Economics

UDC 336.221:004.738.5

Strutovska Nataliia
Co-Founder & Managing Partner, Omega Tax Group - 1, Inc
(Jacksonville, FL, USA)

LEGAL CHALLENGES AND APPROACHES TO TAXATION OF DIGITAL ASSET TRANSACTIONS

Summary. *The article examines the legal challenges and approaches to the taxation of digital asset transactions in the context of the global digital economy. Attention is focused on the absence of a uniform legal definition of digital assets, the risks of regulatory arbitrage, and the limited administrative capacity of national institutions under conditions of mass market entry. A comparative analysis of European unification through the MiCA regulation, the fragmented U.S. model, and polar Asian scenarios is provided, along with an assessment of pilot projects in the United Kingdom and Estonia on the use of blockchain in tax administration.*

Key words: *digital assets, cryptocurrency, taxation, regulatory arbitrage, blockchain, tax administration, harmonization.*

Introduction. The taxation of operations with digital assets is one of the key challenges in modern financial law. The growing number of cryptocurrencies and tokenized instruments intensifies the need for a unified approach to their legal and tax classification. In various jurisdictions, digital assets are treated as property, commodities, currency, or financial instruments [2], which complicates the formation of a stable tax system and creates risks of arbitrage.

In the context of globalized financial flows and the rapid development of crypto markets, traditional taxation models are losing their effectiveness.

Differences in the definition and accounting of digital assets increase uncertainty for businesses and investors, raise administrative costs, and complicate international cooperation [7]. An additional challenge is associated with the integration of blockchain into tax administration. While it provides transparency and automation, it also reveals new regulatory gaps.

The practices of recent years demonstrate persistent risks of tax evasion and money laundering through digital assets. The mass registration of crypto companies in countries with limited resources, as seen in Estonia, confirms the threat of "regulatory arbitrage" [9]. Furthermore, the lack of coordination between international organizations and national regulators hinders the development of universal tax standards.

The purpose of this study is to conduct a comprehensive analysis of the legal challenges and approaches to the taxation of digital assets, identify the strengths and weaknesses of existing models, and determine the directions for harmonizing national and international practices in the context of the digitalizing economy.

Materials and Methods. The methodological basis of this study is founded on the analysis of contemporary publications on the taxation of digital assets, their legal status, and their role in the financial system. An analytical approach was employed without the use of empirical data.

The study by Baer K. [1] systematized key aspects of cryptocurrency taxation, while Crumbley D. [2] highlighted gaps in the accounting and definition of these assets. Cui J. [3] showed the impact of cryptocurrency exposure on tax evasion in the United States, and Hernández Sánchez Á. [4] presented data on the connection between tax illiteracy and non-compliance in Spain. The bibliometric analysis by Lazea G.-I. [5] helped identify major trends and institutional gaps. The legal aspects of ownership were explored by Lee L. [6], and Louvieris P. [7] substantiated the potential for applying blockchain and CBDCs in tax administration. The work of Pelaez-Repiso A. [8] revealed the role of tax

regulation for innovation, while Ylönen M. [9] examined the phenomenon of "secrecy-seeking capital" as a tool for tax avoidance.

Overall, the methodological foundation covers three areas: analysis of the legal nature of digital assets, assessment of their economic and institutional consequences, and the prospects of using digital technologies to improve administrative efficiency. This approach allows for the identification of the strengths and weaknesses of existing models and the determination of their applicability frameworks.

Results. One of the key challenges in the contemporary regulation of digital assets is the absence of a unified approach to their legal nature. The study by Lee L. [6] shows that in different jurisdictions, cryptocurrencies and tokens are classified as property, currency, commodities, or financial instruments. Such diversity complicates tax administration and creates legal uncertainty for market participants.

The European Union has taken a step towards unifying regulation by adopting the MiCA Regulation, where a crypto-asset is considered a digital representation of value or a right, subject to special taxation regimes. At the same time, the United Kingdom treats digital assets as a type of property, having established this in the case law of the UKJT and judicial decisions. In the United States, the approach is fragmented. A digital asset may fall under the jurisdiction of the SEC as a security if the Howey test is applicable, or under the control of the CFTC as a commodity. China, in contrast, has opted for a strict ban on cryptocurrency transactions, leaving only the digital yuan in the legal field. Japan defines cryptocurrencies as a means of settlement, applying a capital gains tax regime [6]. Table 1 examines how different legal regimes classify digital assets and determine their tax status.

Table 1

Legal definitions and tax approaches to digital assets in different jurisdictions

Jurisdiction	Main definition	Key legal acts / decisions	Tax approach
EU (MiCA)	Cryptoasset as a digital representation of value or right	Regulation (EU) 2023/1114; Art. 143 transitional measures	VAT and income tax depending on asset status
United Kingdom	Cryptoasset as property	UKJT (2019); AA v Persons Unknown (2019); HMRC guidance	Taxed as property
USA	Depending on Howey test (SEC) or commodity status (CFTC)	SEC, CFTC acts; IRS Notice 2014-21	Taxed as property
China	Complete ban on crypto transactions (2021)	PBoC notices 2017–2021	Tax not applied, except CBDC
Japan	Cryptoasset as a means of settlement	PSA (2017); Mt.Gox case	Capital gains tax

Source: compiled by the author based on the source: [6]

The comparative analysis presented in the table confirms that there is no universal legal definition of digital assets. Each jurisdiction chooses a strategy based on its own economic interests and the development level of its financial market. For example, the implementation of MiCA in the EU is aimed at harmonizing rules and reducing regulatory fragmentation, whereas the US maintains a model of competing agencies, which reflects the institutional peculiarities of its financial system. These differences in legal constructs directly affect the tax status of digital assets [6]. Where cryptocurrency is treated as property, a capital gains tax is applied, and when it is recognized as a commodity, other fiscal mechanisms are possible. In countries with strict restrictions, such as China, taxation is effectively reduced to zero, illustrating a radical method of eliminating risks.

The identified differences limit the cross-border applicability of tax norms. Baer K. [1] emphasizes that disparate approaches hinder the formation of a stable international system, and Ylönen M. [9] shows how lenient jurisdictions are used for tax avoidance. This confirms that the global system is not yet ready for a unified mechanism of asset classification, although the EU's experience demonstrates a trend toward unification. The use of blockchain in tax administration is considered a promising direction. According to Louvieris P. [7], such technologies increase transparency and reduce costs but face challenges of scalability, standardization, and high integration costs.

The most indicative initiatives are related to pilots in the United Kingdom and Estonia. The British practice tested "request-to-pay" mechanisms, split VAT, and "smart warrants" [7], while the Estonian project was focused on comprehensive control and combating money laundering through permissioned ledgers with identification procedures. Table 2 examines how these pilots were implemented and what results were achieved during their practical application.

Table 2

Blockchain-based experiments in tax regulation

Project	Technological element	Legal aim	Results
R3 Corda + ISO 20022 (UK)	Request-to-Pay, enhanced data	VAT automation	Successful integration
Split-VAT (UK)	Automatic payment splitting	Combating VAT evasion	High implementation costs
Smart warrants (UK)	Smart contracts	Tracking earmarked use	Works at prototype stage
Estonian pilot	Permissioned-DLT, KYC	AML + tax control	Licensing companies, risks of swarming effect

Source: compiled by the author based on the source: [7]

The results of the pilots allow for several observations. VAT automation reduced the administrative burden but proved to be costly. "Smart warrants"

confirmed the potential for earmarked spending but remain at the prototype stage. The Estonian project demonstrated the scalability of permissioned ledgers and an increase in the number of licensed companies but revealed a "swarming effect" and an overload of supervision. A comparison with the British initiatives shows that the effectiveness of digital tools depends on the combination of technology and administrative capacity. In a developed infrastructure, they reduce the burden; in weak systems, they increase vulnerabilities.

These findings confirm the potential of blockchain in tax administration but also point to integration barriers. Success is possible only with international coordination, and Pelaez-Repiso A. [8] emphasizes the need for legal recognition of smart contracts and standardization of procedures. Overall, implementation requires addressing issues of compatibility, high costs, and the unification of legal norms.

Discussion. The phenomenon of "regulatory arbitrage" arises where differences in legal and tax regimes allow companies to choose the most advantageous jurisdictions. According to Crumbley D. [2], the absence of a single definition for digital assets leads to contradictions in their accounting and creates space for circumventing rules. The ambiguity of categories enhances tax evasion, and a high level of exposure to cryptocurrencies is associated with an increase in aggressive tax planning. This is particularly evident at the corporate level. Companies with large crypto holdings are more likely to reduce their liabilities, while tax ignorance and weak supervision create parallel evasion practices [4].

Estonia has become an example of the consequences of liberal licensing. The ease of registration with limited oversight led to the concentration of more than half of the world's crypto providers [9], revealing the vulnerability of national systems to global "fugitive capital." Table 3 presents quantitative data reflecting the scale and consequences of the mass influx of participants.

Table 3

Scale and consequences of ring-fencing and swarming practices in Estonia

Indicator	Value / period
Suspicious transactions Danske Bank	>€200 billion (2007–2015)
Suspicious transactions Swedbank	≈€135 billion (2008–2018)
Share of non-residents in Estonian banking	From ~20% to <7%
Licensed crypto-providers	Peak ≈1300; >50% of world registered in Estonia
Turnover of crypto-companies	€0.59 billion (2018) → €20.3 billion (2020–2021)
Companies by addresses	2/3 in 4 offices
STR (suspicious transaction reports)	~75% of companies did not submit
Strict measures (2020–2022)	KYC, ban on anonymous accounts, capital ≥€350,000

Source: compiled by the author based on the source: [9]

The data in the table confirm the systemic flaws of the former Estonian model. Hundreds of billions of euros in suspicious transactions through the largest banks, a high share of non-residents, and a sharp increase in the number of crypto companies with minimal actual activity demonstrate that the regulatory burden exceeded the real capacities of national institutions. The bibliometric analysis by Lazea G.-I. [5] shows that the problem of regulatory arbitrage is considered global and interdisciplinary. Thus, the Estonian case demonstrates that a liberal licensing model without proper oversight turns into a concentration point for global "fugitive capital" [9]. The scale of suspicious transactions and the proportion of fictitious companies indicate that the absence of supervisory resources creates a parallel financial system. This data reinforces the conclusion that regulatory stability is determined not only by formal norms but also by the state's ability to implement them in practice [4]. It is emphasized that this can be overcome only

through the harmonization of national rules and the formation of stable international standards.

International regulation of digital assets is being formed at the intersection of different institutional traditions, leading to multiple models and complicating the development of a unified framework. A comparison of jurisdictions reveals differences and potential areas for harmonization. In the EU, tax regulation is gradually being unified around the MiCA regulation, which establishes common definitions and procedures, thereby reducing the risks of arbitrage [1]. However, the tax aspect remains tied to traditional categories of profit and VAT. In the US, by contrast, multi-level uncertainty persists. The status of an asset depends on the supervisory body (SEC for securities, CFTC for commodities), which leads to conflicts and encourages corporate tax planning strategies. Asian approaches demonstrate polarity. China applies a complete ban, while Japan is gradually integrating cryptocurrencies as a means of settlement [6].

The prospects for harmonization are linked to the initiatives of global institutions. Louvieris P. [7] notes the potential of using distributed ledgers in central bank infrastructure to enhance control, but Pelaez-Repiso A. [8] emphasizes that without unified legal definitions, technological solutions cannot eliminate fragmentation. According to Ylönen M. [9], FATF and OECD standards set a general framework, but the limited resources of states create "regulatory islands."

Thus, harmonization remains more of a goal than a reality, and the stability of the global model depends on the ability of international institutions to align legal norms with the capacities of national administrations.

Conclusion. The conducted research has identified a key problem: the absence of a unified understanding of the legal nature of digital assets, which has become the main source of uncertainty in taxation. Multiple interpretations ranging from property to currency or a financial instrument hinder the creation of a universal basis.

Practice shows that the effectiveness of digital solutions depends on institutional capacity. Developed systems are capable of integrating blockchain and increasing transparency, whereas weak supervision only enhances vulnerabilities.

Regulatory arbitrage has become a persistent phenomenon, allowing companies to move their operations to more lenient jurisdictions. This problem extends beyond the national level and requires international coordination.

The prospects for harmonization remain a task for the future. Despite initiatives and initial steps towards unification, the global taxation architecture is being formed amidst a multitude of competing regimes. The stability of the future model will depend on the uniformity of legal classification, the institutional ability of states to ensure compliance with norms, and the development of international coordination mechanisms.

References

1. Baer, K., De Mooij, R., Hebous, S., & Keen, M. (2023). Taxing cryptocurrencies. Oxford Review of Economic Policy, 39(3), 478–497. https://doi.org/10.1093/oxrep/grad035

2. Crumbley, D. L., Ariail, D. L., & Khayati, A. (2024). How should cryptocurrencies be defined and reported? An exploratory study of accounting professor opinions. Journal of Risk and Financial Management, 17(1), 3. https://doi.org/10.3390/jrfm17010003

3. Cui, J., Gao, L., & Wang, Y. (2024). The impact of cryptocurrency exposure on corporate tax avoidance among US listed companies. Journal of Risk and Financial Management, 17(11), 488. https://doi.org/10.3390/jrfm17110488

4. Hernández Sánchez, Á., Sastre-Hernández, B. M., Jorge-Vazquez, J., & Náñez Alonso, S. L. (2024). Cryptocurrencies, tax ignorance and tax noncompliance in direct taxation: Spanish empirical evidence. Economies, 12(3), 62. https://doi.org/10.3390/economies12030062

5. Lazea, G.-I., Balea-Stanciu, M.-R., Bunget, O.-C., Sumănaru, A.-D., & Coraș, A.-M. G. (2025). Cryptocurrency taxation: A bibliometric analysis and emerging trends. International Journal of Financial Studies, 13(1), 37. https://doi.org/10.3390/ijfs13010037

6. Lee, L. (2024). Examining the legal status of digital assets as property: A comparative analysis of jurisdictional approaches [Preprint]. arXiv. https://doi.org/10.48550/arXiv.2406.15391

7. Louvieris, P., Ioannou, G., & White, G. (2024). Making tax smart: Feasibility of distributed ledger technology for building tax compliance functionality to central bank digital currency. Applied System Innovation, 7(6), 106. https://doi.org/10.3390/asi7060106

8. Pelaez-Repiso, A., Sánchez-Núñez, P., & García Cavente, Y. (2021). Tax regulation on blockchain and cryptocurrency: The implications for open innovation. Journal of Open Innovation: Technology, Market, and Complexity, 7(1), 98. https://doi.org/10.3390/joitmc7010098

9. Ylönen, M., Raudla, R., & Babic, M. (2023). From tax havens to cryptocurrencies: Secrecy-seeking capital in the global economy. Review of International Political Economy, 31(2), 563–588. https://doi.org/10.1080/09692290.2023.2232392