

**REGULATING CRYPTOCURRENCIES IN THE
INTERNATIONAL INSOLVENCY LAW**

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June 2020

ABSTRACT

UNIVERSITY OF TURKU

Faculty of Law

VICTORIA SANDBERG: Regulating Cryptocurrencies in the International Insolvency Law

Master's thesis, 72 p.

International Law

June 2020

The originality of this thesis has been checked in accordance with the University of Turku quality assurance system using the Turnitin Originality Check service.

In the last few years, the world has witnessed a fast expansion of bitcoin and other cryptocurrencies. From being mostly associated with criminal activity in their earliest years, cryptocurrencies have now taken a step into the legal business markets. The increased use of cryptocurrencies in business and commercial transactions entails that their appearance in the insolvency proceedings can be expected in a foreseeable future. However, the fast development of cryptocurrencies means that the current regulatory frameworks around the world have not kept up with the changes, which is especially noticeable in international situations. The continuous growth of cryptocurrencies and their value indicate that they will become very interesting for insolvency practitioners in the future, but the lack of regulation and case law within this field raises the question of how they will and should be treated.

While cryptocurrencies continue to find their place in modern society, whether and to what extent they should be regulated in the international insolvency law is a vastly approaching issue. This thesis discusses the possibility of regulating cryptocurrencies on the international level of the insolvency law by examining firstly, the different risks and issues that the cryptocurrencies will give rise to in the insolvency law and insolvency proceedings with a special focus on jurisdiction, secondly, the current regulatory frameworks and principles on international and European Union level and lastly, the possibilities of regulation through both soft law and hard law in order to create a way to approach these problems. The possibility of regulation will be discussed in a multidisciplinary light, with the principles of international financial law as well as the nature of blockchain-based technology taken into consideration.

The aim of the thesis is not to come up with a specific course of action, but rather to enlighten the most prominent pros and cons of different possibilities. The potential ways of regulation brought up in the thesis are the use of blockchain technology itself, amendment of existing legal frameworks, the use of regulatory sandboxes and a new legal framework.

Keywords: International insolvency law, Cryptocurrency, Blockchain, Technology, Jurisdiction, Regulation

TIIVISTELMÄ

TURUN YLIOPISTO

Oikeustieteellinen tiedekunta

VICTORIA SANDBERG: Regulating Cryptocurrencies in the International Insolvency Law

Pro gradu –tutkielma, 72 s.

Kansainvälisen oikeuden merkitys globalisaation aikakaudella

Kesäkuu 2020

Turun yliopiston laaturjestelmän mukaisesti tämän julkaisun alkuperäisyys on tarkastettu Turnitin Originality Check –järjestelmällä.

Viime vuosina maailma on todistanut bitcoinin ja muiden kryptovaluuttojen nopean laajentumisen. Kryptovaluutat yhdistettiin alkuajoina usein rikollisiin tarkoituksiin, mutta lähivuosina kryptovaluutat ovat siirtyneet myös laillisille liiketoimintamarkkinoille. Kryptovaluuttojen käytön lisääntyminen markkinoilla ja kaupallisissa liiketoimissa tarkoittaa, että niiden ilmeneminen maksukyvttömyysmenettelyissä on lähitulevaisuudessa odotettavaa. Kryptovaluuttojen nopea kehitys tarkoittaa kuitenkin sitä, että nykyinen sääntely ei ole pysynyt muutosten mukana, mikä on erityisesti havaittavissa kansainvälisissä tapauksissa. Kryptovaluuttojen jatkuva kasvu sekä niiden arvo markkinoilla osoittaa, että ne tulevat tulevaisuudessa olemaan mielenkiintoinen osa insolvenssioikeuden asiantuntijoiden työtehtäviä. Mutta sääntelyn sekä oikeuskäytännön puute herättää kuitenkin kysymyksiä siitä, miten kryptovaluuttojen kanssa tulisi toimia.

Kryptovaluutat etsivät jatkuvasti paikkaansa nykyaikaisessa yhteiskunnassa, mutta kysymys siitä, miten niitä pitäisi säännellä kansainvälisessä insolvenssioikeudessa ja missä laajuudessa, on nopeasti lähestyvä haaste. Tässä opinnäytetyössä keskustellaan mahdollisuudesta säännellä kryptovaluuttoja insolvenssioikeuden kansainvälisellä tasolla tutkimalla ensinnäkin erilaisia riskejä ja ongelmia, joita kryptovaluutat aiheuttavat insolvenssioikeudessa ja maksukyvttömyysmenettelyissä kiinnittäen erityistä huomiota lainkäyttövaltaan. Tämän lisäksi tutkitaan insolvenssioikeuden nykyisiä laillisia kehyksiä ja periaatteita kansainvälisellä ja Euroopan Unionin tasolla. Viimeiseksi pohditaan sääntelymahdollisuuksia sekä sitovalla että ei-sitovalla sääntelyllä luomalla tapaa lähestyä niitä haasteita, jotka kryptovaluutat aiheuttavat. Sääntelymahdollisuudesta keskustellaan monialaisessa valossa, ottaen huomioon kansainvälisen finanssioikeuden periaatteet sekä blockchain-tekniikan luonteen.

Opinnäytetyön tarkoituksena ei ole keksiä tiettyä toimintatapaa, vaan valaista eri mahdollisuuksien hyötyjä ja haittoja. Opinnäytetyössä esiin tuodut mahdolliset sääntelytavat ovat blockchain-tekniikan käyttäminen, olemassa olevien laillisten kehysten muuttaminen, sääntelyn hiekkalaatikoiden käyttäminen sekä uusi oikeudellinen kehys.

Avainsanat: Kansainvälinen insolvenssioikeus, Kryptovaluutta, Blockchain, Teknologia,

Lainkäyttövalta, Sääntely

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Abbreviations

AMF	Autorité des Marchés Financiers
CIL	Customary International Law
Code	The Bustamante Code
COMI	Center of Main Interest
Concordat	Cross-Border Insolvency Concordat
Convention	Nordic Bankruptcy Convention
Cooperation Principles	EU Cross-Border Insolvency Court-to-Court Cooperation Principles
DAO	Decentralized Autonomous Organization
DLT	Distributed Ledger Technology
ECB	European Central Bank
EIR	European Insolvency Regulation
EU	European Union
FATF	Financial Action Task Force
FCA	UK Financial Conduct Authority
Fintech Task Force	EU Internal Task Force on Financial Technology
Forum	EU Blockchain Observatory and Forum
FSB	Financial Stability Board
Global Principles	Global Principles for Cooperation in International Insolvency Cases
IBA	International Bar Association
ICO	Initial Coin Offering
ICR	Insolvency and Creditor/Debtor Rights
IMF	International Monetary Fund
IP	Insolvency Practitioner
Legislative Guide	The UNCITRAL Legislative Guide on Insolvency Law
MiFID II	Markets in Financial Instruments Directive
MLIJ	Model Law on Recognition and Enforcement of Insolvency-Related Judgments
Model Law	Model law on Cross-Border Insolvency
NAFTA	North American Free Trade Agreement
Practice Guide	Practice Guide on Cross-Border Insolvency Cooperation
Principles	Principles for Effective Insolvency and Creditor Rights System
P2P	Peer-to-peer
R-EIR	Recast of the European Insolvency Regulation
UN	United Nations
UNCITRAL	United Nations Commission on International Trade Law
UNODC	United Nations Office on Drugs and Crime
U.S. SEC	United States Securities and Exchange Commission

1. Introduction

1.1. Background

In 2009, an anonymous actor under the pseudonym “Satoshi Nakamoto” launched the world’s first cryptocurrency with its underlying blockchain technology, the Bitcoin network. Bitcoin was created as a response to the 2007-2009 financial crisis and the aim was to introduce a new, decentralized currency that would not be dependent on banks and other financial institutions, but that would eliminate third party authorities and replace them with a decentralized peer-to-peer network system that is based on cryptographic proof.¹ Although not the first digital currency, bitcoin came to pave the way for a new perception of the world’s financial system and how we look at money and has created a new financial era. Since bitcoin, many other cryptocurrencies have emerged, for example different altcoins and tokens/dApps, that have a total market capitalisation of well over 300 billion euros.²

For several years, bitcoin was mostly associated with criminal activity. Due to its anonymous nature, it was the most commonly used currency on the dark web, which is mainly used to sell and purchase illegal goods, and it has also been used in connection with human trafficking, terrorist financing and financial fraud.³ However, in the last few years, bitcoin has dramatically expanded, which means that it has also entered the legal business markets, and today some of the world’s biggest retailers, such as Subway, Whole Foods and Nordstrom, accept bitcoin and other cryptocurrencies as payment.⁴

The fast development of bitcoin and other cryptocurrencies in the Internet and smartphone revolution means that the current regulatory and legislative frameworks around the world have not kept up with the changes, which is especially noticeable in international situations. In regard to criminal activities, especially bitcoin has attracted attention from international agencies like Europol, Interpol and the Basel Institute of Governance and some efforts have been made to regulate them.⁵ In July 2018, the fifth Anti-Money Laundering Directive⁶ by the

¹ Nakamoto 2009, p. 1

² Houben – Snyers 2018, p. 29

³ Azeff – De Caria – McGuire 2018, p. 2

⁴ Cuthbertson 2019

⁵ For example, in 2015 a Virtual Currencies Conference was organized by Europol’s European Cybercrime Centre and in 2016 Europol, Interpol and the Basel Institute on Governance established a partnership to create a working group on money laundering with digital currencies. (Demchenko 2017, p. 36)

⁶ Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 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 Directives 2009/138/EC and 2013/36/EU

European Commission entered into force, which extended the scope to also include virtual currency platforms and digital wallet providers. However, regulatory authorities have generally been reluctant to deal with cryptocurrencies.

On the domestic level, there are also discrepancies regarding regulation between different jurisdictions and the legal status and preferred regulatory regime varies. Some states have regulated cryptocurrencies in connection with illegal activities, such as money laundering, terrorism financing and organized crime, while others have regulated cryptocurrencies for tax purposes or regulated the initial coin offerings (ICOs). Some states have imposed restrictions on cryptocurrencies or even banned them completely, while others are more open-minded and are even trying to develop their own systems of cryptocurrencies. Within these states, the categorization and definition of cryptocurrencies also alters. In some jurisdictions, the cryptocurrencies are taxed as assets while in others, as a foreign currency. In some jurisdictions the ICOs are seen as a security while in others, an investment.⁷

Insolvency law is an important part of the international financial legal order and the international trade.⁸ This means that the increased use of cryptocurrencies in legal business and commercial transactions has increased the likelihood of cryptocurrencies showing up in insolvency proceedings in a foreseeable future. However, this too is an area where regulation is lagging and where the definition of cryptocurrencies varies between jurisdictions. Much of the current insolvency legislation was adopted almost a century ago, at a time when most companies were domestic manufacturers with a lot of “hard assets”. But in the last decades, this has drastically changed. The companies today are more complex, more globalized and have other business structures and assets.⁹ Digitalization and the use of non-physical assets have also expanded.

At the time of writing, there is no legal regulations or frameworks regarding cryptocurrencies in the insolvency law. The continuous growth of cryptocurrencies and their value indicate that they will undoubtedly become very interesting for insolvency practitioners (IP) in the future. The lack of regulation and case law within this field, therefore, raises the question of how they will and should be treated. According to a report by INSOL International in 2019, only

⁷ Global Legal Research Center 2018, p.1f

⁸ Mason 2012, p. 107

⁹ Hausemer et al 2017, p. 18

5% of IPs feel that they have a working knowledge of cryptocurrencies.¹⁰ IPs faced with this complex technology for the first time will, therefore, have plenty to deal with. Some of the challenges that they will encounter are how to categorize, recover and value the assets, given the cryptocurrencies' anonymous nature and fluctuant volatility.

The issues of cryptocurrencies and blockchain technology are especially complex in cross-border insolvency proceedings, since international insolvency law in itself lacks legally binding regulation. Historically, there has also been limited cooperation between jurisdictions in the insolvency law,¹¹ and harmonization of legal rules has proven difficult due to social and cultural differences.¹² The current methods for dealing with assets in cross-border insolvency proceedings will therefore be insufficient when dealing with cryptocurrencies, due to their borderless nature. The legal uncertainty in this matter could be considered a threat against the principle of legal foreseeability and regulation will therefore be needed in order to ensure a safe and foreseeable process and to assist the IPs in locating, securing and monetizing cryptocurrencies.

In addition to cryptocurrencies showing up as assets, other developments based on blockchain technology are emerging that are changing the traditional nature and features of companies and their business. These entities and developments rhyme poorly with the legislation as it is today. There is therefore clearly a need for regulation within this field. But due to the borderless nature of blockchain, rules have been said to be adequate only when they are taken at a sufficiently international level,¹³ while still being proportionate so that it addresses the problems without strangling the technological innovation.¹⁴ This thesis will therefore focus on the insolvency law from an international perspective.

1.2. Research Question and Methodology

While cryptocurrencies continue to find their place in modern society, whether and to what extent cryptocurrencies should be regulated in the international insolvency law is a vastly approaching issue. There are various types and levels of regulation that can be applied to this new technology, and there are equally many different approaches to the legal characterization of it. The purpose of this thesis is to discuss the possibilities of regulation on the international

¹⁰ Draper 2019

¹¹ Mason 2012, p. 106

¹² Meager 2016, p. 27

¹³ Houben – Snyers 2018, p. 54

¹⁴ Ibid., p. 56

level of the insolvency law, with the research question being: how should cryptocurrencies and blockchain technology be regulated in the international insolvency law?

The research method used in this thesis is the *de lege ferenda*-method. This method is a legal policy study that, with the help of artificial analysis, draws up recommendations for future regulation. In my research, I will evaluate and present various solutions on which the legal regulation of cryptocurrencies could be based in the future. The aim is not to come up with a specific course of action, but rather to enlighten the most prominent risks and issues with cryptocurrencies in insolvency proceedings and the possibilities of regulation through both soft law and hard law in order to create a way to address these problems. The thesis will particularly focus on these questions from a jurisdictional perspective. The possibility of regulation will be discussed in a multidisciplinary light, with principles and standards of international financial law as well as the nature of blockchain-based technology taken into consideration.

1.3. Structure and Delimitations

The thesis is divided into five chapters. After the introduction, where an explanation of how cryptocurrencies and the blockchain technology they are based on works is provided, an overview of the most prominent risks and issues that the cryptocurrencies will give rise to in the insolvency law will follow. The chapter is divided into three parts, which discuss the challenges that the IPs will face regarding cryptocurrencies in insolvency proceedings, the jurisdictional issues of cryptocurrencies in the international insolvency law and the risks that cryptocurrencies pose on financial stability. In the third chapter, the current international frameworks and principles of international insolvency law are presented and in the fourth chapter the possibilities and thoughts on future regulation of cryptocurrencies on the international level are provided, from both a soft law and hard law perspective. The thesis ends with some concluding remarks.

Due to the limitations of this thesis, the highly complex question of how to legally define or categorize cryptocurrencies will not be discussed, even though this too will have an impact on regulation. The thesis will not differentiate between insolvency proceedings of persons, companies, cryptocurrency exchanges or banks, even though there are substantial differences between the insolvency proceedings of these entities, but will focus more generally on cryptocurrencies as an asset of the insolvency estate. Included in the scope are also new technological developments and entities that are underpinned by cryptocurrencies but do not

fall within the traditional definition of a company or organization. In addition to the cryptocurrencies, other blockchain-based technology is mentioned and assessed, in particular blockchain-based entities underpinned by cryptocurrencies, such as DAOs¹⁵. Although cryptocurrencies are not entirely similar to each other they will all fall under the umbrella term of cryptocurrencies in the thesis with the blockchain-based cryptocurrencies in focus, particularly bitcoin.

In the thesis, both international insolvency law and cross-border insolvency law are used as terms and share the same meaning. An international, or cross-border, insolvency proceeding involves one state where the proceeding is opened and at least one other state, where the creditors are located. In addition to this, complex cases and proceedings may include creditors, assets, operations and subsidiaries in several other states as well.¹⁶ The expression “insolvency proceeding” includes bankruptcy, liquidation, reorganization and winding-ups, which can be either voluntary or involuntary. The IP is a commonly used generic term for Insolvency Practitioner. The IPs are known to different names in different states and therefore expressions such as “administrator”, “trustee”, “liquidator” and “receiver” among others are used in different contexts of the text, mostly in regard to case law.

1.4. Cryptocurrencies and Blockchain Technology

In order to apprehend the issues of cryptocurrencies in insolvency proceedings and why current legal frameworks are not adequate to deal with them, we must first understand cryptocurrencies. In this chapter I will therefore provide an explanation solely of how cryptocurrencies work and the basics of the technology behind them. Cryptocurrencies are difficult to define, since the word has become an umbrella term for a wide range of technological developments that utilize a technique known as cryptography.¹⁷ However, some definitions have been provided. The European Central Bank has classified cryptocurrencies as a subgroup of virtual currencies and defines it 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”.¹⁸ The International Monetary Fund (IMF) has also defined cryptocurrencies as a subgroup of virtual currencies and according to their definition “VCs are digital representations of value, issued by private developers and denominated in their

¹⁵ See section 2.2.1.

¹⁶ Bufford et al 2001, p. 1

¹⁷ Houben – Snyers 2018, p. 20

¹⁸ ECB 2012, p. 5

own unit of account. VCs can be obtained, stored, accessed, and transacted electronically, and can be used for a variety of purposes, as long as the transacting parties agree to use them.”¹⁹

Like the aforementioned, the Financial Action Task Force (FATF) has approached cryptocurrencies as a subset of virtual currencies and defines them as “math-based, decentralized convertible virtual currencies that are protected by cryptography”.²⁰ In conclusion, although most international bodies share the same view of cryptocurrencies, there is no generally accepted legal definition. A good summary could therefore be that cryptocurrency is “a digital representation of value that (i) is intended to constitute a peer-to-peer (“P2P”) alternative to government-issued legal tender, (ii) is used as a general-purpose medium of exchange (independent of any central bank), (iii) is secured by a mechanism known as cryptography and (iv) can be converted into legal tender and vice versa”.²¹

Despite the fact that “*cryptocurrency*” is an umbrella term for many different kinds of cryptocurrencies, many of them are based on Distributed Ledger Technology (DLT), for example bitcoin.²² In his white paper, Satoshi Nakamoto describes this as a system that “timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work”.²³ In other words, blockchain is a digital transaction ledger that consists of “blocks”, which are created when a certain amount of information is added to them. The information in the blocks undergoes a process called cryptography, which means that the data is generated into a code, or a hash, that consists of letters and numbers.²⁴

Every block contains a piece of information of the previous block, i.e. the hash, linking the blocks together. With several blocks containing each others cryptographic hash, a chain is made in a specific order. No blocks can be added in between the existing ones and therefore, the chronological order of the blocks cannot be tampered with, without changing also all of the previous blocks. If the data in the blocks are changed, a new hash is generated. Since the next block still contains the original hash, the system will break, which means that information in the blockchain cannot be changed.²⁵

¹⁹ He et al 2016, p. 7

²⁰ FATF 2014, p. 5

²¹ Houben – Snyers 2018, p. 23

²² Daj 2018, p. 207

²³ Nakamoto 2009, p. 1

²⁴ Azeff – De Caria – McGuire 2018, p. 172f

²⁵ Ibid., p. 172f

Blockchain technology is today used in many different technological developments, but cryptocurrencies are the first and most developed type of blockchain technology. Cryptocurrencies were developed as money and their popularity is owed partly to the transparency and safety they provide. Since the data in the blocks cannot be changed, they are nearly counterfeit-proof, and since the information in the blocks is encrypted, the identity of the user and details of the transaction are anonymous.²⁶ Cryptocurrencies differ from digital money on a regular bank account in that the traditional bank account records all the credit and debit transactions to the account and calculates the running balance after each transaction. The net balance can be seen as the object under ownership and is free to spend as money by the bank account holder.²⁷ In the blockchain system, it is the recorded transactions in the network system that is of importance and can fall under some sort of ownership.²⁸

There are a few ways, through which crypto-coins can be acquired. A cryptocurrency user can simply buy the coins on a cryptocurrency exchange using fiat money or another cryptocurrency, or buy directly from another cryptocurrency user through a trading platform. This process is referred to as a “P2P exchange”.²⁹ In some commercial transactions, the parties can use crypto-coins as payment. Another common way to acquire cryptocurrency is through ICOs, which means that a start-up company, which provides cryptocurrency, issues cryptocurrency tokens that interested investors can “subscribe” for with fiat money.³⁰ This is commonly referred to as “token sales” or “tokens generating event” and the point of the subscriber is usually to support the development of a particular project or initiative.³¹

Data miners are the ones participating in validating transactions on the blockchain by solving the algorithm and adding new blocks to the chain. This is called “mining”. As a reward, the miners usually receive units in return. Miners can be either cryptocurrency users or, more commonly, parties who have made a business out of mining and selling the coins for fiat money. Mining requires an incredible large amount of processing power, as well as good knowledge of computer science; hence many miners combine their forces and create mining pools to bundle computing power.³²

²⁶ The World Bank 2018, p. 24

²⁷ Fox 2018, p. 6

²⁸ Ibid., p. 7

²⁹ Houben – Snyers 2018, p. 25

³⁰ Azeff – De Caria – McGuire 2018, p. 175f

³¹ Collomb – De Filippi – Sok 2019, p. 263

³² Houben – Snyers 2018, p. 25

When acquired, the cryptocurrency units can be held in digital wallets, which has a public and a private key. The public key could be compared to a bank account number and the private key, that only the digital wallet holder has knowledge of, a password to the bank account. These two keys create a system of authentication and encryption that protects them from unauthorized access.³³ The wallets can either be stored at one's personal mobile device or computer, or at online wallet providers.³⁴ Wallet providers are entities that provide e-wallets, which are used for holding, storing and transferring cryptocurrencies, for cryptocurrency users by holding the cryptographic keys. It is also common that the wallet provider translates the transaction history to the user, which looks much like a bank account.³⁵

³³ Azeff – De Caria – McGuire 2018, p. 175f

³⁴ Takahashi 2017, p. 88

³⁵ Houben – Snyers 2018, p. 27

2. Key Issues and Risks to Consider

2.1. Cryptocurrencies as an Asset in Insolvency Proceedings

2.1.1. Property Rights and Recoverability

When a bankruptcy estate administrator is appointed in a bankruptcy proceeding to manage the estate, s/he identifies, locates and secures the debtor's assets for the benefit of the creditors.³⁶ If the debtor is the holder of a digital wallet, the estate administrator would naturally want to include the digital wallet in the debtor's assets. However, in order to do this, s/he must first establish ownership between the debtor and the assets in the wallet, which raises questions of property rights. But what exactly is "ownership" and how would it be expressed in respect of cryptocurrencies? Is it possible to claim property rights of a digital, decentralized asset?

The Court of Justice of the EU took the view that cryptocurrencies cannot be the object of property rights in its judgment on 22 October 2015:³⁷

It must be held, first, that the 'bitcoin' virtual currency with bidirectional flow, which will be exchanged for traditional currencies in the context of exchange transactions, cannot be characterised as 'tangible property' within the meaning of Article 14 of the VAT Directive, given that, as the Advocate General has observed in point 17 of her Opinion, that virtual currency has no purpose other than to be a means of payment.

[...]

It is common ground that the 'bitcoin' virtual currency is neither a security conferring a property right nor a security of a comparable nature.

The district court of Amsterdam, by contrast, stated that bitcoins do possess attributes to property rights in the case of *Koinz Trading BV*:

Bitcoin exists, according to the court, from a unique, digitally encrypted series of numbers and letters stored on the hard drive of the right-holder's computer. Bitcoin is 'delivered' by sending bitcoins from one wallet to another wallet. Bitcoins are stand-alone value files, which are delivered directly to the payee by the payer in the event of a payment. It follows that a bitcoin represents a value and is transferable. In the court's view, it thus shows characteristics of a property right. A claim for payment in Bitcoin is therefore to be regarded as a claim that qualifies for verification.

In academia, the general perception is that cryptocurrencies can be the object of property rights, but this statement is not undisputed. Cryptocurrencies have been described as "censorship-resistant, digital bearer assets". This means that the user who controls the private

³⁶ Azeff – De Caria – McGuire 2018, p. 189f

³⁷ Case-264/14, *Skatteverket v David Hedqvist*

key controls the cryptocurrency linked to the public key and in that way could be regarded as the owner of it. The cryptocurrency can be used as a speculative asset as well as a medium of exchange. The “censorship-resistant” feature means that bearer assets entail that funds cannot be seized and transactions cannot be censored.³⁸ However, the problem with this definition is the difficulty of identifying cryptocurrency users and digital wallet holders, since many users use multiple wallets from several providers at the same time. In addition, many users are using centralized wallets, exchanges or platforms, which pool the funds together in large wallets. The true owner may then be one name amongst many.³⁹

Another problem with ownership is that, as opposed to regular bank accounts, the cryptocurrency technology does not distinguish between the “true owner” who has acquired the cryptocurrency and a hacker, who has simply come across someone else’s private key. The hacker can easily transfer the units without the technology allowing for reversing or cancelling the transaction.⁴⁰ In reality, there is also no guarantee that the personal key holder would have the key in his or her possession or that the personal key would not intentionally or accidentally be disclosed to third persons.⁴¹ If the units in the digital wallet would be at the hand of several persons, the question of ownership would be complicated.⁴² According to economist Koji Takahashi, this would not “prevent the control from being characterized as exclusive since those persons have control to the exclusion of others”,⁴³ but in regard of insolvency proceedings, it may create issues regarding joint ownership.

Proprietary issues are also highly evident in cases where the online digital wallet provider goes bankrupt, since the holder are obliged to return the units (the assets) to the creditors. From a contractual point of view, if ownership cannot be established the wallet holder would be regarded as a regular creditor and have to claim for the assets amongst the other creditors in the insolvency proceeding, which means that s/he would only receive a partial recovery of the assets. However, if the wallet holder could ascertain ownership over the units, s/he would make a full recovery as the true owner of the assets.⁴⁴ This was the situation in the perhaps most well known case regarding cryptocurrencies in international insolvency law, the Japanese *MtGox* case. The plaintiff requested recovery of bitcoins from the bankruptcy estate

³⁸ Hileman - Rauchs 2018, p. 106

³⁹ Beckett 2019, p. 218

⁴⁰ Lansky 2018, p. 21

⁴¹ Takahashi 2017, p. 83

⁴² *Ibid.*, p. 83

⁴³ *Ibid.*, p. 83

⁴⁴ *Ibid.*, p. 88

of the defendant, an online bitcoin exchange company named MtGox, claiming that he was the owner of them, instead of making a contractual claim with the other creditors. The court dismissed the claim on the grounds that the plaintiff could not be regarded as the owner of the bitcoins, since Japanese law limits ownership to tangibles as its objects and the bitcoins would be seen as intangible assets.⁴⁵

In the Russian case of *Mr Tsarkov*, the Commercial Court and Appellate Court of Moscow had to take a stand on the problem of property rights and recoverability. In this case the IP filed a motion with the court asking for a mandate to include the contents of a digital wallet, which was worth approximately 0.2 BTC (USD 2,300) at the time of judgment, to the bankruptcy estate of Mr. Tsarkov, the alleged owner of the wallet. The IP requested that the private key of the wallet would be given to the IP, stating that the bitcoins were to be considered an asset and, therefore, belonged to the bankruptcy estate. Mr. Tsarkov objected, claiming that since Russian law did not address cryptocurrencies, they could not be regarded as an object of civil rights.

The Commercial Court ruled in favor of Mr. Tsarkov and stated that the legal nature of cryptocurrency is unclear since Russian law does not define it and therefore they cannot be considered property of the debtor. In addition, the Court took the anonymous nature of the cryptocurrency into consideration. Registration at <www.blockchain.info> is free and requires only an email as verification, which is not enough personal information in order to establish ownership of the digital wallet.⁴⁶ However, the Appellate Court took another view on the case and argued that any property with economic value of a debtor should be included in a bankruptcy estate and obliged Mr. Tsarkov to hand over the private key to the estate administrator. Be that as it may, in its ruling, the Appellate Court specifically argued that Mr. Tsarkov did not dispute the fact that the bitcoins belonged to him and the bitcoins could, therefore, be considered his property. The court also took into consideration the fact that Mr. Tsarkov had the personal key in his possession and that he was the only one to have it.⁴⁷

In conclusion, with so many conflicting judgments, the question of whether different jurisdictions will accept cryptocurrencies as digital assets that falls within the sphere of property rights in contractual agreements arises. This question has no answer at the moment and will likely cause much confusion in the future. Furthermore, if the ownership can be

⁴⁵ *MtGox*

⁴⁶ INSOL International 2019, *Mr Tsarkov*

⁴⁷ INSOL International 2019, *Mr Tsarkov*

established, the question of recoverability still stands. The IP will soon realize that his traditional tools to recover the assets are invalid since electronic cross-border transactions go beyond the limits of domestic legislation and insolvency enforcement mechanisms, such as injunctions or other precautionary orders.⁴⁸ In general, blockchain technology is hard to handle “through regulatory instruments designed for physical world objects, (state) territories and jurisdictions”.⁴⁹

The question of seizing crypto assets was one of the issues in the *PlexCorps* case. In December 2017, a Canadian court ordered the arrest of PlexCorps and PlexCoin ICO founder Dominic Lacroix for contempt of court after proceeding with PlexCoin ICO’s business activities after being ordered by the Canadian Autorité des marchés financiers (AMF) to cease operations due to investigations of fraud and crypto-schemes of the company. PlexCorps had already been sued by the United States Securities and Exchange Commission (U.S. SEC) for securities fraud and had their assets frozen and in July 2018, Lacroix was ordered by the Quebec Court to remit the bitcoins in his possession to the court administrator within 24 hours. The following day, Lacroix told the court that he had been unable to transfer the bitcoins due to its complexity and the fact that his computers were held by the Canadian authorities. The issue was solved by bringing Lacroix’s computers into the courtroom and Lacroix was instructed to transfer the bitcoins immediately in front of the judiciary, with a warning that failure to comply would result in his arrest. The *PlexCoin* case is one of the first cases to handle seizure of cryptocurrencies from unwilling parties and will most likely set a precedent to the future on how to approach this matter and play a significant role in insolvency proceedings.⁵⁰

Hence, due to the anonymous nature of cryptocurrencies, IPs knowledge of the cryptocurrencies will depend on whether the existence of them is disclosed to them or not.⁵¹ Problems therefore arise in cases where the wallet holder refuses to disclose their existence, or transfers the units to third parties. In corporate matters, the information about the cryptocurrency units can be obtained from the Company’s books and records, but in bankruptcies of physical persons, however, the cryptocurrencies would be easier to disguise. There is no public register of ownership of cryptocurrencies and due to the encrypted system it would be impossible to identify ownership without technological assistance. This could

⁴⁸ Azeff – De Caria – McGuire 2018, p. 189f

⁴⁹ Korhonen – Ala-Ruona 2018

⁵⁰ Mendiola 2018

⁵¹ Draper 2019

definitely complicate things in cases where the debtor is not keen on the cryptocurrencies being found.⁵²

2.1.2. Volatility

Another problem that the cryptocurrencies give rise to in the insolvency proceedings is the volatility. Cryptocurrencies do not have an intrinsic value⁵³, but their value stems from supply and demand,⁵⁴ and the only reason they are being used is that people “are willing to accept them as a means of payment”.⁵⁵ Therefore, bitcoin among others has shown fluctuation in value over the years and gone from having practically no value in the beginning to more than EUR 17,000 in 2018 and EUR 7,700 at the time of writing.⁵⁶ Cryptocurrencies do not rely on any authority to control the issuance, which means that it is the members of the blockchain network, the miners, who solve the algorithms and create new units over time.⁵⁷ Some cryptocurrencies, such as bitcoin, have a set number of coins that can be mined. No more than 21 million bitcoins can be mined and this number is expected to be reached around the year 2140.⁵⁸ It is therefore nearly impossible to keep track or control the fluctuation in value.

Volatility is an important factor for IPs to take into consideration in insolvency proceedings, and especially in cases where there is a significant amount of cryptocurrency. It can be ascertained that cryptocurrencies are not reliable as an asset since there is no guarantee that their value will not suddenly drop to zero.⁵⁹ The volatility also depends on whether the cryptocurrency should be converted to fiat money or kept as cryptocurrency. If the security arrangements set out that the cryptocurrencies “as is” should be transferred to the creditor, the risk of value is also transferred. However, if the cryptoassets should be converted to fiat money, the point of valuation will be very critical as the value can drastically rise or fall in a short period of time.⁶⁰

In the earlier mentioned *MtGox* case, the Tokyo District Court also had to face the question of volatility. The plaintiff claimed ownership over the bitcoins in the bankruptcy estate and requested a payment of money as compensation damages since he had suffered a loss of

⁵² Draper 2019

⁵³ Intrinsic value is a way of describing the calculated or true value of an asset. This is not always the same as the market value, which can be over- or undervalued.

⁵⁴ Maginnis 2018, p. 493

⁵⁵ Takahashi 2017, p. 82

⁵⁶ 23.1.2020, <<https://www.coindesk.com/price/bitcoin>>

⁵⁷ Middlebrook – Hughes 2014, p. 818

⁵⁸ Fox 2018, p. 11

⁵⁹ The World Bank 2018, p. 30

⁶⁰ INSOL International 2019, p. 30

7,666,580 yen due to a incline in the market value of bitcoin during the period he was prevented from using, profiting and disposing of the bitcoins.⁶¹ The dissatisfaction resided in the valuation point of the bitcoins. The bankruptcy trustee had valued the bitcoins at USD 483 in April 2014, but in September 2016 the market value had skyrocket and they were worth approximately USD 1.3 billion.⁶² Since the court dismissed the claims on the grounds that the plaintiff could not be regarded as the owner of the bitcoins, he could not claim tort over the loss in market value.⁶³ It would have been interesting to see, though, which position the court would have taken regarding the valuation of the bitcoins.

Another problem with the volatility is the individual value of the coins or units. Logically it could be assumed that 1 coin would bear the value of 1 when it is paid in a transaction or exchanged for fiat money. However, the value of crypto-coins is not fungible, which means that the value of individual coins can differ. This is due to the unique hash codes of the coins, which enables the coins' transaction history to be traced. If the coins can be traced to derive from criminal activity, they will be regarded as tainted. Tainted coins can be rejected or get a discounted value, especially in coin exchanges, which makes them inferior to clean coins.⁶⁴

2.1.3. Antecedent Transactions

In most jurisdictions, the IPs are equipped with tools to challenge transactions made within a certain period of time afore the debtor is placed into insolvency. These mechanisms, generally known as “avoiding powers” or “claw-back actions”,⁶⁵ are one of the most important aspects of insolvency law. If the challenge is successful, a court can order the transaction to be reversed, for example by returning the assets to the bankruptcy estate.⁶⁶ This has proven difficult when it comes to cryptocurrencies, since cryptocurrencies allow anonymity and the transactions are nearly untraceable, or at least significantly difficult tracing. Some cryptocurrencies are even designed to avoid tracing.⁶⁷ However, there are some methods to trace precedent transactions. All transactions in the blockchain are publicly available to everyone on the network and the blockchain contains specific information about the nature and context of every transaction, which means that links between certain transactions can be identified and traced back to a certain digital wallet.⁶⁸

⁶¹ *MtGox*

⁶² INSOL International 2019, p. 31

⁶³ *MtGox*

⁶⁴ Fox 2018, p. 8

⁶⁵ Gurrea-Martinez 2018, p. 711

⁶⁶ INSOL International 2019, p. 31

⁶⁷ For example Dash, Monero and Zcash.

⁶⁸ INSOL International 2019, p. 33

It is important to remember that, as opposed to regular assets, cryptocurrency units are traced, not followed. The difference between the two is that following is a process that entails “following of the same asset as it moves from hand to hand”, while “tracing is a process of identifying a new asset as a substitute for the old”.⁶⁹ In other words, the recovery of antecedent transactions in insolvency proceedings would require assistance by highly skilled data scientists and would entail much additional cost to the insolvency estate. The IP would therefore have to consider whether the tracing would be worth it. In addition, although the transaction can be linked to a digital wallet, the physical person behind the wallet remains anonymous, or at least pseudonymous, unless the wallet in some way can be linked to him or her.⁷⁰

In *In re Hashfast Technologies LLC*, there was a question of recovery of bitcoins.⁷¹ The bankruptcy trustee claimed that the bankruptcy estate was entitled to recover a transaction of bitcoins that had been made before the bankruptcy. The trustee sought to recover the bitcoins or the value of the bitcoins, whichever was greater in value.⁷² In the end, both parties voluntarily dismissed the case before the court could take a stand on the questions referred to it, but since crypto assets are difficult to track down and recover, this is a question that is likely to become an issue in the future.⁷³

Still and all, antecedent transactions are usually recovered through a court order. This usually requires that the bankruptcy administrator is aware of the transaction that has taken place. In cross-border insolvency proceedings it is the general choice of law rules that appoints the applicable law, through which the antecedent transactions can be recovered. Although there are rules about claw-back actions in almost all national laws there are significant differences between them, especially when it comes to assets located abroad.⁷⁴ An aspect that will also

⁶⁹ Fox 2018, p. 30

⁷⁰ INSOL International 2019, p. 33

⁷¹ Also in this case, the earlier mentioned volatility problem was present (see section 2.1.2). The bitcoins could have been returned themselves, or simply the value of them. However, the value at the time of the improper transfer was much lower than the value at the time of recovery. The court would therefore also have taken a stand on which value could be recovered.

⁷² INSOL International 2019, p. 32

⁷³ Maginnis 2018, p. 487

⁷⁴ For example in *Saunders v Donovan*, the United Kingdom High Court gave judgment in a case involving a bankrupt in UK who owned property in Morocco. According to English law “all property belonging to or vested in the bankrupt” belongs to the bankruptcy estate. The property in Morocco could therefore be considered property of the bankruptcy estate and realized.

have influence on the recovery is if the insolvency law of the jurisdiction where the assets are located follows the principle of universality or territoriality.⁷⁵

Thus, for a successful recovery the bankruptcy administrator must firstly have the applicable law on his/her side, secondly, be aware of the transaction and in what jurisdiction the assets are located and thirdly, be able to recover the assets according to the law of the forum where they are located. In cases where the debtor has transferred cryptocurrency, it will be very difficult to find out to whom the coins have been transferred and in what jurisdiction the receiver is located. If this is possible, the next problem will be how to recover the coins if the jurisdiction, where the owner of the receiving public key is located, does not acknowledge cryptocurrencies as they are nor as assets of a bankruptcy estate.

If the IP is aware of the assets but are unable trace or recover them, s/he could apply the same rules which are applicable in cases where the transferred assets have perished or in other ways no longer are in the debtor's possession, i.e. the IP could claim for a restoration in money. However, this too could be unsatisfactory when it comes to cryptocurrencies. In addition to having a fluctuant value, the assets also include certain rights, such as right to vote and the right to be paid pro quota profits. If the IP claims for a restoration in money, s/he might receive a compensation of the value of the crypto assets at the time they were transferred, but s/he will not be able to exercise the participatory rights or be paid pro quota profits. These rights would still be exercised by the receiver.⁷⁶

If the IP makes the decision to proceed with the tracing of the antecedent transaction, there are a few ways to trace cryptocurrencies. The *external transaction* approach can be used when an external transaction is carried out together with the transaction of cryptocurrencies. If A buys goods from B and pays with 5 cryptocurrencies, IP can either trace the payment or the goods. Since B could have received the payment as purchaser for value without notice⁷⁷ and any title that IP would have asserted against B would be extinguished, tracing the goods would be the

⁷⁵In the Saunders v Donovan case, the assets could be realized in Mexico since both Mexico and the UK have ratified the UNCITRAL Model law, according to which foreign insolvency proceedings shall be recognized and given effect. By contrast, Switzerland follows the principle of territoriality, which means that earlier no foreign bankruptcy rulings had any effect and the foreign liquidator was not entitled to recover any assets located in Switzerland. However, as of 1 January 2019, the Swiss Parliament adopted some amendments to the provisions governing recognition in Switzerland of foreign bankruptcies, to make foreign recoveries possible. See more about the principle of universality and territoriality in chapter 2.2.1.

⁷⁶ Mangano 2018, p. 721

⁷⁷ Purchaser for value without notice is a purchaser in good faith.

easier option. However, this requires IP to be aware of the transaction between A and B, which, as mentioned before, is not always the case.⁷⁸

The *tracing through mixtures* method is most commonly used when coin exchanges want to separate tainted coins from clean ones.⁷⁹ Cryptographers use blockchain analysis techniques to test the origins of the coins they sell by looking at transactions of the same public key. This method can be divided into three approaches, the *poison*, *haircut* and *first in first out* approach. As an example, if B pays 5 of his/hers 10 cryptocurrencies to C, the question is whether this is the same 5 coins that B got from A, i.e. the “tainted” coins, or if it is the 5 “clean” coins. According to the *poison* approach, any output that derives from criminal activity is treated as 100% tainted by it, which means that both B’s remaining 5 coins and all C’s coins would be considered tainted. This approach, therefore, is very bad when tracing for private law purposes.⁸⁰ The IP cannot assume that both B’s and C’s coins were derived from A.

According to the *haircut* approach, the transactions are tainted in proportion with the tainted coins and the public key. Since 50 % of B’s coins are tainted before the transaction to C, 50 % of B’s remaining coins and 50 % of C’s coins would be considered tainted after the transaction. The taint is spread out to smaller and smaller amounts, and eventually it will be too small to be discovered. The haircut approach has been used in private law tracing, since proportionate sharing is customarily used in common law when assets are mixed.⁸¹

The *first in first out* approach entails that the first transaction “to” a public key is regarded to be the first one out from the same public key when a transaction is going out of the wallet. Since all transactions are time-stamped, this method is relatively easy. The 5 coins that B paid to C would therefore be considered to be B’s original coins, and the coins B have left in his wallet is considered to be the coins that was paid from A. This method has been used in private law cases, but has fallen out of popularity since it is expensive and difficult in cases with many contributors. However, in cryptocurrency cases this would be a great starting point.⁸² This would also be the most logical approach when tracing cryptocurrencies in insolvency proceedings.

⁷⁸ Fox 2018, p. 32

⁷⁹ See more about tainted and clean coins in section 2.1.2.

⁸⁰ Fox 2018, p. 33

⁸¹ Ibid., p. 34

⁸² Ibid., p. 35f

2.1.4. Financial Crime

As noted earlier, cryptocurrencies have been a popular means of payment in criminal activity, but they have also been popular *targets* for criminal activity. Especially global exchanges, which are largely unregulated, have fallen victims of fraud and theft with reports of some 980,000 bitcoins being stolen from exchanges since 2011.⁸³ In fact, in the *MtGox* case, the reason for the bankruptcy was that 744,800 bitcoins held by the exchange were stolen or in other ways suddenly disappeared under unclear circumstances. Many cryptocurrency-based Ponzi schemes have also emerged along with the technology.⁸⁴

Coined GmbH was an Austrian cryptocurrency mining business and exchange and operated one of the largest networks of cryptocurrency ATMs in Austria and Eastern Europe. In the end of October 2018, the company filed for bankruptcy. Prior to the filing, the Austrian Economic and Corruption Prosecutor's Office had been investigating the company on suspicion of serious commercial fraud, the operation of a chain letter and pyramid game and the violation of prospectus requirement in connection with the start-up's ICO. A raid of the company's office was made and claims of embezzlement ensued after clients of the company alleged that fiat currency had disappeared and client accounts ceased. The company's CEO confirmed financial difficulties and relocated the company to China.⁸⁵ The case is still pending, but the company is believed to have been involved in a massive cryptocurrency fraud, with over 100 Million Euros worth of damage to the investors who are now trying to get the stolen assets back.⁸⁶

Another cryptocurrency exchange, the Italian BitGrail Srl, announced in February 2018 that \$170 million USD worth of a cryptocurrency called Nano tokens was stolen from the customers through fraudulent transactions. In spring 2018, a customer creditor filed a bankruptcy petition for the company and in May 2018 Italian courts ordered that all assets of the company be brought under control of an appointed trustee. Instead of helping the trustee to get a hold of the assets, the BitGrail owner tried to reopen the exchange. The Italian courts then ordered all cryptocurrency stored in the exchange to be seized and transferred to the trustee.⁸⁷ In January 2019, the company was declared bankrupt by the court and it was ruled that all seized assets, in addition to all the owner's personal assets, be used to pay back the

⁸³ Pascoe 2018, p. 6

⁸⁴ EPRS 2014, p. 5

⁸⁵ Pascoe 2019

⁸⁶ Tamir 2018

⁸⁷ Pascoe 2019

creditors, since the court saw that the company had failed to install safeguards for the cryptocurrency.⁸⁸

The possibility of hacking and theft from unregulated exchanges poses a significant risk of insolvency to the exchange and in the absence of regulation there is no requirement that the exchange backs up the cryptocurrency deposits or transactions with actual funds.⁸⁹ Furthermore, due to the specialized market of the cryptocurrency entities, other insolvency proceedings than winding-ups is unlikely to be tenable if the entity has suffered losses that would constitute its substantive asset base.⁹⁰ Be that as it may, if a crime is recognized, the IP will naturally still want to return the stolen assets to the insolvency estate. As with the antecedent transaction, this will require tracing of the cryptocurrencies. If the tracing is successful, the IP will have to claim the assets from the jurisdiction where they are located, which raises question of recognition.

In 2020, the World Bank Group partnered with the United Nations Office on Drugs and Crime (UNODC) and published a book called “Going for Broke: Insolvency Tools to Support Cross-Border Asset Recovery in Corruption Cases”. The book outlines how insolvency proceedings can be used to combat official corruption and recover stolen assets. As stated in the book, there are variations in legal recognition and enforcement of foreign judgments in cross-border insolvency proceedings that the IPs who seek to recover the assets from foreign countries must keep in mind. In some jurisdictions, courts will recognize the foreign insolvency proceeding and issue orders at the request of the foreign IP who is authorized to act on behalf of the debtor. In other jurisdictions, the cross-border insolvency legislation gives the UNCITRAL Model law⁹¹ the force of local law, which means that requests for legal recognition can be resolved very quickly and routinely. Within the EU, the Recast Insolvency Regulation⁹² ensures that foreign IPs can exercise the rights and act on behalf of the estate in foreign jurisdictions.⁹³

In other jurisdictions, the IPs may have to seek cross-border recognition through the rules of international private law of the state. The IPs will have to request that specific measures ordered by the courts in the forum where the insolvency proceeding took place be recognized

⁸⁸ Mailer 2020

⁸⁹ Pascoe 2018, p. 6

⁹⁰ Ibid., p. 8

⁹¹ See chapter 3.1.1.

⁹² See chapter 3.2.1.

⁹³ Brun – Silver 2020, p. 17-18

in the foreign state where the assets are located. IPs may use treaties on legal assistance and recognition or execution of court decision for their request, but this method is generally very time-consuming and uncertain.⁹⁴ However, these methods require that the cryptocurrencies can be traced and that the criminal can be located to a certain jurisdiction.

In addition, a criminal asset forfeiture order could have the effect of removing assets from the insolvency estate, assets that would otherwise be available for distribution to the creditors. Correspondingly, assets held by third parties that would be the object of claw-back actions can be out of reach for the IP. In many jurisdictions, at the start of an insolvency case, all civil actions against the debtor are automatically stayed. The stay does not necessarily apply to asset forfeiture proceedings though.⁹⁵ This creates a conflict between the state confiscation of criminal assets and the insolvency proceedings. The assets could be held for years, which would make the insolvency proceeding kind of useless in cases where the companies' assets consists largely of stolen cryptocurrencies.

2.2. Issues Regarding Choice of Law and Jurisdiction

2.2.1. Jurisdiction

Cross-border insolvency proceedings are becoming more and more common since especially large companies often do business and have assets in several states. The proceedings, however, are often inefficient and costly due to the differences in laws and legal systems in various jurisdictions,⁹⁶ and to the lack of international legal regimes.⁹⁷ Issues regarding jurisdiction and conflict of laws often arise in cases where the laws of several states are applicable. These cases regard especially “judicial recognition and enforcement of foreign proceedings and court decisions”, “recognition of the claims of foreign creditors” and “disparities in the applicable laws of the assets”.⁹⁸

The term “jurisdiction” has multiple meanings. First of all, jurisdiction refers to “the amenability of a defendant to process in such a way as will give a court authority to decide the controversy which that process seeks to agitate”. Secondly, jurisdiction refers to “a particular territorial or law area or law district”.⁹⁹ Consequently, when a cross-border case reaches a court, the court must first consider whether it may claim jurisdiction to hear the dispute. The

⁹⁴ Brun – Silver 2020, p. 20

⁹⁵ Ibid., p. 92

⁹⁶ INSOL International 2019, p. 34

⁹⁷ Bufford et al 2001, p. 1

⁹⁸ Chandra Mohan 2012, p. 200

⁹⁹ Svantesson 2012, p. 8

court must have both subject-matter and personal jurisdiction, with subject-matter jurisdiction referring to jurisdiction over the type of dispute concerned and personal jurisdiction referring to jurisdiction over the parties involved in the dispute. The concept of jurisdiction is an important part of the international law since a state that cannot exercise any jurisdiction is not regarded as a state at all.¹⁰⁰

The decentralized nature of cryptocurrencies and blockchain technology imposes several jurisdictional questions in insolvency law that will need to be considered, since cryptocurrencies are borderless and many blockchain-based entities are not specifically linked to any particular state. The most eminent jurisdictional questions are therefore: where should the insolvency proceedings be opened and which law will govern the process?¹⁰¹

In cross-border insolvency cases, jurisdictional questions are usually solved through the universality or the territoriality model. According to the more favored universality approach, insolvency proceedings are opened in the state where the debtor has its domicile and this state's law should govern all of the assets of the insolvency estate, regardless of where the assets are located. This law is called *lex concursus* or *lex forum concursus* and is referring to “the law (*lex*) of the state where a court (*forum*) has opened insolvency proceeding (dealing with concurrent claims of creditors: *conkursus*) and which court is (or has been) charged with hearing, conduct, and closure of the proceedings”.¹⁰² According to the territoriality model, on the other hand, the legal effects of the insolvency proceeding will only extend to the state where the insolvency proceeding is opened, and any assets or creditors located outside this jurisdiction falls outside the legal authority of the estate administrator.¹⁰³

Both the European Insolvency Regulation and the UNCITRAL Model law follows the universalist approach with the principle of COMI, i.e. the main insolvency proceeding should be opened in the jurisdiction where the debtor has its *center of main interest*. This is presumed to be “where the debtor conducts the administration of its interests on a regular basis”, “the place of the registered office” or the debtor's “habitual residence”.¹⁰⁴ In other words, COMI provides a right to exercise international jurisdiction for the national court.¹⁰⁵ The idea behind COMI is to make the insolvency proceedings more efficient and predictable by preventing

¹⁰⁰ Svantesson 2012, p. 8

¹⁰¹ INSOL International 2019, p. 35

¹⁰² Wessels 2007, p. 117

¹⁰³ Ibid., p. 117

¹⁰⁴ European Insolvency Regulation, art. 3

¹⁰⁵ Wessels 2008, p. 69

parallel proceedings and restructurings.¹⁰⁶ Possible secondary proceedings, however, are restricted to the territory of another member states and only to the assets located in that state and can only concern winding-ups.¹⁰⁷ The principle of COMI will be further examined later.

Cryptocurrencies and other blockchain developments, such as decentralized autonomous organizations (DAOs), does not work well with principle of COMI, though. DAOs are organizations based on forms of autonomous code. They have no central governance, they are not run by humans and their existence is not based on legal contracts or employment contracts as opposed to traditional companies. Ownership and control becomes thus less prominent in these organizations.¹⁰⁸ DAOs generally consist of a collection of smart contracts and rely on digital currencies to fund their operations.¹⁰⁹ The blockchain code of the DAOs allows people from all over the world to enter into a series of transactions and creates a partnership-like entity that can exist, attract new investors and make decisions by majority voting of its users.¹¹⁰

The DAOs are a big threat to the principle of COMI, since its decentralized nature will make it difficult to find linking factors between the entity and a certain jurisdictions since there are no management or physical assets and the stakeholders are scattered around the globe. In addition, the legal status of DAOs is still very unclear, which would make it very difficult to commence an insolvency proceeding of a DAO.¹¹¹ Moreover, The DAOs are only one example of entities that do not work well with the current insolvency provisions and could be considered to be the most extreme at this point, but with the technological expansion that the world is facing these days, there is only a question of time before other developments will appear in different forms and shapes. It is also important to remember that there are also middle forms of these entities that are not as decentralized as DAOs but can still be puzzling. For example, the corporate entity might meet the requirement of a registered office but contain technological features that might arise a rebuttal of the statement of COMI in the cryptocurrency trading world. The IP seeking recognition of a proceeding as a foreign main proceeding might therefore notice that the COMI test is not enough.¹¹²

¹⁰⁶ Kokorin 2017

¹⁰⁷ Wessels 2007, p. 118

¹⁰⁸ Lazić 2020, p. 39

¹⁰⁹ De Filippi 2018, p. 148

¹¹⁰ Kokorin 2017

¹¹¹ Ibid.

¹¹² Pascoe 2018, p. 8

2.2.2. Choice of Law

If the question of forum can be established, the issue of which law will govern the process still stands.¹¹³ The traditional starting point is that courts will apply the insolvency law of the forum where the insolvency proceeding is opened (*lex fori*). This reflects both the public policy references in the law and the objective of a more efficient conduct of proceedings on the basis of familiarity with the domestic insolvency regime.¹¹⁴ But since there is little legislative guidance on dealing with cryptocurrencies in most countries of the world, and there are substantial differences between how cryptocurrencies are perceived and categorized, there will be differences in the result achieved through the application of the rules in one jurisdiction compared to another. The questions that will arise are therefore: which category of law will apply to cryptocurrencies? And which juridical concepts can be applied to them if they are not legally categorized as anything?¹¹⁵

Another issue arises in cases where the law of the forum is not the most logical approach, e.g. in cases where a cryptocurrency exchange goes bankrupt and the competing claimants are from different jurisdictions. In many jurisdictions, the *lex rei sitae* is the basic rule on which law will govern the insolvency process, i.e. the law of the place where the property is situated. But where are the cryptoassets located? Is it the location of the digital wallet? Is it the location of the blockchain itself? Or is it the location of the exchange used by the digital wallet holder?¹¹⁶ The physical location of the wallet would be a good starting point, i.e. the location of the online wallet or the machine where it is located. The problem with the location of the wallet, however, is that it is merely a digital proof of ownership and that a number of backups of the wallet can exist anywhere. In addition, possession of the key to the wallet does not necessarily state an ownership over the assets, only a right to access them, the question of where the wallet is located therefore remains.

The location of the blockchain is problematic in the way that it is mere data. Data can be stored on a physical server, which could mean that it is store within the jurisdiction where the insolvency proceeding was commenced, or it can be stored on a cloud server. If it is stored on a cloud server, the data could be in another jurisdiction on the other side of the globe, which could make it inaccessible due to appropriate recognition and ancillary orders.¹¹⁷ The problem

¹¹³ INSOL International 2019, p. 36

¹¹⁴ Böger 2013, p. 251

¹¹⁵ INSOL International 2019, p. 36

¹¹⁶ Ibid., p. 35

¹¹⁷ Pascoe 2018, p. 9

with the location of the exchange platforms or companies used is that the exchange entity may not follow a traditional corporate structure and simply does not have a physical office or physical assets, but still engage customers on a global scale.¹¹⁸ For example in the Mt Gox bankruptcy, the only physical assets listed were two servers, 28 laptops and one chair.¹¹⁹

A new general rule has therefore been proposed, the *lex creationis* (the law under which an intangible is created), which would be the most theoretically sound and practical rule for resolving competing proprietary claims to intangibles. The rule is said to have found expression in the property choice of law rules for contract debts, shares, intellectual property and rights of suit in tort and the rules for assignability of debts. There are two main objections for the *lex creationis* rule regarding cryptocurrencies, though. The first one is a discomfort with applying the law governing a contract to a question of proprietary. The rule is not limited to rights created by contract, but covers intangibles with no consensual origin at all, for which the objection has no force. Even when a contract provides rights itself, the rule is governing the proprietary issues because the right exists in the law governing the contract, and not because of the agreement.¹²⁰

The second main objective is that the rule would apply a contractual choice of law rule to proprietary issues. This is however not the case. The issue remains proprietary and again, the rule applies whether the source of the right is in the agreement or in another area of law. It is however difficult to apply the *lex creationis* rule to cryptocurrencies, since the cryptocurrencies are not an obligation in contract or tort. Cryptocurrencies' existence is independent of any law. There is therefore no law that could be considered the source of cryptocurrencies and the *lex creationis* cannot be applied.¹²¹

2.2.3. Regulatory Arbitrage

Although international insolvency law is commonly associated with failed or failing businesses, insolvency law is also an important risk factor to regard when considering international investment and the expansion of business abroad.¹²² The discrepancies in insolvency regimes, which are based on social and cultural differences, means that a potentially failing company will be treated differently depending on the jurisdiction and

¹¹⁸ INSOL International 2019, p. 36

¹¹⁹ Pascoe 2018, p. 8

¹²⁰ Ng 2019, p. 332

¹²¹ Ibid., p. 332

¹²² Bufford et al 2001, p. 3, Mason 2017, p. 112

different interests will have different status.¹²³ Some of the factors that will have an impact on the outcome are whether the insolvency estate comprises local and foreign assets, to which extent foreign creditors claims are recognized, the effect of the insolvency on antecedent or incomplete transactions and the recognition of the proceeding in other jurisdictions.¹²⁴

An irregular regulatory landscape, ascribed to the differences in national regulation, creates the possibility to circumvent certain rules and legislation to more favorable ones. This concept is known as regulatory arbitrage.¹²⁵ From a financial theory perspective, the investment strategy in regulatory arbitrage is that someone seeks to profit from discrepancies in two different markets by choosing the one with the lowest cost or the one that is the most favorable considering the risks.¹²⁶ There are two different types of regulatory arbitrage. Jurisdictional arbitrage takes advantage of differences in law from different jurisdictions, while categorical arbitrage exploits a legal discrepancy in treatment of activities or products that are functionally similar.¹²⁷

In the field of cryptocurrencies, many crypto exchanges, among others, have taken advantage of regulatory arbitrage to find jurisdictions with a more relaxed regulatory regime.¹²⁸ Furthermore, cryptocurrencies have been stated to pose “a real risk of regulatory arbitrage”,¹²⁹ which is not surprising considering the many various approaches to cryptocurrencies existing across the globe. Tech firms have in general shown a great interest towards regulatory arbitrage, since they often are startups and regulation is lagging behind¹³⁰ and the technology does not fit into already existing categorizations.¹³¹

So why is regulatory arbitrage an issue? Well, the problem is that the invested companies that are set up in a certain jurisdiction have a profound investment effect on that jurisdiction and its market, yet are still out of reach for the state’s regulation, which could create a “race to the bottom” effect.¹³² In addition, the jurisdictions are often chosen not in favor of their national laws, but because of the rules created by market participants themselves and enshrined in

¹²³ Meager 2016, p. 27f

¹²⁴ Mason 2017, p. 112

¹²⁵ Riles 2014, p. 65

¹²⁶ *Ibid.*, p. 47

¹²⁷ Pollman 2019, p. 571

¹²⁸ Jackson 2019, p. 2

¹²⁹ Alder 2019, p. 3

¹³⁰ Eidenmüller et al 2019, p. 404

¹³¹ Pollman 2019, p. 569

¹³² The race to the bottom effect refers to a competitive state where a jurisdiction relaxes its regulation and compromises the public good in order to attract investment to it.

contracts, which are then deemed enforceable by states, even though the rules created by market participants are not socially optimal for the states enforcing the contracts. The impact of regulatory arbitrage in such scenarios is to eliminate the differences between state rules and non-state rules.¹³³ Another problem is that regulatory arbitrage “distorts regulatory competition, shifts costs, and undermines the rule of law”.¹³⁴

Reputedly, the only remedy against regulatory arbitrage is harmonization of legal rules on a global level.¹³⁵ As mentioned before, this has been proven difficult. Therefore, other approaches to this problem have been presented. Professor Annelise Riles has criticized the “harmonization approach”, due to it being “an extremely contentious and difficult process” to harmonize national laws, and proposed a development of the conflict of laws rules instead. According to the “conflicts approach”, the counteract to regulatory arbitrage is to “define under what circumstance a particular dispute or problem shall be subject to one state’s law or another”. The advantages of this approach is that it provides a more sophisticated and manageable approach to answering practical questions and that it requires no new legislation and no new agreements to be fought through. The only thing it requires is a more forceful and creative application of the already existing legal systems.¹³⁶

Another approach that has been suggested is the improvement of the drafting of laws and to use anti-avoidance regimes. According to this approach, the crafting of new legal rules that accurately track the economic substance of transactions will reduce the risk of regulatory arbitrage by simple reducing the legal gap that is taken advantage of.¹³⁷ Nevertheless, regulatory arbitrage is a considerable problem, especially to new emerging tech firms. Different solutions have been suggested to fight this problem but what they all have in common is that law making will be part of the solution. It is important that the law making favors technological development, while still reduces social harm. When regulating cryptocurrencies in the international insolvency law, the regulatory arbitrage should therefore be taken into consideration. If there are no significant differences between different states, the appeal to find more relaxed regimes will fade.

¹³³ Riles 2014, p. 73

¹³⁴ Pollman 2019, p. 586

¹³⁵ Riles 2014, p. 65

¹³⁶ Ibid., p. 66-67

¹³⁷ Barry 2011, p. 73

2.3. Risk to Global Financial Stability

2.3.1. Systemic Risk

Insolvency law has been described as “the root of commercial and financial law”,¹³⁸ which means that although it “does not constitute direct regulation of the financial market, it significantly affects the market and the way its participants behave”.¹³⁹ Insolvency laws come into question when corporations and other entities exit from the economic system and have a great impact on the losses that might occur. The insolvency law is therefore an important part of financial stability in terms of credit and systemic risk.¹⁴⁰ When the insolvency proceeding concerns a financial institution, such as a bank, the impact on financial stability is even greater. Along with this is the risk that cryptocurrencies pose to financial stability, which has been analysed by different authorities and which goes beyond the borders of the insolvency law. However, the risks to financial stability in general by cryptocurrencies should also be taken into consideration when regulating the insolvency law.

In 2012, a working paper published by the European Central Bank (ECB) analyzed virtual currencies’ risks to price stability, financial stability and payment system stability. Financial stability is defined by the ECB “as the condition in which the financial system - comprising financial intermediaries, markets and market infrastructures – is capable of withstanding shocks, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities”.¹⁴¹ The analysis concluded that cryptocurrencies “do not pose a risk to price stability, provided that money creation continues to stay at a low level” and that they “tend to be inherently unstable, but cannot jeopardize financial stability, owing to their limited connection with the real economy, their low volume traded and a lack of wide user acceptance”.¹⁴²

In a further analysis made in 2015, ECB states that “although [virtual currencies] can have positive aspects in terms of financial innovation and the provision of additional payment alternatives for consumers, it is clear that they also entail risks”. However, regarding monetary policy, price stability and financial stability, the risks remain low.¹⁴³ Some of the risks mentioned are lack of transparency, absence or unclarity of legal status, lack of

¹³⁸ Mason 2012, p. 106

¹³⁹ Rydl 2006, p. 93

¹⁴⁰ Rydl 2006, p. 93

¹⁴¹ ECB 2012, p. 37

¹⁴² Ibid., p. 6

¹⁴³ ECB 2015, p. 4

continuity (e.g. discontinued as a result of bankruptcy), high IT dependency, anonymity (e.g. risk of breach of contract) and high volatility.¹⁴⁴ ECB concludes, though, that these risks' impact on price stability and financial stability will remain low and will only become a problem if "(i) [virtual currencies] become more widely used in regular payments; (ii) greater links to the real economy develop [...] and (iii) no structural developments are envisaged that would make VCS inherently more stable".¹⁴⁵

The opinion on cryptocurrencies' risks to financial stability has long followed the same pattern. In April 2018, an analysis on monetary policy ordered by the European Parliament concluded: "Despite their technological advances and global reach, VCs are far from being able to challenge the dominant position of sovereign currencies and the monetary policies of central banks, especially in major currency areas."¹⁴⁶ The authors claim that one of the reasons for this is that "as long as major trading platforms and financial intermediaries do not accept payments in VCs, their transactional role will remain limited and they will fulfill mainly the third function of money, the store of value – that is, they will serve as one of many investment assets".¹⁴⁷ Be that as it may, the small but still possible risks mentioned in the analysis are risks of crime, volatility, regulatory arbitrage and currency substitution, i.e. a situation where a country suffering from macroeconomic or political instability and uncertainty chooses to abandon its own currency in favor of another.¹⁴⁸

In October 2018, the Financial Stability Board issued a report on potential financial stability implications from crypto assets. According to the report, the primary risks to financial stability are market liquidity risks, volatility risks, leverage risks, risk of fraud and technological and operational risks.¹⁴⁹ In addition to these, the cryptocurrencies also pose a broader policy concern, e.g risks to consumer and investor protection and market integrity, money laundering, terrorist financing, sanctions evasion, fraud and other illicit financing risks.¹⁵⁰ Nevertheless, cryptocurrencies do not state a significant risk to financial stability at present. If they were to become more actively traded by financial institutions or used by the general public, a reassessment of the implications on financial stability would have to be made.¹⁵¹

¹⁴⁴ ECB 2015, p. 20f

¹⁴⁵ Ibid., p. 26

¹⁴⁶ Dabrowski – Janikowski 2018, p. 5

¹⁴⁷ Ibid., p. 5

¹⁴⁸ Ibid., p. 15-24

¹⁴⁹ FSB 2018, p. 5

¹⁵⁰ Ibid., p. 4

¹⁵¹ Ibid., p. 9

In 2019, the chair of the Financial Stability Board (FSB) Randal Quarles wrote in a letter to G20 that "crypto-assets do not pose a threat to global financial stability at this point, but that they remain vigilant to existing and emerging risks".¹⁵² Especially global stablecoins¹⁵³ "could pose a host of challenges to the regulatory community, not least because they have the potential to become systemically important, including through the substitution of domestic currencies. These include challenges for financial stability; consumer and investor protection; data privacy and protection; financial integrity including AML/CFT and know-your-customer compliance; mitigation of tax evasion; fair competition and anti-trust policy; market integrity; sound and efficient governance; cyber security and operational risks; and an appropriate legal basis". Due to these risks, a G7 working group will continue to monitor and analyse crypto assets and their effect on financial stability, and examine the regulatory issues they generate and in July 2020, a final report on the matter will be submitted.¹⁵⁴

Thus, the common view among authorities has been and is that cryptocurrencies pose a plausible but small risk factor on financial stability at the moment and the main argument for this has been the modest use of cryptocurrencies. However, as mentioned earlier, the cryptocurrencies are becoming more and more accepted as a means of payment in commercial transactions, which means that they will soon have much more influence on the economic market than they have now. Some skeptical scholars have therefore another viewpoint on this matter and consider cryptocurrencies a major threat to financial stability.

The economist Jon Danielsson argues that "if private cryptocurrencies were to find widespread economic use, either coexisting with or fully displacing fiat money, the result would be increased financial stability, inequality, and social instability".¹⁵⁵ Danielsson agrees that cryptocurrencies do not threaten financial stability today, but if the markets were to see an increase in the day-to-day use of cryptocurrencies, as they probably will, the cryptocurrency-based monetary system will create forms of instability, both known and unknown to the current markets.¹⁵⁶ While fiat systems share the same risks, they have a safety valve. Cryptocurrencies like bitcoin cannot create more money since they have a fixed mining

¹⁵² Quarles 2020

¹⁵³ A stablecoin is a cryptocurrency that attempts to offer price stability and are backed by a reserve asset (Hayes 2019).

¹⁵⁴ Quarles 2020

¹⁵⁵ Danielsson 2018

¹⁵⁶ Cryptosystems create money, which is essential to financial instability. The damage arises when the creation of the coins are uncontrolled. When banks create fiat money, they also create higher forms of money, M1 and M2. This does not happen naturally in the cryptosystem, but when people start trading with lended and borrowed cryptocurrencies, crypto M1 and M2 are created. This could lead to an economic crisis, when the economic agent doubts the value of the assets. (Danielsson 2018)

schedule, which means that other cryptocurrencies would have to be included in a time of crisis. Fiat systems are therefore more stable and have a bigger chance of minimizing failures and keeping the economy going than cryptocurrency systems. In conclusion, cryptocurrency systems involves a greater systemic risk than fiat systems.¹⁵⁷

In February 2018, the president of the European Central Bank expressed the importance of identifying the risks that cryptocurrencies pose. According to him, although supervised institutions have not shown a great interest in cryptocurrencies, the public definitely has. The high-volatile and unregulated cryptocurrencies must therefore "be regarded as very risky assets". Hence, work is under way in the Single Supervisory Mechanism¹⁵⁸ to identify the risks that cryptocurrencies could pose on the institutions.¹⁵⁹

In conclusion, it can be ascertained that authorities has adopted a humble view in regard to the systemic risk of cryptocurrencies but as Danielsson points out, it is important to remember that cryptocurrency is a type of "currency" that the world has not earlier experienced. It is therefore important to also take into consideration the untraditional and unexpected risks that might occur. In addition, since cryptocurrency lacks a central point of governance, it is even more difficult to point out who is responsible if the cryptocurrency system would suddenly crash. For this reason, it is important that the analysis conducted of the systemic risk that cryptocurrency involves go beyond the traditional scope and thinking.

¹⁵⁷ Danielsson 2018

¹⁵⁸ The Single Supervisory Mechanism refers to the system of banking supervision in Europe. Its main aims are to ensure the safety and soundness of the European banking system, increase financial integration and stability and ensure consistent supervision. (ECB (2018)).

¹⁵⁹ Draghi 2018

3. Current Regulatory Regime in the International Insolvency Law

3.1. International Level

3.1.1. UNCITRAL Works

In order to consider a reform of or new regime in a judicial area, it is important to have knowledge of the existing legal frameworks and sources. The existing sources in the international insolvency law can be divided into (i) international treaties and conventions; (ii) other international rules and model laws; (iii) the sources of the European Union (EU); (iv) private international law; (v) recognized principles; and (vi) comity of law.¹⁶⁰ Some scholars also claim that certain aspects of the international insolvency law should be seen as customary international law, however, this has been debated.¹⁶¹ At the time of writing, none of the sources of international insolvency law contains any provisions about cryptocurrencies.

With the exception of the new EU regime on insolvency, there are hardly any legally binding frameworks regarding international insolvency. Therefore, in 1997, the United Nations Commission on International Trade Law (UNCITRAL) adopted a model law on Cross-Border Insolvency (the Model law). The purpose of the Model law was to “provide effective mechanisms for dealing with cases of cross-border insolvency”, with focus on cooperation between courts or other authorities and foreign states, greater legal certainty for trade and investment, fair and efficient administration in the insolvency proceeding that protects the interests of all involved, protection of the value of the debtor’s assets and rescue of businesses in financial trouble.¹⁶² The Model law is accompanied by an explanatory Guide to Enactment and Interpretation, which is included following the Model law in order to encourage and assist states in adopting the Model law.¹⁶³

The Model law is not a binding instrument, which means that it needs to be incorporated into national law by the individual states. There are two legal theories to incorporation of international law in the national law. According to the monist approach, national and international law form one single legal order and on that basis the international law can be applied directly within the national legal order. According to the dualist approach, international and national law should be regarded as two different legal systems meaning that

¹⁶⁰ BIS 2002, p. A13

¹⁶¹ See chapter 3.5.

¹⁶² UNCITRAL Model Law on Cross-Border Insolvency

¹⁶³ Story 2015, p. 437

the international law norms need to be adopted into national law in order to be given effect.¹⁶⁴ Notwithstanding its non-binding status, the Model law has been considered the most important legal framework in the international insolvency law and as of March 2020, it has been adopted by 48 jurisdictions.¹⁶⁵

The Model law was adopted in an attempt to harmonize the rules between jurisdictions, since this had proven to be troublesome in international insolvency proceedings, as well as to create a legal framework in an area that lagged behind in regulation.¹⁶⁶ Prior to the Model law, cross-border insolvency cases were solved either by ad-hoc court-to-court arrangements or through regional instruments, which remained costly and inefficient and lacked transparency. The Model law was therefore a daring, but welcome, addition to the international insolvency scene.¹⁶⁷ However, due to its non-binding nature, some practical challenges have remained after the adoption of the Model law, such as problems with inefficiency or disregard of other jurisdictions' rulings or laws and lack of advice regarding the necessary changes to the substantive rules that a procedural framework requires. In addition, the Guide to Enactment and Implementation has received negative feedback since it does not contemplate cross-border cases, but only focuses on domestic law. A call for a revisited Model law has therefore been discussed, with a special focus on the need for hard law in this area.¹⁶⁸

As a result of this, UNCITRAL adopted a new model law on the recognition and enforcement of insolvency-related judgments (MLIJ) in 2018. The purpose of MLIJ is to improve efficiency and recognition in the international insolvency law and to make international insolvency cases more predictable and advantageous as well as to avoid duplication of them. MLIJ has so far been met positively, however, one of the limitations that has been brought up has been the increased flexibility. Flexibility enables a wide adoption of MLIJ but in the same time allows states to modify the text of it. This may lead to inconsistencies in the interpretation and application of it, which would be the exact opposite of the goal of the model law.¹⁶⁹

In 2009, a complementary to the 1997 Model law was adopted called “the Practice Guide on Cross-Border Insolvency Cooperation” (the Practice Guide). The Practice Guide provides

¹⁶⁴ Crawford 2012, p. 48

¹⁶⁵ 29.4.2020, < https://uncitral.un.org/en/texts/insolvency/modellaw/cross-border_insolvency/status>

¹⁶⁶ UNCITRAL Model Law on Cross-Border Insolvency

¹⁶⁷ Kokorin 2018

¹⁶⁸ Labbé 2016

¹⁶⁹ Kokorin 2018

information for courts and IPs about practical matters of cooperation and communication in cross-border insolvency proceedings. The Practice Guide provides a reference source of issues that commonly arise in cross-border insolvency proceedings with clauses and techniques to help solving these issues.

3.1.2. Nordic Bankruptcy Convention

The Nordic Bankruptcy Convention (the Convention) was entered into on 7 November 1933 between the Nordic countries and is still in force. The Convention has provided a legal framework for automatic recognition and enforcement of personal and corporate bankruptcies between the countries. This means that a bankruptcy opened in one Nordic country comprises all assets and liabilities that the debtor owns also in the other Nordic countries, the law of the country in which the insolvency proceeding is opened is applicable unless an exception is present and the bankruptcy administrator is authorized to dispose of all assets of the bankruptcy estate, regardless of which state they are located in (*universality theory*). The Convention is only applicable to bankruptcies; other insolvency proceedings do not fall within the scope of the Convention.¹⁷⁰

The background to the Convention was that the representatives from the Nordic countries saw the advantages of a mutual bankruptcy framework due to the increase in trade in the Nordic region, which would eventually lead to more cross-border bankruptcies.¹⁷¹ According to professor Michael Bogdan, there is hardly any published case law on Inter-Nordic bankruptcies. The aims of the Convention can, therefore, be considered achieved and the legal instrument *per se* successful.¹⁷² Nevertheless, the Nordic Bankruptcy Convention is nowadays replaced by the European Insolvency Regulation (see section 3.2.1) in Finland and Sweden, but is still applicable in Denmark, Norway and Iceland.¹⁷³

The Convention would be moot in regard to cryptocurrencies first of all since the Convention is a so-called single convention, which means that it only covers recognition and enforcement of foreign legal decisions, whereas a “double convention” would also contain jurisdictional provisions.¹⁷⁴ This means that it does not provide any answers to jurisdictional and substantive questions, this is still up to the states domestic legislation. Secondly, the Convention is only applicable on domiciliary bankruptcies, i.e. bankruptcies that have been

¹⁷⁰ Parment 2004, p. 2f

¹⁷¹ Ibid., p. 2f

¹⁷² Bodgan 1997, p. 142f

¹⁷³ Parment 2004, p. 7

¹⁷⁴ Ibid., p. 3

issued by a court in the jurisdiction where the bankruptcy entity is domiciled or has its registered office and not at all on non-domiciliary bankruptcies. This is similar to the problems with the principle of COMI.¹⁷⁵

Thirdly, the question of applicable law becomes very important since there will be only one bankruptcy proceeding. Pursuant to the Convention, the law of the jurisdiction in which the bankruptcy was declared is favored (*the lex concursus*) and the Convention states a few matters that this law shall cover.¹⁷⁶ However, there are a few exceptions from the *lex concursus* according to which the law of another Nordic State is applicable instead of the law of the state where the bankruptcy was declared. One example of the exceptions is that property that is not liable for seizure for any claim under the law in which the property is situated shall not be included in the bankruptcy estate.¹⁷⁷ In addition, the Convention contains several provisions regarded where assets shall be deemed to be situated, but taking into consideration that the Convention was entered into in 1933, the provisions are meant for hard assets and do not work well on intangible assets. However, the simple structure and strong universality principle of the Convention should still be taken into consideration for future regulation.

3.1.3. Cross-Border Insolvency Concordat

The Council of the International Bar Association (IBA) adopted the Cross-Border Insolvency Concordat (the Concordat) in 1995, in the view that “an insolvency regime which is reasonably predictable, fair and convenient can promote international trade and commerce”.¹⁷⁸ The aim of the Concordat was to create a legal framework for harmonizing cross-border insolvency proceedings since there was no “uniform statute or treaty adopted by commercial nations dealing with the policy and commercial problems that arise in cross-border insolvencies” at the time, and to deal with the issues and downfalls of global commercial deals.¹⁷⁹ The Concordat provides ten general principles, which do not have the force of law, but which should be taken into consideration in cross-border insolvency

¹⁷⁵ Parment 2004, p. 4

¹⁷⁶ The matters that should be covered by the *lex concursus* are: (1) divesting the bankruptcy debtor of the administration of his or her property; (2) the extent of the assets and the property therein comprised or capable of being re-incorporated therein in consequence of annulment proceedings; (3) the bankruptcy debtor’s rights and obligations during bankruptcy; (4) the administration of the bankruptcy debtor’s property and transactions in respect thereof; (5) the rights of creditors in respect of the payment of their claims; (6) the allocation of assets; (7) the composition with creditors or other mode of settlement.

¹⁷⁷ Parment 2004, p. 5

¹⁷⁸ Leonard 1997, p. 131

¹⁷⁹ The Cross-Border Insolvency Concordat

proceedings. The Concordat is still in force but in 1997 the UNCITRAL Model Law overtook its use and today the Concordat has little relevance.¹⁸⁰

Albeit its short lifetime, the Concordat was successfully applied on a cross-border insolvency case and could demonstrate the positive factors of an international agreement. *Everfresh Beverages Inc.* was a multinational distributor of beverages with its head office in Chicago and operations in Illinois, Michigan and Ontario. When facing financial distress, the company filed for a reorganizational proceeding both in Toronto under Canadian law and New York under US law. The judges in Toronto and New York encouraged the company and its creditors to co-ordinate the two proceedings in accordance with the Cross-Border Insolvency Concordat. In less than five weeks, the company, its major operating lender and the US Creditors' Committee had developed a cross-border insolvency protocol, based on the Concordat. The protocol dealt with administration and sale of assets in both jurisdictions, distribution of the proceeds of sale, co-ordination with creditors' claims and made up a plan for the reorganization of the company. The protocol was a success and both courts approved the protocol in the same day.¹⁸¹

Already in 1999, David H. Culmer regarded the creating of the Concordat to be a sign of the direction that the international insolvency law was to go in resolving cross-border insolvency issues, and promoted that a treaty would be necessary to fill the void in especially international bankruptcy law.¹⁸² Prior to the Concordat many other attempts to harmonize rules or unify the insolvency law in order to facilitate cross-border insolvency proceedings had failed, mostly due to the lack of interest in such treaties and the perception that insolvency law is a private law matter. But Culmer argues that the Concordat is a sign of a special customary international law that has progressed within the cross-border insolvency law. Certain principles of the Concordat get along well with the sources of international law, such as the right of official representatives to receive notice of and to appear in all proceedings and the use of limited proceedings, hence these should be regarded as indications of what customary international law in insolvency law might become.¹⁸³

Some of the principles of the Concordat agrees with the function of cryptocurrencies, for example that a single administrative forum should have responsibility for insolvency entities

¹⁸⁰ Mason – Martin 2017, p. 12

¹⁸¹ Leonard 1997, p. 131f

¹⁸² Culmer 1999, p. 564f

¹⁸³ *Ibid.*, p. 567f

with cross-border connections,¹⁸⁴ and that this one forum administrates and collects all of the assets and is recognized by other forums.¹⁸⁵ If there is more than one forum, official representatives of each forum shall have the right to appear and be heard in any fora,¹⁸⁶ and that courts of the forum will not give effect to acts of state of other jurisdictions used to invalidate otherwise valid pre-insolvency transactions.¹⁸⁷

However, the Concordat also states that if there is more than one plenary forum but no main forum the territoriality principle will apply, which do not work well with borderless cryptocurrency. In these situations, each plenary forum should also apply its own ranking rules for classification and distribution to secured and privileged claims, which enhances the risk of divergences of claims.¹⁸⁸ In addition, the single administrative forum in principle 1 should be where the entity has its “nerve centre” and “many of its assets in one country”, which, as mentioned before, is undesirable regarding cryptocurrencies.¹⁸⁹

3.1.4. The Bustamante Code

The Bustamante Code (the Code) is a treaty intended to establish rules about private international law in the Americas and was signed at Havana and put into force in 1928 by 15 states. The treaty consists of 437 articles, which constitutes of an introductory section and four books titled International Civil Law, International Commercial Law, International Criminal Law and International Law of Procedure. The fourth book, International Law of Procedure, contains specific provisions relating to cross-border insolvencies, e.g. Articles 328 and 329 and 414 to 422.¹⁹⁰ The Code provides that jurisdiction is established according to the debtor’s domicile. If the debtor has several domiciles, proceedings may be opened in each state where domicile is found. The Code allows for recognition of orders given in other member states and extraterritorial effect is given to the insolvency proceedings. The powers of the insolvency administrator are also to be recognized by the courts of other states.¹⁹¹

The success of the Code has been disputed. Some scholars have been positive about the Code and claim that its large membership proves evidence of its success,¹⁹² while others propose

¹⁸⁴ Principle 1

¹⁸⁵ Principle 2

¹⁸⁶ Principle 3

¹⁸⁷ Principle 10

¹⁸⁸ Principle 4

¹⁸⁹ Principle 1, rationale

¹⁹⁰ Boone 2012, p. 74

¹⁹¹ Omar 2002, p. 188

¹⁹² Ibid., p. 189

the need for a revision of the Code. In order to become a success, the number of ratifiers must be extended, the provisions in the Code that make ratification almost meaningless must be withdrawn and some provisions be amended, for example the provisions regarding choosing between national law and the law of the domicile, which often leaves the decision to local law.¹⁹³ In regard to cryptocurrencies, it can be ascertained that the basic problems of the Code are domicile and territoriality.

3.2. European Level

3.2.1. European Insolvency Regulation and Restructuring Directive

The European Insolvency Regulation¹⁹⁴ (the EIR) is an EU Regulation concerning the rules of jurisdiction of cross-border insolvency proceedings and was passed in 2000. The EIR is based on the universality approach, with the principle of COMI. However, it is generally agreed that the EIR uses a form of “mitigated” or “coordinated” universalism. This universalism model can be regarded as a combined model of universalism and territorialism, which means that the main proceedings can be opened in the member state where the debtor has its COMI and the jurisdiction of this proceeding will extend to all assets located in other member states, except for assets located in member states where secondary proceedings have been opened. Secondary proceedings may be opened in those member states where the debtor has an establishment.¹⁹⁵

The Model law and the EIR share many similar features, but as opposed to the UNCITRAL model laws the EIR does not try to harmonize the legislation between the member states, only reduce the conflict of laws between them. While the Model law has been considered the most eminent framework due to the large number of adopting nations, in a case of conflict-of-laws between the two in jurisdictions that have adopted both, the EIR will take precedence.¹⁹⁶

In 2010, INSOL Europe, the leading European organization of professionals who specialize in insolvency, published a report on the weaknesses of the EIR. The most noticeable weakness found was the divergence between member states’ national laws in regard to a) the eligibility and criteria for the opening of an insolvency proceeding, b) the general stay on the creditor’s powers to assert and enforce their rights after the commencement of insolvency and reorganization proceedings, c) the rules with respect to the management of the insolvency

¹⁹³ Nadelmann 1971, p. 783-784

¹⁹⁴ Council Regulation (EC) 1346/2000 of 29 May 2000 on Insolvency Proceedings

¹⁹⁵ Wessels 2019

¹⁹⁶ Story 2015, p. 459

proceedings, d) the different rankings of creditors, e) the rules on the process of filing and verification of claims, f) responsibility for proposal, verification, adoption, modification and contents of reorganization plan, g) avoidance and “claw-back” actions, h) termination of contracts and mandatory continuation of performance, j) liability of directors, shadow directors, shareholders, lenders and other parties and l) qualifications and eligibility for the appointment, licensing, regulation, supervision and professional ethics and conduct of insolvency representatives.¹⁹⁷ In regard to cryptocurrency, the main issue with the EIR is the principle of COMI, which will be further examined later in the thesis.

As a response to the report, a recast of the EIR was adopted (R-EIR) in 2015, which applies to all insolvency proceedings opened after 26 June 2017.¹⁹⁸ The R-EIR is binding legislation for all member states except Denmark, who decided to opt-out of both EIR and R-EIR. The most important change in the R-EIR, compared to EIR, was the addition of a chapter concerning group insolvencies. In addition, the European Parliament also recommended specifying the concept of COMI and establishment and increasing the cooperation between courts.¹⁹⁹

In addition to the EIR, the Restructuring Directive²⁰⁰ is an important framework of the EU law. The Restructuring Directive came as a supplement to the EIR, since the EIR provides for rules governing the allocation of jurisdiction for the opening of insolvency proceedings, but does not address or regulate disparities in national laws. The aim of the Restructuring Directive is therefore to provide for a harmonized minimum restructuring standard across the EU. The three main aims of the Restructuring Directive are (1) to ensure that member states have a preventive restructuring framework - which includes a restructuring plan; (2) to ensure that entrepreneurs have a second chance through an effective debt discharge mechanism; and (3) to ensure that member states put in place measures to raise the efficiency of restructuring, insolvency and discharge of debt procedures more widely. The Restructuring Directive does not attempt to harmonize the substantive insolvency rules.

3.2.2. Istanbul Convention

In the 1980's, the Council of Europe established a committee of governmental specialists with the sole purpose of creating a bankruptcy convention. This led to the adoption of the

¹⁹⁷ Puksztó 2011, p. 7

¹⁹⁸ Regulation (EU) 2015/848 of the European Parliament and of the Council of 20 May 2015 on insolvency proceedings

¹⁹⁹ Mucciarelli 2016, p. 4

²⁰⁰ Directive 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt, and amending Directive 2017/1132

European Convention on Certain International Aspects of Bankruptcy in Istanbul, 1990. The aim of the convention was to “achieve a greater unity between its members” and to “guarantee a minimum of legal co-operation by dealing with certain international aspects of bankruptcy” since “bankruptcy proceedings [...] more and more frequently concern persons who exercise activities outside the national territory”.²⁰¹ In regard to its provisions, the convention does not differ significantly from the Model law or the EIR. To this day, only Cyprus has ratified the convention.²⁰² The convention can therefore be regarded as a considerable failure.

3.3. Standards and Principles

In addition to the other sources, there are general standards and principles applicable in the international insolvency law. The UNCITRAL Legislative Guide on Insolvency Law (the Legislative Guide) provides a comprehensive statement of key objectives and principles that should be reflected in a State’s insolvency law, in order to build a strong and flexible insolvency regime. It arose from a proposal to the United Nation Commission in 1999, according to which UNCITRAL should expand its work on corporate insolvency law to encourage the adoption of effective and harmonized national insolvency laws. The first draft of the Legislative Guide, which contains part I and II, was finalized and adopted in June 2004. In its preparatory work, representatives from the Commission’s 36 members states took part, as well as representatives from other states and international, intergovernmental and non-governmental organizations.²⁰³ In 2010 and 2013, part III and IV were added to the Legislative Guide, which focuses on the treatment of enterprise groups and the obligation of the decision makers of the enterprise.²⁰⁴

Another set of principles regarded important are the World Bank’s “Principles for Effective Insolvency and Creditor Rights System” (the Principles). The Principles offer a framework for analyzing and improving the effectiveness of domestic insolvency and creditor/debtor rights (ICR). The Principles are based on international best practice and are flexible enough to be applied to insolvency proceedings in different countries and legal systems. They were originally developed in 2001 in the wake of the financial crisis in emerging markets in the 90s, but have been reviewed and updated in 2005, 2011 and 2015.

²⁰¹ European Convention on Certain International Aspects of Bankruptcy, preamble

²⁰² 29.4.2020, <https://www.coe.int/en/web/conventions/recent-changes-for-treaties/-/conventions/treaty/136/signatures?p_auth=FftLGnEW>

²⁰³ UNCITRAL’s Legislative Guide on Insolvency Law, preface

²⁰⁴ UNCITRAL’s Legislative Guide on Insolvency Law, part III and IV

A forerunner to the Principles of the World Bank can be regarded the “Orderly and Effective Insolvency Procedures” that was published by the IMF in 1999. The purpose of the report was to create a predictable international insolvency mechanism for the benefit of both multinational debtors and creditors and through this, to strengthen the global marketplace. As opposed to the Principles, the report does not establish any particular methods for this but only provides different major policy choices that states should address.

In 2012, the International Insolvency Institute presented the non-binding “Global Principles for Cooperation in International Insolvency Cases” (the Global Principles). The Global Principles built further on The American Law Institute’s Principles of Cooperation among the member states of the North American Free Trade Agreement (NAFTA) and was made to cover all jurisdictions all over the world. The work was made to present the need to address the issues associated with insolvency in a cross-border context and the aim of the Global Principles is to “facilitate the coordination of the administration of international insolvency cases involving the same debtor”.²⁰⁵ Like the earlier frameworks, the Global Principles relies on the concept of COMI when choosing the applicable jurisdiction.

Similar to the Global Principles are the “EU Cross-Border Insolvency Court-to-Court Cooperation Principles” (the Cooperation Principles), which were published in 2014 and consists of 26 EU Cross-Border Insolvency Court-to-Court Cooperation Principles and 18 EU Cross-Border Insolvency Court-to-Court Communications Guidelines. The Cooperation Principles were produced by a team of scholars of Leiden Law School and Nottingham Law School and their purpose was to try to overcome present obstacles for Courts in EU member states and to strengthen efficient and effective communication between courts in EU Member States in insolvency cases with cross-border effects. The Cooperation Principles include principles on their non-binding status and their objectives, case management of courts, the equal treatment of creditors and principles about the judicial decision, for example the reasoning.

3.4. Private International Law

Private international law, or conflict of laws in other words, is the area of laws that regulates (i) jurisdiction, (ii) ways to decline jurisdiction, (iii) choice of law and (iv) recognition and enforcement in civil cases with international components, i.e. when there is a conflict of laws

²⁰⁵ Global Principles for Cooperation in International Insolvency Cases, principle 2

situation, the court in question is depending on choice of law rules to decide the applicable law to be used.²⁰⁶ Thus, the substance of the private international law is dependent on the laws of the state involved and international private law can, therefore, be seen as a mere set of rules and principles stipulating where the substantive questions can be solved and which rules will apply in order to solve them.²⁰⁷

Choice of law rules can be either unilateral or multilateral. Unilateral rules determine the applicable law by asking if a state's substantive law applies to the case at hand or if the states actually have an interest in their law being applied. The possibilities would be that only one state expresses interest (the false conflict-pattern), that many states express interest (the true conflict-pattern) or that no state expresses interest (the no interest-pattern). The forum is entitled to and should apply its law to the two later patterns.²⁰⁸ Multilateralism focuses, on the other hand, on the connection between the legal relationship in question and the relevant jurisdictions. It assigns the legal relationship to the jurisdiction it "belongs" to, regardless of whether this jurisdiction expresses an interest in its law being applied.²⁰⁹

It is important to distinguish between the choice of insolvency law and choice of non-insolvency law. The general rules of conflict of laws are not usually seen to be applicable in cross-border insolvency proceedings "as is", but needs a little adjustment in order to fit the special needs of insolvency proceedings.²¹⁰ Also, in insolvency proceedings the private international law method is used only for selected issues. This means that although one state's law governs the proceeding as a whole, the law of another state may govern some particular aspects of the proceeding, for example rights *in rem* or avoidance and setoff rules.²¹¹

Within the European Union, the private international law questions and rules in the area of insolvency law are solved through the EIR. Outside the EU, there is no legislative or judicial guidance on the proper choice of laws rules. There are some guidelines, though, that should be taken into consideration when choosing choice of law rules. Firstly, the universality approach should generally be used in the choice of law rules, which would make it compatible with the basis of the EIR and the Model law. Secondly, the aim of the conflict of law rules should point more towards "conflicts justice" than "material justice" and more towards

²⁰⁶ Crawford 2012, p. 474, Jerker – Svantesson 2012, p. 63

²⁰⁷ BIS 2002, p. A17

²⁰⁸ Look Chan 2008, p. 354

²⁰⁹ Ibid., p. 355

²¹⁰ Westbrook et al 2010, p. 239

²¹¹ Ibid., p. 233

“jurisdiction-selecting” rules than “rules-selecting” rules. The reason for this is that the homogeneity of results and predictability is of such importance in the insolvency law.²¹²

Thirdly, a hybrid of unilateralism and multilateralism should be used so that the two methodologies can complement each other rather than compete with each other; since methodological purity is often the ideal but does not work in reality. The multilateralism approach could benefit from the essential core of unilateralism by considering the underlying purposes, policies or interest when selecting the applicable law. Lastly, the choice of law rules should be “narrow and issue-specific, sometimes regulating only a single issue”.²¹³

3.4.1. Comity of Law

The legislative frameworks and reforms have proven to be slow and inefficient in the international insolvency law, due to the divergences in approach between different jurisdictions and the absence of international treaties with wide-ranging effect. The ordinary principles of international private law are also not designed to fully cope with the complex issues of cross-border insolvency.²¹⁴ Courts and judicial authorities (generally in common law jurisdictions) have, therefore, relied on the concept of comity of law, which is a doctrine of the private international law.²¹⁵ Comity is a set of general principles,²¹⁶ which require that foreign judgments be recognized and given effect.²¹⁷ The concept of comity has emerged as a response to the lack of hierarchical system of norms and the horizontal arrangement of state jurisdictions in private international law.²¹⁸

Historically, many transnational bankruptcies in jurisdictions like the US, Canada and South Africa have been based on the concept of comity. But what is comity and to what extent does it constitute a doctrinal basis for power?²¹⁹ The principle is illustrated in the *In re Culmer* case. A debtor initiated a liquidation proceeding in a Bahamian court and requested that his assets in the US would be included in the proceeding. The US court granted the relief, noting that courts should have maximum flexibility and extend comity to foreign proceedings unless it would violate American law. The “power” is mostly directed against legislative or judicial acts of other states, but not to the sovereign nation. The “active assistance of the court” has

²¹² Look Chan 2008, p. 362

²¹³ Ibid., p. 363f

²¹⁴ Godwin et al 2017, p. 6

²¹⁵ BIS 2002, p. A19

²¹⁶ Bernstein et al 2013, p. 3

²¹⁷ Bleimaier 1979, p. 329

²¹⁸ Crawford 2012, p. 485

²¹⁹ Godwin et al 2017, p. 8-10

neither been considered to fall under the concept. In a way, the concept of comity could therefore be seen as a matter of universalism.²²⁰

The concept of comity has not always proven to work well, though. In the Floridian class action *Cryptsy-case*²²¹, a receiver was appointed to administer and manage the business affairs of an online company intended to facilitate the trade of cryptocurrencies for the public. The company was established in 2013 and in 2015 there were allegations that certain Cryptsy users had trouble accessing their account. In 2016 a class action lawsuit were commenced against the company due to this problem. The receiver was tasked with monetizing and securing the cryptounits of the company. The identification and securing of the assets were no problem, but the receiver had significant problems with the cooperation of entities abroad, which failed to respond to inquiries or demands.

3.5. Customary International Law

International custom is explained as “evidence of a general practice accepted as law”.²²² Thus, the “evidence” should be seen in light of two questions: is there a general practice? And is this practice accepted as international law?²²³ Customary international law (CIL) is a recognized legal source in international law that can fill gaps and influence existing instruments.²²⁴ For a practice to be regarded as customary international law complete uniformity or complete consistency of practice is not required, a substantial conformity have been regarded to be enough.²²⁵ Once CIL has become pervasive enough, states are bound by it.²²⁶

CIL should be distinguished from the “general principles of law recognized by civilized nations”, which is a source in international law close to CIL but still constitute a separate source of law. They should be looked at merely as a complement to CIL, and not a part of it. The main difference is that the “general principles” seek to define the “fundamentals of substantive justice and procedural fairness” and are based on “the universal understanding of basic legal concepts by all legal systems” while CIL is more adaptable by nature and take

²²⁰ Godwin et al 2017, p. 9

²²¹ *Leidel v. Coinbase, Inc.*

²²² Statute of the International Court of Justice, art. 38

²²³ Crawford 2012, p. 23

²²⁴ *Ibid.*, p. 22

²²⁵ *Ibid.*, p. 24

²²⁶ Mevorach - Walters 2020

different social and cultural aspects into consideration. They might therefore vary from society to society.²²⁷

Although CIL has not generally been regarded to be applicable in the international insolvency law (which is more bound by the rules of international private law), some scholars argue that the concept of modified universalism and the principle of comity may be emerging as CIL and that the line between public and private international law has become blurry.²²⁸ According to the modified universality approach, or the "internationalist principle", "jurisdictions accept the fact that a single court should manage the insolvency and offer such a co-operation as they are able to give".²²⁹ Modified universality could be perceived as an interim solution whose aim is to achieve pure universality (complete unity and universality), which would be the ultimate ideal for an international insolvency treaty.²³⁰ However, pure universality has been considered very difficult to accomplish, so as for now the modified universality "is the only approach that provides concrete, realistic rules that as such could become the leading norm for the system, in the fulfillment of cross-border insolvency's international role".²³¹

The principle of comity has also been argued to be emerging as CIL (or at least to a general principle of international law) and the advocates claim that "through the concept of comity, private international law has pursued internationalist goals, specifically where comity provided prominent ground for the obligation to apply foreign laws". The principle of comity has been criticized as emerging as CIL by the opponents, who state that "comity has been exercised by a rather limited number of countries and has not been widely practiced. It is applied in different ways in different jurisdictions pursuant to local understanding of the notion, and it is more prevalent in countries with a common law tradition". In addition, the concept of comity has been described as being too ambiguous.²³²

In comparison to the principle of comity, the concept of modified universalism has stronger arguments for being considered CIL, though, due to it already being quite dominant, widely applicable and flexible. CIL as a supplement to international frameworks, such as the Model law, could also be used as a tool to overcome territorialist biases. In order to transform

²²⁷ Mevorach 2018, p. 108

²²⁸ Mevorach – Walters 2020, Mevorach 2018, p. 112

²²⁹ Omar 2002, p. 180

²³⁰ Mevorach 2018, p. 103

²³¹ Ibid., p. 104

²³² Ibid., p. 113

modified universalism to CIL, however, the aspiration for pure universalism would have to be ceased and instead the modified universalism should be specified and widened. Since both the EIR and the Model law have, to some extent, already adopted the modified universalism, it should be no problem to develop it even further.²³³

The limitations of CIL in the international insolvency law, however, are that it tends to be rather vague and unclear. It is difficult to ascertain at what point the rules could be applied as CIL and since CIL rely on domestic legal enforcement mechanisms, it is often not taken notice of. It has therefore been criticized for having little impact on domestic cases, especially cross-border cases.²³⁴ Nonetheless, considering an international insolvency system, CIL could be a useful method in shaping the interactions within the system. CIL is responsive to emerging trends,²³⁵ and since we have seen a trend toward the universalist approach, which works better in global insolvency cases, CIL is plausible to gain more relevance in the future.

²³³ Mevorach – Walters 2020

²³⁴ Mevorach 2018, p.109

²³⁵ Ibid., p. 110

4. Regulation of Cryptocurrencies – What is the Proper Regulatory Scheme?

4.1. Code as Law – Using Blockchain to Regulate Blockchain

As earlier mentioned, the idea behind bitcoin was to create a means of payment that would not be under the control of any authorities, due to the lack of belief in financial institutions after the financial crisis. This got the ball rolling and behind the development of new cryptocurrencies is still the aspiration for an autonomous system that function without the interference of regulators or legislators.²³⁶ Since blockchain-based technology does not fit very well with our law as it is, the question of whether cryptocurrencies should be regulated at all arises, or could the technology be used to regulate itself without regulators intervening?

In general, IT scholars and practitioners are regulation-adverse and support the so-called principle of “technology neutrality”. The principle of technology neutrality claims that “no particular technology should be required or assumed both in order to prevent regulation from hindering the development of a superior technology, and in order to prevent regulation from becoming rapidly obsolete”.²³⁷ This means that (a) “technical standards designed to limit negative externalities (eg. Radio interference, pollution, safety) should describe the result to be achieved, but should leave companies free to adopt whatever technology is most appropriate”; (b) “the same regulatory principles should apply regardless of the technology used”; and (c) “regulators should refrain from using regulations as a means to push the market toward a particular structure that the regulators consider optimal”.²³⁸ In regard to insolvencies, this means that regulators should obtain from regulating the management of the insolvency of debtors with a blockchain portfolio.²³⁹ Since 2011, technology neutrality has been recognized as a key principle for Internet policy by the Organization for Economic Cooperation and Development (OECD).²⁴⁰

²³⁶ Fox 2018, p. 1

²³⁷ Mangano 2018, p. 723

²³⁸ Maxwell et al 2014, p. 1

²³⁹ Mangano 2018, p. 723

²⁴⁰ OECD (2011): *As a decentralised network of networks, the Internet has achieved global interconnection without the development of any international regulatory regime. The development of such a formal regulatory regime could risk undermining its growth. The Internet’s openness to new devices, applications and services has played an important role in its success in fostering innovation, creativity and economic growth. This openness stems from the continuously evolving interaction and independence among the Internet’s various technical components, enabling collaboration and innovation while continuing to operate independently from one another. This independence permits policy and regulatory changes in some components without requiring changes in others or impacting on innovation and collaboration. The Internet’s openness also stems from globally accepted, consensus driven technical standards that support global product markets and communications. The roles, openness, and competencies of the global multi-stakeholder institutions that govern standards for different layers of Internet components should be recognised and their contribution should be*

In the technological world, there has therefore been a strong proposition for non-traditional regulation that would take the technology itself into consideration. In a report by the UK Government Chief Scientific Adviser is stated: “Both the legal and the digital spheres are governed by rules, but the nature of these rules is different. In a digital environment, both laws (legal code) and software/hardware (technical code) regulate activity. The impact of both must be considered in setting out regulations that cover distributed ledger systems.”²⁴¹

Also professors De Filippi and Hassan set forth that both code and law govern the behavior of Internet users. However, they mention that while computer code is more efficient than legal rules there are limitations to code since a machine cannot make use of flexibility and ambiguity, which are an important part of legal rules. From a positive perspective, though, the lack of flexibility and ambiguity in connection with the highly formalized technical rules erases the need for judicial arbitration. Law and code often collide and law is becoming more and more reliant on code “in order to define the rules that people need to abide by”.²⁴² This phenomenon has been described as “code is law” by Lawrence Lessig.²⁴³ In his book *Code: version 2.0*, he holds that:

Cyberspace demands a new understanding of how regulation works. It compels us to look beyond the traditional lawyer’s scope—beyond laws, or even norms. It requires a broader account of “regulation,” and most importantly, the recognition of a newly salient regulator.²⁴⁴

With the development of blockchain technology, De Filippi and Hassan argue that code will take a more prominent role and “the lines between what constitutes a legal or technical rule become more blurred”. One of the reasons for this is that legal rules are implemented ex-post through judicial intervention of states, while technical rules can be implemented ex ante, i.e. the problem will be prevented before it even occurs.²⁴⁵ Another problem with the judicial intervention of states is that state jurisdiction stays within domestic borders, while Internet and code do not. Code and technology can therefore be used to bypass the law.²⁴⁶ BitTorrent can be used as an example. Just like bitcoin, BitTorrent has a decentralized protocol for peer-to-peer (P2P) file sharing. Without a central point or control, BitTorrent cannot be legally

sought on the different technical elements of public policy objectives. Maintaining technology neutrality and appropriate quality for all Internet services is also important to ensure an open and dynamic Internet environment. Provision of open Internet access services is critical for the Internet economy.

²⁴¹ Walport 2016, p. 40

²⁴² De Filippi – Hassan 2016

²⁴³ Lessig 2006, p. 5

²⁴⁴ Ibid., p. 5

²⁴⁵ De Filippi – Hassan 2016

²⁴⁶ Ibid.

prosecuted and can therefore avoid legal issues regarding copyright laws, for instance.²⁴⁷

Wright and De Filippi play with the thought that regulation and legal rules simply be replaced with software and smart contracts. Smart contracts could be standardized and would make legal contracts cheaper, faster and clearer while at the same time make the work of the lawyers redundant.²⁴⁸ Smart contracts would also eliminate contractual breaches, since “the smart contract’s code immutably binds them to that clause without leaving them the possibility of a breach”.²⁴⁹ But could blockchain technology be used to regulate cross-border insolvency proceedings, and in particular cross-border insolvency proceedings with cryptocurrencies? I.e., can blockchain be used to regulate blockchain?

Some scholars have demonstrated with evidence of data that an “appropriate use of IT can significantly improve cooperation among independent individuals belonging to the same groups, and that this operation is increasingly less costly”.²⁵⁰ Mangano suggest that in the international insolvency law this would entail “courts and insolvency practitioners setting up an IT network which is decentralized in nature (peer-to-peer) by means of a database system, including a database model, a database management system (DBMS) and a database; storing, organizing and managing those data which are relevant for the proceedings; combining this application with other applications which allow courts and insolvency practitioners to retrieve data and employ them to perform the operations which will be relevant case by case”.²⁵¹

In other words, blockchain technology could be of use in insolvency law if firstly, a conceptual data model that reflects the legal framework is designed that determines how data can be stored, organized and manipulated. The second task that needs to be done in order for blockchain technology to work in international insolvency law is to choose and adopt an appropriate database management system that allows users to retrieve, analyze and employ data. The third task consists in collecting and storing the relevant data and in processing them according to the goals of the proceedings.²⁵²

The designer of the data model would have to take into account whether the legal environment should be universalistic in nature, how the universalism should be arranged, how many courts and IPs are involved, what is the purpose of the insolvency proceedings opened etc. According to Mangano, cooperation would be the emphasis in blockchain regulation,

²⁴⁷ De Filippi – Hassan 2016

²⁴⁸ Wright – De Filippi 2015, p. 24

²⁴⁹ Ibid., p. 26

²⁵⁰ Mangano 2017, p. 8

²⁵¹ Ibid., p. 8

²⁵² Mangano 2018, p. 9

which means that the database model would have to be molded in accordance with basic cooperative universalism or EU-style cooperative universalism. The basic cooperative universalism means that the model will correspond to a legal framework that provides the opening of many “independent proceedings” and the EU-style cooperative universalism to one set of main proceedings that is “dominant” and other territorial proceedings, which are “dominated”. The designer would have to mold a network in accordance with the law of a certain jurisdiction and the decisions taken by their courts or IPs and combine these to a larger network, creating a “network in a network”.²⁵³

Nevertheless, blockchain regulation requires that the network is based on a legal framework and that different jurisdictions cooperate in the matter. Rules about the use of blockchain regulation will therefore have to be implemented in existing frameworks, for example articles in the UNCITRAL Model law about suggesting jurisdictions to use peer-to-peer networks to improve cooperation in cross-border insolvency cases. Another way would be to facilitate IPs to carry out integrated research with IT experts in order to develop special-purpose databases or database management systems in the international insolvency law.²⁵⁴ But with the fast development of blockchain technology and the growing acceptance of it, regulation through blockchain could be a possible solution in the future, especially for borderless assets such as cryptocurrencies.

4.2. Blockchain and the UNCITRAL Works

One way to regulate cryptocurrencies on the international level is to use the existing legal frameworks. As mentioned earlier the UNCITRAL Model law and its Guide has been considered the most eminent framework and most commonly used in the international insolvency law, although it is not legally binding. The Model law would therefore make a good takeoff. A review of the Model law would succeed in harmonizing the rules and create cooperation between jurisdictions while still maintaining state sovereignty and states’ self-determination, which is the main argument of many of the opponents to a legally binding framework. Especially regarding cryptocurrency, which is a highly opinioned technology, an amended Model law could create some guidelines in cross-border proceedings for those who have ratified it, while still providing the possibility for states with negative attitudes towards them to keep out or to simply leave out some parts of the framework. The use of a non-binding framework could also be a way to overcome differences and different opinions.²⁵⁵

²⁵³ Mangano 2018, p. 9

²⁵⁴ Ibid., p. 12

²⁵⁵ Mevorach 2018, p. 143

The problem with the Model law, however, is that it merely provides rules about recognition of foreign insolvency proceedings and cooperation between foreign courts and other authorities. It does not cover substantive insolvency rules. The Model law could therefore not establish an answer to the question of how cryptocurrencies should be treated in insolvency proceedings. Nevertheless, it could provide some answers to the jurisdictional issues of insolvency proceedings involving cryptocurrencies, especially in cases regarding insolvency proceedings of crypto-companies or cases where the majority of the debtor's assets consist of cryptocurrencies.

As earlier mentioned, the concept of COMI is fundamental for the operation of the Model law. However, the principle of COMI does not work well with blockchain technology. In order to cover blockchain-based entities, such as DAOs, or other entities focused on cryptocurrency, the definition would have to be amended. In order to do that, we must first examine the concept of COMI, which is found in art. 2 of the Model law:

(b) “Foreign main proceeding” means a foreign proceeding taking place in the State where the debtor has the centre of its main interests;

(c) “Foreign non-main proceeding” means a foreign proceeding, other than a foreign main proceeding, taking place in a State where the debtor has an establishment within the meaning of subparagraph *(f)* of this article;

(f) “Establishment” means any place of operations where the debtor carries out a non-transitory economic activity with human means and goods or services.

Hence, the Model law itself does not contain any specific definitions or explanations of COMI. The concept is therefore usually interpreted in accordance with the EIR that states:

This Regulation enables the main insolvency proceedings to be opened in the Member State where the debtor has the centre of its main interests. Those proceedings have universal scope and are aimed at encompassing all the debtor's assets. To protect the diversity of interests, this Regulation permits secondary insolvency proceedings to be opened to run in parallel with the main insolvency proceedings. Secondary insolvency proceedings may be opened in the Member State where the debtor has an establishment. The effects of secondary insolvency proceedings are limited to the assets located in that State. Mandatory rules of coordination with the main insolvency proceedings satisfy the need for unity in the Union.²⁵⁶

Accordingly, the presumptions that the registered office, the principal place of business and the habitual residence are the centre of main interests should be rebuttable,

²⁵⁶ European Insolvency Regulation, recital 23

and the relevant court of a Member State should carefully assess whether the centre of the debtor's main interests is genuinely located in that Member State.²⁵⁷

Thus, the only information that the EIR provides of the center of main interest is that “the registered office”, “the principal place of business” or the “habitual residence” could be regarded as the center of main interest. An explanatory report (the Virgos-Schmit Report) that was made in connection with the EIR has tried to further explain the concept.²⁵⁸ According to the report:

The concept of "centre of main interests" must be interpreted as the place where the debtor conducts the administration of his interests on a regular basis and is therefore ascertainable by third parties.

By using the term "interests", the intention was to encompass not only commercial, industrial or professional activities, but also general economic activities, so as to include the activities of private individuals (e.g. consumers). The expression "main" serves as a criterion for the cases where these interests include activities of different types which are run from different centres.

Where companies and legal persons are concerned, the Convention presumes, unless proved to the contrary, that the debtor's centre of main interests is the place of his registered office. This place normally corresponds to the debtor's head office.²⁵⁹

This formulation, and in particular the reference to ascertainability by third parties and the debtor's head office, is problematic and would not fit well with the new technological era, considering for example that the DAO itself and its stakeholders could be anonymous and that the head office could be the Internet. In order to establish jurisdiction in the new technological era, the concept of COMI would therefore have to be widened or simply replaced.

Furthermore, pursuant to the Model law, a foreign insolvency proceeding shall be recognized as a “foreign non-main proceeding if the debtor has an establishment within the meaning of subparagraph (f) of article 2 in the foreign State” with establishment meaning “any place of operations where the debtor carries out a non-transitory economic activity with human means and goods or services”.²⁶⁰ The Virgos-Schmit Report provides an explanation of “establishment” as follows:

For the Convention on insolvency proceedings, "establishment" is understood to mean a place of operations through which the debtor carries out an economic activity on a non-transitory basis, and where he uses human resources and goods.

²⁵⁷ European Insolvency Regulation, recital 30

²⁵⁸ Virgos – Schmit 1996

²⁵⁹ Ibid., p. 51.

²⁶⁰ UNCITRAL Model law on Cross-Border Insolvency, art. 17 and 2

Place of operations means a place from which economic activities are exercised on the market (i.e. externally), whether the said activities are commercial, industrial or professional.

The emphasis on an economic activity having to be carried out using human resources shows the need for a minimum level of organization. A purely occasional place of operations cannot be classified as an "establishment". A certain stability is required. The negative formula ("non-transitory") aims to avoid minimum time requirements. The decisive factor is how the activity appears externally, and not the intention of the debtor.²⁶¹

The definition of establishment is therefore not in line with new technological developments either and would require an amendment in order to establish jurisdiction and recognition in foreign non-main proceedings for non-traditional entities.

Regarding the UNCITRAL works, there are however other sources that might have effect on insolvency proceedings than the Model Law on Cross-Border Insolvency and falls more within the substantive realm of the insolvency proceedings. The Model Law on Secured Transactions interacts with the insolvency laws and includes a few insolvency principles that need to be respected in the event of insolvency of the chargor²⁶² and also have significance in regard to blockchain technology. Nevertheless, the changes of the Model law on Secured Transactions would relate mostly to the categorization of cryptocurrencies, which is excluded from the scope of this thesis.²⁶³

4.3. Blockchain and the EU

In general, the EU has shown positivity towards DLT and blockchain but has also emphasized the importance of regulating it.²⁶⁴ Therefore, in November 2016, an internal task force on financial technology (Fintech Task Force) was set up. The three main objectives of the Fintech Task Force is (a) to make sure that all policy work across the board is informed by and takes account of technological innovation; (b) to assess whether the existing rules and policies are fit for purpose in the digital age; and (c) to identify actions and proposals that could harness the potential opportunities fintech offers while also addressing the possible risks. The Fintech Task Force is still in an early stage but it has set up some pilot projects to

²⁶¹ Virgos - Schmit 1996, p. 49

²⁶² Any person may grant a charge over his things and rights except that a natural person may grant a charge only as part of his business activity and only over things and rights used for that activity at the time of creation of the charge pursuant to Article 6.7. The person granting the charge is called the chargor. (UNCITRAL Model Law on Secured Transactions and its Guide to Enactment, art. 2.)

²⁶³ See Takahashi 2017 for the categorization of cryptocurrencies in the Model law on Secured Transactions.

²⁶⁴ Dabrowski – Janikowski 2018, p. 36

further solve existing interoperability issues, such as the European Financial Transparency Gateway and the EU Blockchain Observatory and Forum (the Forum).²⁶⁵

The Forum was created in February 2018.²⁶⁶ The purpose of the Forum is to map key initiatives, monitor development and inspire common actions. The forum has established two working groups, whose task is to identify and research existing blockchain initiatives throughout the EU and beyond. The Blockchain Policy and Framework Conditions Working Group focuses on cross-technology and cross-industry issues to define the policy, legal and regulatory conditions of blockchain and the Use Cases and Transition Scenarios Working Group focuses on the most promising transformative blockchain use cases with an emphasis on public sector applications.²⁶⁷

According to a report published by the Forum in 2020, there are uncertainties in the blockchain community regarding compliance with existing legal obligations.²⁶⁸ Hence, there is a need for a revision of the regulation. In regard to blockchain technology, the new possible policy options available to the European Commission would be the wait-and-see²⁶⁹, the issuing of guidance approaches²⁷⁰, a new supranational secondary legislation²⁷¹, the opt-in regime²⁷² and regulatory sandboxes²⁷³, which all come with their own advantages and disadvantages. Regarding jurisdiction, the report states:

Regarding jurisdictional questions around blockchains, it has been amply stressed that oftentimes, it is difficult to determine which law applies where blockchain networks span many different jurisdictions. Indeed, the network operators and nodes can be located in different locations (so that different legal systems may apply to them) and equally, the participants in the network such as the contracting parties are also not necessarily based in the same jurisdiction. However, existing supranational legislation such as the I and Rome I regimes appear well-suited to govern related issues,

²⁶⁵ European Commission Memo 2018

²⁶⁶ Miseviciute 2018, p. 34

²⁶⁷ European Commission Policy 2019

²⁶⁸ SMART 2018/0038 2020, p. 103

²⁶⁹ According to the wait-and-see approach, it is still too early to take regulatory steps in regard to these technologies since they are still in a state of development. This approach provides time for regulators to monitor how the technologies will develop before taking actions, however, its considerable disadvantage is its inability to counteract regulatory uncertainty.

²⁷⁰ The issuing of various guidance tools is positive in the regard that it provides further information to stakeholders how a given legal framework should be interpreted and applied relatively fast, but the disadvantage is that as a soft law, they can easily be disregarded or overturned by courts.

²⁷¹ A new supranational secondary legislation would have the potential to remove the existing lack of legal certainty and attract new blockchain related companies to the EU, but issuing a new framework at an early stage of technical development also risks codifying concepts and definitions that subsequently change.

²⁷² An opt-in regime would denote the creation of an "EU framework alternative to but not replacing national rules". Hence, the framework would exist alongside national rules without replacing them. This could help decrease the lack of certainty and regulatory fragmentation but could also be seen to aggravate these problems or lead to confusion.

²⁷³ See chapter 4.4.

which indeed do not appear to be specific to blockchains but rather apply to transnational (technical) networks in general.

The wait-and-see approach would therefore be the answer to the jurisdictional questions of blockchain regarding to the report. It is clear, however, that insolvency law was not one of the judicial areas thought of when producing the report, since the Brussels Convention specifically excludes insolvency proceedings from its scope,²⁷⁴ and the Rome I Regulation has in reality small significance in insolvency proceedings since many of the provisions are overlapped by the EIR.²⁷⁵ In general, it is clear that both the Fintech Task Force and the Forum are in too early stages to extend their range to insolvency law.

Nevertheless, since the EIR is the highest level binding legal framework in the international insolvency law, it would be natural that the EIR would be the main object of amendment to extend its scope to include cryptocurrencies and other blockchain technology. But just like the UNCITRAL Model law, the EIR only strives to harmonize the international private law rules between the member states and would therefore only have significance in regard to the jurisdictional rules. The main objective of amendment would therefore have to be the concept of COMI.

In the EIR, the problematic sections regarding COMI in comparison to the UNCITRAL Model law are found in article 3(1) (main proceedings) and 3(2) (secondary insolvency proceedings):

1. The courts of the Member State within the territory of which the centre of the debtor's main interests is situated shall have jurisdiction to open insolvency proceedings ('main insolvency proceedings'). The centre of main interests shall be the place where the debtor conducts the administration of its interests on a regular basis and which is ascertainable by third parties.

In the case of a company or legal person, the place of the registered office shall be presumed to be the centre of its main interests in the absence of proof to the contrary. That presumption shall only apply if the registered office has not been moved to another Member State within the 3-month period prior to the request for the opening of insolvency proceedings.

In the case of an individual exercising an independent business or professional activity, the centre of main interests shall be presumed to be that individual's principal place of business in the absence of proof to the contrary. That presumption shall only apply if the individual's principal place of business has not been moved to another Member

²⁷⁴ Brussels Convention, art. 1: This Convention shall apply in civil and commercial matters whatever the nature of the court of tribunal. It shall not extend, in particular, to revenue, customs or administrative matters. The Convention shall not apply to:

2. bankruptcy, proceedings relating to the winding-up of insolvent companies or other legal persons, judicial arrangements, compositions and analogous proceedings.

²⁷⁵ Applicable articles in the Rome I that are overlapped by the EIR are for example art. 14,17 and 19.

State within the 3-month period prior to the request for the opening of insolvency proceedings.

In the case of any other individual, the centre of main interests shall be presumed to be the place of the individual's habitual residence in the absence of proof to the contrary. This presumption shall only apply if the habitual residence has not been moved to another Member State within the 6-month period prior to the request for the opening of insolvency proceedings.

2. Where the centre of the debtor's main interests is situated within the territory of a Member State, the courts of another Member State shall have jurisdiction to open insolvency proceedings against that debtor only if it possesses an establishment within the territory of that other Member State. The effects of those proceedings shall be restricted to the assets of the debtor situated in the territory of the latter Member State.

But in addition to these, there are other problematic sections in the EIR, one of them being the scope of application with recital 25 stating:

This Regulation applies only to proceedings in respect of a debtor whose centre of main interests is located in the Union.

According to this, the EIR would not be applicable in proceedings where COMI cannot be established. This means that certain blockchain-based entities would fall outside the scope of it. In addition, the definition of “the Member State in which assets are situated” in art. 2(9) excludes decentralized, intangible assets:

‘the Member State in which assets are situated’ means, in the case of:

(i) registered shares in companies other than those referred to in point (ii), the Member State within the territory of which the company having issued the shares has its registered office;

(ii) financial instruments, the title to which is evidenced by entries in a register or account maintained by or on behalf of an intermediary (‘book entry securities’), the Member State in which the register or account in which the entries are made is maintained;

(iii) cash held in accounts with a credit institution, the Member State indicated in the account's IBAN, or, for cash held in accounts with a credit institution which does not have an IBAN, the Member State in which the credit institution holding the account has its central administration or, where the account is held with a branch, agency or other establishment, the Member State in which the branch, agency or other establishment is located;

(iv) property and rights, ownership of or entitlement to which is entered in a public register other than those referred to in point (i), the Member State under the authority of which the register is kept;

(v) European patents, the Member State for which the European patent is granted;

(vi) copyright and related rights, the Member State within the territory of which the owner of such rights has its habitual residence or registered office;

- (vii) tangible property, other than that referred to in points (i) to (iv), the Member State within the territory of which the property is situated;
- (viii) claims against third parties, other than those relating to assets referred to in point

While the concept of COMI is important under both UNCITRAL and the EU, the main difference is that under the UNCITRAL Model law COMI is applied to determine the degree, to which the court must recognize a foreign proceeding. Under the EIR, the concept is used to decide which member state takes precedence when insolvency proceedings have commenced in multiple jurisdictions within the EU.²⁷⁶ Both legal frameworks uses the concept to decide whether the proceeding is a main or non-main proceeding, though, which means that the amendments explained in chapter 4.2. also are of relevance in regard to the EIR.

The Restructuring Directive has little relevance in regard to cryptocurrencies, since its main aim is to establish key principles for an effective framework for preventive restructuring and a second chance by reducing the length and associated costs of the proceedings and improving their quality. The Restructuring Directive does not harmonize key aspects of insolvency, such as rules on the conditions for initiating insolvency proceedings, a common definition of insolvency, the preferential scheme or the recovery proceedings in general terms and has therefore little relevance both regarding jurisdiction and substantive insolvency law.²⁷⁷ In addition, pursuant to art. 1(2) of the Restructuring Directive, the Directive does not apply to procedures that concern debtors, who are:

- (a) insurance undertakings or reinsurance undertakings as defined in points (1) and (4) of Article 13 of Directive 2009/138/EC;
- (b) credit institutions as defined in point (1) of Article 4(1) of Regulation (EU) No 575/2013;
- (c) investment firms or collective investment undertakings as defined in points (2) and (7) of Article 4(1) of Regulation (EU) No 575/2013;
- (d) central counter parties as defined in point (1) of Article 2 of Regulation (EU) No 648/2012;
- (e) central securities depositories as defined in point (1) of Article 2(1) of Regulation (EU) No 909/2014;
- (f) other financial institutions and entities listed in the first subparagraph of Article 1(1) of Directive 2014/59/EU;

²⁷⁶ Story 2015, p. 455

²⁷⁷ Proposal for a Directive of the European Parliament and of the Council on preventive restructuring frameworks, second chance and measures to increase efficiency of restructuring, insolvency and discharge procedures and amending Directive 2012/30/EU

(g) public bodies under national law; and

(h) natural persons who are not entrepreneurs.

In conclusion, focusing strictly on insolvency law, the EIR would be the most logical framework to amend. However, considering that the EU is one of the largest economies in the world and has shown a great interest towards cryptocurrencies and blockchain, some form of regulation can surely be expected in the future. In a way or another this regulation will most likely affect the insolvency proceedings as well, at least regarding the classification of cryptocurrencies, even if the regulation will not be directed towards the insolvency law. One possibility is therefore that an amendment of the EIR will not be necessary at all.

4.4. Regulating Cryptocurrencies through Regulatory Sandboxes

A regulatory sandbox could be described as a “framework set up by a financial sector regulator to allow small scale, live testing of innovations by private firms in a controlled environment under the regulator’s supervision”.²⁷⁸ The concept was developed after the financial crisis 2007-2008 in a time of rapid technological innovation in order to adapt the compliance of innovative companies with financial regulations without smothering the FinTech sector rules or diminishing consumer protection.²⁷⁹ Lately the concept has become more interesting and current partly because technology *per se* is thriving and partly because “for the first time blockchain technology is creating a divide between the world where securities are issued, offered and sold, and the world where law is enforceable; or, to put it differently, this is because for the first time blockchain is increasing the transaction costs of financial operations in a setting that cannot be either understood or ‘cured’ only within the boundaries of traditional financial regulation”.²⁸⁰ Regulatory sandboxes have been used in countries such as the UK²⁸¹, Switzerland²⁸², Singapore²⁸³, the Netherlands²⁸⁴ and are also a part of EU’s FinTech Action Plan²⁸⁵.

²⁷⁸ Jenik - Lauer 2017, p. 1

²⁷⁹ Ibid., p. 1

²⁸⁰ Mangano 2018, p. 733

²⁸¹ In 2014, the UK Financial Conduct Authority (FCA) launched the project “Innovate”. The aim of the project is “to support innovation that offers new products and services to customers and challenges existing business models” and “to remove unnecessary regulatory barriers to innovation” by creating regulatory sandboxes where companies can test their technological development without immediately incurring the regulatory consequences of the activity. More information on this project can be found in FCA’ Regulatory sandbox paper 2015.

²⁸² The Swiss Financial Market Supervisory Authority FINMA has also created a licence exempt area (sandbox) for new FinTech startups. See FINMA 2016.

²⁸³ The Monetary Authority of Singapore has two different FinTech Sandbox options. See Monetary authority of Singapore 2020.

²⁸⁴ See AFM-DNB 2016.

²⁸⁵ The European Commission launched a fintech action plan in March 2018 that sets out different steps to enable innovative business models to scale up, support the uptake of new technologies, increase cybersecurity

There are different reasons for the establishment of sandboxes, but the most common one is to promote competition and efficiencies in financial services markets through innovation.²⁸⁶ The advantages of the sandbox is that a more regulatory and controlling approach is replaced with a problem-solving approach, which aims at exploring and investigating new technologies and their effect on the markets without actually causing harm to these markets.²⁸⁷ In addition, it allows regulators to observe what regulation is necessary or whether regulatory change is required at all. The sandboxes have to be designed carefully, though, since general consumer protection laws does not necessarily apply and since they trigger the risk of regulatory winners and losers in the markets. Since they are only available for a certain amount of participants, they cannot be used as a broad regulatory strategy for an entire sector.²⁸⁸

Although there are different kinds of regulatory sandboxes, some common features that they generally share are that they “are not limited to a specific part of the financial sector but are cross-sectoral”, they “are open to both incumbent institutions [...], new entrants [...], and other firms” and they “are not limited to the testing of regulated financial services, but may also include other products or services that enable or facilitate the provision of regulated financial services by another party or facilitate compliance solutions [...], or new products and services that are relevant for customer protection or financial stability reasons (e.g. the use of crypto-assets to enable access to blockchain technologies)”.²⁸⁹ They typically involve different phases, such as the application phase, preparation phase, the testing phase and the evaluation phase.²⁹⁰

The regulatory sandboxes first emerged in the FinTech context, but have now been embraced also in other domains, such as data protection.²⁹¹ Cryptocurrencies, blockchain and its effect on financial stability is a common object of the regulatory sandboxes, but it is not impossible that regulatory sandboxes could be used as a tool in finding the issues and the right regulatory responses to cryptocurrencies and blockchain in the insolvency law in the future. They could bridge the divide between cyberspace and the world where law is enforceable, so that it will be possible to apply to courts and to successfully enforce the law for an IP who intends to

and the integrity of the financial system, such as the earlier mentioned EU Blockchain Observatory and Forum and regulatory sandboxes. See European Commission Press Release 2018.

²⁸⁶ Jenik – Lauer 2017, p.1

²⁸⁷ Mangano 2018, p. 728

²⁸⁸ SMART 2018/0038, p. 112

²⁸⁹ ESA 2019, p. 17

²⁹⁰ Ibid., p. 22

²⁹¹ ICO 2019

make the crypto-assets available to the creditors and enforce both post-commencement avoidance rules and fraudulent transaction avoidance rules.²⁹²

One of the challenges that have been mentioned regarding the sandboxes, however, is the cross-border cooperation. At the moment, most states are facilitating their sandboxes on domestic level. In addition to limiting the test-entities, different facilities applying different rules creates the risk for forum shopping and regulatory arbitrage. One further development of the regulatory sandboxes should therefore be the enhancement of cooperation.²⁹³

4.5. A New Legal Framework

4.5.1. In General

In the academic doctrine have been both advocates and critics of a future legally binding international treaty in international insolvency law. The advocates propose that in an ideal world there would be international agreements to cope with the issues in cross-border insolvency proceedings for the stake of the creditor's,²⁹⁴ and to fill the legal black hole in international insolvency.²⁹⁵ In general, global unification of laws would also make the governing law more clear and predictable,²⁹⁶ and at least to a degree, produce certain advantages in terms of the cost of the credit.²⁹⁷ Some of the critics mean that uniform substantive insolvency laws are not likely to be achieved, and even less on an international level, due to the insolvency laws being complexly linked to other legal rules and the discrepancies between jurisdictions.²⁹⁸ Harmonization of laws would also deprive states of the right to implement their own policies and rules about how the creditor and debtor should be treated when a business fails.²⁹⁹

Considering that the reason for many of the issues that cryptocurrencies pose in insolvency law is due to the lack of regulation and harmonized rules between jurisdictions, it is interesting to play with the thought of a binding international legal framework in this field, that would include provisions about cryptocurrencies and blockchain. In addition, global frameworks have been agreed upon regarding other cross-border phenomena, such as the space, the sea and the Internet so naturally, a global framework regarding cryptocurrencies

²⁹² Mangano 2018, p. 734

²⁹³ ESA 2019, p. 37

²⁹⁴ Leonard 1997, p. 128

²⁹⁵ Culmer 1999, p. 564f

²⁹⁶ Takahashi 2017, s. 91

²⁹⁷ Wessels 2009, p. 51

²⁹⁸ Mason 2012, p. 113

²⁹⁹ Janger 2010, p. 408

would also be eligible. But although there are advocates for an international treaty, the existing literature fail to suggest what the content of such a treaty should be.³⁰⁰ Should it focus on choice of law rules and recognition of foreign proceedings like the existing frameworks or could it go beyond the jurisdictional questions and be the first to try to establish common substantive rules in the international insolvency law?

Some scholars have observed that the difficulty in developing a legal framework within the field of cross-border insolvency law lies in choosing between the principles of territoriality and universality,³⁰¹ yet these principles completely disregard the substance of the insolvency law applied.³⁰² According to Schier, assuming that an international framework was at hand, the first question would be to select the relevant legal system and the rules on which the insolvency mechanisms should be based.³⁰³ However, a too specific or too general legal framework has little normative appeal.³⁰⁴ In addition, a framework too far from the domestic legislation would be repellent for a State to adopt; the discrepancies in domestic legislation must therefore be taken into consideration. Thinking that everything does not have to be seen as black and white, a mix of choice of law rules and substantive provisions could therefore be possible.

4.5.2. Jurisdiction

As to the question of jurisdiction, LoPucki has stated that the territoriality approach would work best in the international insolvency law.³⁰⁵ In comparison to the principle of universality, the territoriality principle "permits the local country to effectuate its rules of priority to the maximum extent of its sovereignty" as opposed to the universalist approach that "requires that countries sacrifice not only their sovereignty, but also particular creditors' priority rights".³⁰⁶ The universality principle, therefore, is clearly against the most basic principle of international law, which is "the idea that each country has the exclusive right to govern within its borders".³⁰⁷

Furthermore, the territoriality approach offers greater predictability than the universalist approach since "territorial distribution depends on the location of the assets at the time of the

³⁰⁰ Rasmussen 1997, p. 4

³⁰¹ Nielson et al 1996, p. 533

³⁰² Rasmussen 1997, p. 19

³⁰³ Schier 2007, p. 109

³⁰⁴ Rasmussen 1997, p. 4

³⁰⁵ LoPucki 2000, p. 696

³⁰⁶ LoPucki 1999, p. 760

³⁰⁷ LoPucki 2000, p. 2218

bankruptcy filing”. The states where the assets are located would therefore be ”easy to determine”.³⁰⁸ LoPucki also criticizes the ”home standard” of the universality principle. It is problematic to assume that the state of incorporation would also be the ”home” state, since multinational companies can be scattered equally in many states and have little assets or activity left in the incorporation state.³⁰⁹ It would therefore be most reasonable that the state where the assets are located would handle those assets in an insolvency proceeding.

However, although LoPucki presents some good arguments about the ”home standard”, the use of the territoriality principle feels a bit outdated and rhymes poorly with a society that is constantly moving towards blurred borders. Moreover, since there is an issue with the location of cryptocurrencies, the territoriality approach does not feel like the best option. The universality approach would provide a more extensive jurisdiction than the territoriality approach and provide the right to cover all assets no matter where they are situated. In this case, the IP would only have to establish ownership between the cryptocurrencies and the debtor to be able to seize the assets. The universality principle also avoid the problematic situation of conflict of laws,³¹⁰ which is welcome in regards to an international treaty. However, the universality principle does not come without its own problems and especially in cases with ”difficult” assets, such as intellectual property or intangible assets, the universality principle has earlier made the realisation of the assets challenging, due to the difficulties of organizing a single legal system to assets located in many different jurisdictions.³¹¹

One approach that has been suggested as a suitable option for an international binding legal framework is therefore the ”modified universality” approach, which has also been referred to as the ”internationalist principle”. According to this, ”jurisdictions accept the fact that a single court should manage the insolvency and offer such co-operation as they are able to give, bearing in mind the needs for reciprocity and procedural fairness in the treatment of creditors overall. The needs of local creditors may still form part of the considerations where it is intended that effect be given to orders by the single court in other jurisdictions, thus reserving some domestic control compatible with the overall co-operation framework”.³¹² This approach might be the best solution for traditional cross-border insolvencies, but the approach does not state *how* to ascertain the right jurisdiction for the proceeding. The jurisdictional

³⁰⁸ LoPucki 1999, p. 760

³⁰⁹ LoPucki 2000, p. 714

³¹⁰ Omar 2002, p. 178

³¹¹ Ibid., p. 179

³¹² Ibid., p. 180

issues on how to choose the right jurisdiction in regard to cryptocurrencies and other blockchain entities therefore remain.

Another approach has therefore been suggested, which helps ascertaining jurisdiction of an entity; the "contractualism" approach. This approach entails that "each independent corporate entity should be allowed to specify in its corporate charter the jurisdiction that will handle any bankruptcy proceedings involving that entity".³¹³ In addition to the choice of forum, the contractualism should be extended to choice of law, but these should, however, go hand in hand. A firm should not be able to choose select one state as forum and another state's insolvency laws in that forum.³¹⁴ The pros of contractualism is that the insolvent entity usually knows which set of insolvency rules that would best maximize the value of the firm,³¹⁵ which is the goal of insolvency proceedings. If companies were to choose the most favorable insolvency laws, it could also lead to a general increase in efficiency in the insolvency laws of different states.³¹⁶

The contractualism approach would work well regarding cryptocurrencies since it erases the jurisdictional problems of entities that have no ties to any specific jurisdiction, i.e. to so called multi-jurisdictional entities. Internet-based companies could therefore clearly state to which jurisdiction it wishes to be regarded as having its ties. In addition, it provides the entities with a more profound right of self-determination that would be more in line with the "technological neutrality". The approach has been criticized for "exclusion of interested parties in the decision-making process and the (supposedly) pro-debtor choice of insolvency rules made by shareholders". However, the argument is not that well grounded when it comes to blockchain entities, since some of these entities (for example DAOs) affects the investors more than any third parties.³¹⁷ When it comes to companies and other entities, the contractualism approach could be the answer, as long as the choice is reasonable.

4.5.3. Discrepancies in Domestic Legislation

One of the arguments most referred to as to why harmonization or a common legal framework would not work are the social, cultural and regulatory discrepancies between different jurisdictions. The recent frameworks and developments within the international insolvency law could be seen as an indication that the sensitivity of states regarding this field are

³¹³ Kokorin 2017

³¹⁴ Rasmussen 1997, p. 32, 34

³¹⁵ Ibid., p. 4

³¹⁶ Ibid., p. 35

³¹⁷ Kokorin 2017

decreasing and that there is a growing tendency for harmonization of jurisdictional and mutual-recognition rules, but it is still one of the most important factors to take into consideration when contemplating a common legal framework. Some efforts have been made to identify and map similarities and differences between jurisdictions, for example common principles and key issues.

The “Orderly and Effective Insolvency Procedures”-report³¹⁸ by the IMF was meant to discuss the key issues that arose when comparing different domestic legal systems. The purpose of the report was not to come up with an international standard, but to propose the advantages and disadvantages of possible solutions to the issues. The report distinguishes two overall objectives that are generally shared and considered important in most insolvency systems. The first one is “the allocation of risk among participants in a market economy in a predictable, equitable, and transparent manner”. This objective is important for the economic growth and for providing confidence in the credit system. It is generally recognized that the “risk allocation rules should be clearly specified in the law” and that the “insolvency law must address the problem of fraud and favoritism”. Closely related to these is also the objective of transparency. Judicial proceedings must be open and publicly available and creditors must receive adequate information about decisions that are taken.

The second important objective is “to protect and maximize value for the benefit of all interested parties and the economy in general”. One important part of this objective is the right of the IP to challenge transactions and contracts that the debtor has entered into before the insolvency proceeding, i.e. the antecedent transactions. This objective is further fulfilled by the aforementioned objective of equitable risk allocation, but there can also be tensions between them. For example, the right to challenge contracts maximizes the value of the assets of the debtor but also undermines the predictability of contractual relations.

In addition to the IMF Report, the Principles for Effective Insolvency and Creditor Rights System by the World Bank,³¹⁹ and the UNCITRAL Legislative Guide³²⁰ could be used as some kind of measurement in solving the problems with discrepancies in domestic legislation and finding a common set of rules. Some of the most important principles that these provide are the maximization of the value of a firm’s assets and recoveries by creditors, the careful balance between liquidation and reorganization, equitable treatment of similarly situated

³¹⁸ See chapter 3.3.

³¹⁹ See chapter 3.3.

³²⁰ See chapter 3.3.

creditors, time, efficient and impartial insolvencies and the ensurance of a transparent and predictable insolvency law. It is important to remember, though, that differences between domestic insolvency systems should be taken into consideration, but they cannot be “marginalized, nor overemphasized”.³²¹ The framework should focus on finding common principles and should avoid regulating unnecessary aspects.

In the EU area, an “Impact assessment study on policy options for a new initiative on minimum standards in insolvency and restructuring law” was conducted in 2017 to provide the European Commission with different policy options to estimate their impact and to produce recommendations for a preferred policy option, in order to define and deal with the problem of discrepancies in insolvency regimes. According to the study, the main substantive law elements that lead to inconsistencies are differences (a) in access to preventive restructuring proceedings; (b) in the involvement of judicial bodies across countries; (c) in the opening of insolvency proceedings; and (d) in the rank of claims across jurisdictions.³²²

One of the options that the study proposes is the establishment of a new restructuring regime, which could be chosen instead of the national laws, i.e. it would exist alongside national insolvency procedures as an option for the parties initiating the insolvency procedure to choose. According to the new regime, jurisdiction would be established on the basis of the COMI principle, but the law applicable to the insolvency proceeding would be the “European procedure” rather than the law of the COMI state. The new regime could be applicable to both domestic and cross-border insolvencies, but would probably have best effect in cross-border cases. The two foremost advantages of a new regime are said to be the decrease in the length of the proceedings and the proceeding cost savings. The cons of this option, though, is that it does not provide regulatory certainty to investors or companies regarding which regime would apply and its implementation would take a long time.³²³

An optional regime would, like the contractualist approach, provide insolvency entities with the option to chose, instead of being forced into an unsuitable regime. As the traditional structures of companies are changing, an optional regime is a fair idea and would most likely be the adequate choice in difficult, cross-border situations in order to have many different interests taken into account.

³²¹ Schier 2007, p. 112

³²² Hausemer et al 2017, p. 31

³²³ Ibid., p. 64, 75

4.5.4. Cryptocurrencies

Along with the discrepancies of the insolvency law, the differences in legislation or common perception of cryptocurrencies between jurisdictions must also be observed. For example, bitcoin is legal in North America, while many states in South and Central America have made bitcoin illegal. Some states in the Middle East have not banned them, but they are discouraged, while bitcoin is legal and to some extent regulated in Europe and Asia. In Africa and Oceania, cryptocurrencies are generally legal but unregulated.³²⁴ Only a few jurisdictions have incorporated cryptocurrencies in their legal regimes, most in connection with tax purposes or money laundering, but a few regulatory approaches can be discerned.

The general regulatory approach taken so far by jurisdictions has been to regulate (a) indirectly, by using existing laws and regulations; (b) directly, through cryptocurrency specific regulations; (c) the transmission of value, e.g. exchanges between cryptocurrencies and fiat money; or (d) not regulate or using the wait-and-see approach.³²⁵ The only regimes to have specific cryptocurrency frameworks are Japan and the state of New York. The New York BitLicense Regulatory Framework was issued in 2015 for companies dealing in virtual currency and includes guidelines about key consumer protection, anti-money laundering compliance and cyber security,³²⁶ and states that bitcoin business activity must be licensed.³²⁷ In April 2017, Japan implemented its bitcoin-regime, i.e. a revised Payment Services Act of Japan along with other relevant regulations. The Japanese bitcoin-regime defines virtual currencies, requires regulatory supervision of exchanges and introduces capital, cybersecurity, operational, employee training and audit requirements.³²⁸

In a report from 2019 titled "Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers" the FATF tries to break down the regulatory opinion of cryptocurrencies and explain how the FATF Recommendations should apply to virtual assets. The report is non-binding and does not try to overrule national authorities but draws on the experiences of jurisdictions and intends to assist the national authorities in effectively implementing the FATF Recommendations. Especially following elements are considered important for states when identifying, assessing and determining how to best mitigate the risks associated with virtual assets activities:

³²⁴ Chohan 2020, p. 4-10

³²⁵ Patrick – Bana 2017, p. 8

³²⁶ Anderson 2015

³²⁷ Patrick – Bana 2017, p. 8

³²⁸ Ibid., p. 9

- a) The potentially higher risks associated both with VAs that move value into and out of fiat currency and the traditional financial system and with virtual-to-virtual transactions;
- b) The risks associated with centralised and decentralised VASP business models;
- c) The specific types of VAs that the VASP offers or plans to offer and any unique features of each VA, such as AECs, embedded mixers or tumblers, or other products and services that may present higher risks by potentially obfuscating the transactions or undermining a VASP's ability to know its customers and implement effective customer due diligence (CDD) and other AML/CFT measures;
- d) The specific business model of the VASP and whether that business model introduces or exacerbates specific risks;
- e) Whether the VASP operates entirely online (*e.g.*, platform-based exchanges) or in person (*e.g.*, trading platforms that facilitate peer-to-peer exchanges or kiosk-based exchanges);
- f) Exposure to Internet Protocol (IP) anonymizers such as The Onion Router transactions or activities and inhibit a VASP's ability to know its customers and implement effective AML/CFT measures;
- g) The potential ML/TF risks associated with a VASP's connections and links to several jurisdictions;
- h) The nature and scope of the VA account, product, or service (*e.g.*, small value savings and storage accounts that primarily enable financially-excluded customers to store limited value);
- i) The nature and scope of the VA payment channel or system (*e.g.*, open-versus closed-loop systems or systems intended to facilitate micro-payments or government-to-person/person-to-government payments); as well as
- j) Any parameters or measures in place that may potentially lower the provider's (whether a VASP or other obliged entity that engages in VA activities or provides VA products and services) exposure to risk (*e.g.*, limitations on transactions or account balance).³²⁹

The report focuses particularly on money laundering and terrorist financing risks and regulation but also states that these elements should be taken into consideration when regulating other fields, since "measures taken in other fields may affect the ML/TF risks".³³⁰

However, other factors must also be taken into consideration when thinking of a legal framework in insolvency law, in order to ensure that the cryptocurrencies are dealt with in accordance to the policy objectives of the insolvency law. Some of the elements that have been mentioned are that (a) the parties with an interest in the cryptocurrency units must be

³²⁹ FATF 2019, p. 12

³³⁰ Ibid., p. 20

protected; (b) the process of identifying, locating and securing cryptocurrencies must be simplified; (c) the manner in which the cryptocurrencies should be liquidated or monetized must be clarified; and (d) the manner in which the assets or proceeds should be distributed to the stakeholders should be specified.³³¹ However, these elements are very high-level and it is difficult to say how this should be accomplished in practice.

It can be ascertained that the objectives that are generally considered important are similar to the risks that cryptocurrencies pose. A good beginning point would therefore be to regulate these aspects. However, this is not an easy task either. One way to approach these is therefore to look at domestic regulation for guidance. If there is little regulation in general concerning cryptocurrencies, there is even less found in the insolvency law. However, a couple of jurisdictions have taken the issue of cryptocurrencies in insolvency proceedings into consideration, such as Switzerland and Australia.

In December 2018, the Swiss Federal Council published a report covering the legal framework for DLT and blockchain in Switzerland. The report concluded that amendments to the existing legal frameworks would have to be made in the area of insolvency law in order to cover crypto-assets. In light of these findings, the Swiss Federal Council published a draft law in March 2019. According to the draft law, the Swiss Debt Enforcement and Bankruptcy Act should be amended so that segregation of crypto assets for the benefit of creditors shall become possible, provided that the relevant crypto assets can be allocated to the entitled party, and segregation of digital data in insolvency shall be facilitated.³³² This, however, is relating to the case where a third party custodian, such as a wallet provider, goes bankrupt. If the "owner" of the crypto assets goes bankrupt, the assets will be added to the bankruptcy estate if the debtor can prove that s/he holds the keys to the wallet. If access to the wallet requires several keys, such a multi-signature wallet requires all of the keys.³³³ The draft law does not contain any provisions about how to identify and secure the assets, though.

In Australia, the crypto assets will be regarded as an asset of the bankruptcy estate, unless an exemption applies pursuant to section 116 of the Bankruptcy Act.³³⁴ Similar to Switzerland, a trustee will require the relevant public and private keys to secure cryptocurrency. However, since the private key is only known to the owner, cooperation from the debtor is vital.

³³¹ Azeff – De Caria – McGuire 2018, p. 206

³³² Kramer – Meier 2019/20, p. 50

³³³ Federal Council of Switzerland (2018), p. 66

³³⁴ Exemptions are for example, property held by the bankrupt in trust for another person, the bankrupt's household property, personal property of the bankrupt, property that is for use by the bankrupt in earning income by personal exertion and property used by the bankrupt primarily as a means of transport.

Therefore, according to Australian law, a debtor must disclose ownership or interest in any asset including ownership of cryptocurrencies to the trustee of his or her bankrupt estate. Failure to disclose a cryptocurrency may constitute an offence under the Bankruptcy Act. In addition, it will require extra diligence from the bankruptcy trustee to identify whether the bankrupt holds cryptocurrency. The trustee should seek and review the debtor's bank statements to identify possible cryptocurrency transactions and electronic evidence should be collected to assist investigations of potential evidence of ownership, such as emails, mobile applications, QR codes, recovery seeds, Internet browsing history and hardware.³³⁵

Accordingly, the aspects that have been considered the most important in domestic legislation are provisions regarding ownership and access to the cryptocurrency. Questions regarding how to categorize, monetize or secure cryptocurrency remain unanswered. Regulation of these aspects would also be necessary in order to overcome legal uncertainties. However, since crypto assets are still a fairly new phenomenon, the regulation should be kept at a reasonable level, giving the cryptocurrency time and space to find their right place in society and in the insolvency proceedings.

³³⁵ Australian Financial Security Authority (2019)

5. Conclusions

There are a substantial number of challenges and risks that the cryptocurrencies pose in the international insolvency law and the financial stability in general, when they are starting to show up as assets in insolvency proceedings of entities and physical persons. In addition, the evolving technology brings new operating entities with it, unknown to our traditional perception of businesses and companies and to our regulation. The current regulatory frameworks, standards and principles, discussed in chapter 3, contain no provisions about cryptocurrencies nor are they sufficient to deal with them on an adequate level. The aim of this thesis was therefore to look at the possibility of regulating cryptocurrencies in the insolvency law by examining the current regulation and looking at some new possibilities as well. The thesis focuses on the international level, since both multi-national insolvencies and cryptocurrencies go beyond domestic borders.

The international insolvency law is in a way an ungrateful judicial area to examine since it lacks a common binding framework. The substantial questions are thus still depending on the national state, which is the reason why this thesis focuses in particular on the jurisdictional questions. Furthermore, the insolvency law is connected to many other areas of law, which makes it difficult to differentiate. Nevertheless, as shown in chapter 2, the risks and challenges of cryptocurrencies will also affect insolvency proceedings; hence there is a need for regulation in this field. But just as the opinions on the matter, the regulation could be performed in many different ways.

Considered to be the most important framework in the international insolvency law is the UNCITRAL Model law on Cross-Border Insolvency. The Model law is not binding, but it is regarded to have shown a will to harmonize the legal rules within this field, due to the relatively large number of ratifiers. It has been stated that the most logical approach to cryptocurrencies would be to make use of the Model law. The Model law will not provide answers for substantive questions, but could be used to solve the jurisdictional ones, which is the main problem of borderless entities facing insolvency proceedings governed by national legislation. In addition to the Model law on Cross-Border Insolvency, there are other Model laws that has effect on insolvency proceedings and that could be amended to include cryptocurrencies.

The EU has in general shown great positivity towards cryptocurrencies and blockchain and was also one of the first to regulate, although the early focus was on the prevention of criminal activities. Nevertheless, today the EU can be regarded as a pro-innovator of blockchain technology and has shown a lot of initiatives to research, develop and pilot concepts to promote technology, the usage of regulatory sandboxes among others, while still focusing on the wait-and-see approach concerning regulation. Considering the attention that the EU pays to cryptocurrencies and their potential risks, EU is at least considering regulation that will be necessary to cope with the cryptocurrencies.

It is unlikely that the insolvency law will be the area of law in question, though, at least in the primeval stage. It is important to remember that blockchain entities are only starting to show up, which means that it is a long way before they will emerge as problem-areas in the insolvency law of the EU. Nevertheless, since the EIR is the highest-level binding framework on the international level of insolvency law, it would make a good starting point. Like the Model law, the EIR focuses only on the jurisdictional parts of the insolvency law, and the substantive rules are up to the member states to decide.

It has been discussed in the thesis that the concept of COMI, which is the foundation of both the UNCITRAL Model law and the EIR as well as of many of the different standards and principles in the international insolvency law, will show to be unsuitable in regard to cryptocurrencies, and in particular to blockchain based entities. The rules for deciding the jurisdiction with the center of main interest is difficult in cases where the entity is not tied to any particular jurisdiction. The concept is also problematic in regard to the main proceedings and the secondary proceedings, since the secondary proceedings are chartered to jurisdictions where the company has an establishment, which is not necessarily true regarding Internet-based companies. In order to expand the scope to include also cryptocurrencies and other blockchain entities, an amendment of the concept of COMI will therefore be necessary.

The amendment of COMI may prove to be very difficult, though, since almost all frameworks and principles are based on this concept. It is also very difficult to say if there is need for an entirely new approach to decide the applicable jurisdiction or if an amendment of the existing COMI would be enough. The concept of COMI has in itself faced a lot of criticism, and for that reason it would be logical to turn the eye to a new approach, but the process of implementing an entirely new approach would take a very long time, if it even were necessary. Today, there is not enough case law neither regarding COMI nor cryptocurrencies

that would give an answer to the jurisdictional questions of cryptocurrencies. It is therefore only possible to consider these things from a theoretical perspective.

In addition to reviewing current legal frameworks, other regulatory options have also been brought up in the thesis. One possible solution that has been provided is the concept of self-regulation. Since the main point of blockchain technology was to avoid authorities and since it does not fit in with existing regulation, is there any possibility for technology to be controlled by technology? In the thesis, the principle of “technology neutrality” was presented along with a proposition for using blockchain technology to regulate the international insolvency law. Technology has created new opportunities for businesses and new business models and with the continued development of technology in this Internet-era, the world will most likely see a revolution of the world economy and there is a great possibility that blockchain technology, may show up in all kinds of transactions and interactions in the future. Nevertheless, it is difficult to determine the actual enthusiasm for technology by the general public and since it is accompanied by its own disadvantages, the road to *code as law* seem long, particularly when it comes to the insolvency law.

The thesis includes a discussion on the possibility of a wide binding international framework in the insolvency law. The topic is not new; it has been highly debated throughout the whole 20th and 21st century and has equally many advocates and opponents. There have been a few examples of successful international conventions, with the Nordic Bankruptcy Convention being the most favored, but what most of these have in common are the social, cultural and legislative similarities of the ratifiers. A global framework would hardly receive the same enthusiasm. However, other possibilities have been proposed, for example the option of a regime that would work alongside national laws, or a non-binding framework like the Model law. Due to the limitations of this thesis, it is impossible to discuss the subject on a deeper level, but the fact remains that our world is shifting towards an international paradigm. Companies stretch over several states, employees and students are increasing their international mobility and goods and ideas are floating over state borders. This together with the increased use of digital borderless technologies is a clear factor that whatever regulation is chosen, it should be pointed towards the international direction.

All in all, it is important to keep in mind that many of the issues and problems in this thesis are discussed from a rather extreme point of view. In insignificant or uncomplicated cases, like the majority of cases will most likely be in the future, the questions of COMI will not

create any issues, since the insolvency entity has actual physical ties to some jurisdiction. In addition, the categorization of cryptocurrency, which was left out of this thesis, will probably play a major role in regulation and it could be possible that a common, global classification of cryptocurrencies will both help the cryptocurrencies to find their right place and help the frameworks to apply to them. Be that as it may, at this point no one can say what the future will hold and this is why it is necessary to explore also the outside-of-the-box possibilities.