

# Bitcoin Risks, Rewards and Regulation

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## Introduction

Cryptocurrencies grew significantly in 2017 in terms of value and volume of transactions. Within the cryptocurrency market, Bitcoin dominates with over a 40 percent market share. The price of Bitcoin has increased over 1,300 percent in 2017 alone. The Bitcoin expansion also resulted in a significant increase in risk, fraud and regulatory issues.

The Bitcoin growth has outpaced the regulatory oversight. Regulators have struggled to keep pace with the speed of growth and utilization of digital currencies. On a global basis, the regulatory framework is fragmented and evolving, with a limited coordination and consistency. Bitcoin presents regulatory challenges in both anti-money laundering and sanctions controls due to the anonymity issues associated with the product.

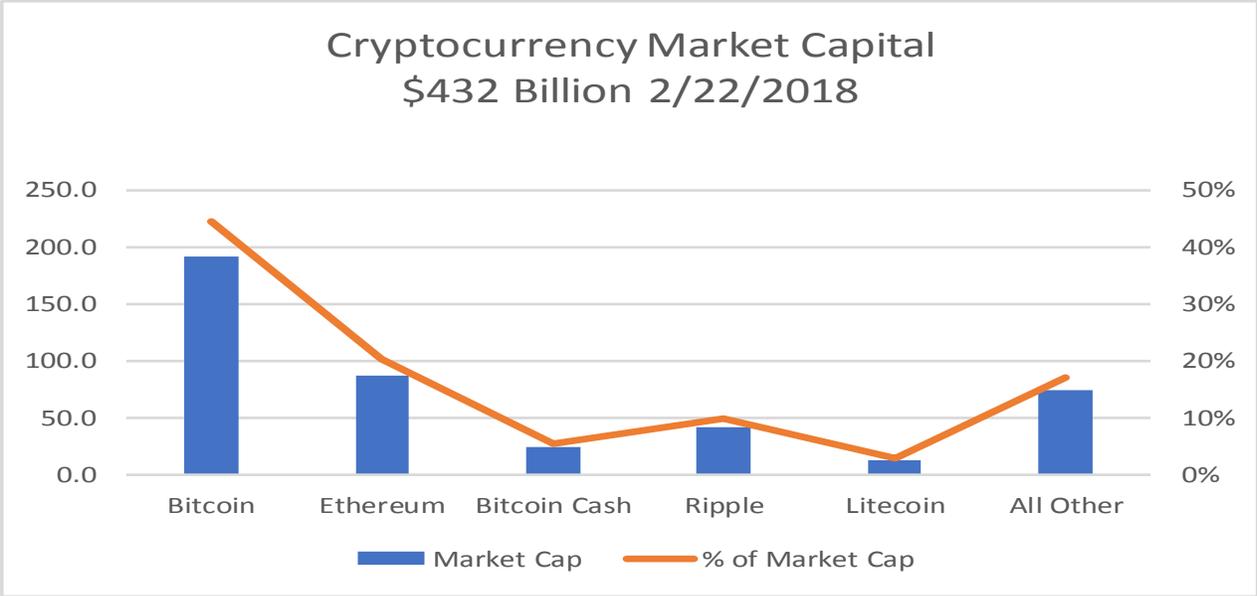
The Bitcoin product should be considered high risk. As Bitcoin dramatically increased in value, so did successful hacking events. In many of the hacking events, there were fraud and money laundering, which resulted in fines and arrests. Bitcoin provides alternative means to avoid economic sanctions. Sanctions appear to have played a role in the recent hacking of South Korean exchanges.

## Product and Exchange Overview

There are different segments of the Bitcoin market. It is difficult to quantify the segments due to lack of reporting; however, there are examples of relevant events that support the segmentation.

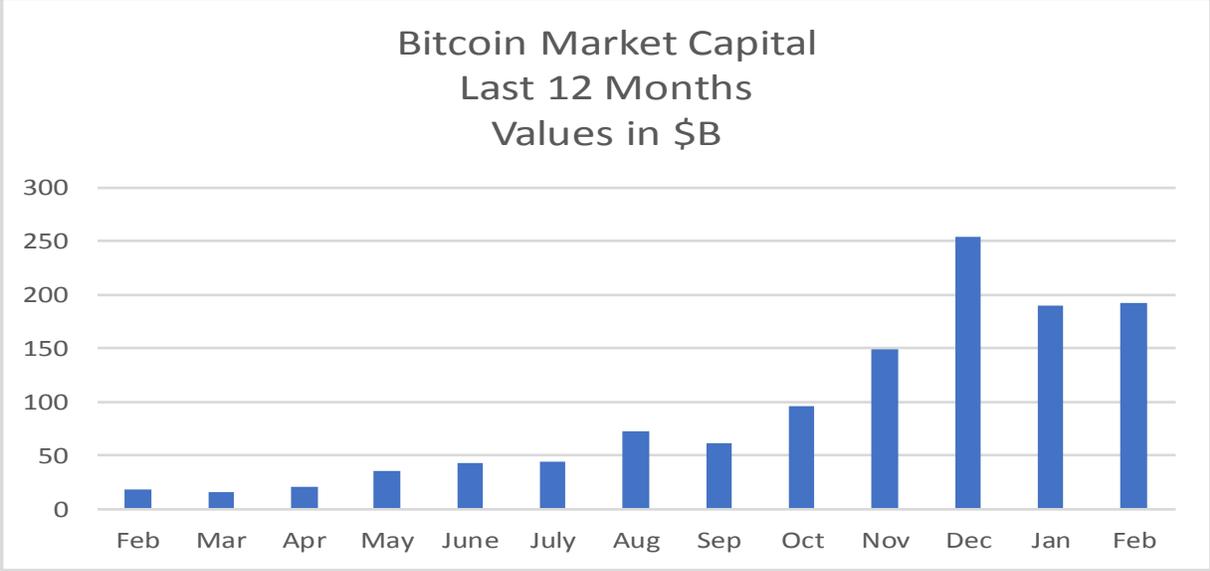
- Speculative investors: This segment is interested in benefiting from the volatile nature of the product. Bitcoin currencies are purchased and sold during spikes in prices and volatility. Considering the approval of the Bitcoin futures and options by the Chicago Board of Trade (CBOT), these products are used by professional traders.
- Illegal activities: Many users of Bitcoin take advantage of the anonymous nature of the product for illegal activities.
- Retail or commerce usage: Transactions in Bitcoin may be made for the purchase of goods and services. This segment appears to be small but growing, as the number of retailers accepting Bitcoin in exchange for goods and services is increasing.

The currency exchanges represent an important aspect of the digital currency market. The exchanges provide access to Bitcoin and are the point at which regulatory oversight takes place. Exchanges that are established to focus on speculative investors will offer products conducive to the needs of traders, such as the ability to trade on margin and different types of transaction orders (market order, limit order or stop loss order). Exchange volume data suggest that trading activity accounts for a large portion of the overall market. Bitcoin trades in very similar ways to how foreign exchange activities trade; trade volumes are monitored in currency pairs. For example, the BTC/USD currency pair is Bitcoin against U.S. dollars. Many U.S. regulated exchanges reflect significant trading activity; however, they are classified as money services businesses.



Source: coinmarketcap.com

The size of the cryptocurrency market has significantly increased during 2017 in terms of products offered, number of exchanges and overall market capitalization. The total market capitalization comprises 1,369 currency exchanges. There are more than 900 products traded on these exchanges, and the largest by far is Bitcoin. The cryptocurrency exchanges are highly concentrated, with the top three exchanges representing 69 percent of the market.



Source: coinmarketcap.com



Source: coinmarketcap.com

### Price Volatility

The price of Bitcoin is very volatile and appears to be very sensitive to both good and bad news. In December 2017, the Commodity Futures Trading Commission (CFTC) announced the approval and offering of Bitcoin futures and options.<sup>1</sup> This event was reflected in positive price action in Bitcoin, as it was viewed as an endorsement of the product. Large declines in price are typically driven by news reports of hacking, fraud, and regulatory controls and enforcement. Exchanges will typically offer Bitcoin on margin, which allows traders to leverage their investment and increase the risk. Bitcoin has also experienced an upward trend in price based on news of product adoption and expansion.

As mentioned, a significant Bitcoin segment is made up of speculative investors and traders, and these activities often reflect considerable leverage, as they are traded on margin. Traders maintaining large positions in Bitcoin can be impacted by liquidity, making it difficult to reduce positions.

### Bitcoin Futures and Options

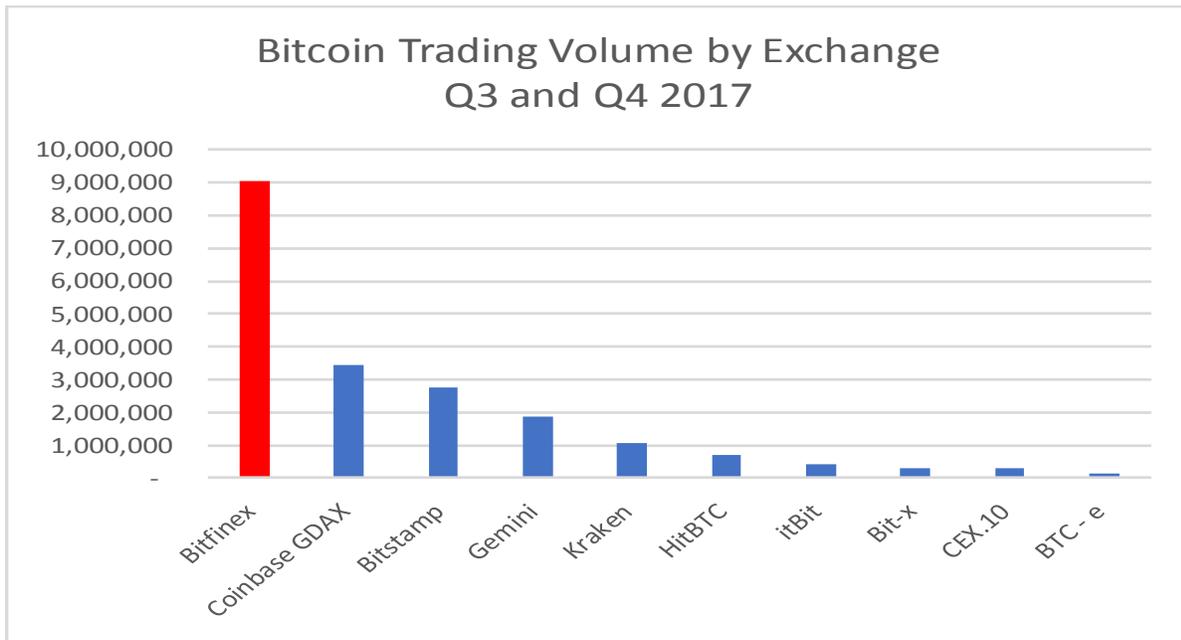
The CFTC approved the trading of Bitcoin futures and options on December 1, 2017. Bitcoin derivatives contracts began trading on December 18, 2017, through the Chicago Mercantile Exchange (CME) and Chicago Board Options Exchange.<sup>2</sup> Derivative products are typically utilized by institutional and professional traders. The new Bitcoin futures and options expanded the products that can be used for trading and hedging transactions. The CFTC Bitcoin futures announcement had a positive impact on the pricing of Bitcoin in December 2017, representing industry support for the legitimacy of Bitcoin.

The Bitcoin futures contracts are cash-settled at expiration, which means that no actual bitcoins are exchanged. On settlement date, counterparties will exchange only the dollar value of the Bitcoin contracts. The CME has selected and approved four Bitcoin exchanges to provide pricing information to compute a daily Bitcoin Reference Rate (BRR), which will be utilized for cash settlement.<sup>3</sup> The following exchanges are used by the CME in the BRR calculation:

1. Bitstamp
2. Coinbase – Global Digital Asset Exchange
3. itBit
4. Kraken

A challenge for the regulators is how the Bitcoin product is classified. Within the United States, the CFTC classifies Bitcoin as a commodity and the New York State Department of Financial Services classifies Bitcoin exchanges as money service business providers that are subject to state regulations.<sup>4</sup> The Office of the Comptroller of the Currency (OCC) is considering granting a special-purpose charter that could be utilized by financial technology companies and Bitcoin exchanges.<sup>5</sup>

Bitcoin trading volumes were used to illustrate the significant exchanges involved. The combined volume of the four CFTC-referenced exchanges did represent a significant portion of the trading activity. The total of the four exchange volumes was 7.6 million for the six-month period ending December 31, 2017.



Source : [https://data.bitcoinity.org/markets/rank\\_](https://data.bitcoinity.org/markets/rank_)

The volume information reflects some important data from a regulatory perspective:

- The Bitfinex exchange has a significantly dominant amount of trading activity in Bitcoin; however, Bitfinex is not regulated.
- New York State Department of Financial Services regulates Coinbase, Bitstamp, Gemini and Kraken; these exchanges are used as a basis for prices for the Chicago futures products.
- Despite being regulated in the United States, Bitstamp has not committed to long-term premises, as it utilizes space in a Regus facility in New York. Regus provides temporary furnished office space to individuals and corporations.<sup>6</sup>

The four Bitcoin exchanges selected by the CFTC to provide pricing data have been analyzed in detail below:

1. Bitstamp
  - a. Formed in 2011 and operates as an unregulated digital currency exchange with offices in London, New York and Luxembourg. The address for Bitstamp's New York City location is the same address as Regus US, a company that provides office space, virtual offices and business

- addresses.<sup>7</sup> Bitstamp offers a platform for its customers to trade in cryptocurrencies such as Bitcoin, Litecoin, Ripple and Ethereum.
- b. Per Bitstamp’s website, its business is supported by an internal audit process, as well as strict adherence to all applicable Anti-Money Laundering (AML) and Know Your Customer (KYC) requirements. Bitstamp also maintains a sanction policy that prohibits transacting with individuals, entities and countries on the Sanctions List. “Bitstamp will therefore screen against United Nations, European Union, UK Treasury and U.S. Office of Foreign Assets Control (OFAC) sanctions lists in all jurisdictions in which they operate.”<sup>8</sup>
  - c. Adverse media includes
    - a. January 4, 2015 – Attackers stole with approximately \$5 million worth of bitcoins after hacking the Bitstamp exchange. The attack targeted Bitstamp’s operational wallets. Operational, or hot, wallets are connected to the Internet and allow customers to instantly exchange the virtual currency.
2. Coinbase – Global Digital Asset Exchange (GDAX)
- a. GDAX offers a platform for traders of all levels to buy and sell digital currencies online instantly. Traders are limited to three cryptocurrencies: Bitcoin, Ethereum and Litecoin. The GDAX platform allows customers to place a market, limit or stop order; these types of orders are typically used by active traders.<sup>9</sup> GDAX is a service provided by Coinbase Inc. Coinbase was founded in July 2011 by Brian Armstrong and Fred Ehrsam. The San Francisco-based company was incorporated in 2012, and in that same year launched the services to buy and sell Bitcoin through bank transfers.
  - b. According to a *New York Times* article published on December 7, 2017, “[t]he number of people with Coinbase accounts has gone from 5.5 million in January to 13.3 million at the end of November, according to data from the Altana Digital Currency Fund. In late November, Coinbase was sometimes getting 100,000 new customers a day.”<sup>10</sup>
  - c. In January 2017, the New York State Department of Financial Services (DFS) approved the application of Coinbase for a virtual currency and a money transmitter license. Per the DFS press release, the department conducted a comprehensive review of Coinbase’s applications, including the company’s anti-money laundering, capitalization, consumer protection and cybersecurity policies. Coinbase is subject to ongoing supervision by DFS for a virtual currency.<sup>11</sup>
  - d. Adverse media includes
    - o December 7, 2017 – The Coinbase Bitcoin exchange is struggling to keep up with soaring demand as the global mania for the cryptocurrency drives wild swings in valuation. Over the course of one hour, the value of a single bitcoin on Coinbase jumped from below \$16,000 to more than \$19,000, before once again falling back down below \$16,000.
    - o June 24, 2017 – The CFTC asked Coinbase to supply information about the June 21 flash crash, which caused the Ethereum price to plunge from \$317.81 to \$0.10 within milliseconds before recovering to its previous level. The crash appears to have been triggered by a \$12.5 million trade that caused other traders to panic sell and engage automatic sell orders.
3. itBit
- a. itBit is a regulated U.S. financial services company based in New York. The itBit Bitcoin exchange is a platform that allows institutional and active traders to securely buy and sell Bitcoin. All U.S. dollars in the Bitcoin exchange are FDIC-insured, and all U.S. customer funds are held exclusively in regulated U.S. banks. itBit provides all U.S. customers with year-end 1099 forms for tax reporting.<sup>12</sup>

- b. itBit provides digital currency custody services for institutions seeking to custody or sub-custody assets with a regulated New York State trust company. As a New York State trust company, itBit is subject to strict regulatory oversight by the New York State Department of Financial Services. All fiat and digital customer assets deposited with itBit, a regulated entity, are backed by mandatory capital reserves. Customers receive regular and auditable consolidated reporting, including market and performance valuations for their asset portfolio. Reporting is done at monthly, quarterly and annual intervals.<sup>13</sup>
4. Kraken
- a. Founded in 2011, San Francisco-based Kraken is the largest Bitcoin exchange in euro volume and liquidity. Kraken is operated by Payward Inc. (Kraken is the trade name for Payward). Kraken was the first Bitcoin exchange to have trading price and volume displayed on the Bloomberg Terminal.
  - b. According to Kraken's website, "Payward, Inc.'s ('Payward' or the 'Company') AML Policy and Identity Verification Policy (collectively the AML Policy) is designed to articulate Payward's commitment to detecting, preventing and reporting attempts to use its financial services platform to illegally launder money, to finance illegal activities such as terrorism and drug trafficking, or to commit fraud." Additionally, "It is Payward's policy to comply with applicable laws and regulations regarding AML and identity verification, and to detect and prevent the use of its Service for money laundering or to facilitate criminal or terrorist activities."<sup>14</sup>
    - o Adverse media includes a class-action lawsuit filed on July 7, 2017, against cryptocurrency exchange Kraken over issues stemming from its management of a May flash crash. Less than two months later, five customers of the exchange alleged negligence, breach of contract and unjust enrichment, arguing that Kraken should have suspended trading amidst a denial-of-service attack that impacted its operations. Newly filed court documents name five plaintiffs, including one in the U.S., two in Israel and two others based in the UK, while Payward Inc., which does business as Kraken, is named as the sole defendant. Between the five customers, a total of 3,414.078 ETH, approximately \$329,000 at a price of \$96.32, was liquidated.<sup>15</sup>

## Operational Process

### Blockchain

Blockchain technology evolution has provided the foundation for many new products, such as virtual currencies. Blockchain provides an online public ledger maintained in the cloud to provide a record of each transaction. Blockchain is the accounting ledger representing ownership for virtual currencies, providing transaction details and complete history; these transactions have also been independently validated through the mining process. Bitcoin utilizes blockchain technology to record transactions in a publicly distributed ledger. Although the transactions are public, there is no personally identifiable information captured. If a regulated exchange is involved, it will document and verify the required account ownership information.<sup>16</sup>

Blockchain technology provides the foundation to enable virtual currencies to function without any support from banks, central banks or governments. The currencies are bought and sold in a global electronic market and can be converted to traditional currency as well as exchanged for goods and services on a limited basis.<sup>17</sup>

### Account Opening

Bitcoins are sold by cryptocurrency exchanges; customers will establish the account and provide required compliance documentation as requested. The customer is provided with an account that has a public address and a private key. The private key is for security purposes and is very similar to an ATM PIN or an email password. The only person or entity that will have knowledge of the account holder's identity is the exchange.<sup>18</sup>

### Digital Wallet – Account Funding

Exchanges have several different funding mechanisms. In general, most will accept ACH transfers, wire transfers, and debit or credit card transfers. The public account will reflect any transaction in the Bitcoin account and is referred to as the digital wallet. The owner can send and accept tokens from one wallet to another by providing the identification code of the wallet to the buyer of the transaction. The code itself acts as a key, eliminating the need for names or other types of identification. The transaction itself is anonymous, as only account numbers are used. An effective KYC process within the exchange will document, verify and align public account numbers to beneficial owners; however, there are many exchanges that are either not regulated or managing substandard KYC programs.<sup>19</sup>

### Bitcoin Transactions

The purpose of a Bitcoin transaction is to transfer ownership of an amount of the Bitcoin to a Bitcoin address. A Bitcoin transaction is a signed piece of data that is broadcasted to the network and, if valid, ends up in a block in the blockchain. Both the sender and receiver of bitcoins will use the private keys to approve or validate transfers. After the sender and receiver validation, the transaction will be held in a pending status in the blockchain. The independent mining process is used to verify the accuracy and integrity of the Bitcoin transfer. The miner will first verify that the transaction did not involve "double spending" or attempting to transfer the Bitcoin more than once. The Bitcoin transaction will have three pieces of information:<sup>20</sup>

- Input – This represents the Bitcoin address used to send bitcoins.
- Amount – This represents the quantity of bitcoins associated with the transaction.
- Output – This represents the Bitcoin address that is receiving the transaction.

### Blockchain Mining

Miners validate transactions, a process that takes approximately ten minutes. Transactions are collected and turned into a list, referred to as a block. Computers are used to run the block data through a "secure hash algorithm" in order to create a hash. The hash is important because it represents a specific series of random numbers and letters. If any data within the block is hacked or changed, then the hash will change as well, indicating an issue.<sup>21</sup>

The mining process also validates the integrity of the transactions through a complex mathematical process. This process will use hash tags that are applied to transactions in chronological order, and timestamp information is included.<sup>22</sup>

### Blockchain Security and Verification

Blockchain relies on digital signatures of users to approve transactions; the digital signature is the private key. The private key is a critical aspect of security — if a user misplaces the private key, it is impossible to obtain the information or to reset the information. A lost private key creates a difficult, if not impossible, task of retrieval or reset; accordingly, a user will lose access to assets and transactions.<sup>23</sup>

### Exchanges

The exchanges represent an important aspect of the cryptocurrency industry, as they represent the point of regulatory oversight. Exchange regulation and licensing also plays an important role in establishing required levels of capital to afford customer protection. The cryptocurrency industry has experienced many security breaches resulting in significant loss of assets. In many cases, the hacking events caused the exchanges to file for bankruptcy. There are many cryptocurrency products available in the market; some products are designed in ways to enhance privacy and anonymity. Monero is a version of a crypto note that hides the sender, amount, transaction broadcast and receiver with ring signatures to enhance privacy.<sup>24</sup>

There are exchanges operating in the cryptocurrency market that are currently not regulated, maintain substandard BSA- and KYC-related controls, and offer products that confer complete anonymity. Any of these risks can be sufficient to attract clients interested in using cryptocurrencies for illegal activities.

#### Hacking Events

There have been at least 28 reported hacks of digital currency exchanges since 2011, with a total of 1,185,725 Bitcoin tokens stolen. This represents approximately \$12.6 billion, using a value of \$10,690 on February 22, 2018. The impact of many hacking events was the shutdown or bankruptcy of the exchanges, leaving many customers with significant losses. A significant amount (88 percent) of the stolen bitcoins remains unaccounted for.

1. The Mt. Gox digital currency exchange was based in Japan and launched in 2010. By 2013, Mt. Gox was handling over 70 percent of the total Bitcoin transactions worldwide. The exchange was hacked twice. The number of tokens stolen in July 2012 was 1,852, and in February 2014, 850,000 were stolen. In February 2014, Mt. Gox suspended trading, closed its website and exchange service, and filed for bankruptcy protection from creditors. In April 2014, the company began liquidation proceedings.<sup>25</sup>
2. In December 2017, the Youbit South Korean digital currency exchange was hacked, resulting in a loss of approximately 17 percent of total assets, and causing the exchange to declare bankruptcy. Recent reports indicate that intelligence services in South Korea suspect that North Korea was behind additional attacks against domestic cryptocurrency exchanges, including market leader Bithumb.<sup>26</sup>

#### BTC-e Exchange

On July 26, 2017, the Financial Crimes Enforcement Network (FinCEN) of the U.S. Department of the Treasury assessed a civil monetary penalty of \$110,003,314 against BTC-e and a \$12,000,000 penalty against Alexander Vinnik, a Russian national who controlled and supervised BTC-e's operations. A 21-count criminal indictment against BTC-e and Mr. Vinnik was unsealed, which resulted in Mr. Vinnik's arrest in Greece. The indictment alleges that (1) he received funds from the infamous computer intrusion or "hack" of Mt. Gox, an earlier digital currency exchange that eventually failed, in part due to losses attributable to hacking; (2) Mr. Vinnik obtained funds from the hack of Mt. Gox and laundered those funds through various online exchanges, including his own BTC-e and a now defunct digital currency exchange, Tradehill, based in San Francisco, California; and (3) by moving funds through BTC-e, Mr. Vinnik sought to conceal and disguise his connection with the proceeds from the hacking of Mt. Gox and the resulting investigation.<sup>27</sup>

BTC-e is one of the largest virtual currency exchanges by volume in the world, but U.S. regulators concluded, and prosecutors charged that it was not operating in compliance with U.S. Bank Secrecy Act (BSA) regulations.

According to FinCEN, BTC-e lacked basic controls to prevent the use of its services for illicit purposes and, as a result, purportedly maintained a customer base of criminals who concealed and laundered proceeds from crimes such as ransomware, fraud, identity theft, tax refund fraud schemes, public corruption and drug trafficking, none of which BTC-e reported to FinCEN and law enforcement. FinCEN asserted jurisdiction, claiming BTC-e processed substantial transactions (approximately \$296 million) involving U.S. customers.

FinCEN found that BTC-e failed to comply with U.S. laws in many ways: BTC-e failed to register as a money services business (MSB) and failed to maintain an effective AML program. Account opening procedures were limited at BTC-e, with only a username, password and email address required to open an account, authorities said.

## Cryptocurrency Regulation

### Overview

The regulatory oversight structure for cryptocurrencies is evolving slowly; the current structures are fragmented and inconsistent, and present gaps. The cryptocurrency market is in a state of extreme growth in terms of products and exchanges, and unfortunately has a high degree of risk. The pace of product evolution and the pace of regulation are quite different. Regulators have started issuing guidance in the cryptocurrency industry; regulations have classified the product and exchanges in different ways. Some regulators have implemented significant changes and improvements after experiencing hacking attacks in the cryptocurrency exchanges.

### United States

#### FinCEN Guidance on Virtual Currency Exchanges

FinCEN, a branch of the U.S. Treasury Department, issued guidance in March 2013 to clarify the applicability of the BSA to persons creating, obtaining, distributing, exchanging, accepting or transmitting virtual currencies. According to the guidance, companies that exchange or transfer virtual currency (such as Bitcoin) are considered MSBs and subject to MSB registration, reporting and recordkeeping required by the BSA. Bitcoin must register with FinCEN as an MSB under the Treasury regulations.

In the United States, Bitcoin exchanges are considered MSBs, required to comply with the BSA laws. These exchanges must comply with AML, KYC and Customer Identification Program (CIP) requirements. The licensing of the exchanges is required at the state level, which increases the complexity and potential for different requirements.<sup>28</sup>

#### Office of the Controller of Currency

In December 2016, the OCC issued a discussion paper titled “Exploring Special Purpose National Bank Charters for Fintech Companies.” According to the paper, this type of charter could provide many benefits:

- Help ensure that these companies operate in a safe and sound manner;
- Apply the OCC’s uniform supervision over national banks, including financial technology companies, which will promote consistency in the application of law and regulation across the country; and
- Provide a path for financial technology companies to become national banks that can make the federal banking system stronger.

A special-purpose National Bank Charter could provide a structure to register virtual currency exchanges, as opposed to the current approach of registering exchanges with multiple states.<sup>29</sup>

## Commodity Futures Trading Commission

The CFTC defines the virtual currency product as a commodity and not foreign exchange. The CFTC approved the Chicago Mercantile Exchange and the Chicago Board Options Exchange futures exchange to introduce Bitcoin futures and options in December 2017.<sup>30</sup>

## State Regulation

Within the United States, money service businesses are regulated at the state level. The New York State Department of Financial Services (NYDFS) has been the most proactive in the cryptocurrency industry. NYDFS created a regulatory framework for virtual currency startups called Bit license. These regulations are limited to activities involving New York or a New York resident.<sup>31</sup>

## Selected International Regulatory Status and Changes

### South Korea

The Korean Financial Services Commission (FSC) announced some additional details of the new real-name system for cryptocurrency accounts on January 23, 2018. “The government plans to require cryptocurrency exchanges to share users’ transaction data with banks; the implementation date is January 30, 2018.” The new system will end the current practice of virtual account usage, which allows anonymous trading of cryptocurrencies. Virtual accounts are issued by banks for cryptocurrency exchanges’ customers to use to deposit and withdraw money.<sup>32</sup>

Banks have AML regulations that require them to check and maintain transaction records of cryptocurrency traders. Customers need to open an account at the bank providing virtual account services to the exchange they are using. “New members should be added after strict identification procedures.” FSC regulators reported that a review of exchange activity in the bank accounts noted that in one case customer-related funds were comingled with exchange funds. This type of activity is typically related to fraud associated with customer assets.

The FSC announced reporting associated with transaction monitoring thresholds and AML investigations; the thresholds are stated in terms of daily and seven-day limits. A daily transaction limit of \$9,452 and a weekly limit of \$18,904 were implemented by the FSC.

If the bank suspects money laundering or a suspicious transaction, the bank will confirm the purpose of the transaction and source of funding. These changes announced by the FSC represent significant progress and improvement of AML controls and compliance in cryptocurrencies.

### Singapore

The chairman of the Monetary Authority of Singapore (MAS) announced a clarification of Singapore’s AML and countering the financing of terrorism (CFT) laws in January 2018. The financial regulator will not distinguish between transactions conducted in fiat and cryptocurrency in seeking to enforce its AML/CFT laws and added that all financial institutions will be subject to the same regulations.

The MAS chairman, however, recognized that the regulation of virtual currency transactions may pose challenges not associated with monitoring fiat currency circulations. The pseudo anonymous qualities of cryptocurrency and the absence of a centralized clearing further complicate the challenge of regulating transactions executed using virtual currencies. To mitigate the challenges, the MAS will seek to impose AML and anti-terrorist financing requirements on intermediaries — such as exchanges and brokers — that exchange fiat for virtual currencies.<sup>33</sup>

## Japan

Japan Financial Services Agency enacted a new law on April 1, 2017, authorizing the use of digital currency as a method of payment, essentially granting it the same legal status as any other currency. Bitcoin was classified as a prepaid payment instrument.<sup>34</sup>

## Venezuela

On December 3, 2017, Venezuela launched its own digital currency, the “petrol,” backed by oil, gas, gold and diamond reserves. President Nicolas Maduro announced the product launch, which he said would “help Venezuela advance its sovereignty and overcome the burdens of global economic sanctions.”<sup>35</sup>

## Cryptocurrency Anti-Money Laundering Compliance

### Swiss Bank Anonymity

For decades, the Swiss banking system operated on the concept of anonymity; most bank accounts only contained numbers to identify beneficial ownership. The only person or entity with knowledge of the account holder’s identity was the bank. Swiss bank laws were established to preserve the anonymous nature of the accounts and captured the market share of individuals who wanted to hide their assets from government investigation. In 2013, Switzerland outlined plans to relax bank secrecy laws.

### Traditional Bank Compliance Programs

Traditional AML compliance systems were tailored to address existing centralized financial service systems. It is difficult for AML systems to function on a financial system based on anonymity. AML programs primarily rely on CIPs, KYC and transaction monitoring to identify potentially suspicious events. Traditional bank systems capture transactional information associated with relevant counterparties; in addition to dates, amounts and geographic information are also retained. Transactional information is evaluated in the context of KYC and CIP information to identify red flags or suspicious transactions. Geographical information is important considering the global nature of financial services and differences that exist in terms of support for strong AML and sanctions controls.

### Sanctions

Financial crimes compliance units have always had the difficult task of monitoring sanctions violations. The anonymity associated with Bitcoin provided a new means to evade sanctions. Many countries that are subject to sanction restrictions have focused on Bitcoin and other cryptocurrency initiatives.

### Cryptocurrency Anonymity

The account opening, and customer identification processes are facilitated by the exchanges. A regulated exchange will typically have an account opening process that requires identification documentation, like those in regulated US banks. The customer will be assigned a public number for the established account and the exchange will retain knowledge and documentation associated with the beneficial owner.

An unregulated digital exchange will typically operate without customer identification and verification controls. In this case, the digital currency transactions are being executed with complete anonymity. Some unregulated exchanges will establish a digital currency account with only an email address. In this type of scenario, a Bitcoin transaction will offer a level of anonymity like a cash transaction. The pseudo anonymous nature of Bitcoin transactions heightens BSA compliance risks, making it difficult to establish banking relationships. Cryptocurrencies have proved attractive to those seeking anonymity.

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- <sup>1</sup> <https://www.investopedia.com/articles/investing/052014/why-bitcoins-value-so-volatile.asp>
  - <sup>2</sup> <http://www.cftc.gov/PressRoom/PressReleases/pr7654-17>
  - <sup>3</sup> <http://www.cmegroup.com/trading/cf-bitcoin-reference-rate.html>
  - <sup>4</sup> [www.dfs.ny.gov/legal/regulations/adoptions/dfsp200t.pdf](http://www.dfs.ny.gov/legal/regulations/adoptions/dfsp200t.pdf)
  - <sup>5</sup> <http://www.dfs.ny.gov/about/press/pr1701172.htm>
  - <sup>6</sup> <https://www.regus.com/>
  - <sup>7</sup> <https://www.regus.com/>
  - <sup>8</sup> <https://www.bitstamp.net/internal-processes/>
  - <sup>9</sup> <https://support.gdax.com/customer/portal/articles/2426596>
  - <sup>10</sup> <https://www.nytimes.com/2017/12/06/technology/coinbase-bitcoin.html>
  - <sup>11</sup> <http://www.dfs.ny.gov/about/press/pr1701172.htm>
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  - <sup>18</sup> <https://www.fool.com/investing%202018%2001%2010%20the%20basics%20of%20bloackchain>
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  - <sup>23</sup> <https://www.bitcoinmining.com/>
  - <sup>24</sup> <http://moneroinvestment.com/>
  - <sup>25</sup> [https://en.wikipedia.org/wiki/Mt.\\_Gox](https://en.wikipedia.org/wiki/Mt._Gox)
  - <sup>26</sup> <http://www.telegraph.co.uk/technology/2017/12/19/bitcoin-exchange-collapses-second-cyber-attack-year/>
  - <sup>27</sup> <https://www.fincen.gov/sites/default/files/2017-07/BTC-e%20July%2026%20Press%20Release%20FINAL1.pdf>
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  - <sup>30</sup> <http://www.cftc.gov/PressRoom/PressReleases/pr7654-17>
  - <sup>31</sup> [http://www.dfs.ny.gov/legal/regulations/bitlicense\\_reg\\_framework.htm](http://www.dfs.ny.gov/legal/regulations/bitlicense_reg_framework.htm)
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