



Institutions Are Here - What Happens Next?

Q4 2020 Quarterly Report

POWERED BY  **TheTie**

A Message from eToro USA



Guy Hirsch
Managing Director

In many ways, 2020 was a year of extremes, and crypto assets were no different. Little did we know, last January, that traditional and digital assets would plunge to levels not seen in quite some time as a global pandemic brought the entire world to its knees, only to see almost all asset classes rebound almost in unison to reach previously unattainable heights. From bitcoin to ETH, and the S&P 500 to DeFi, valuations kept soaring ever higher as the smart money on Main Street and Wall Street piled in on all sides. Almost simultaneously, though, we saw crypto assets morph from a niche to a mainstream investment, with public companies including Microstrategy and Square allocated treasury reserves, and staid investors including Skybridge, Paul Tudor Jones, Stanley Druckenmiller and others committing massive amounts of money to bitcoin. There wasn't much to cheer about as the year ended, but 2021 brings with it the hope that COVID will soon fade into the background, life can start to resume, and the positive sentiment around bitcoin, ETH, and other projects will continue.

About eToro USA

eToro is a global, multi-asset trading platform with over 10 million registered users. At eToro, you can share your real track record, portfolio, and trades with the community, allowing users to engage with each other on trading ideas that are executed using real dollars. For those new to crypto trading, the community and educational resources introduce users to this new asset class and the risk profiles involved in it.

A Message from The TIE TheTie



Joshua Frank
CEO

Amidst the chaos created by the coronavirus pandemic, macroeconomic uncertainty, and QE infinity, bitcoin has emerged on the radar of every institutional investor around the globe. The crypto community has discussed institutions arriving since the CME's launch of BTC futures in December 2017. Finally in Q4 2020 they arrived rallying behind the "store of value" and "digital gold" narratives. While this is certainly a bullish sign for bitcoin, questions remain for alts. I believe that out of bitcoin's rise, another altseason will bloom on the back of retail investor FOMO and the never ending chase for lambos and 100x returns.











About The TIE

The TIE is the premier provider of information services for digital assets. The TIE offers trusted and transparent data solutions that power the leading cryptocurrency institutional investors, publications, research firms, law firms, regulators, and other market participants. The TIE's Crypto SigDev™ Terminal is the fastest and most comprehensive feed of real-time market moving news and information in crypto.

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eToro Top Assets by Price Change (Quarterly Change)

RANK		QoQ CHANGE
1.	 Bitcoin	+170.0%
2.	 Litecoin	+168.3%
3.	 Ethereum	+105.3%
4.	 Cardano	+77.5%
5.	 Stellar	+69.8%
6.	 Bitcoin Cash	+50.5%
7.	 Dash	+44.5%
8.	 Ethereum Classic	+4.7%
9.	 IOTA	+3.2%
10.	 TRON	+1.6%

Bitcoin had the best performance of any asset on eToro in Q4 (+170%) as it climbed to new all-time highs to close out the year. This price rally was driven by a rapid increase in institutional adoption. Among some of the larger developments this year, PayPal announced its service will allow users to buy, hold, and sell cryptoassets. MicroStrategy invested a total of \$1.12B into BTC this year and has doubled some of its earlier investments. Billionaire hedge fund manager Paul Tudor Jones announced that BTC could hedge against inflation. Anthony Scaramucci's SkyBridge Capital announced that it had purchased over \$300M worth of bitcoin in Q4 2020. The list goes on and on.











eToro Top Assets by Long Term Sentiment Score

RANK		SENTIMENT
1.	 Litecoin	82.2
2.	 Bitcoin	74.2
3.	 Bitcoin Cash	71.5
4.	 Stellar	70.5
5.	 Cardano	69.4
6.	 Ethereum	69.0
7.	 IOTA	67.4
8.	 Zcash	63.2
9.	 EOS	62.5
10.	 Tezos	43.4

Litecoin finished 2020 with the highest long-term sentiment score of any asset available on eToro. Long-term sentiment score measures how positive or negative conversation on an asset have been over the last 50 days as compared to the previous 200. LTC's sentiment was driven by strong Q4 performance following its listing on PayPal.











Bitcoin had the second highest long-term sentiment score to close out 2020 following its 170% fourth quarter gain resulting from a massive increase in institutional demand.

eToro Top Assets by Tweet Volume Change (Quarterly Change)

RANK		QoQ CHANGE
1.	 IOTA	+132%
2.	 Bitcoin	+131%
3.	 Litecoin	+127%
4.	 Stellar	+123%
5.	 Ethereum	+112%
6.	 Dash	+108%
7.	 Bitcoin Cash	+101%
8.	 Cardano	+97%
9.	 Zcash	+89%
10.	 TRON	+84%















Nearly all eToro listed cryptoassets saw significant increases in twitter conversations in Q4. Notably, IOTA's tweet volume jumped by 132% following significant mainnet upgrades, despite the token only seeing a +3.2% return.

eToro Top Assets by Tweet Volume (Daily Average)

RANK		AVG. TWEETS
1.	 Bitcoin	48,366
2.	 Ethereum	10,979
3.	 Litecoin	2,992
4.	 Cardano	1,181
5.	 Bitcoin Cash	862
6.	 Dash	270
7.	 Tezos	228
8.	 Stellar	205
9.	 Zcash	124
10.	 TRON	115

Bitcoin remains by far the most discussed cryptoasset on Twitter, accounting for nearly 50% of total cryptocurrency tweet volume on any given day. Tweet volume on bitcoin surged by 132% in Q4 as BTC's price rose by over 170%.

eToro Assets Performance (2020 Review)

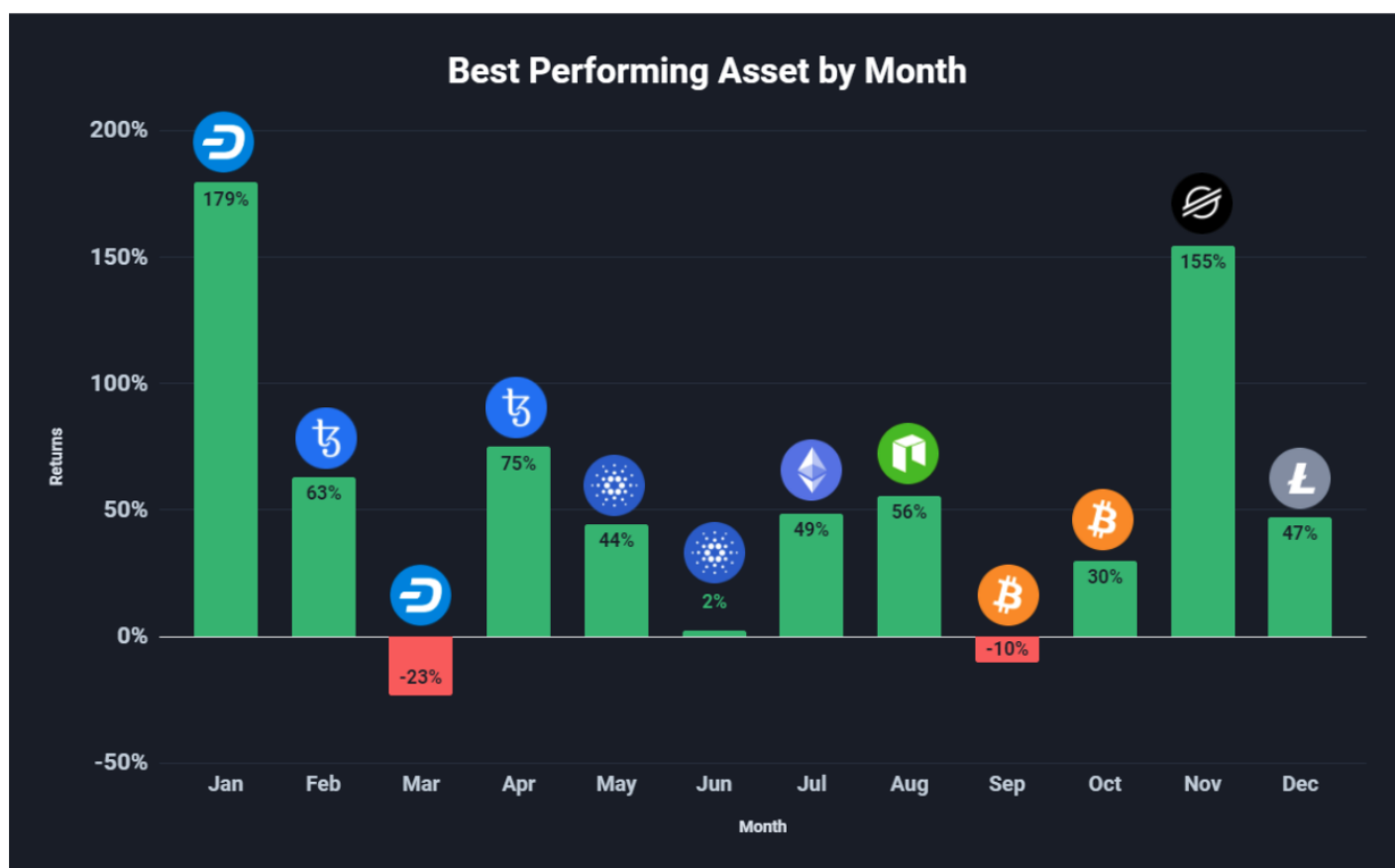
	RANK		2020 RETURN
1.		Ethereum	+467%
2.		Cardano	+436%
3.		Bitcoin	+304%
4.		Litecoin	+197%
5.		Stellar	+179%
6.		Dash	+138%
7.		Zcash	+127%
8.		TRON	+101%
9.		IOTA	+83%
10.		Bitcoin Cash	+68%
11.		NEO	+60%
12.		Tezos	+46%
13.		Ethereum Classic	+26%
14.		EOS	-0.2%

eToro Assets Performance (2020 Review)



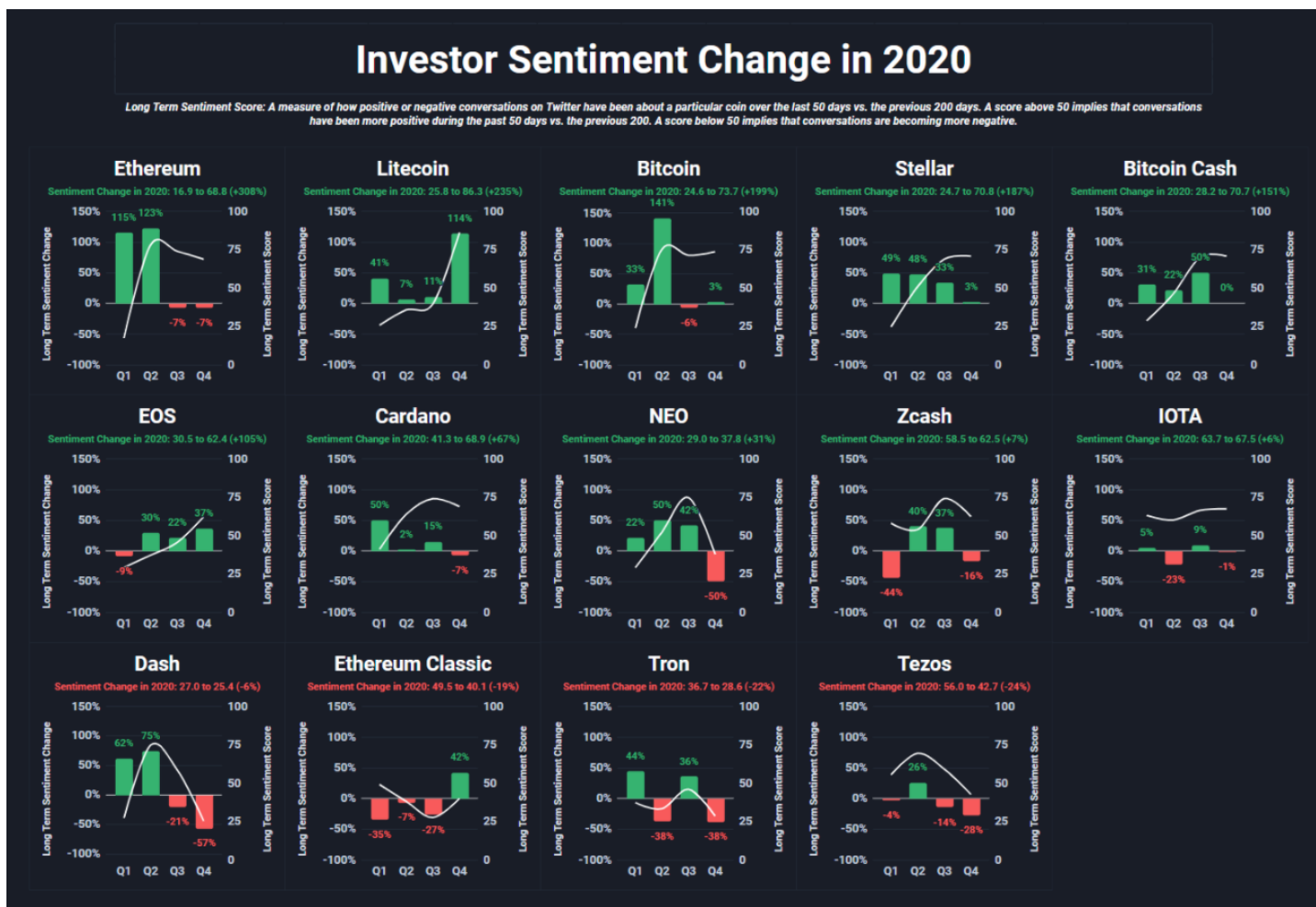
Despite a global pandemic and widespread macroeconomic uncertainty, 2020 was a phenomenal year for digital assets. As governments printed massive amounts of money to finance deficit spending, investors started looking for a hedge against inflation. The crypto market was rewarded greatly, as every asset listed on eToro, besides EOS, saw a positive double digit increase throughout the year. The median asset return was +114%, with ETH (+467%), ADA (+436%), and BTC (+304%) leading the way. ETH, DASH, ZEC, and BCH all performed positively in each quarter.

Best Performing eToro Assets by Month



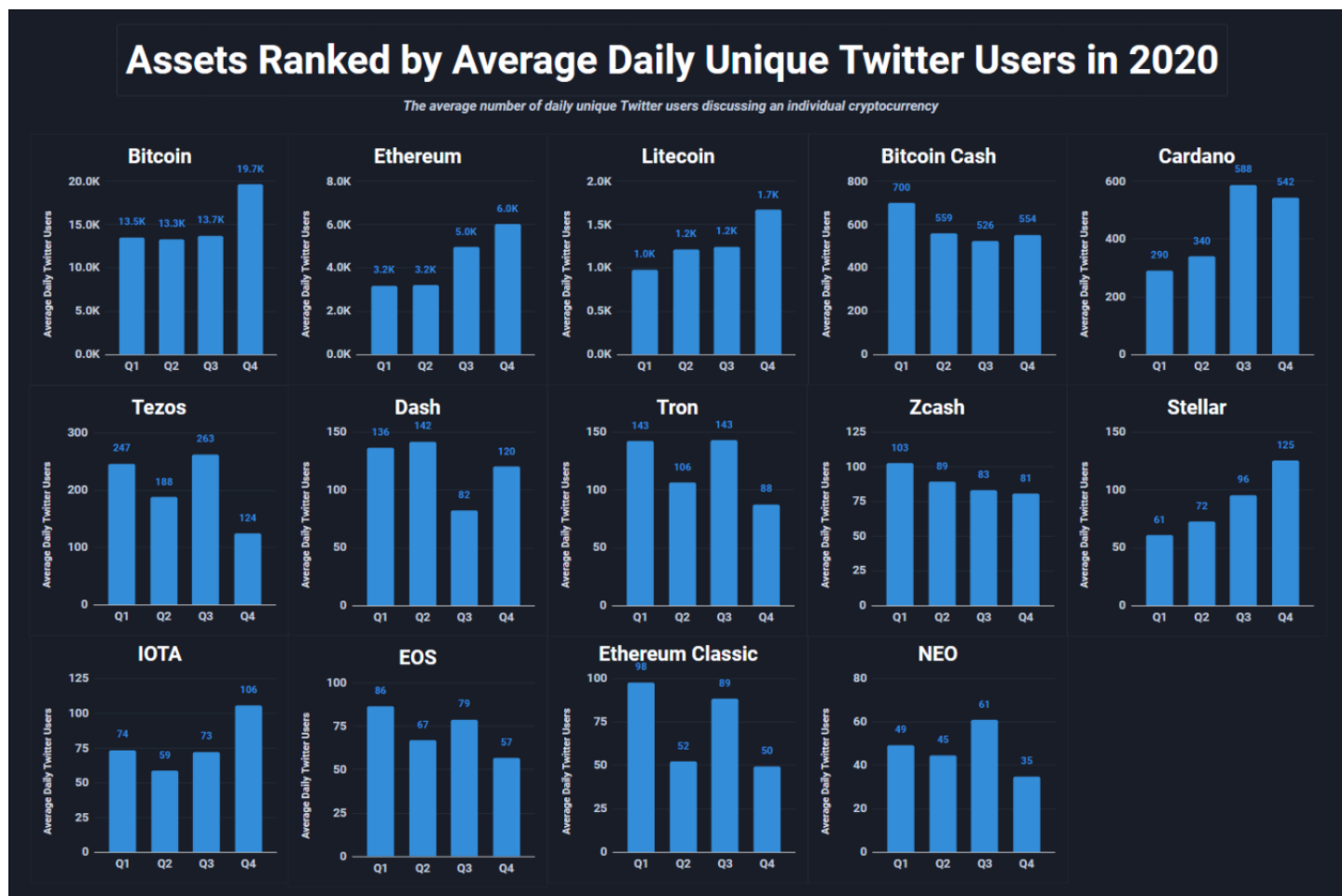
January started off with a bang, as DASH saw massive returns of +179% (the highest monthly return of all eToro-listed assets in 2020). This price surge followed the release of the Dash Platform, which is an upgrade to their payments and privacy coin that adds support for decentralized applications and supplies the tools for a Venmo-style crypto wallet. XTZ was the top performer in February, on the back of the announcement from VC firm Andra Capital that it will launch its Silicon Valley Coin (SVC) on the Tezos blockchain. March and September were the only months where all assets saw negative returns. During those months, DASH (-23%) and BTC (-10%) had the lowest drawdown. November was a standout month with the price of XLM increasing by 155%, coinciding with the Meridian 2020 event organized by the Stellar Network. Additionally, BTC, ADA, XTZ, and DASH were the best performing assets for two different months.

Investor Sentiment Change in 2020



In addition to Ethereum being the best performer of the year, ETH also had the biggest increase in sentiment throughout the year, starting from 16.9 (the lowest of any eToro asset) and finishing at 68.8. LTC, XLM, and BCH all saw an increase in investor sentiment each quarter. DASH, ETC, TRX, and XTZ were the only four assets to have decreasing long-term sentiment scores. ETC had a tough year due to the network suffering multiple 51% attacks.

eToro Assets Ranked by Avg. Daily Unique Twitter Users (2020)



Bitcoin averaged over 13k daily unique Twitter users each quarter, reaching its peak of 19.7k in Q4. ETH, LTC, and XLM all increased each quarter, while ZEC managed to be the only asset to decrease in Twitter users each quarter.

Tweet Volume per Year

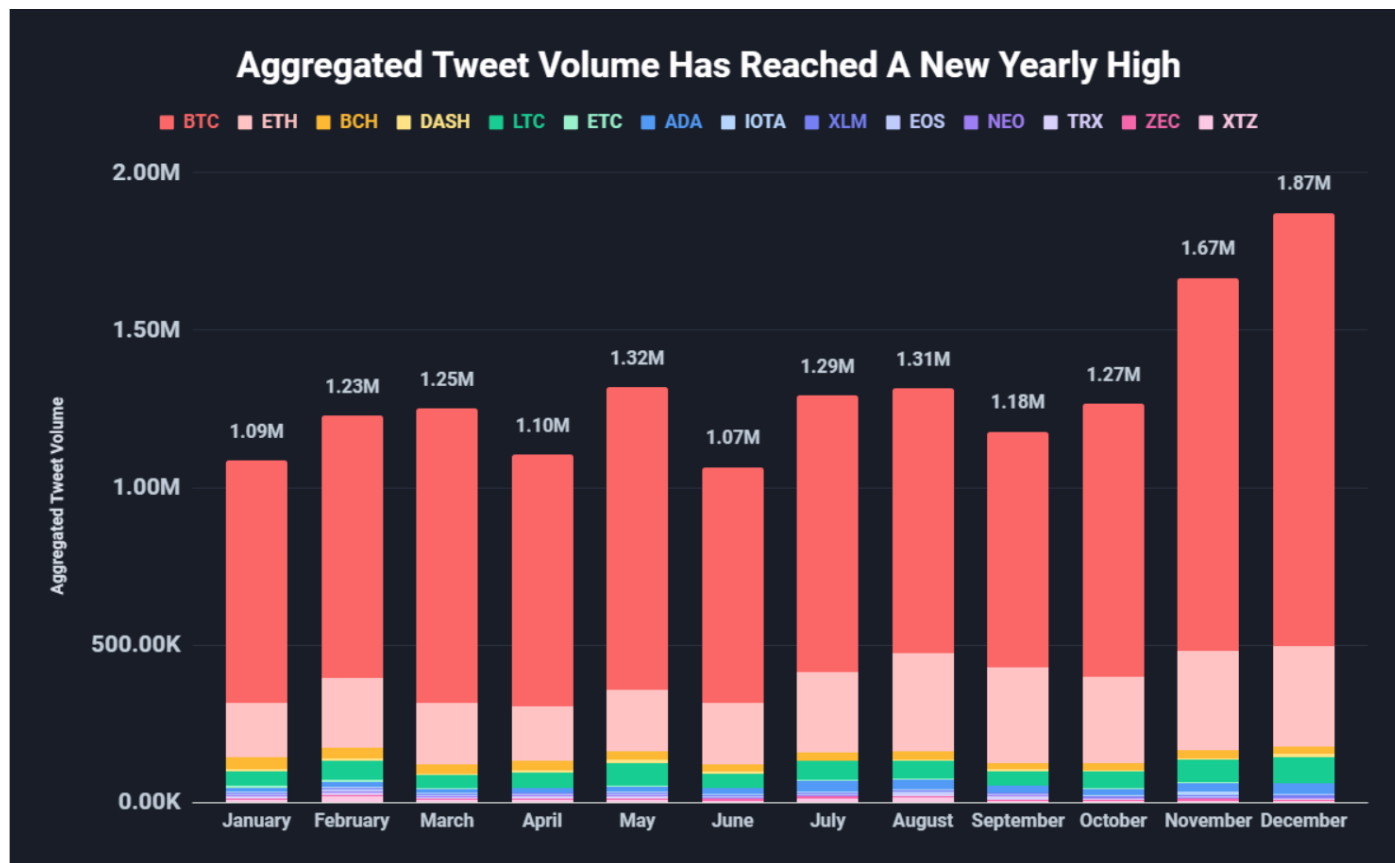
In 2020, there were over 11.1M tweets sent out about BTC, 3M about ETH, and 689k about LTC. How does this compare to the previous years? The chart below shows the running total number of tweets about each asset listed on eToro.

BTC, ETH, LTC, and BCH remained steady at the top of the list for three straight years. 64% of these assets have increased in popularity since 2019, but only 14% (ADA and XTZ) have surpassed their 2018 totals. BCH, ZEC, XLM, EOS, and NEO have all decreased in tweet volume each year.



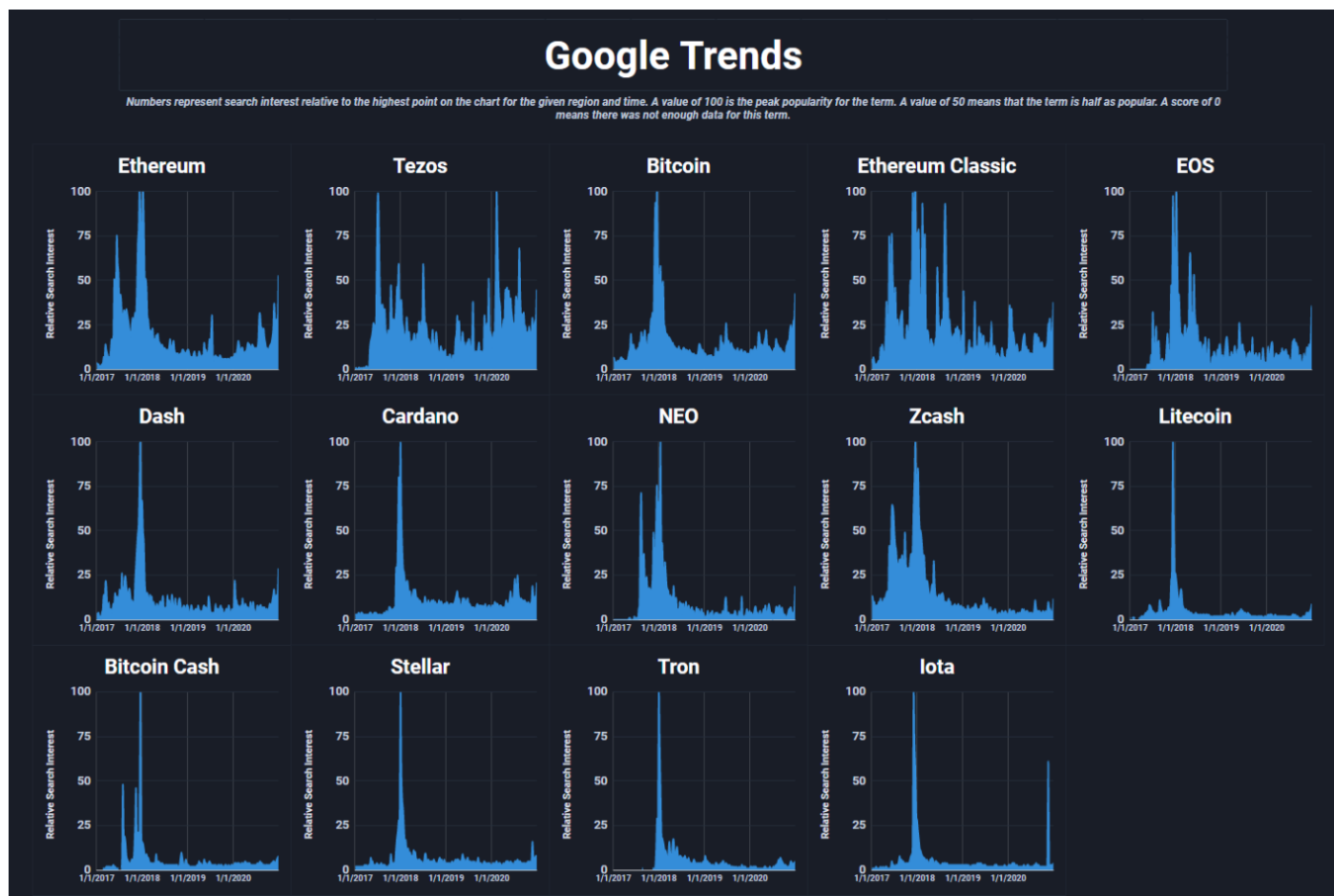
	(2018)	(2019)	(2020)
#1 BTC	13.9M	9.7M	11.1M
#2 ETH	4.4M	2.4M	3.0M
#3 LTC	1.2M	681.0K	688.9K
#4 BCH	854.6K	365.8K	326.3K
#5 TRX	242.0K	ADA 153.6K	ADA 258.7K
#6 ADA	218.4K	TRX 60.7K	XTZ 115.3K
#7 ZEC	214.1K	ZEC 60.7K	DASH 72.1K
#8 NEO	123.6K	XTZ 58.9K	TRX 63.2K
#9 ETC	116.9K	DASH 58.2K	ZEC 51.2K
#10 DASH	97.5K	XLM 49.1K	IOTA 50.0K
#11 XLM	90.0K	EOS 46.9K	XLM 45.6K
#12 EOS	85.8K	ETC 39.7K	EOS 41.7K
#13 IOTA	67.9K	IOTA 36.8K	ETC 40.7K
#14 XTZ	10.0K	NEO 34.3K	NEO 31.7K

Aggregated Tweet Volume in 2020



Aggregated tweet volume increased month over month from September until the end of the year, even setting new yearly highs in November (1.67M) and again in December (1.87M). December's volume is a 72% increase from January.

Google Trends from 2017-2020



Google Search interest for major cryptocurrencies started to gain traction in Q4, but is still well below its 2017 peak. ETH, BTC, LTC, and DASH are at their highest levels since early 2018. ETH currently has the highest relative search interest while IOTA has the lowest. XTZ is the only asset to reach its peak in 2020.

eToro Assets Correlations

Q1 2020

Highest: ETH/NEO (0.94)

Lowest: XTZ/DASH (0.47)

Average Correlation: 0.79

Q2 2020

Highest: ETH/LTC & EOS/LTC (0.92)

Lowest: ZEC/XLM (0.59)

Average Correlation: 0.75

Q3 2020

Highest: LTC/BCH (0.88)

Lowest: BTC/TRX & XTZ/TRX (0.27)

Average Correlation: 0.60

Q4 2020

Highest: XTZ/NEO (0.87)

Lowest: BTC/XLM (0.32)

Average Correlation: 0.67

Correlation of Daily Returns in 2020

Q1	BTC	ETH	BCH	DASH	LTC	ETC	ADA	IOTA	XLM	EOS	NEO	TRX	ZEC	XTZ
BTC		0.91	0.88	0.58	0.87	0.72	0.91	0.79	0.85	0.88	0.91	0.89	0.75	0.80
ETH	0.91		0.89	0.58	0.93	0.74	0.92	0.77	0.90	0.89	0.94	0.92	0.75	0.85
BCH	0.88	0.89		0.60	0.91	0.84	0.89	0.74	0.86	0.91	0.86	0.90	0.81	0.70
DASH	0.58	0.58	0.60		0.58	0.66	0.59	0.56	0.56	0.60	0.58	0.62	0.84	0.47
LTC	0.87	0.93	0.91	0.58		0.81	0.91	0.71	0.86	0.91	0.88	0.90	0.76	0.78
ETC	0.72	0.74	0.84	0.66	0.81		0.82	0.66	0.77	0.81	0.73	0.79	0.82	0.58
ADA	0.91	0.92	0.89	0.59	0.91	0.82		0.82	0.90	0.89	0.91	0.93	0.78	0.80
IOTA	0.79	0.77	0.74	0.56	0.71	0.66	0.82		0.77	0.74	0.79	0.79	0.66	0.66
XLM	0.85	0.90	0.86	0.56	0.86	0.77	0.90	0.77		0.82	0.89	0.88	0.77	0.78
EOS	0.88	0.89	0.91	0.60	0.91	0.81	0.89	0.74	0.82		0.89	0.90	0.76	0.72
NEO	0.91	0.94	0.86	0.58	0.88	0.73	0.91	0.79	0.89	0.89		0.93	0.76	0.82
TRX	0.89	0.92	0.90	0.62	0.90	0.79	0.93	0.79	0.88	0.90	0.93		0.77	0.75
ZEC	0.75	0.75	0.81	0.84	0.76	0.82	0.78	0.66	0.77	0.76	0.76	0.77		0.60
XTZ	0.80	0.85	0.70	0.47	0.78	0.58	0.80	0.66	0.78	0.72	0.82	0.75	0.60	

Q3	BTC	ETH	BCH	DASH	LTC	ETC	ADA	IOTA	XLM	EOS	NEO	TRX	ZEC	XTZ
BTC		0.71	0.79	0.76	0.81	0.76	0.40	0.58	0.40	0.67	0.55	0.27	0.74	0.46
ETH	0.71		0.70	0.72	0.78	0.71	0.63	0.71	0.60	0.64	0.64	0.48	0.74	0.63
BCH	0.79	0.70		0.79	0.88	0.82	0.56	0.62	0.52	0.79	0.52	0.37	0.69	0.50
DASH	0.76	0.72	0.79		0.78	0.73	0.54	0.65	0.60	0.67	0.59	0.35	0.85	0.56
LTC	0.81	0.78	0.88	0.78		0.83	0.60	0.63	0.59	0.78	0.59	0.44	0.72	0.53
ETC	0.76	0.71	0.82	0.73	0.83		0.57	0.66	0.63	0.72	0.58	0.41	0.72	0.51
ADA	0.40	0.63	0.56	0.54	0.60	0.57		0.58	0.66	0.52	0.50	0.32	0.46	0.62
IOTA	0.58	0.71	0.62	0.65	0.63	0.66	0.58		0.62	0.66	0.61	0.34	0.60	0.73
XLM	0.40	0.60	0.52	0.60	0.59	0.63	0.66	0.62		0.57	0.52	0.38	0.54	0.66
EOS	0.67	0.64	0.79	0.67	0.78	0.72	0.52	0.66	0.57		0.55	0.34	0.58	0.58
NEO	0.55	0.64	0.52	0.59	0.59	0.58	0.50	0.61	0.52	0.55		0.39	0.60	0.56
TRX	0.27	0.48	0.37	0.35	0.44	0.41	0.32	0.34	0.38	0.34	0.39		0.29	0.27
ZEC	0.74	0.74	0.69	0.85	0.72	0.72	0.46	0.60	0.54	0.58	0.60	0.29		0.52
XTZ	0.46	0.63	0.50	0.56	0.53	0.51	0.62	0.73	0.66	0.58	0.56	0.27	0.52	

Q2	BTC	ETH	BCH	DASH	LTC	ETC	ADA	IOTA	XLM	EOS	NEO	TRX	ZEC	XTZ
BTC		0.85	0.82	0.67	0.84	0.68	0.71	0.70	0.65	0.80	0.75	0.77	0.63	0.70
ETH	0.85		0.90	0.78	0.92	0.76	0.78	0.76	0.69	0.90	0.80	0.82	0.77	0.82
BCH	0.82	0.90		0.76	0.91	0.80	0.74	0.77	0.68	0.90	0.82	0.81	0.71	0.80
DASH	0.67	0.78	0.76		0.79	0.70	0.63	0.69	0.66	0.77	0.75	0.70	0.86	0.74
LTC	0.84	0.92	0.91	0.79		0.81	0.78	0.81	0.73	0.92	0.81	0.88	0.75	0.83
ETC	0.68	0.76	0.80	0.70	0.81		0.62	0.70	0.64	0.81	0.71	0.73	0.63	0.71
ADA	0.71	0.78	0.74	0.63	0.78	0.62		0.72	0.73	0.70	0.74	0.77	0.64	0.70
IOTA	0.70	0.76	0.77	0.69	0.81	0.70	0.72		0.68	0.76	0.85	0.76	0.64	0.70
XLM	0.65	0.69	0.68	0.66	0.73	0.64	0.73	0.68		0.70	0.66	0.75	0.59	0.67
EOS	0.80	0.90	0.90	0.77	0.92	0.81	0.70	0.76	0.70		0.76	0.84	0.72	0.79
NEO	0.75	0.80	0.82	0.75	0.81	0.71	0.74	0.85	0.66	0.76		0.76	0.69	0.72
TRX	0.77	0.82	0.81	0.70	0.88	0.73	0.77	0.76	0.75	0.84	0.76		0.66	0.75
ZEC	0.63	0.77	0.71	0.86	0.75	0.63	0.64	0.64	0.59	0.72	0.69	0.66		0.63
XTZ	0.70	0.82	0.80	0.74	0.83	0.71	0.70	0.70	0.67	0.79	0.72	0.75	0.63	

Q4	BTC	ETH	BCH	DASH	LTC	ETC	ADA	IOTA	XLM	EOS	NEO	TRX	ZEC	XTZ
BTC		0.66	0.54	0.58	0.75	0.59	0.48	0.52	0.32	0.48	0.54	0.50	0.51	0.39
ETH	0.66		0.68	0.52	0.68	0.67	0.80	0.78	0.44	0.68	0.77	0.70	0.69	0.76
BCH	0.54	0.68		0.64	0.60	0.73	0.61	0.71	0.55	0.82	0.73	0.78	0.72	0.70
DASH	0.58	0.52	0.64		0.55	0.68	0.68	0.64	0.64	0.64	0.69	0.69	0.73	0.55
LTC	0.75	0.68	0.60	0.55		0.60	0.52	0.61	0.33	0.60	0.63	0.55	0.59	0.56
ETC	0.59	0.67	0.73	0.68	0.60		0.63	0.74	0.73	0.83	0.81	0.84	0.71	0.73
ADA	0.48	0.80	0.61	0.68	0.52	0.63		0.78	0.56	0.65	0.75	0.68	0.63	0.74
IOTA	0.52	0.78	0.71	0.68	0.61	0.74	0.78		0.70	0.77	0.84	0.80	0.73	0.80
XLM	0.32	0.44	0.55	0.64	0.33	0.73	0.56	0.70		0.71	0.74	0.75	0.58	0.67
EOS	0.48	0.68	0.82	0.64	0.60	0.83	0.65	0.77	0.71		0.83	0.86	0.70	0.81
NEO	0.54	0.77	0.73	0.69	0.63	0.81	0.75	0.84	0.74	0.83		0.82	0.76	0.87
TRX	0.50	0.70	0.78	0.69	0.55	0.84	0.68	0.80	0.75	0.86	0.82		0.68	0.77
ZEC	0.51	0.69	0.72	0.73	0.59	0.71	0.63	0.73	0.58	0.70	0.76	0.68		0.78
XTZ	0.39	0.76	0.70	0.55	0.56	0.73	0.74	0.80	0.67	0.81	0.87	0.77	0.78	

The correlation between major cryptocurrencies was high to start off the year, before decreasing as 2020 played out. The main outliers were DASH in Q1, XLM in Q2, TRX in Q3, and BTC in Q4. BTC and ETH became less correlated each quarter. Despite dropping as the year went on, there were no assets that decoupled completely (negative correlation) from the basket of major cryptocurrencies.

PART 1

Institutions are here.

**What does that mean for
bitcoin and alts?**

**How does crypto fit into a
macro context?**

Bitcoin in a macro context

2020 was a breakthrough year for Bitcoin for a few reasons:

Bitcoin as hedge against inflation

As a response to COVID-19, central banks across the globe have printed massive amounts of money to finance deficit spending. In the US, M2 (a calculation of money supply) is up nearly 25% YoY and the national debt has ballooned to over \$27 trillion (or over \$200,000 in debt per taxpayer). As the Fed continues to print money, there are concerns that inflation will begin to catch up with the dollar, prompting investors to look for other places to deploy cash. With a debt-to-GDP ratio of 128%, there are also concerns that the US credit rating will fall further and that the federal government will have trouble repaying its debts.

The institutional world has caught on, with well-known global macro funds such as \$5B Guggenheim Macro Opportunities Fund recently announcing that it is looking to shift up to 10% of the fund's assets into bitcoin via Grayscale Bitcoin Trust (GBTC). The corporate world has noticed this trend too, with public companies like Michael Saylor's MicroStrategy (NASDAQ: MSTR) and Jack Dorsey's Square (NYSE: SQ) opting to convert balance sheet cash reserves to bitcoin.

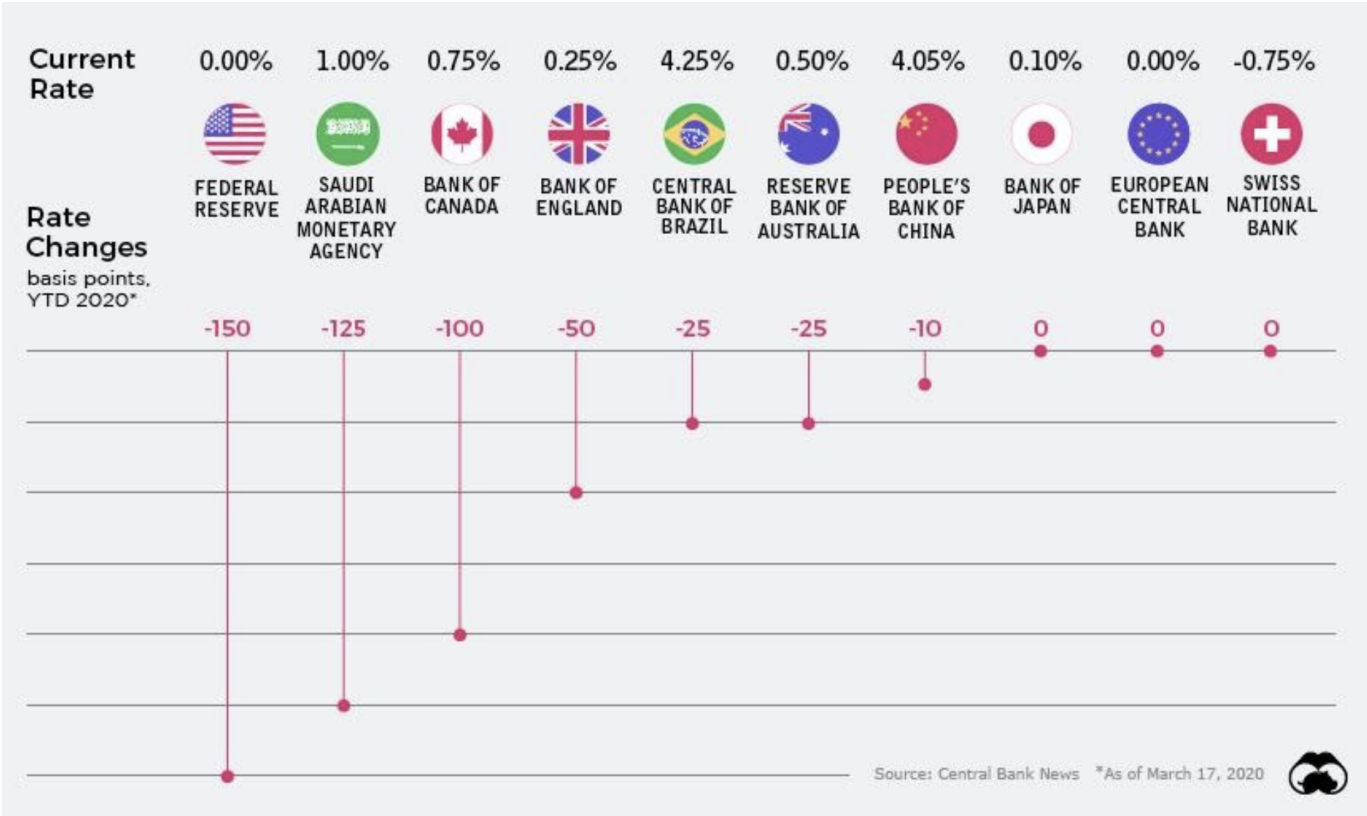


Data: US M1 Money Supply 1996-2020

Low-interest rates

Global interest rates have reached historic lows. The trend of decreasing yields was accelerated by the COVID pandemic, which prompted central banks to lower interest rates in an attempt to stimulate the economy. In a low-interest rate environment, bitcoin’s asymmetric risk-reward becomes especially attractive. The Fed has targeted interest rates as low as 0%, and rates in Europe and Asia have begun to turn negative. In a search for yield, investors have shifted their focus to high-risk assets.

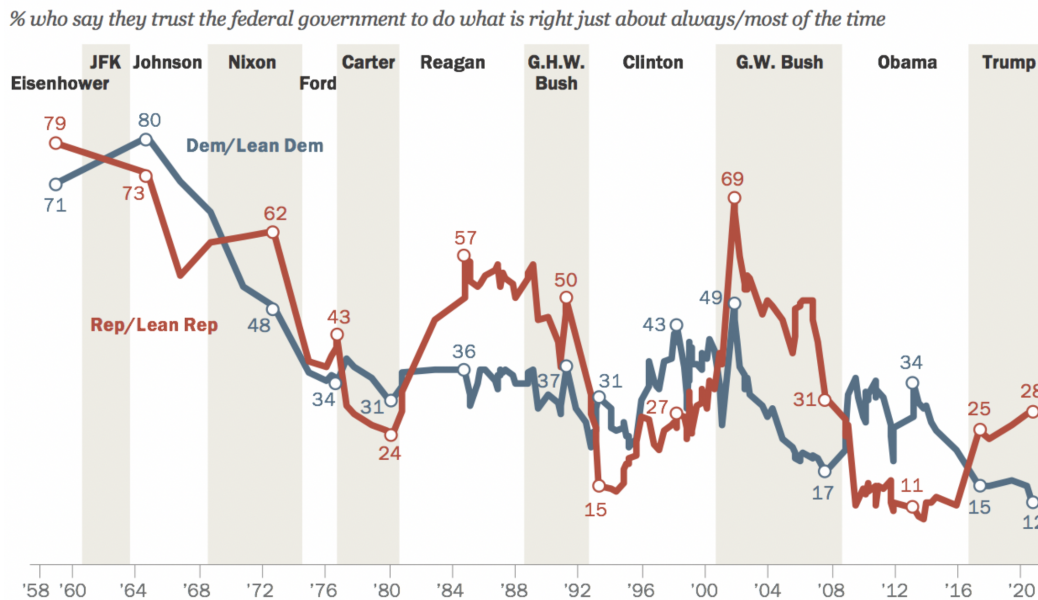
According to a [Bloomberg report](#) from August 2020, over \$5 billion (or 25%) has exited from the iShares Short Treasury Bond (NASDAQ: SHV) – the biggest ultra-short duration ETF – representing over 14 consecutive weeks of outflows. Investors have also pulled nearly \$2.5 billion from the \$14 billion SPDR Bloomberg Barclays 1-3 Month T-Bill ETF (NYSE: BIL) over the course of only 10 weeks. The Fed’s commitment to keeping interest rates near zero is clearly impacting investor appetite for treasuries.



Data: Interest Rate Changes YTD (Bps)

Distrust in government

Growing distrust in the federal government has also fueled bitcoin adoption in 2020. Between COVID-19 conspiracy theorists, election deniers, and a growing feeling of distrust among the American population, there is a large demographic of people who like the idea of currency that is not controlled by a central bank. With just 34% of Americans saying they trust the Fed, the idea of a currency governed by math, rather than a central bank, begins to seem more attractive.

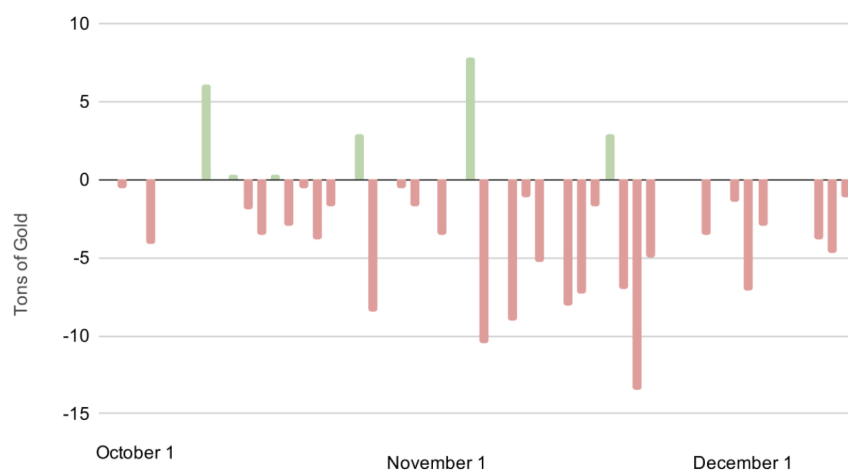


Data: American Trust in Washington Over Time

Bitcoin's value proposition

Bitcoin continued to improve its value proposition as a reserve asset in 2020 through its price action and falling volatility. Bitcoin was the top performing asset of 2020, returning over 300% versus SPY at +18%, and gold ETF GLD returning +24% YTD. In December, bitcoin surged over 52% compared to the SPY at +2.6% and gold's +4.8%. Along with strong price action, bitcoin has also seen a decline in volatility as tokens are transferred to 'stronger hands' in institutional and corporate buyers. Volatility is often cited as one of the main concerns investors have with bitcoin, but volatility has decreased YoY since 2017. Daily volatility in 2017 was as high as 7.15%, falling to 6.20% in 2018, 5.30% in 2019, and getting as low as 5.16% in 2020.

INVESTORS ARE DROPPING GOLD



KEVIN ROOKE // @KEROOKE

Data: American Trust in Washington Over Time

Scarcity

Of the 21 million bitcoin outstanding, over a million bitcoin are now on the balance sheets of publicly traded equities like Galaxy Digital (TSX: GLXY) and Riot Blockchain (NASDAQ: RIOT). These companies represent buyers of bitcoin and look to hold bitcoin on their balance sheets for the long-term, further contributing to bitcoin's supply constraints and decreasing volatility.

Bitcoin Treasuries

Company Name	Symbol	Market Cap	% BTC	Purchases/Filings	Basis Price USD	Today's Value	Bitcoin	%
MicroStrategy inc.	US NADQ:MSTR	\$4,591,699,793	53%	250M Aug.175M Sep 2020. Learn Hc	✓\$1,125,000,000	\$2,442,976,443	70,470 BTC	.336%
Galaxy Digital Holdings	CA TSE:GLXY	\$826,162,680	69%	\$134M on Jun-30-2020	✓\$134,000,000	\$568,606,494	16,402 BTC	.078%
Square inc.	US NADQ:SQ	\$101,686,248,400	0.2%	50M.Bitcoin Investment Whitepaper	✓\$50,000,000	\$163,246,432	4,709 BTC	.022%
Hut 8 Mining Corp	CA TSX:Hut-8	\$613,280,894	16%	Q2 2020	✓\$36,788,573	\$98,835,332	2,851 BTC	.014%
Voyager Digital LTD	CA CSE:VYGR	\$315,838,391	13.6%	March 31 2020	✓\$7,927,182	\$42,952,289	1,239 BTC	.006%
Riot Blockchain, Inc.	US NADQ:RIOT	\$1,528,879,158	2.7%	\$7.2M on Jun-30-2020	✓\$7,200,000	\$40,733,608	1,175 BTC	.006%

Data: Largest Public Companies Bitcoin Holdings

Only 84,000 BTC were mined in Q3 with public companies like Square and MicroStrategy purchasing over 100,000 BTC over the same period. Grayscale's GBTC now holds over 3% of all bitcoin in circulation and continues to grow at an exponential rate. In Q3, Grayscale added over 63,000 bitcoin to GBTC and added over 157,000 in Q4. Sustained buying pressure from MicroStrategy shrinks the available supply, forcing prices upward and making downswings less volatile due to the laws of supply and demand.

When alt season? A lookback on 2020

As arguably the most exciting year in crypto comes to an end, we wanted to take a moment to look back at the data and ask one age-old question: “when alt season?”

Here’s an interesting question. If on January 1, 2020, you put all of your money into bitcoin, or into the top 100 altcoins equally, which would have made you richer by the end of 2020? The answer can be seen in figure 1, a figure that will be reappearing throughout this article.

Surprisingly, altcoins were a more lucrative investment until December 18th. During bitcoin’s recent monumental rise, it has just barely outpaced the gains of the alts.

After looking at this figure, the question any active trader would be asking is how can one predict when to move from alts to bitcoin and vice versa. If you started with bitcoin, with only two swaps the entire year - bitcoin to altcoin in May, and back into bitcoin in September - the 3x or 4x gains seen by either investment grows to over 7x.



Figure 1

The goal throughout this article is to explore some potential drivers of two market conditions - so-called “BTC season” and “alt season.” Of course, this is all speculation - hindsight is always 20/20 (pun intended). It is interesting to think about the potential influences on bitcoin and altcoin performance as we consider actionable insights going into the new year.

Figure 2 shows the relative trade volume for bitcoin and altcoins (on average). Relative trade volume is an interesting metric - it is not scaled by the market cap of the coin. Rather, it is a measure of out-of-the-ordinary volumes for each individual currency. Specifically, it is the standard deviation of trade volume over time, respective to each coin. The way to interpret the purple line is high values (values above the horizontal black line) indicate when BTC has abnormally high trade volume compared to the alts. Conversely, values below the black line correspond to times with abnormally high trade activity across the 100 altcoins.

If it looks like bitcoin is trading abnormally high, you should own bitcoin, and if alts are trading more, you should own the alts. This makes intuitive sense; if alts have more trade volume, they have more demand, and thus drive price up. However, this could be a classic chicken or egg situation - is trade volume increasing because price is increasing?

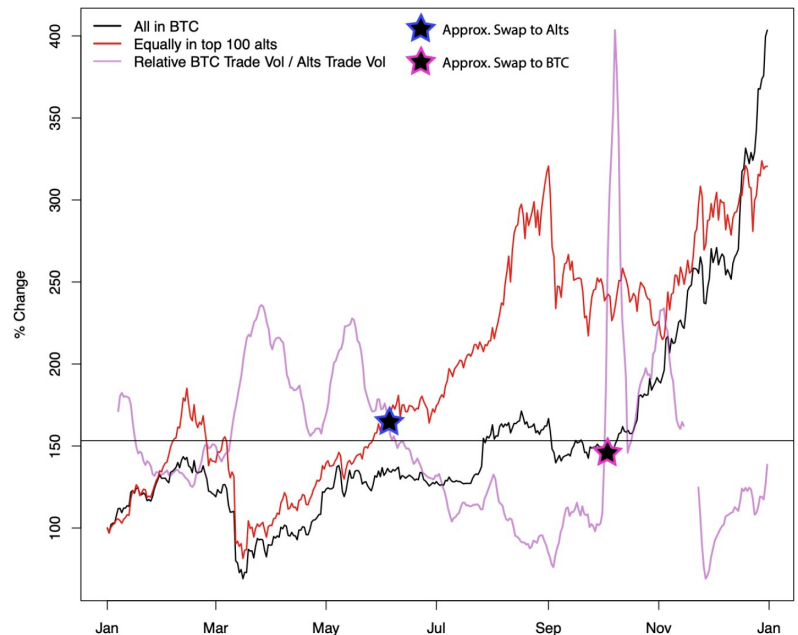


Figure 2

Look Who's Talkin'

Perhaps the signal can be identified with something a bit more subtle - something that is not on every trading chart. Using data from The TIE, figure 3 shows the ratio between the number of tweets about bitcoin versus the number of tweets about each altcoin per day. This suggests that alt season may be defined by the relative number of tweets about altcoins. This metric seems to not only capture the May and October swaps, but also potentially the short alt season in late February.

This signal mirrors the relative trade volume profile shown above in figure 2. Relative tweet volume is indeed highly correlated with relative trade volume, suggesting a general dynamic between these three variables - when people are tweeting about cryptocurrencies, they are also trading them, which causes their price to increase. The order of these influences is still somewhat ambiguous. However, there is no reason to believe that there is not positive feedback between all of these variables.

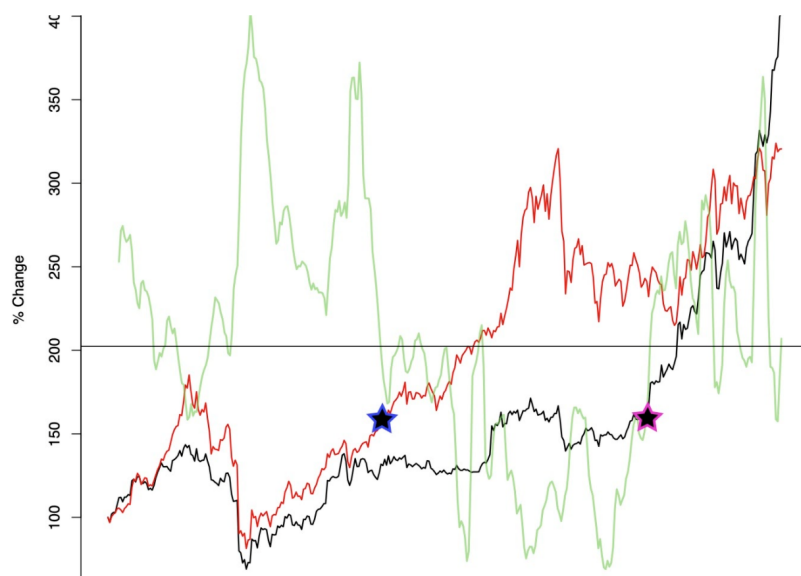


Figure 3

Looking at Listings

Our previous research has shown that listings tend to have a large impact on price. Using news collected through The TIE's SigDev feed, we compared how the number of listings announcements per day could be used as a potential signal. There is a clear increase in the number of listings in late summer - the same period of time in which altcoins outperformed

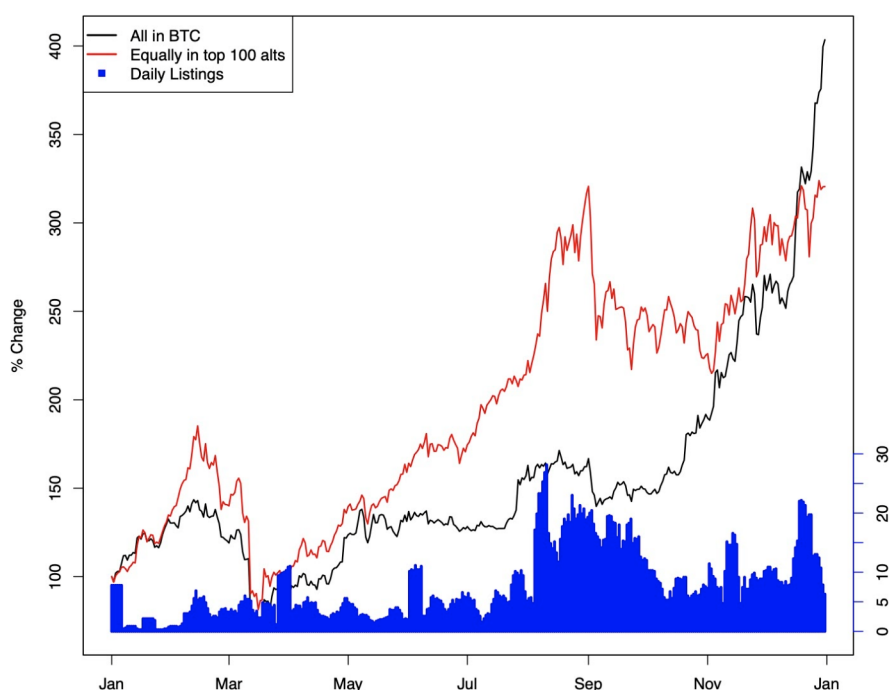


Figure 4

bitcoin the most significantly. Furthermore, spikes in this signal, like those seen in mid-May, may also be a signal for alt season. This makes sense - as altcoins become more widely available (listed on more exchanges) demand for these assets is increased.

Lastly, figure 5 shows the number of news articles being published directly from crypto projects (ex. The Ethereum Foundation publishing an article on Ethereum). Spikes in this signal seem to correlate with starts of alt seasons. This makes intuitive sense; these announcements usually pertain to big developments or partnerships for crypto companies - events that typically signify an increase in value.

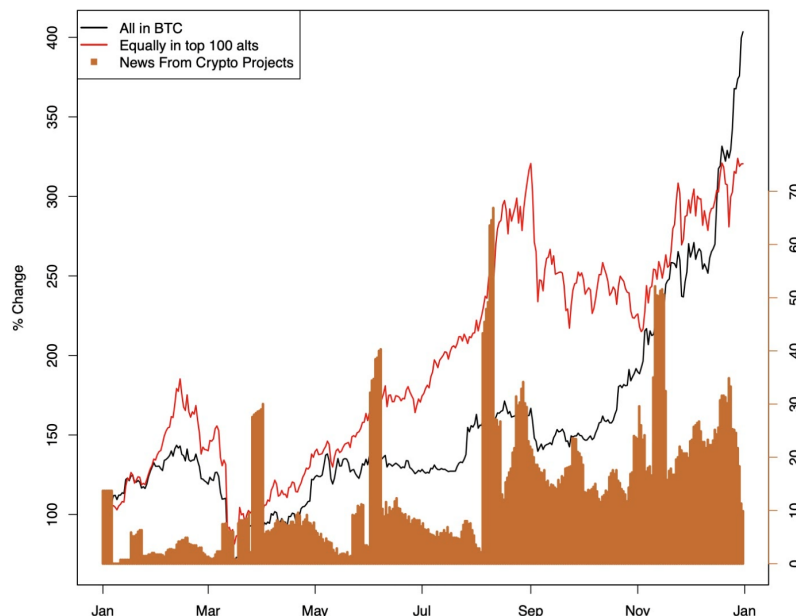


Figure 5

We can run some backtests with this idea to see if it is profitable. Figure 6 shows the potential gains increase to nearly 5x with a simple trade strategy; if the number of news articles directly from crypto projects increases quickly (increase by an average of 15 per day with a 7-day moving average), swap into altcoins for two weeks. Otherwise, stay in bitcoin. These exact parameters (15 news articles/day increase, 7-day average, two week swap period) are just minutia. The finding that swapping holdings into altcoins when their news was high was generally more lucrative regardless of strategy specifics.

The timescales of these swaps are also quite interesting. In this example, there are only four swaps, each only two weeks long. This means that 85% of the time is still spent simply holding bitcoin. Still, this small time spent holding altcoins increases gains from 3-4x to over 6x.

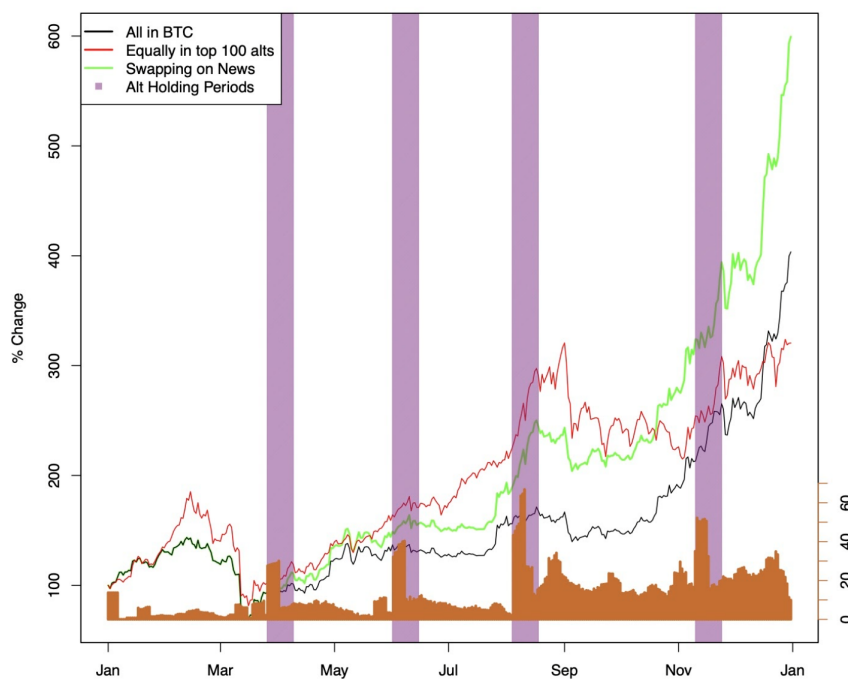


Figure 6

The specific timing of the swaps based on news is highly significant ($p\text{-value} = 0.005$). This means if one were to randomly swap four times throughout 2020 from bitcoin to altcoin, they would only beat this strategy five out of 1,000 times - which is not likely. We simulated this to see how one would perform random swapping from bitcoins to altcoins; indeed, out of 10,000 trials of “random swapping,” only 50 happened to outperform this strategy (Figure 7).



Figure 7

What about 2019?

2019 was a simpler time. Bitcoin pretty much always outperformed altcoins - quite a long bitcoin season. This raises an obvious yet important point:



Figure 8

Economic systems (especially crypto-economics) are highly nonlinear. This means that one set of relationships that work today might not work tomorrow. 2021 may be a whole new beast with even more complicated dynamics. Hopefully these insights spark some ideas on unique places to find indicators for bitcoin booms and busts.

Institutions are here for Bitcoin — are they also coming for alts?

Institutional Inflows

Grayscale's Ethereum Trust (OTCQX: ETHE) experienced massive inflows in 2020; with over \$2.2 billion under management, ETHE ended 2020 with a 105%+ premium on its underlying 3 million ETH, or a \$5.5 billion market cap at the time of writing. The premium rose dramatically over the course of the year and got as high as 1,000% in July as institutions and retail investors rushed to gain exposure. The magnitude of the premium that still exists for ETHE points to strong retail demand for altcoin exposure and has attracted institutions looking to arbitrage the premium.

Grayscale also manages a number of other altcoin funds, including the Ethereum Classic Trust (OTCQX: ETCG), the Grayscale Litecoin Trust (OTCQX: LCTN) and the Grayscale Digital Large Cap Fund (OTCQX: GDLC), which invests in a basket of large cap cryptos. Grayscale's altcoin funds have quietly added significant altcoin holdings in Q4 representing over \$100 million in institutional inflows to altcoins.

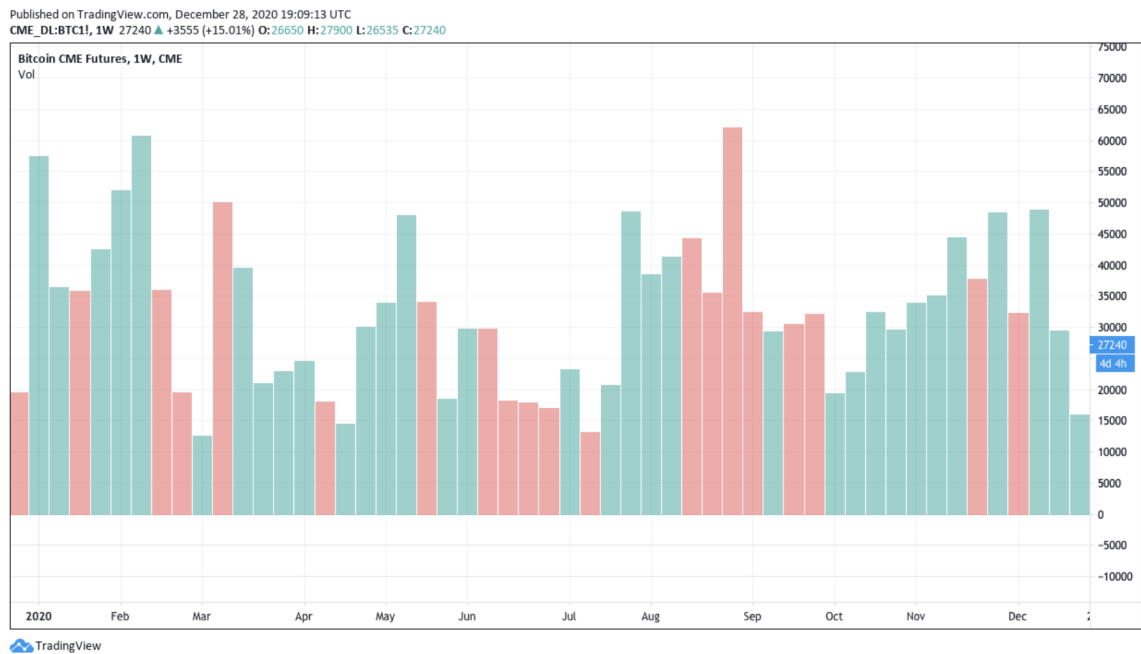
3iQ introduced The Ether Fund (TSX: QETH.U) on the Toronto Stock Exchange creating a new institutional onramp for Ether. 3iQ made waves earlier in the year when it listed one of the first publicly traded bitcoin ETF funds, which saw strong institutional interest. At the time of writing, the Ether Fund has a NAV of over \$95 million and a market cap of roughly \$115 million representing a 20%+ premium.

New Entrants

One River Digital Asset Management, a company invested in by legendary investor Alan Howard of Brevan Howard, announced that it has commitments that bring its holdings of BTC and ETH to about \$1 billion as of early 2021. One River's announcement paves the way for further institutional interest in altcoins, specifically ETH. One River joins a growing list of institutions that are making serious investments in the altcoin market.

New Trading Venues

The CME recently announced a new ETH Futures product coming to market in February 2021, looking to capitalize on the institutional interest in ETH. The CME’s Bitcoin Futures played a massive role in the legitimization of bitcoin in 2020, as it made crypto accessible to institutions on an existing trading platform.



Data: YTD CME BTC Volume

The addition of ETH futures will be one of the first opportunities for institutions to gain altcoin exposure on a platform they are already using. The CME’s Bitcoin Futures have added significant volume to the bitcoin market, allowing institutional speculators to take positions and fueling adoption.

Contract Specifications

CONTRACT UNIT	50 ether
MINIMUM PRICE FLUCTUATION	Outright: \$0.25 per ether = \$12.50 per contract Calendar Spread: \$0.05 per ether = \$2.50 per contract
TRADING HOURS	CME Globex: 5:00 p.m. – 4:00 p.m. CT Sunday – Friday. CME ClearPort: Sunday 5:00 p.m. - Friday 5:45 p.m. CT with a 15-minute maintenance window Monday - Thursday from 5:45 p.m. to 6:00 p.m. CT
PRODUCT CODE	Outright: ETH
LISTING CYCLE	Six consecutive monthly contracts inclusive of the nearest two December contracts.

*Subject to regulatory approval

Data: CME ETH Contract Specifications

New Trading Opportunities

At the end of 2020, Grayscale's Litecoin premium to net asset value (NAV) - the underlying in-kind value for each share- stood at over 3,000%. Institutions are rushing to take advantage of the existing premium by buying LTCN and simultaneously borrowing spot Litecoin in order to take a short position. In this scenario, institutions will need to hedge their trade with a corresponding short that will result in physical LTC purchases. In a self-fulfilling prophecy, this demand for LTC will contribute to supply constraints, further increasing prices.

One of the important things to note is that even if institutions are only investing to profit off the six-month arbitrage trade, this is still bullish for the space. Bitcoin held in funds like GBTC are not withdrawable, which means that even if institutions plan on selling, Grayscale will still be rolling additional capital into their purchases at the end of the six-month period to create more shares.

Unlike retail investors, institutions and accredited investors can purchase Grayscale products via private placement (i.e., directly from Grayscale) at the NAV. After a required six- or 12-month lock-up period, institutions can sell the products at a premium to the NAV. In the case of ETHE (100%+ premium), institutions can invest 10 ETH into the fund, and then after a six-month lock-up, sell their shares and have the USD equivalent of 20 ETH.

The shares of Grayscale products are not redeemable for the underlying asset - you can't redeem ETHE shares for the underlying ETH held by Grayscale. As the underlying cryptocurrency is not redeemable, institutions that are looking to continue to reinvest their proceeds from the six-month lock-up trade back into the fund must sell their shares on the open market and purchase additional shares directly from Grayscale via private placement. The institutional investor must either give Grayscale the underlying asset in-kind (e.g., give Grayscale Ethereum for ETHE) or Grayscale must buy more ETH on the open market. As more institutions roll the proceeds of their trades back into the Grayscale funds, the supply on crypto markets shrinks, because the underlying tokens are locked in the Grayscale products. In the current inefficient market, this decreased supply (combined with constant demand) is bullish for all assets offered by Grayscale and similar ETP issuers.

Why do Grayscale products and other ETPs trade at a premium?

There are many reasons that the shares trade at a premium to the NAV on the open market. One of the reasons is the lock-up period. Ontario securities law enables 3iQ to offer shares of the Ether and Bitcoin Funds in the overnight market at a discount to market value with no lock-up. The overnight market has significantly compressed the premium on 3iQ's products. On the other hand, US Securities laws require the Grayscale ETPs to maintain minimum lock-ups of six months. If investors could purchase shares at the NAV without a lock-up period, they would be able to place an easy arbitrage trade on a daily basis, buying at NAV and selling at the market price - which could quickly shrink the premium as we have seen with 3iQ's funds.

Investor education remains an issue as well. Many investors in Grayscale products aren't necessarily aware of the premiums. In the case of LTCN, Grayscale's Litecoin product, Grayscale holds 0.09319446 per share of LTCN. As of December 27, 2020, the price of Litecoin is \$125.80, which means the underlying NAV of LTCN is \$11.75. The LTCN product is currently trading at \$297, or a 2,428% premium to the \$11.75 NAV. Many individual investors may not be aware of this premium and the fact that each share of LTCN represents less than 1/10th of a Litecoin.

It is also just easy. Individual investors can hold Grayscale ETPs in their retirement accounts and purchase it directly from platforms - like Fidelity and Schwab - where they already have accounts for equity trading. In the case of GBTC, the product has traded at a premium to the underlying Bitcoin in all but one day since launch, so individual investors who are aware of the premium might be confident that it will continue and knowingly hold GBTC shares for the aforementioned reasons.

This means investors can take advantage of the premium, sell their shares, and repurchase shares again at a later date with the intention of selling at a premium. This also means that Grayscale will continue to purchase bitcoin in large quantities, adding significant demand to the market and further constraining the supply.

Fund	Shares Held or Principal Amt	Market Value	% of Portfolio	Prior % of Portfolio	Ranking	Change in Shares	% Ownership	Source	Source Date	Date Reported	Qtr 1st Owned
THREE ARROWS CAPITAL PTE. LTD.	38,888,888	\$1,244,444,416	100.00		1	↑17,831,651	21.5588%	13G	2020-12-31	2020-12-31	-
BLOCKFI INC.	24,235,578	\$301,732,946	100.00		1	↑24,235,578	13.4355%	13G	2020-10-15	2020-10-15	-
ARK INVESTMENT MANAGEMENT LLC	5,170,460	\$56,720,000	0.31	0.38	54	↑1,477,865	2.8664%	13F	2020-09-30	2020-10-30	Q3 2017
CHURCHILL MANAGEMENT CORP	232,943	\$2,555,000	0.06		109	↑232,943	0.1291%	13F	2020-09-30	2020-10-08	Q3 2020
CSAT INVESTMENT ADVISORY, L.P.	141,167	\$1,549,000	0.14		71	↑141,167	0.0783%	13F	2020-09-30	2020-11-13	Q3 2020
IFP ADVISORS, INC	133,807	\$1,468,000	0.09	0.11	218	↓14,569	0.0742%	13F	2020-09-30	2020-10-29	Q3 2019
ALMANACK INVESTMENT PARTNERS, LLC.	62,769	\$1,036,000	0.13		100	↑62,769	0.0348%	13F	2020-09-30	2020-11-12	Q3 2020
BCJ CAPITAL MANAGEMENT, LLC	89,208	\$979,000	0.15	0.10	54	↑21,835	0.0495%	13F	2020-09-30	2020-11-17	Q1 2020
SCHOLTZ & COMPANY, LLC	68,413	\$750,000	0.33		47	↑68,413	0.0379%	13F	2020-09-30	2020-11-16	Q3 2020
SLATESTONE WEALTH, LLC	53,000	\$581,000	0.13	0.11	120		0.0294%	13F	2020-09-30	2020-10-27	Q4 2019

Data: Top 10 GBTC via 13F Filings

Firms with more than \$100M in assets under management (AUM) are required to file quarterly 13Fs for every security they hold. The Grayscale products are securities, unlike bitcoin, so large institutions purchasing the products are required to file 13Fs. Using 13F filing data, we see that 24 funds have declared holdings in GBTC, representing over six million shares. While GBTC has seen sizable institutional inflows, there is very little if any 13F reporting for Grayscale's other funds, including LTCN, ETCG, and GDLC. While 13F filings are notoriously unreliable, the lack of 13Fs for Grayscale's altcoin funds suggests very low interest among the largest institutions.

Besides institutional investments, corporate partnerships have continued to play a significant role in crypto adoption, helping to bridge the knowledge gap between the corporate world and the crypto world. While many similar projects exist, Enterprise Ethereum Alliance (EEA) has been the most valuable tool in bringing corporate awareness to crypto and more specifically Ethereum. EEA's members include dominant players in tech, banking, accounting, and energy that are experimenting with and/or integrating the Ethereum platform into their corporate structure.



Notable EEA Members

While Institutions have begun to investigate crypto outside of bitcoin, there are a few notable roadblocks that are preventing wide scale acceptance.

Liquidity: Institutions find a lack of liquidity on smaller altcoins to be a barrier to entry. Accumulating positions in smaller tokens takes time and can significantly impact prices. While the crypto market's total trading volume has risen to over \$150 billion per day, smaller altcoins make up only a small fraction of this number. The vast majority of crypto volume occurs in the top five coins, representing over 80% of daily volume.

Regulatory Uncertainty: There are still concerns regarding the regulatory uncertainty surrounding altcoins. Institutions have a hard time getting altcoins approved through company and regulatory compliance, and the legality of certain token offerings is unclear. An example of this is the SEC's recent lawsuit against Ripple, alleging that the company's XRP sales represent an ongoing unregistered securities offering to retail customers - a violation of federal securities law.

Use Cases: In 2020, bitcoin is being looked at as a 'hard asset' store of value, while most alts don't have the same use case. It will take time for investors, both institutional and retail, to bridge the learning gap necessary to speculate on altcoins.

Our Take:

Overall, Ethereum is the most viable option for institutional altcoin investment in 2021. Large inflows to funds like Grayscale's ETHE Trust and 3iQ, the addition of CME ETH futures, and corporate integration of the Ethereum platform by companies in the EEA are evidence of institutional adoption of Ethereum. Being the second largest crypto by market cap, it is likely to follow in the steps of bitcoin and eventually begin to attract the interest of asset managers and traders at large institutions. While other altcoins have made great advancements in 2020, it is still unclear if institutional interest will continue to grow for altcoins other than Ethereum in 2021.

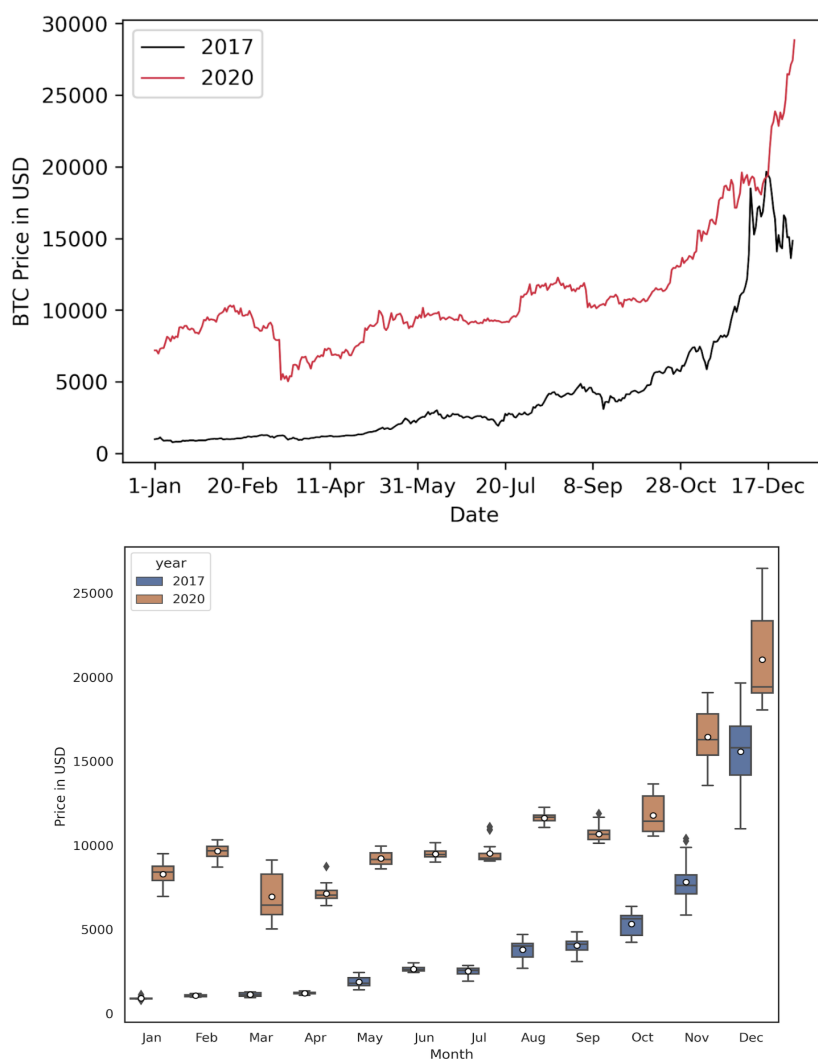
January 4th Update:

Since the end of Q4 2020, Ethereum has seen a sizable rally of over 40%. In that same time frame, Grayscale's ETHE trust has fallen over 22% from its recent high of \$15.50 per share on December 31, 2020, to \$12 per share. This movement, in contrast to the underlying ETH prices, may be the result of institutions taking profits on the premium as they are released from their six-month lock-up. Premiums on ETHE went as low as 12%, down from over 100% on December 31, 2020, as the lockup period for some ended with the new year. This type of selling would suggest that institutions are, in fact, simply looking to take advantage of the arbitrage premium on altcoin products like ETHE. This would still be bullish, however, for the altcoin market overall. Investors will need to buy altcoins like Ethereum in order to cover the loans they took out to hedge their positions.

Why was 2020 different from 2017 for Bitcoin

Much has been made of the institutional narrative in 2020 and the belief that bitcoin's 2020 rally was driven by large funds rather than individual traders. In this piece, we dive into the data to see if the information we have available supports that narrative.

The price movement of bitcoin in 2017 compared to 2020 can be seen in figure 1. Bitcoin in 2020 seems to have a "healthier" growth cycle than bitcoin's growth in 2017. We can say it's "healthier" because the price runup has had more duration indicating more sustainable development. In both 2017 and 2020, bitcoin experienced extreme price growth from October to December. From October to December of 2017, the price of bitcoin ran up 353%, and over the same period in 2020, the price increased by 176%. Figure 2 expands on the idea that 2020 bitcoin experienced more sustained price growth than that of 2017 bitcoin. Looking at figure 2, the mean and median values of bitcoin's price for each month of

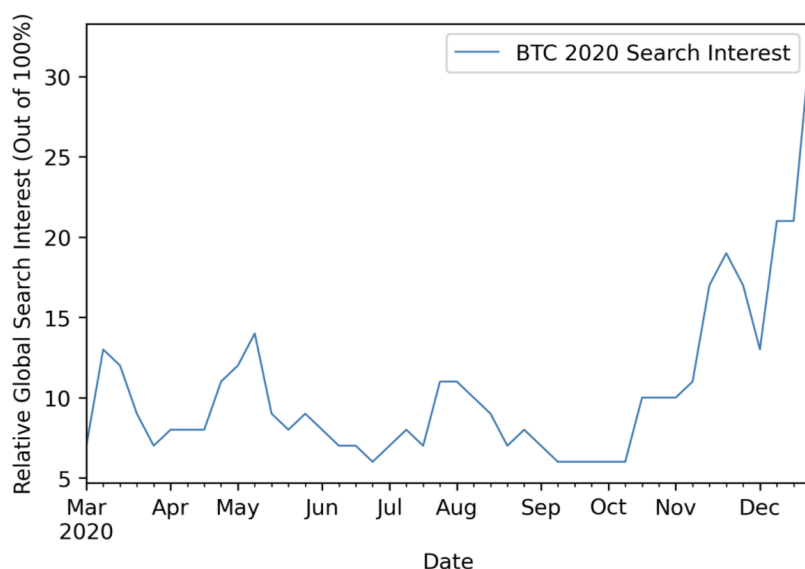
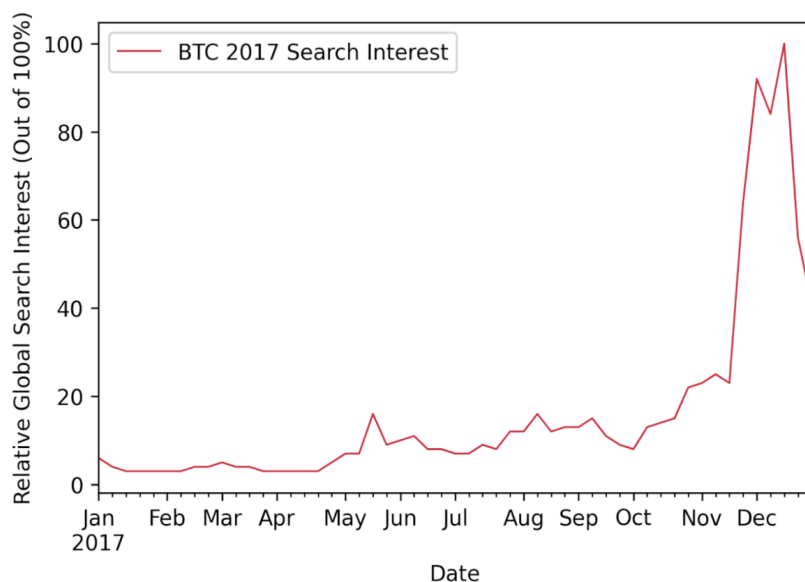


2020 were significantly higher than those in 2017. The difference in central tendency statistics is noticeable for every month outside of December, when bitcoin's price shot up in both 2017 and 2020. Bitcoin's average monthly price increased in every month of 2017. While in 2020, there is more variance in the monthly price movement of bitcoin. Most notably, bitcoin experienced a sharp pullback of 41% in March, following the onset of the COVID-19 pandemic, a rush to cash, and cascading liquidations on BitMEX.

Bitcoin displayed considerable price variance (difference in price relative to monthly average price) in November and December of 2017. While in 2020, bitcoin showed a large price variance in March, November, and December. The data collected from March is volatile due to the emergence of the COVID-19 pandemic. Looking at more concrete examples of price volatility in December 2017 alone, bitcoin moved roughly 23% downward from its average price and 33% upward relative to its average price. Bitcoin displayed similar price movements during November 2020 and December 2020, seemingly following this pattern. That being said, the large price movements that bitcoin experienced in 2020 seem to be more sustainable when compared to the 2017 run-up. In December 2017, bitcoin's price ran up to its all-time high of \$19,857 and soon after experienced a 30% pullback. While in 2020, bitcoin ran up to \$29,347 and has yet to experience any significant pullback. To have an accurate comparison, we will need to wait and see how the entire month of January 2021 plays out regarding bitcoin's price volatility.

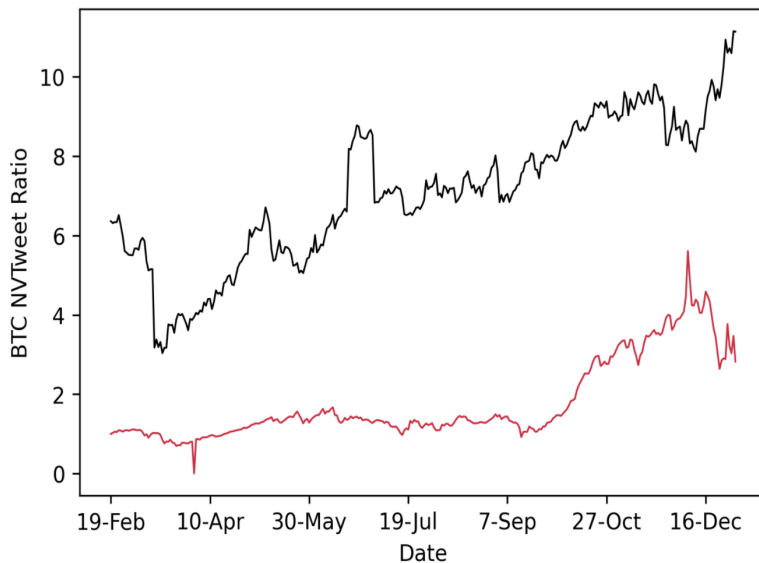
Figures 3 and 4 depict bitcoin Google Trends data for 2017 and 2020. In 2017, bitcoin hit its max global search interest of 100%. In 2020, the global search interest for bitcoin peaked at 32% in December and steadily increased, moving into January 2021. Bitcoin seems to gain search momentum in October through December. This pattern is consistent in both 2017 and 2020. The deviation is that in 2017 trends started to decline in mid-December, while in 2020, trends continued to steadily increase.

At first glance, a potential implication from figures 3 and 4 is there seems to be fewer retail investors looking to get involved with the crypto space in 2020 when compared to 2017. The increase in price that bitcoin is currently



experiencing might be due to large institutional investors, movers like Tudor Investment Corporation, Guggenheim, Ruffer and several other large entities entering the crypto space. In 2017, there was chatter about institutions coming, particularly upon the launch of CME options in December, however, the rally was almost entirely retail driven.

One thing to note in search data is that it might be the case that retail investors do not need to search for terms like bitcoin as much as they did in 2017. Platforms such as Paypal, Cash App, and eToro provide users with easy access to bitcoin, and when compared to what was available in 2017, bitcoin accessibility has come a long way. So too has knowledge among the general public about digital assets.



Finally, figure 5 displays bitcoin's NVTweet ratios for 2017 vs. 2020. The NVTweet measures how much social chatter a coin has relative to its market cap. The NVTweet ratio is calculated by taking the coin's current market cap, dividing it by one million, and then dividing by the 30-day average for the asset's twitter volume. As shown in figure 5,

the NVTweet ratio for bitcoin in 2020 was continuously much higher than in 2017. An increasing NVTweet ratio could suggest that a particular coin's market is becoming increasingly driven by institutional trading. As market cap is increasing faster than social volume, this may suggest less retail involvement in the market for a particular coin. This appears to be the case for bitcoin in 2020. Market cap growth far exceeded increases in Twitter activity, suggesting that the growth was significantly less retail-driven than the previous rally.

The initial question proposed was "why was 2020 different from 2017?" In summary, 2017 was a year when bitcoin realized a massive price run-up in a concise amount of time. The 2017 run-up was due to highly speculative interest from retail investors. 2020 was primarily institutionally driven and significantly less volatile. Given the decreased volatility, and less speculative/more long-term orientation of the institutions allocating in 2020, we believe that the price run-up bitcoin is experiencing should be more sustainable this time around when compared to what happened in 2017.

PART 2

In our last report we analyzed what moves crypto prices.

Let's dive into Github activity and exchange listings.

Does Github Activity Affect Crypto Prices?

Most crypto-traders identify buy opportunities by analyzing market charts, reading recent news updates, or following social media trends. Few, however, utilize the number of Github commits as a measure for projected value. Github commits are a measure of how active the technical development of a particular cryptocurrency protocol or application has been. Here, we take a look at whether Github activity can (or should) be used as a measure of crypto value.

Figure 1 shows the price of six cryptoassets over 2020 (black lines) with the number of daily Github commits overlaid (blue). At first glance, there is no obvious, consistent relationship between github activity and price - the two variables seem to fluctuate independently of each other.

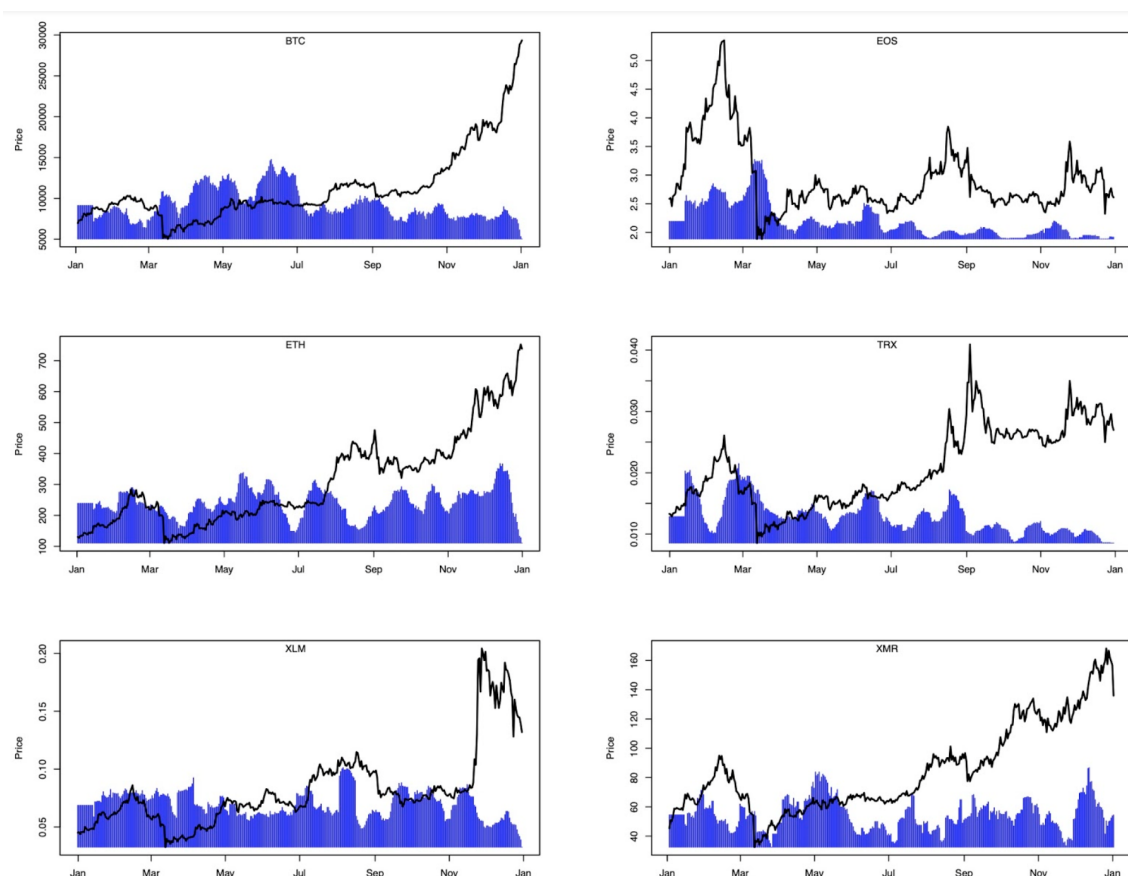


Figure 1

To test whether there is any meaningful signal, we backtested a relatively simple trading strategy; if the number of github commits in one day is high (top 75% of all days), buy and hold that asset for 14 days. Otherwise, hold all six cryptoassets equally. Figure 2 shows the performance of this strategy (red line) compared to simply holding all six assets equally (black line), as well as the performance of each of the six assets individually (gray lines). We see that this strategy did indeed outperform the simple buy-and-hold strategy. However, this could have been due to luck - in fact, a strategy that randomly traded these six assets outperformed this commit-based strategy about 20% of the time.

Perhaps the number of Github commits is not enough information on its own to measure increased value of these assets; commits can measure many different types of activity including simple bug fixes or documentation updates. Figure 3 shows the last four years of github activity associated with Ethereum broken up by repository.

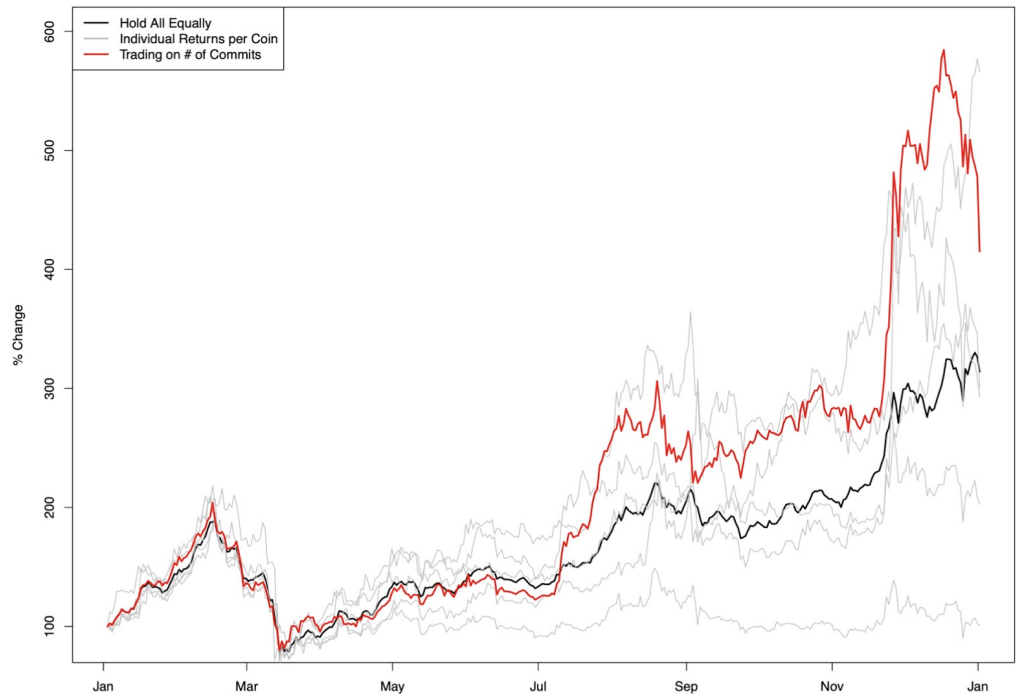


Figure 2

There are some interesting patterns in this figure; for example, the change from Parity development dominance to Solidity, the brief bursts of development on the Sharding and Casper repositories, and the end of aleth development. These unique events can be quantified by measuring how the ratios of colors change over time in figure 3. Perhaps this measure of commit changes is a better indicator for notable changes in project development than the number of commits alone.

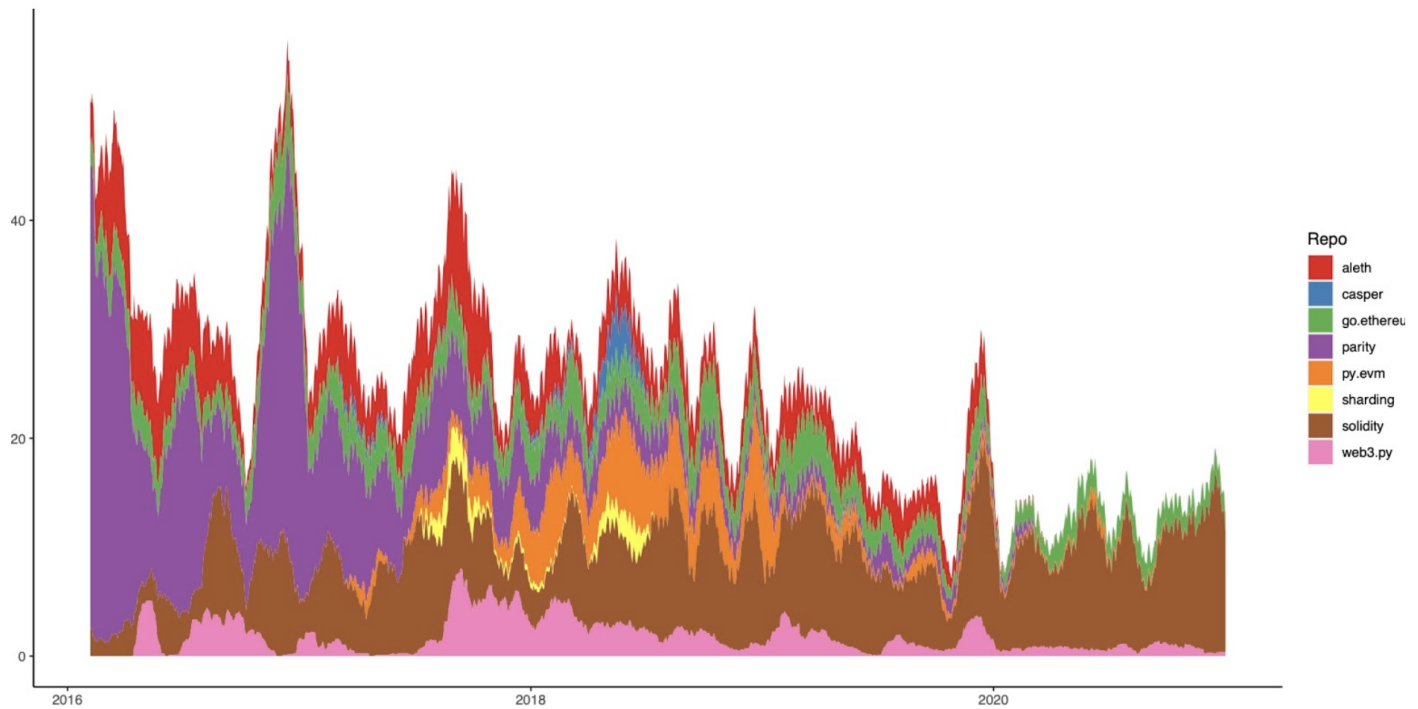


Figure 3

We compared these ratios of commit types at each point in time to the ratios in the preceding two weeks to get a measure of how different the types of commits are on each day. Following the simple trade strategy described above, figure 4 shows how we used this level of Commit Change as a potential buy signal; when the change is greater than 75% of changes seen (horizontal line) buy and hold for 14 days. Otherwise, hold everything equally.

This strategy seems to get some fantastic buy opportunities - the two late Fall signals on XMR, the first on EOS, and the second-to-last on XLM are a few worth noting. Indeed, this strategy does outperform the strategy of simply looking at the number of commits as shown in figure 5. This implies that if commits are indeed having an effect on cryptoasset values, it is likely more complex than simply the number of commits, but rather the content of those commits.

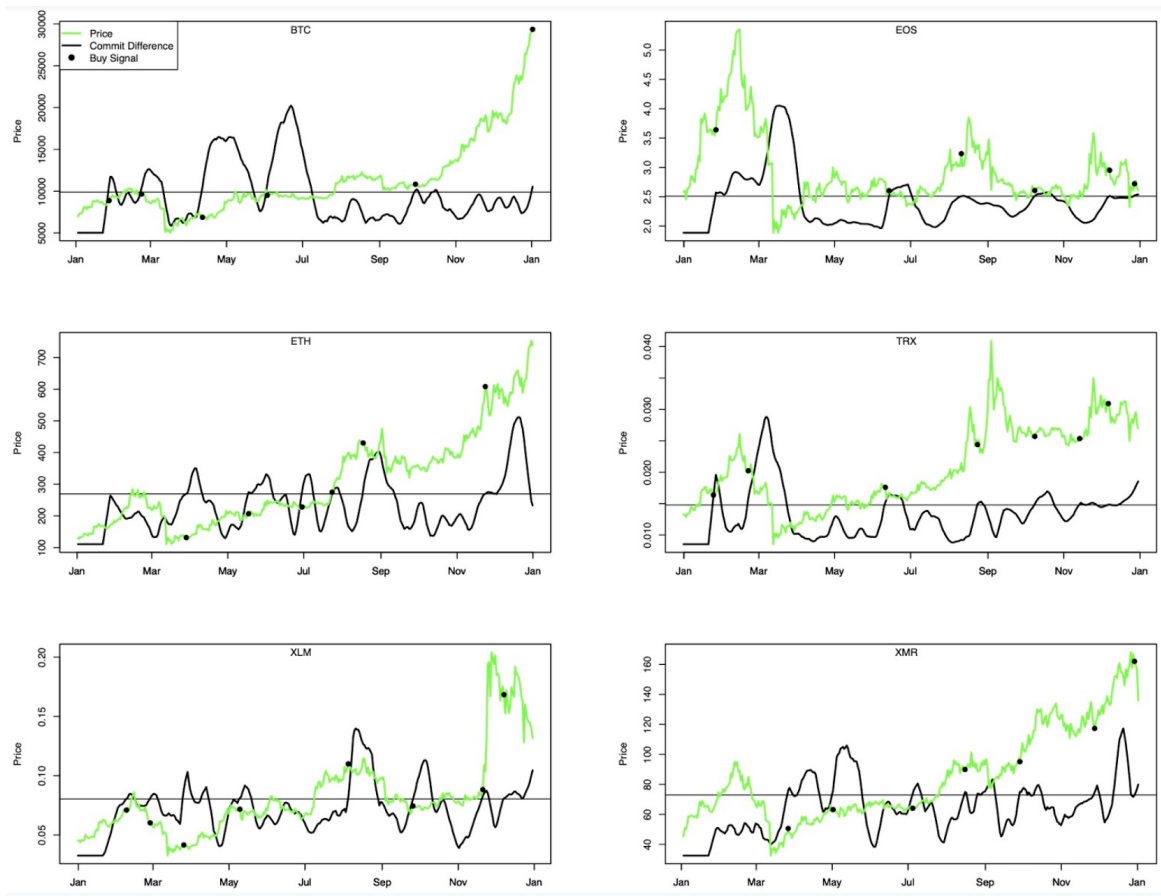


Figure 4

To measure the significance of this strategy, Figure 5 shows the final performance of 10,000 backtests that randomly traded these six cryptoassets. The purple vertical line shows the final performance of the commit changes strategy while the red line indicates the performance of the first strategy. With less than 1% of random strategies outperforming the commit-change strategy, it may seem like convincing evidence that Github activity should be a main consideration for traders. However, there is still a chance that this result can be attributed to luck.

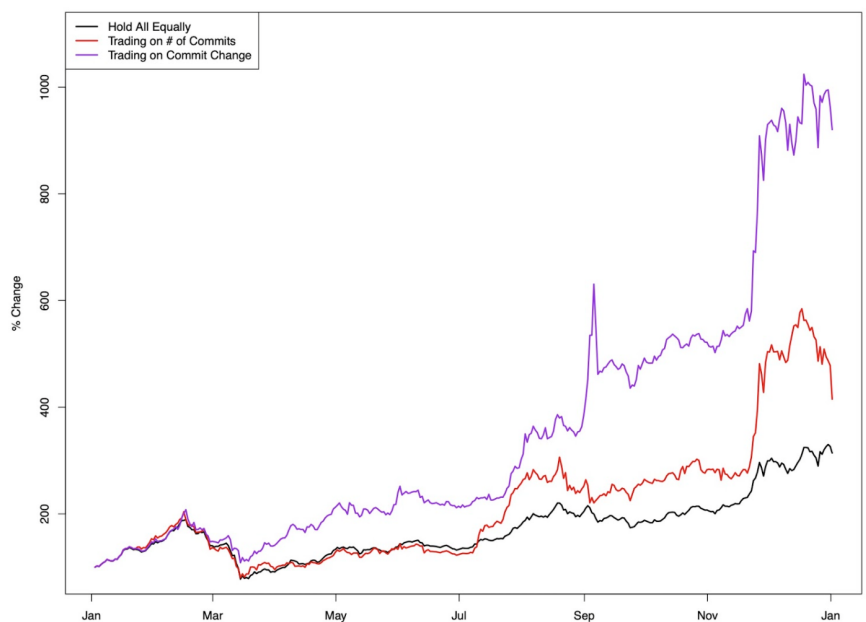


Figure 5

To verify if these strategies are significant, we back tested them on more historical data. It does seem likely that the results we found for 2020 may have indeed been attributed to luck; no single strategy was consistently the best across all the years as shown in the table below. However, it is more likely that the results of these strategies were attributed to luck in the historical data, especially the 2016-2017 backtests. This is because one lucky position in Monero (XMR) in 2017, for example, can return a nearly 4,000% increase alone. If a strategy was able to randomly capture only a few of these highly lucrative events in the 2016-2017 markets, it would define the entire year's performance.

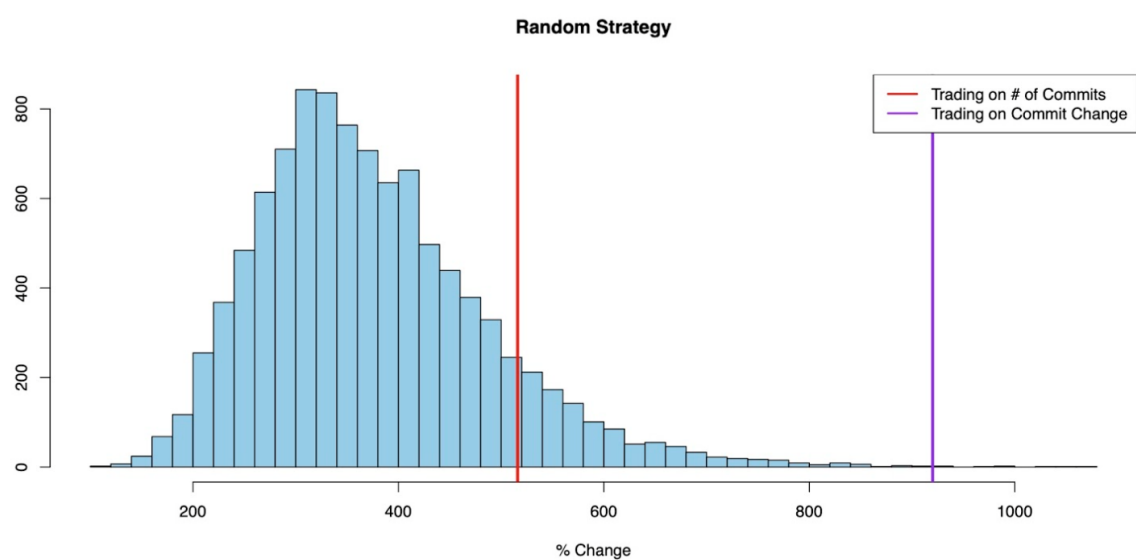


Figure 6

	2016	2017	2018	2019	2020
Holding BTC	206%	1430%	28%	197%	415%
Holding all 6	757%	7860%	35%	102%	320%
# Commits	560%	10800%	34%	69%	516%
Commit Change	293%	4170%	35%	77%	920%

Figure 7

The honest (potentially unfulfilling) answer is it is unclear whether Github activity has an effect on price. The few strategies we tested in 2020 seemed to work well, but when they were back-tested against previous years their performances were inconsistent. However, due to the market's highly volatile behavior (especially in 2016-2017) it is hard to signify the meaning of such backtests.

It is probably true that Github activity has some influence on market movements. However, there are many other factors that likely have much stronger effects. As the crypto markets mature, and we focus our attention on cryptoassets that don't have erratic 50x gains, it becomes easier to identify more subtle patterns such as the potential influences of Github activity. It could very well be that 2020 marks the first year that crypto markets have matured enough to identify such signals. Only time will tell.

Do Exchange Listings Still Impact Digital Asset Prices in 2020?

Coinbase Listings: A Primer

Since launching in 2012, Coinbase has rapidly become one of the largest retail onramps for traders and investors looking to enter the crypto ecosystem.

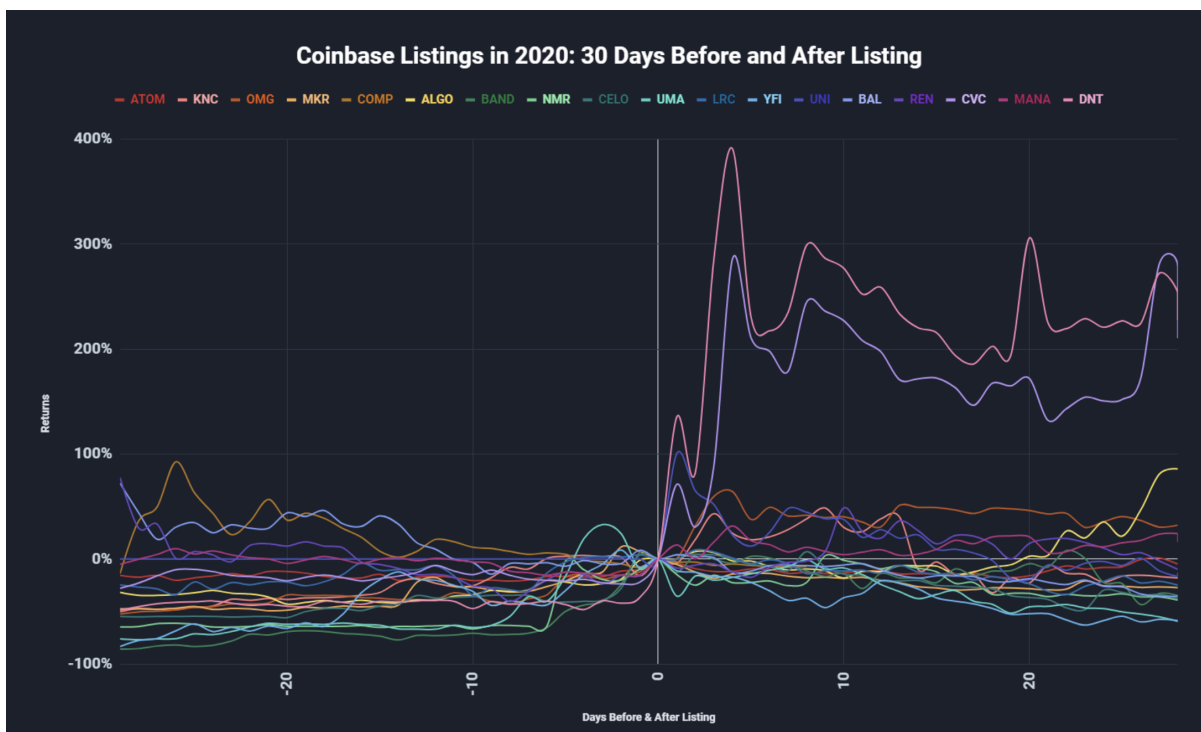
In its first few years of existence, Coinbase was extremely selective in terms of the number of tradable cryptoassets relative to other exchanges such as Binance, FTX, Poloniex, and Bittrex. Coinbase's large user base, combined with relatively limited cryptocurrency offerings, has created an environment in which new asset listings create massive hype. Being listed on Coinbase means that an asset may go from thousands of prospective investors to millions overnight.

Historical data has shown that Coinbase listings have had a positive effect on asset prices in recent years.

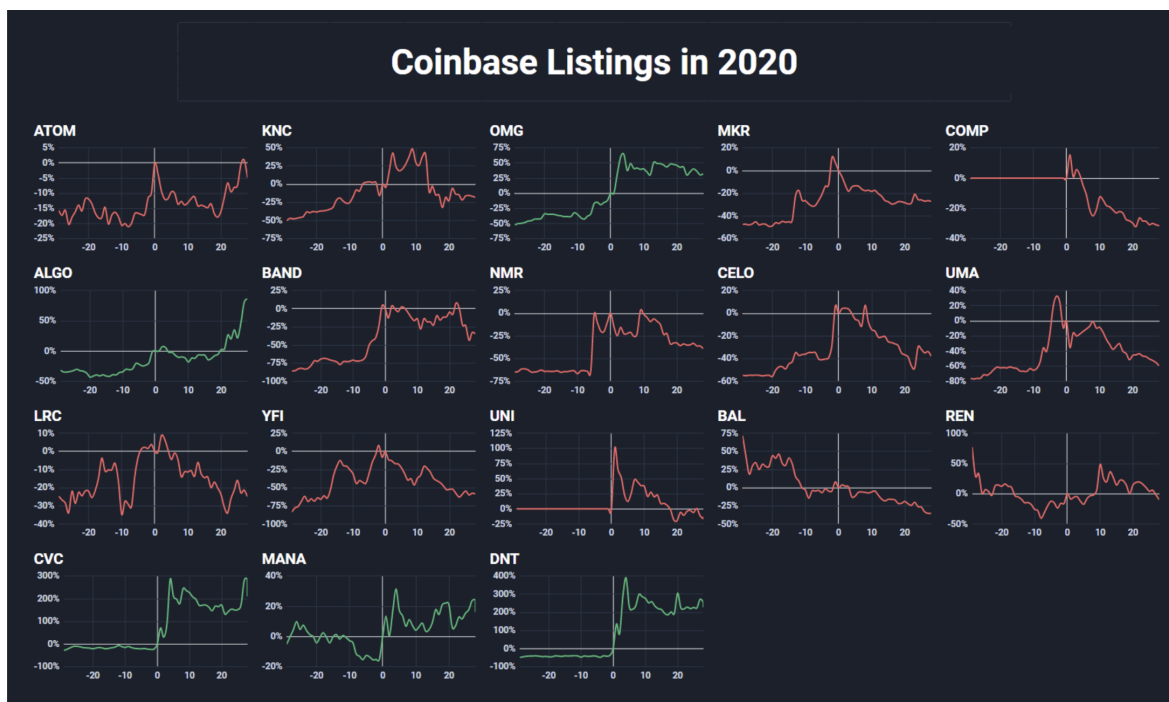
This makes sense, as the crypto markets have been filled with an abundance of retail investors that tend to follow the herd. When a popular retail exchange that accounts for a significant amount of market share decides to suddenly make a new asset available for millions of users, they are usually pretty eager to get their hands on it. With greed, excitement, and fomo (fear of missing out) being the underlying forces for many, any narrative that can potentially be used to their advantage becomes attractive. But how effective are listings in 2020? In this study, we will analyze the effects of Coinbase listings and their impact on digital assets in 2020.

Asset Performance Before and After Listing:

To get a general idea of how Coinbase listings impact the prices of digital assets, we'll start by looking at the performance of each asset listed in 2020, including 30 days before and after the date it was available for trade on the platform.



By combining the returns of each asset together, we can quickly see some extremes in the data. While most returns fall within a 100% to -100% range, there are a few outliers. CVC and DNT stand out among the crowd, with returns nearly 3x the size of the others. Now, let's look at these assets individually over the same time period to see if we can extract more insight.



At first glance, it appears that some assets do in fact spike upward for a brief period after getting listed on Coinbase. Indicated by the green plots, we can see that OMG, ALGO, CVC, MANA, and DNT have increased over the 30-day period post-listing, while the majority decreased. But, on closer examination, we can also see that some assets increased before getting listed, only to start decreasing once available on the exchange. Now what could cause this... maybe insider info? Not quite.

When looking at Coinbase listings, we have to take into account the actual listing date as well as the announcement that an asset will be listed on the exchange. There was a total of 18 assets listed in 2020, while 10 of those had announcements six days before (on average) the actual date that the asset was listed and available to trade. This provides a window of opportunity for traders to buy an asset in preparation for it to be listed on an exchange with millions of users that are eager for new products to trade.

So, we need to separate these two events to get a better idea of what is actually causing these assets to rise.

Do Announcements Make a Difference?

Timing is one very important aspect in the world of trading and investing. Getting in early on an investment can generate handsome rewards, while getting in late can turn into a costly mistake that you wish you never made. Market timing can quite literally make or break a trading strategy. So, can we use Coinbase listing announcements as a way to time market moves? Could this be a chance to get in ahead of the herd and profit before these assets actually get listed on the exchange?

Coinbase Listings Without Announcements

The first table below shows all of the assets listed on Coinbase that did not have an announcement pre-listing. All eight assets saw a positive double-digit increase on the day of getting listed, with the median asset returning +33%. The top three performers were DNT (+173%), UNI (+99%), and CELO (+48%). Half of these assets carried that momentum forward to perform positively the next day, with the median next day return of +4%. It's worth noting that none of these assets retraced their full price moves post-listing.

It's fair to say that these assets have responded positively to being placed in a new market. Now let's take a look at the performance of the assets that did have announcements pre-listing.

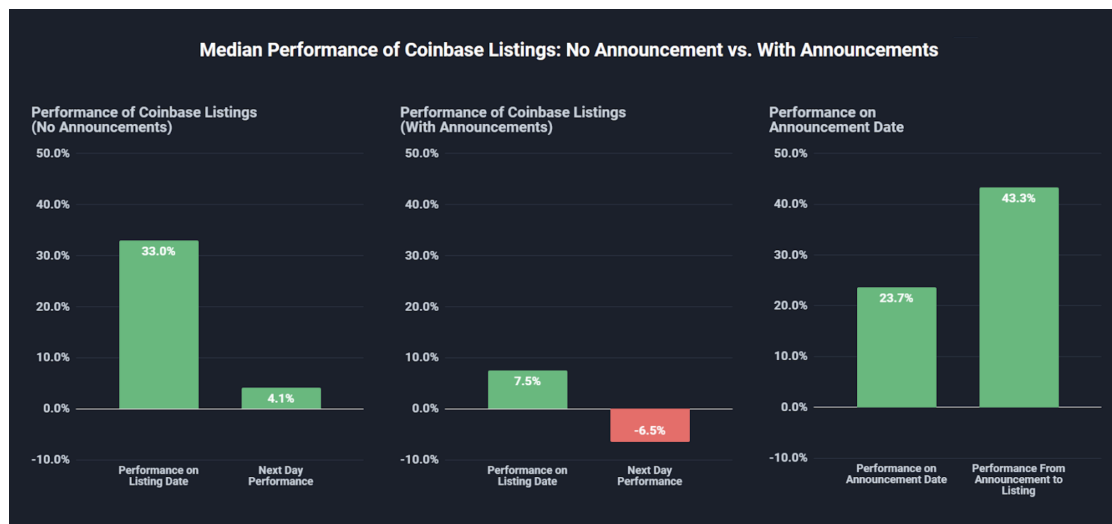
Coinbase Listings Without Announcements			
Asset	Listing Date	Performance on Listing Date	Next Day Performance
ALGO	Jul 16, 2020	23.1%	-2.3%
CELO	Aug 26, 2020	47.5%	-5.9%
UNI	Sep 17, 2020	99.3%	-17.0%
REN	Oct 1, 2020	18.9%	-8.4%
BAL	Oct 1, 2020	12.8%	11.0%
CVC	Nov 5, 2020	42.9%	42.9%
MANA	Nov 5, 2020	19.0%	10.6%
DNT	Nov 5, 2020	173.1%	46.8%
	Median	33.0%	4.1%

Coinbase Listings With Announcements Pre-Listing

The 10 assets below saw a median return of +24% on the day that Coinbase announced they were getting listed, with nine out of 10 performing positively. UMA (-2.8%) was the only one to sell off on announcement day. The majority of these assets (80%) continued to rise in price after their announcement, up until the day of actually getting listed on Coinbase. This time period varies, but when you take the average gap between the Coinbase announcement and the listing date for each asset, you get a six-day window of opportunity.

Coinbase Listings With Announcements Pre-Listing						
Asset	Announcement Date	Listing Date	Performance on Announcement Date	Performance From Announcement to Listing	Performance on Listing Date	Next Day Performance
ATOM	Jan 9, 2020	Jan 16, 2020	6.3%	14.3%	11.6%	-1.6%
KNC	Feb 19, 2020	Feb 27, 2020	0.6%	-2.2%	14.8%	-1.5%
OMG	May 14, 2020	May 21, 2020	23.8%	52.9%	32.2%	16.7%
MKR	May 29, 2020	Jun 11, 2020	41.2%	73.5%	-8.6%	-1.1%
COMP	June 18, 2020	Jun 23, 2020	97.4%	127.4%	10.7%	-30.1%
BAND	Aug 5, 2020	Aug 10, 2020	43.8%	198.4%	-4.1%	-11.9%
NMR	Aug 12, 2020	Aug 17, 2020	189.5%	159.4%	6.7%	-12.5%
UMA	Sep 2, 2020	Sep 4, 2020	-2.8%	-25.3%	-3.7%	-33.8%
LRC	Sep 10, 2020	Sep 14, 2020	22.8%	22.8%	2.1%	-1.7%
YFI	Sep 10, 2020	Sep 14, 2020	23.6%	33.8%	8.2%	-11.3%
		Median	23.7%	43.3%	7.5%	-6.5%

The median performance of these 10 assets on the day of actually getting listed is +7.5%. While this is still seen as a positive event, returns aren't nearly as strong as the assets that got listed on Coinbase without an announcement pre-listing (+33%). And when we look at performance the day after getting listed, we can start to understand what is actually going on here.



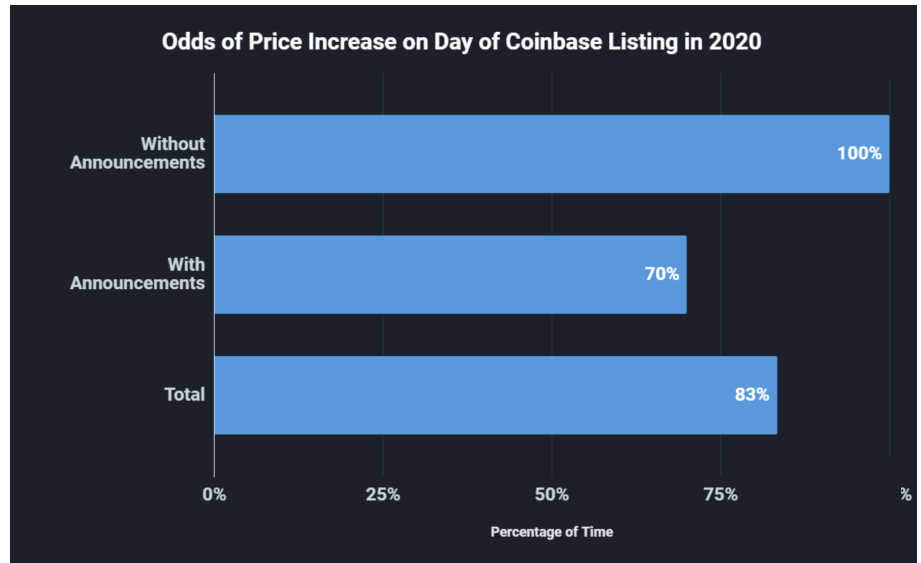
On the day of listing, assets that get listed by surprise (without an announcement pre-listing) have outperformed the assets that did have announcements by nearly 4x. They also have smaller drawdowns the next day, typically continuing to push higher while those with announcements suffer from a pullback caused by pre-listing gains.

This makes sense, as surprise listings sparked instant excitement without allowing for traders to get in early and profit before the listing date. Any pre-listing announcement creates opportunity beforehand, which in turn causes more selling pressure once the herd finally arrives on the actual listing date.

What's interesting here is the performance of assets from the time that Coinbase announces a future listing all the way up until the day it's available to trade. This is where you find the highest returns and most lucrative opportunities. As previously mentioned, the average window is six days. The median performance over this six-day window is +43%.

Odds of Price Increase

So, what are the odds of an asset's price increasing after getting listed on Coinbase? In 2020, every single asset that got listed **without an announcement pre-listing** has seen a positive price increase on the day of getting listed. Additionally, 70% of the assets that **did have an announcement pre-listing** were also positively impacted on the day of getting listed.



Tweet Volume

Now that we know that listings have a positive impact on asset prices, let's take a look at how Twitter conversations are impacted. The table below shows tweet volume for assets listed on Coinbase without announcements. At the time of writing, CELO, REN, and BAL tweet data was unavailable.

Tweet Volume of Coinbase Listings Without Announcements					
Asset	Listing Date	Tweet Volume on Listing Date	3 Days	7 Days	30 Days
ALGO	Jul 16, 2020	405.1%	66.6%	22.8%	193.4%
CVC	Nov 5, 2020	2019.6%	1644.6%	1530.4%	291.3%
MANA	Nov 5, 2020	80.8%	-36.7%	14.4%	-59.1%
DNT	Nov 5, 2020	5938.5%	4880.8%	2573.1%	4015.4%
	Median	1212.3%	855.6%	776.6%	242.4%
UNI	Sep 17, 2020	1089200.0%	715700.0%	551800.0%	199600.0%

One thing is for sure, new listings definitely create Twitter hype around these assets. The median change in tweet volume on listing date is +1,212%. This doesn't include Uniswap. As you can see, it is a major outlier here with astronomical percentage changes. Since the launch of UNI was a surprise airdrop, there were essentially no tweets about the token before getting listed. After nearly every major exchange rushed to list the asset, tweet volume surged above 10,000 within a few hours.

In addition to DNT being the best performer among the listings without announcements, DNT also had the biggest change in tweet volume at +5,939%. This rise in conversations continued for over 30 days post-listing. MANA was the only asset to decrease in conversations post-listing.

The table below compares Tweet volume on Coinbase listings with announcements pre-listing. At the time of writing, COMP, BAND, and YFI tweet data was unavailable.

Tweet Volume of Coinbase Listings With Announcements Pre-Listing							
Asset	Announcement Date	Listing Date	Tweet Volume on Announcement Date	Tweet Volume on Listing Date	3 Days	7 Days	30 Days
ATOM	Jan 9, 2020	Jan 16, 2020	35.1%	310.9%	4.6%	-23.9%	12.2%
KNC	Feb 19, 2020	Feb 27, 2020	449.8%	754.6%	635.1%	682.9%	91.2%
OMG	May 14, 2020	May 21, 2020	931.3%	2690.4%	2298.9%	490.1%	-22.8%
MKR	May 29, 2020	Jun 11, 2020	792.6%	2174.8%	897.9%	259.5%	61.2%
NMR	Aug 12, 2020	Aug 17, 2020	2150.0%	1118.8%	1212.5%	134.4%	87.5%
LRC	Sep 10, 2020	Sep 14, 2020	133.0%	170.7%	-31.2%	192.9%	-55.6%
Median			621.2%	936.7%	766.5%	226.2%	36.7%

These assets also saw big increases in tweet volume. The median change on announcement date is +621% and +937% on the listing date. We see a similar effect here as we did with returns for each group of listings. The pre-listing announcement creates an initial boost, but ends up producing dampened results on the actual listing date.

It's clear that listings have a sustainable impact on tweet volume, but what is the sentiment like within those newly formed conversations? Are investors emotions showing through in their language? Are they becoming more positive or negative? Let's find out.

How Do Listings Impact Investor Sentiment?

Before we dive into sentiment, let us define The TIE's daily sentiment score:

Daily sentiment score is a measure of how positive or negative conversations on Twitter have been about a particular coin over the last 24 hours vs. the previous 20 days. A score above 50 implies that conversations have been more positive today vs. the last 20 days. A score below 50 implies that conversations are becoming more negative.



Investor sentiment on assets listed without announcements was higher on listing date than assets with announcements pre-listing, along with bigger increases from the day before. The median sentiment score on the day-before listing was 47.2 (neutral/negatively skewed), but increased by 81% to 85.4 (very high) on the actual listing date. Investor sentiment remained high the next day.

We can see that investor sentiment on assets listed with announcements pre-listing was lower overall. The median sentiment score on the day before the listing announcement is 54.3 (neutral/positively skewed), increasing by 54% to 83.5 on the announcement date. Impact on sentiment post-listing is muted for these assets due to pre-listing announcement effects.

The low sentiment scores for assets listing with announcements may support the theory that investors get weary when a future event is telegraphed too far in advance, whereas surprise listings create a fervor that feeds a positive feedback loop for the asset's returns.

What About Other Exchanges?

Our analysis has shown that Coinbase listings have a positive impact on asset prices, but what about other exchanges? The table below shows the average peak return on crypto assets after a listing announcement on different exchanges. *Note, listings for certain exchanges might include new pairs.*

	Median Return			Number of Samples
	1 hour	1 day	1 week	
Binance	1.10%	8.43%	23.69%	245
BitMex	0.04%	2.39%	6.04%	4
Bitfinex	0.32%	2.67%	6.42%	82
Bithumb	-0.33%	7.04%	18.42%	24
CoinList	-0.05%	2.58%	13.31%	11
FTX	0.01%	2.24%	8.88%	175
Gateio	0.08%	5.19%	21.18%	2
Gemini	0.12%	3.76%	9.28%	29
HitBTC	-0.88%	0.20%	8.06%	6
Huobi	-0.12%	3.39%	11.79%	209
Kraken	0.68%	13.63%	36.27%	54
KuCoin	0.12%	4.69%	12.99%	350
Liquid	0.53%	4.26%	10.28%	12
OKEx	2.24%	11.61%	31.34%	116
Poloniex	-0.10%	3.77%	9.86%	145
bitFlyer	-0.64%	4.70%	5.24%	2
eToro	0.74%	1.00%	14.51%	4
Median	0.08%	3.77%	11.79%	

While Coinbase listings are the most impactful, the peak returns were relatively significant across all exchanges after one day and one week. By comparison: one hour (+0.08%), one day (+3.77%), and one week (+11.79%). OKEx has the highest one hour (+2.24%) returns, while Bithumb, CoinList, HitBTC, Huobi, Poloniex, and BitFlyer have negative one hour returns. Kraken seems to have both the highest oneday (+13.63%) and one week (+36.27%) returns.

Interestingly, these results suggest that, on average, an asset's value continues to increase for up to a week after the listing announcement. After one week, it can be difficult to attribute the listing as the driving force influencing price increase -2020 did in fact show mostly bullish runs on the weekly timescale. However, such trends should affect all exchange listings equally. This makes it especially convincing that Kraken, Coinbase, and OKEx listings do indeed have an effect on price that lasts a week (or longer).

Conclusion

Our research has found that exchange listings still have a positive impact on digital asset prices in 2020, providing a short-term opportunity for traders to profit. On the day of getting listed on Coinbase, assets without pre-listing announcements (+33%) have outperformed assets with pre-listing announcements (+7.5%) and have also had smaller drawdowns the next day. Tweet volume and investor sentiment follow within this same pattern. But there is another play at hand - the most lucrative strategy for trading exchange listings would be to buy the asset on its announcement date and sell after the asset actually gets listed on the exchange, as the median return during this six-day (on average) time period is +43%.

2020 in Review for the Top Cryptoassets

Bitcoin

Bitcoin Cash

Cardano

Dash

EOS

Ethereum

Ethereum Classic

IOTA

Litecoin

NEO

Stellar

Tezos

TRON

Zcash



Bitcoin

ANNUAL RETURN

+303.5%

TWEET CHANGE

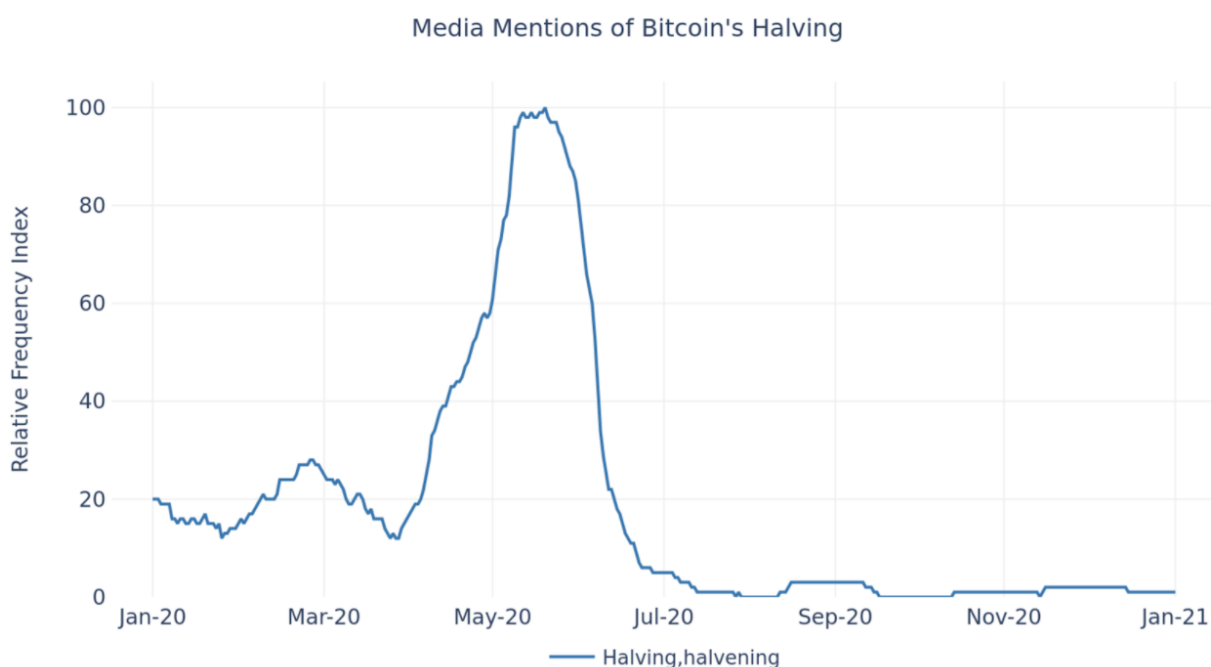
+118.1%

Bitcoin was one of the strongest performing cryptoassets in Q4 and returned 303.5% over 2020. BTC started the year at \$7,189 before surpassing its all-time high of \$19,834 on December 16th. Bitcoin closed the year at \$29,094. Among the most notable events for bitcoin was its halving event, which took place in May 2020.

Bitcoin's halving on May 11th was the fourth such event for the coin. A halving, in the context of bitcoin, is a 50% reduction in the coin's inflation rate. This reward halving decreased the number of bitcoin mined in each block from 12.5 to 6.25 BTC. Given the price of bitcoin at the time of the halving, that meant that new bitcoin created in each 10-minute block decreased from \$90K to \$45K. In other words, there was now \$45K less of bitcoin being created every 10 minutes.

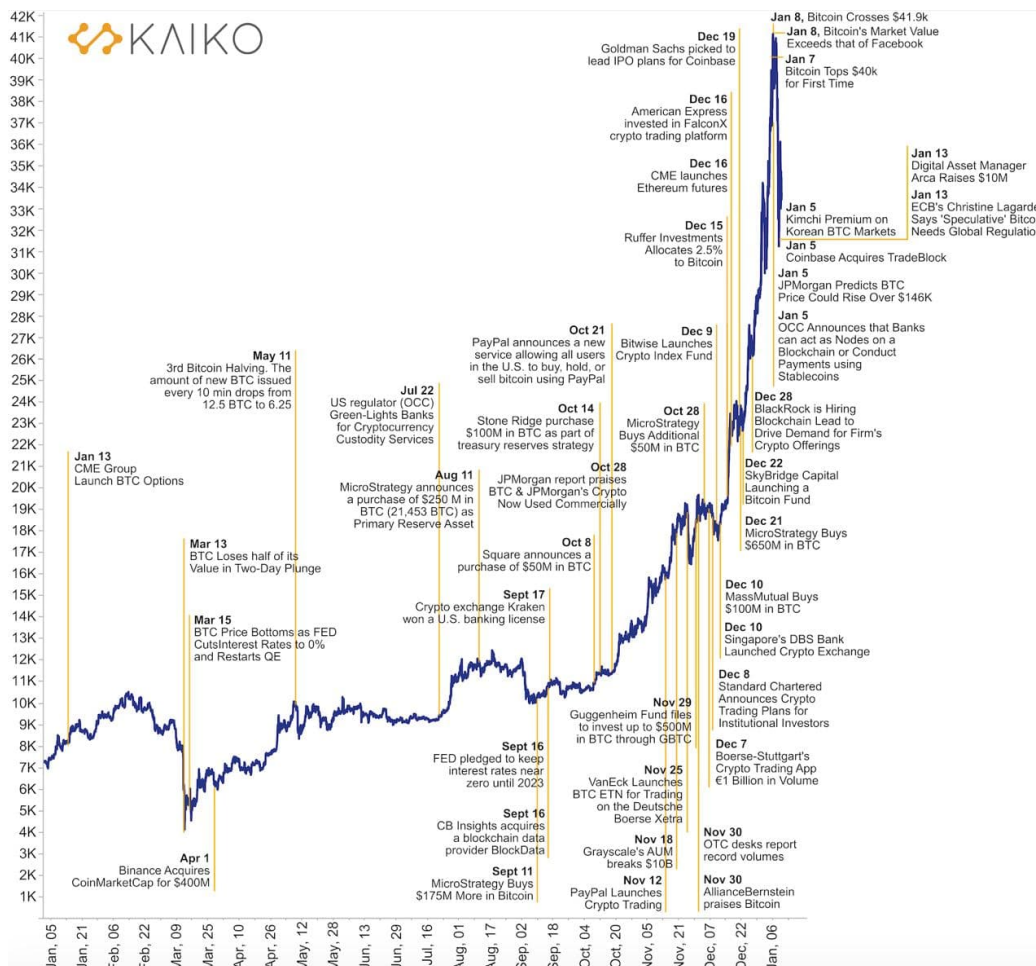
This reduction in supply, combined with constant demand, is viewed by many as a bullish development for the coin's price.

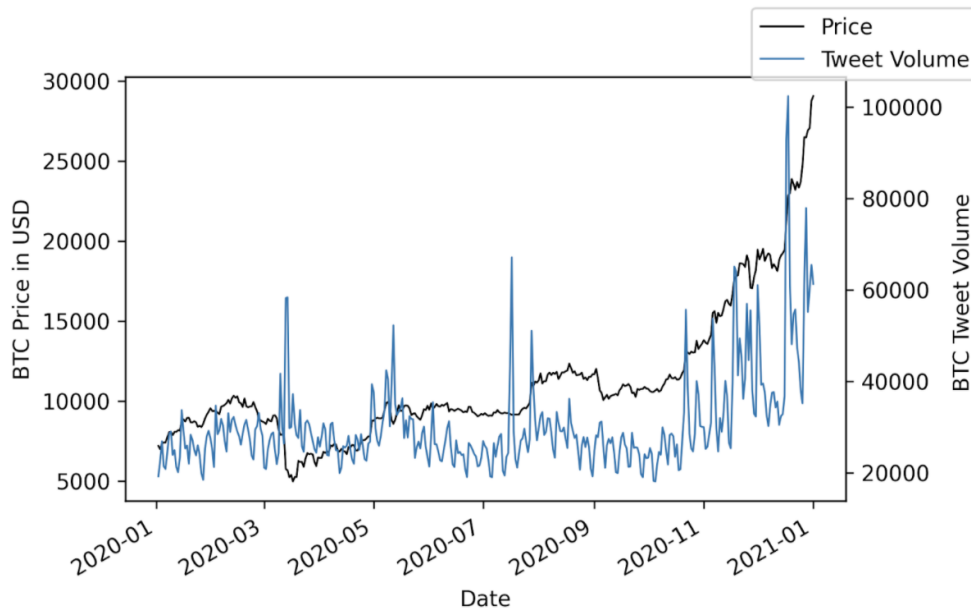
As the coronavirus hit the United States in full force in March, bitcoin sold off hard (falling below \$4K) as investors rushed to cash. In the aftermath of the sell-off and continuing until the May 11th event, the bitcoin halving narrative started to gain significant traction. The chart below highlights media mentions of bitcoin's halving over time.



The most notable narrative for bitcoin, which we covered in more depth earlier in this report, was the massive inflow of institutional investors and service providers into the space. For the first time, bitcoin as a hedging and uncorrelated asset started to receive mainstream traction, with billionaire hedge fund managers, including Paul Tudor Jones and Alan Howard, pledging their support. Well-known macro funds like that of Guggenheim have recently started to allocate more funds into bitcoin via Grayscale's GBTC.

On October 21, 2020, Paypal announced its service will allow users to buy, hold, and sell cryptoassets. The Paypal announcement appeared to have generated an upward BTC price movement and caused considerable buzz on Twitter. MicroStrategy made several large investments in BTC in 2020. The company purchased \$250M worth of BTC in August, made a second purchase of \$175M in September, then \$50M in early December, and made a final investment of \$650M in mid-December. MicroStrategy has invested a total of \$1.12B into BTC in 2020 and has doubled some of its earlier investments. 2020 was capped off with Coinbase announcing that it had filed an S-1 for IPO. The chart below from Kaiko illustrates some of the most notable bitcoin developments this year, overlaid with price.





[Jack Dorsey's Square Publicly Launches Grants for Bitcoin Development](#)

Mar 5, 2020 13:10 UTC

1hr **+11%** 24hr **+0.38%** 7d **-33.44%**

[Bitcoin's transfer volume marks ATH as trading engagement increases](#)

Mar 13, 2020 16:36 UTC

1hr **+0%** 24hr **+2.52%** 7d **+28.48%**

[Macro investor Paul Tudor Jones bitcoin as a hedge against central bank money printing](#)

May 7, 2020 17:20 UTC

1hr **+1.58%** 24hr **+3.51%** 7d **+0.01%**

[Bitcoin Halving Arrives: Mining Rewards Drop for Third Time in History](#)

May 11, 2020 19:30 UTC

1hr **+1.30%** 24hr **+4.18%** 7d **+13.18%**

[Bitcoin Meets Banking As U.S. Bank Regulator Permits Cryptocurrency Custody](#)

Jul 22, 2020 22:09 UTC

1hr **+1.46%** 24hr **+2.32%** 7d **+20.53%**

[London Stock Exchange-Listed Company Buys Bitcoin as Reserve Asset](#)

Oct 21, 2020 14:41 UTC

1hr **+0.09%** 24hr **+1.65%** 7d **+3.26%**

[PayPal Surprise Announcement Pushes Bitcoin Towards \\$13k](#)

Oct 21, 2020 14:59 UTC

1hr **+0.14%** 24hr **+1.67%** 7d **+3.16%**

[Canadian Bitcoin ETF Surpasses \\$100M](#)

Oct 22, 2020 06:08 UTC

1hr **+0.17%** 24hr **+1.42%** 7d **+4.03%**

[Standard Chartered partners with Northern Trust to Launch Crypto Custodian](#)

Dec 9, 2020 07:06 UTC

1hr **-1.24%** 24hr **+0.69%** 7d **+6.58%**

[MicroStrategy's Bitcoin-Driven Offering Boosted to \\$650M](#)

Dec 11, 2020 12:42 UTC

1hr **+0.18%** 24hr **+2.62%** 7d **+26.81%**

[Guggenheim Interested in Bitcoin Due to 'Rampant Money Printing' by the Fed](#)

Dec 17, 2020 09:25 UTC

1hr **-2.13%** 24hr **-0.11%**

[As Coinbase Announces Filing For IPO, Will Crypto Win Over Wall Street?](#)

Dec 19, 2020 00:44 UTC

1hr **-0.04%** 24hr **+1.67%** 7d **+6.96%**



Bitcoin Cash

ANNUAL RETURN

+67.9%

TWEET CHANGE

+6.42%

The Bitcoin Cash network once again experienced a hard fork on November 15, 2020. Bitcoin Cash's fork split the network into two new blockchains - Bitcoin Cash ABC and Bitcoin Cash Node. The fork was driven by disagreements among the Bitcoin Cash community surrounding a proposed 8% tax on gross rewards that miners would have to pay to the Bitcoin Cash development team. Bitcoin Cash saw a price increase of roughly 14% on the day of the halving and a seven-day price increase of 40%, leading to the forks competition on November 18, 2020.

[Grayscale Receives FINRA Approval for BCH and LTC to Trade Publicly](#)

Jul 21, 2020 06:59 UTC

1hr **+1.28%** 24hr **+1.35%** 7d **+20.56%**

[Prepping for an Airdrop: Prominent BCH Community Members Bid Bitcoin ABC Devs Farewell](#)

Sep 2, 2020 01:20 UTC

1hr **-0.20%** 24hr **-8.53%** 7d **-22.96%**

[Bitcoin Cash \(BCH\) Hard Fork Complete.](#)

Nov 18, 2020 10:42 UTC

1hr **+0.90%** 24hr **-1.93%** 7d **+40.14%**



Cardano

ANNUAL RETURN

+442.4%

TWEET CHANGE

+170.6%

Cardano returned +442.4% in 2020, making it one of the best-performing assets on eToro. As a yearly recap, Cardano introduced their process of proof-of-stake following the Shelley hard fork. The Shelley hard fork introduced new features like stake pools, delegations, and rewards.

Like many new developments in the space, the Shelley hard fork appeared to be a "buy the rumor, sell the news" event. In the months preceding the hard fork, Cardano's price experienced a 345% increase, but dropped by as much as 45% following the launch.

An interesting Q4 development for Cardano was IOHK's partnership with Wolfram Blockchain Labs (WBL). WBL stated it would be integrating Cardano's blockchain data into Wolfram Alpha. The integration will allow developers to introduce external data into Cardano's smart contracts. The companies will focus on "avant-garde-oracles," which they believe are needed to produce advanced smart contracts. WBL also announced that it would be using Cardano to develop its smart contract-based applications.

[Shelley hard fork and mainnet deployment confirmed for July 29th.](#)

July 27, 2020 00:20 UTC

1hr **-1.95%** 24hr **-17.61%** 7d **-19.17%**

[Shelley hard fork and mainnet deployment confirmed for July 29th.](#)

Jul 27, 2020 00:20 UTC

1hr **-1.95%** 24hr **-17.61%** 7d **-19.17%**

[Wolfram Alpha teams up with Cardano to build 'avant-garde oracles'](#)

Dec 17, 2020 14:05 UTC

1hr **+0.85%** 24hr **-4.07%** 7d **-19.69%**



Dash

ANNUAL RETURN

+138.0%

TWEET CHANGE

+100.0%

The Dash Core Group announced the release of the Dash Platform v0.14. The v0.14 version of the Dash Platform will provide users with document timestamps, new-and-improved DAPI-Client, a platform test suite, and an improved distribution package. This announcement was followed by a 25% increase in DASH's price over a week. At the time of the announcement, DASH was trading at \$74 and hit a high after a week of \$93 by August 1, 2020. The Dash Core Group also partnered with Tauros, a Mexican cryptocurrency exchange, to release the first-ever cryptocurrency Visa debit card in Latin America. The card will allow users to conduct online transactions by converting their crypto funds to pesos while using the Tauros mobile app.

Release Announcement: Dash Platform v0.14 on Evonet

Jul 24, 2020 19:31 UTC

1hr +0.15% 24hr +3.01% 7d +14.78%

Dash Launches Latin America's First Ever Crypto Debit Card

Aug 4, 2020 17:15 UTC

1hr +0.37% 24hr +3.24% 7d +3.88%

Release Announcement: Dash Core v0.16 on Mainnet

Sep 30, 2020 20:28 UTC

1hr +0.22% 24hr +1.67%



EOS

PRICE RETURN

+8.88%

TWEET CHANGE

-7.24%

EOS was the worst-performing cryptoasset on eToro in 2020, and the only crypto to see a negative annual return, falling by -.2%. In Q1, EOS reached an annual high of \$5.35 but steadily fell throughout the year.

On February 26th, the EOS network burned \$132M worth of tokens to reduce inflation. EOS also launched its beta of Voice.com, described as "a social media platform that prioritizes real people, real communities, and real discussions." EOS acquired the Voice.com domain from MicroStrategy for \$30M, and the platform reached its all-time high in terms of web traffic during October, when traffic peaked at 360,000 monthly visits. Since then, website traffic has experienced a steady decline. When you compare Voice.com to major social media platforms like Twitter, Facebook, and Instagram, it does not come close to the number of visitors that the major social media outlets average. To give some perspective, Facebook and Instagram average 6B+ visits a month while Twitter averages 25B+ visits a month.

Finally, on October 22nd, Binance launched EOS staking rewards. Before Binance's announcement, the EOS price shot up from \$2.52 on October 20th to \$2.69 on the 22nd, a 6.7% price movement over two days.

[EOS Burns \\$132M Worth of Tokens to Curb Inflation](#)

Feb 26, 2020 15:06 UTC

1hr -2.05% 24hr -4.14% 7d -5.63%

[EOS.IO Voice Social Media Posts Visible One Day Prior to Launch](#)

Jul 3, 2020 12:30 UTC

1hr +1.49% 24hr +2.02% 7d +8.12%

[Binance.US Supports EOS Staking](#)

Oct 22, 2020 02:01 UTC

1hr -0.93% 24hr -0.03% 7d -0.39%



Ethereum

ANNUAL RETURN

+467.1%

TWEET CHANGE

+92.3%

On November 6, 2020, the Ethereum Foundation launched its staking contract for Ethereum 2.0 (Eth2). The goal of Eth2 is to improve the scalability, security, and programmability of Ethereum. In early November, reports emerged on the upcoming launch of Eth2 and staking, driving the price of Ethereum up by 24% - from \$374 on November 1st to a high of \$463 on November 6th. Since phase 0 in early December, ETH's price has risen by 12% - from \$592 to \$662, as more than \$1B worth of ETH has been staked in the network's staking contract.

Another notable 2020 event for Ethereum was the December launch of the 3iQ Ether Fund, which marked the first time an Ethereum-based fund was listed on a major stock exchange. Shortly after the 3iQ, the CME Group announced the launch of Ethereum futures contracts, three years after the firm's Bitcoin launch. The CME's listing of Ethereum is notable, as it represents the first time many institutional investors will be able to access the asset and only the second crypto asset that the CME has supported. Ethereum was the best-performing cryptoasset on eToro in 2020, returning +467.1%.

[Developers Release Validator Launchpad for Ethereum 2.0 Final Testnet](#)

Jul 28, 2020 04:10 UTC

1hr **+0.18%** 24hr **-0.82%** 7d **+19.69%**

[Did the ETH 2.0 deposit contract just launch?](#)

Nov 4, 2020 02:54 UTC

1hr **+1.28%** 24hr **+6.21%** 7d **+20.74%**

[World-first Ether ETF debuts in Canada... With a trading halt](#)

Dec 11, 2020 03:47 UTC

1hr **-0.25%** 24hr **+1.79%** 7d **+17.72%**



Ethereum Classic

ANNUAL RETURN

+25.8%

TWEET CHANGE

-16.1%

In Q4, Wrapped ETC (WETC) was introduced, allowing Ethereum Classic users to interact with Ethereum's \$13B defi market. After the announcement of WETC in mid-November, Ethereum Classic saw a 21.2% increase in price over six days - from \$5.40 to \$6.55. In 2020, Ethereum Classic was among the worst-performing cryptoassets on eToro, after the network experienced a series of 51% attacks, including three in August alone. In Q4, Ethereum classic introduced the Thanos fork to provide resistance to 51% attacks by boosting the network's hash rate and resistance to manipulation.

Ethereum Classic Hit by Third 51% Attack in a Month

Aug 29, 2020 23:49 UTC

1hr **-0.46%** 24hr **+1.69%** 7d **-22.96%**

Ethereum Classic Users Have a New Way to Access \$13B DeFi Market

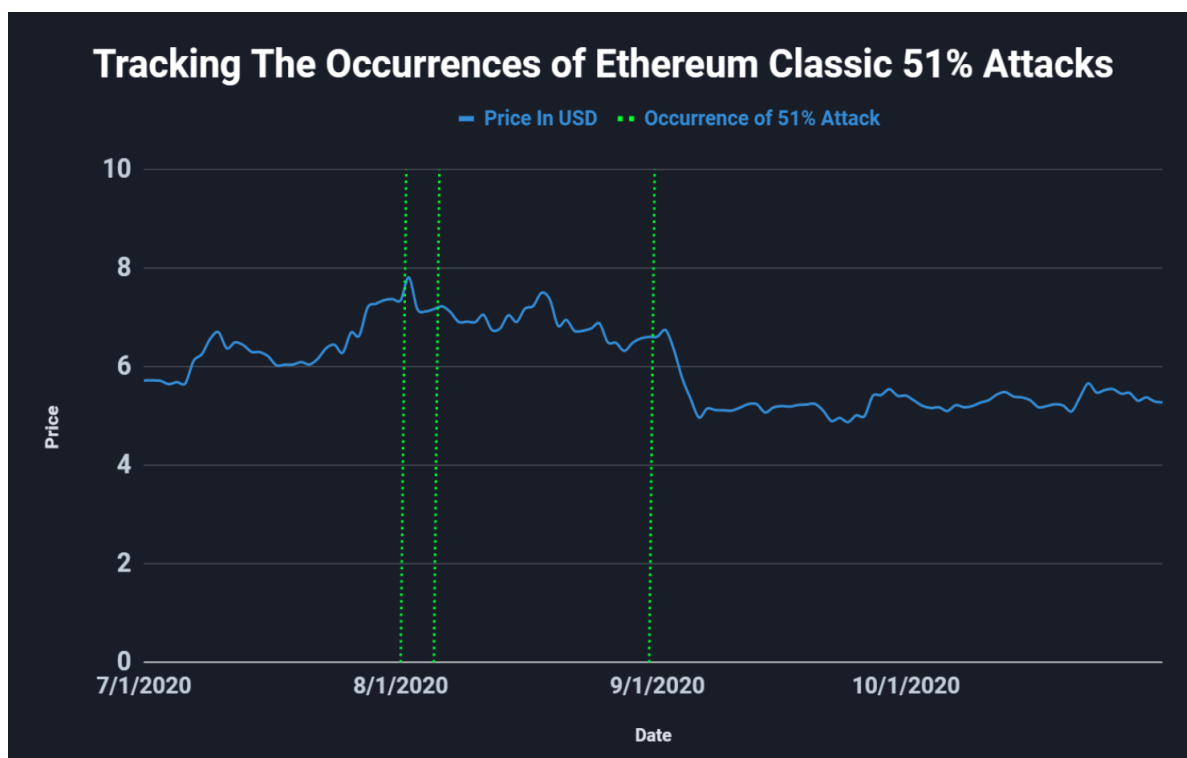
Nov 18, 2020 16:01 UTC

1hr **-0.89%** 24hr **-0.40%** 7d **+27.06%**

Preparations for ETC Hard Fork Upgrade

Nov 27, 2020 11:32 UTC

1hr **+1.06%** 24hr **+2.00%** 7d **+3.43%**





IOTA

ANNUAL RETURN

+83.8%

TWEET CHANGE

+12.9%

Despite the Trinity hack, IOTA managed to finish 2020 with an impressive +83.8% return. This year, the IOTA Foundation joined the Eclipse Foundation Board of Directors along with Oracle, Bosh, Huawei, and several other of the world's largest tech companies. In Q4 2020, IOTA launched the first phase of its 1.5 mainnet upgrades, called Chrysalis. Phase 2 of Chrysalis will affect every part of IOTA's ecosystem, such as node software, client libraries, and several other product streams. Chrysalis was successfully deployed on September 24, 2020, and is the intermediate stage before the much anticipated Coordicide network upgrade. The Coordicide upgrade is a planned protocol upgrade that removes the IOTA network's centralized coordinator.

IOTA's most notable event in 2020 was the Trinity hack. On February 12th, the IOTA Foundation had to shut down its entire network after a hacker exploited a vulnerability in the official IOTA wallet app, stealing \$2M worth of user funds. IOTA's founder gave compensation to anyone affected by the hack, and the wallet exploit was quickly patched.

[IOTA joins Huawei, Bosch and IBM as Eclipse' Board of Directors](#)

Jun 6, 2020 13:14 UTC

1hr -0.24% 24hr -2.61% 7d -7.11%

[NEWS IOTA chosen by EU as key innovator in funding programme](#)

Aug 6, 2020 05:59 UTC

1hr +0.59% 24hr +5.93% 7d +31.08%

[IOTA \(MIOTA\) Announces Successful Deployment of Chrysalis Network Update](#)

Sep 24, 2020 18:36 UTC

1hr -0.65% 24hr +4.55% 7d +9.84%



Litecoin

ANNUAL RETURN

+196.7%

TWEET CHANGE

+169.9%

Litecoin had a fantastic year, with tweet volume up 169.9% and the asset returning +196.7%. Most notably, in October, PayPal announced that Litecoin would be one of the first four tokens to be supported for buying/selling (and eventually spending) on the platform. In Q3, Grayscale received FINRA approval to launch its Litecoin Trust publicly. This approval will allow Grayscale to become the first digital asset-based fund to be publicly quoted in the U.S market and provide a means of investing in LTC without users needing to hold the tokens. In late July, the Grayscale event drove the price of Litecoin up by 24% over seven days. Furthermore, Litecoin launched its MimbbleWimble testnet, which will provide privacy and obfuscate distributed ledger transactions' traceability.

[Grayscale Receives FINRA Approval for BCH and LTC to Trade Publicly](#)

Jul 21, 2020 00:45 UTC

1hr **+0.51%** 24hr **+1.44%** 7d **+4.88%**

[Litecoin relaunches MimbbleWimble testnet as Europol targets privacy protocols](#)

Oct 6, 2020 05:55 UTC

1hr **-0.10%** 24hr **-1.33%** 7d **+8.28%**

[PayPal Announces Support for Bitcoin, Ethereum, Bitcoin Cash and Litecoin](#)

Oct 21, 2020 16:29 UTC

1hr **-0.71%** 24hr **+2.84%** 7d **+6.03%**



NEO

ANNUAL RETURN

+60.4%

TWEET CHANGE

-21.2%

In 2020, NEO saw a decrease in tweet volume of 21.2% and a value return of +60.4%. Among the most notable developments for NEO in 2020 was the release of the Neo3 Preview3. Preview3 showcased the Neo3 governance committee's mechanism implementation and introduced new features and enhancements for smart contracts. NEO saw a price increase leading up to the Preview3 release announcement, going from \$16.57 to \$18.97, a 14% gain in 24 hours. In late December, NEO launched its NEO3 Preview4, introducing the protocol's new economic model and oracle service. NEO's oracle service will allow smart contracts to obtain external data, generate new token standards, and provide overall optimizations to the NEO ecosystem.

[Just listed on Poloniex: NEO / USDT](#)

May 6, 2020 01:31 UTC

1hr +0.07% 24hr +1.16% 7d +10.15%

[Neo3 Preview3 Release Announcement](#)

Aug 7, 2020 02:38 UTC

1hr -0.14% 24hr -1.95% 7d +11.16%

[Neo3 Preview4 TestNet Upgrade Notice](#)

Dec 22, 2020 06:11 UTC

1hr +0.73% 24hr -1.00%



Stellar

ANNUAL RETURN

182.2%

TWEET CHANGE

+130.4%

On July 15th, the Stellar Development Foundation announced the integration of the Stellar Blockchain into the Samsung Blockchain Keystore. The integration allows Stellar end-users to securely store private keys on certain Samsung Galaxy smartphones. Furthermore, the Settle Network, a network based on top of the Stellar Blockchain, launched two new stablecoins in Argentina and Brazil. Each of the stablecoins are built on the Stellar Blockchain, and are fully backed by each country's native currency. These Stellar-based stablecoins will enable Latin American users to conduct cross-border payments, exchange funds, and connect to financial institutions. Overall, Stellar was the fifth-highest performing cryptoasset on eToro in 2020, rewarding holders a yearly return of +182.2%.

[Elliptic Partners With Stellar to Launch First XLM Transaction Monitoring System](#)

May 1, 2020 09:41 UTC

1hr -0.43% 24hr -1.23% 7d -2.40%

[Stellar Blockchain Now Available on Samsung Galaxy Smartphones](#)

Jul 15, 2020 18:02 UTC

1hr -1.01% 24hr +4.05% 7d +3.01%

[Stellar Lumen: First stablecoins in Brazil and Argentina launched](#)

Nov 27, 2020 10:00 UTC

1hr +0.72% 24hr +8.55% 7d -1.71%



Tezos

ANNUAL RETURN

+45.8%

TWEET CHANGE

-33.2%

In 2020, Tezos staking saw expansion with Coinbase broadening Tezos staking services to the U.K., France, Spain, and the Netherlands. The Coinbase extension will allow citizens of these countries to start staking their Tezos for 5% rewards. Coinbase's extension of Tezos staking caused the price of Tezos to run up over 3% 24 hours after the announcement. Furthermore, Switzerland-based Sygnum became the first regulated bank to provide a staking service for clients' significant crypto. Tezos was one of the worst-performing cryptoassets on eToro this year, coming in at third to last, yet investors still saw a yearly return of +45.8%.

[Coinbase expands Tezos staking service in UK and three European countries](#)

May 28, 2020 16:05 UTC

1hr +0.53% 24hr +3.21% 7d +9.64%

[Introducing Harbinger: a Self-Sustaining Price Oracle for Tezos](#)

Aug 26, 2020 00:47 UTC

1hr +2.37% 24hr +1.92% 7d +3.00%

[This Swiss bank is now staking Tezos \(XTZ\) for its clients](#)

Nov 6, 2020 13:23 UTC

1hr +0.73% 24hr +5.56% 7d +2.68%



TRON

PRICE RETURN

+107.7%

TWEET CHANGE

-47.9%

TRON protocol saw the largest decline in tweet volume in 2020 with a decrease of 47.9%, but still managed to return +107.7%. During the summer's DeFi bubble, TRON spiked 77% between August 31st and September 3rd, as its price rose from \$.026 to \$.046. On September 2nd, TRON announced genesis mining for SUN, a governance token that powers SUN.io, a yield farming protocol.

On September 9, 2020, TRON announced a strategic partnership with Band Protocol to secure decentralized price oracles to power DeFi within TRON's ecosystem. The TRON network also introduced JUST (JST), the protocol's token associated with its decentralized financial system. The JUST token aims to help develop TRON-based Defi protocols and provide an all-in-one financial solution to its users.

[Binance Will Support the JUST \(JST\) Airdrop Program for TRON \(TRX\) Holders](#)

May 12, 2020 10:57 UTC

1hr +3.16% 24hr +3.07% 7d +7.37%

[TRON and Band Strategic Partnership](#)

Sep 9, 2020 01:17 UTC

1hr +2.92% 24hr +15.53% 7d +10.65%

[The lending pool on #TRON is scheduled to go live early December](#)

Nov 11, 2020 11:55 UTC

1hr +2.54% 24hr +1.07% 7d +7.72%



Zcash

ANNUAL RETURN

+126.9%

TWEET CHANGE

-23.8%

Despite continued regulatory uncertainty surrounding privacy coins, Zcash returned +126.9% in 2020. In Q4, Zcash underwent its first major halving event when Zcash mining rewards were cut in half. The protocol also underwent some significant upgrades in Q4, such as the end of founder rewards and network updates.

Notably, in Q3, Gemini became the first regulated institution to support shielded Zcash withdrawals. Shielded Zcash provides more robust privacy protection than most other crypto assets. Gemini is a heavily regulated and compliant exchange, so its support for shielded Zcash withdrawal might be seen as a positive sign that regulators are ok with some of Zcash's privacy features.

[IRS Wants to Track 'Nefarious' Privacy Coin and Lightning Transactions](#)

Jul 3, 2020

[Gemini becomes first regulated institution to support shielded Zcash withdrawals](#)

Sep 29, 2020 13:08 UTC

1hr **+0.58%** 24hr **+5.48%** 7d **+20.74%**

[Zcash Undergoes First Halving as Major Upgrade Drops 'Founders Reward'](#)

Nov 18, 2020 12:37 UTC



Institutions Are Here - What Happens Next?

Q4 2020 Quarterly Report

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