Introduction to the Symposium on Blockchain Regulation and Governance

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While very few lawyers would be able to explain how blockchain technology works, from 2017 to 2019 the number of legal scholars interested in the legal implications of blockchain grew exponentially. Multiple startups developed proof-of-concept applications of blockchain in different fields and several governments investigated the possibility to use blockchain for their services. For example, in the Netherlands, the Ministry of Education has been exploring whether it could be possible to use this technology to help students study abroad and avoid the complex and bureaucratic task of legalising diplomas. Blockchain has also been piloted as the support of a novel form of online voting in the United States (West Virginia) and it has been suggested in many other countries as an instrumental technology for combatting corruption and counting mistakes in elections.

In simple terms, blockchain is a technology based on peer-to-peer validation which does not have a central authority and helps safeguard an immutable record of data. Each block is secured and bound according to cryptographic principles. The absence of a central authority and the limited transaction costs of blockchain are two of the key reasons why its supporters promote this technology as an instrument for the democratisation of power.

Invented in 2008 by Satoshi Nakamoto, blockchain has become a symbol of resistance against platforms and central authorities, particularly after the financial crisis. Cryptocurrencies and in particular Bitcoin, remain the most famous and successful application of blockchain. Blockchain technology has changed the financial sector, allowed individuals to become millionaires overnight with bitcoins, but it is also heavily distrusted by financial regulators. Indeed, blockchain has not remained immune to criticism. In the last two years, many sceptics have argued that this technology has not delivered what the blockchain evangelists had promised. In a way, this is a good sign, as many supporters of blockchain technology promised a blockchain-world without any intermediaries, yet without discussing the risks of abolishing intermediation.

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Despite the potential of blockchain and its numerous applications, many questions still remain unanswered: how does blockchain technology fit into existing legal frameworks? What changes do smart contracts bring into national and European private law? Does blockchain enhance the trust of citizens in the technology used by government? Is blockchain compatible with existing data protection regulations? Does blockchain overcome the security challenges of e-voting? In November 2018, the University of Groningen in the Netherlands gathered a number of experts on law, policy, and technology to discuss the regulation and governance of blockchain in a two-day conference. In this context, scholars with different backgrounds discussed the potential of distributed ledger-technologies to address the trust, transparency, and bureaucracy challenges that governmental institutions currently face. This issue includes a selected number of contributions presented at this conference.

This issue opens with an article by Helen Eenmaa-Dimitrieva and Maria Kessel-Schmidt on how smart contracts are creating new markets and what the regulatory implications of these new automated forms of contracting are. The second article delves into the strongest fields of application of blockchain technology: the financial sector. Alexis Collombi, Primavera De Filippi and Klara Sok discuss the regulation of blockchain technology from a principle-based approach. The third article, by Charlotte Ducuing, addresses one of the key issues of the debate on the regulation on blockchain in the context of decentralised applications (“dapps”) (eg CryptoKitties): the promise of “trustless trust”. In her article, decentralisation is presented as one of the main principles of blockchain that can also give rise to abuses. This article analyses the role of law in building meta-trust in dapps.

The fourth article, by Desmond Johnson, analyses the use of blockchain in the context of elections both in the United States and in the EU from a constitutional law perspective. Inspired by some of the most problematic issues of the US electoral system, Johnson inquires whether the use of blockchain could help in securing the right to vote, overcoming the deficiencies of online and offline voting, and promoting democratic ideals.

The final article of this issue, by David Galindo and Karen Yeung, is dedicated to the analysis of blockchain governance. In their article, Galindo and Yeung argue that it is, in practice, impossible for public blockchains to govern successfully on the grounds of exclusive reliance on their technical code. Moreover, this article questions the scalability of public blockchain systems that operate without a legitimate and effective internal governance based on formalised and effective social mechanisms. This article also demonstrates why a public blockchain that seeks to rely exclusively on software code to govern its internal operations, may fail to provide satisfactory and enduring foundations for the governance of communities at scale. This special issue offers different perspectives on a technology that has sparked and will continue to spark great interest in the risk regulation literature.