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Dr. Marcos Dotta Salgueiro, Uruguay

Montevideo, April 1st, 2022

Dear Prof. Monika Pauknerová
Chair of the Steering Committee on Digital Assets and Private Law

Dear Mr. Carlo Di Nicola
Senior Legal Officer - UNIDROIT

In my capacity as Member of the Steering Committee on Digital Assets and Private Law, I would like to thank and acknowledge the great work carried out so far by the Working Group, that allowed us to read a comprehensive, clear and well-structured Master Copy of the Principles and Comments.

Being my background on Private International Law, the main approach of my comments will be developed from that field.

In this regard, I am pleased to submit to your kind consideration the following:

- On page 3, Introduction, part I, 4th paragraph, I would suggest that, in addition to the recommendation to States to adopt legislation consistent with these Principles, there might be a recommendation to particulars regarding these Principles.
- On page 5, Commentary, square brackets at the end of paragraph 3, my suggestion is that the examples of digital assets are included there and not in the Introduction.
- On page 8, Illustrations 4 and 5, I wonder if there is a real added value in mentioning concrete platforms and data files, as they may change in the near future, and as there are currently many other examples that in some cases, are even more popular than the ones mentioned.
- On page 9, I understand that in definition 4, "*The law' means a State's law including its digital assets law*", there should be an additional element in order to avoid the *renvoi*. This is linked to the sentence in square brackets at the end of paragraph 10, which, in my opinion, should be deleted.
- On page 10, under the content of (3), I understand that the status and legal capacity of natural persons, as well as wills and succession, should be included among the issues governed by a law other than digital assets law.
- On page 12, I am in favor of maintaining the text (and thus, of deleting the square brackets as such) for both sentences at the end of Principle 4 (1): "...is a matter for the law, *other than the digital asset law, and is not addressed in these principles*".
- On page 15, I suggest including the word "validly" in f): "*If no law has been validly chosen...*", as that is a relevant aspect of the election, and in order to be consistent with e).
- Also in page 15, I would strongly suggest the deletion of footnote 10, as it is an appreciation that goes beyond the scope of the Principles.
- On page 21, Principle 9 (2), I suggest that the inclusion of a derivative digital asset within the scope of the definition of "digital asset" is made in more general terms, when "digital assets" are defined as such. Also, a definition of "innocent acquirer" may be needed.

- On page 25, Principle 12 (1), at the end of the statement, I would suggest replacing the word “is” for “should be”: “The agreement between the custodian and the client *should be* a ‘custody agreement’”.
- On page 27, Principle 13 (2), I am in favor of maintaining the text (and thus, of deleting the square brackets as such) for “or by law”: “*Unless prohibited by a provision in the custody agreement or by law...*”.
- On page 32, Illustrations, first paragraph, I would suggest to delete or rephrase the last sentence, “~~It is unclear whether the definition of things would include digital assets~~”. An alternative text could be: “...in the civil law of the States, *and may include, or not, digital assets*”.
- On page 36, Principle 18 (1), I am in favor of maintaining the text (and thus, of deleting the square brackets as such) for “*The law should provide that*”.
- On page 37, Principle 19 (2), I would suggest replacing the word “particularly” for “including”: “The interests of third parties, *including* custodians should be protected”.
- On page 40, Section VII, Enforcement, Q18, I would suggest to take into consideration, to the extent possible and applicable, the principles developed in the recent HCCH Convention of 2019 on the Recognition and Enforcement of Foreign Judgments in Civil or Commercial Matters. Flexible normative approaches, such as the one contained on Article 9 of the Inter-American Convention on General Rules of Private International Law (Montevideo, 1979) may also be taken into account.
- Very small *typos*: page 6, paragraph 2 at the end, a space is missing before “Given”; page 8, Illustration 3, a) is missing at the end of the first paragraph; page 27, Commentary, paragraph 1, a space is missing in “characterisedas”.

Hoping these comments and suggestions may be useful for you, and thanking in advance your attention, I remain at your disposal for the next steps of our tasks as Member of the Steering Committee.

Yours truly,



Dr. Marcos Dotta Salgueiro
Member of the Steering Committee (Uruguay)

Dr. Luis Manuel Méjan Carrer, Mexico**Principle 1**

Some digital assets (for instance digital currency) are created by central banks, or at least a number of central banks are active in the issuing and trade of digital assets. As far as I understand Principle 1, this set of Principles will not apply to digital assets issued by a central bank. Is this what we're after?

As previously stated, Mexico's central bank is investigating the potential of releasing a digital asset that will perform the same functions as cash. This digital asset will thereafter become the most popular and widely used in our country. Other Digital Assets, of course, can be created and operated by ordinary merchants.

Principle 2

"It is implicit in the requirement that the information must be retrievable in a form that can be perceived."

The text in brackets can be omitted because the subsequent explanation specifically excludes digital assets that are not "capable of being subject to control."

In my jurisdiction (Mexico) software is protected under Intellectual Property Law. (i.e. Copyright Law) will this be included in the definition "The Law"? (see Illustration 2 above)

Principle 4

I think that text in brackets should be included

I prefer the text in (2) instead of the alternative proposal because is conclusive: the Law should specify. In the alternative text the law's author are free to determine whether or not the requirements must be set.

A trust with immovables as the held assets is one example that can be considered. The trust usually issues a bond that gives bondholders the right to a share of the value of the trust's immovables. Digital assets can be used instead of these bonds. Securities Law, Financial Institutions Law and others must be affected to include this possibility.

As it would be the case in my jurisdiction Statutes than can be concerned with linkage between regular and digital assets, are in general, legislation governing commercial transactions and those governing financial institution operations (Central Bank, commercial banks, investment banks, financial technology institutions, and so on)

Principle 5

However, bankruptcy law should address how digital assets are treated in the estate of the bankrupted person, as well as how executory contracts dealing with digital assets must be treated.

My concern regarding questions Q.5. and Q.6. (the same as in the entire document) is that there are two different areas where digital assets can operate: One, in the commercial and personal transactions of individuals and, another, in those digital assets that are included in the scope of the financial laws and financial institutions.

Principle 6

What happens when the parties to a Smart Contract have no way of changing the transaction's path?

Principle 7

Is this text (b) necessary? In most cases, requiring someone to prove a negative fact is impossible.

Principle 12

I find that the text in brackets is not necessary and should be deleted.

If the digital asset is deemed a security or falls under the purview of a securities law, it is possible that the register in a Depository Institution be compulsory. The Securities Law regulates the custody and transfer of the assets in this scenario.

Principle 13

As noted in previous portions of this notes, the situation alters depending on whether the digital assets are considered "security" or another type of asset not subject to the strict control of Securities Law.

Principle 19

Consider how automated enforcement could deprive the affected party of their right to due process. (Principle 19 (3)).

Principle 20

In my opinion, the second choice of paragraphs (1) and (2) is preferable because the content is more specific. It is important to consider if a third party could have the authority to exclude a digital asset from the estate.

The treatment that should be given to some executory contracts that are in force at the time of declaring insolvency is usually governed in insolvency regimes.

The general rule is that contracts must be honored according to the terms that were originally agreed upon, especially if the insolvency proceeding is aimed at reorganizing the firm and it is an on-going concern. Contracts that are not necessary for the company's operation are frequently terminated early by the insolvency representative. Furthermore, legal regimes frequently decide the fate of certain contracts.

This might be the case with so-called "financial" or "derivative" contracts, such as Futures, Repos, Warrants, hedge funds, securities loans, and others (many more may be appearing in the future), in which a date must be set by which the values of said products must be determined and, in some cases, the rights of set-off might apply. Because it is extremely likely that digital assets will emerge in these types of contracts, the Law will have to consider some rule on how these contracts with a digital asset underlying should be regarded.

See UNCITRAL's Legislative Guide on Insolvency Law. Recommendations 101 to 107.

Professor Leyla Keser Berber, Türkiye

Q.1. Steering Committee Members are invited to provide the Working Group with examples and illustrations of digital assets in their jurisdictions where the Principles should apply.

A.1. *Examples of digital assets that the Principles should apply may be listed as crypto assets such as NFTs, utility tokens, stable coins, cryptocurrencies, dematerialized shares.*

Q.2. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of 'linked' digital assets referred to in Principle 4; in particular, of the following:

- **Assets 'linked' to intellectual property;**
- **Assets 'linked' to tangible movables;**
- **Assets 'linked' to tangible immovables;**
- **Assets 'linked' to obligations owed by a person other than an issuer;**
- **Assets 'linked' to shares or bonds;**
- **Assets purporting or appearing to be 'linked' where, in fact, the legal 'link' is absent;**
- **Assets 'backed' by a basket of assets, such as, Diem.**

A.2.

- **Assets 'linked' to intellectual property:** *NFTs that grant copyright of the underlying asset such as intellectual property rights of an image, a design, or a photo.*
- **Assets 'linked' to tangible movables:** *Tokens such as crypto kicks of Nike where the digital asset is tied to a physical shoe.*
- **Assets 'linked' to tangible immovables:** *Security tokens linked to a portfolio of real estate such as SwissRealCoin (which ensures automation of real estate asset management based on blockchain software).*
- **Assets 'linked' to obligations owed by a person other than an issuer:** *Some of the utility tokens may be considered under this category. For example, a sports club fan token grants the owner to an interaction with a football player. In this scenario, issuer of the token would be the sports club itself while the obligation is on the football player.*
- **Assets 'linked' to shares or bonds:** *dematerialized shares.*
- **Assets purporting or appearing to be 'linked' where, in fact, the legal 'link' is absent:** *This category may apply to a digital asset which claims to confer a right to another asset although applicable procedural laws prevent such linkage (for example some rights can only be transferred if the transfer agreement is concluded in written form).*
- **Assets 'backed' by a basket of assets, such as, Diem:** *Stablecoins such as Tether and DAI*

It should be underlined that for the linkage between assets to be legally effective, additional requirements such as registration procedures or requirements as to the form may be applicable. However as also indicated within the scope of Principle 4, we did not take the requirements set by the Law (law other than digital assets law) into consideration.

In terms of setting clear rules regarding linked assets, we are of the opinion that states should stipulate alternative digital requirements as to the form in the law applicable to the "linked asset" other than the digital asset law that will conform the nature of digital assets. For example, if a transaction regarding an immovable requires physical presence of the parties before public authority under the applicable law, the law should foresee digital alternatives to this requirement. Alternative requirements may be determined according to the ratio legis of the current requirements. For example, if the reason behind requiring the

physical presence of the parties is to prevent possible situations that cause defective declaration of will or undermine free will of the parties, the digital alternative to be introduced must also meet such purposes.

Q.3. Steering Committee Members are invited to provide for the Working Group's consideration what, in their opinion, apart from the digital asset itself should be referred to in Principle 4(1) as a possible source of the appearance of linkage between assets?

A.3. *In our opinion, other than the digital asset itself, public registries may be a source of appearance of linkage between the assets.*

Additionally, private platforms where the digital assets are sold may indicate such linkage. For example, information giving the appearance of conferral of a right may be written in the description of the digital asset. Further, the private platforms/websites/applications could cryptographically verify each token owner's right to display or use the token. For instance, in terms of NFTs, websites or applications could permit the inclusion, involvement, or participation of individuals NFTs, provided that the NFT owner's rights to display the art is cryptographically verified and ensure that only the actual owner can display the art, and the art should be no longer visible once the owner of the purchased NFT leaves the website/application.

Lastly, contractual clauses that includes statements and undertakings of the digital asset owner that indicate the linkage between the assets may also be considered as a possible source.

Q.4. Steering Committee Members are invited to provide for the Working Group's consideration the examples of relevant legislation governing 'linked' assets, including but not limited to the legislation:

- **Statute providing for a register of 'linked' assets;**
- **Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods;**
- **Statute providing general requirements for a 'link' between assets**

A.4.

- **Statute providing for a register of 'linked' assets:** *Under Turkish law, for a legally effective transfer of property of immovables, the transfer must be registered before land registry.*
Similarly, transfer of property of vehicles must be done before the notaries and must be registered to the Vehicle Registry and Registration System of the Notaries Union of Turkey.
- **Statute providing for certain digital assets to be treated as documentary intangibles such as, for example, negotiable documents of title to goods:** *Turkish Commercial Code allows bills of lading to be issued electronically by secure e-signature. In this scope, digital bills of lading are treated as documentary intangibles.*
- **Statute providing general requirements for a 'link' between assets:** *To establish a link between the assets, intended linkage must be stated and if there are any special requirements as to form envisaged by relevant law of the asset, such requirements must be fulfilled.*

Q.5. Steering Committee Members are invited to provide for the Working Group's consideration the possible difficulties/challenges connected to the interaction between the law of the asset and the law of the system, as set out in Principle 5(2), in case they are different.

A.5. In our opinion, challenges may arise in case the law of the asset and the law of the system contradicts with each other, or the law of the system does not allow mandatory elements that law of the asset requires.

To illustrate, under Turkish law a stock certificate must be endorsed for a legally valid transfer. Transfer of a tokenized stock certificate may not be possible if the law of the system does not allow an endorsement option in compliance with Turkish laws. We assess that the law of the system may be interpreted as the law of a state where the system owner operates.

Q.6. Steering Committee Members are invited to provide for the Working Group's consideration the possible methodologies of establishing the strongest factual connection of a system of a digital asset for the purposes of determination of the applicable law according to Principle 5(2)(f).

A.6. Considering the global scale of digital asset transactions, this paper believes that, factual connection of a system of a digital asset should not be based on where the digital asset is issued or its current location as a general rule, as it would be hard for individuals to claim their rights in different jurisdictions. We believe this won't be fair especially for consumers or unqualified investors as this will put capital and time-consuming burden on the individuals to file law lawsuits and follow-up proceedings in various jurisdictions. As a recommendation, an alternative dispute resolution policy/rules for disputes concerning digital assets should be formed and implemented as in the case of WIPO-initiated Uniform Domain Name Dispute Resolution Policy.

That said, a hybrid system can be embraced by the states. The hybrid system should be two-fold. When disputes arise out of the digital asset and not the linked asset, arbitration or mediation rules should be applied specifically designed for this type of disputes. On the other hand, when the disputes originating from "asset" linked or tethered to the digital asset, (a) if the asset is tangible applicable law should be the law of where the asset is first issued; (b) if the asset is intangible the applicable law should be determined based on the intangible asset's location and (c) if the digital asset is 'linked' to shares or bonds, applicable law should be the law of issuer of these bonds and shares (e.g. the headquarter of the company which its shares have been tokenized)

Q.7. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of the control of digital assets as referred to in Principle 6.

A.7.

- *Parents that have control over their minor's game account, which contains game characters, avatars etc., as the minor does not have a right to conduct promissory/obligatory transactions without their parents' consent by law could be an example for control.*
- *An investor, portfolio management company and a custodian relationship could be another example of control since all three parties could have a certain level of control on digital assets essentially managed by the portfolio company.*

Q.8. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of the transfer of digital assets as referred to in Section IV: Transfer, in particular:

- **Transfers of on chain and off-chain digital assets, and**
- **Transfers involving Layer-1 and Layer-2 digital assets.**

A.8.

- *In terms of blockchain, on-chain transactions mean cryptocurrency transactions that take place on the blockchain and in order to ensure validity remain dependent on the state of the blockchain. For example, transfer of bitcoin or Signum (formerly known as Burstcoin) from a lender to a debtor.*
- *Transactions conducted outside the blockchain platform is considered as "off-chain transfer". A third party can verify such transaction. For instance, exchange of private keys. Again, transferring a digital asset via a usb driver (cold wallet) could be an example for an off-chain transaction.*
- *Examples for transfers involving Layer-1 digital assets could be the burning of Ethereum, Solana, Cardano or Avalanche and creating another one for an acquirer.*
- *On the other hand, examples for transfers involving Layer-2 digital assets could be, usage of MATIC for settling and paying for transactions between users in the Polygon network or usage of LRC token for powering the of Loopring platform's operations.*

Q.9. Steering Committee Members are invited to provide for the Working Group's consideration possible examples of the application of the innocent acquirer rule in the context of digital asset

A.9. *For instance, in case of purchasing an NFT which is minted by infringing a trademark right, the acquisition will be deemed valid if the third party purchasing this NFT is in good faith. However, if the NFT acquirer could know that the acquisition is wrongful as to the holder of the proprietary claim, for instance when a very famous designer's bag or well-known scenes of a movie is minted as an NFT [Since the Principle 9(5) (b), (d) or (e) might be applicable], the acquirer should not enjoy the IA principle.*

Q.10. Steering Committee Members are invited to provide for the Working Group's consideration possible examples of the application of the shelter principle in the context of digital assets.

A.10. *A third party who acquired a digital asset (e.g. an avatar for the online game LOL) from an IA who bought the digital asset from a hacker at the first place should be protected under the shelter rule.*

Q.11. Question for the Steering Committee Q.11. Steering Committee Members are invited to provide for the Working Group's consideration examples of possible difficulties / challenges in the application of innocent acquirer rules in the context of a custody relationship, particularly, with regard to questions on the nature and extent of proprietary rights

A.11. *In cases of where the custodian is also acting as a financial institution Know Your Customer and suspicious reporting obligations might undermine the innocent acquirer rules in the context of custody relationship, as the custodian shall be obliged to check the identity of the account holder; and assess whether the transaction to be made to the custody account is a suspicious transaction. For example, digital assets regularly*

coming from various accounts of a crypto hijacker or whether any prior property right notification has been made with regards to a particular digital asset.

Again, IA rule might not be implemented if the if the property claim with regards to certain digital assets is coming from another account holder of the custodian. Since, this kind of incident might be considered in the context of Principle 9(5)(b).

From another perspective, under principle 11, we understand that a client who acquires a digital asset from a custodian, will have the same benefits conferred on an IA . Therefore, even if the digital asset is wrongfully acquired from its actual right holder, the client will not be affected from any proprietary claims of the actual right holder of the asset. In this scope, determining a framework for custodian's responsibility to investigate proprietary rights (or possible claims) of a digital asset may be useful in order to avoid imposing too broad and complicated responsibilities on custodians considering the complex nature of digital assets.

Q.12. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of models of digital assets custody as referred to in Principle 12; in particular, examples of:

- **'Pure' custody;**
- **Custody on an exchange platform;**
- **Custody of a 'tethered' or 'linked' asset.**

A.12.

- **"Pure Custody":**

Turkish draft bill on crypto-currencies designates banks as custodians in terms of crypto-assets. We believe this scenario could be considered as an illustration for "pure custody", as banks shall not provide any other services to crypto-asset holders beside custody service concerning crypto-assets.

Custody services of Bitgo (Wallet Platform, Qualified Custody and Self-Managed Custody) could also be considered as pure custody where the account holder does not get any other services from bitgo such as lending.¹

A central securities depository for digital assets could also be considered as pure custody.

- **Custody on an exchange platform:** *Crypto-asset trading platforms may also hold custody of client assets (which are called custodial trading platforms), indeed when a customer buys cryptocurrencies or other crypto-assets on a trading platform, instead of immediately transferring the crypto-asset to a wallet owned and controlled by the customer, most of the time the crypto asset remains in a wallet controlled by the Platform. Thus, these platforms provide both trading and custody features. Examples; Poloniex, BTCTurk, Binance*
- **Custody of a 'tethered' or 'linked' asset:** *Security tokens hold by the custodian could be an example for custody of a "tethered" or "linked" asset, as a security token is a unique token representing a stake in an external asset or company.*

¹ <https://www.bitgo.com/newsroom/press-releases/announcing-bitgo-trust-company>

Q.13. Steering Committee Members are invited to provide for the Working Group's consideration examples of holding of digital assets for the purposes of Principle 12.

A.13. *A relationship between a collateral provider, custodian and collateral taker could be an example of "holding of digital assets" in cases of where collateral taker shall have the right to use and dispose of the collateral digital assets (such as Ethereum or bitcoin) as if it were the owner of them.*

Q.14. Steering Committee Members are invited to suggest to the Working Group what might be an optimal approach for addressing those situations where the mandatory duties cannot be performed by some DeFi structures, for example, Maker DAO.

A.14. *DAOs essentially designed to eliminate intermediaries and personal relationships, which are the foundation of trust between two people who don't know each other, by replacing them with smart contracts. As mentioned under the p.31 of the draft principles document, DAOs use smart contracts or apps stored and executed on the blockchain to control certain digital assets in some cases without no involvement of a natural or a legal entity. Therefore, we believe DAOs are inherently non-custodial. Since there is no middleman or a possibility of human intervention custodial relationship with DAOs thereby cannot be established and hence mandatory duties cannot be imposed on the DAOs.*

That said, we propose the following measures in order to mitigate the risks for consumers and inadequate investors that might arise from Defi structures:

- ✓ *Although financial services provided through Defi structures are executed based on the active involvement and consent of the consumers or the unqualified investors, financial knowledge of the individuals might not be sufficient particularly considering the complexity of financial instruments. Therefore, we propose an ex-ante informing obligation for Defi service providers. In order to, minimize any information asymmetry-based risk software provider/smart contract provider /creator of the protocol must be obliged to inform individuals in a clear and understandable manner prior to using the Defi services. Some standards might be formed for this notice like in whitepaper or privacy notice regulations.*
- ✓ *There should be different rules for qualified and unqualified investors. Hence, an ex-ante assessment criteria should be established by the software provider/smart contract provider /creator of the protocol to designate which investors are eligible for using Defi services. Principles and rules for the creation of these criterion by the service provider could be formed by relevant supervisory authority of the states. For instance, different initial capital or collateral requirements could be imposed on qualified and unqualified investors.*
- ✓ *An ex-ante (prior to commence providing the software or smart contract to the public) and ex-post audit mechanism (e.g. an annual independent audit obligation while the services are provided) for Defi services should be established.*
- ✓ *Smart contracts could be tried to standardized by the regulators as in the European Unions proposed Data Act has stipulated. Article 30 of the proposed Data Act sets forth essential requirements regarding smart contracts for data sharing and a conformity assessment procedure for smart contracts. As per the said provision the person whose trade, business or profession involves the deployment of smart contracts for others in the context of an agreement to make data available shall comply with the following essential requirements (a)*

<p><i>robustness (b) safe termination and interruption (c) data archiving and continuity (d) access control. To pass the conformity assessment the provider /deployer of the smart contract must fulfil the mentioned essential requirements. Similar essential requirements could be formed in terms of Defi structures based solely on smart contracts.</i></p>
<p>Q.15. Steering Committee Members are invited to provide for the Working Group's consideration examples of best practices of the security right perfection in collateral transactions involving digital assets.</p>
<p><i>A.15. The law of the contracting state should permit a title transfer collateral agreement to take effect concerning digital assets transactions such as security tokens.</i></p>
<p>Q.16. Steering Committee Members are invited to provide for the Working Group's consideration their views as to whether security rights in certain types of digital assets should be made subject to the general priority rule.</p>
<p><i>N/A</i></p>
<p>Q.17. Steering Committee Members are invited to provide for the Working Group's consideration examples of other requirements, apart from the one on the notification of disposal, mentioned in Principle 19(3) from which secured creditors should be exempted</p>
<p><i>N/A</i></p>
<p>Q.18. Steering Committee Members are invited to provide for the Working Group's consideration their opinion on what should be included in the content and scope of the enforcement principle.</p>
<p><i>A.18. UNIDROIT should remember the quote of Lawrence Lessig and consider the fact that "the code is the law". Enforcement principle, hence, might include enforcement procedures that might be inherent within the technology used in digital asset transactions. Such as "enforcement by design".</i></p>
<p>Q.19. Steering Committee Members are invited to provide for the Working Group's consideration their views on what should be included in the content and scope of the insolvency principle.</p>
<p><i>A.19. In order to increase the effectiveness of insolvency procedures on property and security rights in digital assets we reckon that even if there is no intermediary like a custodian, for instance in cases of Defi structures, insolvency procedures should also be able to be executed by these service providers.</i></p> <p><i>By bringing some features to the design phase of the software/protocol/smart contract by considering the execution/bankruptcy situations could be another approach for best practice. This practice could be implemented by decentralized digital asset service providers such as crypto-trading platforms, custodians, crypto lending platforms.</i></p> <p><i>Additionally, insolvency principle may foresee basic principles regarding the identification, preservation, valuation, and distribution of digital assets during an insolvency procedure.</i></p>

Q.20. Steering Committee Members are invited to provide for the Working Group's consideration examples of practices of digital assets valuation in insolvency proceedings.

A.20. *Under Turkish laws, there is no clear regulation determining the nature of crypto assets or whether they may be subject to insolvency proceedings. Recently, a local court held that crypto assets may be subject to insolvency proceedings, however local court's valuation methods of the crypto asset is not available to our knowledge. In our opinion, valuation methods could be similar to the methodology used for the valuation of company shares listed on stock exchange.*

Mr Antonio Marcos Fonte Guimarães, Brazil

Brasília, March 21th, 2022.

Professor Ignacio Tirado
Secretary-General
UNIDROIT
E-mail: info@unidroit.org

Dear Mr Ignacio Tirado,

Regarding the principles presented in the document “draft Principles and Commentary” and its relationship with the reality experienced in the Brazilian financial market, it is worth noting that in our jurisdiction we have many examples of digital assets and some of them are worth mentioning in prominence. One of them is the digital invoice, provided for in Law No. 13,775, of 2018, and in CMN Resolution No. 4,016, of 2020. In addition to this commercial asset, we have the Rural Producer Certificate (CPR), created by Law No. 13,986, of 2020, which has the objective of promoting agribusiness in the country, bringing greater flexibility in obtaining resources for rural producers. In the banking sector, the Bank Credit Note (CCB) and Rural Credit Note (CCR) are issued by financial institutions. All these bonds are issued in virtual format which classify them as a digital asset for the purpose of this analysis.

2. Besides the aforementioned laws providing for both the digital invoice and the CPR, that serve as a legal basis for the formation of each asset, there are also a regulations enacted by the National Monetary Council (CMN) or the Central Bank of Brazil (BCB). In this way, the assets are governed by general laws, specific laws (digital asset laws) and by infra-legal regulations.

3. It is important to highlight that, even with the existence of a regulatory set by specific laws, these assets comply with other provisions of our legal system. In this sense, some issues related to property rights and credit titles remain dealt with in previous legislation, in harmony with the dynamics of business and the new legislation.

4. In the case of the CPR, there must be a link between the bank note and the product of rural activity. In this way, although the production can serve as a guarantee for the title, the CPR legislation and the legislation of rural activity are different, for example.

5. In fact, any conflict between legislation or between the law and the code of the digital asset must be evaluated with greater caution, considering that the option adopted in Brazil, aiming at giving greater legal certainty to digital assets, consists of the formation of specific legal requirements for each asset or asset class, always respecting constitutional and private law principles.

6. After the movement towards the constitutionalization of private law, which took place after the promulgation of Brazilian Constitution of 1988 (CF), there is no longer a need to segregate Law into Public and Private (*summa divisio*). For that matter, the theory disciplines that the State should only intervene in the private relationship to preserve fundamental rights and guarantees.

7. Thus, if a digital asset code is in harmony with the specific legal requirements designed for the asset, which are, in turn, in harmony with the principles of constitutional law (social function of property, contract, etc.), as well as in relation to the principles of private law (ethics, operability and sociality), there is, in principle and depending on the specific case, no need for the State to intervene in this legal relationship, preserving minimal intervention and economic freedom.

8. With regard to control, it is understood that digital assets are, in essence, assets. Therefore, the assessment of asset control can be harmonized with the financial concept of control, provided for in International Financial Reporting Standards – IFRS 16, and must have the following attributes: i) power over the asset; ii) exposure to, or rights to, variable benefits arising from its involvement with the asset; and iii) the ability to use its power over the asset to affect the value of its returns. These attributes must be presented together, in order to characterize the effective control of the digital asset under evaluation.

9. Moreover, in order to align concepts, the debate on ownership of a digital asset must necessarily involve the fact that, in some cases, the benefits generated by the digital asset are not contained in the ownership of the asset, but, in fact, they figure in the exposure that one has to the asset and the returns generated by it.

10. With regard to the innocent acquirer, it should be noted that in Brazil financial assets must be registered within a registration entity, registration system or trade repository, or deposited within a centralized depository entity (CSD), authorized by the BCB or by the Securities and Exchange Commission of Brazil (CVM). Thus, the existence of possible encumbrances on regulated digital assets must be included in the record, which gives legal certainty to the transaction, ruling out any claim of ignorance by the acquirer, prior or subsequent, given the publicity of the conditions of the asset.

11. With regard to custody and sub-custody, it should be noted that, except in relation to systems operated by the BCB itself, the operation of any system that carries out activities such as funds transfer, asset transaction settlement, central counterparty, centralized deposit and registration within the scope of the Brazilian Payments System (SPB) must be previously authorized by BCB or CVM, according to each authority's legal competence. These systems have the ability to allow the registration and transfer of funds, in the case of custody of collateral, including fungible collateral.

12. The aforementioned systems have an undisputable value for Brazilian digital assets linked to other assets, like the Agribusiness Letters of Credit (LCA) and the Real Estate Letters of Credit (LCI). The LCA is a security issued by a financial institution and is used to raise funds for agribusiness. Created by Law No. 11,076, one of the appeals of these securities is the fact that gains for individual investors are tax exempt. The primary risk of the LCA is held by the financial institution. In case of bank default, the underlying asset is pledged to the final investor by law, who can then sue for the property when the bank does not pay the asset. On the other hand, the LCI is one of the fastest growing bonds in Brazil and one of the most sought-after fixed income instruments by individual investors as holders of this bond are exempt from income tax. The LCI is a funding source for the country's real estate sector and is guaranteed by real estate credits, which works as "linked assets" to LCI.

13. With the purpose of promoting a more friendly environment for business, Law No. 13,874, of 2019 (Economic Freedom Act), determines that public policy regarding to private economic activities must be interpreted in favor of economic freedom, good faith and respect to contracts, investments, and property. Thus, as long as the matter respects our legal system and is not contrary to public order, there is no formality or undue requirement for the contracts to produce their effects. In this sense, there are principles that guide economic activity in the country, among others, freedom as a guarantee in the exercise of economic activities, the good faith of the individual before the public power, the subsidiary and intervention of the State on the exercise of economic activities as an exception and the recognition of the vulnerability of the individual to the State.

14. With regard to insolvency cases, adequate legal security of the digital asset is sought, especially when considering the economic situation of the debtor. Hence, it is emphasized that there must be an integral, prior and reliable record that unequivocally indicates the holder of the right contained in that asset (controller). As an example, the extract from the electronic record of the

book-entry digital invoice, provided for in art. 6, of Law No. 13,775, of 2018. This record must include any encumbrance on the asset, which gives it greater security.

15. Concerning insolvency, provisions stated in Law No. 11,101, of 2005, must be applied in the event of insolvency of a business company in Brazil. The owner of an asset involved in a bankruptcy proceeding or in the debtor's possession on the date of the declaration of bankruptcy may request its restitution. In such a case a reasoned request must be submitted to the competent authority, with a description of the claimed asset. This is a faster process, in the midst of the complex bankruptcy process, since the sentence that recognizes the applicant's right must determine the delivery of the asset within 48 hours.

16. In respect to the valuation of assets during the insolvency process, there is a legal provision for the use of appraisers (specialists), as assistants, who will be able to use appropriate pricing techniques for digital assets combined with measurement techniques, in accordance with the legal and professional provisions applicable to the asset under evaluation, such as valuation techniques or accounting standards (IFRS), considering that the adversarial principle must be respected.

17. Timely, still within the digital assets scope, it's worth mentioning that Brazilian Parliament is discussing a bill for the Virtual Assets Market and the Virtual Asset Service Providers (VASP). This bill focuses on regulating cryptoassets negotiations under Brazilian jurisdiction and is aligned with the Recommendations of the most relevant standard setting bodies that provides guides on these matters, like, for instance, the Financial Action Task Force (FATF).

18. Additionally, there is a rise on the number of alternative assets being offered to investors, mainly through companies that also deal with the exchange of cryptoassets. There is a secondary market of tokenized versions of government's court-ordered debts and a new type of asset called "fan token", which aims to promote new ways of interaction between football teams and its supporters.

19. There are also interesting projects on this matter being tested within the scope of regulatory sandbox initiatives of BCB and CVM. One of the projects aims to create a secondary market of tokenized CCBs. Others are related to the issuance and negotiation of tokenized forms of debentures, funds quotas and other securities.

Sincerely Yours,

Antonio Marcos Fonte Guimarães
Head of Division

Mr Mahdi Janati Moheb, Iran

Q.1. Steering Committee Members are invited to provide the Working Group with examples and illustrations of digital assets in their jurisdictions where the Principles should apply.

First of all, it should be noted that there is no definition of property or criteria for distinguishing property in Iranian law, but since the property system in Iranian law is based on the ideas of Fiqh (Islamic jurisprudence), it can be said that the possession of virtual data in Iranian law, would be acceptable under certain conditions. In addition, digital data can be considered a type of property under Iranian criminal law. Cybercrime law values data as an asset and classifies it as an asset, and criminalizes its infringement as a property crime.

Accordingly, if digital data is of economic value to society, it can be considered a digital asset. Due to the novelty of the subject, there are few examples of digital assets in Iran. However, the last and most important of them can be considered the Central Bank's digital currency (CBDC), which is a regulation developed by the Central Bank of the Islamic Republic of Iran. Consequently, the national currency of Iran (Rial) is to be issued on Blockchain soon. On the other hand, according to the "Law on Protection of the Rights of Computer Software Manufacturers", computer and multimedia products, websites are considered the intellectual property rights of individuals and companies, and they are protected by Iranian law and courts.

Anyway, it is clear-cut that application of the principles in any jurisdiction depends on their state's decision.

Q.2. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of 'linked' digital assets referred to in Principle 4; in particular, of the following:

- Assets 'linked' to intellectual property;
- Assets 'linked' to tangible movables;
- Assets 'linked' to tangible immovables;
- Assets 'linked' to obligations owed by a person other than an issuer;
- Assets 'linked' to shares or bonds;
- Assets purporting or appearing to be 'linked' where, in fact, the legal 'link' is absent;
- Assets 'backed' by a basket of assets, such as, Diem.

Assets 'linked' to intellectual property

In this context, we can notice some NFT Artists and Crypto Art Projects which they might claim some IP right if they met the legal process, if exists. Some of them are:

BEEPLE (<https://www.beeple-crap.com>);

VHILS (<https://www.vhils.com/>);

ALEXA MEADE (<https://www.alexameade.com/>).

Assets 'linked' to tangible movables

Petro (Petro is a cryptocurrency proposed by the government of Venezuela. It is supposedly backed by a portion of Venezuela's massive oil reserves.)

Assets 'linked' to tangible immovables

EKO Tokens. EKOs are forest asset-backed tokens (<https://www.ekofolio.com/forests-for-sale/eko/>).

Assets 'linked' to obligations owed by a person other than an issuer

No idea.

Assets 'linked' to shares or bonds

Bitcoin bonds. El Salvador plans to build the world's first "Bitcoin City", funded initially by bitcoin-backed bonds.

Assets purporting or appearing to be 'linked' where, in fact, the legal 'link' is absent

No idea.

Assets 'backed' by a basket of assets, such as, Diem.

No idea.

There is something about page 8 of the Principles (Illustration 4: Facebook page with password for access) which seems necessary to be noticed:

In some projects (e.g., Pi Network Coin), Facebook password can be used as an authentication key to access to the control of mining application - not necessarily access to the passphrase of the wallets, but, to the ability of intentionally deleting them.

Q.3. Steering Committee Members are invited to provide for the Working Group's consideration what, in their opinion, apart from the digital asset itself should be referred to in Principle 4(1) as a possible source of the appearance of linkage between assets?

Generally, possible sources of the appearance of linkage between assets might be divided into three main categories:

First, **Contractual origin**, which is identifiable in White Papers or Road Maps;

Second, **Legal origin**, which can be mentioned in the Law (the State's law);

Third, **Random origin**, i.e. it is possible to happen if A is linked to B, and after a while, B may get linked to C - due to some common benefits of B and C issuers. As a result, an indirect linkage might be created between A and C.

Q.4. Steering Committee Members are invited to provide for the Working Group's consideration the examples of relevant legislation governing 'linked' assets, including but not limited to the legislation:

- Statute providing for a register of 'linked' assets;
- Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods;
- Statute providing general requirements for a 'link' between assets.

1. Issuance of a permit for the sale of housing meters by the jurisprudential council of the IRAN Central Bank, might be considered as an example of Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods;

2. Venezuela. In Special Official Gazettes No. 6.370 and 6.371 of April 9, 2018, the following instruments were published: (a) Constituent Decree on Cryptoassets and the Petro Sovereign Cryptocurrency, issued by the National Constituent Assembly (the Cryptoassets Constituent Decree), (b) Decree No. 3.355 of the President of the Republic, which creates and regulates in detail the Office of the Venezuelan Superintendent on Cryptoassets of Venezuela and Ancillary Activities (SUPCACVEN), and (c) Decree No. 3.353 of the President of the Republic, which creates the Treasury of Cryptoassets of Venezuela (the Cryptoassets Treasury). Prior to these legal instruments, in Special Official Gazette No. 6.346 of December 8, 2017, Decree No. 3.196 of the President of the Republic (the Cryptoassets Presidential Decree), which

formally and generically creates SUPCACVEN and erratically and generically regulates the “petro” cryptocurrency was published, and in Official Gazette No. 41.366 of March 22, 2018, Decree No. 3.333 of the President of the Republic (the Petro Zones Presidential Decree), which creates the so-called petro zones was published.

Q.5. Steering Committee Members are invited to provide for the Working Group's consideration the possible difficulties/challenges connected to the interaction between the law of the asset and the law of the system, as set out in Principle 5(2), in case they are different.

To be honest, it is a bit hard to imagine or to find a factual instance about the possible difficulties/challenges connected to the interaction between the law of the asset and the law of the system, as set out in Principle 5(2), in case they are different. Because, when a dispute regarding a digital asset is referred to a court, the Judges or Arbitrators identify just one applicable law for analyzing the case and making their decision, and they do not select both applicable laws of the asset and the system. Besides, in Recognition or Enforcement of Foreign Awards (either Judicial or Arbitral), there seem to be no difficulties/challenges regarding the applicable law. So, that would be appreciated if you gave us such examples, if exists.

Q.6. Steering Committee Members are invited to provide for the Working Group's consideration the possible methodologies of establishing the strongest factual connection of a system of a digital asset for the purposes of determination of the applicable law according to Principle 5(2)(f).

As to the possible methodologies of establishing the strongest factual connection of a system of a digital asset for the purposes of determination of the applicable law according to Principle 5(2)(f) we can think about including but no limited to these parameters:

1. The nationality or citizenship of person or company which has created the system/blockchain/protocol;
2. The Most Significant Relationship Rule, in case of the person/company has more than one nationality;
3. The place of registration of a system / blockchain / protocol in order to obtain the necessary permits for activities;
4. The country in which the system/blockchain/protocol is executed for the first time;
5. The place of registration the system/blockchain/protocol as an Intellectual Property Right.

Q.7. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of the control of digital assets as referred to in Principle 6.

Regarding Principle 6, a question arises that due to some unlawful US sanctions against Iran, cryptocurrencies related to citizens of some countries (including Iranians) kept in crypto exchanges such as Binance are at risk of being blocked and impossible to transfer. Therefore, if a centralized exchange or cryptocurrency issuer blocks the cryptocurrencies, will these people no longer have control and possession over it according to Principle (6)1?

Q.8. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of the transfer of digital assets as referred to in Section IV: Transfer, in particular:

- Transfers of on chain and off-chain digital assets, and

- Transfers involving Layer-1 and Layer-2 digital assets.

On-Chain transfer of digital assets

1. **Neo** was founded 2014 and has grown into a first-class smart contract platform. It is backed by a global developer community who continue to drive the blockchain forward. It is a cryptocurrency with a relatively fast transaction speed (<https://neo.org/>);
2. **Burstcoin (BURST)** is another coin that not only has faster block time than mainstays like Bitcoin, it also uses far less energy to mine coins because of its proof of capacity system (<https://www.burstcoin.ist/>).

Off-Chain transfer of digital assets

1. **Lightning Network** is the most promising by far method of building a off-chain transaction system. It is a proposed implementation of Hashed Timelock Contracts (HTLCs) with bi-directional payment channels which allows payments to be securely routed across multiple peer-to-peer payment channels. This allows the formation of a network where any peer on the network can pay any other peer even if they don't directly have a channel open between each other. Very little third-party trust is required.
2. **Credit-Based Solutions.** The simplest example of an off-chain transaction is perhaps two friends who agree on a debt between them. The "transaction" happens by the act of agreeing that the debt exists, and the validity of it is based solely on the trust that one friend has in the other. Further transactions can be agreed upon, possibly in exchange for something of value such one friend buying the other a meal. Multiple mutually trusting parties can participate, creating a network of value owed from one to the other. As an example the Ripple monetary system takes this concept, and adds to it an automated ledger to record all the mutual debts between participating parties. However actually acting upon those debts is still a matter of trust between the parties; the system only records debts and can-not by itself causes Bitcoins or some other object of value to change hands. In theory, the use of multi-signature techniques offers the promise of secure Off-Chain transactions [2]. However, the practical applications of such "CryptoCubic" approaches have yet to be confirmed.
3. **Trusted Third Parties.** If the sender and recipient do not trust each other, or would simply prefer someone else record and guarantee the transaction, they can use a trusted third party to record and guarantee the transaction. The vast majority of conventional banking and electronic payment systems work this way. For instance in the PayPal system, PayPal is trusted to keep an accurate record of all transactions, including within the PayPal system, as well as transactions that move funds to and from PayPal. Within Bitcoin redeemable code systems exist where a third party, such as Mt. Gox, records codes issued and promise to redeem them for either new code, balances within the system or Bitcoins via on-chain transactions. In addition E-Wallet services such as Easywallet.org often allow users to transfer funds between addresses within the system without creating an on-chain transaction ([Reference of answers for Off-Chain Transfers](#)).

Transfers involving Layer-1 and Layer-2 digital assets

Layer-1. Ethereum and Solana are examples of Layer-1 blockchain networks ([Ethereum](#) & [Solana](#)).

Layer-2. Ethereum Layer-2 Scaling Solutions:

1. **Sidechains** are separate blockchains that run in parallel to Ethereum Mainnet and operate independently. In general, sidechains do not rely on the main blockchain's security, and they have their consensus mechanism. Hence, they are believed to be less secure (Example Project: [Polygon](#)).
2. **Channels** permits reduction of the load and transaction cost on layer 1 by allowing to transact X number of times off-chain (L2) and submitting two transactions to the network on-chain (L1) (Example Project: [Celer Network](#)).

3. **Rollups** are solutions that execute transactions outside of Ethereum Mainnet (layer 2) and send transaction data back to the Mainnet (layer 1), once finished. In other words, Rollups try to off-load the transaction volume from the blockchain itself and execute transactions in a separate chain (Example Project 1: [Optimism](#)).

Q.9. Steering Committee Members are invited to provide for the Working Group's consideration possible examples of the application of the innocent acquirer rule in the context of digital assets.

No idea about the examples of the application of the innocent acquirer rule in the context of digital assets. But, it is necessary to mention two important stuff:

1. Iranian law has not taken a clear stance on the "Innocent acquirer" and seems to be less-flexible about that. According to Article 325 of the Civil Code, if the buyer is ignorant of the usurpation of the object of sale, he can go to the seller to receive the price and damages. In general, Iranian law places high value on property rights; the good intention of the innocent acquirer does not affect the owner; This matter can be deduced from Articles 247 and 391 of the Civil Code.
2. The Principle 9(4)(d) seems a little weird and unfair, since when somebody acquire a proprietary right in a digital asset due to changing the control of that digital asset by a person that is acting wrongfully and has no proprietary right in the digital asset, it means that another one has lost their digital asset in an unfairly way and without their intention and consent.

Q.10. Steering Committee Members are invited to provide for the Working Group's consideration possible examples of the application of the shelter principle in the context of digital assets.

Same as the answer to question 9.

Q.11. Steering Committee Members are invited to provide for the Working Group's consideration examples of possible difficulties / challenges in the application of innocent acquirer rules in the context of a custody relationship, particularly, with regard to questions on the nature and extent of proprietary rights.

Same as the answer to question 9.

Q.12. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of models of digital assets custody as referred to in Principle 12; in particular, examples of:

- 'Pure' custody;
- Custody on an exchange platform;
- Custody of a 'tethered' or 'linked' asset.

First of all, there is a point about Principle 12 (2) (a) to be mentioned. Which limits the digital assets to fungible ones. There are lots of exchanges and brokers holding Non-Fungible Tokens for their clients in their own digital wallets in a completely custodial way. I cannot realize whether the above mentioned principle could be applied to that kind of exchanges and brokers or not.

There are some examples of models of digital assets custody

1. **Trust Wallet** is a Multi-Coin Wallet (holding coins and fungible and non-fungible tokens) which supports 'Pure' custody, Custody on an exchange platform through Exchange and Swap and other Smart Contracts via its **DApps** mune;
2. **MEXC** is the same Custodial Wallet with a full access to all kind of smart contracts;
3. **Pi Network** supports 'Pure' custody just for its exclusive coin and just lets the users to save and send or receive only their mined Pi coin in it.
4. **Arzjoo** is an Iranian broker which sells and buys some kinds of cryptocurrencies and holds their clients' digital assets in itself wallets.

In this regard, it is worthwhile to mention to the Article 607 of the Iran Civil Law which is similar to the Custody contract.

Q.13. Steering Committee Members are invited to provide for the Working Group's consideration examples of holding of digital assets for the purposes of Principle 12.

Same as the answer to question 12.

Q.14. Steering Committee Members are invited to suggest to the Working Group what might be an optimal approach for addressing those situations where the mandatory duties cannot be performed by some DeFi structures, for example, Maker DAO.

1. Starting their activities in any country, all businesses need to get the legal licenses and permissions. Any state in this time can force them to modify their procedure, according to the mandatory duties mentioned in the Principles;
2. In general, insurance industry might help take advantage of DeFi and perform the duties outlined in principle 13(1)(C). Insurance plays a significant role in technological development. The broader idea behind insurance has been pivotal in many industries to drive innovations. For example, insurance indirectly makes houses safer in the real estate industry. It has been observed that the insured houses are more secure against hurricanes because of insurance inspections. This is because insurance inspectors check the quality of construction to avoid losses to underwriters in times of calamity. These underlying ideas can be expanded to the crypto world, and insurance could safeguard against some of the financial and technical risks in DeFi. In this regard, states can announce the insurance contract as a requirement for DeFi to get licenses and permissions.

Q.15. Steering Committee Members are invited to provide for the Working Group's consideration examples of best practices of the security right perfection in collateral transactions involving digital assets.

No idea about examples of best practices of the security right perfection in collateral transactions involving digital assets. But, it is necessary to pay attention to a few points. In traditional banking, customers are given credit points based on their past trading behavior and financial status. This is almost impossible in the crypto loan market because wallets are created anonymously, and anyone can make as many wallets as they want. Unlike traditional collateral, such as cars or homes, whose value are more predictable and do not change dramatically in the short term, collateral in the world of digital currencies, such as NFT or cryptocurrencies, can fluctuate widely. Therefore, lending platforms need to have strong collateral valuation systems that can estimate the market value of any asset at any time. On the other hand, lending platforms can create

something similar to the concept of risk-weighted assets (RWAs) in traditional banking. Additionally, because transfers in crypto assets are irreversible and hard to trace, these assets seem risky to be used as collateral if the debtor has the possibility of transferring them at any time. Moreover, there is a fear that security interests will continue to burden the cryptocurrency that has passed into the hands of a party whose property serves as security for a blanket lien. Nonetheless, solutions exist. The main idea to facilitate digital assets as collateral in secured lending is to create a whole new category for them and amend the laws to create a more suitable framework. This entails that a definition of digital assets must be added and amendments to allow creditors to perfect their security interests in digital assets through control.

Q.16. Steering Committee Members are invited to provide for the Working Group's consideration their views as to whether security rights in certain types of digital assets should be made subject to the general priority rule.

In my opinion, general priority rule encourages secured creditors to take some actions in order to use such priority and make their security safer. So, definitely yes.

Q.17. Steering Committee Members are invited to provide for the Working Group's consideration examples of other requirements, apart from the one on the notification of disposal, mentioned in Principle 19(3) from which secured creditors should be exempted

No idea and it seems that there is no reason to give more extra points to secured creditors and create a gap between them and unsecured creditors. The use of general legal principles and the usual legal privileges of secured creditors, such as the "right of precedence" and the "right of prosecution," are sufficient in this regard.

Q.18. Steering Committee Members are invited to provide for the Working Group's consideration their opinion on what should be included in the content and scope of the enforcement principle.

Regarding the content and scope of the enforcement principle, these points might be considered:

1. The state's provisions regarding enforcement;
2. Enforcement due to an agreement;
3. Enforcement due to a judicial or arbitral awards;
4. Enforcement due to different kinds of sanctions;
5. Enforcement in a foreign country;
6. Preferential debts and insolvency cases;
7. Automatic enforcement and judicial procedure required enforcement;

Q.19. Steering Committee Members are invited to provide for the Working Group's consideration their views on what should be included in the content and scope of the insolvency principle.

Regarding the content and scope of the insolvency principle, these points might be considered:

1. The state's provisions about insolvency;
- The position of digital assets regarding the content and scope of property definition;
2. Practical Ways to Valuate Digital Assets;
 3. Preferential debts according to the state's law;
 4. Insolvency of multi-national companies.

Q.20. Steering Committee Members are invited to provide for the Working Group's consideration examples of practices of digital assets valuation in insolvency proceedings.

The average valuation of an asset in a specific period of time would be the simplest way, but, it seems the most practical, efficient, and reasonable ways in digital assets valuation, could be found in the relevant international standards as below, which has been already mentioned in the Draft Principles:

1. The International Valuation Standards (IVS) produced by the International Valuation Standards Council (IVSC);
2. The International Financial Reporting Standards (IFRS) developed by the International Financial Reporting Standards (IFRS) Foundation mainly through its standard-setting body, the International Accounting Standards Board (IASB).

Best regards,

Prof. Giusella Finocchiaro and Ms. Rita Caracuzzo, ItalySection I: Scope and Definitions

Principle 1- Scope [of the principles]

Q.1 (p. 5) *examples and illustrations of digital assets in Members' jurisdiction where Principles should apply*

Answer:

- a) **Fan-token:** used by some of the main Italian football teams, this system allows users, through the platform socios.com, to create wallets buying the platform's token (chiliz). These tokens can themselves be converted into specific fan-token of each affiliate football team, and their ownership grant users special goods and services related to the team.
- b) **Azim:** a token representing the digital securitization of a financial asset available to invest in alternative credit. Issued by the Italian group Azimuth, in cooperation with Sygnum Bank, this token is the digital representation of a portfolio of 5 million euro of loans to Italian SMEs, originated by Borsa del Credito and guaranteed by the Mediocredito Centrale Guarantee Fund.
- c) **RHC1:** RealHouse Srl is an Italian start-up specialized in real estate investments. It created its own platform (called Blockinvest), which integrated Ethereum's layer-2 solution, Polygon, and allows users to tokenize tangible immovables, such as real estates, and intangible financial assets such as private equities and funds. It was through this platform that the first tokenization of a real-estate operation in Italy was accomplished. In particular, the operation involved two buildings in Rome, collaterals for a Unicredit's non-performing loan, and led to the issuance of RHC1, a utility token backed by those buildings.

Principle 4 - Digital Assets "Linked" to Other Assets

Q.2 (p. 14) *examples of "linked" digital assets referred to in Principle 4; in particular, of the following:*

Answer:

- a) assets "linked" to intellectual property:
 - a. The symmetric keys encryption, used as method to protect IP of digital works, implies that each object is encrypted by the distributor with a key unique to that object; the encrypted object can then be distributed, while the object's key is given only to appropriate recipients (e.g., paying customers), and certifies intellectual property rights and ownership of the artwork.
 - b. NFTs linked to the underlying digital artworks, certifying their origin (e.g. Meteora NFT, an Italian platform providing a service of NFT's listing, was born in 2022 with the aim to broadcast some of the best Italian NFT projects in the world of digital art.

The platform gives relevant informations about the artwork, such as the artist and the collection of which it is part, and gives direct access to the relevant platform for buying the artwork, also indicating the price in the connected crypto-currency)
- b) assets "linked" to tangible movables:
 - a. tokenised commodities (e.g. PDX token backed by the value of recoverable reserves of crude oil and equivalents such as natural gas and related assets);

- b. Phyigital NFT, a non-fungible token created by Aesthetes, an Italian start-up, which gives right not only to the digital representation of an artwork but also to a fraction of the physical one.
- c) assets “linked” to tangible immovables: Tokenized real-estates
- d) assets “linked” to obligations owed by a person other than the issuer: /
- e) assets “linked” to shares or bonds: digital share certificates stored within each token representing a company’s share
- f) assets purporting or appearing to be “linked” where, in fact, the legal “link” is absent: /
- g) assets “backed” by a basket of assets, such as, Diem:
- a. Basic Attention token (BAT) is a system based on Ethereum’s blockchain for tracking consumers' time and attention for advertisements, when using the Brave web browser. Publishers of digital advertisements are rewarded for user attention with Basic Attention Token; the more efficient their content is at generating sustained user attention, the greater the publisher's revenue becomes. This is possible thanks to the link of the token with an “attention value”, based on incremental duration and pixels in view for any relevant advertising content. Users of Brave who participate in this project are rewarded with BATs, which can be exchanged for services and premium contents from the browser.
- b. Digital collateralised debt obligations (e.g., mortgage backed securities) like those created by Opium Finance

Q.3 (p. 14) *what, in the Member’s opinion, apart from the digital asset itself, should be referred to in Principle 4(1) as a possible sources of the appearance of linkage between assets*

Answer: /

Q.4 (p. 14) *examples of relevant legislation governing “linked” assets, including but not limited to the legislation: a) Statute providing for a register of “linked” assets; b) Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods; c) Statute providing general requirements for a “link” between assets*

Answer:

- a) Dir. (UE) 2019/790 on copyright and related rights in the Digital Single Market, amending Directives 96/9/EC and 2001/29/EC, transposed in Italy with the Legislative Decree 177/2021 which modifies Italian copyright law (l. 633/1941) on intellectual property and connected rights, with specific regard to the digital use of protected artworks and contents.
- b) Legislative Decree 82/2005 (*Codice dell’Amministrazione Digitale*), regulating the process of digitalisation of public administration and all the connected aspects
- c) Decree of the Ministry of Economy and Finance dated January 2022, regulating the activity of service providers in crypto-assets, in particular introducing the obligation for them to enrol into a Register kept by the competent Italian authority (i.e., OAM, Organismo Agenti e Mediatori)
- d) “*Tokens and TT Service Providers Law*”, Lichtenstein, 2020. It regulates, on the one hand, the general aspects of civil law regarding tokens, such as the representation of rights via tokens and the transfer of tokens, and, on the other hand, the supervision, rights and obligations of TT (Trustworthy Technology, defined as technology through which integrity, allocation and transfer of tokens can be ensured) service providers.

Section II: Private International Law

Principle 5 – Conflict of Laws

Q.5 (p. 16) *possible difficulties/challenges connected to the interaction between the law of the asset and the law of the system, as set out in Principle 5(2), in case they are different*

Answer: a challenge connected to the interaction between the law of the asset and the law of the system could be the potential mismatch of interests. In fact, as the law of the system is basically national law, it would probably focus on issues such as consumer protection, security of the transactions and financial stability, while the law of the asset is much more likely to focus on other aspects, such as the transnational movement of financial capital or financial interests in general. In addition, it could be that the two regulatory systems have different degrees of strictness, creating coordination problems between them. Another issue could be the (potential) non-jurisdictional nature of the law of the asset, leading to difficulties for the law of the system as far as supervision and judicial proceedings are concerned.

Q.6 (p. 16) *methodologies of establishing the strongest factual connection of a system of digital assets for the purposes of determination of the applicable law according to Principle 5 (2)(f)*

Answer: to consider the State where the system is used the most could be useful to identify the strongest factual connection of a system of digital assets with the law of a State, whenever the percentage of use of the relevant system is higher than a critical point. For example, if the 75% of the users of a system comes from France, the law with the strongest factual connection will be the French one.

Section III: Control

Principle 6 – Definition of control

Q.7 (p. 19) *examples of the control of digital assets as referred to in Principle 6*

Answer: /

Section IV: Transfer

Principle 8 – Acquisition and disposition of digital assets

Q.8 (p. 21) *examples of transfer of digital assets as referred to in Section IV: Transfer, in particular: a) on chain and off chain; b) involving layer-1 and layer-2 digital assets*

Answer:

- 1) on chain: any transfer of assets performed on a specific blockchain, such as BTCs' transfer on Bitcoin blockchain
- 2) off chain: any transaction occurring on a network moving values outside the blockchain. Different methods can be used: the exchange of private keys representing a fixed amount of tokens on the basis of an agreement between private parties; the transaction between private parties agreeing on a debt between them, with the chance for multiple mutually trusting parties to participate, creating a network of value owed from one to the other (e.g., RippleNet, a payment network, allows these operations, using an automated ledger to record all the mutual debts between participating parties); a transfer agreement guaranteed by a third party (e.g., present day payment processors works this way, such as PayPal).
- 3) layer-1: every transaction performed on a base blockchain such as Bitcoin or Ethereum (main networks within their digital ecosystem)

4) layer-2: a) Ethereum developed a layer-2 solution called Polygon, a decentralized scaling platform providing instant transactions. Many popular DeFi and NFT applications, including SushiSwap, OpenSea, Curve Finance, have integrated with this layer 2 solution; b) Lightning Network is a layer-2 solution developed by Bitcoin which allows individuals to transact not only using BTC but also using different currencies which integrated this solution, such as Litecoin.

Principle 9 – Innocent acquirer rule

Q.9 (p. 23) *examples of application of the innocent acquirer rule in digital assets*

Answer: /

Q.10 (p. 23) *examples of application of the shelter principle in digital assets*

Answer: /

Principle 11 - Application of the innocent acquirer rules to a custody relationship

Q.11 (p. 24) *difficulties/challenges in the application of IA rules in the context of a custody relationship, particularly, with regard to questions on the nature and the extent of property rights*

Answer: problems could arise in case the acquirer would have knowledge of suspicious circumstances but fails to investigate further, and with the definition of the acquirer's actual knowledge that its acquisition violates someone else's right. In both cases, in fact, in the context of a judicial proceeding based on a proprietary claim from a person different from the acquirer, it could be held that the custodian would have an obligation to investigate further or to grant a certain level of "lawfulness" of the guarded assets. In case the innocent acquirer rule was declined too mildly, by providing for a broad definition of innocent acquirer, the custodian could be (unfairly) found responsible instead of the acquirer, protected by the innocent acquirer rule.

Section V: Custody

Principle 12 – Custody

Q.12 (p. 27) *examples of models of digital assets custody as referred to in Principle 12; in particular, examples of:*

Answer:

- a) Pure custody: /
- b) Custody on an exchange platform:
 - a. Conio: created by Christian Miccoli and Vincenzo Di Nicola, is a platform providing custody services (besides traditional exchange services), through an app for mobiles. It has recently collaborated with Banca Generali to create BG Conio, a service providing bank's client with custody, trading and reporting services related to Bitcoin;
 - b. Anubi Digital: a platform created by three Italian entrepreneurs, which provides active and passive custody services for the main cryptocurrencies. Active custody allows user to choose among a number of options of staking, liquidity mining, lending and borrowing, while the passive one grants an insurance of 100% of the custody.
- c) CheckSig: Italian start-up providing both institutional and private investors with custody services with an high level of security and transparency, through a clear explanation

of their custody protocols in the website, the involvement of external legal entities in different phases of the custody process and the “proof-of-reserves”, provided periodically to clients and auditors as evidence of the amounts under custody and to prove that CheckSig hasn’t lost control of Bitcoins held in Wallets.

d) Custody of tethered or linked asset: /

Q.13 (p.27) *examples of holding of digital assets for the purposes of principle 12*

Answer: /

Principle 13 – Duties owed by a custodian to its client

Q.14 (p. 28) *suggest what might be an optimal approach for addressing those situations where the mandatory duties cannot be performed by some DeFi structures, for example, maker DAO.*

Answer: /

Section VI: Collateral transactions

Principle 16 – Collateral transactions: General

Q.15 (p. 34) *examples of best practices of the security right perfection in collateral transactions involving digital assets*

Answer: /

Principle 18 – Priority of security rights in digital assets

Q.16 (p. 37) *share the Member’s view as to whether security rights in certain types of digital assets should be made subject to general priority rule*

Answer: the general priority rule of first-in-time should apply only if and when, for the perfection of the security right in a digital asset, it is necessary the registration of such security into a specific Register. In this case, in fact, it would be easier and faster to use the traditional method, prioritizing registration over actual control.

Principle 19 - Effective enforcement of security rights in digital assets

Q.17 (p. 39) *examples of other requirements, apart from the one on the notification of the disposal, mentioned in Principle 19(3) from which secured creditors should be exempted.*

Answer: /

Section VII: Enforcement

Q.18 (p. 40) *Member’s opinion on what should be included in the content and scope of the enforcement principle*

Answer: the enforcement principle should provide for a general rule allowing digital assets to be subject of security rights, whenever their value can be determined with a certain degree of certainty and steadiness. Moreover, as different digital assets may fall under different categories of collaterals, requiring different actions for the enforcement (e.g., disposal, collection of payment, acceptance of the collateral), the principle shall be general enough to recognize the right of enforcement independently (as much as possible) from the type of action required. This rule should also take into

account rights and interests of third parties, in particular those of the custodian whom, as a general rule, should never be considered a “guarantor” of other’s obligations and whose duties shall be clearly defined by legislative provisions. The scope of the rule is to make it easy and favorable to use digital assets as collaterals, whenever their value can be determined in a secure way.

Section VIII: Insolvency

Principle [20] – Effect of insolvency on proprietary [and security] rights in digital assets

Q.19 (p.43) *Member’s view on what should be included in the content and scope of the insolvency principle*

Answer: the insolvency principle should grant the effectiveness of rights and interests of creditors secured in digital assets in any insolvency proceeding involving the debtor. It should provide for a list (not necessarily exhaustive) of ways to determine the value of digital assets, divided, as far as possible, into homogeneous categories, to guide national legislators in adapting their own insolvency law to these new category of collaterals.

Q.20 (p. 43) *examples of practices of digital assets valuation in insolvency proceedings*

Answer: in BitGrail case, the Bankruptcy Tribunal of Florence declared the bankrupt of the Italian exchange platform BitGrail and of its owner. The court established the crypto-currencies’ nature of fungible goods and their ability to be object of property rights and determined the value of the assets (i.e., Bitcoin and Nano) on the basis of current (at the moment of the technical expertise) quotations on the market, even recognising the fluctuations to which the value was subject, because of the nature of crypto-currencies.

Mr Joseph Khawam, Mr Edwin E. Smith, United States of America

Dear UNIDROIT Secretariat,

The U.S. Members of the Steering Committee on Digital Assets and Private Law appreciate the opportunity to submit comments on the draft Principles and Commentary, dated February 2022. In light of my and Mr. Smith's appointment to the Steering Committee approximately one week before the April 1, 2022 deadline, we are only providing a limited number of comments below.

We look forward to further engagement on the Digital Assets and Private Law project.

General Comment

We support the overall approach and find it to be helpful and creative.

Principle 4

We agree generally that, the extent to which another asset is linked to a digital asset, other law should determine the effect of that link. We wonder, though, whether the Principles might deal with certain payment rights linked to the digital asset so that the payment rights have the same proprietary protections as the digital asset. Doing would permit, for example, electronic promissory notes and bills of exchange, helpful in trade finance.

Perhaps this point is already addressed by the law dealing with transferable records.

Principle 5

The conflict of laws rule is especially challenging. It does make sense to look to the jurisdiction whose law governs the digital asset or the system in which it is recorded. However, that may not be the case for many digital assets, such as cryptocurrencies.

The residual rule that is suggested of looking to the jurisdiction that has the "strongest factual connection" appears problematic since it creates uncertainty for *ex ante* planning. The strongest factual connection may not be determined until a dispute concerning the transaction is litigated.

We wonder whether there is a way for the residual rule to apply the Principles as the substantive law. If states generally adopt the Principles, the need for a conflict of laws rules will be reduced. And, if they don't, at least the forum court will be told what substantive rules to apply that make sense.

Principle 8

We are concerned about the use of the term "right." That term may imply a legal right that may not exist. For example, if a hacker transfers a digital asset to an innocent purchaser, the innocent purchaser acquires the digital asset free of competing property claims even though the hacker, being a thief, had no legal right to the digital asset let alone the legal right to transfer it. Perhaps "power" would be a better term instead of "right."

Principle 11

It is unclear how the custodian relationship works in the following context. The custodian acquires a digital asset subject to a competing property right and credits the digital asset to the client's account at the custodian. The client has no notice or knowledge of the competing property claim. Does the client acquire the digital asset from the custodian free of or subject to the competing property claim?

Principle 18(2)

It is unclear how two secured creditors could both have control of the same digital asset and, if so, whether a priority rule is needed. The commentary suggests that this circumstance could arise if the secured creditors shared control. But sharing control would require an agreement between the two secured creditors. That agreement would apparently normally sort out which one has priority.

Best regards,

Joseph Khawam

Ms Angela Sanguinetti, Mr Rok Žvelc, European Commission

- **Focus and scope of the Principles:** On the one hand the introduction (reasons for the Principles) refers to 'transactions'/'transactions in commerce', on the other, the definition of 'digital assets' is extremely broad and would appear to cover assets that are not used in a 'transactions' context. As such, we suggest the definition of 'digital asset' is reviewed with a view to assessing whether, at this stage, there would be merit in excluding some types of digital assets from scope and/or adopting an approach closer to that of the FSB, FATF or other international standard-setters (as regards 'crypto assets').
- **Neutrality regarding technology and business models:** We fully support the objective of technical neutrality, a principle that underpins the EC's approach to innovation, including in the financial sector, and important legislative proposals such as [the Regulation on Markets in Crypto-assets](#) (MiCA). However, we stress the need not only for technological neutrality but also *business model neutrality*. The digital assets sector is highly diverse e.g. as regards (i) digital asset characteristics; (ii) digital asset use cases; (iii) digital asset service providers; (iv) digital asset users; (v) digital asset systems (and operating layers); and (vi) digital asset ecosystems. As such the Group has the inherent challenge of attempting to develop meaningful private law principles whilst still ensuring that specific business models are not preferred or prejudiced as regards the application of those principles (e.g. in the context of Principle 5). This challenge will exist even if there is a refinement of the definition of 'digital asset' and is a challenge that will need to be met if the Principles are to be widely adopted.
- **Clear examples:** We consider that it would be helpful to have clear examples to support the commentary to the Principles. The examples should be carefully selected on the basis of well-known digital assets to 'anchor' the Principles to the market, but should also reflect the diversity of the market as described above. The examples should be relatively 'future proof' to avoid the risk of the Principles become outdated or requiring regular update. Additionally, under Principle 2, we consider it would be helpful to include a short table illustrating the scope of the definition of 'digital asset' as a way of providing an immediate and clear idea of what is in mind. Finally, we encourage avoiding dense descriptions/niche illustrations (e.g. as currently included to illustrate the notion of 'control' under Principle 2 paras 4 to 6) as this may alienate those who have not been engaged in the detailed drafting work.
- **Notion of the law/digital assets law:** In order to maximise the likelihood of adoption, the Principles should not imply a specific implementation technique. We understand the general intent of references to 'digital assets law' however, we suggest that such references should be avoided if possible.
- **References to codes, protocols, systems, identified persons such as issuers, network operators etc:** In line with the comments above on the need for technological and business model neutrality, extreme caution is needed in terms of references to 'systems', 'protocols', specific persons etc. The Principles should not imply a preference for where provisions should be included, nor should they refer interchangeably to concepts that may coexist or may not have a clear differentiation in the market.
- **'Value added' Principles:** We think that 'operative' Principles should be included only where they bring an added value. As such, if text relates only to scope (e.g. Principle 4(1)), or statements of the obvious (e.g. Principle 5(1)(a)) it should be either moved (e.g. merged with scope or background text) or omitted. Additionally, in line with the mandate for UNIDROIT the text should relate only to issues of private law - we are concerned that aspects of the draft (notably regarding custody) currently go beyond this mandate.

- **Testing the drafting with market participants:** We consider that there would be considerable merit in testing some of the drafting with large service providers in the digital assets context. For example, we have reservations about aspects of the drafting of the custody principles (e.g. notion of 'the client not [having] the exclusive ability to change control') which we think is inconsistent with the practices and understanding of parties (e.g. client may have the exclusive ability to change control, albeit technically the custodian may need to implement the change in practice).

Mr Dirk Andreas Zetsche, Luxembourg

Dear ladies and gentlemen,

I thank you for the opportunity to comment on the Draft Principles. Please find my responses below, organized in two parts. Part I. provides general comments, Part II. seeks to answer the questions provided by the working group.

I. General Comments

1) I think I am familiar with the subject matter, at least I am dealing with them in my research on a daily basis, yet I need to admit that I find the **level of abstraction as well as the terminology and language used throughout the principles quite challenging**. I assume the same will be the case for the prospective users of the Principles, that is the staff of ministries in many countries.

I encourage the working group to reduce terminological complexity and/or provide a comprehensive introduction to the principles that lays out key concepts and approaches, and may be also some technical elements considered by the Working Group. Ex. p. UTXO. Given as it stands I fear that the purpose of the Principles, that is a certain degree of harmonization of private laws across countries, may fail, given that the sender's (UNIDROIT's working group) and recipient's (country legislators) perspective is too far apart. I strongly **encourage simplification of language and concepts throughout the Principles**.

2) If examples are provided it would be helpful where possible to **use real world examples** (backed up with sources in footnotes where readers and users find these examples, such as in white papers). The Principles should also seek to meet a level of seriousness adequate to the cause and avoid offensive content to find recognition in different cultural backgrounds. I am not sure whether the examples used on p. 6, lower part, meet that requirement and instead would support the inclusion of a simple table providing an overview of the types of endogenous and exogenous digital assets in scope (see further point 4 below).

3) Any Principles must retain **openness to innovation**. Besides technical neutrality, I strongly encourage to seek also **business model neutrality**. That is regardless of how the digital asset is used and in which economic context, the Principles should not limit the openness for innovation. I recommend to stress this aspect in the introductory part (may be together with the comprehensive introduction proposed herein) and test whether truly all Principles meet that requirement.

As a general matter, I find it difficult **to understand the concept and delineation of the boundary of 'digital asset' used by the Principles**. At the core, it seems, stand the concept of digital record plus control. That means, if I understand it correctly, any set of datapoints over which someone holds control could be a digital asset. I am not sure whether this concept has sufficient delineating power from "simple uses" of data storage mechanisms. For instance, the Pin-Code plus session ID allowing for access to bank accounts allows for access to bank accounts. Yet, the common language use would not see the data on the bank account so far as "digital asset". Further, the common language use would associate something of *value* related to "digital asset", given the part "asset" and note this is also an approach applied by international standard-setters, such as FATF in conceiving the scope of its standards (in their case 'virtual assets'). In light of this it seems to me that the **definition** of digital assets used as basis of the Principles is understandably ambitious but, in practice, **overly broad**. That has real world consequences as the scope of the Principles will overlap with existing legislation on these "non-asset-style concepts" already in place that seek to apply the Principles. I strongly encourage the working group to rethink the digital asset definition and **cut it down to areas warranting 'priority' consideration at this stage (e.g. in the context of financial applications) and what the common language use would associate with the term Digital Asset**. This could be achieved by way of refinement of the definition or otherwise exclusions.

4) The Principles claim to focus on private law matters only, yet the **stipulations on custody rules** go clearly beyond mere private law and deal with matters **usually part of financial regulation** (like in Europe the rules of the UCITS and AIFMD on depositaries). I ask the working group to restrict itself in this field, for lack of a mandate. If at all, a liability rule for lost assets may qualify in this respect. Note that if you limit to custody as exclusive control that requirement will never be met in practice as the very existence of cryptoassets is preconditioned on many nodes cooperating, and recognizing the very code as asset. Hence, in a literal sense, not any single participant has “exclusive control.”

I kindly ask the working group to make the **responses of other Steering Committee Members available to all Steering Committee Members**, by way of a website or a circular dropbox link for a limited period of time. This way, national representatives can understand better why a certain Principle may be shaped in a certain way, which is then again crucial for the adoption process in national legislation, as these examples can be used to convince national constituencies holding a different position.

II. Answers to questions:

Q.1: We encourage the use of private law examples, beyond the scope of financial regulation.

Q.2: See answer to Q1. We encourage the use of private law examples, beyond the scope of financial regulation.

Q.3: It would be helpful if Principle 4(1) could be clarified in three respects:

- (i) With ‘right to another asset’, does it mean only a right to the entire asset (like title to a house) or also right to a share of the underlying asset (like a share in a limited company)? One assumes both but worth clarifying in examples.
- (ii) Does the principle at all seek to cover digital assets that confer a right to another digital asset? If yes, is it then still natural to interpret ‘the law’ as ‘other than the digital asset law’?
- (iii) Except from pure non-stable cryptocurrencies like Bitcoin, all real world examples of “true” crypto-assets confer a right to another asset in some way; yet, the overly broad definition of the Principles may also capture concepts beyond that. For instance, utility tokens confer a right to a claim on future (digital) goods or services. Depending on how you interpret that the ‘legal effect’ of such arrangements is a ‘matter for the law’ ... ‘and not addressed in these Principles’, you may argue that the entire set of Principles do not apply to the vast majority of digital assets, which I assume is not the intention. Hence, I encourage to clarify Principle 4(1).

More generally, I wonder if Principle 4 relates more to the scope of the overall Principles – I suggest to move and integrate in the overall Principles accordingly.

Q.4: Digital assets that represent rights to tangible goods may qualify as electronic bills of lading or certain other electronic negotiable documents of title that are explicitly recognized under the German *Handelsgesetzbuch*. (See §§443(III), 475(c), and 516(II) of the *Handelsgesetzbuch*.) Such recognition is also advocated by the UNCITRAL Model Law on Electronic Transferable Records. (See, e.g., Article 7: https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/mletr_ebook_e.pdf.)

Q.5/ Q.6

I think this is the Principle (along also with the Principles on custody) that warrants most attention from the perspective of business model neutrality. First, it is necessary to recognise that while institutional applications of digital assets often involve a centralised issuer or controller of the system

on which the digital asset is transacted, in many other (and growing instances) there is no single issuer (if any) or controller, or operator. However, I am not sure the criteria suggested lead always to the determination of any one law in the absence of a centralized operator or issuer – hence significantly limiting the utility of the Principle. At least in a fully decentralization setting (given this exist) across countries there will always be several places with a strong factual connection. Another aspect that worries me is whether several laws may apply simultaneously to the same DLT for lack of transparency as to the strong factual connection. May be a solution could be to rely, as fall back solution if nothing else helps, on the place where the cryptoasset was first put to the market, ie. where the owners of the first cryptoasset of that type were located.

A problem that often exists is “Fake-DeFi” that is the state where full decentralization is purported, yet some hidden control owners do exist. In fact, I have argued that there is most likely a DLT cannot exist over a longer period of time without such partial centralization given that this partial centralization allows for profit allocation to the original coders.¹ While these coders may be spread around the Globe, at least in some cases looking on where the control holders in that sense reside, may establish the strongest factual connection. In a similar vein, sometimes decentralized settings are characterized by DeFi stacks with service providers in charge of certain functions, like code maintenance. In this case, the location of the service provider may be used to allocate the strongest factual connection.

Given however, that the 6,000 or so cryptoassets (under my narrower definition) are set up entirely differently, without exceptionally careful drafting and additional guidance I am uncertain the Principles lead to legal certainty as to the applicable law whilst maintaining both technological and business model neutrality – a problem exacerbated by the breadth of the definition of ‘digital asset’. Hence, I recommend a rethink and second the suggestion by the working group to give more examples how to establish the strongest factual connection.

Q.7: The example of a person who has obtained the relevant abilities without the consent of the rightful control person seems not to be explained (or even considered?) thoroughly. Point 5 under ‘Explanation and commentary’ mentions this example, but does not elaborate other than referring to ‘paragraphs [7] and [8] *infra*’, which do not seem to exist in the current version of the document.

For concepts of technical modes of control over the code which may in some cases allow for destruction or transfer of the assets, if only by modifications of smart contracts not fully understood by other users (as example for asset diversion), I refer to my working paper discussing these aspects.²

Finally, on Principle 6, I query the reference to ‘derivative control’.

Q.8: For on-chain transfers, in my view, a basic example of Bitcoin transfers would be sufficient, explaining how the transferor’s Bitcoin get registered as spent on the ledger while new Bitcoins are created for the transferee on the ledger. For off-chain transfers, the case of inheritance where a deceased person’s crypto-assets by law are transferred to the heirs is an interesting example of an off-chain transfer. We may also think of a similar situation in the case of insolvency.

Q.9: Because trades in digital assets typically take place on exchanges between anonymous accounts, it is helpful to explain that in practice the vast majority of acquirers will be innocent because they don’t know whom they are trading with. This is obvious, but important to point out.

¹ [From Centralized to Decentralized Finance: The Issue of 'Fake-DeFi' by Linn Anker-Sørensen, Dirk A. Zetzsche :: SSRN](#)

² [From Centralized to Decentralized Finance: The Issue of 'Fake-DeFi' by Linn Anker-Sørensen, Dirk A. Zetzsche :: SSRN](#)

Q.10: Following my comment to Q.9 just above, the same applies to the shelter principle: Because, in practice, almost any acquirer (other than the developers or holders of technical modes of control) will be an innocent one so, in practice, almost any successor will be covered by the shelter rule. This is also obvious, but important to point out.

Q.11: Two examples come to mind:

(i) If the custody relationship is to a pool of assets, so each single asset is not allocated to an individual owner/customer, then what rule applies to the priority between the owners/customers when the custodian is insolvent and there are not enough assets in the pool for all the owners/customers?

(ii) If, on the contrary, it is specified in the custody relationship which individual assets that belong to each owner/customer, who prevails if the custodian passes the owner's/customer's assets on to an innocent acquirer (third party)?

Please bear in mind that the innocent acquirer rule will de facto, lead to liability of the custodian as the moment the custodian accepts the assets in custody someone else will loose the asset. In turn, the custodian rules must provide that this liability function is fully understood; where we have a similar function in banking law, usually the true risk that the innocent acquirer rule has any effect is Zero, since all custody chains are built up hierarchically. The situation is different with regard to decentralized stored crypto-assets. I hence caution that the Principle, if we want to avoid systemic risk, may prompt the need of some thorough rethinking of the applicable custodian rules (minimum capitalization, due diligence etc.). These are, however, in the remit of financial regulation. I thus emphasize my previous argument to abstain from "financial regulation through the backdoor."

Q.12: To my knowledge, custody on an exchange is the standard form of early cryptoexchanges. It obviously comes with conflicts of interests. "Pure" custody is the state professional investors aim at, yet in most cases hosting of the access code is seen as custody. In light of the fact that no custodian has the factual ability to enforce that other nodes respect the very existence of the crypto-assets, I am not sure that the Principles meet their purpose in this regard. I would, again, emphasize the need to restrict the Principles to the core of private law and abstain from financial regulation.

Q.13: I am not sure whether the concept of "Fungibility" requires substitutability, as laid out under Principle 12 (2). It is the very idea of decentralized ledgers that all asset flows can be tracked and followed, and hence all individual cryptoassets identified in those transactions. An asset may well be fungible, yet not substitutable. (I am aware that the term 'Non-fungible token – NFT' is in this sense a misnomer).

Q.14: It remains doubtful whether a custodian-centered rule makes sense in a fully decentralized setting. However, we may not find a full DeFi-setting so often if we look at who holds code control.

In theory, the solution is a legal claim against all nodes that together run the DLT. In practice, this will come with significant costs. Any commercially viable ledger will thus require a certain degree of centralization to operate smoothly in practice; this is particularly true to ensure compliance with financial regulations re custody. (We have laid out the consequences in some of our research).

Q.15: I envision similar practices like in margin arrangements for securities. That is the lender will be put in full ownership throughout the duration of the loan, with an obligation to retransfer the asset at the end.

Q.16: I personally agree to that proposal, as it will lead to market practices seeking control as a precondition for lending arrangements. In case several credit relationships are established, similar to commercial practice, I envision the first holder of control may function as security trustee for lenders of second rank, if the security cannot be divided and transferred.

Q.17: I am not sure whether that Principle is feasible and encourage rethinking. Automatic enforcement may entail that, as part of the Smart Contract, there is an embedded right to retransfer the asset. That would undermine the trust in the functioning of the Smart Contract as there must be some mechanism to triggers this retransfer.

Sometimes in the future we could envision that the Smart Contract may have some technical links to a court, and this link trigger the retransfer, but for lack of standardization and many other reasons I do not see this to happen anytime soon. In this case, humans will trigger the retransfer, and that brings the human factor back into a system designed to erase this human factor.

Q.18: The main practical challenge to enforcement of the Principles will be the prevalence of anonymous accounts, so in practice it will be difficult to know both whom to sue and where to sue. This problem, of course, occurs also with conventional assets, such as physical goods or negotiable documents, but here at least the mere act of physical delivery reveals something about the parties involved.

Although all transactions are stored on the ledger and thus somehow traceable, the traceability ends where the account is held anonymously. In such an environment, for digital asset transfers, enforcement will typically be close to impossible. Hence, the most important way to improve enforcement is to mitigate the use of anonymous accounts, e.g. through KYC rules applied towards intermediaries/custodians and a legal obligation to reveal the names of the account holders, alternatively a legal duty of the custodian to act in the name of the account holder, if a judgment was rendered against “the ledger”. Depending on the nature of such rules, this may of course go beyond the scope of pure private law principles (see above my critique on the scope).

Another way to deal with the situation may include granting “the ledger” legal entity status for enforcement purposes, and thus include all nodes that together form the ledger, into the binding effects of the judgment. Then the claimant “only” (☺) needs to serve the nodes with the judgment. Still challenging, but much more doable than the alternative, in particular if all nodes and the node operations are imposed by way of a business plan as could be potentially required by financial regulation. (We have discussed this concept in our research³³).

Q.19: The insolvency principle is currently focusing on protecting the holders of security rights, which is of course important. Yet the largest problem in an insolvency where digital assets are involved is how the administrator **can get control** of the digital assets to which there are no security rights or even know that these assets exist in the first place. One side of this issue is the anonymous accounts (ref. Q.18 above), another is the rights of the administrator vs. custodians that hold control of the assets, and the third is the mass of potential counterparties that any holder of rights need to sue to enforce the claim in a distributed ledger. It should be considered how these issues can be accounted for in a set of private law principles. Granting the ledger “entity status” as proposed in Q.18 and our research may at least provide a step towards this solution.

Q.20: This seems to be no different from the valuation of conventional (non-digital) assets. If there is a market price for the asset, then that applies. If not, the various rights entailed in the digital asset must be valued separately. For instance, a digital asset that gives right to a future revenue stream (e.g. a share of income or profits) must be valued by the discounted present value of that revenue stream. Similarly, a utility token that gives right to some future (digital) service, the value of that service must be estimated and the value of the digital asset is the discounted present value of that. For a hybrid token that entails both of these rights, the two rights must be valued separately and added together. For digital assets that entail option rights, Black-Scholes or a similar option valuation model must be used.

³ [DLT-Based Enhancement of Cross-Border Payment Efficiency – a Legal and Regulatory Perspective – by Dirk A. Zetzsche, Linn Anker-Sørensen, Maria Lucia Passador, Andreas Wehrli :: SSRN](#); [The DLT Sandbox under the EU Pilot Regulation by Dirk A. Zetzsche, Jannik Woxholth :: SSRN](#).

After assessing the value of the underlying, potential reductions in value must be considered. Those may come from the inability of counterparties in a DeFi stack to provide access to the underlying, or for reasons of technical disintegration (hard forks) of a given DLT.

In case of questions please do not hesitate to get back to me. I am looking forward to receive the reworked draft principles at the opportune time.

T.F.E. Tjong Tjin Tai, The Netherlands*General comments*

The principles are an admirable result of scholarship and practical knowledge, and deserve praise. However, to conserve space in the following I have focused only on those areas which could be improved, which might give the mistaken impression that I do not support the principles. Hence I would like to start off by congratulating the drafting committee with their excellent work.

It is noticeable that the principles have been drafted with cryptocurrency in mind. That causes a certain imbalance in the structure and focus of principles, such as explication of the rules on custody in s. V before it is clear what the actual property rules are.

Furthermore, from the Dutch perspective the principles leave out the general property law remedies. Although it is implied that the general rules can simply be applied, the principles regarding control and the innocent acquirer immediately affect the general remedies, and by not discussing those the principles seem slightly imbalanced. This is noticeable also where there is detailed consideration to the rights of security right holders, which systematically are built on top of (or as exceptions to) the general property remedies.

Principle 1 and 2

Q.1.

The examples provided under Principle 2 are also those which primarily spring to mind in my jurisdiction. With regard to those examples: Illustration 2 interacts, of course, with IP law; the principles might benefit from clarifying the relations with IP law (as that is, oddly, not mentioned expressly in principle 3(3)).

Comments on principle 2:

Possibly rethink the addition of 'or other intangible medium'. That contradicts the notion of 'electronic record', also there is presently no real alternative medium except human minds, which then need to be excluded in the comments (leading to confusing definitions). Incidentally, one could argue that certain forms of storage are not strictly speaking *electronic*: they are accessed through digital technology, but the storage itself may use methods that do not exactly rely on electrons (hard disks use magnetic fields, DVDs use physical changes in the material). Does storage in such an electronic but physical (tangible) medium count as an electronic (intangible?) medium or not?

The example in principle 2, para 4 is rather complicated and might be replaced with a more immediately relatable example.

Principle 3

While sympathetic to the thrust of principle 3, I hesitate to imposing an obligation to revise national property law and specify which rules apply or not. The notions of proprietary interests and effects are the subject of intense debate and the divisions are not generally accepted in all jurisdictions. Consider for instance the way in which English tort law provides protection of property through tort law remedies, which civil law jurisdictions generally believe to be the subject of property law. Furthermore, there is the well-known thesis that common law does not have a clear concept of property, and therefore would not have a clear concept of property rights as well.

Given such a fragmented state of affairs, a hard obligation to revise property law may not have the envisaged harmonisation effect. Furthermore, revision of the rules on acquisition and disposition need careful consideration given the effect on other parts of the entire system of private law, the more so as they would impact a much broader area of intangible goods than the restricted kinds of digital assets covered by the principles. If the principles themselves do not clearly spell out those consequences, the result could again lead to divergence between national implementations.

I would therefore advocate a less stringent obligation.

Principle 4

Q. 2

If I understand correctly, assets linked to other assets are in effect what are traditionally called registrations/registries. Principle 4 is somewhat surprising as in Dutch law this immediately related to the issue of registrations for property. Those do exist but are limited in number and are subject to stringent government control (see Q. 4). It appears inadvisable to allow for an open-ended category of registrations that are privatised. At the very least a much more thorough analysis of existing regulations, problems and underlying considerations would be needed.

It is possible, however, that certain digital assets have an inherent system of 'links' to another asset. In such cases it is conceivable that the definition of what the asset itself is includes this link. There is no problem with allowing this kind of structure, indeed bitcoin might (under certain interpretations) be viewed as consisting of a kind of link rather than an intrinsic unit or data. Hence the issue of how to deal with such links could simply be covered by determining what is considered as a single object of property in the respective system, and how one achieves control over that object.

Q. 3. Given the above considerations, the issue is not whether there is an appearance of linkage but whether there is a *legal basis* for effective linkage. This is needed to distinguish from meaningless 'registrations' such as the Star register (<https://starregister.org/>). Such a legal basis should – in the Dutch view – principally be found in specific statutes, given the large variety of consequences that these links can have, and the importance of legal certainty on who is or is not owner in case of errors or fraud in the registration, as well as the need for corrections after annulment of contracts.

Where the issue is linkage to intangible items that do not have direct social consequences, a relaxed view is conceivable, as in the case of NFTs. The reason is that those are self-contained systems that need to be enforced within their own domain, while the registry of tangible immovables needs to be reliable for reasons of public policy.

Q. 4.

Art. 3:10 BW¹ states: "Registered property is property the transfer or creation of which requires entry in the public registers, provided for that purpose."

Art. 3:11 BW: Where good faith of a person is required to produce a juridical effect, such person is not acting in good faith if he knew the facts or the law to which his good faith must relate or if, in the given circumstances, he should know them. Impossibility to inquire does not prevent the person, who had good reasons to be in doubt, from being considered as someone who should know the facts or the law.

Art. 3:16 BW: 1. Entries concerning the juridical status of registered property are made in public registers, kept for that purpose.

2. The law provides which public registers will be kept, the manner and place of making an entry, the kind and content of the documents to be filed with the registrar, the organization of the registers, the manner of registration and the consultation procedure.

Art. 3:16-3:31 BW

The register for immovable property is governed by the Kadasterwet, and the Organisatiewet Kadaster, which provides for establishment of the public registry of immovable property (the *Kadaster*).

¹ BW=Burgerlijk Wetboek, the Dutch Civil Code.

There are also registries for ships (on which see the WODC Blockchain report,² par. 4.2) and cars (with the Netherlands Vehicle Authority, RDW (Rijksdienst voor het Wegverkeer)),³ which have different rules.

See further on different arrangements and problems with in particular blockchain based registries: B. Verheye, 'Real estate publicity in a blockchain world: a critical assessment', *European Property Law Journal* 2017 6(3), pp. 441-476, R. Thomas, 'Blockchain's incompatibility for use as a land registry: issues of definition, feasibility and risk', *European Property Law Journal* 2017 6(3), pp. 361-390.

Principle 5

Q. 5. The principal challenges involved are

- enforcement: if the legal systems are different, this may lead to complications in enforcement if the person who has control is not the same in each country, the rules on whether something to be enforced is different, and procedural rules and obstacles in case of coordinated enforcement in several jurisdictions simultaneously,
- public policy: how to properly regulate against prohibited transactions (involving terrorism, international sanctions etc.)

Q. 6. Possible methodologies:

- location of the 'system', who controls the blockchain (or other system)? Although this is absent in the case of bitcoin, most other cryptocurrencies and blockchains have clearly identifiable persons/cooperations ultimately in control (either directly through the protocol or by being in control of the protocol itself/having a dominant voice in the community, owning the genesis block). The advantage is that this gives a clear outcome that is not dependent on the accidental location of the person who controls the individual asset, and also probably makes enforcement easier if you wish to enforce against the system. These are considerations similar to those behind the *lex loci rei sitae* rule.

- alternative: location of the person in control of the individual asset. This would allow an alternative that may help enforcement, particularly in cases where the first rule does not have a proper outcome, and also where the person can easily be found and forced to perform.

Principle 6

The approach of control, while appealing, may on closer examination miss some aspects. In Dutch law, in line with other civil law jurisdictions, possession is not purely factual but also legally informed: the person who has factual control is presumed to be the possessor but may in fact be the keeper who holds the object for someone else (the true possessor). This depends on the legal relationship between those parties. The current principle does not seem to take such relations into account.

If control is intended as an actual analogue to possession, the definition in principle 3 appears to be incomplete.

However, the principles appear to aim primarily at the practice in cryptocurrency of using 'custody', where indeed the bitcoin is actually transferred. See also the comments on Q. 12. That could explain why there is no need to define the 'keeper' relationship.

² M. Schellekens, T.F.E. Tjong Tjin Tai, W. Kaufmann, F. Schemkes, R. Leenes, *Blockchain en het recht. Een verkenning van de reguleringsbehoefte*, WODC rapport 2019, available in Dutch on <https://www.wodc.nl/onderzoeksdatabase/2815-verkennend-onderzoek-naar-de-sociale-en-ethische-gevolgen-van-de-blockchain-en-hoe-de-overheid-zich-hiertoe-zou-kunnenmoeten-verhouden.aspx>

³ Regulated inter alia in art. 42-70j Wegenverkeerswet 1994.

Q. 7

Examples of control of digital assets: having a file secured by a password or biometric data, having a SDD that contains the sole copy of a database locked away in a cabinet (or buried at an undisclosed location in the woods), having factual control because the entire data is so large that it cannot actually be copied or moved without being noticed (as in the case of the entire Google search index that is said to be 100,000,000 Gb in size).

Principle 7

Possibly 7(1)(b) could be rephrased as a rebuttable presumption: the person who demonstrates what is said in 7(1)(a) is presumed to have control unless another party provides stronger evidence to the contrary. In other words, use the procedural notion of presumption instead of formulating it as a definite identification.

I also wonder whether it should not be mentioned that a person should be able to explain how he came to be in control, as in certain cases the history shows that the asset was at one point 'stolen'. Dutch law principles would point against allowing a stolen object to be obtained by good faith if it is clear that the object was stolen (of course, it is debatable whether the asset history needs to be consulted or not). (this is partly covered by principle 9 on the innocent acquirer, but that aspect should also be part of the question of establishing control).

Principle 8

I have some reservations regarding the innocent acquirer rule, as it seems rather detailed. Nonetheless I can understand that the drafters wished to deal in an appropriate manner with the large variety of digital assets. The complexity of the rule, however, makes it hard to assess the principle without detailed examples of cases where the respective circumstances would apply.

Q. 8.

Example of transfer of digital assets: Providing a copy of an encrypted disk/file and mailing the password.

Q. 9.

No examples of innocent acquirer rule.

Principle 12

In principle 12(3)(b) it seems odd to have in a single breath an obligation to *obtain* and to *hold* the asset. In Dutch law those are two separate obligations that typically would also fall under different contracts. Obtaining an asset is commission or a related contract, and holding the asset (unless it is only temporary as part of execution of the commission) would be custody. I would advise to remove the obligation to obtain the asset from this definition. That would also involve the law of financial services which is an extremely complicated area (as the drafters are well aware of).

Furthermore, I wonder whether a tax law expert has been consulted. The precise wording of the legal relationship in holding assets may have consequences for tax law.

Q. 12

The approach to custody and control is at odds with Dutch property law, which provides for an indirect form of possession through an intermediary (art. 3:110 BW). If the custodian obtains an asset on behalf of the client, the client becomes owner and possessor. If control is analogous to possession, there would therefore be control in the sense of principle 6, contrary to what principle 12(3)(c) appears to suggest. The custodian would only be 'keeper' (*houder*) on behalf of the client.

This principle can in Dutch law also be applied to intangible assets, such as shares, though admittedly matters become more complicated with registered goods such as real property/immovable goods

and registered IP-rights, where sometimes the concept of so-called 'economic ownership' is used to realize a split between the direct legal control and the actual right to benefits from the property.⁴

To achieve the effect desired in for instance principle 14(3), Dutch law therefore simply applies the threefold distinction between ownership, possession, and keeper/holdership. As the custodian is only keeper, the assets that he keeps are by definition not part of the insolvency estate.

Q. 13.

Examples: escrow of databases with a public notary or escrow agency, archive of data with a TTP for reasons of proof (to show that a party did have control of that database at a certain moment in time)., and of course various forms of cloud storage, SaaS.

Principle 13

Principle 13(2) can be read as an exceptional rule to the general principles of property law. Such exceptions have been accepted for banks⁵ and similar trust-like constructs (such as public notaries holding money for clients).⁶ In that case there is no objection from the point of view of Dutch law, as long as it is recognised that these principles only apply to a rather specific, exceptional situation, and the concept of 'control' is not to be confused with possession.

Q. 14

No comments.

Principle 16

Q. 15

The question is not entirely clear. The general considerations underlying the principle 16 are sound.

Principle 17

I hesitate whether control can be used to completely achieve third-party effectiveness. This is due partly to the ambiguity as to whether control is purely factual/technical or also legal (see above), partly due to doubt whether states or parties can actually enforce what is legally desirable. I feel that this partly requires specific technical and institutional solutions in cryptocurrency systems or other digital asset systems, whereby no legal rule is really necessary.

The principle could also be read, in light of the commentary, as meaning solely that control *may* be used in some circumstances to achieve third-party effectiveness, and that national law should facilitate and enforce this. In that interpretation there is no objection as such, although 17(1) could be rephrased to clarify its meaning.

Irregardless, this underscores that the key notion of control deserves further clarification and expansion.

Principle 18

Q. 16

I understand the intention behind the priority rule, but wonder whether it will work as intended. My hesitation is due to the fact that factual control over digital assets may in certain cases be non-exclusive and achieved in a variety of ways, where the priority rule may lead to unjust outcomes. This applies in particular if control is not purely determined by factual control but also influenced by whether control has been obtained in a justified manner (legal considerations of title). Although the

⁴ This is not the place to go into detail about such issues, I merely wish to point this out to avoid the impression that I left out a relevant restriction in Dutch law.

⁵ The Wet Giraal Effectenverkeer (Securities Giro Transfer Act).

⁶ Derdengeldenrekening (Bank account on behalf of third parties).

priority rule appears fine as a general guiding principle, the way in which it is phrased doesn't seem to leave room for exceptions.

Furthermore, the priority rule needs to be considered in light of rules as to priority of insolvency and seizure (indeed, the principles do not clearly address seizure of digital assets), as those instruments may counteract the effects of a security right.

Principle 19

Q. 17

I do not see the need for explicit further exceptions as any exceptions should rather follow from the general rules regarding property and security rights. Where a specific exception is needed, that indicates that there should also be a special rule for property remedies in general.

Q. 18

Although sympathetic to the intent behind this principle, I wonder whether it promises more than can be delivered. Enforcement of security rights in digital assets is build on enforcement of property rights in digital assets. Both kinds of enforcement may, in certain instances, require enforcement in another jurisdiction or even worse in multiple jurisdictions against multiple, possibly anonymous parties. There is currently no known solution to providing simple and quick enforcement except by imposing a rigid mandatory structure (providing for an actual means of intervention by states) on all digital assets systems, which is undesirable.

Even if such a structure would exist, legally speaking disputes on security rights can take a long time to litigate, as is well known for traditional security rights and (in the intangible domain) for bank guarantees.

Finally, lifting the requirements for enforcement (principle 19(3)) may run into problems with the fundamental right to due process and fair trial (cf. art. 6 European Convention on Human Rights).

Given these considerations, I do not presently see an effective principle for enforcement that covers all cases, particularly blockchain technology. Maybe we cannot do better than simply urge states to cooperate on developing further means of enforcement for digital assets; similarly digital assets systems should actually open up to facilitate state enforcement, which (as we all know) they are generally hostile to. This ties into the conflict of laws issue: if no state can intervene, there is no effective enforcement, but if every state can intervene this may lead to massive intervention without reason.

An option would be to set up an international, neutral dispute resolution body that can take cases and render decisions that reliable digital asset providers would accept and enforce. The advantage would be that there would be a means of enforcement without undue influence by individual states. But this is far beyond the present principles, as it would require institutional changes.

Principle 20

Q. 19

The content and scope of insolvency could also take into account issues of applicable law, and the powers or obligations of the insolvency administrator regarding the digital assets.

Q. 20

The case law shows that insolvency administrators do not separately value assets like databases; they simply find a buyer who offers what the administrator finds a good price. There is no objective valuation, only what is offered on the closed market. The case law is mainly involved with issues of privacy restrictions on selling databases. There are cases outside insolvency that do offer examples of digital assets valuation.

- Loss of databases: damages assessed at costs for repair (reconstruction of database) Court Appeal The Hague 27 December 2011, ECLI:NL:GHSGR:2011:BV1678 (Scope/KPN), District Court Midden-Nederland 16 January 2013, ECLI:NL:RBMNE:2013:BY7960.

- Loss of text history that formed the basis for a claim against harassment against another party: damages payable by the telephone company assessed at loss of the estimated damages in the procedure against the harasser: Court of Appeal The Hague 1 September 2015, ECLI:NL:GHDHA:2015:2332.

Hence valuation is mainly at loss of value/opportunity/profit and cost repair, analogous to how property damage is assessed.

Mr Alexandre Pinheiro dos Santos, Brazil

In response to your email below, I present here our comments, as requested to the Steering Committee at this initial stage.

Initially, it should be noted that the Securities and Exchange Commission of Brazil (CVM) closely monitors the evolution of technological innovations in the capital market, including through a regulatory sandbox arrangement.

It is also worth mentioning the fact that any asset, virtual or not, when publicly offered, with a promise of income or participation, can, in theory, characterize a security subject to CVM regulation.

Regarding the specific points requested in this opportunity, we present our contributions below.

Q.1. Steering Committee Members are invited to provide the Working Group with examples and illustrations of digital assets in their jurisdictions where the Principles should apply.

Answer: Bitblocks (BBK), Brazil Samba Token (BST), B2U Coin (B2U), Hathor (HTR), Lunes (LUNES), Moeda Semente (MDA), MOSS (MCO2), Stratum Blue (BLU), WiBX (WBX), ZCore (ZCR). A description of each of the above can be found at <https://br.financas.yahoo.com/noticias/10-criptomoedas-brasileiras-que-voc%C3%AA-152400415.html>.

Q.2. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of 'linked' digital assets referred to in Principle 4; in particular, of the following:

Assets 'linked' to tangible movables: ReitBZ is the first security token backed by Brazilian real estate and managed by a large and established investment bank - BTG Pactual.

Q.4. Steering Committee Members are invited to provide for the Working Group's consideration the examples of relevant legislation governing 'linked' assets, including but not limited to the legislation:

Statute providing for a register of 'linked' assets;

Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods;

Statute providing general requirements for a 'link' between assets

Answer: Q.4. asks for examples of "relevant **legislation**", which currently do not exist in our jurisdiction. However, it's worth mentioning that the CVM's regulatory sandbox is hosting three initiatives involving tokens linked to assets. Though such tokens have not been named yet, we list below the issuers and linked asset type:

'Vortex DTVM' - debentures (all types of issuers) and shares of closed-end investment funds;

'Bee4 Intermediação Financeira' - equity shares of mid-size companies;

'Start Me Up Crowdfunding Sistemas Para Investimento Colaborativo' - equity shares of start-up companies.

Q.13. Steering Committee Members are invited to provide for the Working Group's consideration examples of holding of digital assets for the purposes of Principle 12.

The three participants in the CVM's regulatory sandbox are administrators of organized markets which control ("hold") the keys to the cryptoassets. Issuers and investors only have the login and passwords to the trading platform.

In general, our view is that the document is accurate and comprehensive, and will fulfill its stated intention: “to provide guidance to principals in the transactions covered by these Principles, their advisors (including lawyers), and the courts and others who will consider the legal effects of these transactions”.

If we are allowed to lay an untimely suggestion: **there should be a specific principle providing for enhanced transparency to investors about which service ('custody' x 'agreement for deposit account') is being offered, right at the moment they acquire the asset (at the Exchange).**

We elaborate on our suggestion after some context: each transaction registered on any blockchain has a cost. This cost is variable, and depends on the demand on the network, as well as the desired priority for registration (the user herself chooses how much she is willing to pay as a transaction fee, and miners choose those with the highest fee). Such cost on the Bitcoin blockchain ranged between 1.78 and 62 dollars in 2021.

Principle 13(3)(b) taken literally, if an “Exchange” (investors’ very entry point to crypto) wants to offer custody services, each (or at least most) trade(s) carried out within the exchange would have to be registered on the blockchain.

Transaction fees, however, would make ‘custody’ (as defined by UNIDROIT principles) impossible.

Furthermore, such a measure would greatly increase the demand for registration on the blockchain, raising fees/costs even more (bitcoin/ethereum blockchains have fixed throughputs that depend on the size of the block).

The model of most exchanges is necessarily the one described in the UNIDROIT’s document as the much less secure ‘Agreement for a Deposit Account’ (i.e. wallets with keys are held by the Exchange, with different levels of security and ease of access). A transaction is recorded on the blockchain only when the user withdraws the bitcoin from the exchange, either to her own wallet, to another exchange or to a custodian “de facto” (as defined in Principles). Most users are unaware of this fact and its consequences, and we believe the Principles should provide such guidance.

Thank you very much for your attention.

We remain available for further contributions.

Best,
Alexandre

Ms Sonja Maire, Switzerland

Thank you very much for the possibility to provide input to the current draft of the Principles. I am honoured to participate in the Steering Committee. Please find below my answers to some of your questions, mostly referring to the recent legislative works in Switzerland. I have taken the liberty to also add some general comments concerning the Principles in question.

General remark: It seems questionable whether a one-size-fits-all-approach for digital assets irrespective of their use and content can really be achieved. Some of the proposed rules and explanations seem very technology-specific and might not age well when new technologies are developed. This approach also runs the risk of not answering the most pertinent legal questions in need of unification. The Swiss Federal Council has conducted an in-depth legal analysis and concluded, that from a civil law viewpoint, two types of tokens (term used as a place-holder for digital assets subject to control) can be distinguished (cf. the [government report. Legal framework for distributed ledger technology and blockchain in Switzerland of 14 December 2018](#)). First, there are tokens which primarily represent a value within the blockchain context, e.g. cryptocurrencies such as Bitcoins, that, according to the prevailing doctrine, are purely factual intangible assets. The second category of tokens covers those that represent a legal position (claim, membership, right in rem) and can be said to be linked to an asset. As per the users' intent, these tokens should fulfil a function similar to the function presently and traditionally fulfilled by securities. The proposed principles should make reference to these very different starting points.

Question for the Steering Committee**Q. 3. Steering Committee Members are invited to provide for the Working Group's consideration what, in their opinion, apart from the digital asset itself should be referred to in Principle 4(1) as a possible source of the appearance of linkage between assets?**

The linkage should be achieved by party agreement, as is the traditional rule for the securitisation of rights. The Swiss rule for ledger-based securities which has been created to give legal certainty to the transaction of rights by means of a distributed ledger demands that the registration agreement must be recorded in the ledger itself or in linked accompanying data ([Art. 973d para. 2 nr. 3 of the Swiss Code of Obligations](#), in force since 1 February 2021).

Q. 4. Steering Committee Members are invited to provide for the Working Group's consideration the examples of relevant legislation governing 'linked' assets, including but not limited to the legislation:

- o Statute providing for a register of 'linked' assets;**
- o Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods;**
- o Statute providing general requirements for a 'link' between assets.**

Switzerland has created rules for ledger-based securities ([Art. 973d et seqq. Swiss Code of Obligations](#)) that allow for distributed ledgers to be used to register and transfer rights with the same effects as the transfer of traditional, paper-based securities. The ledger entry or the entity (e.g. token) over which the creditor has power of disposal functions like a negotiable security (Cf. the legal definition of negotiable security in [Art. 965](#) : "A negotiable security is any instrument to which a right attaches in such a manner that it may not be exercised or transferred to another without the instrument."). Figuratively speaking, securities law wraps a "mere" right in a special legal framework that serves to simplify proof of entitlement, transfer, and protection of transactions. These old and traditional rules can be applied by legal analogy to distributed ledgers. The Swiss provisions are applicable to any right that is amenable to securitisation, i.e. contractual claims and some memberships under company law but *not* rights in rem (cf. the [government report. Legal framework for distributed ledger technology and blockchain in Switzerland of 14 December 2018](#), P. 54).

Because rights in rem are exercised by way of possession of the legal object, tokens as a rule are not able to represent property and accordingly rights in rem in a legally effective way. In cases where rights in rem exist through indirect possession and contractual agreement between the party with direct possession and the owner, however, representation of these rights in a decentralised register such as a blockchain appears conceivable *prima facie*. This is always the case when an object is held in safe custody by a person who is not the owner and no special form is prescribed for the underlying

legal transactions. For an in depth analysis of these constellations and the relevant Swiss property law cf. the [government report. Legal framework for distributed ledger technology and blockchain in Switzerland of 14 December 2018.](#)

Q. 5. Steering Committee Members are invited to provide for the Working Group's consideration the possible difficulties/challenges connected to the interaction between the law of the asset and the law of the system, as set out in Principle 5(2), in case they are different.

Switzerland has modified its conflict of law rule for securities in order to include ledger-based securities and similar instruments as follows ([Art. 145a PILA](#)): Whether a claim is represented by an instrument in paper or equivalent form and transferred by means of such instrument is determined by the law designated therein. If no law is designated in the instrument, the law of the state in which the issuer has its seat or, failing such, its habitual residence applies. As regards rights in rem to a physical instrument, the provisions of Chapter 7 are reserved.

The need for a new conflict of law rule for digital assets irrespective of their use or content should be evaluated carefully and the notion of the "law of the system" should be rethought. The applicable law can only really be determined once a dispute arises and will depend on who brings a claim against whom and for what reason. The general principles of private international law are equipped to deal with all questions that might arise. The proposed Principle 5 is too technology-specific and at the same time not clear enough, as the law of the system can sometimes not be ascertained, e.g. in the case of a public Blockchain like Bitcoin. The parties of the dispute should be the focus, the real persons that use the technology and apply legal meaning to that use, and not the technology itself.

Q. 6. Steering Committee Members are invited to provide for the Working Group's consideration the possible methodologies of establishing the strongest factual connection of a system of a digital asset for the purposes of determination of the applicable law according to Principle 5(2)(f).

See above, the strongest factual connection should not be established for the system but for the parties of the conflict and their individual dealings (securities, contract etc.). Again, it depends on whether an asset is to be represented. The determination of the applicable law should follow the asset/value and not take place independently of it.

Q. 9. Steering Committee Members are invited to provide for the Working Group's consideration possible examples of the application of the innocent acquirer rule in the context of digital assets.

Switzerland applies the innocent acquirer rule developed for traditional securities ([Art. 973e para. 3 Swiss Code of Obligations](#)).

Q.12. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of models of digital assets custody as referred to in Principle 12; in particular, examples of: o 'Pure' custody; o Custody on an exchange platform; o Custody of a 'tethered' or 'linked' asset.

Q.13. Steering Committee Members are invited to provide for the Working Group's consideration examples of holding of digital assets for the purposes of Principle 12.

Switzerland has introduced two rules for the bankruptcy of a custodian. One where the custodian has full control of the digital asset and one where the custodian does not have full control over the digital asset but has for example one part of a password on its server (multi-sig-account).

Cf. Art. 242a and 242b of the Federal Act on Debt Enforcement and Bankruptcy

Art. 242a Surrender of cryptobased assets

1 The bankruptcy administration shall issue an order on the surrender of cryptobased assets over which the debtor has power of disposal at the time of the opening of bankruptcy proceedings, and which are claimed by a third party.

2 The claim is justified if the debtor has undertaken to hold the cryptobased assets in readiness at all times for the third party, and provided that these are:

- a. allocated individually to the third party; or
- b. allocated to community ownership and it is clear which proportion of the community asset is due to the third party.

3 If the bankruptcy administration considers the claim to be unjustified, it shall set a time limit of 20 days for the third party to bring an action before the court at the place of the bankruptcy proceedings. If the third party fails to bring action within that time limit, he or she shall forfeit the claim.

4 The costs of surrender are borne by the claimant. The bankruptcy administration may demand a corresponding advance payment.

Art. 242b Access to and surrender of data

1 If data is subject to the power of disposal of the bankrupt's estate, any third party that can prove a legal or contractual right to the data may, depending on the nature of the respective right, demand access to or the surrender out of the power of disposal of the bankrupt's estate of such data.

2 If the bankruptcy administration considers the claim to be unjustified, it shall set a time limit of 20 days for the third party to bring an action before the court at the place of the bankruptcy proceedings. The data must not be destroyed or realized before the court has issued its legally binding decision.

3 The costs of accessing or surrendering the data are borne by the party demanding access. The bankruptcy administration may demand a corresponding advance payment.

4 The right to information under the federal or cantonal data protection provisions is reserved.

Q.15. Steering Committee Members are invited to provide for the Working Group's consideration examples of best practices of the security right perfection in collateral transactions involving digital assets.

Switzerland has introduced a rule for collateral in ledger-based securities that takes into account the special technological possibilities that might exist other than the transfer of control, for example the use of wrappers.

([Art. 973g Swiss Code of Obligations](#)):

Collateral may be posted even without the transfer of the ledger-based security, if:

1. the collateral is visible in the securities ledger; and
2. it is ensured that only the collateral recipient can dispose of the ledger-based security in the event of default.)

Thank you again for the possibility to provide input and thank you for your consideration.

With kind regards,

Sonja

Ms Işıl Selen Denemeç, Türkiye**Q.1. Steering Committee Members are invited to provide the Working Group with examples and illustrations of digital assets in their jurisdictions where the Principles should apply.**

A.1. *It is not possible to state that the Principles "should" apply to certain digital assets in our jurisdiction at this stage, as the Principles are still going through the drafting process. However, taking into account the broad definition of "digital assets" adopted in the Principles, some examples of digital assets may be listed as follows:*

- *Crypto assets, which are not specifically regulated under the Turkish law but defined in a manner excluding the ones that could be classified as money, deposit money, electronic money, payment instrument, and capital market instrument by a regulation issued by the Central Bank of the Republic of Turkey.*
- *Copyrighted digital works and sui-generis databases within the meaning of Law No. 5846, provided that they are protected by technical means that may be interpreted as to conferring control.*
- *Electronic money within the meaning of Law No. 6493.*
- *Dematerialized shares as well as other capital market instruments registered at the Central Securities Depository (MKK).*
- *Digital gold stored and monitored at the so-called "gold accounts" operated by banks and, under which, the physical gold is stored in vaults.*
- *Electronically stored personal data within the meaning of Law No. 6698 provided that they are protected by technical means that may be interpreted as to conferring control.*
- *Every digital file regardless of whether it is protected by a specific regime provided that it is protected by technical means that may be interpreted as to conferring control.*
- *Crypto assets such as NFTs, utility tokens, stable coins, cryptocurrencies, dematerialized shares, as well as digital discount coupons (promo codes), software, audio files, (such as audio books and mp3s), video game characters, databases and any digital file such as Excel and Word documents, provided that the requirements listed under Principle 6 are fulfilled.*

Q.2. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of 'linked' digital assets referred to in Principle 4; in particular, of the following:

- **Assets 'linked' to intellectual property;**
- **Assets 'linked' to tangible movables;**
- **Assets 'linked' to tangible immovables;**
- **Assets 'linked' to obligations owed by a person other than an issuer;**
- **Assets 'linked' to shares or bonds;**
- **Assets purporting or appearing to be 'linked' where, in fact, the legal 'link' is absent;**
- **Assets 'backed' by a basket of assets, such as, Diem.**

A.2.

- **Assets 'linked' to intellectual property:** *NFTs that grant copyright of the underlying asset such as intellectual property rights of an image, a design, or a photo. Smart contracts that grant IP rights.*
- **Assets 'linked' to tangible movables:** *Tokens such as crypto kicks of Nike where the digital asset is tied to a physical shoe. Electronic bills of lading. Crypto assets that are issued in exchange of commodities such as gold (PAXG). Specifically, from the perspective of Turkish law, deposited and electronically accounted digital gold that is linked to physical gold stored in secured vaults.*

- **Assets 'linked' to tangible immovables:** Security tokens linked to a portfolio of real estate such as SwissRealCoin (which ensures automation of real estate asset management based on blockchain software).
- **Assets 'linked' to obligations owed by a person other than an issuer:** Some of the utility tokens may be considered under this category. For example, a sports club fan token grants the owner to an interaction with a football player. In this scenario, issuer of the token would be the sports club itself while the obligation is on the football player. Dematerialized asset-backed securities where the security is backed by claims the debtor of which is someone other than the issuer.
- **Assets 'linked' to shares or bonds:** Dematerialized shares.
- **Assets purporting or appearing to be 'linked' where, in fact, the legal 'link' is absent:** This category may apply to a digital asset which claims to confer a right to another asset although applicable procedural laws prevent such linkage (for example some rights can only be transferred if the transfer agreement is concluded in written form). NFTs not granting copyright but appearing as such. Crypto assets whose value is linked to the other crypto assets, such as wrapped Ethereum. However, if the linked asset is among the assets that may be used as a base-asset to create a derivative, then the legal link may be constructed via the securities legislation.
- **Assets 'backed' by a basket of assets, such as, Diem:** Stablecoins such as Tether and DAI. Dematerialized asset-backed or mortgage-backed securities.

On an additional note, it should be underlined that for the linkage between assets to be legally effective, additional requirements such as registration procedures or requirements as to the form may be applicable. However as also indicated within the scope of Principle 4, we did not take the requirements set by the Law (law other than digital assets law) into consideration.

In terms of setting clear rules regarding linked assets, we are of the opinion that states should stipulate alternative digital requirements as to the form in the law applicable to the "linked asset" other than the digital asset law that will conform the nature of digital assets. For example, if a transaction regarding an immovable requires physical presence of the parties before public authority under the applicable law, the law should foresee digital alternatives to this requirement. Alternative requirements may be determined according to the ratio legis of the current requirements. For example, if the reason behind requiring the physical presence of the parties is to prevent possible situations that cause defective declaration of will or undermine free will of the parties, the digital alternative to be introduced must also meet such purposes.

Q.3. Steering Committee Members are invited to provide for the Working Group's consideration what, in their opinion, apart from the digital asset itself should be referred to in Principle 4(1) as a possible source of the appearance of linkage between assets?

A.3. The aim of the Principles seems to be creating a system of transfer of digital assets as uninterrupted as can be. Any reference to a specific link may raise additional questions to be solved and risk conflicting with the principles embodied within the other law [part of the respective State's law that is not the digital assets law] given that the proprietary rights are mainly governed thereunder. Instead, it may be better to avoid from explicitly mentioning links; leave even the questions of existence or validity of links to the other law, as part of Principle 3(3). Then, some exceptional circumstances may be singled out.

We have two examples: Firstly, any link that is directly hard-coded into the digital asset itself and clearly visible as well as accessible should be taken into account. This could either be a statement approved by the private key of the issuer or a standalone smart contract. Such a link may even be granted third party effectiveness. Secondly, any link that is established as per the

Principles, such as the ones related to the custodian, should also be recognized. Any other link should not be recognized or resolved by the digital assets law unless it is proven by the alleging party that such a link exists and the current holder of the digital asset acted with the full knowledge thereof with the purpose of causing harm.

Q.4. Steering Committee Members are invited to provide for the Working Group's consideration the examples of relevant legislation governing 'linked' assets, including but not limited to the legislation:

- **Statute providing for a register of 'linked' assets;**
- **Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods;**
- **Statute providing general requirements for a 'link' between assets**

A.4.

- **Statute providing for a register of 'linked' assets:** *Under Turkish law, for a legally effective transfer of property of immovables, the transfer must be registered before land registry.
Similarly, transfer of property of vehicles must be done before the notaries and must be registered to the Vehicle Registry and Registration System of the Notaries Union of Turkey. As a general rule, copyrighted works are not subject to a mandatory registration regime for the exercise of rights but there is a voluntary registry held by the Turkish Ministry of Culture and Tourism.
Dematerialized shares and other capital market instruments are electronically stored and registered at MKK.*
- **Statute providing for certain digital assets to be treated as documentary intangibles such as, for example, negotiable documents of title to goods:** *Turkish Commercial Code allows bills of lading to be issued electronically by secure e-signature. In this scope, digital bills of lading are treated as documentary intangibles.*
- **Statute providing general requirements for a 'link' between assets:** *To establish a link between the assets, intended linkage must be stated and if there are any special requirements as to form envisaged by relevant law of the asset, such requirements must be fulfilled.*

Q.5. Steering Committee Members are invited to provide for the Working Group's consideration the possible difficulties/challenges connected to the interaction between the law of the asset and the law of the system, as set out in Principle 5(2), in case they are different.

A.5. *In our opinion, challenges may arise in case the law of the asset and the law of the system contradicts with each other, or the law of the system does not allow mandatory elements that law of the asset requires. It is important to bear in mind that there are some requirements as to the form of certain legal transactions for them to be valid in different jurisdictions. Such requirements may pose challenges as addressed in this question.*

To illustrate, under Turkish law a stock certificate must be endorsed for a legally valid transfer. Transfer of a tokenized stock certificate may not be possible if the law of the system does not allow an endorsement option in compliance with Turkish laws. We assess that the law of the system may be interpreted as the law of a state where the system owner operates.

Q.6. Steering Committee Members are invited to provide for the Working Group's consideration the possible methodologies of establishing the strongest factual connection of a system of a digital asset for the purposes of determination of the applicable law according to Principle 5(2)(f).

A.6. *Considering the global scale of digital asset transactions, this paper believes that, factual connection of a system of a digital asset should not be based on where the digital asset is issued or its current location as a general rule, as it would be hard for individuals to claim their rights in different jurisdictions. We believe this won't be fair especially for consumers or unqualified investors as this will put capital and time-consuming burden on the individuals to file law lawsuits and follow-up proceedings in various jurisdictions.*

As a recommendation, an alternative dispute resolution policy/rules for disputes concerning digital assets could be formed and implemented as in the case of WIPO-initiated Uniform Domain Name Dispute Resolution Policy.

That said, a hybrid system can be embraced by the states. The hybrid system should be two-fold. When disputes arise out of the digital asset and not the linked asset, arbitration or mediation rules should be applied specifically designed for this type of disputes. On the other hand, when the disputes originating from "asset" linked or tethered to the digital asset, (a) if the asset is tangible applicable law should be the law of where the asset is first issued; (b) if the asset is intangible the applicable law should be determined based on the intangible asset's location and (c) if the digital asset is 'linked' to shares or bonds, applicable law should be the law of issuer of these bonds and shares (e.g. the headquarter of the company which its shares have been tokenized)

Alternatively, instead of trying to clarify the determination of the strongest factual connection, this issue may completely be left for the other laws to govern. There are two risks need to be balanced here: If any particular factual connection is to be determined, given that the proprietary rights are governed by the other law, the differences in the other law may cause even bigger problems than the factual link is supposed to resolve. If it is left to the other law to govern the details, this creates space for the legal uncertainty even at the beginning of the transaction. Provided that they the parties have the opportunity to choose a law, the risk may be left on the parties.

Additionally, considering that the transferee may be vulnerable in certain transactions, it could be discussed whether it would be beneficial to have rules in place to protect the transferee (i.e. priority to the transferee's jurisdiction may be given to have that state's rules apply in cases of dispute), such as in the cases of consumer protecting measures to ensure access to justice.

Q.7. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of the control of digital assets as referred to in Principle 6.

A.7.

- *Parents that have control over their minor's game account, provided that the parent and the minor have a joint account (or any other multi-signature structures that grant the parent control over the account through technical means), which contains game characters, avatars etc., as the minor does not have a right to conduct promissory/obligatory transactions without their parents' consent by law could be an example for control.*
- *An investor, a portfolio management company and a custodian relationship could be another example of control since all three parties could have a certain level of control on digital assets essentially managed by the portfolio company.*

Question to UNIDROIT: *What would be the case if control is associated with a physical tool? I have a non-encrypted, non-password protected file on a USB key to which only I have access, or the PC with no password is stored in a locked room, where only I have the key?*

Q.8. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of the transfer of digital assets as referred to in Section IV: Transfer, in particular:

- **Transfers of on chain and off-chain digital assets, and**
- **Transfers involving Layer-1 and Layer-2 digital assets.**

A.8.

- *In terms of blockchain, on-chain transactions mean cryptocurrency transactions that take place on the blockchain and in order to ensure validity remain dependent on the state of the blockchain. For example, transfer of bitcoin or Signum (formerly known as Burstcoin) from a lender to a debtor.*
- *Transactions conducted outside the blockchain platform is considered as "off-chain transfer". A third party can verify such transaction. For instance, exchange of private keys. Again, transferring a digital asset via transferring a usb driver (cold wallet) itself could be an example for an off-chain transaction.*
- *Another way of transferring control over certain digital assets would be to reveal the account credentials (where the digital assets are stored/access thereto is made available) to another person so that she/he can have access to the digital assets in that account.*
- *Examples for transfers involving Layer-1 digital assets could be the burning of Ethereum, Solana, Cardano or Avalanche and creating another one for an acquirer.*
- *On the other hand, examples for transfers involving Layer-2 digital assets could be, usage of MATIC for settling and paying for transactions between users in the Polygon network or usage of LRC token for powering the of Loopring platform's operations.*

Q.9. Steering Committee Members are invited to provide for the Working Group's consideration possible examples of the application of the innocent acquirer rule in the context of digital asset

A.9. *For instance, in case of purchasing an NFT which is minted by infringing a trademark right, the acquisition could be deemed valid if the third party purchasing this NFT is in good faith. However, if the NFT acquirer could/is expected to know that the acquisition is wrongful as to the holder of the proprietary claim, for instance when a very famous designer's bag or well-known scenes of a movie is minted as an NFT [Since the Principle 9(5)(b), (d) or (e) might be applicable], the acquirer should not enjoy the innocent acquirer principle. (Still, in some cases it may not be reasonable to expect the acquirer to know of the legal relationship between the IP right holder and the infringer. For instance there could be a license agreement between the parties, or it may not be possible to know the issuer of the NFT. As such, this provision should be carefully drafted.)*

Q.10. Steering Committee Members are invited to provide for the Working Group's consideration possible examples of the application of the shelter principle in the context of digital assets.

A.10. *Under the Principles, a third party who acquired a digital asset (e.g. an avatar for the online game LOL) from an innocent acquirer who bought the digital asset from a hacker at the first place should be protected under the shelter rule.*

Q.11. Steering Committee Members are invited to provide for the Working Group's consideration examples of possible difficulties / challenges in the application of innocent acquirer rules in the context of a custody relationship, particularly, with regard to questions on the nature and extent of proprietary rights

A.11. *In cases of where the custodian is also acting as a financial institution Know Your Customer and suspicious reporting obligations might undermine the innocent acquirer rules in the context of custody relationship, as the custodian shall be obliged to check the identity of the account holder; and assess whether the transaction to be made to the custody account is a suspicious transaction. For example, digital assets regularly coming from various accounts of a crypto hijacker or whether any prior property right notification has been made with regards to a particular digital asset.*

Again, innocent acquirer rule might not be implemented if the property claim with regards to certain digital assets is coming from another account holder of the custodian. Since, this kind of incident might be considered in the context of Principle 9(5)(b).

From another perspective, under Principle 11, we understand that a client who acquires a digital asset from a custodian, will have the same benefits conferred on an innocent acquirer. Therefore, even if the digital asset is wrongfully acquired from its actual right holder, the client will not be affected from any proprietary claims of the actual right holder of the asset. In this scope, determining a framework for custodian's responsibility to investigate proprietary rights (or possible claims) of a digital asset may be useful in order to avoid imposing too broad and complicated responsibilities on custodians considering the complex nature of digital assets.

Q.12. Steering Committee Members are invited to provide for the Working Group's consideration additional examples of models of digital assets custody as referred to in Principle 12; in particular, examples of:

- **'Pure' custody;**
- **Custody on an exchange platform;**
- **Custody of a 'tethered' or 'linked' asset.**

A.12.

- **"Pure Custody":**

Turkish draft bill on crypto-currencies designates banks as custodians in terms of crypto-assets. We believe this scenario could be considered as an illustration for "pure custody", as banks shall not provide any other services to crypto-asset holders beside custody service concerning crypto-assets. Currently, the custody of e-money institutions for the funds taken in exchange of the issuance of e-money could also be considered as pure custody since they could not, in any way, benefit therefrom.

Custody services of Bitgo (Wallet Platform, Qualified Custody and Self-Managed Custody) could also be considered as pure custody where the account holder does not get any other services from Bitgo such as lending.¹

A central securities depository for digital assets could also be considered as pure custody.

- **Custody on an exchange platform:** *Crypto-asset trading platforms may also hold custody of client assets (which are called custodial trading platforms), indeed when a customer buys cryptocurrencies or other crypto-assets on a trading platform, instead of immediately transferring the crypto-asset to a wallet owned and controlled by the customer, most of the time the crypto asset remains in a wallet controlled by the Platform. Thus, these platforms provide both trading and custody features. Examples; Poloniex, BTCTurk, Binance*

¹ <https://www.bitgo.com/newsroom/press-releases/announcing-bitgo-trust-company>

- **Custody of a 'tethered' or 'linked' asset:** Security tokens hold by the custodian could be an example for custody of a "tethered" or "linked" asset, as a security token is a unique token representing a stake in an external asset or company.

Q.13. Steering Committee Members are invited to provide for the Working Group's consideration examples of holding of digital assets for the purposes of Principle 12.

A.13. A relationship between a collateral provider, custodian and collateral taker could be an example of "holding of digital assets" in cases of where collateral taker shall have the right to use and dispose of the collateral digital assets (such as Ethereum or bitcoin) as if it were the owner of them.

Q.14. Steering Committee Members are invited to suggest to the Working Group what might be an optimal approach for addressing those situations where the mandatory duties cannot be performed by some DeFi structures, for example, Maker DAO.

Note to UNIDROIT: DAOs commonly stand for "Decentralized Autonomous Organization", which is expressed as "Digital Autonomous Organizations" within the principles. Correcting this use may help avoid possible confusion.

A.14. We provided our comments below considering that performing of mandatory custodian duties shall be specifically challenging for fully decentralized autonomous organizations which refers to the structures where there is no involvement of any intermediaries and where the smart contracts are not controlled by real or legal persons.

In principle, digital autonomous organizations (DAO) are designed to minimize dominance of intermediaries in a particular sector or in some cases eliminate the intermediaries and personal relationships, which are the foundation of trust between two people who don't know each other, by replacing them with smart contracts.

As mentioned under the p. 31 of the draft principles document, in some cases DAOs use smart contracts or apps stored and executed on the blockchain to control certain digital assets without no involvement of a natural or a legal entity. DAOs use code (also called smart contracts or apps) stored and executed on the blockchain to control certain digital assets. An investor may transfer a digital asset to a particular smart contract so that its code will determine when and to whom the digital asset will be ultimately transferred. This situation is different from direct holding, custody and personal claim if there is no identifiable person, natural or legal, who controls the digital assets subject to the smart contract. In some jurisdictions a DAO can be a legal person, or the smart contracts are controlled by natural or legal persons in which case there is an identifiable person. However, in other cases the DAO is just a web of smart contracts with no involvement of a natural or legal person. The operation of the smart contract may depend on some form of vote or consensus among participants in the blockchain, but a voting or consensus mechanism can hardly qualify as joint control of the assets by all persons entitled to participate in the decision.

In these cases DAOs may be considered inherently non-custodial. Since there is no middleman or a possibility of human intervention custodial relationship with DAOs, thereby cannot be established and parallelly mandatory duties may not be imposed on or implemented by DAOs.

That said, we propose the following measures in order to mitigate the risks for consumers and inadequate investors that might arise from Defi structures:

- ✓ Although financial services provided through Defi structures are executed based on the active involvement and consent of the consumers or the unqualified investors, financial knowledge of the individuals might not be sufficient particularly considering the complexity of financial instruments. Therefore, we propose an ex-ante informing obligation for Defi service providers. In order to, minimize any information asymmetry-based risk software provider/smart contract provider /creator of the protocol must be obliged to inform individuals

in a clear and understandable manner prior to using the Defi services. Some standards might be formed for this notice like in whitepaper or privacy notice regulations.

✓ *There should be different rules for qualified and unqualified investors. Hence, an ex-ante assessment criteria should be established by the software provider/smart contract provider /creator of the protocol to designate which investors are eligible for using Defi services. Principles and rules for the creation of these criterion by the service provider could be formed by relevant supervisory authority of the states. For instance, different initial capital or collateral requirements could be imposed on qualified and unqualified investors. However, it could be argued that hard-coding such requirement in a smart contract would not be preferred by the investor or other stakeholders, considering that the anonymous characteristic of De-Fi structures is a reason for preference. This challenge might possibly be mitigated by introducing voluntary mechanism with these requirements which there is a legal protection.*

✓ *An ex-ante (prior to commence providing the software or smart contract to the public) and ex-post audit mechanism (e.g. an annual independent audit obligation while the services are provided) for Defi services should be established.*

✓ *The regulators could set general principles applicable to smart contracts as in the European Unions proposed Data Act has stipulated. Article 30 of the proposed Data Act sets forth essential requirements regarding smart contracts for data sharing and a conformity assessment procedure for smart contracts. As per the said provision the person whose trade, business or profession involves the deployment of smart contracts for others in the context of an agreement to make data available shall comply with the following essential requirements (a) robustness (b) safe termination and interruption (c) data archiving and continuity (d) access control. To pass the conformity assessment the provider /deployer of the smart contract must fulfil the mentioned essential requirements. A similar principle based approach could be formed in terms of Defi structures based solely on smart contracts.*

Q.15. Steering Committee Members are invited to provide for the Working Group's consideration examples of best practices of the security right perfection in collateral transactions involving digital assets.

A.15. *The law of the contracting state could permit a title transfer collateral agreement to take effect concerning digital assets transactions such as security tokens.*

Q.16. Steering Committee Members are invited to provide for the Working Group's consideration their views as to whether security rights in certain types of digital assets should be made subject to the general priority rule.

Not all rights provided on a digital asset can be traced. However, a voluntary registry may be announced and a priority could be granted to the security rights that are registered.

Q.17. Steering Committee Members are invited to provide for the Working Group's consideration examples of other requirements, apart from the one on the notification of disposal, mentioned in Principle 19(3) from which secured creditors should be exempted

N/A

Q.18. Steering Committee Members are invited to provide for the Working Group's consideration their opinion on what should be included in the content and scope of the enforcement principle.

A.18. *Bearing in mind that, as was famously stated by Lawrence Lessig, "code is law" in the cyberspace, it is important to ensure that we "build, or architect, or code cyberspace to protect*

values that we believe are fundamental.” (From “Code and Other Laws of Cyberspace by Lawrence Lessig)

By way of technical enforcement measures, it can be possible to overcome the barriers and unnecessary procedures of enforcement. Yet, such technical enforcement measures should be balanced with the rights of the other stakeholders and limits of the system at hand. For example, in major public blockchains, States could not implement that would, by force, intervene with the users’ accounts. However, statutory provisions that are requiring the facilitation of such mechanisms may be introduced as a part of the conformity schemes or a legal protection framework. Given that automated enforcement may be problematic where a semantic legal analysis is involved, such as the case with the innocent acquirer rule, the States should be cautious.

It is crucial to establish “enforcement by design”, by taking into account the well-established principles of law and fundamental rights and freedoms of individuals. It could be a starting point to identify the red-lines of enforcement by design. Additionally, it could be helpful to discuss how the communication between law enforcement agencies and digital asset service providers can be facilitated and made more efficient.

Q.19. Steering Committee Members are invited to provide for the Working Group's consideration their views on what should be included in the content and scope of the insolvency principle.

A.19. *In order to increase the effectiveness of insolvency procedures on property and security rights in digital assets we reckon that even if there is no intermediary like a custodian, for instance in cases of Defi structures, insolvency procedures should also be able to be executed by these service providers.*

By bringing some features to the design phase of the software/protocol/smart contract by considering the execution/bankruptcy situations could be another approach for best practice. This practice could be implemented by decentralized digital asset service providers such as crypto-trading platforms, custodians, crypto lending platforms.

Additionally, insolvency principle may foresee basic principles regarding the identification, preservation, valuation, and distribution of digital assets during an insolvency procedure.

Q.20. Steering Committee Members are invited to provide for the Working Group's consideration examples of practices of digital assets valuation in insolvency proceedings.

A.20. *Under Turkish laws, there is no clear regulation determining the nature of crypto assets or whether they may be subject to insolvency proceedings. Recently, a local court held that crypto assets may be subject to insolvency proceedings, however local court’s valuation methods of the crypto asset is not available to our knowledge. In our opinion, valuation methods could be similar to the methodology used for the valuation of company shares listed on stock exchange.*

Ms Corinne Zellweger-Gutknecht, Switzerland

Dear Ladies and Gentlemen

Thank you for the opportunity to comment on the above-mentioned draft.

First of all, I would like to state that I found the reading of the draft very enlightening and that it became clear already at this stage of drafting that the Principles will serve their intended purpose to facilitate transactions in digital assets and provide practical, useful assistance to states to adopt legislation consistent with these Principles.

My outline below follows that of the draft. In addition to the inputs on the 20 questions raised, insofar as they are addressed, I have included occasional remarks to the Principles and the Comments. In general, these remarks are not of fundamental concern. Rather, I simply wanted to share with the authors of the draft the thoughts I had while reading it.

An exception is the remark on Principle 2(2). Is there a reason (perhaps I have overlooked it) that so far only 'control' is considered to define 'digital assets', but no distinction is made as to whether such asset can be replicated at will by the person in control (which allows e.g. double spending) or not?

Finally, I would very much welcome the inclusion of a shortfall rule as suggested in question 20. Either way, I hope the inputs will be of help.

With my best regards,



Corinne Zellweger-Gutknecht

* * *

INTRODUCTION

Remarks:

- Shouldn't the innocent acquirer be mentioned here already?
- Maybe, the "rightful control person" and the "putative control person" as mentioned in the commentary to Principle 7 could be mentioned here already?

SECTION I: SCOPE AND DEFINITIONS**Principle 1: Scope [of the Principles]**

Q.1 (Examples and illustrations of digital assets in their jurisdictions where the Principles should apply)

Swiss private law has specific rules for digital assets qualifying as asset tokens and possibly also usage tokens. However, there are *still no such rules for payment tokens, i.e. digital assets not comprising any claim or right such as cryptocurrencies*.¹

¹ In Switzerland, the parliament passed the Distributed Ledger Technology Umbrella Act in 2020. It entered into force in February/August 2021. This entailed reforms in existing laws of private law and international private

It seems desirable to generally apply the Principles to digital assets, regardless of their content, i.e. regardless of whether they function as asset / utility / payment / hybrid token and whether they represent any right or not. Rather, the decisive factor must be that these digital assets can be subject to control as described by Principle 6 (*controllable digital assets in the sense of P 2(2)*) – in Switzerland thus including but not limited to registered securities in the sense of Art. 973d et seq. of the Swiss Code of Obligation, CO.²

As an example, MME and daura have created the first register securities under Art. 973d CO on February 1, 2021, by tokenizing the *shares of MME Compliance AG* on the daura infrastructure.³

Another example [where a future application of the Principles could avoid the existing legal uncertainty] is the *XCHF (CryptoFranc)*, a stablecoin linked to the Swiss franc and issued by Bitcoin Suisse AG.⁴ Originally it was issued as a bond in the form of uncertificated securities (Art. 973c CO); since 2021 it has been issued in the form of an (intangible) claim backed by a bank guarantee (to avoid it qualifying as a public deposit subject to licensing). Due to its function, it qualifies as a payment token – however, not as a cryptocurrency, since it represents a claim against the issuer. As such it could have been issued under Art. 973d et seq. CO as well. However, this has not happened so far and, consequently, there is legal uncertainty as to whether the unwritten consent to transfer (p. 14 of the Terms) is not in violation with the (mandatory) Art. 165 CO requiring written agreement.

Principle 2: Definitions

Remark on Principle 2(2) (definition of 'digital asset'): Controllability is undoubtedly an essential element. However, I wonder whether *rivalry* should be included as an additional element.

According to Samuelson, assets of a non-rivalrous nature «all enjoy in common in the sense that each individual's consumption of such a good leads to no subtractions from any other individual's consumption of that good».⁵

In contrast to this, rival assets do not allow for such parallel consumption. In particular, they prevent any *unauthorized multiplication / copying* of the asset that might lead to double spending. With regard to digital assets it is essential that this rivalry is ensured by the underlying technology (i.e. not by a trusted third party).

The Principles most likely shall not cover non-rivalrous assets (which is also indicated by illustration 5 re Excel or Word file on p. 8). Therefore, a corresponding addition in 2(2) seems desirable; (e.g. 'Digital asset' means an electronic record of rivalrous nature which is capable of being subject to control. 'Rivalrous' means that the underlying technology of an asset prevents double spending and

law, but also in insolvency law and (public) financial market law. The scope of application of the revised and new rules in insolvency law and financial market law is relatively broad in that it covers so-called crypto-based assets. These include digital assets representing a claim (mostly against an issuer) as well as pure cryptocurrencies and other native crypto assets that do not represent any right (typically due to the lack of an identifiable issuer in a DeFi environment). In contrast, private law is limited to covering a relatively narrow range of assets that could likewise be represented by a certificated security within the meaning of Art. 965 of the Swiss Code of Obligations (CO)¹. Such assets can now alternatively be created as so-called ledger-based securities (in practice usually called register securities), whereupon the specific rules on the prerequisites, effects such as transfer and bona fide acquisition, cancellation, questions concerning security, information duties and liability apply (Art. 973d - 973i CO).

² https://www.fedlex.admin.ch/eli/cc/27/317_321_377/en#art_973_d

³ <https://www.mme.ch/en/magazine/articles/historic-moment-mme-daura-created-the-first-swiss-dlt-register-securities-on-february-1-000001>.

⁴ https://files.bitcoinsuisse.com/assets/pdf/2022_Q2_v2.6_XCHF_TokenTerms.pdf.

⁵ Paul A. Samuelson, *The Pure Theory of Public Expenditure*, Review of Economics and Statistics, Vol. 36, No. 4, 1954, p. 387.

other forms of simultaneous con- current change of control as defined in Principle 6 paragraph 2.)⁶

Principle 3: General Principles

No remarks.

Principle 4 : Digital Assets 'linked' to Other Assets

Remarks:

- Commentary no. 4: twice "that"
- Illustration 2: Shouldn't it be stated 'Each investor holds a transferable digital token representing their *claim* against the debt issuer' (my emphasis)? In other words, the mentioned 'transferable digital token' does not represent the investors' '*security*' (my emphasis). Rather, security (certificated, intermediated and uncertificated ones) and token are both *forms of representation* (the packaging, so to speak), whereas in both cases, the represented *content* is the claim against the issuer.

Q.2. (Additional examples of 'linked' digital assets referred to in Principle 4)

- Assets 'linked' to intellectual property;
 - (maybe, exceptionally, some NFTs?)
- Assets 'linked' to tangible movables;

Swiss law does **not allow** direct representation of tangible movables.

However, a '*document of title to goods*' (*Warenpapier*) can represent a personal claim to the delivery of a tangible movable (Art. 1153 CO). In addition, the transfer of the document is deemed to be a transfer of *possession* of the tangible movables evidenced therein (Art. 925 CC). Newly, such documents can also be issued in the form of a register security (Art. 1153a CO).

Further, digital assets can function as an '*instruction to possess for a transferee*' (*Besitzanweisung*, Art. 923 CC): If a third party holds a tangible movable for an owner, the latter can in- struct the possessor to hold the tangible movable for a transferee, whereupon the ownership of the tangible movable is transferred. As stated, the transfer of a digital asset can be interpreted as such instruction.
- Assets 'linked' to tangible immovables;

Swiss law does not allow direct representation of tangible immovables.

A mortgage (Art. 842 Swiss Civil Code, CC)⁷ can be represented in the form of either a '*register mortgage certificate*' or a '*mortgage certificate on paper*' (Art. 843 CC) and, as of 2021, in the form of a register security (Art. 973d CO). But of course, the mortgage as such merely contains the right to forced auction sale of a tangible immovable in the event of default. It never provides access to the property itself. The same applies to bonds secured by a mortgage (Art. 875 CC)
- Assets 'linked' to obligations owed by a person other than an issuer;
 -
- Assets 'linked' to shares or bonds; See examples in Q. 1

In addition, On November 17, 2021, the Swiss Blockchain Federation has released a Circular on Tokenized Equity. It provides guidelines for issuers of such tokens under Swiss law, with the aim to establish best practices for security tokens with a focus on equity. The SBF plans

⁶ See also Zellweger-Gutknecht, Corinne, Developing the Right Regulatory Regime for Cryptocurrencies and other value data, in: Fox, David, et al. (eds.), *Cryptocurrencies in Public and Private Law*. Oxford, Oxford University Press, 2019, para 4.80 et seq.

⁷ https://www.fedlex.admin.ch/eli/cc/24/233_245_233/en#.

to add further Circulars for other financial instruments.⁸

- Assets purporting or appearing to be 'linked' where, in fact, the legal 'link' is absent;
-
- Assets 'backed' by a basket of assets, such as, Diem.
-

Q.3. (Possible sources of the appearance of linkage between assets to address in Principle 4(1))

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No specific sources, but rather a general requirement: Since such sources or rather their appearance of linkage is intended to have potential effects on proprietary rights (*erga omnes* effect), such linkage should be *accessible and perceptible to the public*.

Q.4. (Examples of relevant legislation governing 'linked' assets)

- Statute providing for a register of 'linked' assets;
-
- Statute providing for certain digital assets to be treated as documentary intangibles, such as, for example, negotiable documents of title to goods;
Art. 1153a CO (see already re Q.2) states: "1 The parties may issue documents of title to goods in the form of ledger-based securities. Articles 1154 and 1155 apply mutatis mutandis. 2 The issuer's signature is not required if the instrument can be unambiguously attributed to him or her in another manner. The further content of the instrument, including any charges, must be recorded in the securities ledger itself or in the associated accompanying data"
- Statute providing general requirements for a 'link' between assets.
Art. 973d(2)(3) and (4) CO state: "2 The securities ledger must meet the following requirements: ... 3. The *content of the rights*, the functioning of the ledger and the registration agreement are recorded in the ledger or in linked accompanying data. 4. Creditors can view relevant information and ledger entries, and check the integrity of the ledger contents relating to them- selves without intervention by a third party."

SECTION II: PRIVATE INTERNATIONAL LAW

Principle 5 : Conflict of Laws

Q.5. (Difficulties/challenges connected to the interaction between the law of the asset and the law of the system, as set out in Principle 5(2), in case they are different)

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Q.6. (Methodologies of establishing the strongest factual connection of a system of a digital asset for the purposes of determination of the applicable law according to Principle 5(2)(f).)

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⁸ http://blockchainfederation.ch/wp-content/uploads/2021/11/Circular-2019_01_Updated_Tokenized-Equity.pdf.

SECTION III: CONTROL**Principle 6 : Definition of Control**

Q.7. (Additional examples of the control of digital assets as referred to in Principle 6.)

In the Corda protocol, the assets under control are labelled “latest” (in contrast to “old” for already spent assets).

Remark re Principle 6(2): “derivative digital asset”:

In civil law, “derivative” (in contrast to “original”) has a strong property law connotation: property can either be acquired derivatively (i.e. by valid agreement and transfer) or originally (by invalid agreement and transfer to a bona fide transferee, or without agreement, such as appropriation, finding, mixing, joining etc.). Maybe an alternative term to “derivative” could be found, e.g. “replacing digital asset” or “subsequent digital asset” or “ensuing digital asset”?

Remark re Explanation and commentary no. 5:

in fine “See paragraphs [7] and [8] infra” seems not to be correct

Principle 7 : Identification of a Person in Control of a Digital Asset

Remark re Commentary no. 1:

“Paragraph (4) of the Principle makes it clear...” to be replaced by “Paragraph (1) ...”?

SECTION IV: TRANSFER**Principle 8 : Acquisition and Disposition of Digital Assets**

Remark re “derivative”:

See remark re Principle 6(2):

Q.8. (Examples of the transfer of digital assets as referred to in Section IV)

- Transfers of on chain and off-chain digital assets

On chain:

In the case of the *Corda protocol*, the transfer is carried out by labelling an input (the previous asset) as ‘old’ and generating an ensuing output at the transferee, labelled ‘latest’. If not the entire token is to be transferred, the whole input is still labelled as ‘old’ and a new input with the remaining amount is generated at the transferer (labelled latest) and a new input with the transferred amount at the transferee.⁹

Off-chain:

E.g. payment of small sums in future (non-blockchain based) electronic Renminbi (eRMB) can be effected P2P offline (via mobile phones; no internet connection needed);¹⁰

- Transfers involving Layer-1 and Layer-2 digital assets

E.g. via Qredo (a Layer 2 network)

⁹ Cf. For example the presentation in the BIS/SNB/SDX-Helvetia project Page 34, <https://www.bis.org/publ/othp35.pdf>.

¹⁰ <https://www.china-briefing.com/news/china-launches-digital-yuan-app-what-you-need-to-know/>.

Principle 9 : Innocent Acquirer Rule

Q.9. (Examples of the application of the innocent acquirer rule in the context of digital assets.)

Art. 973f(3) CO states: “When a bona fide acquirer of a certificated security and a bona fide acquirer of the ledger-based security have a conflicting claim to the same right, the former takes precedence over the latter.”

Art. 973e(3) CO states:

“3 When acquiring a ledger-based security in a securities ledger from the creditor indicated therein, the acquirer is protected even if the seller was not entitled to dispose of the ledger-based security, unless the acquirer acted in bad faith or with gross negligence.”

Principle 10 : Shelter Principle

Q.10. (Examples of the application of the shelter Principle in the context of digital assets.)

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Principle 11 : Application of Innocent Acquirer Rules to a Custody Relationship

Q.11. (Examples of possible difficulties / challenges in the application of innocent acquirer rules in the context of a custody relationship, particularly, with regard to questions on the nature and extent of proprietary rights.)

If the custodian does qualify as an innocent acquirer while its client, on behalf of whom the custodian is acting, is not.

SECTION V: CUSTODY

Principle 12 : Custody

Q.12. (Examples of models of digital assets custody as referred to in Principle 12)

- ‘Pure’ custody;
Storage by Bitcoin Suisse AG of BTC, ETH, DOT, ATOM, ADA, XTZ, BCH, KSM, BSV, XRP, LTC, BTG, TRON, THETA, EWT as well as Ethereum ERC-20 and Tezos FA1.2 and FA2 tokens.¹¹
- Custody on an exchange platform;
The above-mentioned DLT-Umbrella Act has amended the Financial Market Infrastructure Act (FMIA) with a new license category, the “DLT Trading System” (Art. 73a seq. FMIA). The DLT Trading System is an institution for the multilateral trading in register securities and comparable DLT based securities. Unlike traditional Trading Venues, DLT Trading Systems can also offer central custody services (Art. 73a FMIA; to date, no licenses for DLT Trading Systems were granted by FINMA). However, the concept of central custody is quite incompatible with the basic structure of a public DLT system where digital assets are issued and held on a decentralized system. According to the prevailing understanding, the term “central depository” refers to the storage of securities as a service for other exchanges or

¹¹ https://files.bitcoinsuisse.com/assets/pdf/Factsheet_Vault_Bitcoin_Suisse.pdf.

financial intermediaries.¹²

- Custody of a 'tethered' or 'linked' asset.
E.g. synths of Synthetix held in custody

Q.13. (Examples of holding of digital assets for the purposes of Principle 12)

Art. 5a(2) of the Swiss Banking Ordinance¹³ states: "Assets are not considered crypto-based assets under paragraph 1 [thus not giving rise to a licensing obligation]: a. That are held as non-interest-bearing credit balances in customer accounts solely for the purpose of settling customer transactions: 1. By precious metals dealers, asset managers, or similar entities, provided settlement occurs within 60 days; or 2. by investment firms or DLT trading systems; b ..."

SDX Central Securities Depository: SDX CSD solution is based on Corda R3 with SDX running the main register for all digital assets issued on the network. Each member of the CSD network is operating individual nodes within the network with the capacity to act, among other, as custodian for the own account and clients.

Principle 13 : Duties owed by a Custodian to its Client

Q.14. (Optimal approach for addressing those situations where the mandatory duties cannot be performed by some DeFi structures, for example, Maker DAO.)

True DeFi structures are of a non-custodial nature (at least under Swiss law). The question as such therefore does not arise at all, as there are no legal duties.

Principle 14: Other Aspects of Custodianship

Remark re Principle 14(2)(a) and (b): Wouldn't it be shorter to move the first part of subsubpara. (a) and (b) "may be subject to a security right" to the end of subpara. (2)?

Principle 15: Sub-Custody

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SECTION VI: COLLATERAL TRANSACTIONS

Principle 16: Collateral Transactions: General

Q.15 (Examples of best practices of the security right perfection in collateral transactions involving digital assets)

Principle 17: Control as a Method of Achieving Third Party Effectiveness

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¹² See https://blockchainfederation.ch/wp-content/uploads/2021/10/SBF-2020-01_Secondary_Markets_for_Digital_Securities_2021-10-12.pdf (p. 8).

¹³ https://www.fedlex.admin.ch/eli/cc/2014/273/de#art_5_a (no official translation available).

Principle 18: Priority of Security Rights in Digital Assets

Q.16. (Whether security rights in certain types of digital assets should be made subject to the general priority rule)

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Principle 19: Effective Enforcement of Security Rights in Digital Assets

Q.17. (Examples of other requirements, apart from the one on the notification of disposal, mentioned in Principle 19(3) from which secured creditors should be exempted)

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SECTION VII: ENFORCEMENT

Q.18. (What should be included in the content and scope of the enforcement Principle)

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SECTION VIII: INSOLVENCY**Principle 20: Effect of Insolvency on Proprietary [and Security] Rights in Digital Assets**

Q.19. (What should be included in the content and scope of the insolvency Principle)

A new Principle 20(1) should provide that "In case of the insolvency of a custodian, its client shall have protection described in Principle 14(3), if a custody agreement in the sense of Principle 12(3)(a) to (c) was concluded, even with regard to its assets that the custodian in violation of the agreement did not hold for the account of the client."

It would lead to inadequate results if clients lose their proprietary claim only because a custodian violates its duties. It is a matter of weighing up the expectations of clients and of the custodians' other creditors against each other. If statutory provisions or a generally known industry practice prescribe operational segregation of clients' and the custodians assets, clients should be able to rely in good faith on a preferred position. Conversely, other (ordinary) creditors should not expect their own claims to be satisfied with client assets. Accordingly, ordinary creditors should not be allowed to benefit from a violation of the custodian's segregation duties.

Finally, a new Principle 20(5) should provide for a solution for cases of shortfall. "(a) If the digital assets excluded from the insolvent custodian's estate are not sufficient to satisfy the protected clients in full, digital assets of the same kind held by the custodian for its own account shall also be excluded insofar as necessary. This shall apply even where such digital assets have been held separately from the clients' digital assets. (b) If the protected clients are still not fully satisfied, they shall bear the shortfall in proportion to the number of digital assets of the missing kind owed to them respectively. They shall have a corresponding claim for compensation against the custodian."

The proposal is inspired by Art. 19 of the Swiss Intermediated Securities Act, which serves nowadays for insolvency proceedings against all kinds of financial intermediaries.¹⁴

¹⁴ <https://www.fedlex.admin.ch/eli/cc/2009/450/en#19>.

Q.20. (Examples of practices of digital assets valuation in insolvency proceedings)

By now, a practice for the valuation of digital assets has emerged and consolidated among tax authorities. It is applied far more regularly and frequently than valuation in insolvency proceedings. It is therefore advisable to take the practice of the tax authorities (preferably but not exclusively of the own jurisdiction) as a starting point for the valuation.

In Switzerland, for instance, the FTA has determined since 2015 a value for Bitcoin that is relevant for wealth tax by calculating *the average of various prices* at the end of each year. The list has now been continuously expanded over the years. As of 2020, the FTA has 20 digital assets in its price list: ADA Cardano, BCH Bitcoin Cash, BSV Bitcoin SV, BTC Bitcoin, Dash, EOS, ETC Ethereum Classic, ETH Ethereum, IOT IOTA, LINK Chainlink, LTC Litecoin, NEO, QTUM, TRX TRON Coin, USDT, XEM NEM, XLM Stellar Lumens, XMR Monero, XRP Ripple and XTZ Tezos.

However, the FTA's valuations are mere recommendations to the cantonal tax authorities. Given the volatility, technological and operational risks inherent to digital assets, the latter are open to accept the application of the Principle of prudence to the valuation in the sense that a mark-up of approx. 25% (ore even more) is granted.¹⁵

¹⁵ See e.g. <https://www.mme.ch/en/magazine/articles/fta-published-crypto-prices-2020>.

Mr Pekka Pulkkinen, Finland

I apologize the slight delay as per the deadline below; I have been consulting with our experts within the Ministry of Justice, and unfortunately we all have been extremely busy lately.

Instead of going through the proposal in detail and answering the specific questions, at this point we'd like to draw attention to a couple of more general questions:

Firstly, we welcome the aim to come up with certain harmonized key features on digital assets, as it would both facilitate transactions involving these assets in a given State and enhance predictability in cross-border transactions. Our concerns, however, relate to the broad scope of the principles, which is based on the rather open-ended definitions of electronic records and their control. The said definition seems to include, and in our opinion rightly so, e.g. the relevant digital forms of securities. From this aspect, the harmonization project seems both useful and realistic, as existing international practices, or at least a need for such, can be recognized. In addition, a plethora of different kind of digital assets seem to fall within the scope of principles – this is due to both the description of electronic records (such as datasets/databases, Excel or Word files etc.) and reference to possible linked assets.

Major part of the suggested principles and their explanatory notes seem to seek inspiration from practices and features that are characteristic to market securities (e.g. principles related to custody of assets). At least for time being, we remain doubtful, whether it is possible and useful to apply these kind of principles to such a broad set of digital assets that the definitions of the Principles suggest. This can be problematic e.g. regarding the real estate law of States, that come with long national traditions and for the most part remain not harmonized. Secondly, the actual need for the type of protection and practices suggested in the principles remain unclear regarding the kinds of intellectual property related assets, where the commentary refers to. At least for us, it appears that the practically useful (and already somewhat harmonized) remedies on possible breaches of such rights can be found outside the scope of the suggested Principles.

Secondly, the rather specific draft legal structure of the Principles, i.e. definition between "digital asset law" and "other law" may pose a challenge to States willing to transpose the Principles into their national legal systems. At least from a Finnish perspective, it appears rather unlikely to come up with a separate "digital asset law" generally regulating the "digital features and related questions" of assets. Instead of a horizontal view of this type, different assets more naturally fall into their own categories and respective fields of more specific legislation, where the "digital features and related questions" are more thoroughly addressed according to the asset/sector specific needs. Even if this approach may come with the danger of ending up with separate "silos" of legislation, we'd most likely be willing to prioritize the legal certainty that sector specific legislation is likely to provide.

Possible way to address the above concerns could be either a) limiting the scope of the principles e.g. only to securities by carving out the rest of assets (or significant parts thereof) or b) avoid overly "securities-specific" principles. For time being, the added value of the latter approach remains unclear. As for the former approach, of course, the added value of such principles is highly dependent on the future of the Geneva securities convention, which already seeks to harmonize matters specific to account-held (i.e. digital) securities.

Best regards,
Pekka Pulkkinen

Mr Tetsuo Morishita, Japan

Thank you very much for giving me the opportunity to make comments on the draft Principles.

I would like to express my sincere gratitude and respects to the efforts of the Working Group members in making the draft Principles on such an important and complicated topic.

The followings are my comments and answers to some questions in the draft. If there is any misunderstanding of the meaning of the draft, please forgive me.

- Page 5, Answers to Q.1

The following assets seem to be typical digital assets to which the Principles should apply.

- Cryptoassets and Electronic Payment Tools

The Payment Services Act defines “Cryptoasset” as “(i) property value (limited to that which is recorded on an electronic device or any other object by electronic means, and excluding the Japanese currency, foreign currencies, and currency-denominated assets and electronic payment tools; the same applies in the following item) which can be used in relation to unspecified persons for the purpose of paying consideration for the purchase or leasing of goods or the receipt of provision of services and can also be purchased from and sold to unspecified persons acting as counterparties, and which can be transferred by means of an electronic data processing system; and (ii) property value which can be mutually exchanged with what is set forth in the preceding item with unspecified persons acting as counterparties, and which can be transferred by means of an electronic data processing system.” Bitcoin is a typical cryptoassets under this definition. “Electronic Payment Tool” is a cryptoassets denominated in fiat currencies and is a new category that will be introduced in the proposed amendment of the Payment Services Act in 2022. Cryptoassets and Electronic Payment Tools are the digital assets to which the Principles would apply. However, under Japanese law, in light of the high liquidity of money, it is considered that the person who possesses money has ownership rights in it. It means the content of innocent acquirer rules for assets that function as money and those for other assets are different.

- Security tokens

Under Japanese Financial Instruments and Exchange Act, tokens representing security (such as shares, bonds, interests in collective investment schemes) are regulated under the securities regulation. Such security tokens are the digital assets to which the Principles would apply.

- Utility tokens

Utility tokens that provide token holders with rights to access some services are the digital assets to which the Principles would apply.

- NFTs

NFTs would be the digital assets to which the Principles would apply. However, how the Principles would be applied in cases a NFT is linked to a digital asset is not clear to me. Principle 4 stipulates, “Where a digital asset ... appears to confer a right to another asset, which can be tangible or intangible (‘the other asset’), the legal effect (if any) is a matter for the law” In case of a NFT linked to a digital asset, would the Principles apply to both NFT and the digital asset or only to the NFT? The similar issue seems to exist in relation to ERC-20 tokens.

Transactions of data have become popular and there may be a demand for property law rule for data. ALI-ELI Principles for Data-Economy is one of the initiatives that try to meet such demand and defines “data” as “‘Data’ means information recorded in any machine-readable format suitable for automated processing, stored in any medium or as it is being transmitted.” It is my understanding that such data will be excluded from the scope of this Principles because many of such asset may be copied/co-held, and can not be controlled under the Principle 6 (especially, (1)(a)(ii)(iii)).

- Page 9-11

Principle 3 does not have clear definition or the list of proprietary issues that the Principle intend to cover, but only has the list of issues that will not be covered by the Principle. The Commentary refers Principle 3(2) as the definition of “proprietary rights”, but Principle 3(2) seems not clear enough as a definition (because it does not specify what proprietary interests and rights with proprietary effects means and because it is still unclear what would be included in proprietary rights other than proprietary interests and rights with proprietary effects. If the proprietary rights in the Principles mean the same rights that would be conferred on the possessor or owner of a tangible object with a similar function under the laws of the country concerned, then it would be better to specifically state so. Alternatively, if you want to clarify the content of some specific proprietary rights under the Principles regardless of the laws of the countries concerned, it seems better to not only list the matters to which the Principles do not apply, but also the matters to which the Principles do apply, thereby further clarifying the content of the proprietary rights as contemplated by the Principles (as Geneva Convention).

Regarding the Principle 3(3), it is my impression that too many proprietary law issues are not covered by the Principles, and it is unclear to me from the explanation in the Commentary why such very narrow scope of the Principles is appropriate. For example, issues as listed in (a) (b) (c) must closely relate to the effectiveness of collateralization and the status of holders of digital assets in insolvency, both of which are within the scope of the Principles. It is not clear to me why such distinction was chosen.

- Page 14

Answer to Q.2

Asset ‘linked’ to digital assets could be an example.

It is not clear how ‘linked’ and ‘backed’ could be clearly distinguished.

Answer to Q.3

Trade usage and custom may be a possible source of the appearance of linkage.

- Page 15

Principle 5 (2)(c) stipulates “The choice of the applicable law can be included in the code...” Considering that normal participants in transactions of digital assets will not have ability to read the choice in the code, it is questionable if such choice in the code could be considered visible and be an effective choice of law (there seems to be the difference in the level from choice of law in forms prepared by one party).

It is not clear how the Principle 5 (2) is applied to proprietary questions in custody.

Answer to Q.5

It is not clear what ‘the law of the asset’ mean in this question.

One of the features of digital assets that are distinct from other assets is that digital assets could not exist without a system. So, it seems to be reasonable to rely on the law of the system when there is no valid choice of law by the relevant parties. However, it may not easy to determine considering that the basic idea of blockchain is to create distributed systems without specific operators. So I think there should be a provision that could be applied in cases where no applicable law could be determined according to (f). For example, the law of the place that is most closely connected to the dispute/transactions may be applied.

- Page 17

It is not clear from the Explanation and Commentary why (ii)(iii) in (1)(a) are necessary. I assume that these items are necessary to exclude digital assets that could be copied and concurrently held by more than one parties. If so, such an explanation should be expressly made.

- Page 21

Commentary to Principle 8 says that unspent transaction output in Bitcoin is an example of a 'derivative digital asset.' Though the definition of 'derivative digital asset' in the Principles is not clear, it seems unnecessary to use the concept of 'derivative digital asset.' There may be a variety of ways to record the transfer of digital assets, and I do not think it necessary to consider the mere difference of the way of recording of the transaction/balance changes the nature of the transactions and the assets. It is questionable whether such characterization as 'derivative digital asset' is consistent with the usual sense of the parties to the transaction.

- Page 23

Answer to Q. 9

When a digital asset that is linked to another asset is innocently acquired, what happens in the another asset? If there is a legal link under the applicable law, is the innocent acquirer automatically innocently acquire the another asset? Principle 16 (4) suggests that innocent acquisition of the digital asset is covered by the Principle, but how such innocent acquisition of the digital asset affect the acquisition of the another asset is the matter covered by other law than the digital asset law. However, in case of negotiable instruments, we do not discuss innocent acquisition of "paper" independently of innocent acquisition of "claims."

- Page 25

Principle 12 (1) stipulates that the Principle applies when a custodian hold a digital asset "in a manner that the digital asset so held is not available to the creditors of the custodian if the custodian enters into any insolvency proceeding...."

However, whether or not the digital asset held by the custodian is available to its creditor is a legal question affected by some elements. It seems strange that the applicability of the Principles depends on such legal question.

- Page 27

Answer to Question 13

In Japan, cryptoasset exchanges are regulated under the Payment Services Act and they hold cryptoassets of customers as custodian. Article 63-11(2) of the Payment Services Act stipulates, "A crypto-asset exchange service provider must, in connection with its crypto-asset exchange services, manage the crypto-assets of the users of the crypto-asset exchange services separately from its own crypto-assets, pursuant to the provisions of Cabinet Office Order. In this case, the crypto-asset exchange service provider must manage users' crypto-assets (excluding crypto-assets that satisfy the requirements specified by Cabinet Office Order as being necessary for ensuring the convenience of users and achieving smooth provision of crypto-asset exchange services) by the method specified by Cabinet Office Order as being less likely to weaken the protection of users."

- Page 27-28

Principle 13 stipulates the duties of custodians, but it seems unnecessary to have this Principle 13. Though other parts of the Principles relate to proprietary issues, Principle 13 mainly relate to contractual duty of custodians. In addition, such duties of custodian should be the matter covered by regulatory laws of the relevant countries.

- Page 33

Principle 16 (4)(5) stipulates that collateralization of a digital asset and an asset linked to the digital asset is totally different matters and need to be considered independently. However, in case of negotiable instruments, we do not discuss collateralization of "paper" independently of collateralization of "claims." Are the rules proposed in Principles 16 (4)(5) natural considering the common sense of parties in transactions?

- Page 34

Answer to Q.15

In relation to the collateralization of cryptoassets, transfer for collateralization purpose (sending the cryptoassets to the address of secured creditor) is the typical way.

- Page 43

Answer to Q. 19

In the insolvency of Mt. Gox, it was discussed whether customers should be entitled to get the return of deposited bitcoin, or only entitled to receive monetary dividends based on the valuation of their claims at the commencement of the bankruptcy proceeding. Under Japanese law, if customers were the owners of the bitcoin that had been deposited by them, they were entitled to be returned the deposited bitcoin. (see, Stacey Steele and Tetsuo Morishita, Lessons from Mt Gox: practical considerations for a virtual currency insolvency, in Douglas W. Arner et.al ed., Research Handbook on Asian Financial Law (Elgar, 2020) at 490.

Mr Alex Ivančo, Czech Republic

my apologies for the late reply, everything is just going too fast all around.

Let me thank you foremost for your work on the Principles. I have only three remarks.

First, in order to make sure that the Principles are relevant for the intended users it would be beneficent to get more feedback from them. I would like to support more discussion with the relevant business counterparts and associations.

Second, I welcome the approach to the definitions of the digital assets, based on the MLETR and other international efforts currently in place (MiCA including). It is also very important to make sure that the Principles will be technologically neutral and not discriminating against any business model or supportive only for some.

Third, it would be beneficial to have some streamlining of the examples. Clear illustrations of the intended cases, their visualisation might be helpful to facilitate understanding of the scope of the Principles (SGMTF is not entirely fitting).

Within the context of the Czech jurisdiction, the most likely usage of the Principles would be in the international context. If I can be of any use of to facilitate the discussion with Czech, European or international counterparts, please let me know. For example, I understood that there might be a meeting of the International Association for Trusted Blockchain Applications, <https://inatba.org/>, in Prague this autumn.

Once again, thank you very much for your work.

Kind regards,
Alex

Ministerio de Relaciones Exteriores, Comercio Internacional y Culto - Dirección General de Consejería Legal Internacional (*Ministry of Foreign Affairs, International Trade and Worship - General Directorate of International Legal Advice*), Argentina

Al Grupo de Trabajo sobre activos Digitales y Derecho Privado del Instituto Internacional para la Unificación del Derecho Privado (UNIDROIT):

La República Argentina tiene el agrado de dirigirse al Grupo de Trabajo sobre activos Digitales y Derecho Privado del Instituto Internacional para la Unificación del Derecho Privado (UNIDROIT) agradeciendo por la invitación a nuestro país a participar en el envío de aportes y comentarios sobre el documento "*Study LXXXII/SC/Doc.1 – Draft Principles and Commentary (with Questions)*".

En este sentido, se remiten los siguientes comentarios sobre la base de los aportes suministrados por diversas carteras ministeriales:

1. En materia de alcance, definiciones y de regulación, en nuestro país existe una embrionaria actividad legislativa relativa a las denominadas *criptomonedas* (uno de los activos digitales que surgen de los principios UNIDROIT), que se deja ver a partir de normas de softlaw respecto de Fintechs, por lo que no existe una definición unívoca de activos digitales en nuestra normativa.

Principios 1 (scope) y 2 (definitions):

2. De acuerdo a lo establecido en el *principio 1*, se cubren cuestiones de derecho privado relacionados con activos digitales y proporcionan reglas para cuestiones tales como la provisión, custodia y transferencia de garantías reales sobre activos digitales.

3. Como fuera mencionado anteriormente, no encontramos en nuestra legislación nacional una definición unívoca, sino que distintas dependencias han ido regulando las *criptomonedas* en forma parcial. Las principales normativas han sido emitidas por la Unidad de Información Financiera (UIF), el Banco Central de la República Argentina (BCRA) y la Administración Federal de Ingresos Públicos (AFIP), y cada una de estas entidades utiliza distintos conceptos y calificaciones para este tipo de activos digitales:

- En 2014, la UIF emitió la Resolución 300/14 que determinó que ciertos sujetos obligados (incluyendo entre otros, bancos, remesadoras de fondos, agentes del mercado de valores, asegurados, emisoras de tarjetas de crédito, escribanos) deben informar a la UIF todas las transacciones que involucren monedas virtuales. La Resolución define "*Monedas Virtuales*" como la representación digital de valor que puede ser objeto de comercio digital y cuyas funciones son las de constituir un medio de intercambio, y/o una unidad de cuenta, y/o una reserva de valor, pero que no tienen curso legal, ni se emiten, ni se encuentran garantizadas por ningún país o jurisdicción.
- En octubre de 2019, el BCRA emitió la Comunicación "A" 6823 que dispone que los emisores de tarjetas de crédito, tarjetas prepagas y tarjetas de débito deben obtener la previa conformidad del BCRA para realizar pagos al exterior en relación a la adquisición de *criptoactivos* con dichas tarjetas. Asimismo, de conformidad con la Comunicación "A" 7030 emitida en mayo de 2020, el BCRA considera a los *criptoactivos* como activos externos líquidos, es decir, activos que permiten obtener disponibilidad inmediata de moneda extranjera.
- La ley 27.430, conocida como "Ley de Reforma Tributaria", incorporó las "monedas digitales" dentro del alcance del impuesto, pero lamentablemente la ley no estableció una definición de "moneda digital" y como es una ley reciente no hay jurisprudencia que defina este concepto. Además de esta falta de definición, algunos autores han criticado que se haya utilizado el término "monedas digitales" porque esa expresión no se corresponde con ninguna otra definición existente en otras ramas del derecho argentino.

4. Así las cosas, desde noviembre de 2020 se han ido presentando proyectos de ley a los fines de poder colmar el vacío legal, y la expresión elegida por dos de ellos es en los términos del Principio 1 de UNIDROIT: *criptomonedas* o *criptoactivo*.

5. Brevemente diremos que un primer proyecto empieza definiendo alcances y objetivos de la ley, los cuales se centran en crear un marco regulatorio para todas las transacciones hechas en *criptomonedas*, así como también la protección, vigilancia, inspección y control de las operaciones hechas con *criptoactivos* y establece cuáles son los 2 sujetos principales en este tipo de relaciones, a saber:

- Adquirente: Persona física o jurídica que adquiere *criptomonedas*;
- Proveedores de servicios: Persona física o jurídica que realiza alguna/s de las siguientes actividades: Intercambio de activos virtuales por dinero de curso legal; Intercambio entre una o más formas de activos virtuales; Transferencia de activos virtuales; Conducir una transacción en beneficio de un tercero, almacenamiento seguro y/o administración de activos virtuales; Participación y provisión de servicios financieros relacionados con la oferta de un emisor y/o la venta de un activo virtual.

6. Este primer proyecto además brinda una definición de lo que se entenderá por *Criptoactivo* en la Argentina, que podría entenderse como una representación digital de valor en tanto activo financiero encriptado que utiliza la tecnología Blockchain como infraestructura fundamental para su existencia. Puede ser utilizado como medio de intercambio, reserva de valor y unidad de cuenta.

7. Un segundo de proyecto, empieza dando una definición muy parecida de lo que es un *criptoactivo*, en tanto que lo considera "representación digital de valor en tanto activo financiero encriptado, definido por un protocolo computacional que puede ser objeto de comercio digital y cuya funciones son las de constituir un medio de intercambio y/ o pago, y/o una unidad de cuenta, y/o una reserva de valor, y/o herramienta de inversión financiera, y/o medio de financiación, que no posee curso legal y es de carácter descentralizado, estando su valor sujeto a la variación de precios dependiendo de la oferta y demanda en los mercados". También da otras definiciones, como "Fork", "Soft Fork", "Hard Fork", "Granja de Criptoactivos", entre otras.

8. En atención a que los activos digitales se caracterizan por su extrema volatilidad, complejidad y falta de transparencia, sumado al hecho de que a veces pueden utilizarse como herramienta para prácticas ilegales como el lavado de dinero, para la Argentina resulta importante que el mentado proyecto de principios sobre Activos Digitales y Derecho Privado elaborado por el Grupo de Trabajo adopte un enfoque práctico y funcional, ya que existen diversas jurisdicciones representadas en la propia UNIDROIT. Esto permitiría facilitar el tratamiento de los activos digitales en los países tributarios tanto del *civil law* como del *common law*. De igual manera, la Argentina considera importante seguir los demás debates que acompañen la evolución de los activos digitales.

Q. 1 for the Steering Committee

9. Sobre esta pregunta, mediante la cual se invita a los miembros del Comité Directivo a proporcionar al Grupo de Trabajo ejemplos e ilustraciones de activos digitales en sus jurisdicciones donde se deberían aplicar los Principios, es dable manifestar que varias empresas argentinas ya están usando estas tecnologías para crear activos digitales (tokens) atados a bienes reales como soja, vino y autos, es decir, se observa la llamada *tokenización de commodities*. En la Argentina se puede mencionar a empresas como Agrotoken, OpenVino y Mercado de Metales. Respecto al caso de la empresa Agrotoken, es la primera infraestructura global de tokenización de commodities. Se crearon *stablecoins* respaldadas en soja, maíz y trigo; y la tecnología de *blockchain* permite rastrear el origen de cada insumo asegurando su calidad. Esto también lo hacen

empresas como Toyota y OpenVino, que se creó a partir de la actividad de una bodega en la Provincia de Mendoza de la República Argentina.

10. Por otra parte, se pueden mencionar otros usos como la *biocertificación* realizada por la empresa OpenVino, la cual permite certificar si el vino es orgánico, vegano o single vineyard, entre otras cuestiones.

Principio 3: General principles

11. Este principio, si bien refiere a derechos de propiedad o intelectuales, es importante poner de resalto que no hace hincapié en los mismos.

Principio 4: Digital Assets 'Linked' to Other Assets

12. Sobre el particular, corresponde aclarar que uno de los proyectos de ley enviados al Congreso de la Nación establece que habrá "contrato de financiamiento colectivo" cuando un emisor de tokens se obligue a transferir la propiedad sobre los tokens que emita, con el fin de financiar el proyecto de emisión expresado en el White Paper correspondiente a la emisión, y la otra parte, denominada "inversor", se obliga a pagar un precio en moneda de curso legal, moneda extranjera o *criptoactivos* de otra especie. Junto con la primera transferencia del token el emisor deberá entregar copia en soporte digital o papel del White Paper.

Principio 5: Conflict of laws

13. En primer lugar, manifestamos que nuestro país adhiere a la aclaración/comentario contenido al pie de página 15, en cuanto a que una regla de conflicto de leyes siempre será imperfecta. Por lo tanto, el objetivo de estos principios es mejorar la seguridad jurídica en torno al conflicto de leyes en la mayor medida de lo posible.

1) General principles

14. En materia de conflicto de leyes, el principio general que surge del apartado a) del punto 1 es perfectamente compatible con lo establecido en la actual normativa argentina (art. 2668 del Código Civil y Comercial de la Nación).

2) Determination of the applicable law

15. A los fines de la determinación de la ley aplicable a los activos digitales, las reglas que se observan en la mayoría de los casos son compatibles con nuestra legislación.

16. Respecto al apartado a) del punto 2), resulta ser coherente y ordenadora. Vemos tres aspectos importantes en la determinación de la ley aplicable a las cuestiones de propiedad en relación con los activos digitales: (a) la ley se elige uniformemente para todos los bienes de una emisión específica, (b) debe ser una elección visible (no secreta), (c) los bienes de diferentes emisiones pueden almacenarse y negociarse en el mismo sistema (por ejemplo el sistema Ethereum). Sin perjuicio de ello, de que es razonable que la ley aplicable a las cuestiones de propiedad en materia de activos digitales sea idéntica para todos los activos digitales que tengan la misma descripción, cabe recordar que aún resta para la Argentina determinar en su futura legislación qué se incluye bajo dicha calificación.

17. Asimismo, en lo que respecta a lo que sugiere en relación a que la ley del bien y la ley del sistema pueden ser la misma o pueden ser diferentes, consideramos que esto es materia de debate.

18. En relación a los apartados b) y c), deberían ser armonizados y entendidos de acuerdo a la legislación nacional argentina (art. 2651 del Código Civil y Comercial de la Nación).

19. Respecto al apartado d), en principio no parece compatible con nuestra legislación vigente, por lo que mucho dependerá del tratamiento legislativo que pudiese realizarse, en algún tiempo prudencial.

20. Finalmente, en relación a los apartados e) y f) resultan compatibles con nuestra normativa (los artículos 2652 y 2653 del Código Civil y Comercial de la Nación), con la salvedad de que habría que trabajar en la definición de lo que es una "red" o un "sistema" (términos que figuran entre corchetes). Esto resultaría de gran importancia ya que, para el caso particular de la Argentina, aún resta por analizar una calificación única de activos digitales, categorías comprendidas, equivalentes funcionales, o bien, cuál sería el ámbito de aplicación de una posible futura normativa, entre otras.

3) Recognition in insolvency

21. En relación al punto 3), relativo al reconocimiento en concurso de acreedores (o quiebra), merece un mayor estudio desde el punto de vista procedimental concursal, como así también de su compatibilidad con la ley de propiedad intelectual (por los activos digitales en esta área).

Commentary

22. (1) Compartimos los comentarios de UNIDROIT, en particular el b), el cual establece que el propósito del párrafo (1)(a) es asegurar que la ley se aplique independientemente de si la aplicación de la ley es demasiado compleja o produce resultados poco claros o perturba el funcionamiento de la red, como consecuencia de la naturaleza de la tecnología, o del carácter internacional de la red. Tal como está redactado actualmente, "ley" es la ley de un Estado (como se define en el Principio 2(4)), pero también podría ser los Principios de UNIDROIT, si se omite el texto entre corchetes. Ponemos la mira en el esquema de subsidiariedad (*softlaw*) que podría implicar el uso de los principios de UNIDROIT en esta materia.

Q.5 for the Steering Committee

23. En relación con las posibles dificultades relacionadas con la interacción entre la ley del activo y la ley del sistema, tal como se establece en el Principio 5 (2), en caso de que sean diferentes entendemos que la problemática surgirá cuando sean diferentes en relación con la registrabilidad y la calidad de la registración del activo y/o del sistema.

24. Nuestra norma indirecta de fuente interna podría dar la solución dependiendo si podemos calificar al activo digital como un bien mueble con o sin situación permanente. También dependería si calificamos al sistema como un bien mueble o inmueble.

25. Conforme la legislación nacional, en el caso de los bienes muebles la calificación deberá realizarse desde el Derecho al que se arribe según cada caso concreto (art. 2670 del Código Civil y Comercial de la Nación).

26. Pero por otro lado, si calificamos a los activos digitales y/o sus sistemas como propiedad inmaterial, el artículo 2609, inc. c), establece: "[...] en materia de inscripciones o validez de patentes, marcas, diseños o dibujos y modelos industriales y demás derechos análogos sometidos a depósito o registro, cuando el depósito o registro se haya solicitado o efectuado o tenido por efectuado en Argentina". Aquí la literalidad es diferente, porque puede advertirse que habla de "derechos análogos", de lo cual pueden inferirse las acciones reales. También debe tenerse en cuenta que la exclusividad se fundamenta en que la inscripción en la propiedad industrial posee carácter constitutivo, a diferencia de lo que ocurre con los derechos de autor.

27. Evidentemente, la calificación incluso podría abrir las puertas al sistema de la OMPI a través del Convenio de Berna, del cual Argentina es parte.

Q.6 for the Steering Committee

28. En relación a las posibles metodologías para establecer la conexión fáctica más fuerte de un sistema de un activo digital con el fin de determinar la ley aplicable de acuerdo con el Principio 5(2)(f), estimamos como adecuado de forma analógica lo previsto en la legislación nacional argentina (arts. 2595 y 2597 del Código Civil y Comercial de la Nación).

29. De esta forma, podemos decir que, si no se ha elegido ninguna ley con respecto a la [red] [sistema] pertinente, se aplica la ley del Estado con el que la [red] [sistema] que presente los vínculos más estrechos con la relación jurídica, en particular en los casos en que el operador de la red es residente, incorporado o regulado o tiene una clara conexión fáctica con un Estado específico. Además, si diversos derechos son aplicables a diferentes aspectos de una misma situación jurídica o a diversas relaciones jurídicas comprendidas respecto a la [red] [sistema], esos derechos deben ser armonizados, procurando realizar las adaptaciones necesarias para respetar las finalidades perseguidas por cada uno de ellos. Y que, excepcionalmente, el derecho designado por una norma de conflicto no debe ser aplicado cuando, en razón del conjunto de las circunstancias de hecho del caso, resulta manifiesto que la situación tiene lazos poco relevantes con ese derecho y, en cambio, presenta vínculos muy estrechos con el derecho de otro Estado, cuya aplicación resulta previsible y bajo cuyas reglas la relación se ha establecido válidamente.

Principio 6: Definition of Control

30. El concepto de control resulta determinante y también su relación con la posesión de los activos digitales. Asimismo, al momento de elaborar una normativa es preciso un análisis pormenorizado del cambio de control, entrega y transferencia del mismo.

31. El concepto de control del principio 6 ha sido tomado también como ejemplo en la actual discusión de la Ley Modelo sobre Warehouse Receipt de UNIDROIT.

Principio 7: Identification of a Person in Control of a Digital Asset

Principio 8: Acquisition and Disposition of Digital Assets

Principio 9: Innocent Acquirer Rule

Principio 10: Shelter principle

Principio 11: Application of Innocent Acquirer Rules to a Custody Relationship

Principio 12: Custody

32. En el caso particular de la Argentina, se deberá evaluar su impacto en relación con el procedimiento de insolvencia previsto en la Ley de Concursos y Quiebras.

Principio 13: Duties owed by a Custodian to its Client

33. Resultan razonables las obligaciones impuestas al custodio hacia su cliente y es pertinente que el Principio sostenga que el Estado no debería permitir que tales deberes básicos fuesen excluidos. La utilización de un lenguaje neutral y funcional permite que el principio pueda funcionar ente sistemas jurídicos que establecen o califican a tales relaciones jurídicas de diferente modo.

34. Respecto al apartado 13.2, resulta lógica. Sin embargo, el tema relativo a las transferencias de activos digitales entre clientes mediante anotaciones en cuenta en lugar de cambiar el control de los activos digitales deberá ser analizado en forma particular al momento de establecer la legislación de cada país.

Principio 14: Other Aspects of Custodianship

35. Sobre el particular, cabe manifestar que la Argentina aún no cuenta con una ley de garantías mobiliarias o colaterales, por lo que sus implicancias deberán ser evaluadas.

36. En relación al párrafo 3, deberá ser evaluado por la Argentina en consonancia con la Ley de Concursos y Quiebras nacional.

Principio 15: Sub-Custody

37. En igual sentido que lo manifestado anteriormente, deberá ser evaluado por la Argentina en consonancia con la Ley de Concursos y Quiebras nacional.

Principio 16: Collateral Transactions: General

38. Nuevamente sobre este punto cabe manifestar que la Argentina aún no cuenta con una ley de garantías mobiliarias o colaterales, por lo que sus implicancias deberán ser evaluadas.

Principio 17: Control as a Method of Achieving Third Party Effectiveness**Principio 18: Priority of Security Rights in Digital Assets**

39. Sobre el particular corresponde mencionar también que la Argentina aún no cuenta con una ley de garantías mobiliarias o colaterales, por lo que deberán ser evaluadas sus implicancias.

Principio 19: Effective Enforcement of Security Rights in Digital Assets

40. En igual sentido que el punto que antecede, se reitera que la Argentina aún no cuenta con una ley de garantías mobiliarias o colaterales, por lo que sus implicancias deberán ser debidamente evaluadas.

Principio [20]: Effect of Insolvency on Proprietary [and Security] Rights in Digital Assets

41. Nuestro país no cuenta con legislación sobre garantías mobiliarias o colaterales, por lo que sus implicancias deberán ser debidamente evaluadas.

Asimismo, en el caso de que la Argentina decidiera elaborar una, la misma debería analizarse en consonancia con la Ley de Concursos y Quiebras.

Ms Guo Yu, China

Attached please find my written comments on the Draft Principles and Commentary. Because the relevant research took more time than I expected, I fail to finish the task on time. I am terribly sorry for this. But I submit it to you anyway, just in case it's useful. Thank you very much.

Comments on the Draft Principles**I. Object of the Principles**

1. Digital economy is a major economic form after agricultural economy and industrial economy. Digital asset is a key element of digital economy. The problems brought by digital assets are comprehensive and fundamental. Countries have not yet formed a unified position on how to deal with these problems. For example, China prohibits Bitcoin mining, while El Salvador has taken Bitcoin as its legal tender. At the same time, technology develops quickly and new forms of digital assets are emerging constantly. Under these circumstances, it is premature to draft a set of rules to deal with the rights and obligations of the parties directly. It is also premature to decide whether it is necessary or possible to formulate a specific law to regulate the digital assets. The instrument should make it clear that these principles are drafted only for the reference of legislators, and should try to avoid the expresses such as "the law should". To provide a variety of possible options will be more helpful.

2. Among the limited consensus that may be reached at this stage, one is that most countries believe it is necessary to protect the legal interests in digital assets. And another thing that can be certain is that international cooperation is indispensable in this field. The transfer of digital assets depends on the Internet. In a sense, the market of digital assets is essentially a global market. The legal protection of digital assets has global characteristics from the beginning. The Principles are drafted because countries want to promote the development of digital assets, and believe that international cooperation will be needed in this field. The consensus on strengthening the protection of digital assets and promoting international cooperation should be pointed out at the start of the instrument, and this can be done by an independent principle.

3. Suggested Principle of protection and promotion: The purpose of formulating these principles is to encourage the inclusion of digital assets into the scope of legal protection. They reflect the outcomes of international consultation and shall be considered by the legislators in dealing with private law issues of digital assets.

II. Scope of Application

4. Principle 2 (2) defines 'digital asset' as 'an electronic record which is capable of being subject to control'. Principle 6 (1) defines 'control' as 'the exclusive ability' to do something about the digital asset. These two definitions look like a circular argument. Besides, electronic record subject to control does not necessarily have value. Literally, "digital assets" are assets in digital form, and "assets" are things with economic value. If digital assets refer to all the assets in digital form, since there are many kinds of digital assets, it is doubtful whether it is necessary or possible to formulate a specific set of legal rules for digital assets. If digital assets only refer to specific kind of assets in digital form, for example, only cryptocurrency, this is not made clear in the current draft. It is not easy to comment on the rationality of the principles if the scope of application of the principles is not clearly defined.

5. Generally speaking, legal protection of digital assets has two major obstacles: the form of digital and the nature of asset.

6. Digital form is not an insurmountable obstacle to property protection. Under the existing property law of various countries, there are precedents for the protection of digital property. Some properties are created in digital form. For example, digital products such as computer programs, video, images, sound recordings and other products that are digitally encoded and produced for commercial use are usually protected by intellectual property law. Some properties are created offline but are “going online”, that is, digitalized or electronic. For example, commercial papers such as bill of exchange, promissory note or bill of lading are changing from paper form into electronic form. UNCITRAL just drafted a model law (MLETR) to deal with the problems of these electronic records. Most of the problems caused by digitalization of tangible movables can be solved following the principles already established in the e-commerce legislation, notably, principle of non-discrimination, principle of functional equivalence and principle of technology neutrality.

7. The problem caused by the nature of “asset” is that “asset” has economic value, but not all the things that have economic value are properties. What is “property” is a complicated problem in law and the answer is quite different in different countries. In most of the countries with civil law tradition, there is a numerus clausus principle. Under this principle, the type and content of property shall be stipulated directly by the law. The limitation of property protection has good reasons, one of which is to protect the interests of third parties. As a right against the world, the property right may affect the right of third parties. Whether to recognize a property right is the result of balance of different interests. Some digital assets are not protected by property law not only because of their data form but also because they can not meet the legal requirement of “property”. For example, some digital assets are created by the parties themselves and can not fall in any of the existing type of property. New legal provisions will be needed to recognize these digital assets as property. But to recognize new type of property must be very careful and with good reason, and deviation from the basic principle of property law shall be avoided.

8. Since different digital assets are facing different problems, it is difficult to treat digital asset as an independent type of property, and to formulate an independent set of rules for it. For those digital assets already protected by law, there is no reason to deprive or modify the existing legal protection. For those digital assets which can get the legal protection through functional equivalent rule, the direction of efforts should be the improvement of the protection. For those fall outside the current scope of property, the making of new legal rules should be encouraged. It should be made clear that the principles are aimed at expanding the legal protection of digital assets, rather than overturning the current legal protection.

9. Suggested principle of non-interference: the existing legal protection of digital assets and the principles developed in e-commerce dealing with digitalization of tangible movables shall be preserved and completed. Proper measures shall be adopted to accommodate new type of digital assets into the protection of property law.

III. Principle of Non-discrimination

10. Digital form itself is not a reason to refuse legal protection, but an asset can not become the subject of property rights just because it is in digital form. Draft principle 3 (1) “the law should provide that digital assets can be the subject of proprietary rights” and draft principle 16 (1) “digital assets are eligible to be the subject of security rights” may give the impression that all digital assets are property. Besides, if the law has provided that digital assets can be the subject of proprietary rights, it is not necessary to provide that digital assets can be the subject of security rights. These provisions can be replaced by a more general and straightforward non-discrimination principle.

11. Suggested non-discrimination Principle: A digital asset shall not be denied legal protection on the sole ground that it is in digital form.

IV. Principle of Functional Equivalence

12. According to the draft Principle 6, 'Control' assumes a role that is a functional equivalent to that of 'possession' of tangible movables. But the word 'possession' does not appear in the principle itself, and what is the legal effect of 'control' is not clear in the principles.

13. "control" is defined in draft principle 6 as the exclusive ability to change the control, the exclusive ability to prevent others from obtaining substantially all of the benefit from the digital asset and the ability to obtain substantially all the benefit from the digital asset. But these three abilities do not accurately represent the functions of possession. In traditional law, 'possession' may not be transferable, may not enable the possessor to obtain benefits, and may not exclude others from obtaining benefits.

14. Possession is a word for tangible things. Control is a word for intangible things. If control is a functional equivalent of possession, there also should be a functional equivalent rule to make an intangible electronic record equal to a tangible thing. Otherwise "control of what" will become a question.

15. The major problem arising from the digital form is that an intangible thing cannot be possessed, and this problem can be solved according to the principle of functional equivalence. If control is equal to possession, qualified digital assets are equal to tangible movables, then the legal effect of control of digital asset is equal to possession of tangible movables. The legal effect of possession of tangible movables may be different in different countries. It is impossible to find a unified definition of "possession" among all the countries. Even within one country, it may be extraordinary difficult to find a definition of "possession". Instead of looking for an international unified definition of "possession", it may be better to stipulate that control is the functional equivalent of possession, but leave the question of "what is possession" or "what are the effects of possession" to countries to answer according to their own property law as far as possible.

16. Suggested principle of function equivalent: If there is a legal requirement for possession of tangible movables, that requirement can be met if there is a reliable method to identify a single electronic record as the digital asset and to make that single electronic record subject to control. Control is a de facto ability to dispose of the electronic record exclusively.

V. Principle of Medium Neutrality

17. The legal protection of assets shall be medium neutral. There should not be a property law for digital assets, and another property law for non-digital assets. Similarly, the application of contract law shall be medium neutral. For example, if a contract is recognized as custody agreement, then the law of custody agreement shall apply, whether the object of the agreement is custody of ordinary assets or digital assets.

18. The standard of "property" shall be medium neutral. It will be unfair if a thing without certain feature cannot be recognized as property, but can if it is in digital form. To limit the scope of property is to protect the interests of third parties, the consideration of whether or to what degree a third party shall be affected shall be the same for property in or not in digital form.

19. If the main reason that a digital asset cannot get legal protection is that it is in digital form, basically this can be solved through functional equivalent legislations. For example, the MLETR sets up a set of conditions for ETRs, the qualified ETRs get the legal status of negotiable instruments or documents. The same set of substantive legal rules will apply to both paper based negotiable instruments or documents, and the ETRs. There is no need to formulate another set of substantive legal rules especially for ETRs. By the same logic, the legal rules for different types of non-digital form properties shall apply equally to corresponding types of digital form properties.

20. For some digital assets, it is still disputed on how to determine their nature. For example, in some countries, cryptocurrency is recognized as currency in digital form. But in some other countries, it is recognized as commodity in digital form. Although there are such differences, it is basically agreed that cryptocurrency can correspond to offline properties. If cryptocurrency is deemed to be currency in digital form, then the same rules apply to both legal tender and cryptocurrency. If cryptocurrency is deemed to be commodity, then the legal rules for ordinary tangible movables will apply. For these digital assets, what the law need to do is to formulate a complete functional equivalent rule, that is, to make clear the conditions that an electronic record must meet to get the legal statues of ordinary movables\commercial papers\currency, then the legal rules of ordinary movables\commercial papers\currency will apply. There is no need to formulate new substantive legal rules.

21. The substantive legal rules such as the innocent acquirer rules, the shelter rules or the rules of security rights may be different for different type of properties. For example, under Chinese law, the true owner can take his movables back from an innocent acquirer if his movables were sold by a thief, but he cannot take his currency back in the same situation. It is hard to believe that digital products such as computer software, ETRs and cryptocurrencies shall be subject to the same substantive legal rules just because they are all in digital form.

22. If a digital asset cannot get the legal protection not only because of its digital form, but also because of its nature, and if there are sufficient reasons to protect such kind of digital assets, the law shall make new substantive rules for this kind of digital asset. But then the law shall make it very clear what is the new digital asset that the new rules shall apply. The concepts adopted in business practice and legal concepts are often not completely corresponding to each other. Only by accurately defining what kind of digital assets the legal rules apply, can we evaluate whether the legal rules themselves are reasonable.