

ATTACHMENT AND PERFECTION OF THE SECURITY INTEREST OVER CRYPTOCURRENCIES: POSSIBLE INITIATIVES FOR AZERBAIJANI LAW

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ABSTRACT

Cryptocurrency is getting more and more attraction nowadays. We can observe that the number of people and businesses who hold cryptocurrencies increase day by day. The claimed trustworthy characteristics of the underlying blockchain technology makes the cryptocurrency appealing investment and a medium of exchange.

Ever changing nature of the lending market, however, requires adaptability to the development of society and technology. In particular, holders of the cryptocurrency would want to raise finance without selling their cryptocurrencies. In such scenarios, crypto-based lending comes into play. This practice would also play a significant role for the small and medium sized enterprises who do not usually possess an adequate amount of real or personal property to mortgage or pledge.

Thus, pledging of cryptocurrency sounds promising, however, it is paralleled with certain idiosyncratic legal issues that are focused upon in this thesis. In particular, first, the volatility of the value of the cryptocurrencies. Second, the dilemmas related to the requirements for attachment and perfection of security interests on crypto-assets. In particular, whether control, filing or a brand-new method of perfection is needed?

As these issues are increasingly tackled by legal scholarship over the recent years, the thesis will try to summarize these positions and give a brief overview of the current practice of the crypto-collateral, from both academic and practical perspective. For this reason, the thesis will touch upon the technical details about how the blockchain technologies work and how current companies offering crypto lending, ensure the system works for both parties to the contract.

The thesis compares crypto lending under the US system of secured transactions law, as one of the leading global systems, and Azerbaijani law, which will most likely face these challenges in the future. The central hypothesis is that although currently no crypto assets-related law is in force in Azerbaijan, by making these specific assets available as collateral through passing of an appropriate regulatory framework, economic gain could be generated. Azerbaijani law recognizes such

traditional types of *in rem* security agreements as pledge and mortgage, it also gives a way for the parties to stipulate other types of collateral, as well. Thus, this thesis will analyze the possibility of using crypto-assets as collateral in Azerbaijani law and possible amendments thereto by comparing the legal scholarship, case law and industrial publications in USA and Azerbaijan.

INTRODUCTION

This thesis deals with the security interest over cryptocurrencies. But, first of all, the basic questions as – What is a cryptocurrency? How does it work on blockchain technology? – must be answered for clarity. These notions are already widely known and popular in a way that most people are familiar about their essential characteristics. However, for the purposes of this writing, it would be useful to address at least their key features.

First of all, cryptocurrency is a digital currency secured by cryptography; therefore, it is almost impossible to counterfeit them.¹ Most of the cryptocurrencies, including Bitcoin and Ethereum, are based on blockchain technology. Blockchain is a distributed database shared among the nodes of a computer network.² Distributed character of the blockchain database makes it possible to make modifications to the data on it only with the consent of all the users of that blockchain. Main difference between the usual database and blockchain is that blockchain collects data in blocks that are added to the chains, as soon as they are filled, whereas general database collects information in a table format. For this reason, the transactions on blockchain are irreversible.³

Abovementioned characteristics are the main reasons why cryptocurrency is considered as trustworthy medium of exchange or digital asset and because of this, it is getting increasingly popular both as an investment vehicle and a payment method. For this reason, even famous businesses start accepting payments with cryptocurrency or buy cryptocurrencies themselves.⁴ Such popularity are drawing attention and eventually, people become more interested in cryptocurrencies.

¹ Melanie Swan, *Blockchain: Blueprint for a New Economy* (O'Reilly Media, Inc., Sebastopol 2015) 2-3.

² Heather Hughes, 'Blockchain and the Future of Secured Transactions Law' (2020) 3 Stan. J. BLOCKCHAIN L. & POL'y 21, 29.

³ *ibid* 31.

⁴ David Walsh, 'Paying with Bitcoin: These are the major companies that accept crypto as payment' (Euronews.com, 4 December 2021) <<https://www.euronews.com/next/2021/12/04/paying-with-cryptocurrencies-these-are-the-major-companies-that-accept-cryptos-as-payment>> accessed 16 June 2022.

This kind of easier access to cryptocurrency is the main reason for it to be used as collateral. It is now much easier for people to buy, hold and sell cryptocurrencies. With the increasing number of cryptocurrency holders, the lenders in US started to use this opportunity and extend loans for cryptocurrency holders by holding their cryptocurrencies as security.⁵ This scenario is also useful for crypto holders, since it is easier way to access cash without having to sell their cryptocurrencies. For instance, in case of crypto miners, they can easily get a loan and upgrade their hardware for mining without actually selling the cryptocurrency they own.

Another factor for the usage of cryptocurrency as collateral is its value. This factor is actually twofold. It may be a stimulating factor for crypto-collateral because of the general market capitalization of the cryptocurrencies, which was over 1 billion USD for the year 2021.⁶ On the other hand, there is a volatility of the cryptocurrency value that may be unattractive for the lenders to accept them as collaterals. These aspects will be addressed in the relevant chapters of this thesis.

In addition, different than other traditional collateral types, if cryptocurrency is collateralized, it does not have maintenance costs and costs necessary for its sale in case of default by borrower. Cryptocurrency is a digital asset; thus, it does not have to be maintained as various movables like cars, machines or equipment or when borrower defaults, there is no need to prepare auction. These are also factors that make cryptocurrency efficient collateral.

Notwithstanding how effective this practice may seem, it also brings along legal questions, such as, in case of US, the issues of perfection of the security interest over the cryptocurrencies and in case of Azerbaijan, whether it is legal to use cryptocurrency as collateral in the first place. Despite the fact that there is no well-established jurisprudence or legislation specifically suited for crypto

⁵ Arcane Research, Bitstamp *'Banking on Bitcoin, The State of Bitcoin as Collateral'* (February 2021). <<https://static.coindesk.com/wp-content/uploads/2021/02/TheStateofBitcoinasCollateral.pdf>>;

Sandeep Soni, *'Bitcoin is turning into 'perfect collateral asset', says report: 6.25 lakh BTC used as collateral so far'* (4 March 2021) <<https://www.financialexpress.com/market/bitcoin-is-turning-into-perfect-collateral-asset-says-report-6-25-lakh-btc-used-as-collateral-so-far/2206363/>> both accessed 29 May 2022.

⁶ Xavier Focroulle Ménard, Cécilia Barrette-Leduc, *'Sound Regulations for Security Interest in Cryptocurrency'* (2021) 37 B.F.L.R. 97, 101.

lending, in US such type of lending is already practiced and legal scholars have touched upon the legal issues mentioned above.

US secured transactions system is mostly based on Article 9 of the Uniform Commercial Code (UCC). Article 9 was prepared with the purpose of functional approach to the secured transactions regime and it has been adopted by every state legislature in US.⁷ It applies to all the transactions that create security interest over any personal property without any regard to the type or the name of the transaction in question. As to this functional approach, UCC Article 9 is applicable to any agreement that creates security interest over any personal property.⁸ Therefore, it will also be applicable to agreements creating security interest over cryptocurrencies. UCC Article 9 also stipulates methods of perfection over the assets that are being collateralized.⁹ There is a list of assets and methods of perfection for each asset type. Cryptocurrencies or “digital assets” are not in this list. For this reason, the question arises about the method of perfection for the security interest over cryptocurrencies.

In the legal academia, it is suggested that cryptocurrency should be either considered as an investment property, money or general intangible under the UCC Article 9.¹⁰ Each of these asset types has its own peculiarities that should be taken into account when putting the cryptocurrencies under these categories. These peculiarities and problems will be analyzed in the following chapters.

In terms of methodology, in this thesis, the current crypto lending practices in US will be compared to the overall secured transactions system in Azerbaijan, problems and solutions offered by the legal academia will be introduced and possible difficulties will be analyzed that may hinder the

⁷ Tibor Tajti, *Comparative Secured Transactions Law* (Akadémiai Kiadó, Budapest 2002) 118.

⁸ *ibid* 142.

⁹ U.C.C. § 9, Part 3. The National Conference of Commissioners on Uniform State Laws (“NCCUSL”) drafted and periodically revises the UCC in conjunction with the American Law Institute (“ALI”). All U.S. jurisdictions have enacted UCC Article 9. Citations herein to the UCC are to the official text and comments of the ALI and NCCUSL.

¹⁰ Kevin V. Tu, ‘*Crypto-collateral*’ (2018) 21 SMUSTLR 205, 212; Xavier Focroulle Ménard, ‘*Cryptocurrency: Collateral for Secured Transactions?*’ (2020) 34:3 B.F.L.R. 347, 355-357; Timothy Bierer, ‘*Hashing It Out: Problems and Solutions Concerning Cryptocurrency Used as Article 9 Collateral*’ (2016) 7 Journal of Law, Technology & the Internet, 89-90; Ménard, Barrette-Leduc (n 6) 103; Heather Hughes, ‘*Blockchain & Secured Transactions*’ (2021) 17 N.Y.U. J.L. & Bus. 709, 710.

usage of cryptocurrency as collateral in Azerbaijan. Thus, comparative analysis method is used for the purposes of this thesis, where US and Azerbaijani jurisdictions are analyzed.

It should be emphasized that, unfortunately, no case law exists specifically regarding the crypto-collateral either in US or in Azerbaijan. Therefore, we have mainly based our arguments on legal writings, statutory law and industry practice.

Regarding the jurisdictions that are covered, in this thesis, the US secured transactions law is compared to the Azerbaijani law, within the framework of using cryptocurrency as collateral. The reason for choosing the US law as a benchmark jurisdiction is because of the fact that crypto-collateralization practice is already being employed in US. Despite there is no any statutory or case law, precisely regarding the crypto-collateral, there are legal writings about the possible asset classification of cryptocurrencies under UCC Article 9 and there already are companies that accept cryptocurrencies as collateral and extend loans. Therefore, it was thought to be useful reference. On the other hand, Azerbaijani law does not have any regulation regarding crypto-collateral either. We believe, in the wake of globalization, the practice of crypto lending might also reach emerging markets as Azerbaijan. The main reasons are, as established in the previous section, the increasing popularity of cryptocurrencies, the rising number of cryptocurrency holders and, certainly, the increased impact of technology on our everyday lives. Thus, it is believed that Azerbaijani law should be ready to encounter this kind of practices and have an efficient regulatory system when necessary. Although it is not easy to predict the position of legislature or judiciary, it is reasonable to believe that, when necessary, the emerging markets will have to follow the developed markets and learn from their practice. For this reason, this thesis would be a reference point for possible future legislative initiatives.

Thesis will consist of two main parts; first chapter will be dedicated to the US secured transactions law and the practice of crypto lending in US. The chapter will continue exploring the legal issues arisen as a result of using cryptocurrency as collateral and the summary of points of view of the

legal academia about those issues, especially on the topic of perfection of the security interest. Second chapter will be about the secured transactions regime in Azerbaijan and possibility to use cryptocurrency as collateral. Then, legal issues and gaps in the legislation of Azerbaijan will be covered and possible initiatives for effective regulatory framework for the crypto lending will be suggested. Conclusion will summarize the points discussed in the thesis and reiterate the main issues.

Chapter I. CRYPTOCURRENCY AS COLLATERAL IN THE US LEGAL SYSTEM AND PRACTICE

1.1. Current crypto lending practices and problems

Crypto lending, despite recent practice, is not something completely unknown in the US. It is a part of decentralized financing (DeFi), which is a system of financing that removes the control of banks and other institutions on money and financial services.¹¹ Otherwise called as “disintermediation”, its purpose is to remove any financial intermediary when making payments and consequently reduce the costs. Currently, there are lending platforms that accept cryptocurrencies as collateral and extend loans, such as “AQRU”, “BlockFi” and “Crypto.com”. These may be peer-to-peer (P2P) or peer-to-contract (P2C) lending platforms. In case of P2P, people who need money gets matched with a certain lender, whereas in case of P2C the platform connects the borrower to the pool of secured lenders.¹² With this method, the need for matching with a specific lender is eliminated, borrowers access the funds directly from the pool of lenders, thus there is no need to wait for the loans to be funded. Thus, in case of P2C the process is much faster and easier. For instance, “BlockFi”, “ETHlend” and other several companies offer such services now.

The process is more or less similar: borrower transfers the cryptocurrencies to be held as security to the wallet controlled by the lender and the lender extends a loan amount in fiat money to the borrower. Wallet in this case is a digital financial transaction application that avails the user to store and retrieve digital assets. In case of default by the borrower, the lender takes over the cryptocurrency. In other case, there may be a smart contract that automates the process. In this regard, the collateral is being transferred to the wallet (not wholly controlled by the lender) and in case of default the algorithm automatically transfers the crypto to the lender.¹³ In another case, the

¹¹ The Wharton School, The University of Pennsylvania, ‘*DeFi Beyond the Hype*’ (Produced by the Wharton Blockchain and Digital Asset Project, in collaboration with the World Economic Forum May 2021) 1.

¹² Ménard, Barrette-Leduc (n 6) 102.

¹³ Ménard (n 10) 366.

debtor may keep possession over the cryptocurrencies and grant the creditor access to the wallet by providing the private key.¹⁴

Crypto lending practice has its own peculiarities and problems. For instance, an important aspect of crypto lending is the high gap between loan value and the collateral value. The ratio of the loan value to the collateral value is called Loan to Value Ratio (LTV). Because of price volatility of the cryptocurrencies, borrowers are usually required to maintain certain LTV ratio all the time. For example, in case of BlockFi (according to the sample agreement shared on their website¹⁵), borrower is always required to keep 70% LTV ratio. If the value of the cryptocurrency goes down in a way that the loan value becomes equal or greater than the 70% of collateral value, the borrower is asked to provide additional cryptocurrencies to maintain the ratio. The same situation can be seen in case of investment properties. In case of *Layne v. Bank One Kentucky*¹⁶, we can see that the bank required from the borrower to keep the LTV ratio at specified rate due to the fact that the shares of the company were pledged. This illustrates the similarity between investment property and cryptocurrency as collateral. Despite as not volatile as cryptocurrency, investment properties also bear the risk of prices going down. As we can see in the *Layne v. Bank One* case, the value of the shares that were pledged went down dramatically due to dot-com bubble. Court in that case affirmed that the lender does not have a duty to preserve the value of the collateral or sell it for as high price as possible. It is under the lender's discretion to decide whether they want to request additional collateral or go on and sell the already pledged assets. This may be a huge problem for cryptocurrency holders because of more price volatility. Thus, in the next chapters, we suggest at least defining a limit for LTV ratio in order to protect consumers.

This factor reveals the main problem of crypto lending – price volatility. Despite it is getting quite popular day-by-day, the price of the cryptocurrency is constantly in fluctuation.¹⁷ This aspect pulls

¹⁴ Bierer (n 10) 86.

¹⁵ BlockFi Sample Loan Contract <<https://blockfi.com/sample-contract/>> accessed 16 June 2022.

¹⁶ *Layne v. Bank One, Ky., N.A.*, 395 F.3d 271 (6th Cir. 2005).

¹⁷ See <<https://www.coindesk.com/price/bitcoin/>>; <<https://www.coindesk.com/price/ethereum/>>;

back the lenders to extend loans and if they do, they usually use abovementioned “guaranty” measures to balance the risks with interests.

Another issue with using the cryptocurrency as collateral is the possibility of unauthorized transfer. This problem is actually addressed by transferring the cryptocurrency to the wallet controlled by the lender, but in any case, if borrower transfers the cryptocurrency to another person, it will be impossible to track down the current holder of the collateral at that time, since blockchain transactions are irreversible and pseudonymous. Blockchain transactions are recorded on a ledger, however the identification of the transferee will be burdensome for the lenders after even 2-3 transfers, because of the pseudonymous character of transactions. Even if the lender tries to identify the transferees, they will have to apply for traditional enforcement mechanisms and this defies the purpose of effective enforcement. On the other hand, if the user’s address on the blockchain is not linked to his/her physical identity, it will be impossible to find out the real user. Additionally, after 2-3 transfers there is an issue of “bona fide purchaser” which can be an obstacle to demand the collateral from the last recipient. According to the notion of bona fide purchaser (BFP), BFP is the one who purchases property without knowing of any claims of third parties against that property.¹⁸

Last, but not least, despite low, there is always a risk of loss or theft. Cryptocurrency is based on blockchain – allegedly, the most secure database, however it is a digital asset and there have been cases of hacking and stealing.¹⁹ This is also a reason for lenders to be hesitant to provide a loan.

Despite these particular hardships, as mentioned above, practice of extending a loan by taking cryptocurrency as collateral is already used in US and it leads to certain legal issues which is a main discussion topic of this thesis. As mentioned in the introduction, in US there is Article 9 of the

<<https://www.coindesk.com/price/binance-coin/>> all accessed on 16 June 2022.

¹⁸ *Filmtec Corp. v. Allied-Signal Inc.*, 939 F.2d 1568 (Fed. Cir. 1991).

¹⁹ V. Tu (n 10) 210; See also *SEC Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO* (Release No. 81207 / July 25, 2017).

Uniform Commercial Code which is dedicated to the regulation of secured transactions. According to that Article, security interest over assets must be attached and perfected in order to have priority over other creditors and also for the security interest to be effective against third parties.²⁰ Certain types of assets have been listed in Article 9 and each has its own perfection method. Since cryptocurrency is not listed in Article 9 expressly as of yet, the question arises about how to perfect the security interest over the crypto-collateral. To answer this question, it should be clarified as what type of asset would cryptocurrency be when used as collateral.

We believe for the reasons emphasized above there will be a need for well-suited legislative framework or jurisprudence for such legal issues. In this regard, the next section is specifically dedicated to the question of asset classification of cryptocurrencies under the UCC Article 9.

1.2. What type of asset would cryptocurrency be under the UCC Article 9?

The main legal issue in US in terms of the usage of cryptocurrency as collateral is the perfection of security interest in it. Perfection is required for the security interest to be effective against third parties according to the Article 9 of Uniform Commercial Code. UCC is a set of rules related to business law that has been prepared in 1950s. It has been adopted by every state in US with certain modifications. Article 9 of the UCC, is devoted to the secured transactions law and includes provisions about pledge, chattel mortgage, as well as attachment and perfection methods for the security interest. UCC Article 9 is a framework legislative document in a way that it combines all the transactions that create security interest over personal property under one regulatory system. It means that regardless of the name of the agreement, if it imposes a security over the personal property UCC Article 9 will be applicable. This is called a functional approach and is quite effective in practice.²¹ For the security interest to be valid and effective first it has to be attached and second it should be perfected. Attachment happens when the security interest is created – this occurs by

²⁰ Spyridon V Bazinas and N Orkun Akseli, *International and Comparative Secured Transactions Law: Essays in Honour of Roderick A Macdonald* (Hart Publishing, an imprint of Bloomsbury Publishing Plc, North America 2017) 14.

²¹ Tajti (n 7) 118.

concluding an agreement between the creditor and the debtor. For this, debtor must have a right in the collateral, value must have been given by the secured party and secured party must be granted a security interest in the collateral. These are the requirements for the attachment.²²

On the other hand, there are additional conditions for the perfection of security interests. Namely, by possession, filing, control, automatic perfection and alternative filing. To identify the perfection method, it is necessary to establish what kind of asset is being collateralized.²³ Difficult challenge arises here, in terms of the classification of cryptocurrency, which is addressed by the legal scholars and practitioners in US.

In this regard, the main debate has been going around the classification of cryptocurrency as (i) money, (ii) investment property or (iii) general intangible.

UCC Article 9 indicates different types of assets and different ways of perfection. Therefore, it should be clarified what type of asset a cryptocurrency is. Firstly, regarding its classification as money, scholars have more or less agreed upon that cryptocurrency does not bear the characteristics of money, since it is not backed by a government.²⁴ Some governments have started to adopt government-backed digital currencies.²⁵ For example, Venezuela backed its Petro with a crude oil.²⁶ In addition, there is an indigenous tribe in USA that officially recognizes the cryptocurrency as a legal tender.²⁷ However, most of the cryptocurrencies are not officially authorized or adopted to be used by governments. On the other hand, UCC Article 9 definition of money only includes tangible money.²⁸ Since, cryptocurrency does not exist in a tangible form,

²² UCC § 9-203(b).

²³ UCC § 9-301.

²⁴ Ménard, Barrette-Leduc (n 6) 107; V. Tu (n 10) 212; Ménard (n 10) 357; Hughes (n 10) 710.

²⁵ See E-naira <<https://enaira.gov.ng/>>; Sand dollar <https://www.sanddollar.bs/> both accessed 16 June 2022.

²⁶ Usman W. Chohan, 'Cryptocurrencies as Asset-Backed Instruments: The Venezuelan Petro' (2018) University of South Wales, Canberra Discussion Paper, 1.

²⁷ Ménard, Barrette-Leduc (n 6) 109. See also <<https://www.mazacoin.org/>>.

²⁸ U.C.C. §§ 9-312(b)(3), 9-313(a).

it does not meet this requirement. Therefore, considering all the aforementioned factors, the money option would be eliminated in terms of the secured transactions law.

The possible qualification of cryptocurrency as investment property raises different issues. According to UCC, investment property is a security, whether certificated or uncertificated, security entitlement, securities account, commodity contract, or commodity account.²⁹ However, there is no definition of security. For this reason, the definitions introduced by the 1933 Securities and the 1934 Securities Exchange Acts and the related interpretations by the Supreme Court of USA, must be considered. According to that definition, security is ordinary stocks and bond, along with the “countless and variable schemes devised by those who seek to *use of money of others on the promise of profits*”³⁰. This definition was introduced in the famous *Howey* case decided by the Supreme Court of the United States. It was a crucial decision, since it established that not only usual investment tools are to be securities, but anything that meets the requirements of the Howey test shall be an investment contract, thus subject to 1933 Securities Act and 1934 Securities Exchange Act. As it is seen above, the Howey test has three elements: (1) there must be an investment of money (2) in a common enterprise, (3) with the expectation of profit that should derive substantially from the efforts of others.

We can actually think that cryptocurrency might fall under this definition since a lot of people buy and sell cryptocurrency as a speculative investment vehicle – with the purpose of its price going up or down in order to make profit. However, cryptocurrency most presumably would not fit in this definition fully, because of its additional uses as a medium of exchange, also due to the third requirement of the Howey test, namely *the effort of others*. Mere purchase of the cryptocurrency does not entail the effort of other third parties. Cryptocurrency obtained through mining or used as a payment to pay for goods or services would not be considered as an investment property, either.

²⁹ U.C.C. § 9-102(a)(49).

³⁰ *S.E.C. v. Howey Co.*, 328 U.S. 293, 66 S. Ct. 1100 (1946).

Additionally, officials of the Securities and Exchange Commission has stated that they do not consider Bitcoin and Ethereum as security.³¹ In this sense, the DAO investigation report must be mentioned here.³² DAO case was about the company who issued crypto-backed tokens that gave the buyers right to vote for the projects to be financed by the company and participate in the future profits. As it is seen, in this case there is specifically effort of others – investors invest money, but the company is choosing the projects to be voted for financing and running the day-to-day operations. Thus, crypto-backed tokens that give the buyers such participation rights are to be considered security. However, cryptocurrency would not *per se* be a security, because it is not dependent on the effort of others. People buy it for either speculation or payment for goods and services. Lastly, recently initiated US crypto bill is another basis upon which we can conclude that the cryptocurrency is not an investment property or security. According to this bill, cryptocurrencies are going to be classified as “ancillary assets”, or intangible, fungible assets.³³ For these reasons, cryptocurrency would not also fit within the definition of investment property either. In this regard, classifying cryptocurrency as general intangible sounds like the most viable option. Under UCC Article 9, general intangibles are defined to include any form of personal property, including rights recoverable in legal claims, except “accounts, chattel paper, commercial tort claims, deposit accounts, documents, goods, instruments, investment property, letter-of-credit rights, letters of credit, money, and oil, gas, or other minerals before extraction”.³⁴ Thus, we can classify cryptocurrency as a general intangible. However, the problem with this type is the perfection method. Security interests over general intangibles are perfected through filing method.³⁵ Filing,

³¹ *Digital Asset Transactions: When Howey Met Gary (Plastic)* (14 June 2018) <<https://www.sec.gov/news/speech/speech-hinman-061418>> accessed 16 June 2022.

³² Securities and Exchange Commission, ‘*Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO*’ (Release No. 81207 / July 25, 2017).

³³ Olumide Adesina, ‘*US crypto bill: Many crypto assets will be classified as commodities rather than securities*’ (Nairametrics, 8 June 2022) <<https://nairametrics.com/2022/06/08/us-crypto-bill-many-crypto-assets-will-be-classified-as-commodities-rather-than-securities/>> accessed 16 June 2022.

³⁴ U.C.C. § 9-102(a)(42).

³⁵ U.C.C. § 9-310(a); Ronald J. Mann, ‘*Reliable Perfection of Security Interests in Crypto-currency*’ (2020) 21 SMU Sci. & Tech. L. Rev. 159, 164.

despite quite innovative and business friendly, may be unsuitable for crypto-collateral. If the security interest over the cryptocurrency is perfected through just filing statement, but not control or possession, it would lead to following problems.

Cryptocurrency, as mentioned above, is based on blockchain technology. Whenever it is transferred to third parties it is impossible to return it back, because the transactions are irreversible and pseudonymous. On the other hand, the pseudonymous character of the transactions makes the security interest wholly dependent on the good faith of the borrower, since he/she can easily transfer the collateral. Following the borrower and finding the collateral will be a hard task to do and it does not serve to the functionality purpose of UCC Article 9. Therefore, filing is not the best option for the cryptocurrency as collateral. However, employing the control or possession method for the cryptocurrency is not a black-and-white procedure either. Therefore, the following section will be devoted to the possible methods of perfection for the security interest over the cryptocurrencies.

1.3. How to perfect a security interest in the cryptocurrency?

As stipulated above, perfection of the security interest is necessary for it to be effective against third parties. UCC Article 9 states five methods for perfection: (1) filing; (2) control; (3) possession; (4) automatic perfection; and (5) alternative filing.³⁶ Before the introduction of UCC, perfection was mostly realized by taking physical possession of the collateral. As business and industry relations developed, the need for the keeping possession of the collateral by the debtor emerged, since the asset is necessary for the day-to-day business of the borrower.³⁷ For this reason, UCC included filing as one way of perfection.³⁸ Filing is comfortable for both creditors and debtors, since it only involves submitting a financing statement to relevant state authorities. Filing of this statement is sufficient to prove the perfected security interest over the asset. With this method,

³⁶ N. Orkun Akseli, *International Secured Transactions Law: Facilitation of Credit and International Conventions and Instruments* (Routledge, USA and Canada 2011) 162.

³⁷ Tajti, (n 7) 144.

³⁸ U.C.C. § 9-310.

borrower is still able to use the asset for its day-to-day operations and everyone can check and see the encumbrance on the asset being used by that borrower. Therefore, this method is more business-friendly and preferable.

Another method for perfection under the UCC is automatic perfection, in which there is no need for any additional activity to perfect the security interest besides attachment. This method is reserved only for certain peculiar types of transactions, such as purchase-money security interest in consumer goods.³⁹

Control method is used for intangible goods, such as letter of credit rights or electronic chattel paper, and some forms of investment property. With this method, parties conclude a control agreement and the secured party becomes in control of the collateralized asset.⁴⁰ Lastly, alternative filing is also established for specific types of assets that need federal regulatory regime, such as aircrafts.⁴¹ There is a separate registry for these assets.

Hence, considering the intangible and digital nature of the cryptocurrencies, control and filing are the potentially relevant perfection methods that may be employed for the security interest in the cryptocurrencies. Filing is the most preferable method of perfection because of its previously mentioned advantages. However, mere filing would not be a best perfection method for cryptocurrencies. First of all, filing requires creation of a separate registration system, where the information about the security interests over the cryptocurrencies (or digital assets generally) would be publicly available. This publicity is the main component of the filing, since it fights against the ostensible ownership and gives a public notice about the security interest. Considering a scenario, where the borrower keeps the possession of cryptocurrency that is being collateralized, it would be a risky transaction for the lender. The reason is that the cryptocurrencies can be transferred to the third parties and due to the irreversible character of the blockchain technology it will be

³⁹ U.C.C. § 9-309.

⁴⁰ U.C.C. § 9-314.

⁴¹ U.C.C. § 9-311.

impossible to get back the collateral if the borrower is in default. Usual ways of enforcement such as applying to court to enforce the borrower to provide additional cryptocurrencies or paying the whole amount of debt immediately, can be utilized, but these ways defeat the purpose of efficient secured transactions system. Therefore, we should employ the most suitable perfection method to prevent such possibly fraudulent scenarios. Thus, just filing is not the most preferred perfection method for the cryptocurrencies.

Regarding control, it should be noted that control method may also be used together with filing. Control can be realized by concluding a control agreement whereby the secured party gets control over the collateralized asset. Legal academia in US mostly came to the conclusion that control is the best way to perfect the security interest over cryptocurrency.⁴² We can see also in the sample loan agreement of BlockFi, companies by way of private arrangement already use this method, by requiring from the borrowers to transfer the collateralized cryptocurrencies to the wallet controlled by the lender. By way of control, lenders will ensure their supervision over the crypto-collateral. The other possible ways of ensuring control over the crypto-collateral, especially in the world of blockchain technology, will be discussed in the following sections.

We believe that the best option for perfection would be control together with the filing statement. As mentioned previously, filing will be an efficient practice, because of the fact that the security interest will be public and the control will ensure that the unauthorized transfer of the crypto-collateral is not taking place. Thus, whether or not there is a filing requirement, control should be required as well for the perfection of the security interest over the cryptocurrencies.

⁴² V. Tu (n 10) 215; Ménard (n 10) 372; Ménard, Barrette-Leduc (n 6) 109; Hughes (n 2) 50.

Chapter II. ISSUES OF USING CRYPTOCURRENCY AS COLLATERAL UNDER THE AZERBAIJANI LAW.

2.1. General overview of the secured transactions law of Azerbaijan.

Firstly, it would be useful for the purposes of this thesis to give a general overview of the secured transactions law system in Azerbaijan. The main legislative basis for the secured transactions law in Azerbaijan is the Civil Code (CC). Section 24 of the CC is dedicated to securities for the performance of obligations, whereas section 12 is about right of pledge and mortgage. Section 24 includes provisions related to the traditional securities, as pledge, guaranty and suretyship.

In addition, there is a separate Statute “On Encumbrance of Movable Properties”.⁴³ The term encumbrance must be clarified, here; under the Azerbaijani law, if the asset is encumbered, it means there is a security interest over that asset. Despite its name, this statute is not only dedicated to the creation of security interest over movable properties, but also to intangibles such as rights and claims.⁴⁴ However, this statute is for the most part applicable to the creation of security interest over movable properties, except for those that are to be registered in an official registry (like certain motor vehicles). The statute follows the UNCITRAL Model Law⁴⁵ and the functional approach.

We can see in the article 4.3 of the statute, that it is not only restricted to specific types of security agreements, but to any agreements that may create a security interest within the framework of the statute. However, we cannot see the similar approach in the Civil Code. Under the CC, creation of the security interest is classified according to the type of the asset – movable or immovable. There are different rules that apply to each type of asset and rules in both CC and the statute must be followed. According to the CC, pledge and mortgage are created with an agreement.⁴⁶ However, if there is a requirement to register the security interest, pledge right is established after such

⁴³ Statute of the Republic of Azerbaijan “On Encumbrance of Movable Properties” (2017), available from <<https://e-qanun.az/framework/35586>>.

⁴⁴ Article 3.1 of the Statute “On Encumbrance of Movable Properties”.

⁴⁵ UNCITRAL Model Law on Secured Transactions (2016), available from <https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/19-08779_e_ebook.pdf>.

⁴⁶ Article 270.1 of the Civil Code.

registration.⁴⁷ For example, such attachment and perfection method are required for motor vehicles.

For clarity, especially for readers who are not familiar with the Azerbaijani law, pledge under the Azerbaijani civil legislation is the security interest over any movable property (except for those movable properties that is a subject of mortgage – need registration) and rights and claims. Therefore, different from common law definition, under which pledge is only related to the possessory security interest, main distinction under Azerbaijani law is the type of asset that is being collateralized – movable or immovable. Thus, pledge under the Civil Code should be understood as a security interest over the movable properties that do not need state registration (filing) and rights and claims, regardless of whether the collateral is in the possession of the secured party or not. Within the framework of pledge, there is also classification as to the type of asset being collateralized. For instance, article 300 of the CC stipulates the types of pledge as possession, pawn pledge, pledge of rights, pledge of money, fixed pledge and the pledge of goods in circulation. Expectedly, there are not any rules regarding specifically digital assets or cryptocurrencies in the CC. Therefore, cryptocurrencies do not fit within the classic classification of assets under the Azerbaijani secured transactions law. Hence, the main question is firstly, what type of asset cryptocurrency would be under the Azerbaijani secured transactions system? Secondly, can cryptocurrency be used as collateral under the current legal regime? Finally, what can be done to create a more suitable legal system to make crypto-collaterals possible?

2.2. What kind of asset would cryptocurrency be under the Azerbaijani secured transactions law?

Before analyzing the legal status of cryptocurrency, we should emphasize that the analysis about the asset type of cryptocurrency is only for the purposes of secured transactions law of Azerbaijan. Thus, cryptocurrency may be considered completely different asset in light of, for example, tax

⁴⁷ Article 281.1 of the Civil Code.

law or criminal law. Hence, we will try to consider the current legal regime of the secured transactions in Azerbaijan and find out which type of asset fits best to the characteristics of cryptocurrency.

In this sense, article 135 of the CC must be taken into account that provides definitions for property and assets. According to that article, the notion of property comprises tangible assets (which are physical objects, money and certificated securities) and intangible assets. As to the article 135.5 of CC, intangible property includes claims and rights that are inalienable or are for demanding something from third persons.

Cryptocurrency cannot be classified as a claim, because it does not inherently provide a specific right to demand or claim something from third parties. As an example, claim can be a debt that is owed to the creditor – thus, creditor have a claim to ask for the repayment of the debt. However, holding cryptocurrency can be seen as a right that can be alienated and has its own intrinsic value. By buying the cryptocurrency, a person obtains a right to hold, sell or gift that cryptocurrency. On the other hand, CC does not specify any other type of asset that may be fit for cryptocurrencies (for the purposes of secured transactions law). Therefore, right as an intangible property is the best option for cryptocurrencies under the current Azerbaijani law. At any event, as has been analyzed under the US law⁴⁸, it would be useful to clarify whether cryptocurrency might fall under the notion of money or security under the Azerbaijani law, as well.

Statute “On Investment Activity”⁴⁹ gives a definition for the investment and investment object. According to the article 1 of that statute, the investment consists of the financial, material and intellectual assets that is being invested in the entrepreneurial or other activities with the purpose of profits or social benefits. Thus, the object which is being invested into must be related to the entrepreneurial activity. On the other hand, the statute indicates that investment object may

⁴⁸ n 21.

⁴⁹ Statute of the Republic of Azerbaijan “On Investment Activity” (1995), available from <<https://e-ganun.az/framework/9367>>.

include any property, funds, securities, money deposits, scientific-technical products, intellectual assets and other property rights.⁵⁰ In this sense, it should be emphasized that as a type of investment object, security is defined in the Civil Code. According to the article 997.1 of the CC, securities include shares, bonds, promissory notes, depositary receipt, investment fund share, pledge paper, mortgage paper⁵¹ and immovable property certificate⁵². Therefore, the securities are only restricted to these listed assets. Azerbaijani law has different and more broad definition for investment object and does not specifically require the third element of the US Howey test for the investment object, namely the effort of others, at least in a statutory law. Since there is no case law that can provide more clear analysis of this definition, we can conclude that cryptocurrencies can actually be investment objects under Azerbaijani law. They are not securities, however, from the statutory definition of investment objects, we can derive that any property right that is being invested into with the purpose of profit can be an investment object. There are investors who invest money into the cryptocurrencies with the purpose of price speculation and for future profit. Additionally, we can see from the interviews given by the officials of Central Bank of the Republic of Azerbaijan that they refer to cryptocurrencies as investment assets or tools.⁵³ Thus, we can conclude that cryptocurrencies are not securities, but cannot be denied being considered as an investment object under the Azerbaijani law.

Regarding the classification of cryptocurrency as money under the Azerbaijani law, it should be mentioned that there is no exact definition of “money” in the legislation. However, the famous Constitutional Court decision in Azerbaijan, dated 14.05.2015 might be useful to define money. In that decision, the Court found that in civil legislation of Azerbaijan, money does not include only

⁵⁰ Article 3 of the Statute “On Investment Activity”.

⁵¹ Pledge and mortgage paper are securities that confirm the obligation of the debtor owed to the creditor and the security interest over the collateral.

⁵² Immovable property certificate is issued to finance the specific construction project and gives its holder a right to share in the building or any other real estate for which the certificate has been issued.

⁵³ *Mərkəzi Bank*: “*Ona etibar etmirik*” (fed.az, 8 October 2018) < <https://fed.az/az/birja/merkezi-bank-ona-etibar-etmirik-aciqlama-38278> > accessed 16 June 2022; See also < <http://abc.az/mobile/view.php?id=2280&lng=az> > accessed 16 June 2022.

national currency, but also foreign currency. This statement does not restrict the scope of money to national and foreign currencies, however its formulation in this way might be convincing that the money includes national and foreign currencies and according to the Statute “On Currency Regulation”⁵⁴ the foreign currency must be authorized by the relevant foreign government. Therefore, the same problem in US arises in Azerbaijan too. Cryptocurrency is not to be considered as money, because it is not backed or authorized by any government, at least most of them. On the other hand, again from the statements of the Central Bank officials, we can see that they refer to the cryptocurrency as an investment tool or investment asset. Thus, considering all these factors we can find that cryptocurrency is not money under the Azerbaijani legislation.

In the next section we will show that the classification of cryptocurrencies as investment objects or intangible goods (rights) does not matter for the purposes of perfection of the security interest in cryptocurrencies. Or, in other words, the security interest created in them would be valid in both cases. The reason is that neither the Civil Code nor the Statute “On Encumbrance of Movable Properties” stipulates specific way of attachment or perfection for the investment objects (except for the certificated securities). There is only a special provision (article 303.5 of CC) that requires certificated securities to be deposited in a bank or in a notary account. In addition, the Statute “On Encumbrance of Movable Properties” requires the collateralization of the securities, that must be registered in the state registry, to be perfected through possession. These points about perfection will be analyzed in the following sections.

2.3. Is there a way to collateralize cryptocurrency under the Azerbaijani law?

Regarding the question whether cryptocurrency can be used as collateral under the current Azerbaijani law, it should be declared that as to the Civil Code and the Statute “On Encumbrance of Movable Properties”, money, security, investment objects and intangible goods can be

⁵⁴ Statute of the Republic of Azerbaijan “On Currency Regulation” (1994), available from <<https://e-ganun.az/framework/9238>>.

encumbered. As mentioned in the last paragraph of the previous section, we will analyze that, for the purposes of crypto-collateralization, the classification of cryptocurrency as investment object or intangible property does not really play a role.

Firstly, article 460.1 of the CC must be given attention. According to that article: “The performance of the obligation may be secured by pledge, earnest money, possession of the borrower’s property, suretyship, guaranty, deposit or any other means provided for in this Code or agreed upon by the contract”. This article is an introductory article to the section 24 of the CC which is named as security for the performance of obligations. In this regard, the main point to consider in the mentioned article is the part “other means ... agreed upon by the contract” – CC does not restrict the means to create a security interest only to those specifically named in the provision. Parties may agree upon another type of security interest, unless it is not against the requirements of the legislation. This position is confirmed in the decision of the Constitutional Court of Republic of Azerbaijan dated 14.07.2015, where the court decided that taking into account the principle of the freedom of contract the parties are free to identify a security type as long as it is not contradictory to the civil legislation of the Republic of Azerbaijan. In this case, the surety did not conclude a suretyship contract, but merely wrote a letter indicating his suretyship for the obligation of the debtor. This type of security is not indicated in the Civil Code; thus, the Constitutional Court first analyzed the article 460.1 of the CC and concluded that the list is not exhaustive, the “any other means agreed upon by the contract” permits to agree on any security that is not contradictory to the civil legislation. For the sake of clarity, it should be mentioned that because of the specific requirements of suretyship contract, the letter was not held to be compatible with civil legislation, however, the highlighted position of the court in this case on security agreements is crucial.

We established that the list of securities for the performance of obligations is not exhaustive, thus we should now focus on whether or not there is already a type of pledge suitable for cryptocurrency. The Civil Code stipulates various types of pledges as pledging in pawnshop, pledging of money,

pledge of rights, pledge by possession, fixed pledge and the pledge of goods in circulation.⁵⁵ Pledging in pawnshop, pledge by possession, fixed pledge and the pledge of goods in circulation is applicable only to tangible, physical goods, therefore, we will not go into details of these pledge types. As established in the previous section, the best classification for cryptocurrency is that it is either an intangible asset or investment object under the CC. This is so because, firstly, from the abovementioned article, we can see that there is no specific regulation regarding the pledge of investment objects. The Statute “On Encumbrance of Movable Properties” only states the perfection method by possession for the securities. It should be mentioned that specific investment objects, such as immovable properties or securities themselves are regulated separately when they are collateralized. However, there is no general all-catching regulation of investment objects as collateral. For this reason, even if we consider cryptocurrency as investment object, we would still apply the provisions on pledge of rights, because it is the only suitable type of pledge in the current legislation for cryptocurrencies. Thus, within the framework of CC, security interest in the cryptocurrency can be attached through pledging of rights according to article 303 of CC. As to that article, when the rights are being pledged, the subject matter of the pledge is alienable right. Since right to hold cryptocurrency is alienable right and has its own economic value, this article is applicable.

In this stage, the point that, the classification of cryptocurrency as investment object or intangible property is not important, must be emphasized again. As mentioned above, due to the classification of pledging in CC, there is no need to make a definite differentiation between holding a cryptocurrency as a right and cryptocurrency as an investment object. For the purposes of this writing, we will focus on the implications in terms of secured transactions law and under the Azerbaijani law, there is no specific attachment and perfection regime for investment objects as a whole, separate asset type.

⁵⁵ Article 300 of the Civil Code.

From this point of view, we can think that using cryptocurrency as collateral is not prohibited. However, then the question arises how to perfect the security interest? The next section will be dedicated to answer this question.

2.4. The perfection of the security interest over the cryptocurrencies under the Azerbaijani law.

Generally, there is a registration requirement for the security interest over immovables and some movable properties. Furthermore, pledge of the right, that has to be registered in state registry, is valid when such registry has been realized by relevant state authority⁵⁶. Since, there exists no registry for cryptocurrencies whatsoever presently in Azerbaijan, this provision does not apply. However, as mentioned above, filing is not the best option for the perfection of security interest over the cryptocurrency in any case. In this regard, the Statute “On Encumbrance of Movable Properties” must be once again paid attention. As mentioned previously, despite its name, this statute is not only applicable to movable physical properties, but also to rights and claims as distinct classes of assets that could be used as collateral. Article 5 of this statute is named as “Notice of the encumbrance to the third parties”. This article defines the types of perfection methods over certain kinds of assets. Article 5 stipulates 3 methods of perfection, namely, notice registration (filing), control and possession. According to that article, filing is applicable to any encumbered asset, whereas specific assets have been identified to be perfected through control and possession. For instance, security over money, jewelry, securities that do not need state registration require possession, whereas assets in the bank account or deposit account can be perfected through control agreement. From the listed asset types, none of them is suitable for cryptocurrency. Therefore, as in the case of UCC Article 9, we have to classify the cryptocurrency as a general intangible that would require filing only. However, we have already established filing alone is not the best option for the security interest over the cryptocurrencies. In addition, there is no filing

⁵⁶ Article 303.4 of the Civil Code.

system that would register the security interest over the cryptocurrencies in Azerbaijan. Then, would the Azerbaijani courts accept the effectiveness and priority of the security interest over the cryptocurrency that is only established through private agreement? This leads to the next section, namely, the legislative initiatives for crypto-collateral.

2.5. Possible initiatives to be considered for future legislative improvements.

From the previous paragraphs, we came to the conclusion that collateralization of cryptocurrency is not prohibited *per se* under the Azerbaijani law. However, there is a need for legislative changes especially because of the perfection issues. We believe that legislature should modify the Civil Code or adopt a new specific statute in order to be a best fit for cryptocurrency collateralization. First of all, adding a separate type of asset would be a useful start. This type can be named as digital assets or, general intangibles as in UCC Article 9. The reason for this suggestion is because the current classification is not suitable for crypto-assets. Cryptocurrency can neither be considered as movable nor immovable property. The classification of the cryptocurrency as a right is not the best option either, because the rights or claims are usually debt obligations or demands that can be enforced when the creditor wishes so. The nature of the cryptocurrency requires to recognize the underlying asset as it is, not just the right to hold or sell it. This is crucial because, as mentioned in the previous chapters, the popularity of the cryptocurrency is increasing every day and there will be a need to recognize and regulate it as a separate asset. Even if parties agree upon the cryptocurrency (or right to hold and sell it) to be used as collateral, the question of perfection will be left unanswered. Therefore, if the legislature intends to regulate the collateralization of the cryptocurrencies, it has to first explicitly define what type of asset is cryptocurrency and include definitely which perfection method should be employed.

From the current legislation, no perfection method can be derived for cryptocurrencies. Because, as established in the previous section, Law “On Encumbrance of Movable Properties” includes specific perfection methods for specific asset types and one general catch-all perfection method –

namely, the filing. Since, cryptocurrency is not in any of the listed asset types and there is no filing registry for cryptocurrencies in Azerbaijan, basically, we can conclude that, the perfection of the security interest over the cryptocurrencies is not possible under the current Azerbaijani law. Therefore, the method of perfection is the most crucial point that should be clearly included into the legislation. As discussed in the previous chapter dedicated to the perfection of security interest over cryptocurrency in US, control together with filing would be the best option for crypto-collateral in this regard. Perfection by control can be realized by concluding an agreement where it would be stipulated that the borrower shall transfer the cryptocurrency used as collateral to the wallet controlled by the lender, whereas lender may take over the cryptocurrency in case of default. This specific example is one way of realizing effective control over crypto-collateral, however, the level of development in the field of blockchain technology may avail new methods that would be more efficient in future practice. For instance, the notion of smart “liens” is being discussed for a long time now, whereas the transactions are being automated by the use of smart contracts and blockchain technology. This is not yet used in practice; however, it sheds some light over the future possibilities.⁵⁷ Another example may be drawn from the practice of “SALT Lending”, which utilizes multi-signature smart contracts for lending. A multi-signature smart contract requires signatures from different parties (including a SALT Secured Automated Lending Technology) to a transaction for the security reasons. In case the borrower defaults, the keys of the Automated Technology and the lender unlock the collateral for liquidation.⁵⁸ These examples show us the possibilities for future automated secured transactions. Hence, the control can be realized by different, more complex ways in the future, thus, indication of the perfection methods as filing together with control in the legislation is the important first step to ensure that these methods are legally enforceable.

⁵⁷ J. Mann (n 35) 172.

⁵⁸ Xuan-Thao Nguyen, ‘Lessons from Case Study of Secured Transactions with Bitcoin’ (2018) 21 SMU Sci. & TECH. L. REV. 181, 199.

Furthermore, we saw in the sample loan agreement and the legal writings in US that lenders usually require certain Loan to Value Ratio against the risk of the prices of cryptocurrency going down. This LTV brings along issues of consumer protection. Lenders may impose unreasonable LTV ratios that would be cumbersome for borrowers. Therefore, we believe for the protection of the consumers it would be reasonable if the legislature would define a maximum LTV ratio that can be imposed by the lenders.

Arguments may be thought of as whether such level of regulation would actually be helpful for the lending market. In almost every legal academia of each legal system the debate of regulation-deregulation is going on. Some believe that more regulation leads to bureaucracy and slows down the competition and development.⁵⁹ Others argue that efficient and reasonable regulation would actually serve to the purpose of development and also protection of the interests of all stakeholders.⁶⁰ In this regard, it must be emphasized that in positivist civil law countries, like Azerbaijan, people are inclined to follow what is written in the law. Without explicit acknowledgement of the possibility of using the cryptocurrency as collateral either in legislation or also through court practice, almost nobody would try to get or lend money with crypto-collateral. The topic of cryptocurrency is much more relatable in this context, because of all the speculations about its future, volatility and also crimes committed utilizing cryptocurrencies. Hence, it is reasonable to believe that indication of the possibility of using the cryptocurrency as collateral and effective regulation thereof in the Civil Code or through separate statute will make lenders, as well as borrowers, assured that extending a loan with cryptocurrency being used as collateral is not an illegal activity by and in itself.

⁵⁹ Jeffrey L. Harrison, Thomas D. Morgan, Paul R. Verkuil, *Regulation and Deregulation: Cases and Materials* (Thomson/West Publisher 1997) 16.

⁶⁰ Ibid 19.

CONCLUSION

Cryptocurrency is being used as collateral for lending in developed markets as United States. This thesis was considered to firstly give an overview about this practice in US, as well as the point of view of the legal academia on the legal issues involved. There are certain problems in terms of legal validity of the security interest over the cryptocurrency, especially in terms of attachment and perfection. We tried to take this practice in US as an example and look at the current legal regime for the secured transactions and the possibility of using crypto-collateral in Azerbaijan. In conclusion, despite no case law still exists in Azerbaijan, we cannot directly say that nobody can use their cryptocurrencies as collateral to get a loan. It depends on the principle of the freedom of contract and since there is no direct prohibition, it is not illegal *per se*. However, how courts in a civil law country as Azerbaijan would address this issue was an important question to address, especially because of the lack of perfection method over the cryptocurrencies in legislation. For eliminating this uncertainty, it was suggested that legislature should take a stance and specifically address the security interest over the digital assets and provide certainty in that regard. In the end, suggestions made to specifically include digital assets or general intangibles as securities for the performance of obligations in the Civil Code or a separate statute, identifying filing and control as a method of perfection and defining the limit for Loan-to-Value Ratio for the consumer protection.

In conclusion, effective regulation of the crypto lending may lead to economic gain in a developing country as Azerbaijan, therefore legislature should consider the advantages thereof and ensure an efficient regulation for the future.

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