


## Chapter 24

# Regulatory Challenges and Opportunities in Web 3: Navigating the Decentralized Landscape

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### **ABSTRACT**

*The novel use of distributed ledger technology (DLT) in the financial sector poses considerable regulatory challenges, such as anonymity, technology neutrality, interconnectedness within the market of virtual assets, as well as with the traditional financial system and new legal risks to regulators around the globe. At the same time, the novelty of DLT for financial uses embodies also significant potential benefits to the financial sector, like innovation, inclusion, and competition. This chapter analyses these challenges and opportunities in detail and subsequently reviews possible regulatory responses at the current stage of virtual asset revolution and financial services innovation. Given the ongoing rapid development in the DLT financial services sphere, the analysis identifies the risk-based regulatory approach as potentially the most universal approach for national/regional regulators with advantages of high flexibility and resource efficiency.*

### **INTRODUCTION**

Since at least the mid-2010s, the development of web 3 and various virtual assets has been on the rise and in the eye of the public. Public attention was very much focused on the novelty of the new distributed ledger technology (DLT) that virtual assets are based on (Arner, et al., 2020). The use of this new DLT enables faster, cheaper, and safer transactions through its encrypted, decentralized network. The potential elimination of intermediaries provides many more advantages, such as financial inclusion, crowdsourcing, new business models and more.

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### ***Regulatory Challenges and Opportunities in Web 3***

However, one decade forward, it turns out that despite the decentralized origin, in practice, many applications are indeed involving intermediaries (Haentjens, et al., 2022; Anker-Sørensen & Zetzsche, 2021), resulting in familiar financial regulatory approaches like for conventional payments or financial products (Blandin, et. al., 2019). At the same time, virtual assets and transactions raise new questions of ownership and possession that challenge traditional legal understandings and impact regulatory practice and oversight.

Furthermore, the borderless nature of web 3 and global interconnections pose additional challenges of jurisdiction and applicable law to regulators and courts, making enforcement of rights and titles increasingly difficult. Consequently, leading to prevailing uncertainty among market participants.

Especially the past two years have been dominated by negative headlines, largely about stablecoins and failures of crypto exchanges. While Bitcoin and Ethereum are said to be the first generation of virtual tokens, stablecoins were often considered as the even better versions, being pegged to fiat money or algorithms, and hence uniting the novel technology with trusted and familiar elements. However, the crash of TerraUSD and its sister currency Luna has revealed that the underlying collateral, structures, and algorithms are not necessarily subject to comprehensive supervision. Instead, inadequate disclosure rules and a lack of mandatory audits for stablecoins pose potential risks of a run (Adams & Ibert, 2022), as well as to consumer protection and financial stability. Consequently, the Terra Luna crash and the failures of lending giants like Celsius Network and Voyager, as well as the collapse of the FTX group, led to concerns voiced by the public about the lack of regulatory supervision, investor protection and clear legal guidance; leading to an escalation of public calls for regulation (Burroughes, 2022). As such, there appears to be a momentum to implement and improve regulation in the virtual asset infrastructure globally.

Due to the high speed of technological developments, regulation and governance might be outdated once they enter into force. This rapidity reinforces the need to regulate technology neutrally. Accordingly, regulators globally are faced with the task of accelerating the regulatory process and incorporate innovative and flexible tools to address the risks involved in the web 3 market through functional approaches.

This chapter features opportunities and challenges faced by regulators domestically, regionally, and internationally and reviews new developments in global principles and standards. These include, on the one hand, opportunities, such as:

- Enabling innovation
- Improving inclusion
- Enhancing competition

As well as, on the other hand, challenges, such as:

- Anonymity
- Technology neutrality
- Interconnectedness
- Legal risks.

Furthermore, this chapter aims to combine the theoretical findings with practice examples of virtual asset regulation in Singapore, Switzerland, the European Union, and the United States. Accordingly, the chapter includes a display of regulatory approaches such as risk-based regulation, agile regulation, and

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