Financial Accounting Classification of Cryptocurrency

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Abstract

Currently, a large range of opinions exists regarding the appropriate classification and regulation of cryptocurrency. From the legal perspective, some suggest that cryptocurrency investments are too speculative. As a result of this, it is suggested that cryptocurrency should be more heavily regulated. This would be done to prevent speculators from losing vast wealth. Other legal analysts suggest that an increasing cryptocurrency regulation would have a detrimental effect on the state of cryptocurrency, and its use would cause long-term problems. From the accounting perspective, opinions vary. Some suggest an accounting classification that would make cryptocurrency cash equivalents; others suggest an accounting classification that would render cryptocurrency an intangible asset with an indefinite useful life. The "big 4" accounting firms that include Deloitte, PricewaterhouseCoopers, Ernst and Young, and KPMG recommend that cryptocurrency should be classified as an intangible asset with an indefinite useful life. However, other companies currently using cryptocurrency through the general operations of the business have decided to classify it differently. The legal perspectives and the accounting perspectives will be analyzed to determine appropriate regulations for cryptocurrency and an appropriate classification for cryptocurrency. The results will show that cryptocurrency should be classified as an intangible asset with an indefinite useful life for accounting purposes and as property for tax purposes.

Financial Accounting Classification of Cryptocurrency

Prior to making judgments regarding the appropriate regulation and use of cryptocurrency, it is imperative that a preliminary background concerning its technological workings is understood. The development of cryptocurrency came about with innovations in the field of cryptography. The Digital Encryption Standard (DES), the most recent major leap in the field of cryptography, began in the early 1970s (Leech & Chinworth, 2001). DES functioned by scrambling a code by a key. If a code read 1-2-3-4 and the key was 2, the code could be encrypted into 2-4-6-8. In this way, a code encrypted by way of DES would be difficult to unscramble without knowledge of the key.

Blight (2013) explained that controversy arose related to DES in a fashion similar to the controversy that surrounds the technology behind cryptocurrency today. It was stated that the encryption of code by DES could prevent public security officials from determining the contents of software. If the contents of potentially dangerous software could not be understood, then risks would be imposed on the United States. Blight goes on to explain the efforts made by various groups to improve DES and create a system in which a key was not as easily discovered as through the popular 56-bit DES. This is because, as Blight concluded, computing power improved to the point where a solution to encrypted code constructed via this method could be brute-forced.

The developments of these groups built upon a conceptual cryptocurrency system developed by Brands (1994). In this system, Brands explains how strong computing power that was not available at the time of his writing could efficiently create a system in which code transmission was secure. It is therefore reasonable to assume that Brands

helped pioneer the concept of transmissions secured by a group of others, known today as a blockchain. Creative application of blockchain can be seen today in other uses such as the transmission of property deeds or medical records.

The modern method of encryption involves the use of one-way hash algorithms. Like DES, hash algorithms employ the use of input values to encrypt a code. For example, if the input value is 600 and the hashing algorithm is 50, then the hash value is 30,000. Unlike DES, hash algorithms employ the use of two different values, one value to encrypt and one value to decrypt (Konheim, 2010). Because of this, knowledge of one key would not allow an individual to have access to the encrypted information. Additionally, hash algorithms far exceed the potential variations that DES was limited by. A hash value can use 128-bit numbers which are represented by 2^{128}. As a result, information encrypted by hash algorithms is resistant to brute force attacks (Konheim, 2010.

Current Cryptocurrency Technology

Abramowicz (2014) explained that the current technology powering cryptocurrency is the blockchain. The following information is based on the writings of Abramowicz (2014). The blockchain functions by creating a chain of users whom all agree on the transactions taking place. Any time a user does not agree that a transaction is valid, they are kicked from the chain and a fork is created. The fork is not useful if only one user is a member but if enough users decide to fork, a separate chain is created. The two chains are not able to interact with each other. The purpose of the blockchain is to ensure that all transactions are legitimate. This technology entails that all members of the blockchain are known and amounts connected to each member is known.

An illustration may be helpful to more fully understand the mechanics of a blockchain transaction. For example, if John wants to pay Bill ten coins on the blockchain, John would need to know Bill's blockchain address. He would then perform a series of incredibly complex math functions to encrypt the coins and send them through the blockchain to Bill's address. Even though Bill has received the coins, he is not able to send them to another party. This is because Bill must wait for the other members of the blockchain to verify the transaction. Bill does not need to wait for all members to verify the transaction; he only needs to wait for the particular party to which he is sending the coins to verify the transaction.

However, the blockchain encryption and verification process is costly both in terms of energy and time. For example, according to the Digicominist (2019), it requires over 2.5 times more electricity to process one Bitcoin transaction as it does for 100,000 Visa transactions. The Digicominist report goes on to explain that the annual energy consumption for all bitcoin transactions accounts for over 1% of the United States' total energy use. Despite this, cryptocurrency transactions are generally much faster than standard digital transactions. Visa transactions, for example, can take one to three days process (Nilson Report, 2018). However, Bitcoin transactions can occur in under 30 minutes (Burchet, Decker, & Wattenhofer, 2018). The speed and encryption of cryptocurrency transactions has made blockchain the preferred method for cryptocurrency use.

Additionally, attempts at striking a balance between energy cost and time have led to different approaches to cryptocurrency production. For example, XRP, the second most popular cryptocurrency behind Bitcoin, has introduced methods to reduce the cost

and increase the speed of the transaction (Kaustav, 2018). Kaustav goes on to explain that this improvement was brought about by improvements in technology used to create the blockchain. Similarly, as also mentioned by Kaustav, other cryptocurrencies have appeared throughout time boasting faster speeds and lower costs. However, Kaustav notes, like XRP users, the use of a more efficient coin mandates abandoning the existing userbase of more popular coins. It is because of the continued innovation in the field of cryptocurrency and the desire to remain with highly populated userbases that many cryptocurrencies have and will continue to come into existence.

It is important from an auditor's perspective to understand the motivation behind the use of multiple cryptocurrencies as well as the underlying technology. This understanding enables the auditor to ask relevant questions to those in custody of cryptocurrency and help discover errors or fraud. The Public Company Accounting Oversight Board (PCAOB) has issued guidance for auditors in dealing with clients. This guidance can be extrapolated and applied to cryptocurrency. For example, if an auditor does not realize that all members of a blockchain can know the number of coins stored at an address, then he might not ask the employee in possession of the cryptocurrency address for a report verifying the valuation assigned to the wallet from other members of the blockchain. If the auditor fails to do this, then he may not be able to issue appropriate opinions related to the existence and valuation of the audited company's cryptocurrency account (PCAOB, 2014).

In the event that management of a company is unable to provide a report verifying the accuracy of their cryptocurrency account, the auditor can begin an independent investigation through the use of a blockchain explorer. Kuzono and Karam (2017)

explained that this is a tool that acts as a member of the blockchain and can search for blockchain addresses. They further explained that if the auditor knows the blockchain address, he can use the blockchain explorer to view all the transactions that occurred on the chain. These transactions can then be used to verify the accuracy of the recorded transactions surrounding the company's cryptocurrency account.

Government Regulation of Cryptocurrency

Considering the technological forces at work behind the development of cryptocurrency, government regulators can make judgments based on the effects that cryptocurrency has on crime and the economy. The positive and negative effects that cryptocurrency carries are then to be analyzed to determine proper policy.

However, before the positives and negatives of cryptocurrency are judged, existing policy should be analyzed regarding similar regulated items. For example, the most similar financial instrument to cryptocurrency would be publicly traded securities. Both items' values can be readily determined by viewing the latest traded price (Siddiqui, 2016). Additionally, securities and cryptocurrency are traded digitally and involve security features to protect their transfer between parties (Siddiqui, 2016). Finally, both items are frequently traded with parties residing in foreign countries which increases the complexity of policy directed towards controlling domestic use (Siddiqui, 2016). As a result of these similarities, it is prudent to look at regulations governing the exchange of securities to determine what regulations are applicable to cryptocurrency.

One of the largest regulations that differentiates publicly traded stock from privately traded stock is the requirement to disclose detailed financial information regarding the performance of the company. The Sarbanes-Oxley Act of 2002 expanded

this and required a number of controls that would hopefully ensure the reliability of

presented financial information (Congress.gov, 2002). These disclosures are required of

domestic and foreign companies traded on a U.S. stock exchange.

Currently, cryptocurrency creators are not required to publicly disclose any

information regarding the development of their cryptocurrency, or the figures related to

the company's future plans for the cryptocurrency. As a result, it is possible that U.S.

consumers could be misled into believing that a particular cryptocurrency would have a

finite supply of coins, while the company planned to add additional coins to the supply

thereby devaluing the consumer's coins. If U.S. consumers could be misled into

purchasing a particular cryptocurrency and information surrounding that cryptocurrency

is not disclosed to the government, then consumers cannot be protected from their

involvement in these schemes by the government.

If the U.S. public demanded government officials make cryptocurrency

manufacturers disclose information to the same extent as publicly traded companies, it is

possible that many current smaller cryptocurrencies would be unable to compete and

offer new alternatives. After the Sarbanes-Oxley Act was legislated, small companies that

earned less than $1 billion in revenue saw their costs double (Bisoux, 2005).

Additionally, large upfront costs were required to maintain a compliance department. As

a result, unless a cryptocurrency company had the margins to support a significant

expense increase, it is unlikely that it would stay in business.

If disclosure was required for cryptocurrencies, in addition to smaller

cryptocurrency development companies going out of business, it is likely that a

cryptocurrency black market would form for those coins unable or unwilling to abide by

the law. Historically, this has been seen many times. Harp writes that when alcohol was outlawed during prohibition, individuals resorted to producing more dangerous alcohol such as moonshine. When opioids were regulated to require prescriptions for use, dangerous concoctions involving fentanyl began widespread distribution (Harp, 2010). Therefore, history has set a precedent for a black market that creates more dangerous products. This problem is further exacerbated by the anonymity that is provided by the digital dissemination of cryptocurrency. It is possible that cryptocurrency creators wishing to avoid regulation would resort to less secure transmission options that increase the risk of cryptocurrency theft.

Aside from regulating on the basis of protecting consumers' financial security, the government would want to understand the usage of cryptocurrency in illegal activities. Brown (2016) explained that the anonymous nature of cryptocurrency provides ample opportunities for criminals to carry on money laundering schemes and continue illegal activity with less risk of prosecution. Although technology enables justice officials to view the blockchain, the blockchain does not offer location information. Even with knowledge of the perpetrator's blockchain address, his physical location may not be known. This is because the perpetrator can set up a virtual private network (VPN) that is capable of masking his location (Saslow, 2012). Since it is not always possible to know the location or identity of a criminal, traceability can be nearly impossible.

Additionally, according to Stokel-Walker (2018), the introduction of new cryptocurrency through Initial Coin Offerings (ICO) has created many new Ponzi schemes. These schemes are aided by the lack of required disclosure and oversight by the government and increase the risk that consumers lose money. The lack of regulation

regarding ICOs enables scammers to promise investors a large return if they invest their

money within a certain time frame, only to walk away with the cash and not deliver on

their promises. An article in *Money Life Journal* (2018) highlighted a recent example of

this in BitConnect. BitConnect founders offered a cash payout to users who would buy

BitConnect coins (Money Life, 2018). The cash payout ranged all the way up to a 40%

monthly return on investment. Unfortunately, the company did not deliver on their

claims, and those who had purchased coins lost all their investment. (De, 2018).

Situations like this reveal the potential dangers behind unregulated and unmonitored

cryptocurrencies.

Finally, Patil (2013) explored the frequency of phishing attacks, a form of fraud

used to gain personal information from its targets. Patil explained, "In May 2013, we

found a phishing site that spoofed a popular digital currency company" (p. 5). These

instances could be avoided altogether if government agencies regulated the industry, and

only approved select cryptocurrency exchanges. In this way, users could access these

exchanges without risking their personal information. Ideally, it would be common

knowledge that legitimate cryptocurrencies could only be accessed in this manner, and

successful cryptocurrency phishing attempts would cease. Albuquerque and Callado

(2015) concluded that it would take some form of government intervention to prevent

cryptocurrency fraud. However, the government must also analyze the potential benefits

that cryptocurrency use brings to its users.

Positives of Cryptocurrency Commercial use

Hegadekatti (2017) offered several uses of cryptocurrency. One such use is the

improved transmission of currency when dealing with international trade. An

improvement in trade efficiency is seen by negating the fees to convert one's own currency to the international currency. For example, a buyer could convert the U.S. dollar into the Euro for less than the cost to buy cryptocurrency with the U.S. dollar, exchange it with the user in Europe, and then exchange it back into the Euro. If the cost of the exchanging is less than the market cost for foreign currency exchanges, then the buyer and seller can both save money. Hurlburt and Bojanova (2014) explained that transaction fees incurred by the transfer of currency to cryptocurrency have already reached levels cheaper than conventional international currency transactions.

Additionally, Hegadekatti (2017) identified cryptocurrency as a possible solution to the Triffin Dilemma for the U.S. government. The Triffin Dilemma states that when a country's currency becomes the international standard for reserve, the demand for the currency increases, the government needs to print more, and then inflation occurs. A current example of this involves the U.S. dollar. Currently, the U.S. dollar is held by many countries due to its relative strength. Since it is held by many international entities, the U.S. government needs to print more , which causes inflation. If the U.S. government backed a particular cryptocurrency and enabled tax payments to be paid in said cryptocurrency, then international demand for the cryptocurrency would increase. As a result, the U.S. dollar could avoid the inflation postulated in the Trifflin Dilemma.

It is worth noting that, alongside the cost savings achieved by the international transactions, time savings can also be achieved. SWIFT (Society for Worldwide Interbank Financial Telecommunication) is the leading international transaction platform used by banks (EY, 2016). Using it, a typical bank wire can take anywhere from 3-5 days. However, current cryptocurrency technology allows transactions to take less than

24 hours (Kaustav, 2018). New software and technology has the potential to drastically decrease this time (Farell, 2015). As a result, domestic businesses can potentially achieve a competitive advantage by integrating cryptocurrency transactions into their international logistics network.

In summary, the speed and cost savings afforded by cryptocurrency use for international transactions can provide efficiency to domestic businesses. These efficiencies can create competitive advantages that businesses may pass on to their suppliers and consumers and thereby create additional value in the market. However, before guidance can be issued on the prospective classification of cryptocurrency, further analysis must be done on the current state of cryptocurrency classification.

Current State of Cryptocurrency Classification and Regulation

In addition to the potential negatives and benefits provided by cryptocurrency use, the government should understand current classifications and regulations and then consequently build on them. According to Smalley (2017), the IRS recently mandated Coinbase Inc., one of the largest cryptocurrency exchanges, to identify all U.S. customers who purchased and transferred cryptocurrency through their exchange. The precedent set by this is similar to the precedent set by regulations affecting the stock market; namely, that the possession and distribution of assets is not private information. Although the government passed this regulation, there are still smaller exchanges that have avoided compliance. As a result, if the government aims to be consistent, they must seek out all exchanges, and require that the services obtained consumers' personal information before allowing transactions to be completed.

Additionally, the IRS required that the amounts of cryptocurrency held in each wallet be disclosed. Smalley (2017) continued by stating: "an argument could be made that the IRS is treating cryptocurrency as both property and currency" (p. 3). This is because the IRS does not require property owners to report the value of their property every year. Smalley explained this with an example:

> If a taxpayer were to hold gold overseas, which is considered property by the IRS and, more specifically, a commodity, there is nothing in the Tax Code, that requires the taxpayer to report the value of the gold to the IRS every year. Further, if a taxpayer owns residential property, rental property, or any other asset deemed property overseas, there also is no requirement for the taxpayer to report the fair market value of that property to the IRS. (Smalley, 2017, p. 5).

The aim of this regulation appears to allow justice officials to more easily identify the parties engaged in an illegal transaction. For example, suppose someone is suspected of purchasing illegal goods from a dealer. The justice officials may want to discover the identity of the dealer. If the dealer received the cryptocurrency by accessing a site that did not require him to divulge his personal information, then it would be more difficult to identify him. However, if the site required his personal information, justice officials could trace the transaction with a blockchain explorer, discover the receiver's blockchain address, contact the company in possession of the blockchain address, and subpoena the company for information on the owner of the wallet.

Apart from the IRS, the Commodity Futures Trading Commission, a branch of the federal government that oversees regulation commodities, determined that

cryptocurrency should be regulated as a commodity (CFTC, 2018). As explained

previously by Smalley (2017), this classification would mean that the value and quantity

of cryptocurrency held by a taxpayer would not need to be disclosed annually. Since

cryptocurrency has been deemed a commodity by the CFTC, they would hold jurisdiction

over any claims of wrongdoing regarding fraudulent trade practices or market

manipulation (CFTC, 2018). There have been no reports of the CFTC engaging with

cryptocurrency in such a manner. Supposedly, the CFTC has not begun increasing

regulation yet to because of its desire to see the cryptocurrency market flourish from its

own innovation (Tan, 2018)

   It should also be noted that the U.S. Securities and Exchange Commission has not

registered any initial coin offerings nor approved any cryptocurrencies (SEC, 2017). This

is significant because the SEC has both the statutory authority to set Generally Accepted

Accounting Principles (GAAP), which affects how U.S. companies record

cryptocurrency on a balance sheet, and the power to work with the CFTC to impose

regulations on the trade of cryptocurrency (SEC, 2013). Since the SEC has not set forth

any standards on cryptocurrency classification nor imposed any regulations on

businesses, it is impossible to extrapolate any standard from the SEC's position on

cryptocurrency.

   In conclusion, the three main government entities responsible for the regulation of

cryptocurrencies are the IRS, CFTC, and SEC. The IRS has been unable to decide

whether cryptocurrency is equivalent to foreign currency or a commodity. The CFTC has

determined that cryptocurrency is a commodity, and therefore under its jurisdiction.

However, the CFTC has stated that any forthcoming regulation will take place in the

future as they wait to see how the cryptocurrency market develops apart from

interference. The SEC has not spoken of cryptocurrency despite having the authority to

pass regulation. This means that U.S. companies and cryptocurrency traders have a lot of

freedom in how they classify and transfer cryptocurrency.

Need for GAAP Classification

Considering the precedent set by current organizations' perspectives on

cryptocurrency, it would be prudent to determine how cryptocurrency should be

classified. The Financial Accounting Standards Board (FASB) has been granted authority

by the SEC to issue GAAP (SEC, 2002). As a result, FASB is the governing body

responsible for GAAP's classification of cryptocurrency. The need to appropriately

classify cryptocurrency is apparent when one understands the relationship between

GAAP and U.S. companies.

All publicly traded companies must file quarterly and annual reports, such as

income statements and balance sheets, in accordance with GAAP. If a company fails to

do so, they may be sued by the SECand shareholders, or lose their ability to trade

publicly (SEC, 2013). Additionally, the reports filed by companies may be used by

creditors to determine the components of a loan agreement. Ideally, a company would

want to present information that makes them appear the most profitable and soluble so

that they would more easily secure creditors and investors. Due to this motivation, the

SEC requires GAAP consistency for all publicly traded companies so that their creditors

and investors can easily compare intercompany information and make sound decisions

based on it. FASB should recognize cryptocurrency as an asset because it "represents a

probable economic benefit for a particular entity that has resulted from a past transaction"

(FASB, 1985). It is clear that cryptocurrency carries a probable future economic benefit because of its occasional substitution for cash. However, FASB must determine under which type of asset cryptocurrency would be classified. Raiborn and Sivitanides argued that the classifications to be studied include: cash, cash equivalents, investments, and intangibles (2015).

Cash Classification

For cryptocurrency to be classified as cash, it should both function as cash and be as useful to investors and creditors as cash. One such function of cash is liquidity. Cash is the most liquid asset and can thus not be reduced into a more liquid asset (Flood, 2015). Zimmer (2017) explains that, historically, metal coins of gold, silver, and copper were considered the most liquid asset. This was because governments often collected taxes in these forms and so businesses always needed coins to fulfill the government's tax quota (Zimmer, 2017). For cryptocurrency to achieve this level of need and liquidity, it too would need to be required as a tax by the government. However, this is not the case. As a result, cryptocurrency appears to miss the liquidity mark for being classified as cash.

However, it could be argued that cryptocurrency is functionally liquid enough to be considered cash by creditors and investors. This argument hinges on the idea that any time delay between converting a cryptocurrency coin into legal tender is immaterial. This is because conversion of cryptocurrency into cash can be done in under 24 hours (Kaustav, 2018).

Regardless of the time required, it should not be said that cryptocurrency is equal to cash. The conversion cost would need to be factored if this were the case and would result in cryptocurrency only being able to be displayed at its net realizable value.

According to Raiborn and Sivtanides (2017), a cash equivalent classification would be more suitable for cryptocurrency.

Cash Equivalent Classification

For cryptocurrency to be classified as a cash equivalent, it must be easily, quickly, and cheaply converted into cash within 90 days. In addition, cash equivalents should be easily stored and transferred. Finally, cash equivalents must be readily convertible into known quantities of cash (FASB, 2018).

The first qualification, ease of conversion into cash, has already been discussed. With current technology, cryptocurrency can be transferred into cash in under 24 hours which meets FASB's requirement of 90 days (Kaustav, 2018; Flood, 2015). The time taken to convert cryptocurrency into cash should decrease as technology progresses in the future. As a result, it should always be capable of meeting the timing requirement.

The cost to convert cryptocurrency into cash also meets GAAP requirements for cash equivalents. Fees to quickly convert cash equivalents such as commercial paper are considered reasonably low and not material (Hahn, 1998). Cryptocurrency exchange costs are similar to exchange costs experienced by other current assets such as marketable securities and therefore not relevant in this discussion (Kasahara & Kawahara 2019).

However, it has been argued that cryptocurrency cannot meet the highly liquid requirement due to its lack of conventional accessibility. For example, cryptocurrency cannot be obtained at ATMs or received from ordinary banks, whether domestic or foreign (Raiborn & Sivitanides, 2015). Based on this lack of conventional accessibility, it has been argued that cryptocurrency has low accessibility and thus, low liquidity.

To counter this point, the lack of conventional accessibility does not prevent T bonds from being classified as cash equivalents. On the contrary, T bonds are considered highly liquid and are among the top items included in large companies' marketable securities (Long Chen, Lesmond, & Wei, 2007). T bonds are not generally stored in ATMs nor are retrieved from banks (although some will store physical certificates in safety deposit boxes). Regardless of the lack of traditional accessibility, both T bonds and cryptocurrency are easily transferred and accessed when one has access to a computer and the internet. For this reason, high liquidity supports the argument that cryptocurrency should be classified as a cash equivalent.

The second qualification, ease of storage and transfer, has been discussed in the preceding technology background segment. Companies can hold as many wallets as they would like to and store an indefinite number of cryptocurrency coins on each wallet (Böhme, Christin, Edelman, & Moore, 2015). This is because the wallet is digital and therefore there is no inhibition on the wallet's capacity. Since the wallet is electronic, the ease of storage is clearly a strong point for cryptocurrency. Additionally, the ease of transfer is made easy due to the limited number of steps involved. Bitcoin, for example, can be transferred by only knowing the recipient wallet's address and having access to the blockchain network (Bitcoin Project, 2018). Companies such as Coinbase make the process easier by handling the distribution of processing power across the blockchain. This allows a non-technologically savvy individual to easily transfer any number of coins on a blockchain.

The third qualification, ready conversion into known quantities of cash, casts the most doubt on cryptocurrency' cash equivalent status. Bitcoin, for example, has

experienced dramatic shifts in its valuation. From December 2017 to February 2018,

Bitcoin dropped from $19,200 to $6,800. The total drop represents a 65% decrease in

value over three months (Coinbase, 2018). Additionally, Bitcoin experiences unusually

high price volatility when compared to other common investments. Bitcoin experienced

an average 30-day moving price volatility of approximately 3% in 2016; this is high

relative to a historical gold volatility of 1.2% and a U.S. dollar volatility of .75%. This

shift in value rejects the notion that cryptocurrency can be readily converted into known

quantities of cash after 30 days.

Cash equivalents such as commercial paper, have a value reasonably close to the

value expected a maturity. Differences in the projected value and realized value of these

cash equivalents are typically deemed immaterial. As a result of cryptocurrencies

historical price volatility in a three-month time frame, the claim that cryptocurrency can

be converted to a known cash value can be rejected. However, it could be argued that

cryptocurrency markets will possess less volatility in the future as markets stabilize. This

would result in fair value fluctuations becoming less impactful on financial user

decisions. Regardless of whether this will be the case, accounting standards should reflect

current knowledge and experience. Since cryptocurrency does not meet the

aforementioned requirement, it would be unwise for FASB to classify it as a cash

equivalent.

Investment Classification

Since the cash classification and the cash equivalent classification have not

withstood testing, the investment classification should be examined. For cryptocurrency

to be classified as an investment, it must have a readily determinable fair value and an

expected conversion into cash time of over three months (Raiborn & Sivitanides, 2015).

Within the investment classification, it could be defined as either a short-term or long-term investment. A short-term investment has a conversion into cash time between three months and a year. A long-term investment has a conversion into cash time of over a year (FASB, 2018). If the investment classification were to be applied, it would be up to the management of a company to determine the appropriate classification.

According to Deloitte, cryptocurrency should be classified as an investment so long as the company intends to treat it as an investment (2018). This is because cryptocurrency meets the clear conversion requirement and can, therefore, be treated as an investment or intangible. For example, if an investment firm decided that it would purchase and hold Bitcoin in the hopes that it would increase in value over a year, the firm should classify their Bitcoin as a long-term investment. If the firm does so, the accountant would record the Bitcoin at cost on their balance sheet and perform a fair value adjustment at fiscal year-end. Gains or losses from the fair value adjustment would be reflected in the company's net income (Deloitte, 2018).

However, it has been argued that cryptocurrencies do not fit with the conventional definition of an investment. This is because investments typically represent a right to a real-world asset, something that cryptocurrency does not possess. For example, an equity stock represents an ownership stake in a business, a bond represents a right to receive interest payments from another company, and land classified as an investment represents a right to control the land (PricewaterhouseCoopers, 2018). Since cryptocurrency does not uphold any of these conventional classifications of investments, some critics argue that it cannot be deemed one (Raiborn & Sivitanides, 2015).

To counter this, while typical investments represent a right to a real-world asset, it seems to be entirely within cryptocurrency's purpose to function as an investment. The investment classification would provide the most relevant information to stakeholders if the business intended to treat its cryptocurrency as an investment. Additionally, all assets generally represent a real-world use (O'Sullivan & Sheffrin, 2003). If cryptocurrencies were excluded from an investment classification for not possessing inherent real-world value, then they could be excluded from all asset classifications. Yet, it is clear that cryptocurrency carries the potential to provide a future economic benefit to the company.

As a result, FASB should provide management the freedom to classify cryptocurrencies as an investment should that be the company's intended use. Similar to the freedom provided to companies to classify securities as trading securities, available-for-sale, or held-to-maturity, the most useful information will be provided to stakeholders if management has classification freedom (FASB, 2018). In so doing, FASB enables clear communication of financial information.

If a firm's management decides to classify its cryptocurrency as an investment, the firm would need to perform fair value adjustments that pass through net income (Flood, 2015). The firm could either classify the cryptocurrency as a trading security or as available for sale since held to maturity would not be an option. A hold to maturity classification would not be an option because cryptocurrencies do not mature. According to the Accounting Standards Codification (ASC) 320-10-25, if the firm classified its cryptocurrency as a trading security then gains and losses would flow through onto the company's net income statement (FASB, 2018). If the company classified its

cryptocurrency as available-for-sale, then gains or losses would appear on the company's

accumulated other comprehensive income statement (FASB, 2018).

Finally, if a firm's management decides to classify cryptocurrency as an

investment, disclosure notes should be issued detailing the justification for the investment

classification (Deloitte, 2018). This disclosure would be aimed to reassure stakeholders

that the company is ethically accounting for its assets. In the disclosure notes, gains and

losses could be detailed by an explanation contrasting the original purchase price and

amount with the fiscal year-end fair value.

Inventory Classification

Even though cryptocurrencies may be held for sale, they are not classified as

inventory since ASC section 330-10-20 states that inventory is "the aggregate of those

items of tangible personal property that [are held for sale] in the ordinary course of

business" (FASB, 2018). However, some cryptocurrencies may be used as a means to

make ordinary income for a business. For example, some companies such as Coinbase

hold large amounts of cryptocurrency as a means to sell them and acquire a significant

percentage of their total income. If it is clear that the company intends to achieve its

ordinary income through the sale of cryptocurrency, it would be prudent to classify it as

inventory. This classification should only persist so long as FASB does not rule on the

accounting classification for cryptocurrency.

If the inventory classification were used, companies would need to be mindful of

the adjusting entries that would impact their cryptocurrency account. According to ASC

section 330-10-30, inventory is recorded at the lower of net realizable value and cost

(FASB, 2018). As a result, if the cryptocurrency's sale price falls below the original

purchase price, a value mark-down would be created to decrease the inventory's carrying value (FASB, 2018).

For the sake of consistency, however, it would be most beneficial if cryptocurrency were classified in a way that all businesses could use. The classification would need to fit the most likely uses of cryptocurrency. Finally, it would need to provide the most flexibility to management to accommodate cryptocurrency's diverse uses.

Intangible Classification

The intangible asset classification appears to be the most informative classification for financial statement users. For cryptocurrency to be classified as an intangible, it must be an asset that can be identified as carrying a value, cannot be cash or a non-monetary asset, and it cannot have physical substance (PricewaterhouseCoopers, 2018). Within the intangible classification, it could either be classified as an indefinite life asset that is periodically impaired or it could be classified as a definite life asset that receives annual amortization.

As discussed previously, is clear that cryptocurrency carries value. Some individuals would go so far as to take out loans to purchase Bitcoin during the time of its meteoric rise (Fox, 2017). The discovery of the current value is also clear. Many websites such as Coinbase deliver real-time quotes on cryptocurrency prices. As a result, cryptocurrency can fit the first requirement of an intangible.

Additionally, cryptocurrency cannot be considered a monetary asset. The conventional understanding of monetary assets is that they are used as legal tender in a country (Kubát, 2015). Since no country has decided to use cryptocurrency in this way, it is not a monetary asset and therefore fulfills the second requirement.

Finally, cryptocurrency fulfills the last requirement of an intangible asset by not possessing physical substance. While it is true that cryptocurrencies can be encoded in physical devices such as USB storage devices, the actual currency is stored digitally (Nakamoto, 2008). This is similar to other common intangibles such as trademarks, licenses, and proprietary software. While these items are often represented physically, it is the right to control the item that is intangible (Moore, 1998). In the same manner, while cryptocurrencies may be displayed on physical devices, the right to possess the coins is recorded electronically.

As a result of cryptocurrency meeting the requirements for an intangible asset and the support from third-parties for the intangible asset classification, it must be determined whether they should be classified as indefinite-lived with impairment or definite lived with amortization. It appears to be difficult to assign a definite life to cryptocurrencies. Unlike patents that receive a legal time limit until expiration, cryptocurrencies have no legal time limit (World Trade Organization, 2009). On the contrary, it is impossible to accurately estimate the period of time during which a cryptocurrency will be in demand. Without a reasonable approximation of a cryptocurrency's useful time, the definitely lived classification cannot be used.

Without the definite-lived classification, the indefinite-lived classification is all that remains. According to ASC 335-30-35, accounting for an indefinite-lived asset involves recording it at its fair market value and then periodically impairing it with adjusting entries (FASB, 2018). For example, if a Bitcoin were purchased by a company at $5,000, it would be recorded at $5,000. If the price increased to $6,000, no adjustment would take place. If the price dropped to $3,000, the company would need to evaluate

whether the value decrease is permanent or temporary. If the drop is temporary, no adjustment would be needed. If the drop is permanent, the company would need to write the cryptocurrency down and include the decrease as a loss on the income statement. A gain or loss would be recorded as appropriate should the Bitcoin be sold during the year (FASB, 2018).

Considering the potential cryptocurrency classifications, cash and cash equivalents do not seem to be acceptable. From FASB's perspective, an intangible asset with an indefinite useful life appears to be the most appropriate. This sentiment is shared by the Big 4 accounting firms (Deloitte, EY, KPMG, & PwC, 2018).

IRS Classification

Although cryptocurrency should be treated as an intangible asset for GAAP, the IRS may treat it differently for tax purposes. Currently, cryptocurrency is treated as property for tax purposes (Rosenberg, 2018). Hewitt (2016) advised that cryptocurrency should continue to be classified as property for tax purposes. This would mean that gains on the sale of cryptocurrency would be taxed in the same manners as gains or losses on securities. Additionally, this would mean that the number of cryptocurrency coins held would not need to be reported.

A few benefits could be observed by continuing to classify cryptocurrency as property for tax purposes. One such benefit is the familiarity many taxpayers have with paying capital gains tax. Approximately 11 percent of U.S. tax filers in 2005 were required to pay capital gains tax (Holan, 2008). As a result, compliance with the tax law should be expected to remain relatively high compared to more obscure options.

It should be noted that the lack of regulation regarding cryptocurrency is inconsistent with the legal action pursued by the state against secondary agents. For example, illegal material exchanged over the internet can put the Internet Service Provider at risk of secondary liability. Currently, as cryptocurrency has a high potential for use of illegal activities (Brown, 2016), some argue that the cryptocurrency exchanges should be secondarily liable (Helman, 2010). SEC approval of exchanges must then happen so that the exchanges can be treated with the same standards as securities exchanges. Subramanian and Chino (2015) noted that SEC regulation will most likely lead to lengthy approval times and thereby reduce the speed of innovation in the field of cryptocurrency. Although lengthy approval times may decrease efficiency in the cryptocurrency exchange system, it should be done if the CFTC wishes to remain consistent.

Conclusion

In conclusion, the lack of classification of cryptocurrency from the GAAP perspective and legal perspective has left much room for debate. The Big 4 accounting firms suggest that accounting for cryptocurrency as an intangible asset with an indefinite useful life would be the most beneficial to companies and stakeholders. The IRS would benefit from continuing to classify cryptocurrency as a property that is susceptible to capital gains tax due to the familiarity many taxpayers have with that process. As cryptocurrency gains recognition as an alternative means of value storage and transmission, governing authorities should offer additional clarification to users so that the world of financial accounting may prosper.

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