Bitcoin:
Explaining variations in regulatory approaches

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Chapter 1  Introduction

1.1 Cryptocurrency

Will cryptocurrency be the next step in the evolution of money? How can we regulate Bitcoin if no institutes are needed to operate the currency? Is Bitcoin not a new internet bubble which is about to burst? Different questions about the role of cryptocurrency in the world with different answers. On April 1st 2017, Japan began accepting Bitcoin as an official method of payment (Van Poll, 2017). This resulted in Japan accounting for more than half of the global trade volume in the 24 hours that followed. Beside trade growth, the digital currency climbed 3% in value to a new record of $1442.58. CoinDesk analyst reported that there is an increasing amount of capital flows into Bitcoin from around the world, because of Japan’s new Banking Act (Cheng, 2017). News reported that Bitcoin reached the point of being worth more than one ounce of gold (Shin, 2017). As figure 1 about the exchange rate shows, at the beginning of May 2017, the Bitcoin reached a new record of $2000 and is still growing in value. On the other side, government officials start to get worried about Bitcoin and the future of the new currency. Bitcoin offers a quasi-anonymous and secure way to make payments in which the government does not have any privileges in this cryptocurrency. This thesis will elaborate on the worries of government officials and give possible country regulatory approaches with their different ideas about cryptocurrency and regulations. The main cryptocurrency in this thesis is Bitcoin, because it is the largest cryptocurrency and has the most potential for becoming a dominant currency compared to other alternative cryptocurrencies. With regard to regulations, there are still no global Bitcoin regulations active. For example, the European Union does not have any regulations stating that member

Figure 1: Exchange rate Bitcoin July 1, 2013 - May 30, 2017. Source from Coindesk
states have to make their own regulations and interpretations. Japan officially accepted Bitcoin as a method of payment and users have to pay taxes over Bitcoin income and purchases (Coleman, 2017). As the third example, China does not permit businesses and financial institutions to use Bitcoin. Individuals however, are permitted to own and use Bitcoin (Hendrickson, Hogan, & Luther, 2016, p. 931). This results in a field of tension: on the one hand big companies are starting to accept Bitcoin from customers and integrate Bitcoin into the society (Boase, 2013) and on the other hand governments do not have any control on this new method of payment (Scheinert, 2016). For regulators, this is a major challenge, because institutions cannot regulate a currency that is decentralized and operates outside the financial system. Furthermore, Bitcoin users are anonymous and it is difficult to track their transaction activities. It is therefore interesting to compare countries and find out how countries deal with the problem of regulating Bitcoin. The main goal of this research is to create a new framework for interpreting countries regulatory approaches. In this framework cases approaches are divided into a complexity or rigidity approach. The results show that countries that view digital currencies as a threat would rather adopt a rigidity approach, then countries who does not consider cryptocurrencies as a threat and start extensively regulating digital currencies. In this way, countries using a complexity regulatory approach. Regulation can be viewed not as a tool of constraining people from using Bitcoin, but more a way of integrating Bitcoin into the current system.

1.2 Research question and methodology

Bitcoin operates outside the established monetary system. It is a decentralized system without the help of any institution or government. There is no global Bitcoin regulation protocol, so countries are on their own to make regulations. Looking at the European Union, Germany is treating Bitcoin as a full private currency (Hendrickson et al., 2016, p. 931), whereas in the Netherlands Bitcoin doesn't have any special status (Ministry of Finance, 2013). If we take a closer look at the Bitcoin worldwide, we see that China accepted Bitcoin as a legal method of payment in October 2013. After the demand for Bitcoin increased, Chinese authorities took action. On December 5th 2013, The People’s Bank of China prohibited financial institutions and payment companies from buying, selling, quoting prices in, or insuring products linked to Bitcoin. Nowadays only individuals are permitted to own and use Bitcoin (Hendrickson et al., 2016, p. 925). However, Japan has recently officially accepted Bitcoin as having the similar function as regular money. The Japanese Cabinet officially approved a set of bills
which helps introducing Bitcoin into the legacy banking system and regulate the digital currency (Smart, 2016). Regulating Bitcoin could be a major opportunity to expand world trade and attract new customers to markets. For example, the Japanese government is using Bitcoin to promote tourism in Japan. The City of Hirosaki even officially accepts Bitcoin donations for the upcoming Cherry Blossom Festival. Also Coincheck announced that already 260,000 shops are preparing to accept Bitcoin this summer in Japan (Parker, 2017b). In regard to expanding world trade, Bitcoin could help alleviate poverty in Africa. By undercutting the high costs of international money transfers, the barrier to invest and trade with a lower income continent like Africa would be possible (Flood, 2016). In this way, it helps investors and business by accessing new markets. Moreover, it opens ways for consumers to shop online worldwide, without have exchange rate fees. This feature contributes to a more globalized world. Following this pattern, the following research question will be answered:

"Why do countries adopt different regulatory approaches?"

To answer this question, the research contains a qualitative case study which contains three different countries. There is chosen for a qualitative case to analyses three cases in detail and understand the movement countries makes regard to Bitcoin. A quantitative case study was not possible, because there are still a lot of countries not taking Bitcoin serious. This results in not adopting or creating any regulations for cryptocurrency. As I mentioned earlier, the European Union has no general regulation about Bitcoin and permits member states to bring their own regulations. When one compares Bitcoin regulation between countries within the European Union, it becomes clear that regulation of member states on the Bitcoin are almost the same. None of the countries accept Bitcoin as a method of payment, but they accept the use and trade of Bitcoin (Bitlegal, 2017). Because I am a Dutch native speaker, the easiest country within the European Union to use in this research is the Netherlands. What is the Dutch approach regarding Bitcoin? Why do they not regulate Bitcoin, is it because they wait on European Union regulations? This research tries to find answers to these questions.

The second country will be China. China was accepting Bitcoin as a method of payment in October 2013, but rejected this legal status a few months later. For companies and financial institutes prohibited to own and use Bitcoin, but for individuals it is permitted. Why is China using this approach of banning Bitcoin and what is the future for Bitcoin within the country?
The third country will be Japan, where the latest update is that they accepted the Bitcoin as a method of payment and integrated it into their legacy banking system. By accepting Bitcoin, Japan takes a step forward in regulating Bitcoin. Why did Japan fully integrate it into their system and which lessons could be learned from the new Banking Act? In this research, three questions will be used in comparing approaches. First, what is the legal status of Bitcoin within the country? Second, why did the government give this legal status? And third, what are the developments in regard to Bitcoin in the country? At the end, the research question will be answered by using the information that can be concluded from answering these three questions.

The objective of this thesis is to look at possible outcomes of how Bitcoin can be regulated by states in the best possible way. Reports published by the United States Congress, the European Central Bank and government will be consulted for this thesis. Furthermore, secondary information sources will also be consulted such as news organizations and non-governmental organization reports. Bringing this information together will give inside information into the course taken by countries regarding Bitcoin regulation. Critique could be that the Netherlands, Japan and China are not similar when looking at culture, language and system. Arguing against this critique is that the Bitcoin system is globally the same, countries only interpret and regulate it in a different way.

1.3 Thesis outline

The paper is divided into four main sections. The first section represents the concept of Bitcoin and regulation. Questions as, who created Bitcoin, how does the Bitcoin system works and what is block chain will be explained. Furthermore, arguments for and against Bitcoin will be discussed, for a better understanding why Bitcoin regulation is needed. The second section will contain a qualitative case study with the Netherlands, China and Japan as cases. This third section contains an analysis in order to understand how these countries react to Bitcoin. In the fourth section a discussion about the different regulatory approaches all three cases are using. The final section will give an answer to the research question: ‘Why do countries have different regulatory approaches?’ And I will explain, what are the broader significance of this research.
Chapter 2  Conceptualization

2.1  Bitcoin

The birth of the internet brought new innovative ideas for a monetary system. The first digital currency was *e-gold* which was founded in 1996 by Gold & Silver Reserve Inc. as an internet payment system under the name of e-gold Ltd (E-Gold, 2006). This new payment system was backed by gold and later more digital currency startups came up. The second well-known system was Liberty Reserve, founded in 2006, which exchanges US Dollars and Euros for Liberty Reserve Dollars or Liberty Reserve Euros. Both systems were taken down by the US government for laundering money, but it was the start of a new monetary system (Cloherty, 2013).

The introduction of Bitcoin in 2009 opened a new chapter in the history of digital currency. Bitcoin, also known as a cryptocurrency, was created by Satoshi Nakamoto. Satoshi Nakamoto is a pseudonym for the person who invented the system, but nobody knows his real name. Bitcoin started with the paper, (Nakamoto, 2008) ‘Bitcoin: A Peer-to-Peer Electronic Cash System’, in which he sets out the principles of Bitcoin system, how it works and why people should start using the new system. His main argument is that the established system works, but still suffers from weaknesses of the trust based model. The established system is based on financial institutions that are mediating transactions, as third parties, from one person to another person. In exchange for this mediating, users pay a certain amount of transaction fees.

![Figure 2: Traditional system and Bitcoin system. Source from (Nakamoto, 2008)](image)

According to Nakamoto the world needs a system that is not built on trust, but on cryptographic. This was the birth of cryptocurrency, also known as digital transactions
without the need of a third party. This research defines cryptocurrency as an currency which has a underlying of algorithms, instead of backed by a third party (Dwyer, 2015, p. 83).

So how does the Bitcoin system work? Bitcoin works with a peer-to-peer network and open-source software. The peer-to-peer network is organized with nodes in a self-organized network where the nodes communicate with the Bitcoin client and servers. This network ensures that the data of information is equal for every user. Since it is a peer-to-peer network, costs of maintaining are low. Second, Bitcoin uses open-source software, which means that everyone can use and contribute to the software. Nakamoto outlined in his paper about the system that there is a fixed amount of Bitcoins circulating within the system. The fixed amount is set to 21 million Bitcoins and scientists think that this will be reached by 2025 (Dwyer, 2015, p. 82). This means that after 2025, Bitcoin will become scarce. The Bitcoin system consists of two kinds of users. First, we have the miners, who are “mining” for new Bitcoins. In other words, using computer power to solve puzzles and add new Bitcoins to the system. Besides adding new Bitcoins to the system, miners also have the task of verifying transactions and maintaining the system. The second user, is the user who is spending Bitcoins. In order to hold Bitcoins, users have to open an online wallet or install an offline wallet on their computer. The wallet does not contain Bitcoins, but keeps track of a Bitcoin balance. This means that every Bitcoin is linked to a wallet address, also known as a public key. To send or receive Bitcoins, the user needs somebody else’s public wallet address to send money. If the user wants to access the Bitcoin wallet, the user has to use a self-created private password to open the balance. Therefore, the private password, also known as private key, is needed for both accessing the balance and sending transactions. If the user loses or forgets the private password, there is no possibility to be able to access the Bitcoin balance again (Dwyer, 2015, p. 84). Explaining the transaction system in more details. Transactions are made digitally; Party A transfers the digital coin to party B’s public key. To finish the transaction, party A has to sign the transaction with his own private key. Miners will then verify the transaction and control that the coin is not spent twice. All these transaction records will then be stored in a public database, also known as the block chain. In the case of Bitcoin, these records are made publicly which means everybody can find an overview of all the Bitcoin transactions ever made (Dwyer, 2015, p. 83).
As mentioned earlier, Bitcoin brought block chain technology. Explaining block chain helps to understand how the Bitcoin system works. In the early days of Bitcoin, the system behind was not only seen as exciting and innovative but also revolutionary. We never had this kind of technology before. Block chain is a type of distributed ledger or decentralized database that keeps records of digital transactions. The distributed ledger consists of a network of replicated databases, which are synchronized via the internet and visible for everyone that is part of the network. So how does block chain technology help cryptocurrencies? In the case of Bitcoin, when a digital transaction is made, the transaction will be grouped together in a cryptographically protected block with other transactions that were made around the same time. The transaction will then be sent out to the entire network. Validated blocks of transaction will be timestamped and added in a linear chain of blocks, as shown in the example above. New blocks are linked to older validated blocks, making it a chain of transactions sorted on time. The chain will be continually updated with each new block, so every ledger within the network has the same database. Due to the continuous updating and adding of new blocks to the chain, it is hard for hackers to hack the chain. They have to hack not only a particular block, but the entire history of the chain (Thompson, 2016).

2.2 Virtual currency vs. digital currency

In my literature research, I figured out that there is a misunderstanding about the definition of digital currency and virtual currency. Both concepts are used and seen as synonyms for translating Bitcoin. However, this is incorrect because there is a difference in meaning. Digital currency can be defined as a currency that is stored and transferred electronically. Any money based in 1's and 0's meets this definition. For example, US Dollars stored in a bank account are represented as US Dollars held somewhere. By contrast, virtual currencies are defined as currencies not intended for use in real life and do not have any value in the real world. For example, in the game Second Life users can pay in-game with “Linden Labs”, which cannot be used for real goods or services. This makes them virtual money and not digital currency. For this reason, Bitcoin is defined as a digital currency due to the fact that it
can be spent on physical business and is not limited to the virtual world. This gives Bitcoin the same functions as traditional money. Moreover, virtual currencies are controlled by the developers, which can create money or delete money within the system. This is impossible to do within the Bitcoin system, because of their decentralized system where no central power has any control over the money supply (Wagner, 2014).

This constitutes a problem with the European Central Bank definition of Bitcoin. In their report Virtual Currency Schemes 2012, they describe Bitcoin as a virtual currency scheme which is based on a peer-to-peer network. They define a virtual currency scheme as, “a virtual currency can be defined as a type of unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community” (Europe Central Bank, 2012, p. 5). However, in this research, we treat Bitcoin as a digital currency which is not controlled by any institute, but is a decentralized system. Bitcoin can be used for purchasing existing goods and services.

2.3 Why Bitcoin?
What are the advantages of Bitcoin over traditional money? This part will explain why companies and consumers are interested in using the digital currency instead of traditional money.

The first advantage is that Bitcoin knows low transaction costs. Digital currencies do not need any institutes to fully operate and to accomplish transactions. The Bitcoin sender can do the transaction whenever he or she wants, at any given time. With traditional money, there is always a third party needed to deliver the payment. For this service, we pay a certain amount of transaction costs. In essence, these are mediation costs of transferring the money from one account to another account. In addition to low transaction costs, Bitcoin does not have any costs regarding exchange rate fees when transferring money from one country to another country. This makes the digital currency more effective and cheaper in comparison to traditional money (Plassaras, 2013, p. 387). In this way, Bitcoin is a currency which does not stop at borders, but goes across as a world currency making it attractive as a trade currency (Dwyer, 2015, p. 90).
The second advantage is that there are no third-parties needed to operate the monetary system. In other words, Bitcoin users have the freedom to do everything they want with their Bitcoins. With traditional money the government have the possibilities to freeze somebody’s account, with Bitcoin this is impossible (Hendrickson et al., 2016, p. 928). Instead of using third-parties, Bitcoin relies on a peer-to-peer network which enhances the control of the system by the users themselves. Due to the open-source protocol, users are contributing to the system and maintaining it. If something has to be changed in the system, 50% of the Bitcoin users have to accept the change and not a third-party authority. This freedom also translates itself in tracing transactions to Bitcoin users. The only information the payer needs to know is the public key. It does not need any additional information, like a name or place of residence. If somebody got linked with a public address, it is easy to make a new public address and become anonymous again. Traditional models however, collect identities and transactions which are reviewed by a third party. Besides collecting identities, they must also report high transactions between users. Bitcoin does not have this kind of control, which gives an extra layer of privacy to their users (Nakamoto, 2008, p. 10).

A third advantage of Bitcoin is the impossibility to refund a transaction. The transaction the payer makes is irreversible. This is an attractive feature for merchants who are selling products or delivering services on the internet. Internet shops have refund problems whereas costumers place an online order and pay, but after they received the product, they charge back the money. This is impossible with Bitcoin and in this way, it protects merchants from fraud. For merchants Bitcoin can open ways to enter markets which are fraud sensitive (Bitcoin.org, 2009). Besides Bitcoin helping merchants opening new markets, it is also a way to protect you against vandalism and robbery. Bitcoin prevents stealing money from vending machines, public phones and ATM’s. Smaller business like taxi drivers and shops, but also banks are less vulnerable to robbery when using Bitcoin (Ciaian, Rajcaniova, & Kancs, 2016, p. 885). However, in this stage Bitcoin does not protect consumers from fraud. In this situation regulations can play a role, in which they can create a guarantee scheme for customers and also facilitate other consumer protection measures.
2.4 Regulations

Before moving on to the research analysis, is it important to stress out the definition of regulation. There are a lot of perceptions of what regulation means and understanding the concept, will give a better understanding of Bitcoin regulations. The concept of regulation is often understood as some kind of control and constraining means. *The Oxford English Dictionary* defines regulations as “the action or fact of regulating”. In additional to this definition, “to regulate” is defined as “to control, govern, or direct”. That is exactly the definition that this thesis use. Many people are linking the word “control” to “restrictions”, but in the negative mean. Control can also have another definition, which is more positive (Orbach, 2012, p. 4). This thesis uses controlling in the way of enabling features, facilitates activities and adjust activities without restrictions. This thesis believes that government regulations can facilitate Bitcoin in a country and can bring more stability to the currency. Whereby it is not a way of containing Bitcoin.

2.5 Why regulate Bitcoin?

After having explained the advantages of Bitcoin, this part will explain why we need regulation for Bitcoin. Therefore, governments should start take Bitcoin seriously and create legislation for digital currencies.

As a digital currency, Bitcoin depends on network externalities. Using a digital currency can only have benefits when a large number of users are using the system. When only a few merchants accept Bitcoin, less consumers will use or start using the digital money as their payment method. In order to solve this problem, there has to come more publicity in promoting Bitcoin to get merchants to accept Bitcoin. Regulations could also boost the confidence in Bitcoin, because the government back the currency (Plassaras, 2013, p. 391). Besides the possibilities to actually buy products and services with Bitcoin, there is a potential second problem regarding network externalities. Miners are maintaining the system and adding new Bitcoins to the system. As we mentioned earlier, by 2025, the fixed amount of 21 million Bitcoin will probably be reached. This will drop the earnings miners make to pay their mining costs and they will only be rewarded with the transaction costs. Questionable is, if miners are still continuing their jobs if the earnings are going down. It may cease to be profitable to mine (Dwyer, 2015, p. 86). Nakamoto (2008, p. 4) thinks that miners will still do their jobs because of the transaction fees they get, but it is a questionable
argument. The European Banking Authority thinks that miners will still do their job, but this will result in higher transaction costs for the end user (Ciaian et al., 2016, p. 890). A solution for this problem could be, opening government Bitcoin data center which are helping to validate the transaction. This measure will keep the system alive.

The lack of cyber-security is Bitcoins second problem. The concern is that hackers hack computers in order to get access to Bitcoin wallets. In June 2011 approximately 400,000 Bitcoin have been stolen by hackers, which had in those days a value of around $9 million (Plassaras, 2013, p. 391). A counterargument is that credit cards are easier victims of fraud then people with Bitcoin. To steal somebody’s Bitcoin there is direct access needed to transfer Bitcoins out of the wallet. This can only be done by using the private key. With credit cards this is a lot easier, where you don’t fiscally need access to the card. This makes credit cards more vulnerable to fraud than Bitcoin. Besides cyber-security, Bitcoin is also linked with criminal activities and with terrorist attacks. The anonymity the system offers helps criminals to hide from security agencies. Silk Road was a website where you could buy drugs and weapons with Bitcoins. After shutting down this website, governments are still using this argument to discourage Bitcoin. The U.S. Treasury Department conducted a research to black market transactions, but didn’t find any evidence supporting the argument that Bitcoin is globally used in funding terrorism. From this perspective it should be awkward to regulate Bitcoin which facilitates illegal activities such as Silk Road (Luther, 2015, p. 12). Regulations could help to inform citizens how to secure their computers and make Bitcoin users aware of tactics hackers use to gain access to a computer.

Next to this is the fact that the high volatility affects the usability of the currency. Bitcoin price shows extremely high volatility, which decrease the possibility of a unit of account. This can be explained because Bitcoin price is based on supply and demand. As prices are going up and down, business must adjust their prices frequently, otherwise they will sell goods and services under the price. Besides adjusting prices, for customers it brings confusing situations. Today the milk will cost 0.1 Bitcoin for example, and the next day it costs 0.11 Bitcoin. This makes it difficult to establish a relative price and it brings certain risks in using Bitcoin (Ciaian et al., 2016, p. 894). Volatility could make Bitcoin beneficial for investors and Bitcoin holders, which makes them richer over time. Because of that, it is more likely that holders save their Bitcoin until they think price will not go up anymore. In a
2011 research, researchers found out that more than 60% of the Bitcoin people received, wasn’t spent any more in the same month. Which means that Bitcoin users are holding Bitcoin as a way to make money, instead of spending it on goods and services. This reduces the change of making it a regular currency, because the users are not using it as their payment method (Ciaian et al., 2016, p. 895). Regulations could help stabilize the Bitcoin exchange rate and make it more attractive to actual spend the coin.

Money laundering is a last argument why Bitcoin should be regulated. For law enforcement Bitcoin makes it harder to conduct an investigation. First, we have the problem that a Bitcoin wallet is not linked to an identified customer, whereby the police first have to dig into the system in the hope they found information that can help them finding the person in question. Furthermore, because Bitcoin is a currency that does not stop at borders, investigation cannot be pinpointed to a central location or administrator. It is mainly the infrastructure that makes it complex in these situations, where law enforcement has to deal with different jurisdictions from countries. For example a particular country carried out a lower level of Anti-money laundering and combatting the financing of terrorism jurisdiction, than the country which is doing the criminal investigation (Scheinert, 2016, p. 6). An Identification measure when using Bitcoin platforms could be one of the ways to fight against money laundering.
Chapter 3 Analysis

3.1 Cases
After understanding how the Bitcoin system works and seeing arguments for and against Bitcoin, this section will analyze three cases. The section is categorized in countries, where three questions will be answered. The first question will be, what is the legal status of Bitcoin within the country? Second, why did the government give this legal status? And third, what are the developments in regard to Bitcoin in the country? Starting with the Netherlands, continuing with China and Japan.

3.2 The Netherlands
The current Bitcoin legal status in the Netherlands is that it currently does not fall under the Act of Financial Supervision of the Netherlands. The Act defines electronic money as “a monetary value stored on an electronic device or stored on-distance in a central accounting record and an electronic money institution as a party, no being a bank, whose business it is to obtain the disposal of funds in exchange for which electronic money with which payments can be made is issued, also to parties other than the party issuing the electronic money (Global Legal Research directorate Staff, 2014, p. 15).” This means that the Netherlands does not classify Bitcoin as an electronic means of money. However, citizens of the Netherlands are allowed to own Bitcoins, buy/sell Bitcoins and mine Bitcoins (Bitlegal, 2016c). In response to questions from the Dutch Parliament, the Dutch Minister of Finance stated that it is unlikely to revise the definition of electronic money, given the limited scope, relative low acceptance of payment and limited relation of Bitcoin with the real economy. Following his reaction, the government officials, Authority of Financial Markets and the Dutch Central bank, stated that they will keep monitoring any further developments. However, the Dutch Central Bank keeps warning of the risks of Bitcoin, such as the lack of deposit guarantee system, the absence of a central issuer to address and the volatile rate (Ministry of Finance, 2013). The best description of the current situation is that the government officials are warning Bitcoin users for the risk, but on the other side they let the Bitcoin project unfold and do not try to disturb any activities. A Bitcoin development within the Netherlands can be deduced from the local court ruling on Bitcoin transaction in 2014. A never-completed Bitcoin transaction was carried out between two parties in this case. The buyer payed for a certain amount of Bitcoins, but did not receive the full amount. The court ruled in favor of the
buyer that the seller had to pay the buyer everything back. The court concluded that Bitcoin can be considered as a medium of exchange and therefore is accepted as a form of payment in the Netherlands (Rizzo, 2014). Besides a court ruling about Bitcoin, a Dutch lawyer considers Bitcoin to be a financial product and can be subjected to value added tax which can be charged over Bitcoins users receive (Global Legal Research directorate Staff, 2014, p. 15). As for Bitcoin future in the Netherlands, because it is a member state of the European Union, it is reasonable to answer that the Dutch government is waiting on cryptocurrency regulations coming from the European Commission. The European Commission is already starting to make new regulations regarding digital currencies (Scott, 2016).

<table>
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<th>The Netherlands</th>
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<td><strong>Basic Rights</strong></td>
<td><strong>Regulation</strong></td>
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<tr>
<td>Owning BTC</td>
<td>Yes</td>
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<tr>
<td>Buying BTC</td>
<td>Yes</td>
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<td>BTC Transactions</td>
<td>Yes</td>
</tr>
<tr>
<td>Mining BTC</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Figure 4: Overview the Netherlands. Source: (Bitlegal, 2016c)*

### 3.3 China

The largest search engine in China, Baidu, started accepting Bitcoin in October 2014. This opened the Bitcoin network to approximately 570 million internet users and was a signal to other internet companies to take cryptocurrencies more seriously. After Bitcoin demand increased, government officials took measures (Hendrickson et al., 2016, p. 925). In December 2013, the Central Bank of China and other government institutes issued a statement called “Precautions Against the Risks of Bitcoins”. The legal status of Bitcoin in China is that the nature of Bitcoin is not a currency and should not be used or circulated in the market. Hereby banks and other payment institutions in China are prohibited from dealing and owning Bitcoins. In more details, financial and payment institutions are not allowed to price products or services in Bitcoin, including registering, trading, clearing, settling and other services, and trading Bitcoin for foreign currencies and Chinese Yuan (Global Legal
However, individuals are still permitted to own and use Bitcoin in commerce at their own risks (Bitlegal, 2016a). Since the beginning of 2017 it is impossible for Bitcoin traders to withdraw money from major Chinese Bitcoin trading platforms. (Redman, 2017). Why did the Chinese government install this measure? Bitcoin was already popular for a long time and a lot of Bitcoin miners are living in China. The reason is that the US Dollar is getting stronger and more investors are seeing Bitcoin as an alternative investment option. The Chinese government is therefore afraid that Chinese currency is used to get capital out of the country. According to the Chinese government this could lead to destabilization of the Chinese currency and economy. As Bitcoin is a borderless digital currency, China tries to use capital control to retain large capital outflow (Bingemann, 2017). Besides capital control, new anti-money laundering measures have to be implemented first, before opening the platforms again. Chinese officials are making regulations which will eventually treat Bitcoin-platforms as state banks. One of the features which can be expected is that Bitcoin buyers have to identify themselves. An example of this is, a new user verification process whereby a video identification is required before gaining access towards a Bitcoin trading platform. Besides identification, expectations are that Bitcoin transactions will no longer be free. This should cover the cost of regulating cryptocurrencies. According to Zhang Yanhua of Bitbank in Shenzhen, taking these kind of measures will result in more Bitcoin currency stability and healthier price development (Den Daas, 2017).

<table>
<thead>
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<th>Overview Bitlegal</th>
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<td>Legal Status</td>
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<td>BTC Transactions</td>
<td>Yes</td>
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<tr>
<td>Mining BTC</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Figure 5: Overview China. Source: (Bitlegal, 2016a)*
3.4 Japan

Finishing the analysis with Japan, one of the leading Bitcoin countries in the world. Since April 1 2017, the legal status of Bitcoin in Japan is the following: a method of payment equivalent to conventional currencies (Bitlegal, 2016b). Japan’s government has worked long on the Banking act, named Virtual Currency Act, which defines and recognizes digital currencies, including Bitcoin, as methods of payment. More detailed, it defines the digital currency as “property of value” that can be used as payment by unspecified persons and usable for buying and selling products and services by unspecified persons. Along with this new regulation, it also defines that Bitcoin profits made by companies are considered as income for business activities, which means they are subject to capital gain tax (Parker, 2017a). How can this leading position of Bitcoin be explained? Japan has a long history with Bitcoin. It started with the leading Bitcoin exchange Mt. Gox, which collapsed in 2014 after rumors of fraud and mismanagement. In recent years, the Bitcoin market is getting back up again in Japan. Due to new innovative Bitcoin exchange platforms like Coincheck, over 1000 merchants and investors started to invest the Yen back into the Bitcoin. Moreover, the government of Japan have a pro-active attitude towards the potentially “Fintech” industry worldwide. In order to achieve a leading position, the government made pro-regulation towards digital currency to attract business investments in this upcoming sector. This new regulation helps the integration of digital currency into current banking system (Smart, 2016).

What kind of measures are expected in these new regulations? The Banking Act includes a section which revises the “Act on Prevention of Transfer of Criminal Proceeds”, which leads to stricter rules for exchanges. For example, the process of knowing your customer, where customers have to answer a short list of questions about the purpose of the trade and what the customers profession is. Moreover, they must upload identification documents and this will be reviewed by the exchange platform. In addition to identification, new customers will receive an account validation postcard to gain first access. In this way, exchange platforms control if customers do not use a fake addresses (Parker, 2017a). With the introduce of new regulation, exchange platform has to register their company with the Financial Service Agency. A special regulatory commission will then review the company structure and decides if the platform may operate. Besides registering the platform, exchanges must have a contract with a designated dispute resolution center which is specialized in virtual currency exchange (Smart, 2016). Moreover, exchange platforms have to keep track of transaction records and inform government authorities in case of suspicious transactions (National Policy...
Agency, 2016). All these measures will eventually lead to a smoothly working, regulated and authorized, digital currency sector controlled by the Japanese Financial Services Agency.

<table>
<thead>
<tr>
<th>Overview Bitlegal</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legal Status</strong></td>
<td>Permissive</td>
</tr>
<tr>
<td><strong>Basic Rights</strong></td>
<td>Regulation</td>
</tr>
<tr>
<td>Owning BTC</td>
<td>Yes</td>
</tr>
<tr>
<td>Buying BTC</td>
<td>Yes</td>
</tr>
<tr>
<td>BTC Transactions</td>
<td>Yes</td>
</tr>
<tr>
<td>Mining BTC</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Figure 6: Overview Japan. Source: (Bitlegal, 2016b)*
Chapter 4 Discussion

In this chapter, the results of the analysis and the framework of approaches will be discussed. The analysis explained the situation in the case countries. This part will open the discussion about the data that was collected in the analysis section. Two concepts, rigidity and complexity, will be introduced first and then cases will be scaled on the basis of these two concepts. The intention is to end up ranking three cases in scale from high/low rigidity and high/low complexity and explain the consequence of this regulatory approach.

This research will define rigidity as, the degree to which violation of the regulation is permitted. In this way, rigidity looks at the consequences of violating countries’ rules. For example, if one person violates the rules, what are the consequences of this? Will the government punish everyone or just the individual? Complexity will be defined as, the number and detail of regulations. For example, countries adopting a greater number of regulations, will translate to a higher degree of regulatory complexity. It is important to scale countries in terms of rigidity and complexity, because both concepts are helping to understand the reaction of countries when facing a new challenge. It creates a framework, where we can learn from the approach of each country and understand it.

As figure 7 shows, The Netherland is scaled at low rigidity and has a low degree of complexity in regulations, as the country does not regulate Bitcoin yet. The Dutch government have an approach of not interfering into the Bitcoin experiment and consider Bitcoin more as an asset rather than money. Low rigidity has been given, because the government does not interfere with regulations toward Bitcoin users and companies. Low complexity, because with less regulation in a country for Bitcoin, it is easier for users to understand what the legal situation of Bitcoin is. Second is China, which is scaled as high rigidity and low complexity regulations. In this case, the Chinese government consider Bitcoin as money rather than an asset. As Bitcoin became popular and Chinese companies and individuals started to invest in the digital currency, the government was afraid of losing control over the money. This resulted in a ban for banks and financial institutions of using Bitcoin, which in this case leads to high rigidity. It affects everyone in the Chinese Bitcoin business, whereby the companies with good intentions must suffer from bad intentions. In additional to the ban for companies, recently individuals have problem withdrawing money from Bitcoin platforms as the government froze their accounts. The government first want to
implement new regulations, before opening up the platforms again. This is a hard punishment to Bitcoin users, which can be translated to high rigidity. As Chinese government is making new regulations, there is still less regulated compared to the other two cases. In this way, Chinese have a low complex regulation system. Japan has highly complex regulation. Since the first of April 2017, the Bitcoin is accepted as a legal method of payment and therefore the Banking Act created a possibility to integrate Bitcoin into the banking system. Therefore, regulation is helping the government with integrating Bitcoin into the society and protecting against money laundering. Furthermore, Japan has low rigidity regulations, because violating these Bitcoin regulations only affects those who have bad intentions with Bitcoin. It is not the same as in China, where every Bitcoin user has to deal with the consequences.

### Table 1: Summary positioning case countries

<table>
<thead>
<tr>
<th>Complexity</th>
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<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>The Netherlands</td>
</tr>
<tr>
<td>High</td>
<td>Japan</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7: Summary positioning case countries

Why does China have rigid regulations and why does Japan have a more complex regulation structure? Both approaches could be explained by the current situation in the particular countries. As China is still recovering from the two sequential market crashes in 2015, Chinese regulators started to intervene in the market and implemented a centrally-planned recovery program. As the Chinese bank pumped 20 billion US Dollars in the economy for recovery, the yuan keeps having a weak position. At the same time, Chinese investors start investing heavily into Bitcoin which resulted in increasing value. This led to investors trying to get quick profits from Bitcoin, as it is a volatile currency. As Bitcoin is getting more popular for Chinese investors and the Yuan keeps having a weak position, Chinese officials are afraid that investors will use Bitcoin as a tool to avoid Chinese capital restrictions. Which eventually will make Chinese economy more vulnerable and uncertain than before (Alessandro, 2016). In this way, Chinese rigidity regulation can be explained, as a measure to unattractive Bitcoin for investors and protecting Chinese market and economy. As goal to attract investors to start investing again in the Yuan. Furthermore, as the Chinese government
want to have control over the economy, rigid regulations are a solution for keeping tabs on Bitcoin activities.

On the other hand, Japan have a more complex regulation structure. The Japanese government adopted an approach of motivating Japan’s financial sector to invest more in the fintech sector. As more technology companies started investing in block chain technology, government officials began preparing legislative proposals for cryptocurrency regulations. In this way, government and companies are working together to keep the leading position of Japan in regulating cryptocurrency and expanding the fintech sector. This resulted in the Banking Act, which brought a high number of cryptocurrency regulations in the country. Think about tax regulations, in which profits from Bitcoin activities are considered as income from business activities. Furthermore, it introduces regulations against criminal activities and money laundering. Bitcoin exchanges simply have to implement a stricter know-your-customer-process and hold a minimum liquid capital of ¥10 million yen. In addition, Bitcoin exchanges have to keep records of all user activities on the platform (Parker, 2017a). All these regulations are leading to a complex regulatory approach. Compared to China, Japan only punishes particular cases who violate the rule. In China, everybody got punished by a Bitcoin ban. The conclusion to this, is that a complex approach does not affect Bitcoin users who are following the rules, whereas in a rigid approach every user will suffer from a small group who does not follow the rules.
Chapter 5 Conclusion

In general, Bitcoin is a fast-growing digital currency, in which every month more people and businesses start using the currency. One of the reasons for this, is the value Bitcoin has at the moment. The value of one Bitcoin is over $2000 US Dollars and the value is still growing. Moreover, countries are also watching the development of this project and are making it possible to actually regulate the currency, as Japan showed. This process will start at the moment that countries are taking cryptocurrencies seriously and see potential in the currencies. For this reason, countries have different regulations regarding Bitcoin. Taking measures is mostly for protecting the country, instead of embracing cryptocurrencies.

The research question was: ‘Why do countries adopt different regulatory approaches?’. The answer to this question lies in how a particular country interpreted the Bitcoin and was found by making a framework. Main goal of this research was to create a new framework for interpreting countries regulatory approaches. The framework consists of two approaches, that is to say the rigidity approach and the complexity approach. This research attempted to apply the framework on several cases. Three different countries were compared with each other regarding Bitcoin regulations, namely the Netherlands, China and Japan. The data that was collected firstly shows that when a country does not interpret the Bitcoin as a serious thing, it does not take action on the regulatory field. This was shown with our case of the Netherlands. Furthermore, when Bitcoin is taken seriously, government officials are taking action on this event. The Chinese government labeled Bitcoin as a threat for the Chinese economy and are prohibiting the use of Bitcoin until they have created regulations. This resulted in a rigidity approach. Lastly the data showed that Japan, who interpreted Bitcoin as something that can boost their economy, is accepting it with open arms. In association with Japanese businesses, they are trying to take a leading position in Bitcoin regulations. Therefore, they are taking a more complexity approach.

This research tried to contribute to the field of regulating cryptocurrencies by building a framework for interpreting why countries have a different approach in cryptocurrency regulations. As Bitcoin was the first cryptocurrency and still has the biggest community, it was easy to choose this one for the research. After Bitcoin was introduced to the world in 2009, more cryptocurrencies came up and are growing in value, like Litecoin and Ethereum. This can mean that in the future Bitcoin will stay the most popular cryptocurrency or that an
alternative coin will take over the position. However, in the academic world there are less articles available about cryptocurrencies in combination with a regulatory framework. An explanation for this is that cryptocurrencies are still something new to the world and people need to familiarize with this new kind of system.

Further research will have to prove whether Bitcoin has remained successful and whether Bitcoin will finally be taken seriously. If countries are taking cryptocurrency more seriously, quantitative research can be conducted to get a more global perspective on how states respond to regulating this new way of paying. Moreover, by time more countries are creating regulations, more academic articles will contribute to this academic field. This might start the discussion about the future of regular money, as it is restricted to borders.
Bibliography


