

# CHAPTER I

## INTRODUCTION

### A. Context of Study

Thousands of years ago before the existence of a currency, goods were exchanged by barter. Nowadays money has a very important role in facilitating economic exchange. Over time, people experience problems that are increasingly complex due to the increasing economic activity. Money and institutions that publish it are present to overcome increasing complexity and related difficulties in maintaining trust.<sup>1</sup>

In essence, money has 3 basic roles, namely a unit of account, a medium of exchange, and a store of value. To fulfill these functions money must always be stable from time to time. One way is to use pure commodity money with intrinsic value, such as salt and seeds. But the commodity money by itself does not effectively support exchange: it may not always be available, it is costly to produce and cumbersome in exchange, and may be perishable.<sup>2</sup>

As time goes, technological developments in the world today are growing very vast. One of the technology that has been develop recently is cryptocurrency. Cryptocurrency is a digital asset that is designed as a medium of exchange or transaction, or more easily we can call it as digital currency.<sup>3</sup>

---

<sup>1</sup> BIS annual economic report 2018 <https://www.bis.org/publ/arpdf/ar2018e5.pdf> (accessed on October 24, 2018)

<sup>2</sup> *ibid*

<sup>3</sup> Cryptocurrency: mata uang digital yang bisa digunakan untuk belanja, [http:// www.idn-times.com/](http://www.idn-times.com/) diakses pada tanggal 24 oktober 2018

One of the derivatives of cryptocurrency is bitcoin. Bitcoin is a pioneer in cryptocurrency. He was created by someone who called himself Satoshi Nakamoto. Satoshi put the basic principle of cryptocurrency through the whitepaper entitled “bitcoin: A peer to peer electronic cash system” (2008). Although bitcoin is not the only cryptocurrency in this world, but Bitcoin still the highest selling value compared to other cryptocurrency.<sup>4</sup>

Bitcoin works on a public ledger called blockchain, which holds a decentralized record of all transactions that is updated and held by all users of the network. To create bitcoins, users must generate blocks on the network. Each block is created cryptographically by harnessing users' computer power and is then added to the blockchain, letting users earn by keeping the network running. A limit for how many bitcoins can be created is built into the system so the value can't be diluted. The maximum amount is just under 21 million bitcoin. There are currently just over 16.8 million in circulation, each of which was worth around \$9,000 at the time of writing. That puts its total value at around \$180 billion. Bitcoin is has a range of uses, including funding companies, investing cash and transferring money without fees. It is commonly associated with criminal activity such as drug dealing, cybercrime and money laundering, since it can be near-impossible to tie a bitcoin wallet to any one individual.<sup>5</sup>

The price of Bitcoin is highly volatile. Typical 30-day volatility is around 40 percent and 90-day volatility is close to 70 percent. These swings in value are

---

<sup>4</sup> Dimaz A. Wijaya, *Mengenal Bitcoin & Cryptocurrency*, Pusantara, Medan, Sumatera Utara, Indonesia, p. 15 (accessed on October 24, 2018)

<sup>5</sup> *The Age of Cryptocurrency: How Bitcoin and the Blockchain Are Challenging the Global Economic Order* / Paul Vigna / Michael J. Casey // Picador St. Martin's Press New York, 2016. – p.363.

hard to stomach for many people. Although the cryptocurrency has an upward trend, it's still risky. Good currencies have low volatility, as owning unstable currency or accepting it as a form of payment becomes too risky. If the government decides to declare owning Bitcoin illegal, people may find themselves in trouble. Currently, the government's stance on cryptocurrencies is not clear and the danger is real as Bitcoin is not taxed. This is somewhat of a competition to government-issued currency. Other regulations could also make Bitcoin less attractive. The disadvantage of Bitcoin is that it has no safety mechanisms. Typically, one can get private key or random word which protect wallet. If you lose your key, your funds will be gone with it. There's no support to contact, no way to change the password, and no way you could verify your identity to get your account back. The biggest risk of investing in bitcoin BTC is it's instability. One does not know, whether he is going to get huge profit or huge loss. Yet people are making good profits out of BTC trading or mining.<sup>6</sup>

On the other hand, the development of e-commerce has also encouraged the development of cash-based payment instruments (cash payment instruments) which are currently known as non-cash-based instruments (non-cash payment instruments) which even non-cash based instruments have developed not based on paper is also not paperless (not paper based).<sup>7</sup> One of the paperless payment tools that developed recently is virtual money.

Virtual money then began to become a phenomenon in society since the emergence of cryptocurrency as a manifestation of technological developments in

---

<sup>6</sup> What is bitcoin, how does it work and what affects its price? Retrieved from <https://www.telegraph.co.uk> (accessed on October 24, 2018)

<sup>7</sup> Bank Indonesia, *Laporan Sistem Pembayaran dan Pengedaran Uang*, 2008, p. 2

e-commerce activities. Crypto currency is a series of cryptographic codes that are formed in such a way as to be stored in a computer device and transferable such as e-mail and it is possible to be used as a payment instrument in a commercial transaction nowadays there are 100 types of crypto currencies, including Ripples, RonPaulCoin, Litecoin, Ethereum, and Bitcoin. Among all the crypto currencies, bitcoin controls the dominance of the market with market capitalization of \$ 11,495,123,941 with a price of \$ 720 for 1 Bitcoin (BTC) while the second position is occupied by Ethereum with a market capitalization of \$ 906,808,144 for \$ 11 for 1 Ethereum (ETH).<sup>8</sup>

The existence of Bitcoin digital money in Indonesia itself is under the spotlight that raises the pros and cons of various parties. Bank Indonesia as the monetary regulator appealed through a press release circulated through internet media on January 13, 2018 by Bank Indonesia with the title "Bank Indonesia Provides Warnings to Every Party Not to Sell, Buy or Trade Virtual Currency" Number 20/4 / DKom.<sup>9</sup> This press release contains a ban from Bank Indonesia regarding the use of virtual currency including the presence of Bitcoin as a payment instrument in Indonesia. This prohibition of use is caused because Bank Indonesia considers that virtual currency in its use has a large risk and full of speculation, this assumption arises because there is no authority that can be responsible for the use of virtual currency because of the absence of an official administrator, the absence of objects that are the basis of virtual currency prices,

---

<sup>8</sup> CoinMarketCap, *Crypto-Currency Market Capitalizations*, <http://coinmarketcap.com/> (accessed on October 24, 2018)

<sup>9</sup> Peraturan Bank Indonesia No. 18/16/PBI/2016

and are vulnerable to inflation because the value of the trade is very volatile, based on this, Bank Indonesia warn each party not to use virtual currency.<sup>10</sup>

When compared with other countries, such as Singapore, which has arrangements for bitcoin, Indonesia is very far behind those countries in terms of managing bitcoin. Singapore has recognized the existence of bitcoin in their country by imposing a tax on the use of bitcoin.<sup>11</sup>

The Singapore Government has given recognition to the use of bitcoin in its country through the Monetary Authority of Singapore (MAS) in March 2014 which stated that virtual payment instruments would be considered as providers of services that would be subject to Goods and Services Tax. The regulation states that<sup>12</sup>:

*“Businesses that choose to accept virtual currencies such as Bitcoins for their remuneration or revenue are subject to normal income tax rules. They will be taxed on the income derived from or received in Singapore. Tax deductions will be allowed, where permissible, under our tax laws.”*

From the statement above, it can be seen that all forms of buying and selling that accept virtual money such as bitcoin as a means of payment will be taxed on income earned or obtained in Singapore as stipulated in the Singapore

---

<sup>10</sup> Agusman, , “Bank Indonesia Memberi Peringatan Kepada Setiap Pihak Agar Tidak Menjual, Membeli atau Memperdagangkan Virtual Currency”, [http://bi.go.id/id/ruang-media/siaran-pers/Pages/sp\\_200418.aspx](http://bi.go.id/id/ruang-media/siaran-pers/Pages/sp_200418.aspx). (accessed on October 24, 2018)

<sup>11</sup> Kashmir Hill, *Bitcoin’s Legality Around The World*. <http://www.forbes.com/sites/kashmirhill/2014/01/31/bitcoins-legality-around-the-world/#78026e1479b2> (accessed on December 3, 2018)

<sup>12</sup> Inland Revenue Authority of Singapore, *Income Tax Treatment of Virtual Currencies* <https://www.iras.gov.sg/irashome/Businesses/Companies/Working-out-Corporate-Income-Taxes/Specific-topics/Income-Tax-Treatment-of-Virtual-Currencies/> (accessed on December 3, 2018)

Tax law All physical goods supplied via the Internet and conducted in Singapore subject to GST or a 7% transaction tax on the profits of the item.

The Singapore Government has given recognition to bitcoin, which directly affects the existence of legal protection obtained by bitcoin users and bitcoin exchange service companies in Singapore. In line with that, the Singapore government can also control bitcoin users and can minimize all risks that might occur outside the bitcoin protocol.

The control carried out by the Singapore government is certainly a form of responsibility of the Singapore government towards its citizens for all threats that might occur due to technological developments in the current era of globalization.

In addition, based on the Law No. 7 of 2011 concerning Currency and Law number 23 of 1999 concerning Bank Indonesia, in which the currency law stipulates that currency is money that is disbursed by Bank Indonesia as the competent authority as the rupiah, which is included in the laws of Bank Indonesia also stated that the rupiah is the legal currency circulating in the Republic of Indonesia.

Based on Law No. 23 of 1999 concerning Bank Indonesia, one of the tasks of Bank Indonesia is to run a payment system to maintain the stability of the rupiah. The payment system implemented by Bank Indonesia aims to stimulate national economies so as to increase economic activity through healthy market conditions in order to increase competitiveness and the image of a better national economy.<sup>13</sup>

---

<sup>13</sup> Danella, tiara dhana, "Bitcoin Sebagai Alat Pemebyaran Yang Legal Dalam

The payment system cannot be separated from its relationship with a legal payment instrument. The legitimate cash payment tool used is money, whether in the form of banknotes or in the form of coins, based on its function money has the meaning as an object that can be exchanged with other objects, or to judge an object.

An object to be used as a medium of exchange or money must meet the following conditions:

1. Acceptability, the object must be generally accepted as a tool of payment.
2. Durability, not easily destroyed and durable.
3. Uniformity, has the same quality.
4. Scarcity, the number of objects used as payment instruments must meet the needs of the community and not easily falsified.
5. Stability, the value of the object used as a payment instrument must have almost the same value over time.<sup>14</sup>

Since the adoption of the Currency Law resulted in all financial transactions and payments made in the territory of the Republic of Indonesia must use rupiah. This law describes currency as money issued by the competent authority in the territory of the Republic of Indonesia, hereinafter referred to as Rupiah.<sup>15</sup> In this case, the government determines Bank Indonesia as the only authority authorized to print, make expenditures, distribute and withdraw Rupiah.

Based on article 2 number 1, the Currency Law confirms that the currency of the

---

Transaksi Online.” *Jurnal Mahasiswa Fakultas Hukum Universitas Brawijaya*.  
<http://hukum.studentjournal.ub.ac.id> (accessed on October 24, 2018)

<sup>14</sup> Gatot Suparmono, 2014, *Hukum Uang di Indonesia*, Gramata Publishing, Depok, p.12

<sup>15</sup> Bank Indonesia, 2001, *Buku Panduan Uang Rupiah*, Direktorat Pengedaran Uang Bank Indonesia, Jakarta, p.6

Unitary State of the Republic of Indonesia is Rupiah, the number 2 Rupiah consists of a metal Rupiah and a paper Rupiah and the figure of 3 Rupiah is symbolized by Rp. Regarding its use, that every transaction that shows a mandatory payment uses Rupiah. Provisions regarding this matter are regulated in Article 21 number 1 and number 2.

### **B. Problem Formulation**

This research will be focusing of two main aspect, which are:

1. How the validity of cryptocurrency used as commodity in Indonesia?
2. How the comparison between Indonesia and Singapore about cryptocurrency as a commodity?

### **C. Research Objective**

The objective of this research itself are:

1. To analyze the position of cryptocurrency as a commodity in Indonesia.
2. To analyze the regulation between Indonesia and Singapore about cryptocurrency

### **D. Definition of Terms**

1. Cryptocurrency: Any form of currency that only exist digitally, that usually has no central issuing or regulating authority but instead uses a decentralizes system to record transactions and manage the issuance of new units, and that relies on cryptography to prevent counterfeiting and fraudulent transactions.<sup>16</sup>

---

<sup>16</sup> Merriamwebster, definition of cryptocurrency, <https://www.merriam-webster.com/dictionary/cryptocurrency> (accessed on October 30, 2018)



2. Blockchain: A digital database containing information (such as records of financial transactions) that can be simultaneously used and shared within a large decentralized, publicly accessible network.<sup>17</sup>
3. Bitcoin: is a cryptocurrency, a form of electronic cash. It is a decentralized digital currency without a central bank or single administrator that can be sent from user to user on the peer-to-peer bitcoin network without the need for intermediaries.

#### **E. Theoretical Framework**

In transactions using electronic systems, it can be done using two systems, namely cash-like payment systems, in this system a sum of money is taken from the payer's account such as the paying bank account before the transaction is an example of this system is electronic money. The second payment system is pay now, which is direct payment using debit from ATM and pay-later, namely using a credit card. From the payment system cryptography has an important role in terms of security, confidentiality and authentication, some security systems for payment systems can be divided into several forms, namely systems without cryptography, this system does not use cryptography at all means relying on security outside the network such as confirmation through fax as proof of authorization, besides that in virtual activities the data sent in this system is very wide because it is not protected.<sup>18</sup>

---

<sup>17</sup>*Ibid*

<sup>18</sup> Asokan, Nadarajah, et al. "The State of the art in electronic payment system." Dalam *Computer 30.9* (1997, IBM Zurich Research Laboratory), p.28.

The next system is the Shared-key cryptography system, this system bases authentication on cryptography published by a verifier and a prover, both parties share secrets such as DES keys or keyword.<sup>19</sup> Finally, digital signatures on public key systems, authentication on the system it is based on public key cryptography and parties must have confidential digital signatures and official certificates issued by the authorities. From the form of the system described previously, it can be seen that cryptography has an important role in providing authenticity and confidentially in transactions through electronic media.

The basic algorithm for the hash system used in Bitcoin is SHA-256.<sup>20</sup> In Bitcoin the relevant cryptographic theory, namely the theory of Ralph Merkle, in 1982 Merkle developed a system that made it possible to efficiently verify large data structures through the hash tree structure.<sup>21</sup> Such a system can be used to verify non-reputation of the datum, but for large data structures it will be very time consuming to perform hash functions on each datum which Merkle then compiles the datum into the hash tree structure (where each node is a hash) so that checks are only carried out on the topmost hash of the tree structure rather than each node to ensure non-reputation. This hash tree method is usually used to ensure

---

<sup>19</sup> *Ibid*, p.30.

<sup>20</sup> DuPont, Quinn. "The politics of cryptography: Bitcoin and the ordering machines." *Journal of Peer Production* (2014), p.5.

<sup>21</sup> Merkle, Ralph C. "Method of providing digital signatures." U.S. Patent No. 4,309,569. 5 Jan. 1982.

data integrity and when used in cryptography, hash functions to check each message for authentication.<sup>22</sup>

A blind signatures are a concept discovered by Chaum,<sup>23</sup> this system aims to provide a possible payment system with cash but with the anonymity of digital money security (such as Bitcoin). By using public key cryptography Chaum proposes a system that guarantees:<sup>24</sup>

- a. Inability of third parties to determine information about recipients of payments.
- b. Individual ability to provide proof of payment.
- c. Ability for stop the payment if necessary.

Chaum imagines the digital equivalent of paper equivalent of paper envelopes coated with carbon paper. By writing a signatures on the outsides of the second envelope that is “blind” so that the signatures is also on the other envelope. Chaum gives an examples of voting using secret voice, in this method a blind signatures is sent to the voter who is then ejected from the envelope and signed by the voter and send back to the voter in the new envelope so only the voter sees the signatures then the signatures can be confirmed against the signature on the envelope but still keep each voice anonymous.<sup>25</sup>

Fluctuating binary numbers are useful for many computers, but in an electronic cash system it requires the opposite quality: money needs

---

<sup>22</sup> DuPont, Quinn, Loc. Cit

<sup>23</sup> Chaum, D, “Blind Signatures for Untraceable Payments”, *R. L. Rivest, D. Chaum, & A. T. Sherman* (1983), p.200.

<sup>24</sup> *Ibid*

<sup>25</sup> *Ibid*

to be solid, slow, and not replicable. This theory was proposed and developed by Adam. Back in 1997 to limit spam e-mail, Hashcash used two facts in public key cryptography, namely: non-reputability of hashes and computational difficulties in finding hashes. It is almost impossible to predict the result of a hash function in an input done carelessly (without taking into account the main fundamentals of asymmetric cryptography used in hash functions) it's easy to verify results.<sup>26</sup>

Another theory related to Bitcoin cryptography is Hal Finney's theory which expands the concept of bmoney and Hashcash by suggesting proof of work formalization, this scheme allows reuse and exchange of tokens (digest hashes) . This concept was later developed again by Nick Szabo then developed a concept to understand accurate systems for calculating the difficulties of proof-of-work related to the concept of payment instruments with which money was produced (hash digests) to be exchanged and reused.<sup>27</sup>

### **The definition & function of Currency**

Money is a form of wealth for humans today, as a tool for economic activities money is used to be exchanged as goods or services and is used as a tool for measuring value for something, in its development money has various forms of commodities, commodity money, fiat money and the latest is money in the form of information,

---

<sup>26</sup> *Ibid*

<sup>27</sup> *Ibid*

changes in the form of money from time to time continue to cause debate both economically, legally and politically. Money according to the Big Indonesian Dictionary of money is:

"Exchange instruments or legal measurement standards (unit counts) are issued by the government of a country in the form of paper, gold, silver, or other metals printed in certain shapes and images."<sup>28</sup>

### **International Trade**

International Trade is the exchange of goods and service across international borders or territories.<sup>29</sup> International trade cannot be separated from the desire from a country to meets the needs that are not in its own country. Several theories about modern international trade have been put towards to regulate the performance of a country in an effort to meet its needs. There are two basic types of trade between countries:

a. First of all, in the receiving of country itself cannot produce the goods or provide the service in question , or where they do not have enough.

b. Second of all, in which they have the capability of producing the goods or applying the services, but still import them.<sup>30</sup>

---

<sup>28</sup> Kamus Besar Bahasa Indonesia, (Jakarta: Balai Pustaka,2008), p.585.

<sup>29</sup> International trade, in repository.uobabylon.edu.iq/2010\_2011/6\_2160\_237.pdf (Accessed on December 3, 2018)

<sup>30</sup> Jim Sherlock and Jonathan Reuvid, 2008, The Handbook of International Trade: A Guide to the Principles & Practice of Export, GMB Publishing, p. 3

## F. Originality of Research

No	Author(s), Title, Type of Research/Publication and Year of Release	Problem Formulation/Discussed	Differentiation to Author's Research
1.	Aan Kurnia, Putu Sudarma Sumadi, " <i>The Utilization Of Bitcoin As Payment Based On Law Number 7 of 2011 About Currency</i> ", Jurnal Hukum <sup>31</sup>	<p>1. What is the regulation regarding payment instruments based on Law Number 7 of 2011 Concerning Currency?</p> <p>2. What are the legal consequences of using Bitcoin as a payment instrument in Indonesia?</p>	<p>The research focused on the regulation regarding payment instruments and the legal consequences of using Bitcoin in Indonesia while the proposed research will specially focused on cryptocurrency</p>

<sup>31</sup> Aan Kurnia, Putu Sudarma Sumadi, 2011, "The Utilization of Bitcoin as Payment based on Law Number 7 of 2011 About Currency", Jakarta

			as an investment instruments based on Indonesian Legal System.
2.	Chrisman Antonius Sihombing, <i>“Tinjauan Yuridis Bitcoin Sebagai Alat Pembayaran di Indonesia dan Akibat Hukum Penggunaan Bitcoin di Indonesia”</i> , Bachelor Thesis, Universitas Katholik Parahyangan, 2017 <sup>32</sup>	1. Can Bitcoin be recognized as a legitimate payment instruments in Indonesia? 2. How the legal consequences of using Bitcoin in Indonesia?	The research focused on the recognized of Bitcoin as a payment instruments and also focused on how the legal consequences of using Bitcoin in Indonesia while the proposed

<sup>32</sup> Chrisman Antonius Sihombing, 2017, *Tinjauan Yuridis Bitcoin Sebagai Alat Pembayaran di Indonesia dan Akibat Hukum Penggunaan Bitcoin di Indonesia* (Thesis), Bandung, Fakultas Hukum, Universitas Parahyangan.

			<p>research will specially focused on the investment instruments and will discussed the comparison with Singapura as a country which already have a regulation about cryptocurrency</p>
--	--	--	---

## G. Method of Legal Research

### 1. Type of Research

This research is normative juridical, is a research that is focused on examining the rules or norms in positive law.<sup>33</sup> This research conducts a qualitative approach that looks at and analyse legal norms

---

<sup>33</sup>Johnny Ibrahim, 2013 *“Teori dan Metedologi Penelitian Hukum Normatif*, Bayumedia Publishing, p.295



in legislation that develops within the scope of information technology. This research is a mono-disciplinary study, namely an analysis of findings based solely on one scientific discipline, namely law.<sup>34</sup> The reason the researcher used judicial normative is to find out whether cryptocurrency can be categorized as an investment instrument in Indonesia. With this approach, the author will get information from various aspects regarding legal issues that are being sought for answers.

## **2. Research Approach**

The approach in this research using comparative approach and statue approach, that the approach in order to understanding the problem based on the implementation of regulation of cryptocurrency in Indonesia and comparing with Singapore.

## **3. Legal Sources**

The researcher through referencing collects the data, which is secondary data consisting of:

- a. Primary legal sources which consisting of laws, regulation, treaties, convention that has a legally binding characteristic that relevant to the topic;

---

<sup>34</sup> Sri Maudji *et al.*, *Metode Penelitian dan Penulisan Hukum*, 2005 (Jakarta: Badan Penerbit Fakultas Hukum Universitas Indonesia), p. 2.

- b. Secondary legal sources, which consisting of books, journals, papers, and news that cover various aspects within this topic, as written by standardized publisher in academic writing.
- c. Tertiary legal materials are material which give the direction and/or explanation towards primary legal material which consist of:

1. Black's Law Dictionary
2. Oxford law Dictionary

#### **4. Method of Data Collecting**

Data collecting method in this study used a research that is conducted by literature studies which included by study on books, literatures, legal journals and electronic legal material, the result of research and many others scholars materials with related about the regulation of cryptocurrency.

#### **5. Method of Data Analysis**

This research is using qualitative analysis data, which is the data has been collected and will be analyzed through a broad explanation, then it will be assessed by expert opinion, related legal theories, and jointly with the argumentations from the researcher itself.

#### **6. Structure of Writings**

This research will be complied systematically into 4 (four) chapters with following details:

**Chapter 1** is introduction which consist of these following parts: Context of Study, Problem Formulation, Research Objective, Definition of Terms, Theoretical Framework, Originality of Research, Research Method and Structure of Writing.

**Chapter 2** in this chapter will elaborate on General overview of cryptocurrency and the explanation of cryptocurrencies as a commodity in Indonesia. Then, in this research the author will also discussed about legal perspective of cryptocurrency according to International regulation and National regulation.

**Chapter 3** is findings and Discussion. In this chapter the author will analyze the comparison between Indonesia and Singapore regulation concerning of cryptocurrency especially focus on bitcoin as a commodity object.

**Chapter 4** is conclusion which contain on the conclusion that will be obtained by the previous analysis that has been done.

