



Shariah Analysis of Bitcoin, Cryptocurrency, and Blockchain

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Last Revised: Dec 6, 2019

Version: 1.2.1

Disclaimer

This paper is a part of our ongoing research and Shariah analysis of bitcoin, cryptocurrency, and applications of blockchain in Islamic finance. This paper is being published as a “working paper” and hence it represents research in progress.

This paper should not be considered as final fatwa or Shariah verdict.

The objective of this working paper is to push the discussions on these new issues and get feedback and comments from subject-matter experts and scholars for further development of the research. We believe that these are new issues and matters of *ijtihad* which require a more collaborative and in-depth research. The *Shariah* opinions on these matters will be more informed and conclusive with the passage of time and further research collaboration, *inshallah*.

Historical Developments of Money	3
Barter System	3
Commodity Money System	3
Metallic Money system	3
Fiat money	4
History and Development of Bitcoin & Cryptocurrency	5
What is Cryptocurrency	6
Bitcoin	6
Blockchain	7
How Does Bitcoin Work?	8
Islamic Legal Criterion for Property (Mal)	10
Views of Scholars in Definition of Mal	11
Definition of Mal According to Hanafi Scholars	11
Definition of Mal According to Majority of Scholars	12
Accepted Definition of Mal	12
Mutaqawwam	13
Customary Practice (Urf)	13
Islamic Legal Criterion for Money/Currency	13
Definition of Money	14
Differences Between Money and Commodities	14
Types of Money	15
Customary Money	16
Shariah Analysis In Light of Fatwas and Scholars' Opinions	16
First View: Cryptocurrency is Haram	17
Grand Mufti of Egypt	17
Turkish Government	17
Fatwa Center of Palestine (Dar Al-Ifta' Al-Falastiniyya)	17
Shaykh Haitam From the UK	18
Second View: Cryptocurrency is Permissible in Principle	18
Analysis of the First View: Bitcoin is Haram	19
On Status as Legal Tender	19
On Lack of Central Issuer/Authority	19
On Volatility and Price Stability	20
On Illicit or Illegal Use	21
Concluding Remarks	21
References	24
Revision History	25

Historical Developments of Money

There are three primary functions of money: (1) medium of exchange (2) unit of account (3) store of value. In the following, we explain briefly what constitutes money and how the different methods of payments evolved over time. We may divide the historical developments of money in following stages:

Barter System

Since the beginning of time, people used to barter. They were trading and exchanging goods and services for other goods and services. This method of payment created a lot of difficulties as it was very complex and inefficient.

Commodity Money System

In the barter system, it often happened that people could not agree in measurement and valuation of goods or that they didn't want to take what the other person wanted to give them in exchange. To solve the problems of barter system, the commodity money system was created. In the commodity money system, people had selected a few commodities which were widely used and easily available; they used those commodities as a medium of exchange and payment. In different times and in different places, people have used different kinds of commodities such as salt, wheat, seeds, cattle and tobacco etc. However, it was not easy but rather extremely difficult to carry bags of salt and wheat to transact.

Metallic Money system

To solve the problems related with commodity money, people moved towards the metallic money system in which certain metals, especially gold and silver were used as a medium of exchange. This system lasted for a long time and evolved through following different stages:

1. Gold and silver were used as a medium of exchange in their existing and diversely available forms without being specifically converted into currency denominations like coins. The value of gold and silver was solely measured on the basis of weight.
2. Gold and silver were minted into proper coinage of fixed weights. The face value of these coins was equivalent to the actual value of gold and silver possessed by the coin. This is called Gold Specie Standard.
3. In some jurisdictions, the bimetallic system was adopted. In this system, the coins of both gold and silver were used simultaneously. The exchange rate was determined officially when they were exchanged with each

other.

4. As gold and silver became increasingly monetized within societies, it became unsafe to store gold and silver due to the risk of theft. Therefore, people started keeping their gold and silver at jewelry dealers for safekeeping purpose, since jewelry dealers already had secure safe storage facilities. The jewelry dealers gave receipts to owners, and the owners could redeem the receipts for their gold and silver. As the practice of keeping gold and silver at jewelry dealers became widespread, people began using the receipts themselves (pieces of paper) in their daily trades rather than redeeming the receipts for the gold or silver they represented.
5. The acceptance of receipts for payment in the marketplace gave birth to commodity backed money. Banks began issuing pieces of paper, the respective values of which were backed 100% by gold. In other words, these pieces of paper could be exchanged with gold on demand. This system is called the Gold Bullion Standard.

Fiat money

In 1971, the United States president Nixon issued a series of “temporary” economic measures in which he cancelled the direct convertibility of US dollars into gold. This effectively ended the convertibility of fiat money back into gold. As such, the gold backed money was replaced by non-convertible “fiat” money, meaning money which is created through government edict and neither through natural monetary status nor through customary use by people.

Central banks began issuing pieces of paper (also called paper money) in various denominations. The acceptance of central bank issued paper money is often accompanied by legal tender laws; these laws compel people living within the jurisdiction of a central bank to accept non-convertible fiat money as payment for goods and services and the settlement of debts. Most legal tender laws do not allow people to refuse legal tender money with preference to other forms of payment. In today’s world, the wide majority of all national currencies are non-convertible fiat currencies.¹

¹ Davies, G. (2010). *History of money*. University of Wales Press., Usmani, Muhammad Taqi. “Bhoos fi Qadaya Fiqhiyya”. Dar al-Qalam Damascus (2015)., Turki, Adnan Khalid. “Al-Siyasa al-Naqdiyya wal masrifiyya”. Muhassah al-risalah, Beirut (1988).

History and Development of Bitcoin & Cryptocurrency

Ever since the adoption of computer systems by the mainstream banking industry, use of digital cash and transacting through electronic money became prevalent and continues to gain in popularity. However, the mainstream banking system relies on closed and proprietary payment networks. The infrastructure required to manage these networks and avoid users spending the same funds multiple times (the “double spend” problem) has always been costly; typically this has been managed through a centralized banking network, such as the global SWIFT network or ACH network of America. In these networks, member banks utilize a centralized system of servers and databases ensures that funds are spent only once.

The vast majority of the mainstream banking system operates under the “fractional reserve” model in which banks are legally allowed to loan money into existence and in fact the vast majority of money is created by the very act of bank loans². Therefore, users of these centralized banking networks are forced to accept that the precepts of the fractional reserve model despite their potential for manipulation of the value of currencies and the wealth of individuals. Economist John Maynard Keynes noted that “By this means (fractional reserve banking) government may secretly and unobserved, confiscate the wealth of the people, and not one man in a million will detect the theft.”³

It is argued that if individuals were able to transact freely between themselves through a peer to peer network, this would allow society itself to determine the value of their currency. Such a system would require technologies that make it extremely difficult or virtually impossible to fraudulently manipulate transactions or balances.

This has given rise to blockchain technology which achieves all these goals by providing a platform for legitimacy of an instrument that can be recorded and recognized as a digital medium of exchange or cryptocurrency in a system that is virtually impossible to manipulate.⁴

² McLeay, M., Radia, A., & Thomas, R. (2014, March 14). Money Creation in the Modern Economy. *Bank of England Monetary Directorate*. Retrieved April 19, 2018, from <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/2014/money-creation-in-the-modern-economy.pdf?la=en&hash=9A8788FD44A62D8BB927123544205CE476E01654>

³ Keynes, John Maynard (1919). *The Economic Consequences of the Peace* (1 ed.). London: Macmillan & Co., Limited. p. 279. Retrieved April 19, 2018 from <https://archive.org/stream/economicconsequ00keynuoft#page/n3/mode/2up>

⁴ Ziyaad Mahomed (2017). Crypto Mania. *CIAWM INCEIF Bulletin, Vol.3*.

What is Cryptocurrency

The word “crypto” refers to the encryption or cryptography that the instrument is built on and then added to a blockchain database. The “currency” here refers to the recognition of the instrument as a medium of exchange amongst its users.

The European Central Bank explains virtual currency in its published document as “a digital representation of value that is neither issued by a central bank or a public authority, nor necessarily attached to a fiat money or currency, but is accepted by natural or legal persons as a means of payment and can be transferred, stored or traded electronically”.⁵ Examples of virtual currencies include cryptocurrencies such as bitcoin, Litecoin, Stellar and so on, but also include non-cryptocurrencies like in-game credits for massive multiplayer games such as World of Warcraft; advertiser issued credits; and various other digital stored value systems.

The idea of digital monetary systems dates back to the early 1990s when several companies and programmers tried their hand at creating money meant to be exchanged virtually. Many of these early currencies struggled to find their footing due to prohibitive regulation, insufficient technology, poor security features, lack of adoption, and a slew of other issues. The cryptocurrency segment of the digital currency universe was created in the year 2009 with the invention of bitcoin.

Bitcoin

Bitcoin is a digital currency with no central issuing authority or physical form. More specifically, bitcoin is a cryptocurrency that uses cryptography techniques to guide encryption protocols which identify ownership and verify transaction details.

The bitcoin encryption protocol was outlined by the entity/individual Satoshi Nakamoto in 2008. Nakamoto designed bitcoin to ultimately create 21 million bitcoins as rewards for solving mathematical algorithms (necessary to maintain the bitcoin ledger) in a process called ‘mining’. Once mined, every bitcoin—or fraction thereof—can be sold, used as payment for retail purchases, or kept as an investment to be traded later.

Bitcoin is bought and sold on trading websites known as “exchanges,” each of which is independently operated and accessible 24/7 to a global clientele in

⁵ Virtual currency schemes: a further analysis (2015). *The European Central Bank*

much the same way as conventional foreign exchange trading and brokerage platforms operate.⁶

The following characteristics of bitcoin are explained by its advocates:

1. The decentralized nature of Bitcoins eliminates the prospect of government control or ownership. Further, only a finite amount of bitcoin (21 million) is available. Thus, no governing body or entity can artificially manipulate bitcoin value through an increase or decrease in currency production or other means. This leaves bitcoin value largely to the laws of natural supply and demand economics.
2. The blockchain is a permanent public record of all confirmed transactions that occur in the system and forms an integral part of the bitcoin ecosystem. The blockchain helps promote order and transparency while preventing counterfeiting. In order for someone to defraud the bitcoin system, it would require a coordinated, simultaneous attack on the network involving 51% of the network participants; this attack is generally considered not economically feasible due to the electricity costs involved in the computational processing power required and the sheer scale of coordination and collusion required.
3. Digital payments to individuals and merchants can occur at anytime, are processed faster, and incur lower fees. This is due in large part to removing banks and other intermediaries from the transaction processing flow.
4. Although all bitcoin transaction details are stored publicly, the identities of the users involved remain relatively anonymous. Bitcoin doesn't offer the complete anonymity of cash, but is certainly a far more private experience than making online payments or transactions using debit or credit cards.

Blockchain

The basis of the bitcoin platform is a technology called blockchain. The blockchain turned out to be the golden goose of the bitcoin platform. Blockchain is a new innovative technology that is set to fundamentally change how financial institutions transact business in the financial services system. So here are five key points:

1. Distributed ledger technology is more than Bitcoin, and the words 'blockchain' and 'distributed ledger' apply to a broad set of related

⁶ Pieters, G., & Vivanco, S. (2017). Financial regulations and price inconsistencies across Bitcoin markets. *Information Economics and Policy*.

technologies. There are many use cases for these technologies entirely different from cryptocurrency.

2. A shared distributed ledger is a linked set of mirrored transaction records. For the accountants who are reading this, it is like double ledger entries on steroids. Imagine a ledger system that is simultaneously maintained by a thousand notaries for every transaction.
3. All transactions on a distributed ledger are independently verified by the participants on the network and then stored in the ledger individually.
4. The decentralized nature of these technologies offers the ability to remove the intermediaries and allows anyone to participate, so long as they follow the rules established by the protocols. An analogy can be found in the internet itself: initially, it was only a closed, private group of a few universities and government institutions; but the internet eventually became open and decentralized so that now, anyone can participate and benefit from using the internet.
5. The bitcoin protocol is maintained and amended over time by groups of volunteers who attempt to arrive at a consensus. If a group of users disagree with the decisions by the maintainers of the bitcoin protocol, the dissenting group is free to create a competing currency in what's known as a "hard fork". There have been at least three hard forks in the history of bitcoin and there now exist alternative multiple competing alternatives to the original bitcoin including Bitcoin Private, Bitcoin Cash, and Bitcoin Gold. This democratization, competition, and availability of choice between currencies can be seen as a boon to users who may select a currency based on its individual merits, rather than a centrally controlled and planned currency forced upon people through legal tender laws.
6. Removing the intermediaries will bring cost and operational efficiencies and enhance security.⁷

How Does Bitcoin Work?

From a user's perspective, bitcoin is nothing more than a mobile app or computer program that provides a personal bitcoin wallet using which a user can send and receive bitcoins.

Behind the scenes, the bitcoin network shares a public ledger called the "blockchain". This ledger contains every transaction ever processed, allowing a user's computer to verify the validity of each transaction. The authenticity of

⁷ John Best (2018). *Breaking Digital Gridlock*. Wiley & Sons.

each transaction is protected by digital signatures corresponding with the sending addresses, allowing all users to have full control over sending bitcoins from their own bitcoin wallets.

In addition, anyone can process transactions using the computing power of specialized hardware and earn a reward in bitcoins for this service. This is often called "mining". An address is like a bank account into which a user can receive, store, and send bitcoins. Instead of being physically secured in a vault, bitcoins are secured with public-key cryptography.

Each bitcoin wallet has a private key, which the owner must keep secret. With this private key, the user can create any number of public keys which can be used to create public addresses where the user can receive money into that wallet.

Anyone can send bitcoins to any address, but only the person with the private key can spend the bitcoins inside the wallet corresponding to an address. While bitcoin addresses are public, it is not automatically possible to know which address belongs to which person; in this way, bitcoin addresses are pseudonymous.

The sender of bitcoin broadcasts the transaction details to other members of the network. Other members in the network verify the published transaction details, and if the transaction appears valid, the transaction is incorporated into the blockchain.

As an example transaction, if you want to buy cupcakes from Cups and Cakes Bakery in San Francisco, then you need the public address of their wallet. After entering the amount and the destination address in your wallet software, your wallet will broadcast the transaction to the network. This transaction is published on the peer-to-peer bitcoin network where it is validated with various checks - such as if your wallet has sufficient balance - and it propagates to all of the other members of the network.

The transaction is eventually received by a miner, who incorporates the transaction into a block. This block is then flooded into the network and is incorporated into the global blockchain. The bitcoins now belong to Cups and Cakes Bakery's wallet identified by the address you sent the bitcoins to.⁸

⁸ See for more details: Franco, P. (2014). Understanding bitcoin. *Wiley & Sons.*, Chuen, D. L. K. (2015). Handbook of digital currency: Bitcoin, innovation, financial instruments, and big data. *Academic Press.*

Islamic Legal Criterion for Property (*Mal*)

In Shariah, the fundamental requirement for a counter value or consideration is that it has status as *mal*, meaning property. Therefore, before discussing the status of cryptocurrencies in Shariah, it is important to define the concept of *mal* in the Sharia.

There are three sources in Shariah used to understand the origin and definition of Islamic terminologies. First and foremost source is revelation in the form of Quranic text or the *ahadith* (sayings) of the Prophet Muhammad (peace be upon him). For instance, the meanings of Salah (prayer), Zakah (obligatory giving to charity), Marriage, and Divorce, etc. are explained by revelation in both the Quran and *ahadith*.

The second source to know the required meaning of Shariah is the Arabic language itself, which is the language of the Quran and the Sunnah. For instance, Allah (swt) has given the ruling to wash your face, hands and feet in ablution (*wudhu*). Using an Arabic dictionary to learn the meaning of the Arabic words used in these texts, one understands the limits and areas of these parts of the body which we need to observe to fulfill the ruling of ablution.

The third source in determining of the Shariah terminologies is *urf*, meaning customary practice. There are various things which are not explained by the revelation in their literal meanings, but rather they are defined by the customary practice. Shariah regards and validates customary practices in determining certain things.

When we look at the definition of *mal* in this context, we find the word "*mal*" is commonly used in the texts of the Quran and in the sayings of the Prophet Muhammad (peace be upon him). However, the definition of *mal* and what would be considered as *mal* is not explicitly explained in the text.

Literally, according to the famous Arabic dictionary Lisan al-Arab, *mal* refers to something which can be possessed. Al-Isfahani (1992) says that *mal* is something which is desirable and can be transferred from one person to another person. The contemporary scholar Shaykh Yusuf al-Qardawi (2000) explains that *mal*, according to the native speakers of Arabic, is everything that is desirable for human beings and something that they want to store and possess, is considered as *mal*.

Manzur (1975) quotes Ibn al-Athir that originally *mal* was limited to silver and gold, but its definition was gradually expanded to every physical thing which is desirable for humans to store and possess. Shaykh Wahbah al-Zuhayli (2010) says that linguistically *mal* refers to everything which is possessed and stored by

humans, whether it is a corporeal (*ayn*) or a usufruct (*manfaha*). For instance, gold, silver, animals, plants as well as riding a vehicle and living in a house are considered *mal*. But a thing which can neither be stored nor possessed cannot be considered as *mal*: a bird in the sky, a fish in the water, and unknown treasures inside the earth.

In summary, everything which can be possessed and is valuable for human beings is considered linguistically as *mal*, or property.

Views of Scholars in Definition of *Mal*

As we said earlier, the Quran and the Sunnah of the Prophet Muhammad (peace be upon him) do not explain the definition of *mal* in clear terms. Therefore, the jurists and scholars differ somewhat in their definitions of *mal*.

Some scholars are of the view that *mal* is only used for corporeal (*ayn*) or tangible things. Other jurists are of the view that *mal* includes both tangible and intangible things, provided that the thing has both value and desirability. Shaykh Zuhayli (2010) categorizes the scholars into two groups in this regard: Hanafi scholars and majority scholars.

Definition of *Mal* According to Hanafi Scholars

Ibn Nujaim (1997) is of the view that *mal* is something which is desirable and can be stored for the time of need. Anything can be recognized as *mal*, when all or a group of people accept and act as if something is *mal*.

The same definition of *mal* is given by another great jurist: Ibn Abidin al-Shami (2009). He further quotes another jurist that *mal* is something other than human beings, which is created for the benefit of humans and can be stored and used at the time of need.

According to this definition, there are two attributes to consider something as *mal*:

1. It would be desirable for human beings.
2. It would be capable of being stored for use at the time of necessity.

According to this definition, usufructs and rights (such as riding a car or living in the house, copyrights, etc.) are not *mal* because, these things cannot be stored. Although, the above-mentioned definitions do not limit the definition of *mal* to tangible or corporeal (*ayn*) things in clear terms, but it can be understood from their context. This indication is further supported from the writings of Hanafi scholars who clearly mention that *mal* should be a tangible thing or *ayn*.

For instance, the famous Hanafi jurist Al-Haskafi defines *mal* as “a tangible thing or corporeal thing which is desirable and consumable”. Likewise, Shaykh Zarqa

(1989) explains the view of Hanafi jurists with regard to definition of *mal*. He says: “every tangible thing which has material value among the people is *mal*”.

It is clear from these definitions that, according to Hanafi scholars, *mal* is limited to corporeal and tangible things and that intangible things like rights and benefits are not considered as *mal* according to Hanafi scholars.

Definition of Mal According to Majority of Scholars

The majority of jurists and scholars (including Maliki, Shafi, and Hanbali scholars) are of the view that *mal* is not limited to tangible things. The majority view is that *mal* also includes intangible things as well as benefits and rights with certain conditions.

Shaykh Zuhayli (2010) explains the majority view of scholars is that *mal* refers to everything which has value and be compensated if it is destroyed. Likewise, Al-Suyuti (1983) quotes the definition of *mal* from Imam Shafi that *mal* refers to something which: has value, is used as consideration in trade, must be compensated for if destroyed, and that people do not behave as if it is a valueless thing.

In summary, the majority view of scholars is that *mal* is not limited to tangible things and it can be intangible things if it fulfills the above-mentioned conditions.

Accepted Definition of Mal

The contemporary hanafi scholar Shaykh Taqi Usmani (2015) is of the view that if non-tangible things such as rights and benefits become valuable things according to custom, then it is treated as *mal*. He says that prevalent customs (*urf*) of business play a pivotal role in determining the benefits and rights (*huquq* & *manafih*) as *mal*.

This is why, for example, copyrights, patents, trademarks, and goodwill are considered as *mal* - even though these things are intangible, because these are very valuable things in custom and *urf* of business and trade in today's world.

Likewise, another contemporary jurist, Shaykh Khalid Saifullah Rahmani (2010), argues that tangibility is not a core condition for determining something as *mal*. He argues that the core condition for the criterion of *mal* is storability. At the time of earlier jurists, only tangible things could be stored. It was not imagined at their time that intangible things such benefits and rights can be stored and protected. He further explains that if something has the following required attributes, it can be considered as *mal*:

1. It is permissible and lawful in Shariah (*mutaqawwam*). That's why carrion meat (dead or rotting animals) and alcohol are not considered as *mal*.

2. It is capable of being owned and possessed.
3. It has some uses and benefits.
4. If custom determines and treats something as *mal*, it would automatically be considered as *mal*.

These attributes are supported from the definitions of different scholars. The third attribute is obvious and does not require any justification, because, if something has no use or benefit, then no one will use it as *mal* or valuable thing. Therefore, it's necessary to explain the first, second and fourth conditions briefly.

Mutaqawwam

This is a core condition to determine something as *mal*. *Mutaqawwam* refers to something which is permissible in Shariah. Shaykh Zuhayli (2010) explains the *mutaqawwam* as "something which is stored or present and permissible to use". So, if something is not stored or not present, then it is not considered as *mal*.

For instance, birds in the sky or fish in the water is not *mal* unless someone possesses and stores them. Likewise, if something is not lawful and permissible in Shariah, it could not be regarded as *mal*, such as carrion, swine, and alcohol.

Customary Practice (Urf)

Urf is considered an important source of ruling when the texts of Shariah do not give any judgment in explicit terms. The jurists have said that what is derived from *urf* is equivalent to what is derived from the texts.⁹ The criteria for determining something as *mal* is not clearly defined in the texts of Shariah. Therefore, scholars have emphasized the role of custom in determining something as *mal*.

The jurists of all four schools of Islamic law are unanimous that if something becomes valuable due to the custom and acceptability of people, then it is considered as *mal*.

This is the reason that many hanafi scholars have considered various rights and benefits (copyrights, patents, and trademarks etc.) as *mal*, since people in society treat them as valuable and material things.

Islamic Legal Criterion for Money/Currency

After the brief discussion of the definition of *mal* (definition of property), it is pertinent to discuss the legal criteria of money and currency in Shariah.

9

. الثابت بالعرف كالثابت بالنص. المبسوط، محمد بن أحمد بن أبي سهل شمس الأئمة السرخسي (المتوفى: 483هـ)، الناشر: دار المعرفة - بيروت، تاريخ النشر: 1414هـ - 1993م

Definition of Money

Money refers to everything which is widely acceptable as a medium of exchange and store of value, it does not matter what is the nature and form of that thing (Turki, 1988).

Money can be everything which is used as a medium of exchange - whether it is gold, silver, flower petals, skin, paper, etc. - if it is generally accepted among the people (Al-Mausuah, Al-Fiqhiyah, Al-Kuwaitiyah).

Shaykh Usmani says that money refers to something which has the following three attributes and can be used as a:

- (a) medium of exchange
- (b) unit of account and
- (c) store of value.

These definitions of scholars are very similar to what modern economists say with regard to the definition of money.

For instance, Merriam-webster dictionary defines money as “something generally accepted as a medium of exchange, a measure of value, or a means of payment”.

Based on these definitions, an expanded definition of money includes all the following attributes:

- 1) medium of exchange
- 2) widely accepted as a means of payment
- 3) measure of value
- 4) unit of account

Differences Between Money and Commodities

It's important to clarify the differences between money and commodities, because, money is not equivalent to commodity according to Shariah law. Shariah emphasizes to treat money just for its basic purpose (i.e. as medium of exchange and measure of value). In the following, some fundamental differences between money and commodities are explained.

Ibn Taymiyyah says that dirhams and dinar (gold and silver coins) have no intrinsic use and purpose, but they are created just to use as a medium of exchange. Gold and silver coins differ from commodities in that commodities

have intrinsic use and purpose.¹⁰ The same explanation is given by Ibn Qayyim that money is not desired for itself, but rather it is created to facilitate the trade of goods. So then, if money itself is treated as a good or commodity, this would lead to destruction.¹¹ In other words, the objective of money is to serve as a medium of exchange. When we deviate money from its natural objective and treat it as a commodity, then it will disrupt the financial system from its natural place.

Shaykh Usmani (2005) deliberates on the differences between money and commodities in a conclusive manner as he explains the following three fundamental differences between money and commodities:

1. Money has no intrinsic value and it is capable to fulfill the direct needs of human beings such as eating, drinking, clothing, shelter etc. On the contrary, commodities have an intrinsic value and can be utilized directly without the need of being exchanged with something else.
2. The commodities may have different qualities and attributes. But money has no quality except it is a medium of exchange and measure of value. That's why all the units of the same denomination of money have the same value and are equal to each other. Theoretically, there is no difference in value between a dirty \$100 bill and a new \$100 bill.
3. Sale and purchase transactions are applied on a particular item or instance of a commodity. For example, if someone purchases a car, the seller has to give him that particular car itself and the seller cannot change that particular car with another similar car. Unlike money, commodities cannot be fixed in a transaction of exchange. As another example, it does not matter if you offer to pay by showing a particular \$100 bill and then pay with a different \$100 bill.

Types of Money

The jurists and scholars have classified money into two types:

1. natural money

10

. والدراهم والدنانير لا تُقصد لنفسها بل هي وسيلة إلى التعامل بها ولهذا كانت أثماناً؛ بخلاف سائر الأموال فإن المقصود الانتفاع بها نفسها. مجموع الفتاوى، تقي الدين أبو العباس أحمد بن عبد الحلیم بن تيمية الحراني (المتوفى: 728هـ) الناشر: مجمع الملك فهد لطباعة المصحف الشريف، المدينة النبوية، المملكة العربية السعودية، عام النشر: 1416هـ/ 1995م

11

فالأثمان لا تُقصد لأعيانها، بل يُقصد التوصل بها إلى السلع، فإذا صارت في أنفسها سلعة تُقصد لأعيانها فسد أمر الناس. اعلام الموقعين عن رب العالمين، أبو عبد الله محمد بن أبي بكر بن أيوب المعروف بابن قيم الجوزية (المتوفى: 751 هـ)، الناشر: دار ابن الجوزي للنشر والتوزيع، المملكة العربية السعودية، الطبعة الأولى، 2008 هـ

2. customary money

Natural money refers to a type of money which is created to serve as a medium of exchange and possesses monetary value. The natural money is not something which receives the status of money due to the customary practice and acceptability of people, but rather it is created specifically to serve as money and medium of exchange.

Natural money includes gold and silver, whatever the form is, because these are created to serve as money and used as a means of payment. The famous jurist Imam al-Ghazali says that Allah (swt) created gold and silver to be circulated among the people and become the standards of measurement for different assets. Gold and silver are means to get all other assets and that's why they are precious; they are not desired for themselves, but rather desired to use as a means to obtain other assets.

Customary Money

Customary money refers to a type of money which gets the status of money due to custom and acceptability of people. Customary money is not created to serve for the purpose of money, but people accept it widely to use as a medium of exchange.

Certain commodities (other than gold and silver) used for money, as well as fiat currencies, are commonly used forms of customary money. Customary money does not necessarily have intrinsic moneyness (*thamaniyyah*), but rather it is assigned moneyness externally by its customary user. Customary money is unlike natural money in that natural money has intrinsic moneyness (*thamaniyyah*) and does not require any recognition for that.

Customary money can be further divided into two types: commodity money and fiat money. The commodity money has intrinsic value and can be used for other purposes, but it does not have intrinsic moneyness (*thamaniyyah*). Fiat money generally refers to paper currency which is issued by governments; it has neither intrinsic value nor intrinsic moneyness (*thamaniyyah*).

Shariah Analysis In Light of Fatwas and Scholars' Opinions

Given the above mentioned rules and discussion, it becomes possible to evaluate cryptocurrency and discuss whether it fulfills the conditions of *mal* and *currency*.

The most famous type of cryptocurrency is Bitcoin. Therefore, the existing literature of articles and especially *fatawa* (experts' legal opinions) are generally concerned with bitcoin. However, the principles and arguments to scrutinize any

type of cryptocurrency are almost the same, particularly those which are created to serve for the purpose of currency and medium of exchange . Therefore, the existing literature pertaining to bitcoin specifically has benefits broadly with regard to cryptocurrency.

In general, the scholars and Shariah experts have two different opinions. The first group of scholars is of the view that cryptocurrency is *haram*, which means prohibited by Shariah. The other group is of the view that cryptocurrency is in principle *halal*, meaning permissible.

First View: Cryptocurrency is Haram

This view is supported by a number of scholars and *fatawa*. These are presented here, summarized.

Grand Mufti of Egypt

The Grand Mufti of Egypt, Shaykh Shawki Allam, has declared that bitcoin and cryptocurrency is haram. The Shaykh cites these primary reasons in his statement, among others:

- 1) Bitcoin is easily used for illegal activities; therefore, people use bitcoin largely for illegal and non-Shariah compliant purposes to avoid and hide themselves from governments and relevant authorities.
- 2) Bitcoin is intangible and can only be used through the internet.
- 3) Bitcoin allows for money laundering and fraud.
- 4) Bitcoin has no central authority that monitors its system, but rather it destroys the control of central banks and governments to monitor and control the monetary system.

Turkish Government

The Turkish government's religious authority also declared that bitcoin and other cryptocurrencies are prohibited. The fatwa states:

Buying and selling virtual currencies is not compatible with religion at this time. Because of the fact that their valuation is open to speculation (excessive gharar), they can be easily used in illegal activities like money laundering and they are not under the state's audit and surveillance.

Fatwa Center of Palestine (Dar Al-Ifta' Al-Falastiniyya)

The Fatwa Center of Palestine also issued a fatwa with regard to bitcoin and cryptocurrency. The fatwa claims that bitcoin and cryptocurrency is haram and

prohibited based on the following reasons:

- 1) The issuer of bitcoin is unknown, and neither a government nor a central authority is behind it. Bitcoin comes into existence with the objective of no central authority and monitoring system and therefore, it is untrustworthy and unreliable.
- 2) Bitcoin is a type of gambling, because people invest a lot of money to create bitcoin without a guarantee as to whether they will be successful or not. Bitcoin miners try to solve mathematical puzzles, and if they succeed, they get money, but if they lose, they get nothing.
- 3) Bitcoin is subject to high speculation because there is no base for speculation control in bitcoin and other cryptocurrencies.

Shaykh Haitam From the UK

The UK based scholar Shaykh Haitam authored a paper in Arabic in which he declared that bitcoin and other cryptocurrencies are prohibited and not compatible with Shariah. Among the key reasons, he claims:

- 1) Cryptocurrency is not backed by anything, but rather it is created out of nothing.
- 2) Cryptocurrency is not a legal tender; it is neither under the supervision of any government nor any central monitoring/control system.
- 3) Cryptocurrency can be easily used for money laundering and illegal purposes.

Second View: Cryptocurrency is Permissible in Principle

Other scholars are of the view that bitcoin is permissible in principle. This view can be analysed in light of our previous discussion with regard to both the criteria and definition of property (*mal*) and money.

There is a famous legal maxim explained by jurists: "الأصل في المعاملات الإباحة" (*al asal fil muamlaat alabahah*).¹² This means that the original rule is permissibility in financial and business transactions. In other words, everything is permissible unless we found it clearly contradictory to Shariah principles.

12

الأشْبَاهُ وَالنَّظَائِرُ عَلَى مَذْهَبِ أَبِي حَنِيفَةَ النُّعْمَانِ، زَيْنُ الدِّينِ بْنِ إِبرَاهِيمَ بْنِ مُحَمَّدٍ، المعروف بابن نجيم المصري (المتوفى: 970هـ)، الناشر: دار الكتب العلمية، بيروت - لبنان، الطبعة: الأولى: 1419 هـ - 1999 م

According to this principle, cryptocurrency is permissible principally. Likewise, anything can be considered as money if it has these attributes:

1. treated as a valuable thing among the people,
2. accepted as a medium of exchange by all or a substantial group of people,
3. is a measure of value,
4. and serves as a unit of accounts

Therefore, any cryptocurrency which fulfills these conditions (such as Bitcoin) is acceptable as money.

The fatwa center of South African Islamic seminary, Darul Uloom Zakariyya, has taken the position that bitcoin fulfills the conditions of *mal* and therefore it is permissible for trade. However, they note that to be qualified as currency, it should be approved by the relevant government authorities.

Analysis of the First View: Bitcoin is *Haram*

If we look at the above mentioned fatawa and views of scholars and experts with regard to prohibition of cryptocurrency and bitcoin, we find some common reasons of prohibition:

- a) Bitcoin is not a legal tender
- b) Bitcoin's issuer is unknown
- c) Bitcoin has no central authority or government backing it
- d) Bitcoin is highly speculative and not stable
- e) Bitcoin can be easily used for money laundering and illegal purposes

On Status as Legal Tender

As far as the issue of legal tender is concerned, it is true that when a government makes something as legal tender, it gets the acceptability among the people in that jurisdiction automatically. In principle, to qualify something as money, it is not necessary to have the status of legal tender.

The main criteria for money in Shariah is its acceptability by people - whether it comes about by forcing it upon people through laws, or through widespread voluntary acceptance.

On Lack of Central Issuer/Authority

Consider the claim that the issuer of bitcoin is unknown and there is no central authority to monitor and guarantee it.

The advocates of bitcoin and cryptocurrency argue that the governing framework is a set of rules adopted by voluntary mutual acceptance by users of the

currency, and that these rules are published and open for anyone to critique or suggest revision.

In the case of bitcoin, it is mathematically impossible to manipulate the laws and rules that govern bitcoin mining and transaction process, because the cryptographic technology that underlies the currency prevents it. Additionally, bitcoin uses the blockchain technology which is much more secure than any centralized system employed by a government or central bank. For example, the SWIFT network is widely used by banks as an inter-bank payment system. In February 2016, \$1 Billion USD was stolen from the Federal Reserve Bank of New York from the account of the central bank of Bangladesh.¹³ Even though there is no guarantee and support from a government or central bank for Bitcoin, trust and confidence is achieved through the use of blockchain technology and underlying cryptography.

Of major concern in Shariah regarding money is the preservation and protection of wealth (*Maqasid al-Shariah*). In many cases throughout history, governments and central banks have destroyed wealth through inflation: Weimar Germany in 1923, Greece in 1944, Hungary in 1946, Yugoslavia in 1994, Indonesia in 1999, and Zimbabwe 2008.

As a contemporary example: Venezuela is in the midst of a major economic crisis stemming from its failed monetary policy and artificially low enforced exchange rates; inflation is running at an estimated 500%. In this case, the lack of a central authority is Bitcoin's strength; some Venezuelans have turned to bitcoin as a more reliable store of value and unit of exchange than the government mandated bolivar which has lost so much value that it now literally takes barrels full of paper currency just to buy a loaf of bread.¹⁴

On Volatility and Price Stability

It is also commonly mentioned by scholars who claim bitcoin and cryptocurrency are *haram* (impermissible), that Bitcoin's exchange rate is highly volatile and not stable.

Speculation is an external factor which has no concern with regard to determining something as valid money and currency. Prices are always based on the rule of supply and demand, as it is the case in all other assets including, gold, silver, and fiat currencies as well.

¹³ Bangladesh Bank robbery. Wikipedia (2018, March 06). Retrieved April 04, 2018, from https://en.wikipedia.org/wiki/Bangladesh_Bank_robbery

¹⁴ Caracas, K. L. The Guardian (2016, December 16). Growing number of Venezuelans trade bolivars for bitcoins to buy necessities. Retrieved April 04, 2018, from <https://www.theguardian.com/technology/2016/dec/16/venezuela-bitcoin-economy-digital-currency-bolivars>

It is worth noting that, as of writing, the exchange rate of bitcoin and other cryptocurrencies is more volatile than many fiat currencies, and therefore trading in bitcoin and cryptocurrencies is riskier. Therefore, it is not advisable to trade in cryptocurrency, especially for lay people who lack professional experience and sophistication with regard to foreign exchange trading.

However, bitcoin and cryptocurrency cannot be declared *haram* (impermissible) based on the fact that they experience speculation. In fact if this principle was valid and applied, then trading in gold, silver, US Dollars, and Euros would all be ruled impermissible, since those assets also experience extreme levels of speculation. As evidence of extensive speculation in the gold markets: twice the quantity of gold that has ever been mined in the history of human civilization is traded in digital gold markets in a single fiscal quarter.¹⁵

On Illicit or Illegal Use

It is also commonly argued that bitcoin and other cryptocurrencies are widely used for money laundering and other illegal purposes. This is an external factor which does not directly affect on Islamic legal criterion of currency.

In general terms, the use of something lawful for an unlawful purpose does not make the thing itself unlawful. Unanimously, the four Sunni schools of thought permit the lawful sale of grapes. Malekis and Hanbalis consider the sale of grapes to a wine merchant invalid, whereas Hanafi's and Shafe'i's merely discourage such sales.¹⁶

On this point, it is especially noteworthy that all fiat currencies are used for illegal purposes such as money laundering, fraud, and illegal commerce. It is readily acknowledged that the US Dollar is the most widely used currency for money laundering and other illegal purposes.

Concluding Remarks

To conclude, the author would like to highlight some key points:

1. The understanding of cryptocurrency, its mining, tradability, security and systematic impact is evolving. Therefore, it is expected that Shariah opinions must become more informed and conclusive as cryptocurrency

¹⁵ Sizing up the gold market. Financial Times (2007, September 09). Retrieved April 04, 2018, from <https://www.ft.com/content/eb342ad4-daba-11e0-a58b-00144feabdc0>

¹⁶ Google Books. (2019). *Islamic Trade, Export-Import Laws and Regulations Handbook Volume 1 Strategic Information and Laws for Selected Countries*. [online] Available at: https://books.google.co.id/books?id=ZgazDwAAQBAJ&pg=PA84&lpg=PA84&dq=hadith+grapes+to+wine+merchant&source=bl&ots=Tjg95h4BC7&sig=ACfU3U0_-sIZzD8R6cepBZei5gYNGRmUw&hl=en&sa=X&ved=2ahUKewjkzt2M4I7IAhUeSo8KHbwXB3wQ6AEwDHoECAgQAQ#v=onepage&q=grapes&f=false [Accessed 9 Oct. 2019].

is better understood.

2. The blockchain is not only a platform for bitcoin & cryptocurrency; it is a decentralized digital ledger technology to record anything of value whether it is currency or assets. Blockchain may be considered a boon to the Shariah requirements of transparency and disclosure. Blockchain can serve to enhance the notions of trust in exchange transactions and transfers. It can serve to enforce the principle of cash transactions in exchange of currency and commodities.
3. As far as the current Shariah status of bitcoin is concerned, the author agrees with the second view that bitcoin is permissible in principle as bitcoin is treated as a valuable which is reflected by its prevailing market price on global exchanges and it is accepted for payment at a wide variety of merchants, including bakeries, restaurants, and even large ecommerce retailers like Overstock.com.

Moreover, many parties to private transactions accept bitcoin as a medium of exchange. To decide the Shariah status and permissibility of bitcoin and any other qualified cryptocurrency, the following classification matters in the prevalent legal and regulatory environment. There are three types of jurisdictions in terms of cryptocurrency regulations:

- a) Jurisdictions where the usage of cryptocurrency is prohibited and banned explicitly. In such jurisdictions, it is not allowed to deal with cryptocurrency.
- b) Jurisdictions where regulators are silent, or have not explicitly acknowledged or declared cryptocurrency as permissible money; often in these jurisdictions, the regulators merely warn the public to exercise caution and be aware of the risks involved.
- c) Jurisdictions where regulators have accepted cryptocurrency either as a financial asset or as an alternative currency and have enacted specific legislation that permits the public to utilize cryptocurrency.

From a Shariah point of view, it is permissible in the last two types of jurisdictions to deal with bitcoin and other qualified cryptocurrencies. However, the preservation and protection of wealth is one of the fundamental objectives of Shariah (*Maqasid al-Shariah*). Therefore, it is necessary for cryptocurrency users to consider its related risks.

4. The objective of cryptocurrency - particularly bitcoin - is to serve as an alternative currency in a peer to peer network without the control of any central authority. Cryptocurrency markets are subject to extreme fluctuation, and will likely remain volatile for the next few years. In many

jurisdictions, the legal status of cryptocurrency remains unclear, further adding to the price volatility. Therefore, it is not advisable to buy cryptocurrency for investment purposes, like stocks or shares (as is being practiced widely at the moment). As mentioned earlier, it is against the basic objective of currency whether it is fiat or crypto to treat it as a commodity or investment asset. Rather, it is advisable to utilize cryptocurrency networks as a payment system in the cases where cryptocurrency networks offer specific benefits and advantages over conventional systems.

5. The swift rise of popularity in cryptocurrency and related technology, especially the rise of ICO (initial coin offering) has spawned many suspect investment opportunities. Although it is outside the scope of this paper to consider the permissibility of the ICO, all investors should exercise extreme caution. Muslim communities especially should exercise caution as recently they have become the target of scammers advertising “halal investment” opportunities using cryptocurrency. As a rule of thumb, any cryptocurrency investment opportunity that promises a fixed rate of return is likely a scam, such as a ponzi/pyramid scheme which is both illegal and *haram*.

Allah (swt) knows best.

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NOTE: references previously mentioned in footnotes are not included below.

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Revision History

Version	Published	Change Notes
1.0.0	April 5, 2018	Initial publication
1.1.0	April 17, 2018	<ul style="list-style-type: none">• Fixed various typos• Added working paper disclaimer
1.2.0	May 24, 2018	<ul style="list-style-type: none">• Fixed various grammatical errors• Added Arabic text of some historical sources in recent reference notes• Added mention of 51% vulnerability• Added note of how bitcoin protocol is maintained, hard forks, etc.• Updated contact info
1.2.1	Dec 6, 2019	<ul style="list-style-type: none">• Minor typo fixes• Fix minor grammatical errors• Change "Bitcoin" to "bitcoin" except when referencing specific fork, such as "Bitcoin Cash"• Update table of contents