June 2020 Edition Bloomberg Crypto Outlook

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Learn more about Bloomberg Indices

Data and outlook as of June 2, 2020

Mike McGlone - BI Senior Commodity Strategist

**BI COMD** (the commodity dashboard)

Note - Click on graphics to get to the Bloomberg termina

# **Something Needs to Go Really Wrong for Bitcoin to Not Appreciate**

**Performance: Bloomberg Galaxy Cypto Index (BGCI)**May +0.2%, 2020 to June 2 +39%, One-year -23% **Bitcoin** May +6.7%, 2020 +33%, One-year +11%

(Bloomberg Intelligence) -- This year is about increasingly favorable technical and fundamental underpinnings for Bitcoin, and less so for the broader crypto market, in our view. Bitcoin ended 2019 at about \$7,000, near the bottom of its range, favoring a shift toward the peak. Last year, the high was about \$14,000, which would translate into almost double in 2020 if rotating within the recent band, and mean little in the big picture. The same forces buoying gold support Bitcoin, yet the supply of the crypto is more constrained. Adoption, by default, is the primary Bitcoin metric, and our indicators remain positive.

The March swoon was a key test, which Bitcoin easily passed. At about the same level as the Nasdaq since 2017, Bitcoin at about \$10,000 is gaining the advantage, with the lowest relative volatility ever.

## **A Consolidating Bitcoin Bull**

**Bitcoin Upper Hand vs. Crypto Market Like Gold vs. Commodities.** In the unlikely event of a significant change for the worst, we expect the Bitcoin price to continue appreciating. This unprecedented year of central-bank easing is accelerating the maturation of the first-born crypto toward a digital version of gold, while accentuating oversupply constraints in most of the market.

Bitcoin Breaching \$10,000 Takes the Market Gold



**Bitcoin Breaking Away From Crypto Gaggle.** The Bitcoin foundation for price appreciation is firming on a stand-alone basis and vs. the broader crypto market. Relative to the Bloomberg Galaxy Crypto Index (BGCI), the first-born is above the 2017 peak. Our graphic depicts the ratio of Bitcoin vs. the BGCI at about 25 vs. the high three years ago (23) and marking time for most of the past year.

The benchmark crypto appears to be crossing above \$10,000 resistance. Indicating its relative appreciation vs. the crypto market, the last time this threshold was breached in June 2019, the Bitcoin-to-BGCI ratio was about one-third less. A continuation of advancing Bitcoin should pull the market along, particularly with unparalleled central-bank easing.

**History Indicates Bitcoin Toward \$20,000 in 2020.** Bitcoin is mirroring the 2016 return to its previous peak. That was the last time supply was halved, and the third year after a significant peak. Our graphic depicts Bitcoin marking time for a third year following the parabolic 2017 rally. After 2014's 60% decline, by the end of 2016 the crypto about matched the 2013 peak. Fast forward four years and the second year after the almost 75% decline in 2018, Bitcoin will approach the record high of about \$20,000 this year, in our view, if it follows 2016's trend.

**Bitcoin Gaining Upward Companionship With Gold** 



Maturation, greater depth and plenty more exposure via futures should continue to suppress the first-born crypto's volatility, clearly keeping it tilted toward price appreciation. Gold to Top Carter-Era High vs. Commodities. There is little to stop gold from extending its peak vs. broad commodities from 40 years ago, in our view. Trends in the advancing metal and declining commodity prices appear entrenched, with added momentum from the coronavirus. Our graphic depicts the sharp spike in the ratio of gold vs. the BCOM Spot Index that topped in 1980 as the Consumer Price Index (CPI) reached almost 15%. About 0.3% now and headed down, the potential light at the end of the tunnel appears far off for declining CPI, the Fed funds rate and advancing gold vs. commodities.

Stronger Footings Than 1980 - Gold vs. BCOM



It took about 27 years for gold to overtake its 1980 peak as disinflation prevailed. Deflation is the signal now from broad commodities, and increasing evidence of diminishing stockmarket returns from Federal Reserve easing supports gold pushing toward a sustained higher plateau.

#### Base-Building Supports \$1,700 Gold and \$9,000 Bitcoin.

Among the few assets up in this tumultuous year, gold and Bitcoin are building foundations for further price appreciation, in our view. The metal and the crypto remain our top candidates to advance in 2020, with added rally fuel from Covid-19. Our graphic depicts gold consolidating above what had been key resistance of \$1,700 an ounce before the March swoon. Every day that passes above this level builds a firmer base for the metal to make the next move in its stair-step rally.

**Resting Bull-Market Partners: Gold & Bitcoin** 



Bitcoin is in a similar consolidation between \$9,000-\$10,000. We view the benchmark crypto as a resting bull that likely needs something to change significantly in its 10-or-so-year history to not just resume doing what it was doing: appreciating. If the stock market rolls over, gold and Bitcoin should gain buoyancy.

**Digital Gold Gaining Buoyancy From the Metal.** Increasing companionship with gold is a Bitcoin-price tailwind, in our view. At the highest-for-longest 52-week correlation and beta ever vs. the metal, the first-born crypto should continue to advance for reasons similar to gold, fueled by unprecedented global central-bank easing. Our graphic shows the Bitcoin-to-gold beta near 2x and the metal advancing toward an eight-year high. Increasingly becoming a digital version of gold, the benchmark crypto may consolidate its 2017 gains for an extended period. Yet unless gold declines, Bitcoin is likely to advance toward its peak.

**Eight-Year Highs in Gold Is Bitcoin Tailwind** 



**Gold Bull Market Appears in Early Days.** Rallying gold is looking ahead to potential opposite extremes in the monetary-policy restraint that squashed inflation almost 40 years ago, in our view. The graphic on the next page depicts entrenched trends in declining interest rates and consumer prices that may not reverse until the Fed funds rate is lowered to a discount that matches its premium in 1980-81. That extreme tightening cycle proved inflation can be readily controlled by the Fed, which should embolden much lower and negative rates to shift the receding tide.

U.S. futures beginning to price for negative rates are catching up to much of the rest of the world, and advancing gold prices stand to be a primary high-probability outcome. A key difference from 40 years ago is the U.S. debt-to-GDP ratio was about 30% then, vs. rapidly increasing above 110%-plus now.

**End the Trend - Fed Funds Discount May Be Required** 



#### **Bitcoin Gaining the Upper Hand**

Maturing Bitcoin Gaining Upper Hand; Nasdaq, Crude Oil as Guides. The coronavirus is accelerating Bitcoin's maturity vs. the stock market and crude oil, supporting price appreciation for the crypto, in our view. Amid historic declines in equities and the world's most significant commodity, the first-born crypto's probe lower was promptly rejected, indicating a firming price foundation.

Bitcoin Volatility Is Lowest Ever vs. Nasdaq



**Bitcoin Gaining Upper Hand vs. Nasdaq.** One way to look at Bitcoin is against the stock market. Bitcoin's March swoon provided a good base for higher prices, in our view. Back above 1-to-1 at the start of June, the ratio of the Bitcoin price vs. the Nasdaq bottomed just below 0.70 in March. At about \$10,000 on June 2, the crypto is almost the same as the index level and has been since 2017, but Bitcoin is gaining the upper hand, based on historical volatility readings. The crypto's 260-day volatility measure is the lowest ever vs. the stock gauge.

Our graphic depicts Bitcoin volatility is about 2x the Nasdaq. It was closer to 7x when the crypto price and index first crossed paths in 2017. Bitcoin volatility typically increases

when its price rises, and the relationship is normally inverse for equities.

Crude Oil Making Bitcoin Look Mature Like Gold. The lowest-ever Bitcoin volatility vs. crude oil indicates the crypto joining the mainstream and progressing toward the digital equivalent of gold, in our view. Representing a nascent technology designed to increase in fiat currency terms vs. the primary commodity that is deflationary and heading toward redundancy, the Bitcoin price is set to stay the upward course vs. crude oil. Our graphic depicts the ratio of the crypto vs. West Texas Intermediate at about the same level as the 2017 peak.

Bitcoin Set to Continue Appreciating vs. Crude Oil



A key difference -- the 260-day volatility measure of Bitcoin is about 0.6x that of WTI. It was near 3.5x at the peak price ratio about three years ago. Record crude-oil volatility elevates its mean-reversion potential pull lower, but the fact that the newcomer is less risky than the old guard shines favorably on Bitcoin.

Strong Gold vs. Weak Crude-Oil Sustainability. The recent record price for gold vs. crude oil in futures trading has a solid foundation, in our view, with deflationary implications. The barrel-to-gold ratio of about 73 on May 8 far exceeds the 17 norm since crude futures were introduced in 1983. Gold is resuming a bull market, with little to stop it in an environment of unprecedented monetary stimulus. The quasi-currency remains well below its peak of about \$1,900. On the other hand, crude has been mired in a bear market for over a decade and has simply returned to its most comfortable price zone (about \$20 a barrel).

WTI is keeping company with natural gas and government bond yields and is unlikely to sustain above the 2008 and 2016 lows of about \$30, yet we see the gold bull as just hitting its stride.



Fed Stimulus & Little Inflation Risk - Gold/Crude



#### **On-Exchange Absorbing Supply**

**Bitcoin On-Exchange Absorbing About 25% of Annual Supply.** Despite the lack of a U.S. exchange traded fund, Bitcoin on-exchange instruments indicate greater buy-and-hold interest, supporting prices. The Grayscale Bitcoin Trust (GBTC), the largest, is taking an increasing amount of supply off the market, yet its premium continues to decline.

**Grayscale Trust Absorbing Bitcoin Supply.** Exchange-traded instruments, led by GBTC, are absorbing a significant portion of supply, indicating dip buyers and higher prices. As measured by assets under management (AUM), the Trust is by far the largest crypto-asset exchange-traded instrument. So far this year, its increasing AUM has consumed about 25% of new Bitcoin-mined coins vs. less than 10% in 2019. Our graphic depicts the rapidly rising 30-day average of GBTC AUM near 340,000 in Bitcoin equivalents, about 2% of total supply. About two years ago, it accounted for 1%.

GBTC Taking About 25% of New Supply in 2020



GBTC trades at a premium, which somewhat overstates the BTC equivalents, but also emphasizes demand. The next-inline instrument is the Bitcoin Tracker One in Sweden, with about 38,000 in Bitcoin-equivalent AUM.

**GBTC Premium Narrowing as Bitcoin Matures.** The steadily declining premium in GBTC despite strong inflows indicates supply being taken off the market, and maturation. On a 30-day average basis, the Trust's 20% premium over its underlying net asset value compares with the historical mean of 39%. Bitcoin's March swoon coincided with the premium touching near zero and subsequent recovery, which is similar to when the crypto bottomed in 2018.

Akin to 2018 Trough, GBTC Premium Neared Zero



The GBTC premium has declined from the 2017 peak near 85%, when the Trust accounted for 1% of supply. We expect the premium to continue to decline, notably as more ETFs come on board, likely to coincide with increasing buy-and-hold investor demand and higher prices.

#### **Futures and Bitcoin \$10,000**

**\$10,000.** Favorable trends in Bitcoin futures trading on the CME are supportive of the price, in our view. Representing maturation toward the mainstream of assets, increasing futures open interest and the steady price premium are headwinds for volatility and tailwinds for prices.

Rising Futures Interest and Bitcoin Maturation. The near doubling in futures open interest toward the level when Bitcoin topped \$10,000 in 2019 indicates the rapid pace of maturation and a tilt toward higher prices, in our view. Not only do futures represent joining the mainstream, trading on a U.S.-regulated exchange is a key issue, with the SEC reluctant to approve Bitcoin ETFs. Our graphic on the next page depicts the recent record in open interest, well above past peaks when Bitcoin was unable to sustain above \$10,000.

Recently reaching about 50,000 Bitcoins, futures open interest isn't a large portion of total supply, but futures are significant as a primary gateway for the benchmark crypto to become a mainstream asset class.

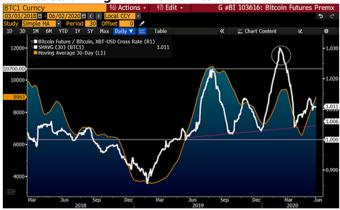
**Bitcoin Futures Pulling Bitcoin Above \$10,000** 



#### Bitcoin Futures Premium Supporting Price Rise. A

stabilizing premium in the Bitcoin futures price is supporting the market and indicates more institutional buy-and-hold interest. The 30-day average of the CME-traded Bitcoin futures vs. the Bloomberg-disseminated price has recovered from the recent dip, which bottomed above the previous trough. Our graphic depicts futures averaging just over 1% above the Bloomberg price (XBTUSD).

**Futures Stabilizing With Premium to Bitcoin** 



The 30-day averages of the Bitcoin price and the futures premium/discount demonstrate similar patterns. Our graphic auto-scales these measures. End-of-day prices can vary, but we find the 30-day average sufficiently filters out the noise. CME Bitcoin futures settle the CF Bitcoin Reference Rate, which aggregates Bitcoin trading activity across major spot exchanges.

## On Chain Indicators & \$10,000

Addresses Signal Bitcoin Set to Sustain Above \$10,000 Resistance. On-chain metrics point toward a firming Bitcoin price foundation. "Addresses used" at a two-year high support the crypto's price above \$10,000, as we see it. The "hash rate" and transactions indicate a strengthening base of support around \$8,000.

More Addresses Point to Similar for Bitcoin. The highest level of active addresses in about two years favors a higher Bitcoin price, if history is a guide. Reflecting greater adoption, the 30-day average of unique addresses from Coinmetrics has breached last year's peak. In 2019, when this metric exceeded the previous high, it preceded Bitcoin's recovery from the depths of a bear market. Our graphic depicts addresses reaching the highest level since February 2018, and the relative discount in Bitcoin.

**Bitcoin Addresses Reach Highest Since 2018** 



The 2019 Bitcoin end-of-day high was \$12,734, according to Bloomberg pricing. Unless advancing addresses abruptly reverse, history indicates Bitcoin has a propensity to appreciate.

**\$8,000 Bitcoin Base - Transactions, Hash Rate.** Bitcoin adjusted transactions and the hash rate indicate a firming foundation around \$8,000. Our graphic depicts the measures of trading and adoption generally trending higher with Bitcoin's 52-week moving average. Transactions are at about the same level as a year ago, when the benchmark crypto first recovered above the \$8,000 threshold. That's now the support level, reflecting the recent high in the hash rate, just before the reduction in mining supply, or "the halving."

\$8,000 Resistance a Year Ago Is Now Support



In May, the daily amount of new Bitcoins created dropped to about 900 from 1,800, reflected in the decline in the hash



rate. It also represents the linear path toward reduced supply, which leaves adoption as a primary metric for the price outlook. A rise in addresses used indicates increasing adoption.

#### **Digitization, Tether & Rising Bitcoin**

**Tether, Rising Bitcoin and Digitization of Money Amid Covid-19.** The rapidly increasing market capitalization of stable coins indicates currencies are going digital and supports the Bitcoin price. Covid-19 is hastening the shift away from paper money and stimulating plenty of quantitative easing, which is helping independent stores-of-value such as gold and Bitcoin.

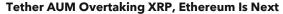
**Bitcoin Appreciation Tethered to Stable Coins.** Surging interest in crypto assets tracking a stable currency is an enduring trend and a support for the Bitcoin price, in our view. At over \$10 billion in May, vs. about \$4 billion a year ago according to Grayscale, interest in digital links to the dollar represents the need to transact and store value in the world's reserve currency without an intermediary. We can't help but draw parallels to the adoption of paper currencies throughout history as the world today moves rapidly toward digitization. Bitcoin is the benchmark crypto asset and is increasingly becoming a digital version of gold. Akin to the metal, the first-born crypto is independent and no one's liability.

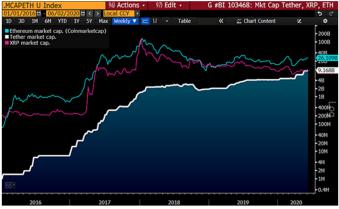
**Bitcoin's Upward Trajectory With Tether AUM** 



Our graphic depicts the close relationship with assets tracking Tether, which accounts for about 90% of stable-coin assets and the price of Bitcoin.

**Tether on Track to Be No. 2 Behind Bitcoin.** Absent an unlikely reversal in predominant crypto trends, it should be a matter of time until Tether passes Ethereum to take the No. 2 spot in total assets behind Bitcoin. Benefiting from widespread adoption with a viable case as a proxy for the world's reserve currency, there seems little to stop the increasing adoption of the dollar-linked stable coin. Our graphic depicts advancing Tether assets near \$9 billion and looking up to Ethereum (ETH), which has stabilized at about \$22 billion.





We see little upside in the ETH price absent a rising tide from Bitcoin. The pre-eminent crypto is breaking away from the pack in terms of adoption and is supported by almost-ideal macroeconomic conditions for stores-of-value amid quantitative easing. Tether is in a similar position.

Strengthening Dollar Supports Stable Coins. The advancing dollar will fuel demand for the Tether stable coin, in our view. In terms of gold and Bitcoin, the dollar is depreciating, but it's going in the other direction vs. most other currencies. The greenback appears best positioned as global currency values recede, with all facing unlimited supply. Tether and stable coins are gaining traction as vehicles for dollar exposure without intermediaries and for transferring value among the numerous highly speculative and volatile crypto assets.

**Tether Adoption On the Rise With the Dollar** 



In a similar spot with advancing Tether assets, Bitcoin is winning the adoption race as the gold-like store-of-value. We see little to dethrone either crypto.



# Covid-19 May Give Libra Life, Spur Fed's Digital Currency

**Spirit.** Contributing Analysts Ben Elliott (Government)

Covid-19 may highlight vulnerabilities in cash-based transactions and markets built on outdated technology, driving the Fed to reconsider issuing a digital currency, giving Facebook's Libra new life and prompting mortgage lenders like Wells Fargo, Truist and U.S. Bank to seek tech upgrades. A Fed digital currency or payments app may undercut banks' efforts.

#### **{CRYP} Page on the Bloomberg Terminal** (4pm NY, June 2)

| (oitii) age on  |  |               |             | ,      |           | ( ,p.,                                 | ,        | · a · · · c _ · ) |         |  |  |  |
|---|--|---------------|-------------|--------|-----------|--|----------|-------------------|---------|--|--|--|
| Standard •  |  |               |             |        |           |  |          |                   |         |  |  |  |
| Index   | Last   | Net Chg       | % Chg       | 0per   | Yest Clo  | 2D Ch                                  | art      | 30D Rng           | Time    |  |  |  |
| 1) BGCI Bloomberg Galaxy  | 388.71   | -2.64         | -0.67%      | 395.59 | 391.35    | ·                                      |          |                   | 15:39   |  |  |  |
| ■ Bid/Ask Data   Network Data (Supplied by Mosaic)  Base  |  |               |             |        |           |  |          |                   |         |  |  |  |
| Coins   |  | Last          | Net Chg     | % ChgC |           | Market 🌡                               |          |                   | Time    |  |  |  |
| 11) Bitcoin   |  | 9528.24       | -151.95     | -1.57% | 18.39M    | 175129.031                             | 0.1242M  | 1222.06M          | 15:39   |  |  |  |
| 12) Ethereum  |  | 236.575       | -5.295      | -2.19% | 111.19M   | 26304.04M                              | 0.7628M  | 183.27M           | 15:39   |  |  |  |
| 13) XRP   |  | 0.2014        | -0.0052     | -2.52% | 50490.93M | 10168.87M                              | 331.0848 | 68.75M            | 15:39   |  |  |  |
| 14) Bitcoin Cash  |  | 251.29        | +5.86       | 2.39%  | 18.42M    | 4625.76M                               | 0.1380M  | 35.29M            | 15:39   |  |  |  |
| 15) Litecoin  |  | 45.761        | -1.636      | -3.45% | 65.16M    | 2979.61M                               | 0.7274M  | 34.39M            | 15:39   |  |  |  |
| 16) EOS   |  | 2.6567        | -0.0652     | -2.40% | 919.85M   | 2445.06M                               | 4.1876M  | 11.49M            | 15:39   |  |  |  |
| 17) Monero  |  | 66.535        | -0.026      | -0.04% | 17.58M    | 1169.97M                               | 0.0108M  | 0.72M             | 15:39   |  |  |  |
| 18) Ethereum Classic  |  | 6.929         | -0.113      | -1.60% | 120.16M   | 833.67M                                | 0.9303M  | 6.52M             | 15:39   |  |  |  |
| 19) Dash  |  | 78.192        | +0.187      | 0.24%  | 9.53M     | 745.15M                                | 0.0215M  | 1.70M             | 15:39   |  |  |  |
| 20) Zcash   |  | 51.640        | -1.160      | -2.20% | 9.29M     | 480.40M                                | 0.0240M  | 1.26M             | 15:38   |  |  |  |
| Futures   | Last   | Net Chg       | Volume      | 0per   | ) Settl   | e 2D Ch                                | art      | 30D Rng           | Time    |  |  |  |
| 21) CME Bitcoin   | 9595   | -55           | 13652       | 9745   | 9650      | اســــــــــــــــــــــــــــــــــــ |          | +0                | — 15:37 |  |  |  |
| Cryptocurrency News   More »  |  |               |             |        |           |  |          |                   |         |  |  |  |
| 41) Latest Satoshi Nakamoto Candidate Buying Bitcoin No Matter What                                     |  |               |             |        |           |  |          |                   | 10:39   |  |  |  |
| 42) Bitcoin Surges Pass \$10,000 to Highest Level Since Mid-February                                    |  |               |             |        |           |  |          |                   | 10:07   |  |  |  |
| 4) Daily Bitcoin: Bitcoin Price Flash Crashes \$600 In Less Than 5 Minutes, Last Night's Rally Erased   |  |               |             |        |           |  |          |                   |         |  |  |  |
| 4) Cointelegraph: Uptrend in Mainstream Crypto Interest Started Last Fall, MIT Startups Says            |  |               |             |        |           |  |          |                   |         |  |  |  |
| NewsBTC: Bitcoin Crash May Be Profit-Taking To Prepare For Incredible Altcoin Season                    |  |               |             |        |           |  |          |                   | 15:35   |  |  |  |
| 40 Daily Bitcoin: Travala Sees 2  | Daily Bitcoin: Travala Sees 205% Jump in Booking Revenue as Travel Demand Returns - 60% Paid W     |               |             |        |           |  |          |                   |         |  |  |  |
| 47) FXStreet: Cryptocurrencies Pr   | 47) FXStreet: Cryptocurrencies Price Prediction: Bitcoin, Ethereum & Ripple - American Wrap 2 June |               |             |        |           |  |          |                   |         |  |  |  |
| 48) Cointelegraph: Charles Hoskii   | nson: 'I Do  | n't Live in V | fitalik's M | ind'   |           |  |          | NS1               | 15:29   |  |  |  |
| 49) Coin Desk: Cellphones, Bitcoin and the Citizen Tools of Anti-Authoritarianism, Feat. Alex Gladstein |  |               |             |        |           |  |          |                   | 15:29   |  |  |  |
|   |  |               |             |        |           |  |          |                   |         |  |  |  |

#### **Bitcoin Set to Stay the Outperformance Course**

| Name   | (ii                             | 1<br>Mth %<br>Change | 3<br>Mth %<br>Change | YTD<br>% Change | 11<br>Yr %<br>Change | 2<br>Yr %<br>Change |
|--|---------------------------------|----------------------|----------------------|-----------------|----------------------|---------------------|
| ▼ Bloomberg Galaxy Crypto Index                | m                               |                      |                      |                 |                      |                     |
| Bloomberg Galaxy Crypto Index (BGCI)           | -33                             | 4.9                  | -5.8                 | 39.3            | -22.9                | -47.5               |
| ▼ USD Cross                                    | Ш                               |                      |                      |                 |                      |                     |
| Bitcoin (BTC)                                  | -11                             | 6.8                  | 6.5                  | 33.1            | 11.4                 | 28.1                |
| Ethereum (ETH)                                 | -11                             | 14.1                 | 1.4                  | 84.3            | -9.2                 | -58.2               |
| Ethereum Classic (ETC)                         | 1444                            | -4.8                 | -20.8                | 54.8            | -26.5                | -54.4               |
| Monero (XMR)                                   | CCC                             | 9.8                  | -3.7                 | 48.5            | -28.9                | -57.5               |
| Zcash (ZEC)                                    | -11                             | 17.3                 | -1.9                 | 85.3            | -40.8                | -78.1               |
| Bitcoin Cash (BCH)                             | 255<br>(55                      | 2.0                  | -26.5                | 23.3            | -41.3                | -74.5               |
| Dash (DASH)                                    | 055                             | -1.7                 | -15.0                | 89.8            | -51.6                | -74.3               |
| Ripple (XRP)                                   | -22<br>-22<br>-22               | -8.1                 | -16.6                | 5.7             | -54.3                | -67.0               |
| Litecoin (LTC)                                 | -22                             | -2.6                 | -26.3                | 10.9            | -58.9                | -61.4               |
| EOS (EOS)                                      | -22                             | -4.1                 | -28.9                | 3.0             | -62.8                | -78.0               |
| <ul> <li>MVIS CryptoCompare Indices</li> </ul> | Ш                               |                      |                      |                 |                      |                     |
| ▼ Single Asset Indices                         | Ш                               |                      |                      |                 |                      |                     |
| Bitcoin (BTC)                                  | -11                             | 9.0                  | 7.4                  | 32.1            | 13.4                 | 27.7                |
| Bitcoin OTC (BTC)                              | -11                             | 9.2                  | 7.1                  | 33.3            | 12.8                 |                     |
| NEO (NEO)                                      | -11                             | 33.9                 | 1.6                  | 37.8            | -5.9                 | -77.2               |
| Ethereum (ETH)                                 | -66                             | 12.6                 | 2.0                  | 81.8            | -8.6                 | -57.6               |
| Ethereum Classic (ETC)                         | 1                               | 6.0                  | -18.1                | 51.0            | -16.7                | -54.7               |
| Monero (XMR)                                   | CCC                             | 4.7                  | -3.2                 | 46.6            | -28.2                | -57.5               |
| ZCash (ZEC)                                    | -11                             | 14.3                 | -1.3                 | 83.0            | -40.4                | -78.7               |
| Bitcoin Cash (BCH)                             | 355                             | -0.7                 | -24.8                | 21.5            | -41.3                | -64.3               |
| Dash (DASH)                                    | C55                             | -4.3                 | -14.0                | 86.0            | -51.1                | -73.3               |
| Iota (MIOTA)                                   | 111                             | 28.0                 | 3.2                  | 44.4            | -52.3                | -87.9               |
| Ripple (XRP)                                   | -11                             | -6.8                 | -15.9                | 5.1             | -52.6                | -67.0               |
| NEM (XEM)                                      | -33<br>-22                      | 2.7                  | -21.0                | 35.0            | -53.8                | -83.2               |
| Litecoin (LTC)                                 | 1-22                            | -2.5                 | -25.6                | 9.8             | -58.1                | -60.5               |
| <ul> <li>Multi-Asset Indices</li> </ul>        | Ш                               |                      |                      |                 |                      |                     |
| Digital Assets 100 Large Cap                   | -22<br>-22<br>-33<br>-33<br>-33 | 7.9                  | 2.8                  | 34.6            | -4.4                 | -22.7               |
| Digital Assets 100                             | -22                             | 8.2                  | 2.4                  | 34.6            | -6.2                 | -29.8               |
| Digital Assets 5                               | -33                             | 6.3                  | -2.6                 | 41.4            | -16.2                | -38.6               |
| Digital Assets 10                              | -33                             | 5.3                  | -4.8                 | 41.3            | -21.8                | -45.5               |
| Digital Assets 100 Mid Cap                     | -33                             | 11.1                 | -6.2                 | 36.7            | -24.8                | -78.4               |
| Digital Assets 25                              | -44                             | 6.9                  | -4.0                 | 50.2            | -28.5                | -57.3               |
| Digital Assets 100 Small Cap                   |                                 | 18.6                 | 0.1                  | 30.6            | -48.7                | -86.1               |
| MVIS IP owned by Van Eck, distributed by       |                                 |                      |                      |                 |                      |                     |
| ▼ Bitwise Crypto Indices                       | Ш                               |                      |                      |                 |                      |                     |
| ▼ Multi-Asset Indices                          | Ш                               |                      |                      |                 |                      |                     |
| Bitwise 100 Total Market Crypto Index          |                                 | 9.2                  |                      | 37.2            | -4.6                 | -26.3               |
| Bitwise Hold 10 Large Cap Crypto In            |                                 | 6.3                  | -2.6                 | 41.4            | -16.2                | -38.6               |
| Bitwise 20 Mid Cap Crypto Index                | $\epsilon\epsilon\epsilon$      | 10.8                 |                      | 59.1            | -23.9                | -75.2               |
| Bitwise 70 Small Cap Crypto Index              | 111                             | 16.1                 |                      | 36.6            | -44.5                | -82.9               |
| Bitwise IP Owned by Bitwise Asset Manage       | 1111                            |                      |                      |                 |                      |                     |
| ▼ BTC Cross                                    | Ш                               |                      |                      |                 |                      |                     |
| Ethereum (ETH)                                 | - -                             | 1.3                  | -4.6                 | 38.5            | -21.1                |                     |
| Ethereum Classic (ETC)                         | C -                             | -3.3                 | -25.4                | 16.7            | -26.4                |                     |
| Monero (XMR)                                   | 111                             | -4.0                 | -9.6                 | 11.5            | -36.0                |                     |
| Zcash (ZEC)                                    | - 9                             | 4.4                  | -7.9                 | 39.1            | -48.0                |                     |
| Bitcoin Cash (BCH)                             | 4 1                             | -11.0                | -31.0                | -6.6            | -49.0                |                     |
| Dash (DASH)                                    | 114                             | -12.9                | -20.2                | 42.5            | -56.9                |                     |
| Ripple (XRP)                                   | C -                             | -21.9                | -25.9                | -24.8           | -61.2                |                     |
| Litecoin (LTC)                                 | + +                             | -15.2                | -30.8                | -16.6           | -64.0                |                     |
| EOS (EOS)                                      | 0 1                             | -14.6                | -33.0                | -22.3           | -70.7                |                     |



| 364.3<br>240.9<br>94.2<br>46.1 | 1,219.9<br>797.5<br>360.0<br>236.3<br>86.5<br>42.1<br>10.3  | 1,041.1<br>742.1<br>326.7<br>220.8<br>86.3  | 642.1<br>513.2<br>231.1 | 945.3<br>736.6 |          | 679.0<br>562.9 | 754.4<br>618.9                          | 881.4<br>726.8 | 783.1<br>643.0 | 915.2<br>722.7 | 990.5<br>763.2 | 1,307.2<br>928.6 |
|--------------------------------|---|---|-------------------------|----------------|----------|----------------|---|----------------|----------------|----------------|----------------|------------------|
| 240.9<br>94.2                  | 360.0<br>236.3<br>86.5<br>42.1  | 326.7<br>220.8  |                         |                | 749.1    | 562.9          | 618.9                                   | /20.8          | 643.0          | /22./          | /63.2          | 928.6            |
| 240.9<br>94.2                  | 236.3<br>86.5<br>42.1   | 220.8   | 231.1                   |                | 224.0    | 249.1          | 269.1                                   | 216.2          | 200.2          | 226.6          | 225.2          |                  |
| 94.2                           | 86.5<br>42.1  |   | 161.6                   | 312.4<br>232.0 |          | 203.5          | 209.1                                   | 316.3<br>261.6 | 288.2<br>235.5 | 336.6<br>272.4 | 335.2<br>283.6 | 1                |
| ١ ١                            | 42.1  |   | 51.8                    | 87.4           |          | 47.1           | 57.0                                    | 65.5           | 63.8           | 58.4           | 77.0           |                  |
| 10.1                           |   | 41.0  | 24.3                    | 44.5           |          | 22.6           | 27.9                                    | 33.1           | 32.9           | 30.9           | 40.8           |                  |
|                                |   | 11.0  | 7.5                     | 10.3           |          | 7.3            | 8.2                                     | 9.9            | 8.4            | 10.2           | 10.1           |                  |
|                                | 18.3  | 18.6  | 13.7                    | 21.0           | 19.7     | 15.0           | 17.8                                    | 21.9           |                |                |                |                  |
|                                | 6.0   | 6.5   | 5.7                     | 8.1            |          | 5.5            | 5.8                                     | 7.3            | 5.9            | 7.3            | 8.3            |                  |
|                                | 11.2<br>7.7   | 10.1<br>5.6   | 5.7<br>4.0              | 10.0<br>5.5    |          | 2.5<br>4.4     | 1.4<br>4.6                              | 5.1            | 4.0            | 2.2            | 3.1            | 2.0              |
|                                |   |   |                         |                |          |                |   |                |                | 3.2            |                | 1                |
|                                |   |   |                         |                |          | -              |   |                |                |                | 1.0            | 0.5              |
|                                |   |   |                         |                |          | ٠.,            | 1.1                                     | 1.0            |                |                |                |                  |
|                                |   |   | - 1                     |                |          | 1.7            | 2.7                                     | 2.7            | 2.5            | 1.8            | 2.3            | 3.1              |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                | • | 0.0            | 0.5            | 0.5            | 0.0            | 1.0              |
|                                | 13.3  | 10.3  | 4.5                     |                |          | 1.0            |   |                |                |                |                |                  |
| 1                              |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                | 3,655.0   | 3,174.7   | 2,111.4                 | 2,716.0        | 2,744.1  | 1,945.5        | 2,069.6                                 | 2,494.1        | 1,991.2        | 2,328.7        | 2,406.4        | 2,591.6          |
|                                | 3,302.2   | 2,883.8   | 1,969.9                 | 2,548.1        | 2,648.3  | 1,880.8        | 1,994.2                                 | 2,408.1        | 1,924.7        | 2,276.3        | 2,358.1        | 2,562.2          |
|                                | 292.6   | 274.2   | 141.5                   | 167.9          | 95.8     | 64.8           | 75.4                                    | 86.0           | 66.5           | 52.4           | 48.3           | 29.4             |
|                                | 60.2  | 16.7  |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 4,167.2                        |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 1,952.6                        |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 67.6                           |   |   |                         |                |          |                |   |                |                |                |                |                  |
| (                              |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 6/2020                         |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                | _   |   |                         |                |          | •              |   |                |                | -              |                | -                |
| 2,000.0                        | 2,505.1   | 0,020.0   | 0,101.1                 | 0,000.1        | 7,00110  | 7,200.0        | 7,7 20.0                                | 7,107.1        | 0,210.5        | 7,020.2        | 10,020.0       | 11,070.0         |
|                                | 128,507.  | 117,485.  | 98,914.5                | 109,307.       | 103,128  | 94,573.3       | 97,642.5                                | 95,585,4       | 94,695.7       | 95.021.2       | 98,471.9       | 111,459.         |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 38,006.9                       | 37,875.5  | 37,016.9  | 35,659.7                | 36,188.4       | 35,790.4 | 34,793.2       | 34,901.3                                | 34,416.5       | 34,969.0       | 34,965.5       | 33,431.8       | 35,374.8         |
| 25,129.7                       | 24,858.1  | 25,011.1  | 24,927.3                | 26,878.0       | 27,471.3 | 28,430.6       | 28,702.3                                | 28,464.3       | 28,571.7       | 28,299.7       | 28,286.2       | 28,438.9         |
| 9,825.1                        |   |   |                         |                |          |                | 7,387.5                                 | 7,123.0        | 7,745.9        | 6,065.7        | 7,682.3        | 10,697.1         |
| 4,807.0                        | 4,426.6   | 4,641.6   | 3,743.9                 | 5,158.3        | 3,621.7  | 3,150.4        | 3,623.5                                 | 3,597.4        | 3,987.2        | 3,206.4        | 4,067.1        | 5,202.9          |
|                                |   |   |                         |                |          |                |   |                | 1,016.1        | 1,063.1        | 1,007.2        | 1,082.1          |
|                                |   | -   |                         | -              |          | -              |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   | 795.4          | 720.2          | 754.1          | 831.5          |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                | 153.4          | 183.9          | 81.7             |
|                                |   |   |                         |                |          |                | 145.2                                   | 142.5          |                |                |                |                  |
|                                |   |   |                         |                |          |                | 245.4                                   | 200.0          | 207.5          | 107.4          | 222.0          | 260.4            |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   | 05.0           | 57.5           | 40.1           | 04.5           | 90.0             |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 1                              | 2,575.7   | 1,107.0   | 000.0                   | 130.7          | 250.2    | 137.0          |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                | 408.971.  | 388.855.  | 347.592.                | 334.047.       | 303.585  | 280.839.4      | 278 195.1                               | 280.761.3      | 249.696.       | 247.359        | 244.814        | 230.051.         |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 434,706.                       |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 203,690.                       |   |   |                         |                |          |                |   |                |                |                |                |                  |
| 7,050.6                        |   |   |                         |                |          |                |   |                |                |                |                |                  |
|                                | 1,952.6<br>67.6<br>67.6<br>6/2020<br>9,586.3<br>38,006.9<br>25,129.7<br>9,825.1<br>4,807.0<br>434,706.<br>203,690.<br>7,050.6 | 3,655.0 3,302.2 292.6 60.2 4,167.2 1,952.6 67.6 422.4 422.4 6/2020 5/2020 9,586.3 9,505.4 128,507. 83,902.2 38,006.9 37,875.5 25,129.7 24,858.1 9,825.1 9,100.2 4,807.0 4,426.6 1,087.3 1,929.1 631.6 1,178.2 810.7 216.6 132.2 14.9 83.4 78.5 83.4 1,395.9 408,971. 347,399. 30,786.3 30,786.3 434,706. 203,690. 7,050.6 | 1.3                     | 1.3            | 1.3      | 1.3            | 1.3                                     | 1.3            | 1.3            | 1.3            | 1.3            | 1.3              |



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