

DLTs' Sustainability in the Financial Sector

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This Roundtable¹ was held as part of the Point Zero Forum 2023 in Switzerland, hosted by the Bank of Italy and moderated by Alessandra Perrazzelli, Deputy Governor. The session brought together 12 key policy-makers, officials, academics and industry participants from the U.S. Commodity Futures Trading Commission, the Bank for International Settlements, the European Parliament and Central Bank, the DLT Science Foundation, and other financial institutions and private organizations.



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Summary

The application of Distributed Ledger Technology (DLT) to banking, financial, insurance and payment services has potential advantages and disadvantages. The roundtable focused on the implications relating to the sustainability of DLT, with special reference to ESG profiles, the robustness of the business models, financial stability, consumer protection, interoperability, mechanisms for settlement in central bank money and payments' security and data privacy.

New technologies, especially when their application is widespread and impactful, as in the financial sector, provide opportunities and pose risks that need to be carefully balanced with their benefits.

While proper technical designs and set-ups are crucial to addressing challenges – as in network scalability, access to services, processing speed - and to reducing security risks, from a policy perspective, it is essential to increase fact-based knowledge and training to fulfil the technology's potential in a safe way for all stakeholders. Attention has increasingly been devoted to the risks associated with activities and related policy concerns over service provision, including prudential considerations, financial stability and consumer protection.

Participants resolved that policymakers and industry should coordinate and collaborate on a global level to address legal and regulatory issues relating to the use of decentralized technology. Several initiatives can be adopted, to be assessed later on.



1. Promoting DLT Sustainability

Technological and Legal Considerations

DLTs are increasingly proposed as a technological solution suitable for many business scenarios, in part due to their inherent characteristics of immutability and auditability. In 2021, global spending on DLT reached about US\$6.6 billion and it will continue to grow, reaching almost US\$19 billion by 2024.²

Alongside this, sustainability has become a pressing issue across all industries, including the technology sector, bearing in mind not only climate change, but also stability, supervision, regulation, inclusiveness and efficiency.

A. The Environmental, Social and Governance (ESG) Agenda

ESG priorities are increasingly shaping the development of new technologies. The global green technology and sustainability market is also forecast to grow. In 2021, the size of this market amounted to roughly US\$35.5 billion and it is expected to increase at a compound annual growth rate of 21.6 per cent from 2022 to 2030.³

In this regard, ESG concerns are evident in many frameworks that seek to guide and control the evolution of emerging technologies. The EU Markets in Crypto-Assets Regulation (MiCA) requires disclosure of environmental sustainability factors, while the European Securities and Markets Authority (ESMA) is going to publish regulatory technical standards to clarify these requirements.

The ubiquitous nature of ESG considerations can make them difficult to appropriately navigate when developing and using certain technologies. Participants highlighted that data standards and quality still remains a key issue,

and some authorities have introduced codes of conduct to encourage the development of consistent standards or accreditations in the industry and to move towards a common taxonomy.

B. Technological and legal interoperability

DLT is still a foundational technology that will take time to reveal its full potential in transforming socioeconomic infrastructures. There are currently more than 2,000 blockchains, with a consequent fragmentation that could weaken the efficiency and competitiveness of the market and negatively affect the sustainability of DLTs. Relying on technological evolution for the standardization of tokenized assets and infrastructures would likely need more time, while the composition of the smart contract 'stack' will inevitably influence how participants interact in a legal context and the extent to which they rely on them to establish their legal relationships.

National and cross-jurisdiction experiments, leveraging on DLTs, have been launched, involving all the players in the ecosystem, both public and private. In the meantime, private players need to assess the risks, to design safe services and products with a clear utility value for customers, and to develop viable and resilient business models. Significant progress has been made in creating bridging platforms that perform a translation function, thus facilitating communication across different platforms.

In this regard, participants also noted the importance of understanding the sustainability profiles of different DLT protocols, focusing on ESG considerations and considering their disruptive impact in some areas, such as cross-border payments. There should be clear regulatory support for industry participants and the creation of ample experimental space.

The authorities are aware of this scenario, and in recent years have taken a keen interest in DLT experimentations, using tools and powers envisaging the design of 'hybrid solutions', which will be able to interconnect market DLT platforms with central banks' systems.



2. Optimal Consistency in Regulation

Evolving traditional tools and roles of regulatory authorities

Participants discussed ways to encourage optimal consistency in regulation, in accordance with the principle of ‘same activities, same risks, same regulatory outcomes’ as set out by the International Organization of Securities Commissions (IOSCO).

A. The New Era of SupTech

The spread of DLTs in the financial sector enables ‘disintermediated’ frameworks to be set up, such as smart contracts, which lie outside the traditional regulatory and supervisory scope. In this regard, authorities should utilize innovative technologies to support supervisory oversight and provide digitalized reporting and regulatory processes (SupTech).

As regards tokens traded on DLTs, adequate solutions for payment settlement are needed to achieve the level of safety and sustainability that is typical of traditional ones, with a view to preserving efficiency and avoiding fragmentation. In this regard, central banks should play a strategic role through centralized market infrastructures, as in the development of standards, regulation and tools (e.g. CBDCs).

B. Public-private partnerships

New models for collaboration, outside the administrative settings, are pivotal for defining the best practices to be offered as a reference point to market operators, including technology intermediaries and algorithm developers.

It is well-known that the regulatory landscape varies across jurisdictions and continues to evolve as the technology matures. Authorities need to collaborate with all the stakeholders, in order to establish standards and best practices for sustainable DLT implementation.

Authorities can allocate resources to research and development initiatives focused on proposing sustainable DLT solutions. Moreover, they should establish ruled-based mechanisms to monitor compliance with sustainability regulations and enforce proportionate penalties for non-compliance.

An effective collaborative approach between authorities and private operators is represented by the introduction of innovation hubs, which provide a new paradigm to allow the traditional role of regulator/supervisor to evolve into an innovative and more comprehensive one. Participants noted that innovation centres can play a

part in exploring solutions to enhance liquidity, such as automated market making in cross-border CBDC experiments focused on leveraging technology to improve liquidity, trading, and settlement processes in financial markets.

C. Market conduct considerations

With regard to crypto-asset markets, authorities are considering prudential risks, financial stability and consumer protection, in addition to the reinforcement of measures to combat money laundering and the financing of terrorism. Closer coordination between securities, banking and other sectors would be needed in order to analyse the technological underpinnings of DLT and to understand their implications for market integrity.

Given the global nature and certain unique characteristics of the crypto-asset market, the application of robust regulatory standards alongside international regulatory cooperation, balancing global approach with regional needs, will be pivotal to ensure that useful innovations can be made without the risk of regulatory arbitrage and lower standards of investor protection and market integrity.

D. Educational Initiatives

Authorities can also play a crucial role in the education and awareness of customers, by educating the public, businesses and policymakers about the potential environmental and social benefits of DLT. This can include organizing workshops, conferences and training programmes to raise awareness.

3. Steps Forward

The roundtable delved into DLT's sustainability, considering both the technology perspective and the regulatory one. In this regard, a holistic and collaborative strategy may be defined. The ecosystem should adopt an approach aimed at supporting the early implementation of promising technologies and at establishing global standards for sustainable DLT. An adequate and proportionate regulatory framework is needed to address the risks posed by the technology.

Authorities and policymakers should update tools and approaches, dialoguing with the ecosystem to gain some insights into the main market trends. They can also play a crucial role in the education and the awareness of customers, about the potential environmental and social benefits of DLT.

Policy actions need to be coordinated at international level.



End notes

1. This Roundtable was conducted under Chatham House rules and so the comments are unattributed. The opinions expressed herein are the personal views of the Roundtable participants and do not necessarily reflect the official views of the hosts or their respective organizations.
2. Worldwide spending on blockchain solutions from 2017 to 2024 (in billions of U.S. dollars), IDC, April 19, 2021. Available: <https://www.statista.com/statistics/800426/worldwide-blockchain-solutions-spending/>
3. Green technology and sustainability market size worldwide from 2021 to 2030 (in billions of U.S. dollars), Precedence Research, May 2, 2022. Available: <https://www.statista.com/statistics/1319996/green-technology-and-sustainability-market-size-worldwide/>

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