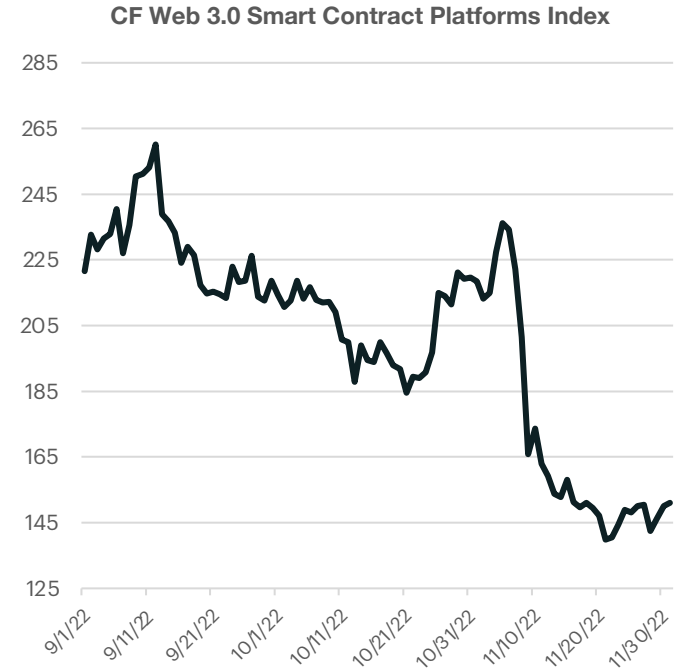


CF Web 3.0 Smart Contract Platforms Index

QUARTERLY ATTRIBUTION ANALYSIS

The CF Web 3.0 Smart Contract Platforms Index

The CF Web 3.0 Smart Contract Platforms Index - is a liquid, investible benchmark portfolio index that tracks the return performance of Smart Contract Platforms within the Digital Asset space. The index seeks to capture returns of all eligible protocols under the Settlement category and Programmable sub-category of the CF Digital Asset Classification Structure (DACs). Index constituents are weighted using a capped free-float market capitalization in accordance with the CF Digital Asset Series Ground Rules and the index methodology. The index is calculated and published once a day at 4:00 pm London Time. It is reconstituted on a twice yearly basis and rebalanced quarterly. The CF Web 3.0 Smart Contract Platforms Index was inceptioned on December 1st 2021 with a value of 1,000. The index was launched on June 28th, all values from inception date to launch date provided are backtested.



Source: CF Benchmarks LTD., Bloomberg LP, as of December 1st, 2022

Programmable protocols flatline

Another exogenous shock has led crypto markets lower over the last rebalancing period as one of the world's largest exchanges surprisingly filed for bankruptcy. The CF Web 3.0 Smart Contract Index was particularly vulnerable due to its exposure to Solana Index, sending the index over 31% lower. The bear market that began earlier this year has only intensified after each over-levered institution or organization collapses. These failures have had a cascading impact on the overall asset class, with the falling prices of crypto markets sparking an industry deleveraging exercise, spreading contagion that leads to even further discounting of crypto assets.

Regarding the macroenvironment, risk sentiment has begun to look toward an eventual pivot or slowdown in monetary tightening. The most recent inflationary trends indicate that headline pricing pressures may have peaked in June. This dynamic is expected to be supportive of crypto markets, which face particularly pronounced headwinds from a rising interest rate environment. However, core inflation is likely to be more difficult to tame and the overall level of inflation is likely to remain above any acceptable threshold for some time. This has left crypto market participants in limbo when trying to balance the improving data on the inflation side and spill over impacts from the latest fallout of a major market player.

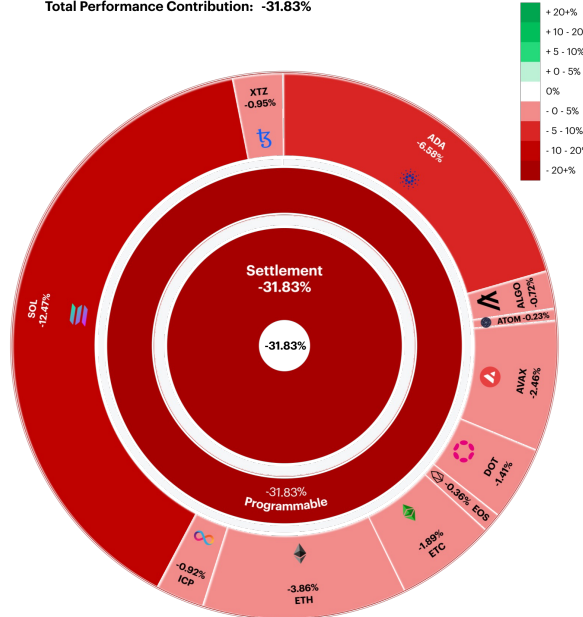
Index Weights

Total Weight: 100%
Index Value: 151.07



Index Return Contribution

Total Performance Contribution: -31.83%



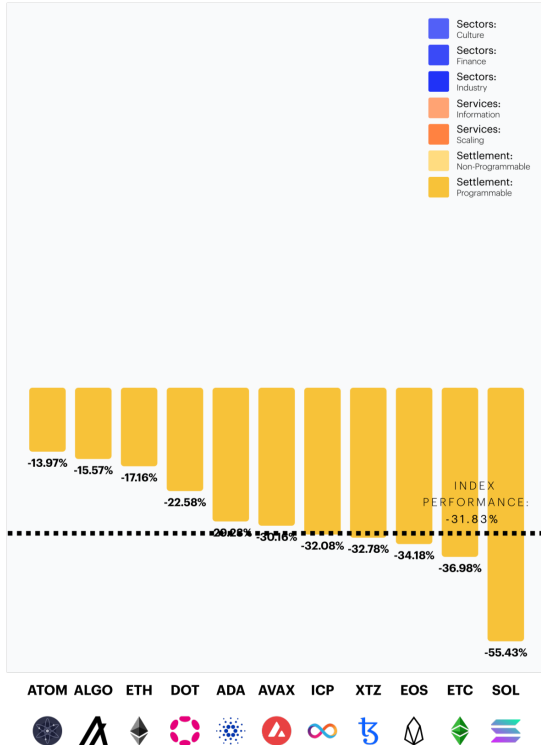
'Heavyweight Solana' bites Smart Contracts

The higher weighting of Solana (SOL), coupled with weak performance, led to a pronounced drag on our Smart Contract Platforms Index. The total negative contribution of SOL for the rebalance period was almost 40% of the index's total -31.8% decline.

ATOM continued to perform in a relatively defensive manner, providing the smallest negative performance contribution on the portfolio index.

Absolute Performance

Index Performance: -31.83%



ATOM’s relative momentum intact

Cosmos' native token, ATOM remained the relative outperformer for the second straight period. The “internet of blockchains” token has continued to display lower pricing volatility when compared to the parent index. ETH and ALGO also displayed defensive performance for smart contract investors, each falling approximately half as much in relative terms vs. the index.

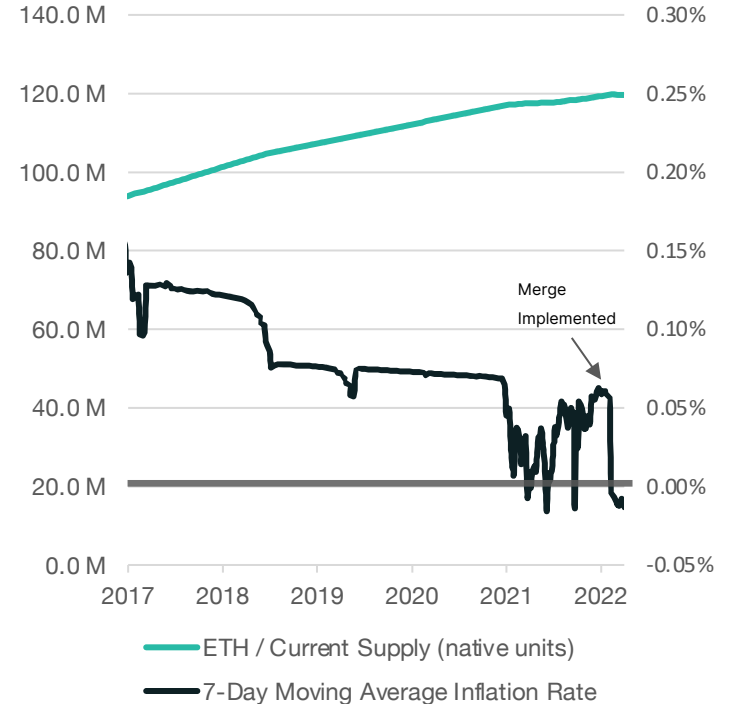
Solana (SOL) prices fell -55.4%, finishing the rebalance period as the worst performer. The Ethereum competitor saw steep price declines due to the fallout of FTX/Alameda where it was reported that the Solana foundation had significant exposure to the now defunct crypto exchange. SOL now trades over 90% lower from its November peak.

ETH 2.0's improved tokenomics

Following the recent September upgrade to the Ethereum blockchain, the world's most popular programmable token has seen a shift in its inflationary dynamic. ETH inflation has historically been persistently positive; even after last year's rollout of the EIP-1559 burn mechanism update in August. The 7-day moving average inflation rate has been approximately +0.035% since the EIP-1559 rollout to mid-September 2022.

It now seems that ETH 2.0's new tokenomics and the shift to a proof-of-stake protocol is likely to keep burn rates elevated. This has been especially true after the recent collapse of FTX. According to some estimates, over 53,000 ETH has been burned over the past 30 days, with a large portion of the burn happening immediately after the fallout. This has led to another technical catalyst for ETH going forward.

ETH's deflationary trend



Source: CF Benchmarks LTD., coinmetrics.io, as of December 1st, 2022

Appendix: Market Performance Overview

Major Crypto-Pairs (USD)

Name	1 Day	1 Week	1 Month	QTD	YTD	90 D Volatility
Bitcoin	3.9%	3.8%	-16.2%	-15.3%	-63.1%	55.33
Ethereum	6.4%	10.9%	-17.1%	-17.4%	-64.8%	69.65
XRP	2.7%	8.2%	-10.2%	24.0%	-50.5%	81.54
Litecoin	2.3%	0.5%	43.3%	43.4%	-46.3%	77.95
Dash	-0.1%	-0.7%	3.5%	-4.3%	-67.8%	75.00
Zcash	9.1%	1.4%	-16.4%	-27.8%	-70.0%	75.36
Solana	3.2%	-2.1%	-57.5%	-57.0%	-91.9%	146.15
Avalanche	4.5%	2.1%	-31.0%	-32.7%	-88.1%	78.74
Polkadot	2.8%	1.0%	-17.6%	-23.1%	-79.5%	60.36
Doge	2.4%	29.6%	-16.3%	66.0%	-40.1%	106.79
Polygon	10.2%	9.4%	3.1%	11.0%	-63.2%	108.62
Chainlink	1.4%	15.7%	-6.9%	9.7%	-63.6%	77.85
Uniswap	6.8%	6.8%	-15.3%	-6.0%	-65.7%	84.26
Algorand	3.2%	1.8%	-30.6%	-15.1%	-85.1%	92.94
Cardano	1.7%	0.5%	-22.0%	-31.5%	-76.7%	50.52
Maker	2.4%	1.5%	-26.1%	-14.5%	-71.6%	87.35
Aave	6.9%	13.7%	-21.0%	-23.5%	-74.2%	78.34
Curve DAO Token	0.4%	-3.1%	-23.7%	-42.1%	-87.4%	112.57
Axie Infinity	1.9%	1.5%	-24.5%	-52.1%	-89.1%	83.03

Commodities

Name	1 Day	1 Week	1 Month	QTD	YTD	90 D Volatility
Bloomberg Commodity Index	0.8%	-0.4%	2.4%	17.0%	17.0%	19.61
Bloomberg Energy Subindex	0.4%	-2.8%	-1.1%	52.6%	52.6%	37.18
Bloomberg Industrial Metals Su	2.7%	3.4%	14.1%	-6.1%	-6.1%	29.67
Bloomberg Precious Metals Subi	0.2%	0.3%	7.9%	-6.9%	-6.9%	19.61
Bloomberg WTI Crude Oil Subind	3.0%	3.3%	-5.7%	23.1%	23.1%	41.71
Bloomberg Gold Subindex Total	-0.2%	0.1%	6.8%	-4.7%	-4.7%	15.88

Equities

Name	1 Day	1 Week	1 Month	QTD	YTD	90 D Volatility
S&P 500 INDEX	3.1%	1.4%	5.6%	-13.1%	-13.1%	25.12
NASDAQ 100 Stock Index	4.6%	1.6%	5.6%	-25.7%	-25.7%	31.87
FTSE 100 Index	0.8%	1.6%	7.1%	6.1%	6.1%	12.72
MSCI Europe Index	0.7%	0.5%	6.9%	-5.7%	-5.7%	15.83
MSCI Japan Index	-0.3%	-0.5%	2.9%	1.1%	1.1%	17.01
MSCI Emerging Markets Index	2.0%	4.3%	14.8%	-18.7%	-18.7%	20.55
MSCI World Index	2.2%	0.9%	7.0%	-14.1%	-14.1%	21.94
MSCI ACWI Index	2.2%	1.3%	7.8%	-14.6%	-14.6%	20.27

Fixed Income

Name	1 Day	1 Week	1 Month	QTD	YTD	90 D Volatility
Bloomberg Global-Aggregate Bond Index	0.0%	-0.2%	4.7%	-16.7%	-16.7%	9.43
Bloomberg Global Agg Credit Index	0.2%	0.0%	5.4%	-17.1%	-17.1%	9.59
Bloomberg Global High Yield Index	0.3%	0.5%	5.0%	-13.3%	-13.3%	8.95
Bloomberg US Long Treasury Bond Index	0.7%	-0.3%	7.1%	-28.0%	-28.0%	19.88
Bloomberg US Short Term Treasury Index	0.0%	0.1%	0.3%	-0.5%	-0.5%	0.51
Bloomberg Global Inflation-Linked Index	1.4%	0.7%	1.8%	-10.9%	-10.9%	9.33

Fiat Currency Pairs

Name	1 Day	1 Week	1 Month	QTD	YTD	90 D Volatility
DOLLAR INDEX SPOT	-0.8%	-0.1%	-5.0%	-2.5%	10.7%	11.92
EURO/US DOLLAR	0.7%	0.1%	5.3%	3.5%	-8.5%	12.04
BRITISH POUND/US DOLLAR	0.9%	0.0%	5.1%	3.8%	-10.9%	16.81
JAPANESE YEN/US DOLLAR	0.4%	1.1%	7.7%	0.7%	-16.6%	13.33
US DOLLAR/SWISS FRANC	-0.8%	0.3%	-5.6%	-3.3%	3.6%	11.18
AUSTRALIAN DOLLAR/US DOLLAR	1.5%	0.8%	6.1%	-0.8%	-6.5%	16.04
MEXICAN PESO/US DOLLAR	-0.2%	0.5%	2.8%	4.5%	6.5%	9.43
BRAZIL REAL/US DOLLAR	1.7%	3.1%	-0.3%	-0.2%	7.3%	20.42
US DOLLAR/SINGAPORE DOLLAR	-0.9%	-1.1%	-3.9%	-2.6%	0.9%	6.35
TAIWAN DOLLAR/US DOLLAR	0.3%	1.1%	4.7%	-1.4%	-10.2%	6.28

Source: CF Benchmarks LTD., Bloomberg LP, as of November 30th, 2022

Appendix: constituent changes for current period

Additions (+)	Subtractions (-)
<ul style="list-style-type: none">• Avalanche (AVAX): Avalanche is a system that serves as a foundation for a new wave of decentralized applications (or dApps).• EOS. IO (EOS): EOSIO is a blockchain protocol with fast transactions and zero fees. EOSIO is built for a variety of use cases from social media to health care and makes it easy for developers to create decentralized applications (dapps) as it uses programming languages that are popular outside of blockchain technology.• Ethereum Classic (ETC): Ethereum Classic is a ETH fork that focuses on immutability. Ethereum Classic (ETC) is the continuation of the unaltered history of the original Ethereum (ETH) blockchain.• Internet Computer (ICP): The Internet Computer blockchain is a “world computer,” which was created to enable the full decentralization of Web3 services.	<ul style="list-style-type: none">• None

Source: CF Benchmarks LTD., Kraken, as of November 30th, 2022



Appendix: CF Digital Asset Classification Structure

The CF Digital Asset Classification Structure (DACS) classifies coins and tokens based on the services that the associated software protocol delivers to end users, grouping assets by the role they play in delivering services to end users. The CF DACS powers CF Benchmarks' sector composite and category portfolio indices and allows users to perform attribution analysis to better understand the fundamental drivers of returns within their digital asset portfolios.

Additional Resources

For more information about our CF Benchmark indices and our methodologies, please visit the respective web links below:

- [CF Diversified Large Cap Index](#)
- [CF DeFi Composite Index](#)
- [CF Web 3.0 Smart Contract Platforms Index](#)
- [CF Digital Culture Composite Index](#)
- [CF Blockchain Infrastructure Index](#)
- [CF Cryptocurrency Ultra Cap 5 Index](#)

Contact Us

Have a question or would like to chat? If so, please drop us a line to:

info@cfbenchmarks.com

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