

TALLINN UNIVERSITY OF TECHNOLOGY

School of Business and Governance

Department of law

Lauri Vaihtamo

Necessity of Virtual Currency Regulation in the European Union

Bachelor's thesis

HAJB08/14 – Law, specialisation European Union and International Law

Supervisor: Agnes Kasper, PhD

Tallinn 2018

I declare that I have compiled the paper independently
and all works, important standpoints and data by other authors
have been properly referenced and the same paper
has not been previously been presented for grading.
The document length is 9113 words from the introduction to the end of summary.

Lauri Vaihtamo

156148HAJB

lauri.vaihtamo@gmail.com

Supervisor: Agnes Kasper

The paper conforms to requirements in force

Chairman of the Defence Committee:

Permitted to the defence

.....

Table of contents

ABSTRACT	4
ABBREVIATION	5
INTRODUCTION.....	6
1. EXPLANATION OF VIRTUAL CURRENCY SCHEMES	8
1.1. Definition of VCS	8
1.2. Virtual Currency Ecosystem	10
1.3. Cryptocurrency.....	11
2. CURRENCY REGULATION IN THE EU	14
2.1. ECB’s opinion on VCS	14
2.2. Size of the Virtual Currency markets.....	16
2.3. Combatting terrorist financing with the Anti-Money Laundering Directive	17
3. EFFECTS OF ANTI-MONEY LAUNDERING DIRECTIVE FOR VIRTUAL CURRENCIES	19
3.1 Cyberattacks and their effects on virtual currencies	19
3.2 Transparency of Virtual Currency Exchanges and Custodian Wallet Providers	21
3.3. Non-Cash Payments Directive.....	25
CONCLUSION	27
LIST OF REFERENCES	29

Abstract

The aim of this research is to examine and analyse the lack of regulation on virtual currencies in the European Union as there is no current regulation which affects them. This thesis analysis the lack of regulation on virtual currencies and the effects they could have on the European Union's Financial Market. The main research question is constructed as follows: in which way would new regulation or amending existing regulation change the way in which virtual currencies are used? The hypothesis of this thesis is as follows: the necessity of virtual currency regulation in the European Union due to the non-existent regulation currently at place. This thesis is based solely on a legal dogmatic method, which includes the analysis and examination of existing regulation in the field. The aim of this thesis is to introduce to the reader, virtual currencies and how the non-existent regulation of virtual currencies could be developed. Virtual currencies are global instruments, which is why European Union level regulation is necessary. No single Member State can regulate virtual currencies themselves because this might lead to fragmentation of the European internal market. The upcoming 5th Anti-Money laundering Directive will take in account virtual currency exchanges as well as custodian wallet providers, providing a foundation for upcoming regulation on virtual currencies.

Key words: Virtual Currency – European Union – Anti-Money Laundering – Alternative means of payment – Cryptocurrency.

Abbreviations

EU: European Union,

VAT: Value-Added Tax,

VCS: Virtual Currency Scheme,

ECS: Electronic Currency Scheme,

ECB: European Central Bank,

IMF: International Monetary Fund,

EEA: European Economic Area,

AMLD: 4th Anti-Money Laundering Directive, 5th Anti-Money Laundering Directive,

FIU: Financial Intelligence Unit,

TFTP: EU-USA Terrorist Financing Tracking Programme,

AML/CFT: Anti-Money Laundering / countering financing of terrorists,

FSA: Japans' Financial Service Agency

Introduction

At the time of writing this thesis there weren't legislation in the European Union(EU), which included virtual currencies in their scope. In this thesis the topic to be covered is virtual currencies. For the clarity of this thesis, the term virtual currency and Virtual Currency Schemes(VCS) are used as synonyms. Bitcoin will be used as an example on many occasions, as it is the biggest and best acknowledged cryptocurrency with the most relevant data available. This thesis is based solely on a legal dogmatic method, which includes the analysis and examination of existing regulation in the field. Virtual currencies are defined in the EU by the European Central Bank(ECB) as: "a digital representation of value, not issued by a central bank, credit institution or e-money institution, which in some circumstances, can be used as an alternative to money".¹ In 2015 ECB incorporated the term cryptocurrency, which is a sub-section of virtual currencies. Virtual currencies are not money nor are they currency, but they have something in common with electronic money that is accepted widely in the European Economic Area(EEA). Euro notes and coins have legal tender, meaning that they must be accepted inside the EEA by law as a means of payment.² With VCS there is no legal tender and they can only be accepted if the buyer and seller agree that the VCS will be accepted as a means of payment.³ This means that no creditor can be expected to accept payment with VCS, but they might do so of their own free will.

Because of the non-existent regulation on virtual currencies in the EU, this thesis examines, which way would regulation change the world of virtual currencies, as the field of virtual currencies remains unregulated. The main research question for this thesis is: in which way would new regulation or amending existing regulation change the way in which virtual currencies are used? The second research question goes as follows: is the 5th Anti-Money Laundering Directive(AMLD) going to change the ways in which virtual currency exchanges and custodian wallet providers operate? The third research goes as follows: are the changes in the 5th AMLD sufficient enough to reduce the money flow from terrorist organisations to the European financial market? The scope of the thesis will be focused more on the aspect of money laundering with

¹ European Central Bank (2015). Virtual currency schemes – a further analysis. Accessible: <https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf>, 20 March 2018.

² Euro Legal Tender Expert Group (ELTEG) (2009). Report on the definition, scope and effects of legal tender of euro banknotes and coins. Accessible: http://ec.europa.eu/economy_finance/articles/euro/documents/elteg_en.pdf, 20 March 2018.

³ *Ibid.*, p. 24.

virtual currencies as this is the part which will be regulated by the 5th AMLD. The lack of a proper legal channel for compensation in cases of loss of virtual currencies will also be addressed in chapter three. For the regulation to actually make a difference, it needs to be coherent and unified across the whole EU. Co-operation between Member States needs to be seamless for the regulation to have the intended affect. No individual Member State can regulate virtual currencies themselves, as they have a cross border element, and regulating virtual currencies on a national level might lead to fragmentation of the European internal market. What and in which way virtual currencies should be regulated is under examination, as the possible regulation needs to be proportionate in order to courage further technological development in the field. For this thesis to properly take in account the virtual currencies, it is not enough that only the virtual currencies themselves are analysed, but it is necessary to understand the actors involved in the whole “ecosystem” which includes all the actors that are somehow associated with cryptocurrencies.⁴

In the first chapter the VCS and the definition of VCS will be examined more extensively. The whole “ecosystem” of VCS will be explained briefly to present the actors that effect the VCS. Cryptocurrency, which is a subsection of VCS will also be analysed as they are the centre of attention in the global discussion concerning alternative means of payment. In the second chapter the focus will shift into examination of the existing EU regulation concerning virtual currencies as well as possible future regulation. The opinion of the European Central Bank will be taken in account, as it is the highest authority in the European Union concerning financial matters. The Directive on combatting terrorist financing and Anti-Money Laundering(AML) will be examined. In the third chapter the Anti-Money Laundering perspective of virtual currencies will be analysed more extensively, due to the possible threat to the European internal market through terrorist financing as well as suspicious virtual currency transactions. In money laundering, the chain is only as strong as it weakest link, and if one of the Member States has lacking AML regulation, the whole financial stability of the EU is vulnerable, as money can enter in to the EU’s money circulation through the weakest link. The security of virtual currency exchanges as well as custodian wallet providers will be examined, as they are included in the scope of the upcoming 5th AMLD, which will be the first legislation in the EU to take in account virtual currencies in any way.

⁴ ECB (2015), *supra nota* 1, p 4.

1. Explanation of Virtual Currency Schemes

1.1. Definition of VCS

The European Central Bank has a legal perspective as well as an economic one and according to the ECB the VCS cannot be regarded as money or currency.⁵ Money is anything used widely to exchange value in transactions and currency usually refers to a specific form of money used with a specified country.⁶ The reason that VCS cannot be regarded as money or currency is because, the VCS are not used widely to exchange value, meaning they are not legally money, and in the absence of a country of origin, they cannot be regarded as currency either.⁷ No virtual currency can therefore be regarded as currency in legal meaning of that word. The ECB's definition of virtual currencies in February 2015 goes as follows: "Digital representation of value, not issued by a central bank, credit institution or e-money institution, which, in some circumstances, can be used as an alternative to money".⁸ Virtual currencies are not money, nor are they currency which begs the question what are they? The definition by the ECB leaves virtual currencies up for interpretation, and this might become a problem if identical definition is not used by the Member States in the future. As Bitcoin and other virtual currencies can be interpreted in multiple ways, it is possible that governments might define Bitcoin in different ways, making the application of laws difficult.⁹ Virtual currency schemes are divided into three different categories, in which only one is relevant for the purposes of this thesis. VCS with bidirectional flow, means that users can buy and sell virtual currency with fiat currencies in the exchanges with the exchange rate posted.¹⁰ Bitcoin is the most prominent example of a bidirectional VCS, in which people are able to change fiat currencies such as US Dollar or Euro into Bitcoin and then change it back to fiat currencies.¹¹ This means the flow of currency works both ways.

⁵ *Ibid.*, p. 4.

⁶ ECB (2015), *supra nota* 1, p 23.

⁷ *Ibid.*, p. 23.

⁸ *Ibid.*, p. 25.

⁹ Hewitt, E. (2016). Bringing Continuity to Cryptocurrency: Commercial Law as a Guide to the Asset Categorization of Bitcoin. – *Seattle University Law Review*, Vol. 50. Issue 3, p. 639.

¹⁰ ECB (2012). VIRTUAL CURRENCY SCHEMES. Accessible: <https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>, 15 March 2018.

¹¹ *Ibid.*, p. 5.

Virtual currencies are therefore not money nor are they currency, but they have something in common with electronic money that is accepted widely in the European Economic Area (EEA). Euro notes and coins have legal tender, meaning that they must be accepted inside the EEA by law as a means of payment.¹² Scriptural money, known also as e-money, or Electronic money schemes (EMS) have a connection with traditional fiat money, as the funds that are stored electronically in a bank account are also Euros.¹³ With VCS you are changing a unit of account into a virtual one, such as with Bitcoin the user is changing Euros into Bitcoins. E-money has no legal tender, even if it is as Euros, but it is still widely accepted, but it is accepted by choice, not by law.¹⁴ With VCS there is no legal tender and they can only be accepted if the buyer and seller agree that the VCS will be accepted as a means of payment.¹⁵ This means that no creditor can be expected to accept payment with VCS, but they might do so of their own free will. Virtual currencies are not yet regulated in the EU, meaning that virtual currencies don't have any existing legal decisions either.

The main idea of Bitcoin was to establish a system, in which you could send money from one person to another without any third party, usually a bank, acting in the middle and this system was named "peer-to-peer" network.¹⁶ The idea was to send money to one another user without using the banking sector and seriously reduce the length of the payment transaction.¹⁷ There are two kinds of VCS, which can be divided into centralised VCS such as Ripple, which is the third largest virtual currency and decentralised like Bitcoin.¹⁸ In centralised VCS the transaction is instant, but in decentralised it takes as long as it takes for the block to refresh, which is constantly changing due to the amount of users.¹⁹ Centralised VCS are solely responsible for the amount of units issued.²⁰ The opposite to this is a decentralised VCS, which generate their own units by mining.²¹ In centralised VCS a user is unable to create a new unit, it is only possible in decentralised VCS.²² One of the main differences centralised and decentralised VCS have, is the storage of units. In

¹² ELTEG (2009), *supra nota* 2, p 4.

¹³ ECB (2015), *supra nota* 1, p 24.

¹⁴ *Ibid.*, p. 24.

¹⁵ *Ibid.*, p. 24.

¹⁶ Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. Accessible: <https://bitcoin.org/bitcoin.pdf>, 20 March 2018.

¹⁷ *Ibid.*, p. 1.

¹⁸ Ripple (2012). Accessible: <https://ripple.com/>, 20 March 2018.

¹⁹ Blockchain (2018). Average Confirmation Time. Accessible: <https://blockchain.info/charts/avg-confirmation-time>, 20 March 2018.

²⁰ ECB (2015), *supra nota* 1 p, 11.

²¹ *Ibid.*, p. 12.

²² *Ibid.*, p. 12.

centralised VCS you store the units in a place of your choosing, either a device or in the cloud.²³ It is a bit more complicated when it comes to decentralised VCS, as you don't own the units at any point.²⁴ You own two sets of keys, with one being a public key for everyone to see, which also acts as the address to your account, and the other one being a private key.²⁵ The private key gives you access to the blockchain, where your coins are stored.²⁶ Therefore if you use a custodian wallet to hold your funds, it only holds your private key, with which you can access your account, which is located in the blockchain.²⁷

1.2. Virtual Currency Ecosystem

Virtual currency exchanges and custodian wallet providers will be in the spotlight on this thesis, as these two actors play a key role in the virtual currency ecosystem and they will be regulated by the 5th AMLD.²⁸ Council of the European Union has defined in the 5th AMLD, virtual currencies as:” a digital representation of value that is not issued or guaranteed by a central bank or public authority, is not necessarily attached to a legally established currency, and does not possess a legal status of currency or money, but is accepted by natural or legal persons, as means of exchange, and which can be transferred, stored and traded electronically.”²⁹ This definition is much more extensive than the one from 2015 used by the ECB, but the 5th AMLD is not applicable at the time of writing this thesis. This however presents a direction, in which the EU is headed. The EU is trying to define the virtual currencies to cover all possible aspects they could be used for, but at the same time they aren't limiting the technological development of the currencies.

Custodian wallet provider is defined in the 5th AMLD as: “an entity that provide services to safeguard private cryptographic keys on behalf of their customers, to hold, store and transfer virtual currencies.”³⁰ Custodial wallet providers are the other actor that is going to be regulated in

²³ *Ibid.*, p. 13.

²⁴ *Ibid.*, p. 13.

²⁵ *Ibid.*, p. 13.

²⁶ *Ibid.*, p. 13.

²⁷ *Ibid.*, p. 13.

²⁸ Proposal for a Directive 2016/0208(COD) of the European Parliament and the Council on amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directive 2009/101/EC

²⁹ *Ibid.*, p. 28.

³⁰ *Ibid.*, p. 26.

the 5th AMLD. Storing of virtual currencies is a part of the ecosystem and keeping the virtual currencies at an exchange is quite risky. The risk is attached to the possibility of hackers trying to steal the users funds in a form of a cyberattack, or if the currency exchange would become insolvent, compensation would be difficult to get. There are basically two possibilities from which a user can choose a wallet and these options are a hot wallet or a cold wallet.³¹ Hot storage means any online wallet, such as a mobile application, desktop wallet or a cloud server and cold storage means offline wallets.³² Wallet providers offer users a digital wallet for storing virtual currency, cryptographic keys, transaction authentication codes and providing an overview of their transaction history.³³ This makes the wallet providers a perfect tool for national authorities to gather information on suspicious activities of users. Trusting a wallet provider with the user's funds means that the wallet provider could lose the funds.³⁴ The difference with hot and cold storage is mainly with the usability and security from cyberattacks.³⁵ Offline wallets cannot be hacked, because they are not connected to the internet, but this means that they are not as easy to use. Online wallets on the other hand can be accessed by your computer meaning that if your computer is hacked, the hackers have the possibility to access your virtual currency accounts.³⁶ A cyberattack can happen from anywhere with internet access and a lot of virtual crimes are committed from the other side of the world in real time, as it is possible to do so.³⁷ The online wallets are much faster and easy to use, but the decision is for the user, which do they value more, security or usability.

1.3. Cryptocurrency

Cryptocurrencies are a sub-section of VCS, but they also have quite significant differences. Cryptocurrencies “function as a unique currency with their own free-floating exchange”.³⁸ David

³¹ ECB (2015), *Supra nota 1*, p 8.

³² *Ibid.*, p. 8.

³³ *Ibid.*, p. 8.

³⁴ Kaplanov, N. (2012). Nerdy Money: Bitcoin, the Private Digital Currency, and the against its Regulation. – *Loyola Consumer Law Review*, Vol. 25, Issue 1, p. 124.

³⁵ ECB (2015), *Supra nota 1*, p 8.

³⁶ *Ibid.*, p. 8.

³⁷ Bryans, D. (2014) Bitcoin and Money Laundering: Mining for an Effective Solution. – *Indiana University Maurer School of Law*, Vol. 89, p. 1.

³⁸ Ziskina, J. (2015). The Other Side of the Coin: The FEC's Move to Approve Cryptocurrency's Use and Deny its Viability. – *Washington Journal of Law, Technology, Arts*, Vol. 10, Issue 4, p. 310.

Chaum can be regarded as the founding father of the first cryptocurrency, known as DigiCash.³⁹ Chaum attained several digital currency patents in the 1980s for advancing and progressing the anonymity found in cryptography.⁴⁰ DigiCash was way before its time, as people at the time didn't understand the inner workings of the internet let alone DigiCash and this lead inevitably to the fall of DigiCash.⁴¹ In order for a "peer-to-peer" function to work, it needs to have users, and as people were not using the internet, the DigiCash was not going to succeed either. This didn't however mean that the underlying idea of anonymous payments with a cryptographic currency came to a standstill after one setback. The development of Pseudonymous cryptographic currency continued through the 1990s through a Cypherpunk electronic mailing list.⁴² The main purpose of the mailing list was the protection of private individuals against each other and against the government.⁴³ Julian Assange was one of the people that belonged to the Cypherpunks, among Hal Finney.⁴⁴ Julian Assange is also attached to Wikileaks, which is known for publishing emails from the U.S. presidential candidate Hillary Clinton as well as leaking detailed information on the military manual of Guantanamo detention center.⁴⁵ Assange is better known for his actions with Wikileaks, which nevertheless diminishes his contribution to the Cypherpunks.⁴⁶ There are certain people referred to as "gold bugs" that are interested in alternative currencies due to their lack of faith in government-backed fiat currencies.⁴⁷

Bitcoin, is a cryptocurrency and probably the most recognised among the general public.⁴⁸ Bitcoin was developed by Satoshi Nakamoto, which has been suspected to be an acronym and the person or persons behind Satoshi Nakamoto is up for debate.⁴⁹ Bitcoin is truly made out of two

³⁹ Chaum (1982). BLIND SIGNATURES FOR TRACEABLE PAYMENTS. Accessible: <http://blog.koehntopp.de/uploads/Chaum.BlindSigForPayment.1982.PDF>, 21 March 2018.

⁴⁰ Ziskina (2015), *supra nota*, 41, p 310.

⁴¹ *Ibid.*, p. 311.

⁴² *Ibid.*, p. 311.

⁴³ *Ibid.*, p. 311.

⁴⁴ Cybersalon (2013). Cypherpunks, Bitcoin & the Myth of Satoshi Nakamoto. Accessible: <http://cybersalon.org/cypherpunk/>, 21 March 2018.

⁴⁵ Biography (2017). Julian Assange. Accessible: <https://www.biography.com/people/julian-assange-20688499>, 21 March 2018.

⁴⁶ *Ibid.*

⁴⁷ Grinsberg, R. (2011). Bitcoin: An Innovative Alternative Digital Currency. – *Hastings Science & Technology Law Journal*, p. 172.

⁴⁸ Nakamoto (2008), *supra nota*, 1, p 1.

⁴⁹ CNBC (2016). Australian entrepreneur says he invented bitcoin. Accessible: <https://www.cnn.com/2016/05/02/bitcoin-inventor-satoshi-nakamoto-finally-revealed.html>, 20 March 2018.

components, which are the actual Bitcoin itself, and the Blockchain, and they have a close interaction with one another and can only work together.⁵⁰ In the early days of Bitcoin, the persons involved were mainly people with IT skills and an authority problem towards central banks.⁵¹ The open-source currency is an alternative for modern day fiat currencies, and nowadays the userbase of virtual currencies is much more divided among different sorts of people than it was among the early adopters.⁵² The basic principle of Bitcoin is to threaten the function of central banks. A world, where Bitcoin would be used for all possible transactions is one where the ability of a central bank to guide the economy to the direction of their choosing, would be impossible.⁵³ This argument is also supported by the fact that, in case Bitcoin would be used by more people, it would reduce possible governmental manipulation and inflationary pressures, which there are plenty of with traditional fiat currencies.⁵⁴ Actors that are working in the cryptocurrency ecosystem are: Inventors, Issuers, Miners, Processing service providers, Users, Wallet providers, exchanges and Trading platforms. In this thesis the focus will mainly be on wallet providers and virtual currency exchanges. The development of security for the virtual currency ecosystem will also be addressed. The problem with security will be addressed from the viewpoint of amending existing legislation to take in account virtual currencies as well as examining if creating new legislation altogether would be necessary.

⁵⁰ McLeod, S. (2017). Bitcoin: The utopia of Nightmare of Regulation. – *Elon Law Review*, Vol. 9, Issue 2, p. 563.

⁵¹ Turpin, B. J. (2014). Bitcoin: The Economic Case for a Global Virtual Currency Operating in an Unexplored Legal Framework. – *Indiana University Maurer School of Law*, Vol. 21, p. 342.

⁵² *Ibid.*, p. 342.

⁵³ Sondegger, D. (2015) A Regulatory and Economic Perplexity: Bitcoin Needs Just a Bit of Regulation. – *Washington University Journal of Law & Policy*, Vol. 47, p. 176.

⁵⁴ Tu, K., Meredith V., Michael W. (2015). RETHINKING VIRTUAL CURRENCY REGULATION IN THE BITCOIN AGE. – *Washington Law Review*, Vol. 90, Issue 1, p. 282.)

2. Currency Regulation in the EU

2.1. ECB's opinion on VCS

In 2012 the ECB published its first research concerning the VCS under immense pressure to give answers towards the increasingly popular VCS.⁵⁵ This report was published in October 2012 and the ECB started to study them in a more comprehensive manner ever since the first report. It's a first time the ECB, a public authority gave its opinion concerning the VCS.⁵⁶ The ECB have kept an eye on the VCS ever since and published another article on the same matter, but with more extensive analysis, in February 2015.⁵⁷ During 2012 and 2015, the VCS had grown quite exponentially and at the time of the second report, there were around 500 VCS in place and functional.⁵⁸ The ECB had a hard time focusing on what were the purposes of the VCS, as for a payment system perspective it didn't make sense to have 500 different virtual currencies for the same everyday payments. This makes it hard to define VCS from a legal point of view, because all of the VCS should be covered, not only a part of them. The definition of VCS needs to describe all of the VCS at the same time.

To focus better on the VCS there needs to be an explanation and definition for VCS, which can be found by examining what money is. Money can be divided into three different categories, which are commodity money, commodity-backed money and fiat money.⁵⁹ From these three categories fiat money is the one that presents the currencies we know today, such as the US Dollar and Euro. Fiat money is a currency without any intrinsic value that has been established as money by government regulation.⁶⁰ Meaning that fiat currency is not backed by gold or silver as it was in commodity backed money.⁶¹ Fiat money is based on trust, which is placed on the central authority, and in the EU's case that central authority would be the European Central Bank. In the opinion of the ECB, a VCS needs to fulfil three different categories to be called money.⁶² The three categories

⁵⁵ ECB (2012), *supra nota* 10, p 5.

⁵⁶ *Ibid.*, p. 5.

⁵⁷ ECB (2015), *supra nota* 1, p 4.

⁵⁸ *Ibid.*, p. 4.

⁵⁹ ECB (2012), *supra nota* 10, p 9.

⁶⁰ *Ibid.*, p. 9.

⁶¹ *Ibid.*, p. 9.

⁶² *Ibid.*, p. 9.

mentioned are medium of exchange, unit of account as well as store of value. Taking Bitcoin as an example, it fits two out of three categories.⁶³ Medium of exchange means that money is used as an intermediary to conclude trades.⁶⁴ This is happening every day, and it was happening during the time of the article in 2012 as well, arriving to the conclusion that the criteria is fulfilled. Unit of account is fulfilled as well, since it means you can use Bitcoin to measure value of goods and keep track of the amount of goods you possess.⁶⁵ This could however be argued to be inaccurate as there is high volatility with VCS, which affects the price and therefore the measuring of value. VCS's substantive fluctuations of its exchange value is extremely volatile.⁶⁶ However regardless of the high volatility, for the criteria made by the ECB, the unit of account is fulfilled. The store of value however is not fulfilled, as it means Bitcoin should store its value in the future.⁶⁷ This cannot be stated for sure by anyone as it is extremely uncertain if it will be holding its value, increasing it, or decreasing it. Analysis from existing data can be done, but facts of the future are impossible to know for sure. Bitcoin's price is solely based on supply and demand, which means that if the users or miners would for some reason stop using Bitcoin, it would undermine the future of Bitcoin.⁶⁸ Bitcoin might be too volatile, that it undermines the usefulness as a store of value, and therefore as a currency.⁶⁹ From hindsight it can be noticed that Bitcoin has been increasing in value from the year 2012 to the year 2018 at a steady pace with reasonable fluctuations.⁷⁰ The insecurity of the price is the reason why the store of value category cannot be fulfilled and why Bitcoin cannot be stated as money or currency in the view of the ECB.⁷¹ As Bitcoin is the largest VCS even in 2018, it can be stated that other VCS cannot be regarded as money or currency either.⁷² There is still the possibility that regardless of the definition of virtual currencies by law, they will still possess the same effects as money or currency for the users. VCS can be thought as money or currency, but in a legal sense, they are neither. In case virtual currencies would become more popular, the financial control could be distributed back to the hands of the consumer, and not

⁶³ ECB (2012), *Supra nota* 10, p 10.

⁶⁴ *Ibid.*, p. 10.

⁶⁵ *Ibid.*, p. 10.

⁶⁶ Shcherbak, S. (2014). How Should Bitcoin Be Regulated? – 7(1) EJLS 45, *European Journal of Legal Studies*, Volume Issue 15, p. 46.

⁶⁷ ECB (2012), *supra nota* 10, p 10.

⁶⁸ *Ibid.*, p. 10.

⁶⁹ Mandjee, T. (2015). Bitcoin, its Legal Classification and its Regulatory Framework, *Journal of Business & Securities Law*. – p. 168.

⁷⁰ Coinmarketcap (2018). Bitcoin. Accessible: <https://coinmarketcap.com/currencies/bitcoin/#charts>, 20 March 2018.

⁷¹ ECB (2012), *supra nota* 10, p 10.

⁷² Coinmarketcap (2018), *supra nota* 4.

the banking infrastructure, due to the peer-to-peer function of virtual currencies.⁷³ The most generous interpretations go as far as to state technology of Bitcoin is better than fiat currency due to its low transaction costs and the overall faith people are placing on the technology.⁷⁴ The question that could be asked, is whether the EU can regulate a currency that it is not its own?⁷⁵ Virtual currencies do not qualify as currencies, in accordance with the treaties laid down by the Member States. By Council Regulation EC No 974/98 the euro is the single currency of the Union's economic and monetary union for those Member States, which have incorporated the euro as their currency.⁷⁶ Even if the Bitcoin would acquire the definition of currency, it would pose a new problem, as there can only be one currency in the EEA countries with legal tender and that currency is Euro.

2.2. Size of the Virtual Currency markets

In February 2015 the total market capitalisation of the VCS were 3,3 billion Euro.⁷⁷ During the year 2013 the Bitcoin transaction volume fluctuated between 15 million Euro and 30 million Euro.⁷⁸ The amount of daily transactions on average in year 2014 were 69, 000.⁷⁹ For comparison there were 274 million non-cash retail payments in the EU on daily basis.⁸⁰ The transactions that Bitcoin holds worldwide are quite insignificant compared to the amount that there are non-cash retail payments in the EU alone.⁸¹ The threat VCS might have towards consumers or the stability of the financial market is quite non-existent. This amount meant that it was not possible to transfer large amounts of money with VCS in 2015, as the market capitalisation of the VCS all in all is not that large. In 20 March 2018 the market capitalisation is 263 Billion Euro.⁸² This is an enormous increase to the amount of funds that is now in circulation in virtual currencies. The ECB and the EU have increased their interest and attention they place on VCS. One of these efforts have been

⁷³ Fairfield, A.T. J. (2014) Smart Contracts, Bitcoin Bots, and Consumer Protection. – *Washington and Lee University School of Law*, Vol. 71. Issue 2, p. 49.

⁷⁴ Kiviat, T. I. (2015). Beyond Bitcoin: Issues In Regulating Blockchain Transactions. – *Duke University Law Review*, Vol. 65, p. 572.

⁷⁵ Lindquist, A. (2014). Funny Money: Why Bitcoin Does Not Warrant Increased Governmental Regulation. – *Journal of Global Justice and Public Policy*, Vol. 1, Issue 1, p. 80.

⁷⁶ Council Regulation of Council Regulation (EC) No 974/98 of May 1998 on the introduction of the euro

⁷⁷ ECB (2015), *supra nota* 1, p 15.

⁷⁸ *Ibid.*, p. 16.

⁷⁹ Blockchain (2018), Confirmed Transaction Per Day, Accessible: <https://blockchain.info/charts/n-transactions>, 20 March 2018

⁸⁰ ECB (2015), *Supra nota* 1, p 17.

⁸¹ *Ibid.*, p. 17.

⁸² Coinmarketcap (2018), *Supra nota* 4.

the introduction of an action plan, which would amend the 4th Anti-Money Laundering Directive.⁸³ Due to the increase of the market capitalisation of VCS, it is now possible to launder money in bigger proportions, as there is enough money in circulation to do so. Money laundering is not however the only problem that can be associated with VCS, as the security of virtual currency exchanges and custodian wallet providers is also an issue.

2.3. Combatting terrorist financing with the Anti-Money Laundering Directive

Virtual currencies are mentioned in an EU action plan for strengthening the fight against terrorist financing.⁸⁴ Virtual currencies are mentioned as new challenges, for combatting terrorist financing.⁸⁵ The reason why virtual currencies are mentioned as possible means of terrorist financing is the ability to have anonymity with payments, that traditional currencies don't offer.⁸⁶ One of the main objectives of the 5th Anti-Money Laundering Directive is to combat the spreading of terrorist financing.⁸⁷ As there are virtual currencies, through which it is possible to send money almost anonymously, combatting terrorist financing, with the 4th Anti-Money Laundering Directive which was adopted in 20 May 2015, seems to be inadequate.⁸⁸ This is the reason why the European Commission came forth with an action plan to amend the 4th AMLD to include virtual currencies in its sphere. The 5th AMLD's primary goal is to prevent money laundering and terrorist financing in the Union's financial system.⁸⁹ On 13 December 2017 a provisional agreement was reached which then resulted to an agreement between the Council and parliament.⁹⁰ The action plan mentions that virtual currency exchanges platform may be used for concealing transactions for terrorist organisations.⁹¹ There is no reporting mechanism for virtual currency exchanges, making it possible for suspicious trades to take place.⁹² Due to the Anti-Money Laundering Directives the banks have been forced to report any shady transactions to the appropriate authorities. This is something the virtual currency exchanges don't have to do.

⁸³ European Commission (2016). COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on an Action Plan for strengthening the fight against terrorist financing,

⁸⁴ *Ibid.*, p. 3.

⁸⁵ *Ibid.*, p. 5.

⁸⁶ *Ibid.*, p. 5.

⁸⁷ *Ibid.*, p. 2.

⁸⁸ European Parliament (2016), *supra nota* 28, p 4

⁸⁹ *Ibid.*, p. 2.

⁹⁰ *Ibid.*, p. 2.

⁹¹ *Ibid.*, p. 2.

⁹² *Ibid.*, p. 2.

Anonymity in the virtual currencies is however limited, as every transaction is documented.⁹³ The access to the virtual currencies is done through an official bank account in order to transfer money to the system, and as long as this procedure is controlled or monitored by the authorities, the money laundering possibility is heavily limited.⁹⁴ This begs the question, when will the 5th AMLD come into force and actually start making a difference to virtual currencies.

Increasing transparency and cooperation in Member States is even more necessary for the economic and financial development of the European Union, than it has ever been before. Prevention of money laundering cannot be done by any individual country by itself, as virtual currencies are global instruments and can be bought and managed almost anywhere with internet access. In case one country would present legislation, the users and exchanges would most likely move to a more suitable country with different and looser regulation. This is the reason why unified union level legislation would be a good option. This phenomenon could be compared to tax heavens that occur for companies seeking looser taxation to bypass the heavier taxation of their origin country. This doesn't mean that the exchanges would change countries for looser regulation, but that is a possibility, which needs to be taken in to account. Directive 2015/849 is the Union's main legal instrument for preventing money laundering and terrorist financing in the financial system.⁹⁵ Virtual currencies have opened a new way for terrorist or criminal organisations to finance their operations and as the virtual currencies function outside the reach of the EU and the 4th AMLD, the EU has no way to prevent these issues. The 5th ADML improves the transparency and anonymity problem the virtual currencies have been suffering from.⁹⁶ A terrorist attack poses a threat to the EU and preventing the use of the financial system for money laundering with virtual currencies, which will be addressed in the Directive. This Directive also raises questions concerning the fundamental protection of personal data. The data gathered can only be proportionate towards the current operation, meaning that only data that is needed can be collected to prevent terrorism.⁹⁷

⁹³ Richter, C., Kraus, S., Bouncken, B. R., (2015). Virtual Currencies Like Bitcoin As A Paradigm Shift In The Field Of Transactions. – *International Business & Economics Research Journal*, Vol. 14, No. 4, p. 581.

⁹⁴ *Ibid.*, p. 581.

⁹⁵ European Commission (2016), *supra nota* 83, p 4.

⁹⁶ European Parliament (2016), *supra nota* 28, p 4.

⁹⁷ *Ibid.*, p. 4.

3. Effects of Anti-Money Laundering Directive for Virtual Currencies

3.1 Cyberattacks and their effects on virtual currencies

The security of the virtual currencies has been under attack from hacker's multiple times. There have been a few security breaches in cryptocurrency exchanges, but most of these attacks have been towards third parties, who own the virtual currency exchanges, and not towards virtual currencies themselves. The exchanges have had insufficient security measures, which led to the attacks, such as Mt. Gox hack in 20 June 2011, and Bitcoinica May 2012.⁹⁸ In both cases the users lost their Bitcoins and as there was no regulation in place, and the compensation from these incidents was nearly impossible to get. Regulating virtual currency exchanges could also help to stabilise the trust issues which people have towards virtual currencies, through transparency. The 5th AMLD helps the technological development side of virtual currencies by not interfering with them.⁹⁹ This Directive doesn't limit the existing virtual currencies nor does it limit the virtual currencies, which are still under development, it only limits the actions of custodian wallet providers and virtual currency exchanges.¹⁰⁰ As there is a lot to be understood of virtual currencies and their differences, and it is a good idea to regulate actors that don't develop the virtual currencies themselves, but act as intermediaries for the exchange of virtual currencies or the holding of the virtual currencies. This way the technological development of virtual currencies stays unharmed and the security of exchanges and wallets is potentially increased. The 5th AMLD tries to achieve just that, but the problem lies with the timeframe of its coming into force. The 4th AMLD came into force 26 June 2017, and the fallout of that is still happening, as Member States are getting to know the directive and its changes.¹⁰¹ The 5th AMLD has no coming into force date yet, meaning that it could take even a couple of years before the Directive is in force and effecting virtual currencies.

⁹⁸ ECB (2015), *Supra nota* 1, p 6.

⁹⁹ European Parliament (2016), *supra nota* 28, p 19.

¹⁰⁰ *Ibid.*, p. 19.

¹⁰¹ Michelmores (2017). EU's Fifth Anti Money Laundering Directive to combat terrorist financing. Accessible: <https://www.michelmores.com/news-views/news/virtual-currencies-anti-money-laundering-directive>, 18 March 2018.

Cyberattacks on virtual currencies have undermined the trust in which people place on virtual currencies. When Mt. Gox defaulted it was nearly impossible to recover the missing funds, but the lack of legal certainty regards to compensation is not the only problem. Issue of virtual currency taxation has been under debate in several countries as well.¹⁰² There have been different interpretations on the national level with the taxation of Bitcoin, and how and in which way should Bitcoin be defined. The EU's has not given any incentives to amending Directive 2006/112/EC on value-added tax(VAT) to include virtual currencies.¹⁰³ This means the Member States themselves are deciding how to define the taxation of virtual currencies. Taking comparisons from inside the EU, in Sweden, Bitcoin is taxed as an asset and Bitcoin exchanges have to register with the financial supervisor in order to operate within the confines of the law.¹⁰⁴ In Germany Bitcoin is regarded as a unit of account and buying as well as mining Bitcoin doesn't require a license.¹⁰⁵ Estonia has a view that Bitcoin is an alternative means of payment.¹⁰⁶ Taking a perspective from the United States as well, where Bitcoin is treated as property for taxation purposes.¹⁰⁷ None of the EU Member States have given Bitcoin the status of money or currency, nor could they, because Euro is the only currency, in the countries that use the Euro, that possesses legal tender.¹⁰⁸ The dispersion inside the EU is already quite significant, and as Bitcoin is a global tool, it should be regulated and defined the same way. If this is not done, there is a possibility that looser legislation on virtual currencies might attract the actors to work out of the country which possesses the loosest regulation. This could be compared to the kind of behaviour as tax heavens have in fiat currency taxation. Tax-evaders could replace the traditional means of tax evasion with cryptocurrencies.¹⁰⁹ The ECB's president Mario Draghi says that "It is not his job to regulate Bitcoin".¹¹⁰ Whose job the regulation of virtual currencies in the EU then is if not the European Central banks.

¹⁰² ECB (2015), *supra nota* 1, p 34.

¹⁰³ Jeans, E. D. (2015). Funny Money or Fall of Fiat: Bitcoin and Forward-Facing Virtual Currency Regulation. – *Colorado Technology Law Journal*, Vol. 13, Issue 1, p. 111.

¹⁰⁴ ECB (2015), *supra nota* 1, p 34.

¹⁰⁵ *Ibid.*, p. 34.

¹⁰⁶ *Ibid.*, p. 35.

¹⁰⁷ Farrell, R. (2015). An Analysis of the Cryptocurrency Industry. – *University of Pennsylvania*, p. 12.

¹⁰⁸ ECB (2015), *Supra nota* 1, p 24.

¹⁰⁹ Omri, M. Y. (2013). Are Cryptocurrencies 'Super' Tax Heavens? – 112 *Michigan Law Review First Impressions* p. 38.

¹¹⁰ Reuters (2018). ECB's Draghi says not his job to regulate Bitcoin. Accessible: <https://www.reuters.com/article/us-crypto-currencies-ecb/ecbs-draghi-says-not-his-job-to-regulate-bitcoin-idUSKCN1FX1PW>, 19 March 2018.

There is no regulation on virtual currencies at EU level at the current time. An action plan started by the European Commission proposes a solution for fighting terrorism financing with virtual currencies, by reducing the anonymity from exchanges and custodial wallet providers.¹¹¹ In this way the Exchange platforms and custodian wallet providers would be forced to report any shady activities by users to the appropriate authorities for more extensive examination.¹¹² In this way it would be quite hard for terrorist groups to launder money or transfer it to another account without raising any red flags within the exchanges or wallets providers.¹¹³ The action plan tackles anonymity in two key places, which are exchange platforms and custodian wallet providers. When the 5th AMLD comes into force, it means that the virtual exchange platforms and wallet providers would have to follow the directive the same way as banks have been following it since the first AMLD.¹¹⁴ The identification of the customers, monitoring and reporting of suspicious transactions would become necessary.¹¹⁵ The 5th AMLD will therefore be applicable to virtual currencies only to a certain extent. There is however no mention of the security increases done to users, only to increase the amount of surveillance on suspicious transactions in virtual currency exchanges and custodian wallet providers. The security of the individual user in the virtual currency ecosystem therefore stays almost the same with only minor changes to their activities. Should there be some regulation which would take in account the loss of funds and allow a possibility for compensation in case of virtual currency exchange becomes insolvent.

3.2 Transparency of Virtual Currency Exchanges and Custodian Wallet Providers

Before the 5th AMLD the virtual exchange providers are not under any obligation to provide information on suspicious activity. This could mean that criminal organisations are transferring money into the Union's financial system.¹¹⁶ The view of the EU is that, the competent authorities should be able to monitor virtual currencies.¹¹⁷ This could provide a balanced and proportionate approach to virtual currencies. This would not affect the technical development of virtual

¹¹¹ European Commission (2016), *supra nota* 83, p 4.

¹¹² *Ibid.*, p. 4.

¹¹³ *Ibid.*, p. 4.

¹¹⁴ CFE (2017). Key Tax News of the Week. Accessible: <https://www.iec-iaab.be/nl/leden/Publicaties/actualiteit/Instituut/Documents/2017/CFE-Tax-Top-5-18-December-2017.pdf>, 20 March 2018.

¹¹⁵ European Commission (2016), *supra nota* 83, p 5.

¹¹⁶ European Parliament (2016), *supra nota* 28, p 6.

¹¹⁷ *Ibid.*, p. 6.

currencies in any way, but it would increase the transparency in virtual currencies, which has been missing, and in a way undermined virtual currencies as an uncertain investment.¹¹⁸ This amendment to the 5th AMLD could improve considerably the trust that institutions and individuals place on virtual currencies. This would not however entirely remove the problem of anonymity related to virtual currencies, as users can transact with one another without any virtual currency exchange provider in the middle.¹¹⁹ This way the 5th AMLD would still have no effect to virtual currencies transfer between users without a virtual currency exchange. In order to tackle this issue, the 5th AMLD presents a solution to be done by Member States themselves, with national Financial Intelligence Units(FIUs).¹²⁰ These FIUs should be able to identify the virtual currency addresses owners.¹²¹ It would be essential for the FIU's effectiveness to cooperate between other FIUs to perform the task addressed to them.¹²² Users could also self-declare themselves to the authorities voluntarily, but this solution relies on people to voluntarily declare themselves to the authorities, and one of the main reasons people are using virtual currencies is anonymity.¹²³ Anonymity is a controversial subject and it's hard to solve in a manner that satisfies all involved parties. The ideal situation would arise, if parties would act in a way that the best possible regulation and monitoring could be achieved with the least amount of interference by the governments or institutions to guarantee the safe and undisturbed development of virtual currencies.¹²⁴ Regulation on virtual currencies that are not as of yet perfectly understood, could do more harm than good, and due to this it is a good thing that only a part of the ecosystem will be regulated. Some sort of regulation is however necessary and the 5th AMLD will lay the legal foundation for virtual currency legislation.

5th AMLD clarifies that virtual currencies should not be confused with electronic money, funds, nor monetary value stored in instruments.¹²⁵ Virtual currencies can be used for many different purposes, such as means of payment, or means of exchange, and the objective in the 5th AMLD is to cover every potential use virtual currencies might have now or in the future.¹²⁶ This wouldn't

¹¹⁸ *Ibid.*, p. 4.

¹¹⁹ *Ibid.*, p. 6.

¹²⁰ *Ibid.*, p. 6.

¹²¹ *Ibid.*, p. 9.

¹²² *Ibid.*, p. 9.

¹²³ *Ibid.*, p. 10.

¹²⁴ Ma, D. (2017). Taking a Byte out of Bitcoin Regulation. – *Albany Law Journal of Science & Technology*, Vol. 27, Issue 1, p. 25.

¹²⁵ *Ibid.*, p. 6.

¹²⁶ *Ibid.*, p. 6.

allow a new use to be developed for a virtual currency that could escape from the reach of the Directive's definition of virtual currency.¹²⁷ Local currencies known as complementary currencies that are used in limited networks such as a city or region among a small number of users, should not be however regarded as virtual currencies.¹²⁸

There have been several cases, in which compensation was necessary, but due to the lack of regulation, the users have had no means to recover damages in case of insolvency or security breach.¹²⁹ Such events, which have left people without compensation have occurred in 2014 February, in which Mt. Gox defaulted, which was the biggest Bitcoin exchange at the time.¹³⁰ January 2015 Bitstamp was hacked, and 19, 000 Bitcoins were stolen as a result.¹³¹ There is a pattern emerging from these incidents, which leads to the conclusion that virtual currency exchanges aren't secure enough and don't have sufficient security measures to keep the hackers at bay. In these case's it becomes clear that it might not be a safe option to store your funds in a permanent manner on virtual currency exchanges, as it is possible they will be stolen due to a security breach. There has been a recent case, where a Tokyo-based virtual currency exchange Coincheck has decided to compensate the users for a loss of 526 million NEM tokens, which comes to around 526 million US Dollars at the time of the theft.¹³² The theft happened from a hot wallet, meaning that the wallet was online and therefore able to be hacked. The theft took place on 26 January 2018 and it remains the biggest virtual currency theft to this day. Coincheck compensated each stolen NEM token with 0.83 US Dollar, which comes to a total of 372 million US Dollars.¹³³ After this incident Japan's Financial Services Agency(FSA) confirmed that they would increase the security of their domestic exchanges with inspections.¹³⁴ Japan is one of the most liberal thinking countries in case of Bitcoin, as they recognised it as a method of payment starting from April 2017.¹³⁵

¹²⁷ *Ibid.*, p. 6.

¹²⁸ *Ibid.*, p. 7.

¹²⁹ ECB (2015), *supra nota* 1, p 21.

¹³⁰ *Ibid.*, p. 21.

¹³¹ *Ibid.*, p. 21.

¹³²CCN (2018). Coincheck to Begin Compensating NEM Hack Victims Next Week. Accessible: <https://www.ccn.com/coincheck-begin-compensating-nem-hack-victims-next-week/>, 20 March 2018.

¹³³ *Ibid.*

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*

The 5th Anti-money Laundering Directive presents a solution for the virtual currency exchanges and custodial wallet providers to be licensing or registration.¹³⁶ Member states would ensure that the actors are licensed or registered in order to prevent the concealing and transferring of money inside terrorist groups. In this sense the ECB's main issue with virtual currencies seems to be terrorist financing.¹³⁷ Increasing the transparency of virtual currency exchanges have been developed for the main reason of detecting illicit activities by terrorist groups or criminal organisations, but the security of the everyday user has not been on any agenda. Cryptocurrencies offer amazing opportunities but also allow the possibility of illicit behaviours.¹³⁸ This begs the question, will the 5th AMLD increase the security of the user indirectly or add new ways for authorities to attain more information through the virtual currency exchanges, which will be forced by law to report suspicious activities.

Virtual currencies do not qualify as currencies, in accordance with the treaties laid down by the Member States. By Council Regulation EC No 974/98 the euro is the single currency of the Union's economic and monetary union for those Member States, which have incorporated the euro as their currency.¹³⁹ This means there cannot be another currency in the EEA, which would contest with Euro. Euro is the only legal tender currency in the countries that are using it.¹⁴⁰ ECB's view is that virtual currencies should be addressed not as currencies or money, but as means of exchange. There have been quite a lot of public pressure for ECB if there will be regulation or outright ban to virtual currencies.¹⁴¹ ECB's president Mario Draghi stated that it is not for the ECS's job to regulate Bitcoin.¹⁴² In Drahi's opinion it is not safe for central banks to use Bitcoin or any other Virtual currency.¹⁴³ It is an interesting technology according to Draghi and the ECB will continue to investigate it in a more comprehensive manner.¹⁴⁴

¹³⁶ European Parliament (2016), *supra nota* 28, p 52.

¹³⁷ ECB (2015), *supra nota* 1, p 21.

¹³⁸ Omri, M. Y. (2015) A Conceptual Framework for the Regulation of Cryptocurrencies. – *University of Chicago Law Review Dialogue*, Vol. 92, p. 53.

¹³⁹ Council Regulation (EC) No 974/98 of May 1998 on the introduction of the euro

¹⁴⁰ *Ibid.*

¹⁴¹ European Parliament (2016), *Supra nota* 28, p 52.

¹⁴² Reuters (2018). *supra nota* 110

¹⁴³ *Ibid.*

¹⁴⁴ *Ibid.*

3.3. Non-Cash Payments Directive

Proposal for amendment of a Directive from the European Parliament and of the Council, on combatting fraud and counterfeiting of non-cash means of payment and replacing Council Framework Decision 2001/413/JHA.¹⁴⁵ The reason for the amendment of the Directive is that the Directive is outdated and doesn't include virtual currencies. The 2001 Framework decision no longer represents the present day or addresses the challenges such as virtual currencies.¹⁴⁶ It is stated in the Proposal that it is important to deal effectively with non-cash payment fraud, as it represents a possible threat to the security of the European Union.¹⁴⁷ Evaluation of the EU's current legislative framework reveals three problems, concerning non-cash payments in the EU.¹⁴⁸ First of all, some of the crimes cannot be effectively investigated and prosecuted under the current framework.¹⁴⁹ Second problem is related to operational issues and lastly the criminals are using loopholes in prevention to commit fraud.¹⁵⁰ From these three issues, the most relevant to this thesis is the first one. Some crimes that are concerned with new technological developments such as virtual currencies and mobile payments, cannot be prosecuted.

There are gaps in oversight, which terrorist might take advantage of, and one of these gaps is related to virtual currencies.¹⁵¹ This 2014/849 Directive aims to address those gaps in oversight, however not straining the technological development of virtual currencies.¹⁵² The definition that is used at the moment was done by the ECB in 2015, but the 5th AMLD presents a far more exhausting definition, which will be used after it comes into force. Principles of subsidiarity and proportionality needs to be taken in to account while amending the directive. The proposal should not go beyond what is necessary to achieve the objectives set out in the proposal.¹⁵³ The problem with the terrorist financing having effect on the EU's internal market is real, and it can damage the stability of the financial sector. National level measures are not simply effective enough to stop

¹⁴⁵ Proposal for a Directive 2017/0226(COD) of the European Parliament and of the Council on combatting fraud and counterfeiting of non-cash means of payment and replacing Council Framework Decision 2001/413/JHA

¹⁴⁶ *Ibid.*, p. 3.

¹⁴⁷ *Ibid.*, p. 3.

¹⁴⁸ *Ibid.*, p. 4.

¹⁴⁹ *Ibid.*, p. 4.

¹⁵⁰ *Ibid.*, p. 4.

¹⁵¹ European Parliament (2016), *supra nota* 28, p 2.

¹⁵² *Ibid.*, p. 2.

¹⁵³ *Ibid.*, p. 6.

this kind of cross-border terrorist threats, therefore it is necessary to have coordinated rules across Member States aimed at protecting the functioning of the internal market.¹⁵⁴ Individual AML framework regulation might lead to fragmentation of the internal market, which is why the rules and definitions that are created need to be coherent and consistent at Union level to truly have an impact.¹⁵⁵ The possibility that one member state has a lacking AML framework is a frightening idea, as criminals are able to exploit the Member State with a lacking AML framework and therefore undermine the security of some other Member State or even the whole internal market.¹⁵⁶ The link is only as strong as its weakest link, which enhances the view that the coherent Union level framework is necessary for the security and stability of the financial sector.¹⁵⁷ In addition to the subsidiarity principle, the proportionality principle needs to be addressed. The proposed amendments are limited to what is necessary to achieve the objectives concerning terrorist financing and increasing corporate transparency, in line with the proportionality principle.¹⁵⁸ Competent authorities will be allowed to monitor suspicious transactions with virtual currencies, while also preserving the innovative advances produced by the virtual currency developers.¹⁵⁹ There have been problems relating to fragmentation of financial information and a lack of direct information by FIU's and other competent authorities.¹⁶⁰ Information that will be available to the competent authorities must be accurate, but also limited to what is necessary.¹⁶¹ In the impact assessment of the proposal, suspicious transactions with virtual currencies are mentioned, as they are not sufficiently monitored by the authorities, which are therefore unable to link these transactions to individuals or groups, making nobody responsible.¹⁶² Improving the detection of suspicious virtual currency transactions, could be achieved by bringing virtual currency exchange platforms and custodian wallet providers under the scope of the AMLD 5 as the current legislation intends to do.¹⁶³ This would allow more time to analyse what should be done with the rest of the virtual currency ecosystem. This would be the first step of many in the regulation of virtual currencies.

¹⁵⁴ *Ibid.*, p. 6.

¹⁵⁵ *Ibid.*, p. 6.

¹⁵⁶ *Ibid.*, p. 6.

¹⁵⁷ *Ibid.*, p. 6.

¹⁵⁸ *Ibid.*, p. 6.

¹⁵⁹ *Ibid.*, p. 7.

¹⁶⁰ *Ibid.*, p. 7.

¹⁶¹ *Ibid.*, p. 7.

¹⁶² *Ibid.*, p. 9.

¹⁶³ *Ibid.*, p. 9.

Conclusion

Future regulation of virtual currencies after the 5th AMLD is still uncertain. The 5th AMLD only touches a part of the ecosystem that virtual currencies are a part of, but this doesn't necessarily mean it is a bad thing. By regulating the actors that are not involved in the technological development of virtual currencies safeguards the future development of these currencies. Custodian wallet providers as well as virtual currency exchanges are key actors in the ecosystem, but just regulating them does not guarantee that virtual currencies are sufficiently regulated. Virtual currencies in a large scale are a fairly new phenomenon and there are a lot of things still to be learned from this field. It appears that virtual currencies are here to stay and as they are in their early development phase it would be counterproductive to put restrictions on technology that is not yet fully understood. There hasn't been another action plan or amendment for a directive to include virtual currencies in any other purpose than money laundering which is done with the 5th AMLD. During the next couple of years, virtual currencies will stay outside the confounds of EU law before the 5th AMLD comes in to force. In the future there will most likely be regulation on virtual currencies on other fields than money laundering as well. The changes coming with the 5th AMLD are welcome, as they to give some sort of legal foundation for the future development of virtual currency regulation. As virtual currencies cannot be treated as money or currency in a legal sense, the definition coming with the 5th AMLD will surely add clarification to the uncertainty surrounding the defining of virtual currencies. If cryptocurrencies however sometime in the future acquire the legal definition of money or currency, another problem arises, as there cannot be another currency in the EEA, which would contest with Euro. There can be only one currency in the EEA with legal tender and that currency is the Euro.

A coherent Union level legal framework is necessary for the security and stability of the financial sector. Improving the detection of suspicious virtual currency transactions, could be done by bringing virtual currency exchange platforms and custodian wallet providers under the scope of the 5th AMLD, as the current action plan shows. This would allow more time to consider what should be done with rest of the virtual currency ecosystem. This would be the first of many steps in the regulation of virtual currencies. Some of the crimes happening at the moment cannot be effectively investigated and prosecuted under the current legal framework, and this doesn't change before the 5th AMLD. Some sort of oversight should be added to virtual currencies, but to what extent, and to what end. Virtual currency regulation should not only focus on the worst parts but

focus on the desirable aspects as well. Lowering the transaction speed from days to minutes is just one of the many good aspects, and in order to make the business around virtual currencies even stronger and more reliable, regulation is necessary. It remains to be seen what kind of regulation will follow the 5th AMLD and what part of the ecosystem of virtual currencies will the new upcoming regulation apply to.

List of References

Scientific Articles:

1. Bryans, D. (2014). Bitcoin and Money Laundering: Mining for an Effective Solution. – *Indiana University Maurer School of Law*, Vol. 89 p. 1-33.
2. Fairfield, A. T. J. (2014). Smart Contracts, Bitcoin Bots, and Consumer Protection. – *Washington and Lee University School of Law*, Vol 71. Issue 2, p. 36-49.
3. Farrell, R. (2015). An Analysis of the Cryptocurrency Industry. – *University of Pennsylvania*, p. 1-23.
4. Hewitt, E. (2016). Bringing Continuity to Cryptocurrency: Commercial Law as a Guide to the Asset Categorization of Bitcoin. – *Seattle University Law Review*, Vol. 50, Issue 3, p. 619-640.
5. Jeans, E. D. (2015). Funny Money or Fall of Fiat: Bitcoin and Forward-Facing Virtual Currency Regulation. – *Colorado Technology Law Journal*, Vol. 13, Issue 1, p. 99-128.
6. Kaplanov, N. (2012). Nerdy Money: Bitcoin, the Private Digital Currency, and the against its Regulation. – *Loyola Consumer Law Review*, Vol. 25, Issue 1, p. 111-174.
7. Kiviat, T. I. (2015). Beyond Bitcoin: Issues In Regulating Blockchain Transactions. - *Duke University Law Review*, Vol. 65, p. 569-608.
8. Lindquist, A. (2014). Funny Money: Why Bitcoin Does Not Warrant Increased Governmental Regulation. – *Journal of Global Justice and Public Policy*, Vol. 1, Issue 1, p. 79-114.
9. Ma, D. (2017). Taking a Byte out of Bitcoin Regulation. – *Albany Law Journal of Science & Technology*, Vol. 27, Issue 1, p. 1-31.
10. Mandjee, T. (2015). Bitcoin, its Legal Classification and its Regulatory Framework. – *Journal of Business & Securities Law*, p. 158-211.
11. Omri, M. Y. (2013). Are Cryptocurrencies ‘Super’ Tax Heavens? – *112Michigan Law Review First Impressions* 38 p. 38-48.
12. Omri, M. Y. (2015). A Conceptual Framework for the Regulation of Cryptocurrencies. – *University of Chicago Law Review Dialogue*, Vol. 92, p. 53-68.
13. McLeod, S. (2017). Bitcoin: The utopia of Nightmare of Regulation, *Elon Law Review*. – Vol. 9, Issue 2, p. 553-578.
14. Grinsberg, R. (2011). Bitcoin: An Innovative Alternative Digital Currency. – *Hastings Science & Technology Law Journal*, p. 160-206.
15. Richter, C., Kraus, S., Bouncken, B. R, (2015). Virtual Currencies Like Bitcoin As A Paradigm Shift In The Field Of Transactions. – *International Business & Economics Research Journal*, Vol. 14 Number 4, p. 575-586.
16. Shcherbak, S. (2014). How Should Bitcoin Be Regulated? 7(1) EJLS 45. – *European Journal of Legal Studies*, Volume Issue 15, p. 41- 82.

17. Sondegger, D. (2015). A Regulatory and Economic Perplexity: Bitcoin Needs Just a Bit of Regulation. – *Washington University Journal of Law & Policy*, Vol. 47, p. 175-216.
18. Tu, K., Meredith V., Michael W. (2015). RETHINKING VIRTUAL CURRENCY REGULATION IN THE BITCOIN AGE. – *Washington Law Review*, Vol. 90, Issue 1, p. 271-348.
19. Turpin, B. J. (2014). Bitcoin: The Economic Case for a Global Virtual Currency Operating in an Unexplored Legal Framework. – *Indiana University Maurer School of Law*, Vol. 21 p. 335- 368.
20. Ziskina. J. (2015) The Other Side of the Coin: The FEC’s Move to Approve Cryptocurrency’s Use and Deny its Viability. – *Washington Journal of Law, Technology, Arts*, Vol. 10, Issue 4, Spring 2015, p. 305-328.

EU and international legislation:

1. Council Regulation of Council Regulation (EC) No 974/98 of May 1998 on the introduction of the euro
2. European Commission(2016), COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on an Action Plan for strengthening the fight against terrorist financing,
3. Proposal for a Directive 2017/0226(COD) of the European Parliament and of the Council on combatting fraud and counterfeiting of non-cash means of payment and replacing Council Framework Decision 2001/413/JHA
4. Proposal for a Directive 2016/0208(COD) of the European Parliament and the Council on amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directive 2009/101/EC

Other sources:

1. Blockgeeks(2017), Cryptocurrency Wallet Guide: A Step-By-Step Tutorial, Accessible:<https://blockgeeks.com/guides/cryptocurrency-wallet-guide/>, 20 March 2018
2. Biography (2017), Julian Assange. Accessible: <https://www.biography.com/people/julian-assange-20688499>, 21 March 2018.
3. Council of the European Union (2017), Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directive 2009/101/EC, Accessible:<http://data.consilium.europa.eu/doc/document/ST-15849-2017-INIT/en/pdf>, 16 March 2018
4. Chaum (1982) BLIND SIGNATURES FOR UNTRACEABLE PAYMENTS. Accessible: <http://blog.koehntopp.de/uploads/Chaum.BlindSigForPayment.1982.PDF>, 21 March 2018.
5. Cybersalon (2013), Cypherpunks, Bitcoin & the Myth of Satoshi Nakamoto <http://cybersalon.org/cypherpunk/>, 21 March 2018.
6. ECB(2012) Virtual currency schemes, Accessible: <https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf>, 15 March 2018

7. ECB(2015) Virtual currency schemes – a further analysis, Accessible: <https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf>, 16 March 2018
8. ECB(2015), Virtual currency schemes – a further analysis, Accessible: <http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=30639&no=5>, 17 March 2018
9. European Commission(2016), Proposal for a Directive amending Directive 2015/849, Accessible:<https://www.eesc.europa.eu/sites/default/files/resources/docs/presentation-eesc-160916.pdf>, 18 March 2018
10. European Union(2016), Information and Notices, Accessible:<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2016:459:FULL&from=EN> 17 March 2018
11. Euro Legal Tender Expert Group(ELTEG), Report on the definition, scope and effects of legal tender of euro banknotes and coins, Accessible:http://ec.europa.eu/economy_finance/articles/euro/documents/elteg_en.pdf, 19 March 2018
12. ECB(2018), What is bitcoin?, Accessible:<https://www.ecb.europa.eu/explainers/tell-me/html/what-is-bitcoin.en.html>, 19 March 2018
13. FATF(2014), Virtual Currencies Key Definitions and Potential AML/CFT Risks, Accessible:<http://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf>, 16 March 2018
14. Michelmores(2017), EU's Fifth Anti Money Laundering Directive to combat terrorist financing, Accessible: <https://www.michelmores.com/news-views/news/virtual-currencies-anti-money-laundering-directive>, 18 March 2018
15. Reuters(2018), ECB's Draghi says not his job to regulate Bitcoin, Accessible:<https://www.reuters.com/article/us-crypto-currencies-ecb/ecbs-draghi-says-not-his-job-to-regulate-bitcoin-idUSKCN1FX1PW>, 19 March 2018
16. Satoshi Nakamoto (2008), Bitcoin: A Peer-to-Peer Electronic Cash System. Accessible: <https://bitcoin.org/bitcoin.pdf>, 14 March 2018.
17. VinciWorks(2018), Free guide to anti-money laundering in 2018, Accessible:<https://vinciworks.com/blog/money-laundering-timeline-2018/>, 20 March 2018