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A Critical Analysis of Cryptocurrencies from an Islamic Jurisprudence Perspective

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Abstract: Money has changed its form many times throughout history and has begun to turn into digital form as an alternative to the current situation. The newest type of money form is a cryptocurrency which has been developed independently of any central authority. The usage areas of cryptocurrencies are increasing day by day. Bitcoin is one of the most accepted cryptocurrencies in the world, which was issued in 2009, dominated the cryptocurrency market and attracted the attention of large masses with its rapid rise in value. Cryptocurrency market size exceeded $800 billion in early 2018. Most of the cryptocurrency users want to get a share from value increases of cryptocurrencies. However, these behaviours are not in line with the philosophy of cryptocurrencies. Cryptocurrencies also cause problems of legitimacy for Muslim users in terms of Islamic Jurisprudence (*Fiqh*). Although many religious institutions and Islamic scholars say that cryptocurrencies are haram, several Islamic scholars consider that they are halal. In our study, the legitimacy of cryptocurrencies in terms of Fiqh is analysed multidimensionally employing the existing literature and fatwas. Furthermore, we attempt to determine the features of Islamic cryptocurrency.

Keywords: Cryptocurrencies, Bitcoin, Islam, Islamic law, Money, Blockchain, *Fiqh*

JEL Classification: A12, E42, E58, Z12

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Introduction

Money as a means of exchange has been used since the early times of humanity. It has a mediating role in facilitating the lives of people and in accessing necessities and services. The most important features of this tool are durability, rarity, portability, divisibility, and acceptability. The form of money has undergone many changes until reaching its current form. Various materials such as seashells, salt, animal skins, and seeds were used as money to ensure the exchange of goods. However, these goods do not have standard quality and divisibility. They have quality differences between their varieties. Some of the difficulties in transportation and storage led people to use precious metals as a means of exchange. Gold, silver, and other precious metals have been accepted as money all over the world due to the intrinsic value of them. The acceptance of these metals as money has entailed international trade easier (Graeber, 2012).

After all these developments, nations have been starting to issue their own national currency. This process did not happen directly. Gold and silver backed banknotes were issued by states. These banknotes were redeemable for gold or silver. However, nowadays, banknotes have not any intrinsic value, and their value depends on the state guarantee (Jaynes et al., 1978).

Significant developments due to technology have occurred in the field of finance in the second half of the last century. Electronic money (e-money) has started to be accepted as a means of exchange and value storage. The using of banknotes, especially in developed countries, is decreasing day by day with the using of electronic payment systems which are encouraged by governments. Electronic payment systems can help tackle the problems of the shadow economy (Schneider, 2013).

Cryptocurrencies have become a phenomenon in recent days, they are used for various purposes. Bitcoin and other cryptocurrencies are invested by users as speculative purposes (Baur et al., 2018) rather than used as alternative payment systems or a medium of exchange. To understand the cryptocurrency system or the digitalization of money, we need to understand how technology affects the monetary system through blockchain which causes an reform of the international monetary system (Brunnermeier et al., 2019).

The positive effects of this digitization on economics and finance are mentioned following sentences. (i) The digitalization of money increases trade volume all around the world. (ii) It eliminates the continuous printing costs of money. (iii) A common currency can be created for the use of international societies. This has a positive impact on trade, production, and consumption volume. (iv) It can be liquidated more quickly by merchants, thus motivating businesses on the Internet.

(v) It provides the opportunity to make transactions 24/7 by decreasing the fees charged on money transfers.

The purpose of this study is that the legitimacy of cryptocurrencies in terms of *Fiqh* is evaluated multidimensionally using existing opinions and *fatwas*. Also, we attempt to determine the features of Islamic cryptocurrency. The effect of technology on money's form is mentioned in the second part. Blockchain technology and cryptocurrencies are investigated the third and the fourth parts, respectively. Evaluating cryptocurrencies in terms of *Fiqh* and conclusion are mentioned following sections.

The Effect of Technology on Money's Form: e-Money and Cryptocurrencies

Electronic money is an electronic store of monetary value on a technical device which was developed through information technologies to ensure the payment of debts or the transfer of economic value from a party to another party via the Internet (European Central Bank, 2019; Vlasov, 2017). Cryptocurrencies and e-money have different characteristics. E-money and cryptocurrencies have differences in terms of legal regulations, anonymity, and value guarantees. While e-money is issued through authorized financial institutions and represents the nominal value of banknotes as a different form, cryptocurrencies can be issued by anonymous individuals or groups which are independent from the state's authority. Unlike cryptocurrencies, the issuing of electronic money is regulated by government authorized financial institutions (Nakamoto, 2009).

In Turkey, e-money institutions may perform transactions in accordance with the authorization of the Banking Regulation and Supervision Agency and are subject to legal regulations. Cryptocurrencies are not regulated by the state's institutions in Turkey as well as in other countries.

The blockchain technology which Bitcoin and some other cryptocurrencies use this infrastructure is a distributed, peer-to-peer ledger technology that consists of sequential blocks maintained by a computer network. It also contains verified transaction records without a central authority. This technology is not new and can be used in many areas that require transparent records of transactions apart from financial systems. Although blockchain technology was developed many years ago, it has become more popular with Bitcoin. This technology can be used primarily for the secure storage of information. It is a self-monitoring digital value ecosystem that allows for the safe storage and transfer of assets without a wet signature or hand-to-hand circulation (Härdle et al., 2020). The records of the transactions and

accounts are kept alphanumerically in a block by the blockchain network. A new block is created approximately every 10 minutes.

Blockchain network provides a distributed database of records or public ledger of all transactions that have been executed and shared among participating parties, unlike conventional systems which record transactions a centre. All parties verify each transaction in the system. When a transaction is recorded and confirmed in the blockchain, these records can no longer be changed or deleted (Crosby et al., 2016).

One of the essential advantages of this technology is that all members or observers who use the system have access to all transaction records. The immutability of these blocks prevents any change to their contents. There is almost no risk of cyber-attack because the same data is stored on thousands of users' computers (Crosby et al., 2016).

The transactions in the blockchain are recorded with the Secure Hash Algorithm (SHA256). The transactions can be seen on the blockchain, but they are secure with SHA256 not through actual information. By tracking the hash output between blocks backwards, the genesis block can be reached, which is the first block. The system rejects any attempt to make changes on a block. For example, a user attempting to write extra Bitcoins will cause incompatibility with the hash value in the next block (Härdle et al., 2020).

The node is a computer or hardware in the blockchain which follow the rules to find proper hash value. The first node that finds the hash value of the appropriate block to form the last ring of the blockchain is rewarded with Bitcoin. Therefore, Bitcoin is a reward given to the user who first solved the problem through the power of the hardware. The appropriate hash value can also be found by aggregating power into a pool to make transactions faster. The parties obtain Bitcoin in proportion to the processing power they participate in the pool. The proof of work (PoW) process can be defined as mentioned above (Ren et al., 2020).

Proof of stake (PoS) is another system that is not used by Bitcoin, but some other cryptocurrencies use PoS such as Tezos, Dash and Neo. In the PoW system, Miners need massive computing power to work out the proper hash value. This computing power turns into a lot of energy expenditure. PoS tries to solve this problem by relating mining power to the ratio of stakes held by a miner (Thake, 2018).

In PoS, the block reward is given randomly depending on the stake of coins in the account. Therefore, every user of these cryptocurrencies is also a verifier. Users have a high stake of coins are more likely to be used as verifiers and thus receive more shares from each verification process (Faridi, 2018; Saleh, 2018).

Cryptocurrencies

More than 7000 cryptocurrencies are in the market (as of September 2020). Most of them use the blockchain system, but they have some differences between each other. Härdle et al. (2020) make general classifications with examples:

- Peer to Peer Money Transaction Mechanism (Bitcoin)
- Distributed Computation Tokens (Ethereum, EOS and Tezos)
- Utility Tokens (Golem, Sia and FileCoin)
- Security Tokens
- Fungible Tokens
- Non-Fungible Tokens (Dharma)
- Stable coins (Tether, Circle)
- Others

Bitcoin is a transaction system between parties. Ripple was developed as an alternative to the international money transfer system SWIFT. Ethereum and some other cryptocurrencies have features where smart contracts can be created and customized by the user. Some cryptocurrencies are more confidential than Bitcoin. Monero, Zcash, and Dash are examples of these cryptocurrencies, which give more importance to anonymity. Tether can be classified as a stable coin which equals $1.

Bitcoin is the most prominent cryptocurrency and has become a phenomenon. Bitcoin (BTC or XBT) is the first cryptocurrency though the idea of the peer-to-peer payment system. Bitcoin's operating principle is based on cryptography. It was invented in 2009 by a person with the pseudonym Satoshi Nakamoto to provide electronic money transfers between peers. The whitepaper of Bitcoin which can be described as the system's manifesto, published on the Internet in November 2008 (Nakamoto, 2009). This declaration provides necessary information about a decentralized network that includes infrastructure for peer-to-peer electronic transactions. The Bitcoin network was created when the first block mined in January 2009. Satoshi Nakamoto also produced the genesis block, and the system was started to run the code in the contents. Also, the creation of this first block gave him 50 Bitcoins (Crosby et al., 2016).

Satoshi Nakamoto describes Bitcoin in his article as an electronic money system (Nakamoto, 2009, p. 1). Bitcoin can be described as a new digital money system, an alternative to the fiat money system. Bitcoin can be divided into eight digits, so it is possible to make a transaction of 0.00000001 Bitcoin. The smallest unit is called a Satoshi. In other words, 100 Million Satoshi is equal to 1 BTC (Giungato et al., 2017). Bitcoin emerged following the collapse of the financial markets and

was presented as an alternative model against the failure of the current financial system (Dilek, 2018). Bitcoin also has some characteristics of conventional money, which are the medium of exchange, divisibility, transferability, and value storage. Bitcoin allows users to send any amount of money from one digital wallet to the another without the need for intermediaries. It provides a fast and low-cost alternative to conventional money transfers (Dilek, 2018). However, scalability is a significant problem when employing blockchain technology to real markets (Xie et al., 2019). SegWit and Lightning Network try to solve these problems by make block size more functional and increase processing speed (Vujičić et al., 2018).

Mining operation maintains the registration of transactions which are recorded in blocks. This operation come out of solving an equation along with high computing power. People who perform this process with various equipment are called miners. Two types of rewards are promised to miners for their work. If they find the correct hash, they will receive a fixed amount of bitcoin. Besides, they also receive commissions because they ensure that transactions are recorded in blocks (Dimitri, 2017). The block reward was 50 Bitcoins at the beginning of the system, and the reward was decreased to 12.5 in 2018. The Bitcoin system is programmed to issue the total of 21,000,000 Bitcoins, and this process will be completed in 2140 (Meynkhard, 2019).

A Critical Analysis of Cryptocurrencies from Islamic Jurisprudence Perspective

It is not possible to find relevant information about cryptocurrencies and fiat money in the classic *Fiqh* manuscripts. Therefore, the examination of cryptocurrency can be evaluated by considering the principles of *Fiqh*. For this kind of evaluation, it is necessary to answer the questions such as the philosophy of cryptocurrencies, how it is produced, how it is used, what type of function it performs, what kind of results it may have in the current financial system, what are the benefits and problems for the society.

Fatwas have been issued from Islamic scholars all around the world within the framework of such questions regarding whether cryptocurrencies are licit according to Islamic principles or not. Most Islamic scholars claim that cryptocurrencies do not conform with Islamic law. They issued *fatwas* that cryptocurrencies are considered as *haram*. According to these *fatwas*, cryptocurrencies have not a legal tender, the issuer is unknown, there is no central authority like a state, the values of cryptocurrencies are not stable, and they can be easily used for an illegal purpose (Abu-Bakar, 2017).

Özdemir et al. (2020) examined the cryptocurrencies from several perspectives including Islamic jurisprudence. However, they only provided a summary of the views of various scholars and religious authorities from different countries about cryptocurrencies, rather than any analysis from a *Fiqh* perspective. On the other hand, there are also some fatwas which are considering cryptocurrencies as licit in terms of *Fiqh*. These scholars have employed *istishab* in the fatwas (Bradford, 2017; Kaya, 2019). In the following paragraphs, we have mentioned the opinions of some Islamic scholars.

The principle that we will use the most is *Istishab* which means that the original rule for all things is permissibility. The presumption is that all items are permitted unless prohibited by Islamic Law. The principle of *istishab* was accepted by al-Shafi'i and some of its types by the Hanafis such as al-Karkhi and as-Sarakhsi (Nyazee, 2003). It is commonly accepted that Islamic Law serves the purpose of the interest of human beings (maslahah). These interests may modify in different circumstances. There is no doubt that this principle should be used by considering carefully. In the modern era, it is open to criticism that many issues are deemed legitimate by somehow being associated with this principle. However, it is not right to judge that it is illegitimate based on several instruments unless there is evidence to prohibit a particular issue. Notably, a good understanding of the new products brought by technology is vital for making the right decision at this point.

According to the Chief Mufti of Egypt, Ibrahim Allâm, the features of Bitcoin lead to *gharar* (uncertainty) and *jahala* (ignorance), which result in unfair gains by deceiving the parties involved. As a result, he stated that these tools are not permissible in terms of Islam (Allâm, 2017). A member of the Royal Saudi Court, Abdullah bin Muhammad al-Mutlaq mentioned that there is not any issuer and the state guarantee. He stated that the emergence of cryptocurrencies independent from a central authority; it would have dangerous consequences, and using cryptocurrencies is not licit in the way of *Fiqh*. He also pointed out that Muslims should avoid these tools by likening Bitcoin to gambling because its value has increased exponentially in a short time and has rapidly lost value in a short time (El-Mutlaq, 2018).

According to the *fatwa* which was issued by the United Arab Emirates Religious and Charity Institution, the money should be recognized by central and international authorities. They reported that cryptocurrencies are *haram* because they are not accepted by states as money (General Authority of Islamic Affairs & Endowments, 2018). In addition, trading transactions must take place immediately because of the monetary feature of cryptocurrency. Especially in times of transaction density, the problem of scaling arises. In this case, cryptocurrency is not permitted

to use in terms of *Fiqh* because it cannot fulfil the requirements of Islamic law (El-Aqil, 2018). El-Aqil (2018) also mentioned how zakat should be given from Bitcoin and other cryptocurrencies. Accordingly, Bitcoin's zakat should be calculated as gold and silver' zakat. This zakat calculation method should be taken as the basis for cryptocurrencies. The High Council of Religious Affairs of Turkey announced cryptocurrencies which were stated that these tools are not licit due to there are independent of the state authority. They cause unjust enrichment (High Board of Religious Affairs, 2017).

Professor Monzer Kahf and Professor Ali Muhyealdin Al-Quradaghi are prominent scholars in Islamic Economics and they issued *fatwas* that cryptocurrencies are *haram* because they are not issued by states as a legal tender and they do not fulfill the functions of money (Al-Quradaghi, 2018; Kahf, 2017). Hayrettin Karaman, emeritus Professor of Islamic Law who is well known in Turkey for his scholarly contributions and *fatwas*, also issued a fatwa about Bitcoin and its derivatives. Cryptocurrencies are *haram* due to unjustified benefits, and they cause to harm society (Karaman, 2017). It is necessary to classify cryptocurrencies to examine in terms of *Fiqh*. Fuqaha made some classifications as follows:

Philosophy and Intent to Use

The philosophy of each cryptocurrency has different aims even they are similar. In this respect, the white papers that can be defined as reports or guides for each cryptocurrency should be examined separately. Islamic scholars should not issue holistic and superficial *fatwas*. They should not prevent Muslims from taking advantage of new technologies such as cryptocurrencies. If there are problems in terms of Islamic law, they should work with experts to eliminate these problems and ensure that Muslims benefit from these tools.

Cryptocurrencies issued for various purposes are determined whether they are permissible or not in terms of Islamic law according to these purposes. Cryptocurrencies which are in line with Islamic law should benefit the society and cannot have features which are contrary to Islamic law. For example, to use cryptocurrencies which are issued for gambling, drugs, and *riba* (usury), is certainly not halal. Islamic scholars should reveal the purpose of a cryptocurrency through examining the white papers carefully. A *fatwa* must be issued after these processes.

Some cryptocurrencies that are issued indirectly for illegal transactions are used by those intending to make illegal transactions due to their privacy and anonymity features. These cryptocurrencies are useful for individuals and organiza-

tions that do not want to be prosecuted by security forces. Cryptocurrencies such as Zcash and Monero, which are prominent in terms of privacy and anonymity. It is evident that these tools particularly encourage money laundering and illegal transactions (Emem, 2018). Illegal transactions can be made with all kinds of national currencies. Unlike cryptocurrencies, these currencies are easily monitored by central authorities and security forces. However, this problem is not directly related to the nature of cryptocurrencies.

Categorizing of Cryptocurrencies

Although cryptocurrencies emerged ten years ago, there is no consensus on how to define them. Due to their various functions, it can be defined as money, commodity, or security. Different definitions will affect their legitimacy in terms of *Fiqh*.

When cryptocurrencies are accepted as money, the exchange must be made on the spot. In *Fiqh*, this issue is named as *bay al-sarf*. Nakamoto (2009) described Bitcoin as an electronic cash system independent from a central authority in his manifesto. According to this definition, we can say that Bitcoin has developed a system for the use of a new monetary system as an alternative to the existing monetary system. They cannot be defined as security because they are not asset-backed. The most appropriate classification indicates that cryptocurrencies should be defined as currencies. However, the problem is that no legal, regulatory authority is found backing it, which is a different and essential obstacle for providing a standard definition.

There is an obstacle to accepting them as money because of the value of cryptocurrencies fluctuates hugely. These fluctuations prevent to fulfil cryptocurrencies' functions as a medium of exchange and shared value. When we examine these views, we think that these instruments should be accepted as a new monetary system though it does not precisely fit a specific definition.

Production Process

Some Islamic scholars compare the process of a blockchain network to the *ju'alah* contract, and they think that bitcoin is licit (El-Aqil, 2018). Also, the miners' effort to verify and record every transaction as lawful. Besides, all kinds of transactions to be approved audited and recorded to the block to ensure miners carry out the formation of the blockchain. It should be considered legitimate in terms of the Islamic law that they earn income for all these services.

In PoS, the block reward is given randomly depending on the stake of coins in the account. Therefore, every user of these cryptocurrencies is also a verifier. Users

have a high stake of coins are more likely to be used as verifiers and thus receive more shares from each verification process and earn more money than lower coin holders (Faridi, 2018; Saleh, 2018). This will have the same effect as *riba* since it would mean making money from money. In this case, coins that are supplied employing PoS are not licit, according to *Fiqh* (Kaya, 2019).

Waste of Electricity

Many cryptocurrencies, especially Bitcoin, need a lot of energy through technological equipment to ensure the blockchain system. Therefore, the system causes excessive electricity and energy consumption. The amount of energy spent for Bitcoin worldwide in 2018 is equal to 1.5% of the annual electricity consumption of the United States and 90% of the yearly electricity consumption of the Czech Republic (Digiconomist, 2018).

Mining companies invest in colder regions to reduce electricity consumption because of mining equipment get heated during the process. The equipment is kept colder through the natural environment (Lielacher, 2018). However, some cryptocurrencies such as Ethereum is using PoW. They want to use PoS because it does not require mining equipment and has lower energy consumption (Bambrough, 2018).

High electricity consumption raises the problem of legitimacy in terms of wastage. Today's paper money produces value under the seigniorage. In this respect, it would not be consistent to describe the energy consumption to create bitcoin as waste.

Non-central Authority Structure of Cryptocurrencies

Cryptocurrencies are different from electronic money, and the activities of cryptocurrencies are classified as illegal according to Turkish authorities. In this respect, the Banking Regulation and Supervision Agency of Turkey (BRSA) warned in an earlier press release of 2013 that cryptocurrencies cannot be regulated, and users are responsible in case of problems. In addition, because Central Banks cannot intervene in cryptocurrencies, they cannot be used as a monetary policy tool and their liquidity cannot be regulated (Banking Regulation and Supervision Agency, 2013).

One of the primary objectives of the Central Bank in Turkey is to maintain price stability. But cryptocurrencies cannot be regulated because they are not issued by any central authority. Therefore, decreasing the value of cryptocurrencies cause losses to those who invest in cryptocurrencies. Even if these decreases are due to manipulative processes, these negative situations cannot be intervened in due to the inability to regulate the system. The emergence of Bitcoin in a decen-

tralized structure has raised this problem because states are unable to intervene directly in these instruments.

When we examine this issue in terms of Islamic Law, the question arises whether the money can be issued independently of the state authority. It is explained in the Hanafi sources that the partnership contracts can be established with money and that people can accept the *fals* as money. Similarly, if people accept *fals* as money, they are considered gold and silver (Al-Merginani, 1990; Ibn al-Humam, 2009).

Countries have different views and regulations about cryptocurrencies (Kharpal, 2018). Almost every government are preparing legal regulations about cryptocurrencies (Library of Congress, 2018). Therefore, the lack of legal arrangements does not make anything illegal. Moreover, cryptocurrencies cannot be said to be non-licit in this respect. It is seen that legal regulations mostly come after implementations. In other words, when new applications emerge with the technology, legislators should make legal arrangements in parallel with the spread of application.

There are some cryptocurrencies which have more confidentiality protocol than Bitcoin. This confidentiality enables money transfers in illegal businesses such as money laundering, terrorist financing, drug trafficking, and arms smuggling. At this point, it becomes one of the issues that states should take precautions over.

Access Problem

Cryptocurrencies operate through the Internet. Therefore, parties cannot do transactions, and miners cannot add new blocks to the blockchain system when Internet access is interrupted or does not exist. The support of the system by many nodes from different countries prevents this from being a problem. Transactions are recorded by miners on blocks which constitute the blockchain system every 10 minutes. This duration may increase due to the processing intensity. To the transaction take place in the earliest block, it can be said that the transaction fee should be kept high and the transaction should be accelerated. Bitcoin is subject to the *bay al-sarf* contract poses a significant problem here, because according to the *bay al-sarf*, the parties are obliged to making the exchange on the spot, with the amounts being of equal quality and quantity. As the number of transactions waiting for recording in blocks increases, the recording time will increase. Therefore, the rules of *bay al-sarf* Contract cannot be fulfilled.

When the transaction fee be kept high, the transaction takes place in the next block. Once the transaction has been signed and submitted for approval, the transaction cannot be cancelled. In this regard, the transactions are submitted for approval may be considered sufficient to fulfil the requirements of the contract.

Initial Coin Offering (ICO) Threat

Thousands of cryptocurrencies have been issued since the emergence of Bitcoin, which have an idea to attract investors' attention. The first issuance of cryptocurrencies on the market is called Initial Coin Offering (ICO). Thus, entrepreneurs can raise funds to achieve their goals by issuing cryptocurrencies (Adhami et al., 2018). However, ICOs are not always issued by favourable persons, and they do not work as investors expect. These cryptocurrencies are issued by malicious person cause lose investors' assets.

Most ICOs were accused of being a tool of fraud, and they adversely affect the future of cryptocurrency as they were issued through fake projects (Alexandre, 2018). China banned ICOs in 2017 for illegal fundraising and uncontrolled fund transfers (Kharpal, 2018). However, cryptocurrencies are issued through decentralized or anonymous individuals, the prominent ICOs that have emerged recently, which are PoS based. Also, some renowned institutions and individuals issued these cryptocurrencies, which can be accessed. According to the Cryptoasset Taxonomy Report, only 16% of cryptocurrencies are fully decentralized (Cyrpto Compare, 2018).

Especially during the issuance process, cryptocurrency issuers can manipulate the price by using the large number of shares through they hold, or security problems can arise. Therefore, it may cause lose investors' money. ICOs can be considered as a good opportunity to raise funds for new business ideas and to make large investments with multiple partners like crowdfunding (Zetzsche et al., 2017).

ICOs similar to the Ponzi scheme is being issued through blockchain technology. If a system were issued like these ICOs, it could easily be said that these cryptocurrencies are not licit in terms of Islamic law. On this point, the problem does not arise from the Blockchain technology or the cryptocurrency, but It comes from the aim of ICO. However, if we talk about widely used cryptocurrencies such as Bitcoin, Ethereum, and Ripple, the analogy of the Ponzi scheme is incorrect. Thus, if states prevent the abovementioned abuses, an alternative financing system following Islamic law can be developed.

Depreciation

Bitcoin's value was approximately $0.07 when it was issued in 2010. Bitcoin was traded on the market for about $1 until the beginning of 2011 and it reached the level of $13 in 2012. After this date, its value exceeded $960 in 2016. It reached a level of $20,000 in December 2017 and showed an incredible performance throughout the year (CoinDesk, 2018).

It rapidly depreciated in 2018 and was worth less than $4,000 in the first quarter of 2019 (CoinMarketCap, 2019). However, Bitcoin's value shows that it does not act by its issuance philosophy. Due to the excessive fluctuations in the price, it has been a speculative investment instrument. The price volatility that has caused investors and users losses. Extreme price fluctuations support the thesis that Bitcoin is a bubble (Li et al., 2019).

There is no mechanism that exists for regulating cryptocurrencies and protecting against manipulative transactions. Price fluctuations may be created artificially, and these fluctuations will gain unfair benefits. Because of this rapid rise and subsequent depreciation, cryptocurrency is used as an instrument of investment or speculation rather than as a reliable means of payment. This rapid fluctuation of value caused to the debate of *gharar* (uncertainty) and *jahala* (ignorance) among Islamic scholars.

Although *gharar* is used to express uncertainty about the future value of cryptocurrencies, the future value of goods, in general, cannot be fully or precisely known. The price uncertainty that changes depending on supply and demand is not a problem for Islamic law. Bitcoin can be said to have no uncertainty other than price fluctuation. In other words, no uncertainty exists about how to earn Bitcoins and how much will be supplied.

Conclusion

Blockchain technology and cryptocurrencies should be investigated by considering their benefits and harms. Those who criticized cryptocurrencies said that these cryptocurrencies have benefits, however they can cause more damages than these benefits. In our study, we investigated whether these criticisms were justified or not in terms of *Fiqh*.

Each cryptocurrency should be examined separately. Evaluating all cryptocurrencies using just Bitcoin will result in incorrect inferences because the purpose and characteristics of each cryptocurrency are different. Whitepapers should be examined first. The points that do not comply with Islamic law should be investigated one by one. If cryptocurrencies have features that are *haram* in terms of Islamic law, these cryptocurrencies are not accepted as permissible (Billah, 2019). Cryptocurrencies with the following components are *haram* in terms of *Fiqh*:

- Using the PoS system and providing income through interest.

- Cryptocurrencies which raise funds by promising high income to investors.

- Those issued for gambling, drugs, and other illegal activities.
- Those ensure the high confidentiality to perform illegal activities.

It is possible to say that if a cryptocurrency does not have the specified features, it can be accepted as *halal*, at least can be issued. Among developing countries, those with no financial adequacy are adversely affected by the volatility of exchange rates and even face currency crises. Alternative money forms may be beneficial to these countries. Strengthening the fragile economic structures of Islamic countries may be useful.

Cryptocurrencies should not be rejected as a whole, and the technological developments should not be ignored. These tools might be used in favour of Muslims. Halal cryptocurrencies can be developed jointly by Islamic countries and this can help the countries support each other in terms of trade and borrowing. Hence, cryptocurrencies might be a suitable tool for Muslim countries.

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