Council on General Affairs and Policy – March 2020

Document	Preliminary Document ☒ Information Document ☐	Prel. Doc. 28 of February 2020
Title	Proposal for the Allocation of Resources to Follow Private International Law Implications relating to Developments in the Field of Distributed Ledger Technology, in particular in relation to Financial Technology	
Author	Permanent Bureau (PB)	
Agenda item	III.7.	
Mandate(s)	General role of PB in following PIL developments	
Objective	To invite CGAP to allow some allocation of PB resources to follow private international law implications of Distributed Ledger Technology, in particular in relation to Financial Technology	
Action to be taken	For Approval ☐ For Decision ☒ For Information ☐	
Annexes	n/a	
Related documents	n/a	

I.   Introduction

1.   Distributed ledger technology (DLT) is increasingly seen as a technology solution for daily operations. DLT has massive potential for a wide range of applications, including cryptocurrency and other financial technology (FinTech), Smart Contracts, derivatives, proof of ownership, and asset traceability. Once reserved to the most technology-savvy elite, DLT and its associated applications are becoming mechanisms to increase the operational efficiency and system robustness of many industries.

2.   This short document outlines the impact on private international law (PIL) of recent developments in the field of DLT and blockchain, with a specific focus on FinTech.[1] While by no means comprehensive, it lists some of the seminal conflict of laws issues that have already been identified in relation to the use of DLT. This document invites the Council on General Affairs and Policy (CGAP) to assess whether the PB should allocate resources to follow developments in the field of DLT (in particular as they relate to blockchains) and conflict of laws, with a view to updating CGAP on possible findings in 2021.

3.   This document will first briefly describe some of the key notions and applications relating to DLT, blockchain and FinTech, before discussing the private international law issues pertaining to these technologies.

II.   Key notions

4.   *DLT* combines features of cryptography with the decentralised storing and validation of transactions, hence its name "distributed ledger technology". A *blockchain* is a database that is recorded and updated via DLT, providing a single, immutable, and public record of asset transfers. The data is stored in a series of interlinked blocks, forming a chain of blocks that cannot be altered. As it is decentralized, there may be as many copies of the ledger as there are users. Transactions are archived on all copies of the ledger, and the ledger is constantly synchronizing.

5.   Transfers on a blockchain typically require two unique numbers, a public key and a private key. The public key essentially is an address of the recipient, while the private key functions similar to a PIN. Each transfer is added as a block to the record of previous transfers (therefore "*blockchain*"). The immutability of the ledger ensures that an already transferred asset cannot be spent again ("*double spending problem*"). An asset recorded on the blockchain is known as a *crypto asset*.

6.   *Decentralisation* is a key feature of blockchain technology. The record of transfers is dispersed across multiple internet servers around the world ("*nodes*"), which increases the record's robustness. There are no classic intermediaries such as banks involved. Instead, each transaction is validated by the nodes.

III.   Application of DLT and Blockchain

7.   The decentralisation and distribution of transfers across nodes, and the removal for the need of a trusted third party, allows for transparency and anonymity of transactions, as well as the guarantee that a unit could be securely sent from one node to another without risk of it being copied or falsified.

8.   This means that DLT and blockchain are technologies that can be used in a wide range of applications. Applications that are enabled by DLT and blockchain include:

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a. Cryptocurrencies, which enable users to exchange digital assets;

b. Information storage pertaining to other rights, including the right to claim a service, the right to receive payment or accrued interest, and the proof of ownership of an asset;

c. Asset traceability; and

d. Smart contracts, or the automatic performance of a contract where certain conditions are met, through the use of computer programs implemented on a blockchain that execute a predefined work instruction.

IV. PIL Issues relating to the Use of DLT and Blockchain

9. While DLT and blockchain technology can be applied in many spheres of commercial activity and has already been the subject of significant investment, many PIL issues remain unsolved. Of particular difficulty are those issues that relate to the determination of the applicable law, jurisdiction, and the question of the choice of forum. These issues are further compounded by the fact that DLT and blockchain do not recognise traditional national borders and have global reach.

Law Applicable to Crypto Assets

10. The security of crypto assets may be compromised by being hacked, copied or deleted. Holders of crypto assets may also be the subject of fraud, extortion or blackmail. The massive amount of wealth embodied on blockchains necessitate legal regulation in order to provide private law protection to asset holders. However, it remains challenging to identify the legal system under which such protection is granted. Several legal issues can be distinguished:

a. Legal nature of crypto assets: Can they be the subject of a property right, despite their intangible nature? Are they more akin to financial instruments? Or should they be classified as money, especially cryptocurrencies such as Bitcoin?

b. Proper conflicts rule: Should the *lex rei sitae* principle apply? If so, how could the situs be identified with sufficient legal certainty? Should participants be allowed to choose the law governing their system in line with the principle of party autonomy?

c. Party autonomy: If participants are allowed to choose the law governing their system in line with the principle of party autonomy, for certain types of blockchains, such those with a closed number of participants ("*permissioned systems*"), more questions follow: How is a choice done? Can it be incorporated in the blockchain protocol? What are its effects on third parties?

Law Applicable to Transfers on a Blockchain

11. The transfer of crypto assets raises further questions:

a. Technology vs. contract: What conditions must be met for such a transfer to be legally valid? Is the correct execution of the technological process sufficient? Or must the parties have entered into a specific agreement about the transfer?

b. Applicable law: If a specific agreement about the transfer between the parties is necessary, how will the law applicable to such an agreement be determined? This question is especially challenging, given that a blockchain has contacts around the world and the location (habitual residence) of the parties is usually unknown.

Law Applicable to Transfers Outside a Blockchain

12. Events outside of the blockchain may also raise questions in relation to the determination of applicable law. Questions include:

   a. <u>Succession</u>: What happens after the death of the holder of a crypto asset? Will the crypto asset vest in their heirs or the executor of the trust? How will heirs or executors dispose over the asset if the private key is unknown? Which law applies to these issues?

   b. <u>Insolvency</u>: In practice, private keys are typically stored with an intermediary, such as an exchange or a wallet provider. What will happen in the event of the intermediary's bankruptcy? Will the crypto asset holders be protected in a manner similar to the owners of securities? Or will they be treated as creditors of a sum of money owed? Which law determines their status?

Law Applicable to Smart Contracts

13. Smart Contracts have a potentially wide scope of application, e.g. in the derivatives markets, where they can be used to pay out a certain sum automatically upon the occurrence of a certain event. Smart contracts give rise to a set of questions:

   a. <u>Legal construction</u>: Are smart contracts legally equivalent to a contract? Can a machine-automated execution be understood as an expression of a party's will? Or do smart contracts merely embody a previous contractual agreement between the parties, and/or relate to its execution?

   b. <u>Applicable Law</u>: Depending on the answer to the questions above: Are the existing private international law rules suited for use with smart contracts, or do they need to be adapted?

Law Applicable to Decentralised Autonomous Organisations

14. Decentralised Autonomous Organisations (DAO) are quasi-corporate entities based on the blockchain. Corporate actions, such as voting and the distribution of dividends, are fully automated. The determination of the law governing the DAO raises intricate conflicts problems:

   a. <u>Legal characterisation</u>: Is the DAO a corporation or a contract?

   b. <u>Proper conflicts rule</u>: Should the DAO be governed by the law of incorporation or of its seat of administration? If so, how shall these places be determined? Or could the principle of party autonomy be applied and, if so, how?

Jurisdiction and Choice of Court

15. Other questions also arise in relation to jurisdiction and choice of forum:

   a. <u>Jurisdiction</u>: How will questions of jurisdiction be determined? Which court has competence over disputes relating to crypto assets, smart contracts and the DAO?

   b. <u>Choice of court</u>: Can the parties choose the competent tribunal by a forum selection clause embedded in the blockchain protocol or smart contract? Does, for example, the HCCH 2005 Choice of Court Convention apply in this context?

V.   Proposal to CGAP

16. The use of DLT raises a number of rather complex and difficult PIL questions. There is a clear possibility that State legislators will answer these questions differently, leading to a fragmentation of the PIL rules relating to the use and application of DLT. The effects for the industry would be far-reaching: among others, the efficiency of the blockchain as a global transfer mechanism would be undermined, the position of the holders of crypto assets may be at risk, and judicial conflicts (incl. possible forum shopping) may arise.

17.   Against this background, there may be a need – and maybe a unique opportunity – to avoid such undesirable effects. The emergence of different PIL rules could be preempted before national positions become entrenched. The goal must be to avoid a situation in which diverging legal traditions and concepts will complicate the search for a uniform identification of the applicable law.

18.   To this effect, it may be necessary to develop a set of harmonised PIL rules that could be followed around the world. At this stage, the PB is not in a position to propose specific actions or a specific instrument (*e.g.*, a binding treaty, non-binding principles, or a legislative guide). The PB simply suggests that it use some of its resources to monitor developments in order to assess these matters further, possibly in conjunction with an Experts' Group that CGAP may wish to establish to this effect.

19.   Furthermore, CGAP may wish that the PB explore further cooperation with other organisations, in particular UNCITRAL and / or UNIDROIT, on these matters and the possibility of developing any synergies. Subject to available resources and the overall work programme of the HCCH, CGAP may wish to invite the PB to allocate resources to monitor developments in this field, with a view to reporting back to CGAP on any possible findings and perhaps submitting specific suggestions for further discussions.