

Tkachev Mikhail Mikhailovic

student

Financial University under the Government of the Russian Federation

REGULATORY CHALLENGES IN THE USE OF DIGITAL FINANCIAL ASSETS FOR CROSS-BORDER SETTLEMENTS

***Abstract:** The expanding use of digital financial assets (DFAs) in international payments runs into regulatory barriers that remain unresolved at both national and international levels. This paper identifies four principal obstacles — legal classification of DFAs, AML/CFT compliance requirements, CBDC interoperability constraints, and sanctions enforcement — and examines them through a comparative analysis of Russia, the EU, the United States, and China. The findings reveal deep regulatory fragmentation that prevents DFA-based settlement infrastructure from scaling and inform three harmonization directions: technical standards, normative instruments, and mutual recognition mechanisms.*

***Keywords:** digital financial assets, cross-border settlements, CBDC, stablecoin, AML/CFT, regulatory arbitrage, distributed ledger technology.*

Ткачев М.М.

студент

Финансовый университет при Правительстве Российской Федерации,

Россия, г. Москва

РЕГУЛЯТОРНЫЕ ПРОБЛЕМЫ ИСПОЛЬЗОВАНИЯ ЦИФРОВЫХ ФИНАНСОВЫХ АКТИВОВ В ТРАНСГРАНИЧНЫХ РАСЧЁТАХ

***Аннотация:** Расширение практики применения цифровых финансовых активов (ЦФА) в международных расчётах сопряжено с регуляторными барьерами, не получившими системного решения ни на национальном, ни на международном уровне. В статье выявлены и охарактеризованы четыре ключевых барьера: правовая классификация ЦФА, требования ПОД/ФТ, совместимость ЦВЦБ и санкционный комплаенс. Сравнительный анализ подходов России, ЕС, США и Китая выявляет устойчивую регуляторную фрагментацию. Сформулированы три направления гармонизации: технические стандарты, нормативные инструменты и взаимное признание.*

***Ключевые слова:** цифровые финансовые активы, трансграничные расчёты, ЦВЦБ, стейблкоин, ПОД/ФТ, регуляторный арбитраж, технология распределённых реестров.*

Introduction

Cross-border payment infrastructure has changed remarkably little despite the broader digitalization of finance. The correspondent banking model, which routes international transfers through chains of intermediary banks, delivers settlement at costs that the Bank for International Settlements estimates at over 6% per retail transaction — a figure that is difficult to justify in an environment where domestic payments are increasingly instant and cheap¹. Digital financial assets, with their capacity for programmable settlement and near-real-time finality, represent a credible structural alternative. Pilot projects, including the BIS Innovation Hub's multi-CBDC Project mBridge, have demonstrated technical feasibility; what remains unresolved is the regulatory dimension.

The core problem is this: a cross-border DFA payment must operate within multiple national legal frameworks simultaneously, and those

¹ Bank for International Settlements. Annual Economic Report 2023: Towards a Blueprint for a Future Monetary System. — Basel

frameworks are, at present, inconsistent with one another. Classification of the same instrument differs across jurisdictions; AML/CFT compliance obligations are not harmonized; CBDC architectures are technically incompatible; and sanctions regimes create liability exposure that is difficult to manage in decentralized networks. The purpose of this paper is to systematize these barriers and identify directions for their resolution — a question that is central to the author's master's thesis on the formation of an international DFA-based settlement system.

Methods and Materials

The study applies comparative legal analysis, a systems approach, and synthesis. Primary sources include Russia's Federal Law No. 259-FZ, the EU's MiCA Regulation, FATF Recommendation 16 and its implementation guidance, FSB recommendations on global stablecoins, and OFAC enforcement materials. These are supplemented by BIS research, central bank concept documents, and peer-reviewed journal articles. Four jurisdictions — Russia, the EU, the United States, and China — were selected because they represent the dominant regulatory poles and together account for the majority of global cross-border payment flows.

Analysis and results

1. Legal Classification of Digital Financial Assets

No internationally agreed definition of a digital financial asset exists. The same instrument may be treated as a security, a commodity, foreign currency, or a novel property right depending on the jurisdiction, with entirely different regulatory consequences in each case.

Russia's Federal Law No. 259-FZ classifies DFAs as digital rights but prohibits their use as a means of payment on Russian territory². The result is an

² Federal Law of the Russian Federation No. 259-FZ of 31 July 2020 «On Digital Financial Assets, Digital Currency and on Amendments to Certain Legislative Acts of the Russian Federation»

internal contradiction: the legal infrastructure for issuing and trading DFAs is in place, while their most commercially significant application is blocked. Exceptions for foreign trade transactions exist but remain narrowly and imprecisely defined.

The EU's MiCA Regulation, fully applicable since 2024, introduced the most comprehensive taxonomy to date, distinguishing asset-referenced tokens (ARTs), e-money tokens (EMTs), and other crypto-assets³. MiCA provides legal clarity within the Single Market but does not address the cross-border layer, leaving the most challenging dimension of DFA-based payments essentially untreated.

In the United States, the SEC applies the Howey test to claim that many tokens are securities, while the CFTC asserts jurisdiction over tokens as commodities. This unresolved inter-agency contest, conducted without comprehensive legislation, leaves payment-service operators in a state of persistent legal uncertainty.

2. AML/CFT Compliance and the Travel Rule

FATF Recommendation 16 extends the Travel Rule to virtual asset service providers, requiring them to transmit originator and beneficiary information on cross-border transfers above USD/EUR 1,000⁴. In practice, a DFA payment may transit multiple protocols and wallets operated by different VASPs in different countries, none of which share a common messaging standard. Competing proprietary solutions — TRP, TRISA, OpenVASP — remain mutually incompatible in many configurations. The uneven pace of FATF implementation across jurisdictions compounds this: during transitional

³ Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets (MiCA)

⁴ Financial Action Task Force. Updated Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers

periods, compliant operators bear asymmetric costs while non-compliant ones face no equivalent burden, a dynamic that Zetzsche et al. call the 'sunrise issue'⁵.

3. CBDC Interoperability and Monetary Sovereignty

Over 130 countries are currently researching or piloting central bank digital currencies. As these projects mature, the question of cross-border interoperability becomes operational. The BIS Innovation Hub distinguishes three models: compatibility through common standards, interlinking through a shared interface, and a single multi-central-bank platform [1, p. 47]. Project mBridge, involving the BIS and the central banks of China, Hong Kong, Thailand, and the UAE, is the most advanced instantiation of the interlinking model but remains at the pilot stage. Technical compatibility is only part of the challenge: any interoperability arrangement must also resolve questions of data governance, seigniorage, and the impact of cross-border CBDC use on domestic monetary policy — issues that are politically sensitive and difficult to negotiate multilaterally.

4. Sanctions Compliance and Extraterritorial Enforcement

Sanctions regimes administered by OFAC and the EU intersect with DFA-based payments in ways that have no direct precedent in traditional correspondent banking. OFAC's 2022 designation of the Tornado Cash smart contract protocol — not a company or individual, but open-source code — as a Specially Designated National demonstrated that technical infrastructure can itself become a sanctions target [6]. For cross-border DFA settlement systems, this means real-time screening of transactions against continuously updated sanctions lists, a task that is manageable in centralized architectures but structurally difficult in decentralized ones.

5. Comparative Overview

The four dimensions above are summarized comparatively in Table 1.

⁵ Zetzsche D. A., Buckley R. P., Arner D. W. Regulating LIBRA: The Transformative Potential of Facebook's Cryptocurrency and Possible Regulatory Responses

Table 1 — Comparative Overview of DFA Regulatory Approaches⁶

Criterion	Russia	EU	USA	China
DFA legal status	Digital rights; no payment use (FZ-259)	MiCA taxonomy: ART, EMT, other	Unresolved: SEC vs CFTC	Private crypto banned; state e-CNY only
DFA payments	Banned domestically; limited FX trade exceptions	Permitted under supervision	No clear framework; enforcement risk	e-CNY only
CBDC stage	Digital ruble — testing	Digital euro — pilot	FedNow live; CBDC research	e-CNY — large-scale pilot
FATF / AML	Implemented	Full (TFR)	Partial (BSA)	Centralised state control
Cross-border DFA settlements	Bilateral pilots; mBridge	Limited under MiCA	Constrained by sanctions risk	mBridge; e-CNY internationalisation

The table makes clear that no jurisdiction has produced a complete regulatory solution for cross-border DFA settlements. Russia and the US approach the problem from opposite starting positions; the EU offers the most systematic framework but limited geographic scope; China's model is internally coherent but premised on state monopoly over digital currency issuance, a foundation unlikely to be replicated in a multilateral architecture.

Directions for Overcoming Regulatory Barriers

Three complementary levels of action are needed.

At the technical level, the priority is an interoperable standard for Travel Rule compliance data exchange. The banking sector's adoption of ISO 20022 as a common messaging standard demonstrates that shared technical norms, once established, significantly reduce the operational cost of cross-border compliance. An equivalent standard for DFA transactions would require coordinated development through a body with sufficient authority — the BIS, ISO, or a G20-mandated working group — and would need to bridge CBDC and VASP architectures.

⁶ *Compiled by the author based on [1–6].*

At the normative level, a model law on DFAs in cross-border settlements — developed through UNCITRAL or a comparable body — offers the most tractable path to convergence. Unlike a binding treaty, a model law does not require ratification; it provides reference language that legislators can adopt or adapt, reducing the transaction costs of harmonization without demanding uniformity. Addressing the classification question in a way compatible with multiple legal traditions would alone eliminate a significant source of regulatory friction.

At the institutional level, mutual recognition mechanisms deserve greater attention. In financial regulation broadly, equivalence arrangements allow operators licensed in one jurisdiction to provide services in another without duplicating the licensing process. Extending this logic to DFA-based settlement services would enable the network scale that an international settlement system requires, while preserving national regulatory sovereignty.

Conclusion

Regulatory fragmentation is currently a more binding constraint on DFA-based cross-border settlements than technological immaturity. The barriers identified — legal classification, AML/CFT compliance, CBDC interoperability, and sanctions enforcement — are international in origin and cannot be addressed by any single country. Multilateral engagement through the BIS, FSB, and FATF is necessary but requires clearer mandates and a shift from guidance to operational standards.

The most realistic path to harmonization in the near term is not the unification of national laws but the development of mutual recognition mechanisms underpinned by minimum agreed standards, preserving regulatory sovereignty while enabling functional interoperability. This conclusion has a direct implication for system design: regulatory architecture must be treated as a first-order constraint in any DFA-based settlement infrastructure project, not a

compliance afterthought. The present paper's findings will serve as the analytical basis for the author's forthcoming master's thesis.

References

1. Bank for International Settlements. Annual Economic Report 2023: Towards a Blueprint for a Future Monetary System. — Basel : BIS, 2023. — 68 p. — URL: <https://www.bis.org/publ/arpdf/ar2023e3.pdf> (accessed: 02.06.2026).
2. Federal Law of the Russian Federation No. 259-FZ of 31 July 2020 «On Digital Financial Assets, Digital Currency and on Amendments to Certain Legislative Acts of the Russian Federation» // *Sobranie zakonodatel'stva Rossiyskoy Federatsii*. — 2020. — No. 31 (Pt. I). — Art. 5018. — URL: <http://publication.pravo.gov.ru/Document/View/0001202007310056> (accessed: 02.06.2026).
3. Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets (MiCA) // *Official Journal of the European Union*. — 2023. — L 150. — P. 40–205. — URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1114> (accessed: 02.06.2026).
4. Financial Action Task Force. Updated Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers. — Paris : FATF, 2021. — 120 p. — URL: <https://www.fatf-gafi.org/en/publications/Fatfrecommendations/Guidance-rba-virtual-assets-2021.html> (accessed: 02.06.2026).
5. Zetsche D. A., Buckley R. P., Arner D. W. Regulating LIBRA: The Transformative Potential of Facebook's Cryptocurrency and Possible Regulatory Responses // *Oxford Journal of Legal Studies*. — 2020. — Vol. 40, no. 4. — P. 218–260. — DOI: 10.1093/ojls/gqaa020.

6. U.S. Department of the Treasury. Treasury Sanctions Notorious Virtual Currency Mixer Tornado Cash. — Washington, D.C., 8 August 2022. — URL: <https://home.treasury.gov/news/press-releases/jy0916> (accessed: 02.06.2026).
7. Financial Stability Board. High-level Recommendations for the Regulation, Supervision and Oversight of Global Stablecoin Arrangements : Final Report. — Basel : FSB, 2023. — 56 p. — URL: <https://www.fsb.org/2023/07/high-level-recommendations-for-the-regulation-supervision-and-oversight-of-global-stablecoin-arrangements-final-report/> (accessed: 02.06.2026).
8. Brunnermeier M. K., James H., Landau J.-P. The Digitalization of Money : NBER Working Paper No. 26300. — Cambridge : National Bureau of Economic Research, 2019. — 33 p. — DOI: 10.3386/w26300.
9. Bank of Russia. Digital Ruble Concept. — Moscow : Bank of Russia, 2021. — 36 p. — URL: https://cbr.ru/Content/Document/File/120075/concept_08042021.pdf (accessed: 02.06.2026).
10. G20 Finance Ministers and Central Bank Governors. G20 Roadmap for Enhancing Cross-border Payments: Consolidated Progress Report for 2023. — New Delhi, 2023. — URL: <https://www.fsb.org/2023/10/g20-roadmap-for-enhancing-cross-border-payments-consolidated-progress-report-for-2023/> (accessed: 02.06.2026).