Galaxy Fund Management Newsletter

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PORTFOLIO COMMENTARY

Digital assets turned in a strong performance in January, in what will hopefully set the tone for the rest of 2020. As we closed the chapter on a historic decade of technological developments and globalization like we have never seen before, we must raise the question of how digital assets and blockchain technology will change our society over the next ten years.

As the longest standing, largest, and most liquid digital asset, bitcoin is most often seen as the bellwether. During periods of directional market movement, other digital assets often follow the pattern of bitcoin, which is now widely accepted as digital gold. January saw bitcoin up just over 30%, to a closing price of $9,354.31, but despite that strong performance it was still the BGCI's second worst performing asset. After briefly dipping below $7k just after the new year, bitcoin saw a relatively steady climb to break above $9k, where it finished. While January has typically been a month during which bitcoin investors and traders expect to see seasonal selling ahead of the Chinese New Year (Happy Year of the Rat!) the macro picture looks to have played a role in price appreciation. The data patterns are certainly limited, but two key geopolitical events in the Middle East and Asia appear to have positively impacted bitcoin prices. As tensions rose between the United States and Iran amidst bombings of the U.S. Embassy in Iraq and the killing of Iranian military leader Qasem Soleimani, bitcoin's price began to rally mid-month. As concerns shifted from the Middle East to the Far East, fears of a possible health crisis emerged as a market in Wuhan, China was identified as the source of the coronavirus. While the situation is still developing, the number of infected people continues to increase and expand to new geographies globally, which certainly looks to be a possible catalyst in the extended price rally. Additionally, bitcoin knowledge and understanding is the highest it has ever been. This, in conjunction with the continued rollout of institutional-quality infrastructure and solutions, is likely helping to attract new buyers to the space across all levels of investing.

Looking at the performance of the rest of the constituents held in the Galaxy Crypto Index Fund, one would ask the question, "is it Alt Season?" While it certainly has been a good month for the largest, most liquid assets outside of bitcoin, it would be a bit premature to take that view. Large cap alts, meaning everything outside of bitcoin, have a high correlation to bitcoin and seem to have found a near-term buyer base following a year that saw them lag behind the market leader. Following a poor 2019, XRP increased 25.34% in January, but was still our worst performing holding, finishing with a price of $0.2389. It was a good month for bitcoin forks as Bitcoin Cash was our best performing holding, with an increase of 84.21%, while Litecoin appreciated 64.70%. Ethereum finished up 40.66% for a final price of $180.62. It's important remember the world's second largest digital asset continues to make strides and still has more developers working on its platform than any other competitor globally. Lastly, EOS finished the month with an increase of 60.31%, with a final mark of $4.12 as it announced plans around the rollout of its social media platform, Voice.

The Bloomberg Galaxy Crypto Index finished up 40.26%, for a final price of 391.36.

SPOTLIGHT ON DECENTRALIZED FINANCE

A blockchain developer quipped on Twitter recently, "keeping up with new developments in the DeFi space is a full-time job." It's true. The pace of development in the Decentralized Finance (DeFi) space, a set of open-source, programmable financial applications built on Ethereum, has been frenetic. In 2019, the total amount "locked" (held for use) in DeFi smart contracts exploded by 228.7%, from $293.3m to $670.7m. Since the start of January 2020, the total amount locked in DeFi smart contracts grew 36.8% to $917.8m. The growth in January occurred primarily in already-dominant applications Maker, Synthetix, and Compound, but new products and projects are introduced nearly every day. The space is slowly beginning to resemble a financial ecosystem, with digital representations of vital financial products that consumers and businesses rely on. At this point, it's difficult for regulated institutions to get involved in the DeFi space because these applications cannot guarantee KYC/AML of their users, and the space still awaits clearer regulatory guidelines. Still, the DeFi space thrives on its openness and programmability, allowing developers to compose new ideas upon code from open-source projects. Overall, the speed of advancement in the space has been shocking. We break down the major developments in the space.

- **Maker** is the standard bearer in the space and developed a first-of-its-kind stablecoin called Dai, which much of the decentralized finance ecosystem uses to operate. Over $529.0m of locked ETH, the token behind Ethereum, is now in Maker contracts. Maker generates U.S. Dollar-pegged Dai stablecoin assets by allowing users to create "collateralized debt positions," meaning that Dai are loaned when ETH are provided as collateral. If collateral levels fall below the value of the Dai created, the protocol allows arbitrageurs to liquidate underwater debt contracts. In November, Maker migrated to multi-collateral Dai, which allows multiple cryptocurrencies to be provided as collateral rather than just ETH. Maker is often termed the "Central Bank" of the DeFi ecosystem.

- After a battle among a few applications, **Compound** has solidified itself as the primary lending protocol in the DeFi space. Compound allows users to lend cryptocurrencies to one another in a peer-to-peer fashion using strict collateral requirements to ensure that lenders are extremely unlikely to lose money. Compound currently has $112.0m locked in its suite of smart contracts. Compound currently allows borrows in ETH, Dai, USDC, Augur, 0x, and BAT. Coinbase Wallet builds on Compound to offer a savings rate to consumers.
- Another key primitive in the ecosystem is decentralized exchanges (DEXs). Some have order books, but **Uniswap** introduced the idea of pair-based liquidity pools, where "liquidity providers" earn transaction fees for locking cryptocurrencies into on-chain smart contracts. "Liquidity takers" take directly from liquidity pools, which are stabilized algorithmically using a constant product model, which guarantees that the total value in the contract is constant, even if one side of a pair is taken more than the other. The further away from parity a pair becomes (for example, an ETH/DAI pair), the greater the slippage of that transaction. Other decentralized exchanges have adopted this framework, like **Kyber Network**.
- In the last two months, we have seen the rise of DEX aggregators built on DEXs that split large transactions across exchanges to minimize the impact of slippage by only taking a small portion of the total liquidity on each exchange. **1inch Exchange**, a DEX aggregator, saw volumes increase 96% from December 2019 to January 2020.
- To give a non-exhaustive list of the notable new projects that have launched recently: already-popular **Synthetix** and **dYdX** exchanges allow access to derivative products. **PoolTogether** is a no-loss lottery built by lending on Compound. **Set Protocol** facilitates ETF-like "baskets" of cryptocurrencies with programmable instructions and allows for decentralized investment in traders' strategies. **Keep Network** creates a private lockbox on-chain and is pioneering a trustless representation of BTC on Ethereum.

INDUSTRY INSIGHTS & THEMES

A moderate pace of development that focuses on privacy and security, rather than scalability at all costs, is a hallmark of **Bitcoin**. This method of development strengthens the reliability of the protocol, leading to a more robust Store-of-Value proposition. Developers finally put a major upgrade into draft form as Bitcoin Improvement Proposals in January. The upgrade combines what are called **Taproot** and **Schnorr** improvements. Separately, Schnorr implements a more efficient signature scheme and Taproot introduces a more lightweight structure for transaction script code. Together, they represent a meaningful improvement in both privacy and scalability by limiting the number of signatures stored in a transaction (which uses less storage space) and generalizing types of transactions into one type (which makes the network more private). A splashier new development called **Strike** was announced at the very end of January. Strike is an application that integrates Bitcoin's Lightning Network with bank accounts, which allows users to make lightning payment with a debit card.

Ethereum 2.0 is coming, but slowly. Justin Drake, a foremost Ethereum researcher, posted on Github a proposed date of July 30, 2020 for the launch of the Ethereum 2.0 mainnet. The previous launch date for Ethereum 2.0 was thought to be late Q1 2020, so Drake's date represents a substantial delay. However, progress is being made. An Ethereum 2.0 developer shared on a podcast that a private multi-client testnet was up-and-running with over 22k nodes on the network, though he believes those nodes are only controlled by 5 to 7 individual operators.

National Basketball Association (NBA) player Spencer Dinwiddie of the Brooklyn Nets launched his tokenized SD8 contract in January, which will function as a loan collateralized by his own NBA contract and will be managed on **Ethereum**. Dinwiddie faced substantial opposition from the NBA in rolling this out, as the NBA threatened to terminate his contract for what they saw was a form of gambling on his own in-game performance, which is barred for players. After some compromise, the NBA and Dinwiddie were able to agree on appropriate terms.

The Securities and Exchange Commission (SEC) offered a warning about "Initial Exchange Offerings" (IEOs) in January, saying that investors should "use caution before investing in so-called initial exchange offerings through online trading platforms." Initial exchange offerings are conducted on crypto exchanges where new projects will pay the exchange to list their tokens, and the exchange allows consumers to purchase them as an event.

Venezuela politician Nicolas Maduro continues to push the Petro digital currency in Venezuela. He announced in January that the country would sell Venezuelan oil and gold in exchange for the Petro cryptocurrency, adding to iron ore and steel products which already can be exchanged for the Petro. Then, in his annual speech to the Constituent Assembly, Maduro mandated that all airlines flying from Caracas must pay for fuel in the Petro. The digital currency is a point of tension in a wider struggle. Juan Guaidó, the country's opposition leader and President recognized by over 60 nations including the U.S., believes the Petro is a scam. Donald Trump signed an executive order in March that blocks all U.S. transactions in the Petro cryptocurrency.

The two biggest limitations of base chain protocols are scalability and privacy. Scalability appears to be solved up to a certain point (with solutions not yet fully implemented). Privacy has earned less attention from developers but is crucial to the adoption of any crypto network. Launched to the **Ethereum** mainnet January 31st, the Aztec protocol is an early project addressing some of these concerns. Aztec is an on-chain privacy protocol that makes the value of transactions hidden between parties. At launch, Maker's Dai stablecoin can be transformed into zkDai through a smart contract, at which point the public can no longer see the size of transactions, though they can still see the parties involved. Privacy technologies like Aztec make Ethereum attractive to businesses and institutions with lower frequency activity that wish to conduct financial transactions on Ethereum, like bond issuance.

Data Point	1/31/2020	12/31/2019	Delta
BGCI	391.36	279.03	40.26%
Bitcoin	$9,354.31	$7,158.27	30.68%
Ethereum	$180.62	$128.41	40.66%
XRP	$0.2389	$0.1906	25.34%
Bitcoin Cash	$375.53	$203.86	84.21%
Litecoin	$67.97	$41.27	64.70%
EOS	$4.12	$2.57	60.31%
Total Market Capitalization	$255.97 B	$195.75 B	30.76%

Sources: DeFi Pulse, Github, Medium, Yahoo Finance, SEC, Forbes.

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