

December 15, 2022

Novum Insights Update

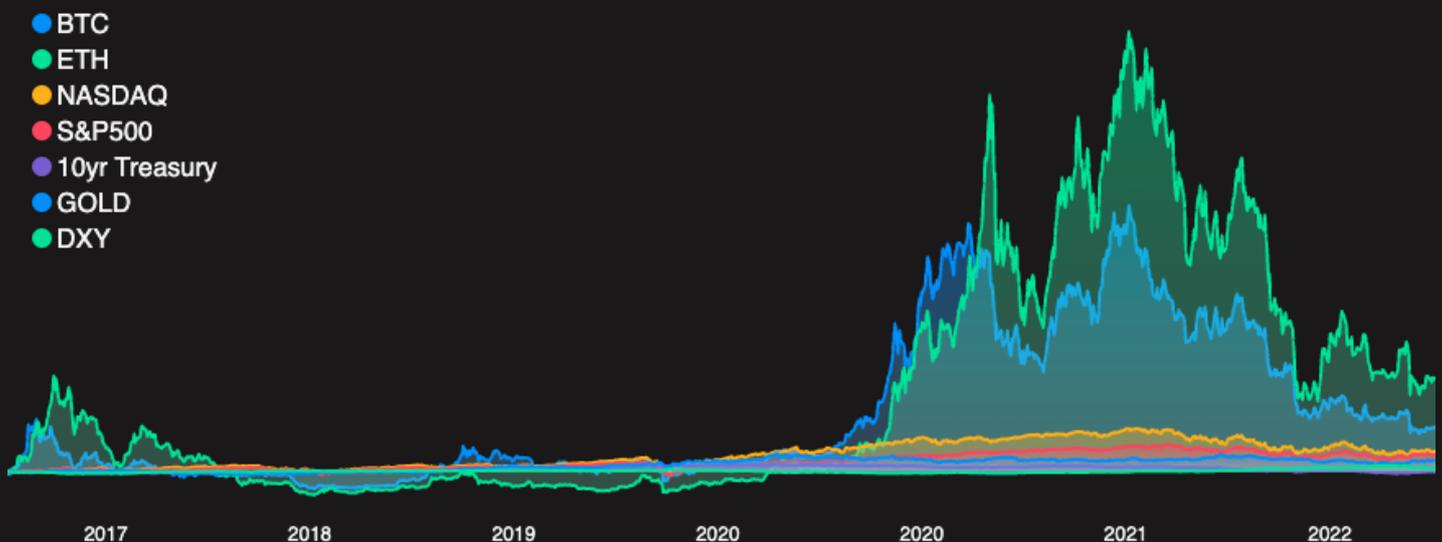
Exciting times. In a year where British bonds, traditionally the safest of asset classes briefly performed worse than cryptocurrency, and started moving in 100s of Bips (instead of 10s or 20s) requiring a massive bank intervention, DeFi developers continued developing.

Ethereum rolled out the switch to Proof of Stake which has both pluses and minuses depending on your viewpoint but one which cannot be disputed is that the environmental footprint of the protocol was reduced by 98%+ meaning that 'crypto is burning the planet' is no longer valid as an argument against Ethereum at least..

Although it is only 79 days since the 'merge' the chain has quietly been burning the currency instead of issuing new dilutive tokens (as was the case with PoW) to the tune of more than 1,000,000 ETH or US\$1Bn meaning the currency is not inflating nearly as much under PoW.. There are some caveats in that this deflationary effect is only when the transaction congestion is low, switching to inflation when things get busy. Nonetheless, the project continues to work on capacity, speed and security as core objectives of future changes.

Bear Kingdom

Unless as an investor your portfolio is heavily weighted to Energy, Mining or Banking 2022 has been a bear for almost everyone. Crypto has not been immune from this although it is interesting to note that although cryptocurrency is down along with most other asset classes, the majority of actual coins held in wallets are not moving (as can be seen from an analysis of addresses with holdings and the next slide on MVRV). Meaning this is not a mass exodus but value extraction by large institutions and traders able to leverage and ride the ups and downs to still make money during this volatile period.



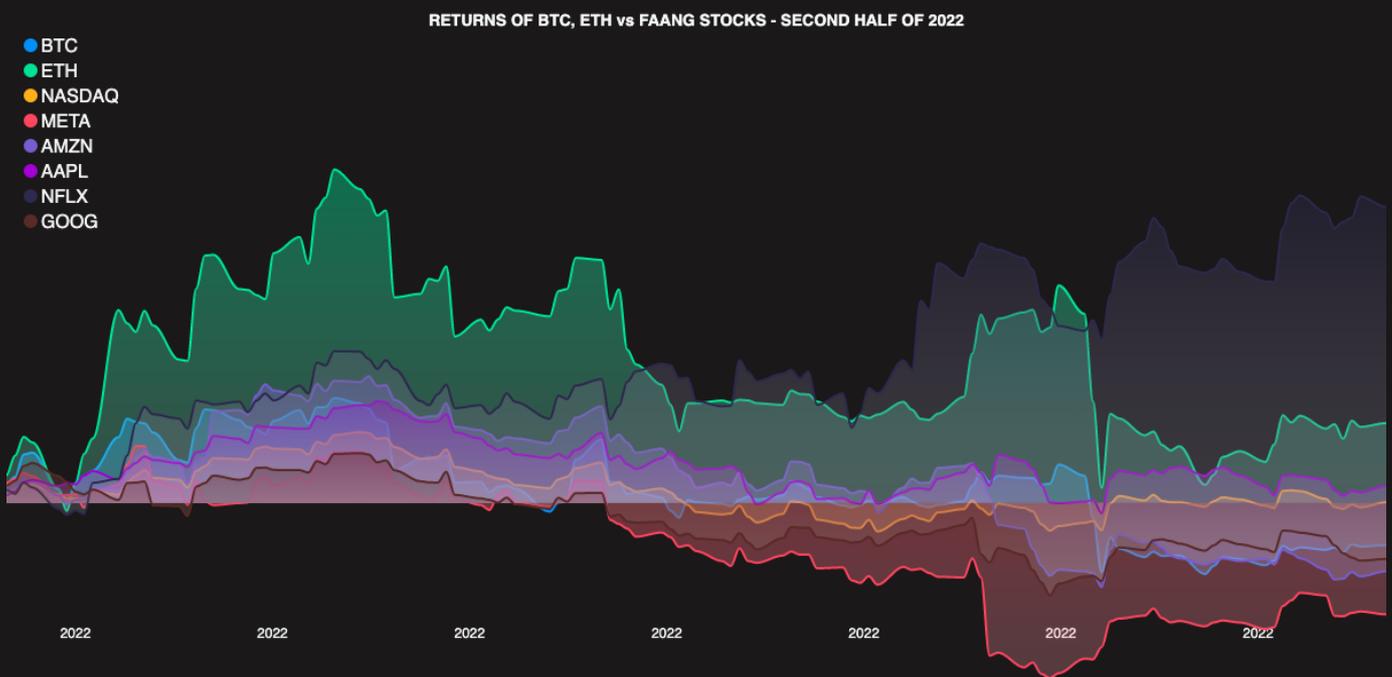
MVRV

This is a specialized crypto-metric recognizing the fact that many wallets including Satoshi's original BTC wallet are 'lost' or at least the keys have (insert Craig Wright joke here) meaning that this wallet balance is not really part of the circulating balance. This values the tokens in each address at the BTC price when the wallet last moved. Looking at this chart we can see that this has been steadily widening throughout 2022. This could be interpreted as a sign of many things but does at least show that as the market has dropped, the majority of users are not selling. Another indicator is that in 2019 daily ETH transactions dropped to 400k per day but today these are holding at over 1M every day showing continuing interest.



Big Techs are not invincible

This was the year in which those decrying the over-valuation of tech stocks finally got to say 'I told you so'. Tech stock valuations have plummeted and some have actually performed worse than crypto since June.



Mercurial: 'Susceptible to sudden and sweeping changes'

As can be seen from the chart below, when conditions in the market are bad, they are very bad for Crypto. Conversely, when market conditions are positive, they are VERY positive for Crypto.

Assets		2015	2016	2017	2018	2019	2020	2021	2022	Cumulative	Annualized
Bitcoin	BTC	33.24%	123.25%	1304.07%	-73.81%	94.86%	300.93%	62.67%	-63.21%	5013.73%	63.53%
Commodities	DBC	-27.97%	18.56%	6.13%	-12.30%	12.54%	-8.21%	42.04%	25.84%	46.78%	4.91%
Gold	GLD	-10.71%	8.03%	11.93%	-3.27%	17.63%	24.35%	-4.80%	-3.74%	40.01%	4.30%
US REITs	VNQ	3.33%	8.57%	4.56%	-5.93%	27.99%	-5.52%	40.15%	-23.30%	43.44%	4.61%
US Total Bond Market	BND	0.36%	2.52%	3.99%	0.15%	8.95%	7.57%	-1.84%	-13.94%	6.09%	0.74%
15+ year US TIPS	LTPZ	-9.22%	9.16%	8.23%	-5.73%	18.07%	24.17%	7.32%	-32.04%	8.12%	0.98%
Extended Duration Treasury	EDV	-4.84%	1.60%	13.11%	-2.54%	20.42%	23.47%	-6.29%	-41.23%	-12.73%	-1.69%
US Total Stock Market	VTI	1.34%	12.82%	20.30%	-6.78%	30.33%	20.52%	26.08%	-16.15%	112.88%	9.90%
Developed Market Stocks	VEA	0.90%	2.63%	25.63%	-15.66%	21.95%	10.46%	11.71%	-15.23%	39.97%	4.29%
Emerging Market Stocks	VWO	-15.85%	12.17%	30.07%	-16.05%	20.45%	15.47%	1.53%	-19.38%	17.35%	2.02%
S&P 500	SPY	2.26%	12.00%	20.78%	-6.07%	30.91%	17.73%	29.05%	-15.12%	119.34%	10.32%
NASDAQ 100	QQQ	10.82%	7.10%	31.49%	-2.67%	38.70%	48.04%	28.22%	-27.26%	190.87%	14.28%
Highest Return	BTC	BTC	BTC	BND	BTC	BTC	BTC	BTC	DBC	BTC	BTC
Lowest Return	DBC	EDV	BND	BTC	BND	DBC	EDV	BTC	EDV	EDV	EDV
% of Positive Return		58.33%	100.00%	100.00%	8.33%	100.00%	83.33%	75.00%	8.33%	91.67%	91.67%

What is interesting is that the cumulative returns of the two largest cryptocurrencies in BTC and ETH have been better than all other classes of asset. This stays true for every consecutive three year period. Even the worst case 1/1/20 to present the US Stock Market shows a return of 30% compared with 300% for BTC and 900% for ETH. Some of this surely relates to the planned (and unplanned) inflation for the currency we measure this performance against. Statistics show that the USD has lost 15% to inflation since 1/1/20 and 26% since the beginning of 2015 illustrating the increasing rate of inflation.

What effect does Crypto have when added to a traditional portfolio?

In a traditional portfolio there would be 60% Equity and 40% Bonds. So what would happen if we changed that to 60%/35%/5% BTC?

Year	2015		2016		2017		2018		2019		2020		2021		2022	
Portfolio Allocation	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC
Portfolio Return	1.28%	3.82%	8.85%	13.51%	13.58%	31.37%	-3.72%	-8.47%	21.61%	25.96%	16.74%	25.54%	14.34%	18.01%	-14.75%	-17.64%
Portfolio Volatility	8.88%	9.24%	7.95%	7.88%	4.01%	6.18%	9.90%	10.36%	7.19%	7.28%	21.75%	22.61%	8.34%	9.74%	16.71%	17.98%
Sharpe Ratio	-0.10	0.18	0.88	1.48	2.81	4.70	-0.67	-1.10	2.71	3.27	0.73	1.09	1.55	1.70	-1.05	-1.14

<CUMULATIVE SINCE 2015>

Year	2015		2016		2017		2018		2019		2020		2021		2022	
Portfolio Allocation	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC	60/40	60/40 + 5% BTC
Portfolio Return	1.28%	3.82%	9.69%	17.34%	25.16%	55.49%	20.88%	42.89%	47.99%	80.72%	72.96%	126.97%	98.42%	168.76%	60.99%	110.24%
Portfolio Volatility	8.88%	9.24%	8.42%	8.58%	7.26%	7.89%	7.99%	8.58%	7.85%	8.34%	11.40%	11.96%	11.01%	11.67%	11.69%	12.43%
Sharpe Ratio	-0.10	0.18	0.93	1.81	3.14	6.74	2.25	4.66	5.84	9.42	6.32	10.54	8.80	14.34	4.98	8.64

Predictably, this outperforms the standard portfolio in all the positive years but does worse in negative years. What is uprising though, is that even a very small amount of Crypto asset holding (5%) cumulatively almost doubles the return of the portfolio.

How would traditional trading strategies work for Crypto?

We looked at three different methods of targeting investment; RSI, stochastic and MFI and applied these to the top 50 tokens by market capitalization.

RSI - Relative Strength Index - measures the speed and magnitude of price changes and can be used to identify when to buy and when to sell.

Stochastic - This identifies market turning points typically used around day trading.

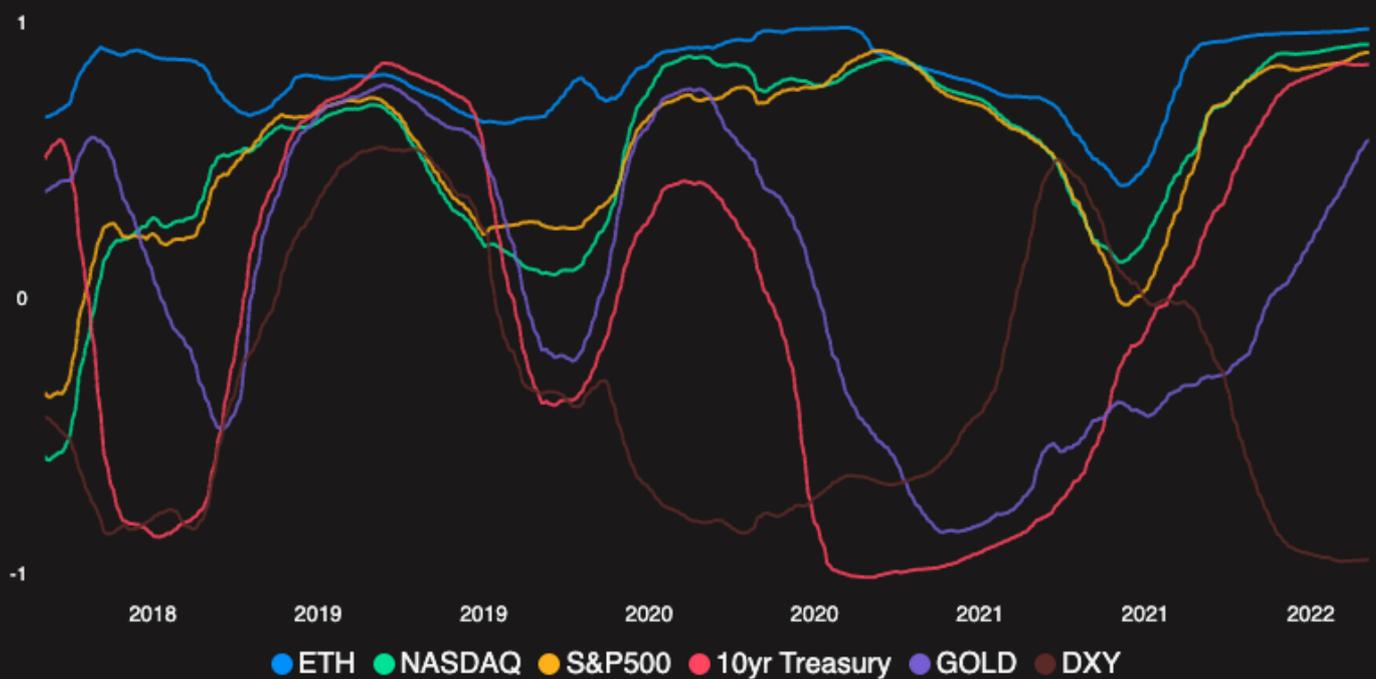
MFI - Money Flow Index - this is a momentum indicator but also gives weighting to the value of funds flowing, meaning larger value movements are more prominent and smaller value movements less so.

Year	Performance	RSI	Stochastic	MFI
2020	Win Rate	79.07%	72.09%	32.56%
	Avg Strategy Return	110.90%	71.77%	22.73%
2021	Win Rate	64.58%	70.83%	50.00%
	Avg Strategy Return	63.43%	90.84%	97.12%
2022	Win Rate	52.00%	22.00%	22.00%
	Avg Strategy Return	11.32%	-27.43%	-15.46%

Looking at the results, RSI is the most consistent and even produced a positive return in 2022. This allowed modest gains during the negative conditions of 2022. Stochastic and MFI not performing as well at least in the three year data set.

Correlation with Mainstream Indices

One of the interesting trends has been with the introduction of Crypto futures to the CME (Chicago Mercantile Exchange) in early 2020. This allows institutions to perform automated trading in crypto, which tends to mirror the movements of main indexes and the movements of the market in general which in this chart can be seen as the correlation of the Blue, Green and Yellow lines measured in USD.

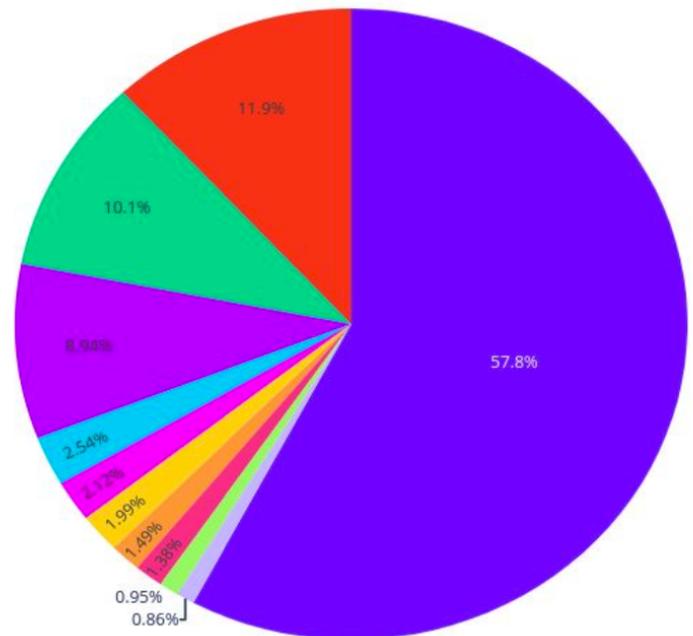


FTX and LUNA are dead but Crypto Lives!

Total value locked in Defi has dropped from the peak of \$250Bn in Nov 2021 to \$43Bn today. Although this is a dramatic decline, there are still 1M transactions per day on just the Ethereum network which is just one protocol. It is difficult to explain this as anything other than continuing use of the blockchain in general and decentralised finance in particular.

TVL in DeFi stands at **\$43B** today, down by more than **75%** compared to its peak a year ago.

	ethereum	\$25.3B
	BINANCE	\$5.2B
	OTHERS	
	TRON	\$3.9B
	polygon	\$1.1B
		\$926M
	ARBITRUM	\$872M
	cronos	\$654M
	Optimism	\$603M
	FANTOM	\$417M
	SOLANA	\$374M



How much of the leading protocols' token supply is actually being used in Defi?

One way of measuring protocol engagement is to look at the amount of the entire blockchain locked in Defi. As can be seen below, the level of participation varies by protocol and some surprisingly small protocols showing high levels of TVL in use, notably Arbitrum and Cronos.

sorted by MARKET CAP		sorted by TVL		TVL to M.CAP
\$387B	ethereum	ethereum	\$25.3B	6.5%
\$244B	BINANCE	BINANCE	\$5.2B	2.1%
\$222B	polygon	polygon	\$1.1B	0.5%
\$207B			\$926M	0.45%
\$201B	Moonriver	ARBITRUM	\$872M	0.65%
\$163B	Harmony	cronos	\$654M	0.45%
\$158B	FANTOM	FANTOM	\$417M	0.26%
\$153B	GNOSIS	GNOSIS	\$56.3M	0.37%
\$144B	cronos	Moonriver	\$43.8M	0.02%
\$144B	VELAS	Harmony	\$19.6M	0.01%
\$134B	ARBITRUM	VELAS	\$5.7M	0.004%