PRASOS

QUARTERLY REPORT

Q2 2019

in collaboration with dcresearch

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The second quarter (Q2) of 2019 saw an escalating growth in bitcoin's price, with bitcoin rocketing from early April $4100 level all the way up to late June's high of $13 400. The rapid increase towards the end of Q2 was a result of a favourable market sentiment and some positive industry wide triggers like Facebook's Libra announcement.

Institutional investors contributed heavily to the freshly new bull market. Grayscale Investments LLC reported that institutional investors continued to account for the majority of the company's inflows, accounting for 73% of new investments. Additionally, **majority of these allocations were conducted by hedge funds.** Investors across the market are accumulating bitcoin before the upcoming halving event, expected to take place in May 2020. Additionally, we saw a significant token sale conducted by Bitfinex in April-May to stabilize their situation with USDT reserve balances. Bitfinex reportedly raised 1US$bn in ten days with a private token sale, which included number of investors contributing +100mil USD each [1].

Bitcoin's recent rally is also escalated by rising global uncertainty. Trade, technology, and currency wars between United States and China create a huge cold shower for the export-dependent companies globally. On more philosophical level, these "trade conflicts" have historically been a contributor to physical conflicts eventually. With increasing protectionism and automation technology, the dominant globalization trend might diminish, paving way for more localized ecosystems.

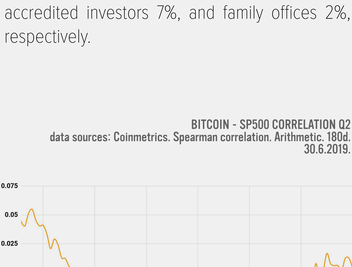
Eurozone is facing its own challenges. During second quarter of 2019, Italy was about to break EU fiscal rules, increasing tensions and derogating trust to EU's control over its member states even more. There's also a continuing trend towards nationalism within some EU countries. Europe's economic situation has raised increasing amount of discussion about a path to "Japanization", or a prolonged period of stagnation. Japan has also taken extreme measures to keep the economy rolling at some pace. Given the recent economic data from Europe it seems that ECB is unlikely to change its loose monetary policy soon, subsequently inflating traditional asset values even more while trying to push on a string desperately to boost the anemic economic growth. ECB's monetary ammunition package is already half-empty without a meaningful effect in the economic fundamentals [2].

In summary, these **increasing macro-level risks offer a friendly environment for alternative investments like bitcoin**. Bitcoin is an antifragile non-correlated asset that provides investors a safe haven during times of uncertainty. Bitcoin is a truly universal asset, available to everyone, everywhere.

Bitcoin yearly lows:

2012:	$4
2013:	$65
2014:	$200
2015:	$185
2016:	$365
2017:	$780
2018:	$3200
2019:	$3350

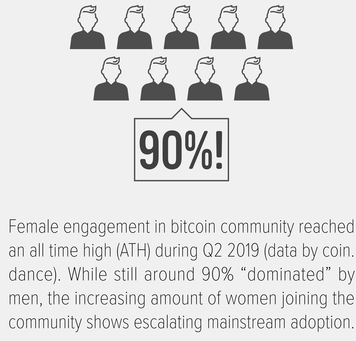
GRAYSCALE INVESTOR PROFILES, TRAILING 12-MONTHS
(% OF TOTAL INFLOWS)
data sources: Grayscale Investments, LLC



INSTITUTIONAL GROWTH

Exploring Grayscale LLC's Q2 data, we can clearly see an **increasing trend of institutional investors.** Institutions accounted for 73% of company's new clients. While retirement accounted for 18%, accredited investors 7%, and family offices 2%, respectively.

BITCOIN - SP500 CORRELATION Q2
data sources: Coinmetrics. Spearman correlation. Arithmetic. 180d.
30.6.2019.



The fundamentals of bitcoin market look bright. Bitcoin's correlation with S&P 500 index has dropped into negative territory, first time since Q3 2018. Especially the US-China trade war injected uncertainty into traditional markets. S&P 500 Index dropped 6,4% between May 5-31. **The "trade war" does not only affect commerce between two of the largest economies globally, but incrementally includes technology and national currencies used for hostile purposes.** In addition to S&P 500 Index, Nasdaq Composite dropped 8,7% between May 5-31 [3].

Female engagement in bitcoin community reached an all time high (ATH) during Q2 2019 (data by coin.dance). While still around 90% "dominated" by men, the increasing amount of women joining the community shows escalating mainstream adoption.

Additionally, there is still a great gender gap between the cryptocurrency users. Bitcoin and cryptocurrencies are quite natural technological extension to Generation Y and Millennials, which are digital native and used to real time transacting and communication in various forms via internet and mobile access. Cryptocurrencies offer first time 24/7/365 transaction access broadly over internet without regional boundaries, something that traditional finance sector hasn't been able to deliver to this date. These younger generations have to also bear consequences caused by the current unconventional economic policies, so cryptocurrencies act as a natural hedge in their investment portfolios for the future uncertainty [4].

BITCOIN'S VALUE PROPOSITIONS TO INVESTORS

GROWTH

The pioneering blockchain industry is developing with escalating pace and new projects are constantly gaining traction. The mass adoption in bitcoin & blockchain tech and tokenization in general will continue to evolve rapidly in coming years.

DIVERSIFICATION

Bitcoin with a low historical correlation to traditional markets, is an emerging asset class to consider as a part of the portfolio diversification. Even just 1-5% allocation to bitcoin has been historically impacting portfolio performance favorably.

HEDGE

Bitcoin can be seen as a potential hedge to traditional asset classes. Built-in features like 21 million hard cap, inflation-free structure, and antifragile blockchain make bitcoin a store of value.

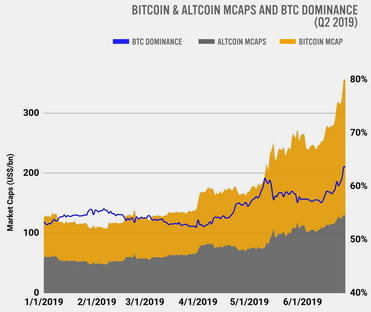
DECENTRALIZED VALUE

Global, decentralized, censorship-resistant & programmable asset with proven 10-year track record, showing outstanding staying power. With 99,98% uptime since inception, every subsequent day online makes bitcoin more robust, secured by built-in incentive structure.

INDUSTRY OUTLOOK

MARKET CAPITALIZATIONS

Bitcoin's MCAP continued to rise during second quarter of 2019, meanwhile especially small cap altcoins lost market share.



Bitcoin's dominance has steadily grown from Q1 2018 low 29% to >60% in second quarter this year. As a source of liquidity to the market, we see bitcoin's dominance continuing to grow in long-term future. Bitcoin also has the first-mover advantage as officially first cryptocurrency to market. Bitcoin's network effects are unmatched. Additionally bitcoin's 21M hard cap was built to mimic gold, making bitcoin a naturally scarce digital asset.

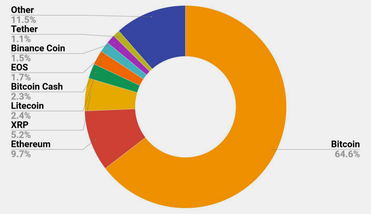
"Bitcoin is experiencing its fourth parabolic phase dating back to 2010. No other market in my 45 years of trading has gone parabolic on a log chart in this manner.

Bitcoin is a market like no other."

- Peter Brandt.

When exploring the market cap data we should always remember that MCAP is only a relevant metric when it's supported by volume relative to MCAP, and when volume comes from a broad group of participants that are representative of market demand. Many altcoins don't fit the criteria above, so the real (organic) bitcoin dominance is well over the said percent.

MARKET CAPS Q2
data sources: coin.dance. 30.6.2019.



During 2019 cryptocurrency rally, bitcoin's market share, also known as "Dominance Index", has increased into 64,6% (23.6.2019). Especially small-cap altcoins and tokens are rapidly losing market share. This trend is supported by maturing market, as investors are more focused on value-adding digital assets after the infamous ICO hype. All altcoins beyond top eight coins constitute only 11.5% of the total market capitalization, indicating clear segregation in the markets.

"There have only been 661,862 BTC mined in the last 12 months.

But there were 1 million daily active addresses yesterday.

That is less than 1 BTC per daily active address per year.

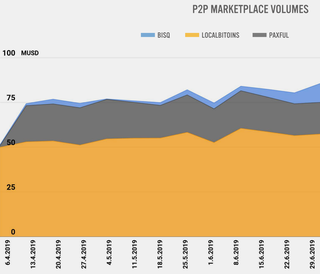
Scarcity is a beautiful thing."

- Anthony Pompilano, MCD.

P2P MARKET

P2P bitcoin exchanges are an essential part of bitcoin infrastructure. P2P exchanges provide liquidity to the OTC market, they also act as an alternative to the traditional cryptocurrency exchanges. In the embedded chart we can see the relative volumes of bitcoin P2P exchanges: LocalBitcoins, Paxful, and Bisq.

LocalBitcoins still remains as dominant exchange among the three during Q2 2019, recording around $60M weekly volume ($240M monthly), rising by $10M from the first quarter. By a basic calculation, LocalBitcoins' annual volume is around 2,9 billion USD. LocalBitcoins is the leading P2P platform globally with headquarters in Helsinki Finland.



Paxful's volume is ~19 million, around one-fourth of LocalBitcoins'. Paxful is a P2P fintech company with offices in Tallinn, and US.

3rd place goes to **Bisq**, with weekly volume circling around $5-$10M. Bisq (formerly Bitsquare) still lacks some traction compared with more popular services.

Another rising P2P platform is Hodl Hodl, also known for the famous Baltic Honeybadger conference in Riga Latvia. Hodl Hodl does not provide open source data for their service, consequently we're unable to compare the volume data.

Decentralized Exchanges (DEX) are a rising phenomenon in a trend of globally growing KYC, AML, and compliance demands. The DEX's volume is still pretty low and there's no actual data to compare them properly, yet.

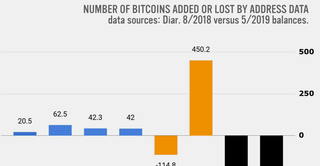
SIDESHIFT AI

Sideshift AI, an automated coin swap service has gained some early traction during Q1 and Q2 2019. Sideshift was first revealed last year by Andreas Brekken among the suite of applications he created for the Drivechain project.

Sideshift value proposition is to offer a revolutionary way to "swap" between different cryptocurrencies. In a recent demonstration, Sideshift AI processed a swap between BTC held in Lightning Network and Tether (USDT). The platform currently supports: BTC, BCH, LTC, ZEC, USDT, XMR, DASH, ETC, ETH, and DAI [5].

INSTITUTIONAL GROWTH

When checking wallet data between 8/2018 and 2019 (Diar), we can see clear growth among retail segment, bitcoin addresses holding between 0,01-100 BTC. 1–10K sized holdings have also seen dramatic growth. The trend is clear, retail investor sentiment is steadily growing, institutional investors are accumulating while the exchange holding is seeing a massive decline.



Over 26% of circulating supply, $36B worth of bitcoin, now sit in addresses that have a balance of 1000-10K BTC. In August 2018 when bitcoin was at $8000, these institutional-sized addresses held under 20% of the circulating supply showing a sharp accumulation of nearly 7% in less than a year.

Grayscale Investments LLC reported that institutional investors continued to account for the majority of the company's inflows, accounting for 73% of new investments. Additionally, majority of these allocations were conducted by hedge funds.

FUTURES

Institutional investors are clearly the driving fundamental force behind bitcoin's rally in second quarter.

CME BITCOIN FUTURE POSITIONS
data sources: CFTC. 11.6.2019.

Looking at CME bitcoin future positions data by CFTC, Leveraged funds (also known as hedge funds) have entered the market, counting for 2564 of long, and 2911 short positions. The data indicates that hedge funds are slightly bearish towards current bitcoin rally, while the amount of long positions is considerably high. Futures are contracts let investors bet on whether an asset will rise or fall.

"Traditional market participants may be more sceptical of bitcoin than millennial day traders."

- George Michalopoulos
Typhon Capital Management

Other large traders, remain slightly more bearish toward the current sentiment, meanwhile traders with small positions appear to be hugely optimistic. Asset managers held only long positions.

CME BTC FUTURES
(26.6.2019)

Contracts traded: 26491	Contracts open interest: 6069
Equivalent bitcoin: 132455	Equivalent bitcoin: 30345
Notional value: ~$1,7B	Notional value: ~$421M

CME futures got a volume boost during Q2, as CBOE abandoned its own futures contracts. CME's volume has been hugely dominant in the market since launch [6].

The data don't necessarily mean hedge funds are placing outright bets that bitcoin will drop. The short bets could also be part of hedging strategies. For example, a fund with a portfolio of bitcoins might go short at CME as insurance against the value of bitcoin dropping. Additionally institutional miners are natural hedgers of BTC (shorting) when locking in price for their future income stream.

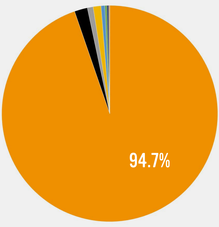
"CME right now is providing a unique ability for the larger players to have massive positions with very low counterparty risk."

- L. Asher Corson
Consolidated Trading

However, as leveraged investors like hedge funds remain more bearish than bullish, data shows that they are losing their conviction. On June 11th, there were 47% more bearish positions than bullish, with that number shrinking to just 14% by the end of second quarter.

FINANCIAL PRODUCTS

GRAYSCALE'S SINGLE-ASSET AND DIVERSIFIED PRODUCTS
data sources: Grayscale Investments, LLC



Grayscale **Bitcoin** Trust	**2450.2**
Grayscale **Ethereum Classic** Trust	**50.2**
Grayscale **Digital Large Cap** Fund	**22.5**
Grayscale **Ethereum** Trust	**30.4**
Grayscale **Zcash** Trust	**14.8**
Grayscale **Bitcoin Cash** Trust	**7.3**
Grayscale **XRP** Trust	**6.3**
Grayscale **Horizen** Trust	**3.7**
Grayscale **Litecoin** Trust	**0.9**
Grayscale Stellar **Lumens** Trust	**0.5**

Grayscale Investments LLC reported that institutional investors continued to account for the majority of the company's inflows, accounting for 73% of new investments. Additionally, majority of these allocations were conducted by hedge funds. Grayscale product offering cover 9 single assets trusts and one diversified product, Major part of the AUM is concentrated to the oldest flag ship product, Bitcoin Trust, with an AUM of 2.45 US$bn as of 24.6.2019.

GLOBAL UNCERTAINTY

"TRADE WAR" EFFECTS ON GLOBAL ASSET CLASSES

The "trade war" between United States and China has escalated during second quarter of 2019. The said trade war does not only involve basic goods between the nations, but additionally technology. National (fiat) currencies are also involved in the flux.

US President Donald Trump announced a tariff increase on $200 billion of annual Chinese imports, from 10% to 25% on May 5th. In response, Beijing announced its own series of retaliatory tariffs on US goods [7].

Developing trade war will have increasing effect on global macro-level trade. As US and China combined represent more than $35 billion in annual GDP, tariffs and restrictions will radiate to virtually every economy on a global scale.

PROJECT LIBRA

Network of partners

The Libra Association is governed by diverse businesses, nonprofit and multilateral organizations, and academic institutions. Organizations join the association by running a validator node on the network and serving in governance. An initial group of organizations will work together to finalize the Libra Association's charter and will become the association's Founding Members upon its completion.

The rumors about Facebook's upcoming cryptocurrency, stablecoin, or token have been circling within the industry for years. Finally, during June of second quarter 2019, Facebook officially confirmed the launch of Libra. The upcoming Libra will be an essential addition to growing number of digital currency solutions, Libra will also escalate the mainstream adoption of bitcoin and other cryptocurrencies. We gathered some of the upsides and downsides related to future launch.

UPSIDES

One of the most obvious advantages is that Libra will likely be integrated into some of the world's most prominent consumer applications and payment service providers.

Facebook and its founding members have massive distribution channels and user bases that span a multitude of users on both the supply and demand side of a transaction from merchants (PayPal, Visa, Mastercard, Stripe, eBay) and members of the gig economy (Uber, Lyft) to consumers.

Libra will also make cryptocurrencies more widely known to the global mainstream customer.

Facebook currently has a user base of close to 2,7 billion people, even if they create traction with just 1% of the current user base, impact will be significant.

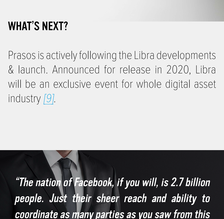
DOWNSIDES

Perhaps the most distinct disadvantage is the growing distrust expressed by users regarding Facebook's handling of customer data.

It is well understood Facebook shares user information in exchange for ad revenue, and as a result, data collected by the tech giant is far from private. The Cambridge Analytica hack in 2018 revealed the magnitude of information Facebook possesses and the lack of protection around this data.

Libra also seems to be in a collision course with several regulatory risks. During late Q2 2019 US Congress asked Facebook to stop the launch of Libra.

Additionally several countries, like Japan have expressed somewhat hostile views into the currency. These national level institutions are seemingly afraid that Libra will potentially pose a threat to national currencies and jurisdictions [8].



WHAT'S NEXT?

Prasos is actively following the Libra developments & launch. Announced for release in 2020, Libra will be an exclusive event for whole digital asset industry [9].

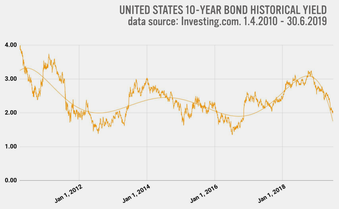
"The nation of Facebook, if you will, is 2.7 billion people. Just their sheer reach and ability to coordinate as many parties as you saw from this announcement, is unrivaled, and I think this is the biggest development for the industry since the launch of Ethereum four years ago."

- Ryan Selkis

INTEREST RATES

IMF economists released a blog post during Q1 2019, proposing a policy that taxes bank deposits instead of allowing them to accumulate interest [10].

US government 10 year bond yield kept falling amid the escalated trade wars and the Trump's pressure towards FED to continue stimulating the fairly strong US economy more aggressively. 10 treasury yield headed down to 2.0% level first time since 2016.



If US continue to follow this trajectory, it's possible that we see a record low yield before the year end as already projected by some economists. One could even argue that the trust towards FED's independence is gone for good as the monetary policy has become increasingly affected by the politics and trade war battles.

Monetary policy, or primarily the manipulation of Interest Rates, is the framework by which Central Banks target economic growth and inflation. In order to reverse the 2008 credit crisis of the Great Recession, central banks have cut interest rate policies to unprecedented historic depths. As the Fed has attempted to restore interest rates closer to pre-Crisis levels, stock markets have trembled. In an economic downturn, Central Banks attempt to revive credit paralysis by cutting interest rates. According to the International Monetary Fund, "Severe recessions have historically required 3–6 percentage points cut in policy rates."

"To illustrate, suppose your bank announced a negative 3 percent interest rate on your bank deposit of 100 dollars today. Suppose also that the central bank announced that cash-dollars would now become a separate currency that would depreciate against e-dollars by 3 percent per year.

The conversion rate of cash-dollars into e-dollars would hence change from 1 to 0.97 over the year.

After a year, there would be 97 e-dollars left in your bank account."

– IMF

By effectively forcing people to spend their money with low or negative interest rates, central banks would ensure a short-term inflow of liquidity into the market. However, many economists and financial analysts agree that this would be detrimental to the economy. After the financial crisis we have witnessed liquidity boosts that haven't channelled to the economy effectively (money multiplier has been lowish) and the extra liquidity has been accumulating to parties without needs for extra liquidity, not to the parties who need it most and would contribute to the economic growth most via consumption and subsequently boost inflation.

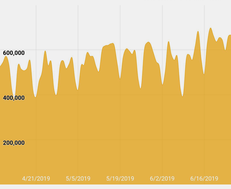
Bitcoin as an asset could prevent government(s) from compelling people to comply with monetary policies, that do not serve the common person's interests. If banks start imposing negative interest on deposits, then citizens will effectively lose a percentage of their savings every year. Holding bitcoin and other cryptocurrencies in such scenario could prevent people from being the victims of Negative Interest Rate Policy or NIRP.

ASSET SUMMARY

UNIQUE ADDRESSES

The number of unique bitcoin addresses used in Q2 2019 remained steady, at around 600 000 addresses.

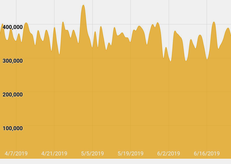
NUMBER OF UNIQUE ADDRESSES USED DURING Q1 2019
data source: blockchain.com



CONF. TRANSACTIONS

2018 saw a 3-year low in confirmed transactions during April 2018, since then transactions have grown **over 40%**. The amount of confirmed transactions continued to grow during Q3 and Q4 2018. Consequently we expect the amount of transactions to continue growth in 2019.

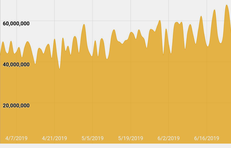
CONFIRMED TRANSACTIONS PER DAY DURING Q2 2019
data source: blockchain.com



NETWORK HASHRATE

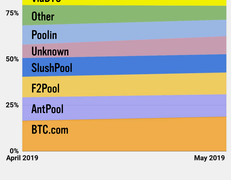
Bitcoin network hashrate was steadily increasing and reached **all time high of 68 000 000 TH/s at the end of Q2.** The stable hashrate indicates miner confidence and healthy infrastructure. The hashrate usually correlates with bitcoin's price, however hashrate usually contains less volatility as mining operations are investment heavy.

THE ESTIMATED NUMBER OF TERAHASHES (TH/S) THE BITCOIN NETWORK PERFORMED DURING Q2 2019
data source: blockchain.com

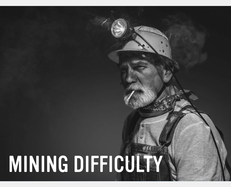


HASHRATE DISTRIBUTION

BITCOIN MINING POOL HASHRATE DISTRIBUTION IN Q1 2019
data source: blockchain.com



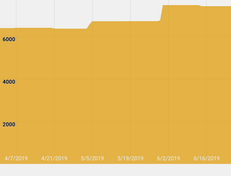
Bitcoin mining pool hashrate distribution during Q2 2019 shows hashrate being distributed more evenly between mining pools during the quarter. Smaller mining pools started to emerge especially during Q3 and Q4 last year.



MINING DIFFICULTY

After dropping heavily in late Q4 2018, bitcoin difficulty rose again during first and second quarters of 2019 amid the steady increase of hashrate. The reason for difficulty drop in late Q4 2018 was mainly miners shutting down their operations.

BITCOIN MINING DIFFICULTY DURING Q2 2019
data source: blockchain.com



As miners went offline during Q4, there wasn't sufficient hashpower to solve the complex algorithm required to discover (aka mine) a new transaction block. The difficulty level is designed to adjust to every 2016 block to accommodate with hashrate in each situation.

Difficulty is a relative measure of how difficult it is to find a new block. The difficulty is adjusted periodically as a function of how much hashing power has been deployed by the network of miners. Source: blockchain.com

CORRELATIONS

Bitcoin's correlation with **gold (GLD)**, and stock market **(SP500)**, and US dollar index **(DXY)** are shown in the following charts. During Q2 2019 the rolling 180d correlation with gold was close to zero until rising from May 0 level to 0,14 level at the end of quarter. Bitcoin is currently showcasing growing relationship with the gold market. The bitcoin - gold trend is mainly driven by growing global uncertainty: US-China trade, technology, and currency war.

On macro level we're also witnessing growing geopolitical risks. Smart investors always try to manage their portfolios proactively. When growing macro-level risks are increasingly present, smart money reallocates into "safe haven" assets, like gold and bitcoin (digital gold).

CORRELATIONS BTC VS. DXY/GOLD/SPX
data sources: Coinmetrics

The highest point of bitcoin - SP500 correlation was 0,055 during early quarter. Correlation dropped to -0,075 in mid-quarter and rose to 0 level in late Q2. The low or negative correlation with stock market favors bitcoin's "digital gold" hypothesis, in which bitcoin is portrayed as a non-correlated asset to the traditional asset classes and at the same time offer unique return potential among alternative investments. Purely negative correlation indicates that investors have been reallocating assets from stock market into bitcoin.

Bitcoin - DXY (US Dollar Index) correlation stayed mildly negative during majority of second quarter, dropping to -0,18 during mid-April, but increasing gradually thereafter. Bitcoin usage as a forex hedge against USD is increasing In emerging markets with weak local currencies such as Venezuela, Indonesia and Colombia, which are currently among the fastest growing markets for bitcoin.

Source: Coinmetrics; Spearman correlation. Arithmetic. 180d. 30.6.2019.

BLETCHLEY INDICES PERFORMANCE Q2 VS. BTC
data sources: Bletchley. 30.6.2019. Indexed (1.4.2019 = 100)

BITCOIN DOMINANCE UP, SMALL CAP ALTCOINS DOWN

Bletchley 40 index (market cap weighted index composed of 40 small sized digital assets by market capitalization) dropped -54% against bitcoin during late Q2. The second quarter of 2019 was pretty savage for the altcoin market in general, at least in terms of their bitcoin-denominated values. The Bletchley Ethereum Token Index dropped more than 50%% against bitcoin and the Bletchley Top 20 Index is down 34% against bitcoin. However, the Ethereum Token Index was one of the positive spots of the altcoin market earlier in the year. While some altcoins have mediocre performance in USD terms, they haven't kept pace with the sovereign digital gold, bitcoin.

Things look a bit better for the Bletchley Top 10 and Bletchley Total Indexes with less losses, but bitcoin itself also makes up a large percentage of these particular indexes (71% in the case of the Bletchley Top 10 and 66% of the Bletchley Total Index).

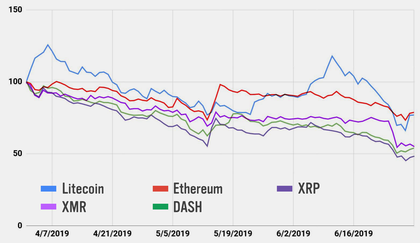
BLETCHLEY 10 Q2 (USD)
data sources: Bletchley. 30.6.2019.

The Bletchley 10 Index is a market capitalization weighted index composed of 10 of the most valuable digital assets by market capitalization. However in USD terms Bletchley 10 index was up 151 %.

There seems to be plenty of investors who still think "alt season" is just around the corner, but bitcoin should be the main focus at the moment. In the past, altcoins have tended to outperform bitcoin in bull markets and underperform bitcoin in bear markets, but that has not held true over the past few months.

ALTCOIN / BTC PAIRS

ALTCOIN / BTC Q2
data source: Bitcoin Visuals



Litecoin was launched by Charlie Lee in October 2011 as an attempt to make bitcoin more scalable and faster.

Litecoin's price compared with bitcoin dropped drastically at the end of 2019's second quarter losing 23% against BTC. (Indexed performance, 1.4 = 100).

Ethereum is a public, open-source, blockchain based distributed software platform, that allows developers to create and deploy decentralized applications.

The platform's currency is called ether. Ethereum's price against BTC posted a loss of 21% in Q2 after BTC rally towards the quarter end. (Indexed performance, 1.4 = 100).

Ripple is known as a Real Time Gross Settlement System, the currency traded is known as XRP and transfer times are immediate.

XRP isn't made up of a blockchain but rather a "hash tree" and its currency can't be mined because there are a finite number of coins, one billion. Ripple (XRP) dropped steadily from April high to May low and continued the bearish trend in late June. Ripple's XRP has been the biggest loser of second quarter, among the large cap coins, losing roughly 50% of its value against bitcoin. (Indexed performance, 1.4 = 100).

Monero was created in 2014. Monero utilizes senders' unique ring signatures, confidential, recipient addresses and Ring Confidential Transactions to enable privacy and prevent coins being spent more than once at a time.

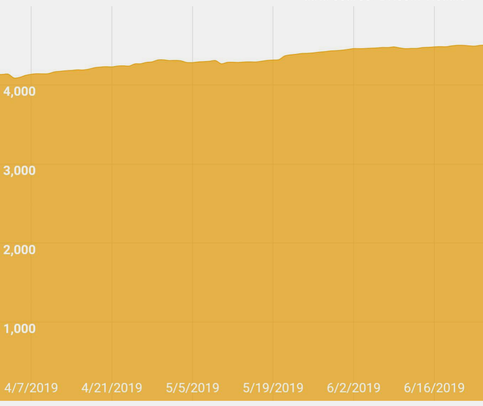
Monero's price remained relatively stable compared with bitcoin, slowly inching lower from April 0,014 range to June 0,008 and consequently below posing a loss of 44 % against BTC for the quarter. (Indexed performance, 1.4 = 100).

Dash, a derivate of litecoin (and bitcoin), was introduced in 2014. A unique feature of dash, is that it has has masternodes that stake at least 1000 DASH in order to have the ability to instantly confirm transactions. The price of dash lost its momentum against bitcoin, dropping from early quarter 0,027 BTC to late quarter 0,013 or a loss of circa 50%. (Indexed performance, 1.4 = 100).

LIGHTNING NETWORK (LN)

With lightning network adoption, bitcoin fulfills its value proposition as light, antifragile, and generally accessible protocol. Over the past year, bitcoin lightning network saw over **45% monthly growth rates.**

LIGHTNING NETWORK (LN) NODE GROWTH IN Q2 2019
data source: Bitcoin Visuals



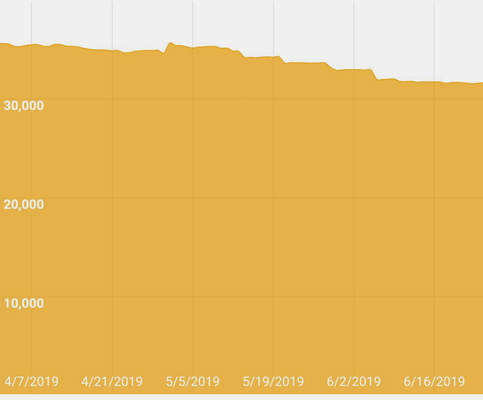
These charts show the number of nodes with channels. Lightning nodes open payment channels with each other that are funded with bitcoin. When transactions are made across those channels, the channel balance is reflected without having to broadcast a transaction on chain.

"Bitcoin itself cannot scale to have every single transaction in the world to be broadcasted to everyone and included in the blockchain. There needs to be a secondary level of payment systems which is lighter and more efficient."

- Hal Finney.

This creates a second layer on top of the bitcoin network that expands it capabilities. Lighting Network's node count has been growing steadily during 2018, continuing deeply through Q4. The node count indicates good fundamentals for bitcoin, as a hugely promising layer 2 solution. Lightning Network (LN) continued to grow during Q2 2019, **increasing node count from 4131 to 4502.**

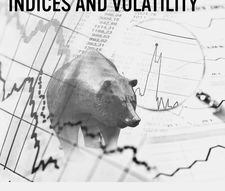
LN UNIQUE CHANNELS IN Q2 2019
data source: Bitcoin Visuals



Unique channels are bitcoin LN channels connecting nodes directly for the first time.

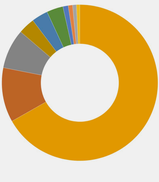
Lightning Network (LN) channel growth has been strong during the last quarters, but is Q2 we so some stabilization and slight decrease in unique channels, but the node count kept increasing still as witnessed in the previous chart.

INDICES AND VOLATILITY



The Bitwise 10 Index is designed to track the broad-based performance of the cryptocurrency market as reflected in a basket of the ten largest coins, weighted by 5-year inflation-adjusted market capitalization. It is a rules-based index with a monthly reconstitution and rebalancing discipline. The latest monthly reconstitution occurred at 4pm ET on June 30, 2019.

BITWISE 10 INDEX (BITX) COMPONENTS (31.5.2019)



Bitcoin	(BTC)	66,80 %
Ethereum	(ETH)	11,30 %
Ripple	(XRP)	8,20 %
Litecoin	(LTC)	3,40 %
EOS	(EOS)	3,40 %
Bitcoin Cash	(BCH)	3,40 %
Stellar Lumens	(XLM)	1,10 %
Cardano	(ADA)	0,90 %
Dash	(DASH)	0,80 %
Monero	(XMR)	0,70 %

BTC / BITX PERFORMANCE Q2
data sources: Bitwise, Coinmetrics. 30.6.2019. (Indexed at 100)

Bitwise 10 index performance was strong during the second quarter leaving the quarterly performance at + 135 %, but lagged compared to BTC performance of circa + 162 % during the same period. Market sentiment was very favorable during Q2, especially for BTC with its increasing market dominance. Volatility and activity picked up subsequently during the quarter.

BITCOIN PRICE VOLATILITY Q2

Q2 was the most active quarter since early 2019 in many fronts. Bitcoin volumes went up across the board and price increased significantly with an increasing volatility fuelling trading activity even more. Both the spot and the regulated futures markets saw an uplift in traded volumes. CME futures recorded all time high monthly volume in May.

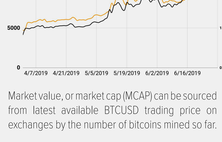
The lower volatility regime in Q1 shifted from lows of around 25 % to high as 90% towards the end of the quarter. Price swing upwards was strong and a positive momentum was clearly accumulating during the quarter, but we witnessed some big sell offs during the way up increasing volatility.

Bitmex price volatility is computed as the standard deviation of log-returns for the past 30 days, scaled by the square root of 365 to annualize, and expressed as a percentage. Source: BitMEX 30 day Historical Volatility Index (.BVOL Index) and *TradeBlock*)

BITCOIN MVRV

(Market-Value-to-Realized-Value) is calculated by dividing bitcoin market value by realized value on a daily basis. MVRV is an useful measure for tracking market bottoms and peaks, when searching for buying opportunities.

MVRV AND BTC PRICE
data source: Woobull Charts. 30.6.2019.



Market value, or market cap (MCAP) can be sourced from latest available BTCUSD trading price on exchanges by the number of bitcoins mined so far.

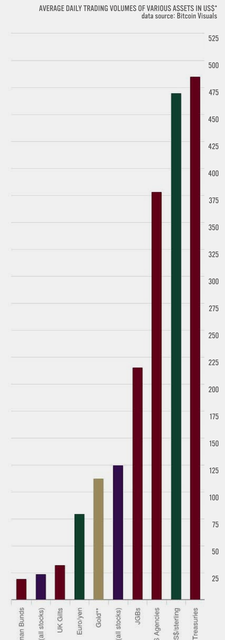
Realized value, introduced by Nic Carter and Antoine Le Calvez, eliminates the effect of lost BTC and provides valuable insights into serious long-term investors are actually buying BTC. Realized value is the summation of the product of UTXOs and the prices at which they last moved.

2019 MVRV bottom was in early April at 0,95. Marking a perfect spot for bitcoin accumulation. Since then MVRV has climbed to >2,3.

MVRV bottomed during mid-December 2018 at 0,7, rising since during Q1 and Q2 2019. Investors buying the December MVRV low have gained significant profits.

BITCOIN LIQUIDITY

Bitcoin and cryptocurrencies have been often criticized for lack of liquidity and high volatility. High volatility is traditionally a positive thing for boosting liquidity as it attracts traders from many sources and eventually introduces better liquidity and trading activity. From the store of value and means of payments point of view the high volatility is of course more troublesome feature, but is typical for immature asset classes like BTC.



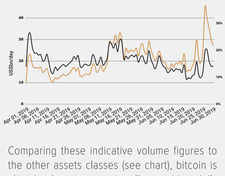
*Based on estimated annual average trading volumes as of 31 December 2018, except for currencies that correspond to 2017 volumes due to data availability.

**Gold liquidity includes estimates on over-the-counter (OTC) transactions, and published statistics on futures exchanges, and gold-backed exchange-traded products.

When looking purely at the liquidity aspect and reported trading volumes among different bitcoin market places, we see that reported volumes by CoinMarketCap have been ranging between 10-45 US$bn/day during the last quarter, topping 45 US$bn/day on 26th of June. Bitcoin's so called turnover ratio is also relatively high, meaning 10-25 % worth of outstanding bitcoins changed hands every day during the last quarter (see chart).

One has to remember that most of the trading happen off-chain in various marketplaces matching and settling buy and sell interests, so the widely debated protocol scaling issue is not a problem for transacting with a scale, the protocol layer is mostly used already for transaction batching and as a settlement layer. Even acknowledging and accounting the fact about inflated trading volumes in reported numbers in databases like CoinMarketCap, the transparency is gradually increasing. Nevertheless, bitcoin is a highly liquid asset already by any standards compared to traditional asset classes (see chart above).

One has to count also the fact that reported exchange volume numbers exclude all P2P marketplaces. OTC volume and derivatives markets volume such as Bitmex, CME Futures and many more, that are a meaningful part of the bitcoin liquidity ecosystem at the moment. Bitmex alone has recorded multiple 10 US$bn/day notional trading volume in its derivatives platform volume in Q2 2019 and set all time high of > 13 US$bn as of 27th June.



Comparing these indicative volume figures to the other assets classes (see chart), bitcoin is already close to occasionally matching daily trading volume of German Bunds and Dow Jones all stocks. In addition, bitcoin trading volume is already gaining traction relative to the daily global trading volume of Gold (estimated by Goldhub from various sources for FY 2018, see chart), and has achieved this scale of trading volume in merely 10 years. As in case of gold, bitcoin has similar market structure consisting of various sources of liquidity providers and marketplaces, so the true volumes are challenging to measure.

However, bitcoin is superior with its digital real time portability compared to Gold, and it's likely that the volume gap will decrease in the future. Bitcoin is first time offering a global transaction layer that works nonstop (24/7/365) and offers real time trading and settlement, without any boundaries set by legacy systems for trading opening hours, clearing, settlement and transferring of assets. (Source and volume estimates: Goldhub, data as of 31 December, 2018, see also *World Gold Council* more recent data)

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