%** of crypto in cold wallets (vs 27% in Aug 2021 and 20% in Feb 2021)

100%

of exchanges offer 2-factor authentication (vs 99% in Apr 2022 and 95% in Aug 2021)

Data Provision

72%

of exchanges provide historical candlestick data (vs 71% in Apr 2022 and 68% in Aug 2021)

91%

of exchanges that provide historical candlestick data, offer at least **a minimum of minute granularity** (vs 92% in Apr 2022 and 91% in Aug 2021)

59%

of exchanges offer the ability to **query full historical trade data** via an API endpoint (vs 52% in Apr 2022 and 47% in Aug 2021)

72%

of exchanges **offer a websocket data feed** that users can subscribe to (vs 66% in Apr 2022 and 64% in Aug 2021)

91%

of exchanges offer **at least a level 2 order book** via REST or Websocket connection (vs 87% in Apr 2022 and 80% in Aug 2021)

11%

of exchanges offer **a full level 3 order book** via REST or Websocket connection (vs 10% in Apr 2022 and 7% in Aug 2021)

18%

of exchanges have pushed some form of **error prone data or unannounced updates** via their REST API or Websocket data feeds (vs 16% in Apr 2022 and 15% in Aug 2021)

Transparency, ease of access, and data quality are important foundations for a fair and efficient marketplace

Category Stats: DEX

Security

36.8%

of decentralised exchanges have been hacked.

71.4%

of the exchanges that have been hacked lost more than \$1,000,000

57.9%

of the decentralised exchanges run a bug bounty program. Only 5 of the 19 exchanges pay in either fiat or stablecoins.

81.6%

of the decentralized exchanges have performed an audit. All of them has been an external audit.

64.0%

of audited decentralised exchanges had their audit within the past twelve months.

Trading Incentives

65.8%

of the decentralised exchanges have a vesting scheme for the initial allocation of team members.

88.0%

of the DEXs that have vesting scheme for team members has a lockup period of more than 2 years.

39.5%

of the DEXs have a vesting scheme for the initial allocation of private investors.

36.8%

of the DEX's provided more than 0.25% of the trading fees as reward for liquidity providers.

36.8%

of the DEXs impose penalties on users for withdrawing liquidity. 14.3% of them have multiple penalties for liquidity withdrawals.

Community

2.5M

Is the average total monthly visits to the decentralised exchanges Websites

55.3%

of the DEXs use multiple languages catered for their community with an average of 12 languages.

63.2%

of the DEXs have committed 100+ changes to their code on Github.

81.6%

of the DEX's has funds dedicated to their communities for incentivizes and engagements purposes

18.4%

of the DEXs impose restrictions on Users such as blacklistings to users wallets and Geoblocking

Governance

63.2%

Of DEXs have a governance token in place

36.8%

Of DEXs had over 50 voting proposals in the first 8 months of the year

86.2%

Of all voting proposals submitted were approved by DEX token holders

64.5%

Of DEXs with a governance token in place or in their roadmap have appropriate voter right documentation

45.8%

Of DEXs with a governance token in place have a minimum voter turnout for votes to go through

Contact

The Exchange Benchmarks are backed by thousands of research hours and cover over 160 qualitative and quantitative metrics across both Benchmark methodologies. Updated twice annually to reflect the fast-changing digital asset landscape, we work hard to ensure the accuracy of all the data comprising this report. If there is any part of the Benchmarks that you would like to discuss, please reach out to us.

Speak to us if you are interested in any of the following:



Custom Reporting



Detailed Benchmark Scores



Underlying Data

CryptoCompare Research

research@cryptocompare.com

Team

Anthony Ede

David Moreno Darocas

Hosam Mahmoud

Jacob Joseph

James Webb

Get the Benchmark scores using our [API](#)

Disclaimer

The content found in this Report is for informational purposes only, you should not construe any such information or other material as legal, tax, investment, financial, or other advice.

This Report contains the proprietary information of CryptoCompare and its partners, including but not limited to CipherTrace, Flipside Crypto, and others. It is intended to be used internally within your organization and by receiving this information, you agree that except with the prior written permission of CryptoCompare and its partners, such information shall not be used for any unauthorized purpose and shall not be published or disclosed by you to third parties, in whole or part.

The information contained in this Report, including all forecasts and projections, are provided to you on an "AS IS" basis for use at your own risk. CryptoCompare and its partners will not be responsible for any action you take as a result of this Report or any inaccuracies, inconsistencies, formatting errors, or omissions in this Report. CryptoCompare and its partners make no representations or warranties, express or implied, as to the accuracy or completeness of the information contained herein, and will not have any liability to you or any other person resulting from the use of such information by you or any of your representatives.