

THE FUTURE OF CROSS-BORDER PAYMENTS: CAN DIGITAL CURRENCIES REPLACE SWIFT?

*A Doctrinal and Analytical Study of Legal, Regulatory and Institutional Coexistence in
Global Payment Infrastructure*

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Abstract

The rapid emergence of central bank digital currencies (CBDCs), private stablecoins, and distributed-ledger-based settlement platforms has renewed a longstanding question in international financial law and policy: whether these innovations can displace the Society for Worldwide Interbank Financial Telecommunication (SWIFT) as the principal infrastructure for cross-border payments. This paper undertakes a neutral, evidence-based, doctrinal and analytical examination of that question. It situates SWIFT within its cooperative governance structure, its systemic importance under G10 oversight, and its function as a messaging — rather than settlement — network, before examining the design, legal status and operational maturity of CBDCs (illustrated through Project mBridge, the digital euro and the digital yuan), stablecoins (examined through the United States' GENIUS Act and the European Union's Markets in Crypto-Assets Regulation), and retail fast-payment linkages such as India's Unified

Journal of International Research & Multidisciplinary Innovation

Payments Interface (UPI). The paper analyses these systems against the regulatory architecture erected by the Financial Action Task Force, the Bank for International Settlements, the International Monetary Fund, the World Bank and the G20 Roadmap for Enhancing Cross-Border Payments, with particular attention to anti-money laundering and countering-the-financing-of-terrorism (AML/CFT) compliance, sanctions enforcement, financial stability and interoperability under ISO 20022. The study finds that no single emerging technology currently possesses the near-universal reach, legal certainty, or governance neutrality that has sustained SWIFT's position for over five decades, but that several technologies address specific frictions — cost, settlement speed, and correspondent-banking fragility — that SWIFT-dependent correspondent banking has struggled to resolve. Rather than a binary contest of replacement, the evidence points toward a layered and jurisdictionally fragmented future in which SWIFT, CBDCs, stablecoins and fast-payment systems are likely to coexist, interconnect through evolving messaging standards, and compete selectively across specific corridors and use-cases. The paper concludes by offering calibrated recommendations for regulators and market participants navigating this transitional landscape, while expressly declining to predict SWIFT's obsolescence.

Keywords

Cross-border payments; SWIFT; Central Bank Digital Currency (CBDC); stablecoins; Project mBridge; ISO 20022; FATF Travel Rule; AML/CFT; sanctions compliance; financial stability; interoperability; G20 Cross-Border Payments Roadmap.

1. Introduction

Cross-border payments constitute the circulatory system of the global economy, underpinning trade, remittances, capital flows and sovereign transactions. For over five decades, this system has depended overwhelmingly on a correspondent banking model in which SWIFT provides the standardised, secure financial messaging layer that allows banks to instruct one another to move value across currencies and jurisdictions. SWIFT is not itself a payment or settlement system; it is a member-owned cooperative registered under Belgian law that transmits authenticated messages between roughly 11,000 institutions in over 200 countries and territories.¹ This architecture has proved durable, but it has also attracted sustained criticism for cost, settlement latency, opacity of intermediary fees, and its exposure to geopolitical weaponisation through sanctions, most visibly in the disconnection of designated Russian and Belarusian entities following the 2022 invasion of Ukraine.²

Against this backdrop, an expanding constellation of digital-currency-based alternatives has emerged: wholesale central bank digital currencies (CBDCs) built on distributed ledger technology, most prominently Project mBridge; retail CBDCs such as the digital euro and China's e-CNY; privately issued fiat-backed stablecoins now operating under bespoke statutory regimes in the United States and the European Union; and interoperable fast-payment-system linkages exemplified by India's Unified Payments Interface (UPI). Commentators disagree sharply on the trajectory of these developments. Some frame CBDC-based settlement rails as a structural challenge to dollar- and SWIFT-centric intermediation,³ while others emphasise the modest scale of digital-currency flows relative to the trillions processed daily through correspondent banking, and the continuing entrenchment of SWIFT within even the newest tokenised-finance architectures.⁴

This paper does not adopt either position as a premise. It instead asks, as a matter of law, regulation, and institutional design, whether the accumulating evidence supports replacement, complementary coexistence, or a hybrid trajectory — and it examines this question across the legal architecture of AML/CFT compliance, sanctions enforcement, financial stability, governance, and technical interoperability that any credible alternative to SWIFT must satisfy.

2. Research Objectives

This study pursues the following objectives:

Journal of International Research & Multidisciplinary Innovation

- To examine the legal structure, governance, and systemic function of SWIFT as the incumbent cross-border payment messaging infrastructure.
- To analyse the design, legal characterisation, and operational maturity of CBDCs, stablecoins, and blockchain-based settlement platforms as prospective alternatives or complements to SWIFT.
- To evaluate the international legal and regulatory framework — FATF, BIS, IMF, World Bank, ISO 20022, and G20 initiatives — applicable to both traditional and emerging payment systems.
- To identify the operational, legal, and financial-stability challenges that constrain wholesale replacement of existing correspondent-banking infrastructure.
- To assess opportunities for interoperability and integration between SWIFT and emerging digital-currency-based systems.
- To derive balanced, evidence-based findings and policy recommendations without prematurely declaring the obsolescence of either paradigm.

3. Research Questions

1. What is the legal and governance basis of SWIFT's systemic role, and what obligations does this impose upon it under international financial oversight arrangements?
2. Do CBDCs, stablecoins, and blockchain-based payment rails satisfy the AML/CFT, sanctions-compliance, and financial-stability standards presently applied to SWIFT-dependent correspondent banking?
3. What operational and legal barriers currently prevent large-scale substitution of SWIFT-based messaging by digital-currency settlement platforms?
4. To what extent can interoperability frameworks such as ISO 20022 and multi-CBDC bridges enable coexistence rather than displacement?
5. What future scenarios — replacement, complementary coexistence, or fragmented multipolarity — are best supported by current technological, legal and economic evidence?

4. Research Methodology

This paper adopts a doctrinal and analytical methodology. It relies on primary legal and regulatory materials — statutes such as the United States' GENIUS Act and the European Union's Markets in Crypto-Assets Regulation (MiCA), FATF Recommendations and their Interpretive Notes, BIS Innovation Hub project reports, ECB and Eurosystem publications, SWIFT's corporate governance disclosures, and G20/FSB policy documents — supplemented by secondary academic and institutional literature. The doctrinal component analyses the formal legal status, obligations, and governance architecture applicable to each system. The

analytical component undertakes a structured comparative assessment across defined criteria: legal status, governance and accountability, operational efficiency, cybersecurity, AML/CFT and sanctions compliance, interoperability, and financial-stability implications. The study is explicitly non-predictive in its normative posture: it does not assume, argue for, or advocate the displacement of any institution, but tests the replacement hypothesis against the weight of documented evidence as of mid-2026. Given the pace of regulatory and technological change in this field, the paper draws on primary sources current to the time of writing and flags areas of continuing legal and factual uncertainty.

5. Literature Review

Academic and institutional literature on SWIFT's governance has long emphasised the cooperative's distinctive character as a "utility" that derives its legitimacy from neutrality and multilateral oversight rather than from any single sovereign or shareholder interest.⁵ This literature has been substantially updated by recent developments: in April 2025 the Belgian Parliament approved legislation providing an explicit statutory backstop for the National Bank of Belgium's (NBB) oversight of SWIFT, formalising what had previously been a soft-law, moral-suasion-based arrangement among the G10 central banks.⁶ The same reform requires SWIFT to migrate from a unitary board to a two-tier supervisory and management board structure, reflecting broader convergence between SWIFT's cooperative governance model and the prudential expectations applied to systemically important financial market infrastructures.⁷

A second strand of literature addresses CBDCs. The BIS's own taxonomy of Innovation Hub projects — spanning preparation, proof-of-concept, prototyping, piloting and production phases — situates Project mBridge as the most advanced multi-jurisdictional wholesale CBDC initiative, while noting that the BIS formally withdrew from active involvement in October 2024 upon the project reaching minimum viable product (MVP) status.⁸ Recent scholarship examining the mBridge project has framed it through a geopolitical lens, observing that the platform's settlement volumes are overwhelmingly denominated in the digital yuan and involve no Western central bank as a full participant, which has generated debate as to whether such platforms are principally technical efficiency measures or vehicles for reducing dependence on dollar-clearing and correspondent-banking chains through which sanctions are enforced.⁹

A third strand addresses stablecoins and their regulatory maturation. Following passage of the GENIUS Act in July 2025, commentators have noted a global convergence trend, with the EU's MiCA regime, Hong Kong's Stablecoins Ordinance, and Singapore's Monetary Authority framework each adopting broadly comparable reserve-backing, redemption, and disclosure requirements, even as jurisdictional competition over stablecoin issuance intensifies.¹⁰ A fourth strand, concerned with retail-level interoperability, documents the rapid scaling of India's UPI-based cross-border linkages, which the literature frames not as a SWIFT competitor at the wholesale level but as a parallel, lower-value retail remittance channel expanding through bilateral fast-payment-system linkages rather than a single global network.¹¹ Taken together, this literature does not converge on a single trajectory; rather, it documents parallel, technologically and jurisdictionally distinct developments whose cumulative significance for SWIFT's position remains genuinely contested among specialists.

6. Evolution of Cross-Border Payment Systems

Cross-border payment infrastructure has evolved through successive technological layers rather than clean replacements. Telegraphic transfers and bilateral correspondent-account relationships dominated the pre-1970s era, with settlement risk, manual reconciliation and inconsistent messaging formats imposing significant friction. SWIFT's establishment in 1973 by 239 banks across fifteen countries addressed this fragmentation by standardising message formats and creating a shared, secure telecommunications backbone; its first message was transmitted in 1977, and message volumes grew from roughly 2.4 million per day in 1995 to over 32 million per day by the mid-2010s.¹²

The subsequent decades saw incremental innovation layered atop this foundation: the introduction of real-time gross settlement (RTGS) systems by central banks, the development of continuous linked settlement (CLS) to mitigate foreign-exchange (Herstatt) settlement risk, and — from 2017 onward — SWIFT's own "gpi" initiative to improve payment tracking and speed within the existing correspondent-banking rails. The most recent evolutionary layer is the ISO 20022 messaging standard, a common, structured data format adopted by SWIFT, major RTGS systems, and increasingly by virtual-asset service providers, which the FATF's 2025 revision of Recommendation 16 now expressly references as the preferred structured format for AML-relevant payment data.¹³ Parallel to this incremental evolution, an entirely

distinct technological lineage — distributed ledger technology and tokenised value transfer — has produced CBDCs and stablecoins that, in principle, permit atomic, peer-to-peer settlement without correspondent intermediaries. The historical pattern, however, is one of layering and interoperability rather than wholesale supersession: even the newest DLT-based platforms have generally been designed to interface with, rather than replace, existing messaging and settlement infrastructure.

7. Understanding SWIFT: Structure, Functions, Governance, and Global Importance

7.1 Legal Structure

SWIFT — formally S.W.I.F.T. SC — is a cooperative society (*société coopérative*) incorporated under Belgian law and headquartered in La Hulpe, Belgium.¹⁴ It is owned and controlled by approximately 2,400 shareholder-users, who elect a Board of 25 Directors through National Member Groups structured to reflect each jurisdiction's usage of SWIFT's messaging services.¹⁵ SWIFT is emphatically not a payment system: it neither holds funds nor settles value. It transmits authenticated, standardised messages instructing correspondent banks to debit and credit accounts held with one another, a function for which it derives revenue from membership fees, share-based annual contributions, and per-message transaction charges.¹⁶

7.2 Governance and Oversight

Because of its systemic importance to global financial stability, SWIFT is subject to cooperative oversight by the G10 central banks (Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States), together with the European Central Bank, with the National Bank of Belgium acting as lead overseer by virtue of SWIFT's Belgian incorporation.¹⁷ Oversight is organised around five "High-Level Expectations" addressing risk identification and management, information security, financial risk management, operational resilience, and the management of outsourcing and interdependencies, with a dedicated Technical Group, Cooperative Oversight Group, Executive Group and Swift Oversight Forum coordinating fieldwork, strategy and communication with SWIFT's management.¹⁸ A material legal development occurred in April 2025, when the Belgian Parliament enacted legislation converting large parts of this previously soft-law, moral-suasion-based oversight into a binding statutory framework, empowering the

NBB to conduct on-site inspections, request information, and recover oversight costs from SWIFT and its outsourcing partners.¹⁹ This reform illustrates a broader convergence: even the incumbent cooperative is being drawn toward the same style of statutory, prudentially enforceable oversight increasingly expected of CBDC platforms and stablecoin issuers.

7.3 Sanctions and Compliance Function

SWIFT has no independent authority to impose or select sanctions; as a cooperative utility incorporated in Belgium, it is legally bound to comply with EU Council Regulations once designated entities are identified by competent governmental bodies.²⁰ This was most visibly demonstrated in the disconnection of designated Russian and Belarusian financial institutions pursuant to Council Regulation (EU) 833/2014 and Council Regulation (EU) 765/2006 following Russia's invasion of Ukraine in 2022, with the sanctions regime intensified further by Council Regulation (EU) 2025/1494 in July 2025, which expanded the prohibition into a broader transaction ban.²¹ This episode is frequently cited by proponents of digital-currency alternatives as evidence of SWIFT's vulnerability to "weaponisation," while SWIFT itself and its overseers characterise its compliance as a legally compelled, jurisdictionally constrained function rather than a discretionary geopolitical instrument — an important distinction bearing on the legal, as opposed to purely political, framing of SWIFT's exposure to sanctions risk.

7.4 Global Importance

SWIFT's messaging platform connects more than 11,000 banking and securities organisations, market infrastructures and corporate customers across more than 200 countries and territories, and was estimated as of 2018 to underpin around half of all high-value cross-border payments worldwide.²² SWIFT is also the registration authority for several foundational ISO standards, including ISO 9362 (Bank Identifier Codes) and, jointly, ISO 20022 (Universal Financial Industry message scheme), giving it a standard-setting role that extends well beyond its messaging function and positions it as a potential interoperability layer for emerging digital-currency systems rather than a business necessarily displaced by them.

8. Digital Currencies (CBDCs, Stablecoins, Cryptocurrencies): Concept and Working

8.1 Central Bank Digital Currencies

A CBDC is a digital liability of a central bank, distinct from commercial bank deposits and from privately issued cryptocurrencies. The literature typically distinguishes wholesale CBDCs, designed for large-value interbank and cross-border settlement, from retail CBDCs, designed for general public use.²³ A typical CBDC project progresses through five phases — preparation, proof-of-concept, prototyping, piloting, and production — with the BIS Innovation Hub's own project portfolio illustrating the range of maturity: Jura, Mariana and Dunbar concluded at the proof-of-concept or prototype stage, while Project mBridge alone reached pilot and, subsequently, minimum viable product status.²⁴

Project mBridge, developed jointly by the BIS Innovation Hub, the Hong Kong Monetary Authority, the Bank of Thailand, the Central Bank of the United Arab Emirates, and the Digital Currency Institute of the People's Bank of China (with Saudi Arabia's central bank, SAMA, joining as a full participant in 2024), is built on a bespoke blockchain — the mBridge Ledger — designed to enable real-time, peer-to-peer cross-border payment and foreign-exchange settlement using wholesale CBDCs, bypassing the traditional correspondent-banking chain.²⁵ A 2022 pilot involving 20 commercial banks across four jurisdictions settled over US\$12 million in issued value and facilitated more than 160 payment and foreign-exchange payment-versus-payment transactions totalling over US\$22 million.²⁶ By late 2025, the platform's cumulative volume had grown substantially — reported figures indicate more than 4,000 cross-border transactions totalling in the order of US\$55 billion, of which approximately 95 per cent was settled in the digital yuan.²⁷ The BIS formally withdrew from active project leadership on 31 October 2024, with BIS General Manager Agustín Carstens characterising the withdrawal as a "graduation" of the project to its founding central-bank partners rather than a judgment on its viability.²⁸ Notably, no Western central bank is presently a full participant in mBridge; in the same period the BIS instead convened Project Agorá with seven G7-aligned central banks and more than forty private institutions, including SWIFT itself, illustrating a bifurcation of multi-CBDC experimentation along geopolitical lines rather than the emergence of a single universal platform.²⁹

Retail CBDC development proceeds on a parallel but distinct track. The European Central Bank concluded the investigation phase of its digital euro project and, on 29 October 2025, resolved to proceed to a preparation phase oriented toward technical readiness, contingent on adoption of the enabling EU Regulation; a twelve-month pilot involving 36 selected payment

service providers is scheduled to commence in the second half of 2027, with potential first issuance targeted for 2029 assuming timely legislative adoption.³⁰ The ECB has repeatedly emphasised that the digital euro is intended to complement, rather than replace, cash and existing electronic payment instruments, and that holdings are likely to be capped and non-interest-bearing to limit disintermediation of commercial bank deposits.³¹

China's e-CNY represents the most extensive retail CBDC deployment to date, with cumulative transactions reaching approximately 3.48 billion and a value of roughly 16.7 trillion yuan (about US\$2.37 trillion) by the end of November 2025, and over 225 million personal wallets in circulation.³² Effective 1 January 2026, the People's Bank of China reclassified e-CNY as "digital deposit money," integrating it into reserve requirements and permitting interest payments on wallet balances — a design shift intended in part to compete more directly with dollar-denominated stablecoins for cross-border commercial use.³³ Notwithstanding this scale, independent analysis cautions that daily e-CNY transaction flows remain modest relative to dominant Chinese retail platforms such as Alipay and WeChat Pay, and that renminbi internationalisation more broadly continues to be constrained by capital-account controls, with offshore yuan deposits remaining a small fraction of the stock of offshore dollar-denominated assets.³⁴

8.2 *Stablecoins*

Stablecoins are privately issued digital tokens designed to maintain a stable value, typically through a peg to a fiat currency backed by a reserve of liquid assets. Their legal treatment has moved rapidly from regulatory ambiguity toward bespoke statutory regimes. In the United States, the GENIUS Act, signed into law on 18 July 2025, establishes the first comprehensive federal framework for "payment stablecoins," restricting issuance to insured depository institutions, approved non-bank entities holding a limited federal charter, or qualifying state-regulated issuers below a US\$10 billion issuance threshold, and mandating 1:1 reserve backing in cash, insured deposits, or short-dated US Treasury instruments.³⁵ The outstanding volume of US-dollar stablecoins grew from approximately US\$25 billion in 2020 to nearly US\$280 billion by year-end 2025, with projections — including estimates offered by the US Treasury Secretary — of growth toward US\$2 trillion or more by 2030.³⁶

The European Union's Markets in Crypto-Assets Regulation (MiCA) adopts a parallel but distinct taxonomy, distinguishing "e-money tokens" (EMTs, pegged to a single fiat currency and issuable only by licensed e-money or credit institutions) from "asset-referenced tokens" (ARTs, backed by a basket of assets and subject to EU-based authorisation requirements).³⁷ Hong Kong's Stablecoins Ordinance, effective 1 August 2025, requires licensing by the Hong Kong Monetary Authority and full, segregated reserve backing for any Hong Kong dollar-referenced stablecoin, while Singapore's Monetary Authority framework, finalised in 2023, applies a comparable regime expected to take effect in mid-2026.³⁸ The Financial Stability Board's 2023 High-Level Recommendations on Global Stablecoin Arrangements — issued pursuant to the G20's 2020 Crypto-Asset Policy Implementation Roadmap — call for cross-border regulatory cooperation, transparent reserve and redemption disclosures, and compliance with global AML/CFT standards, reflecting the emerging international consensus that stablecoins should be regulated on a functionally equivalent, "same activity, same risk, same rules" basis to traditional payment instruments.³⁹ Commentators nonetheless caution that divergence between the US and EU approaches — the former reinforcing dollar primacy, the latter safeguarding the euro and constraining non-euro token circulation — may generate regulatory fragmentation and competitive arbitrage rather than a harmonised global regime.⁴⁰

8.3 Cryptocurrencies and Fast-Payment-System Linkages

Unbacked cryptocurrencies such as Bitcoin remain, for cross-border payment purposes, comparatively marginal owing to price volatility and continued regulatory restriction in major jurisdictions, and are accordingly of limited relevance as SWIFT substitutes in their own right; their significance lies principally in having demonstrated the technical feasibility of peer-to-peer value transfer that stablecoins and CBDCs have since sought to render price-stable and legally compliant. A distinct but complementary innovation is the interoperable linkage of domestic real-time retail payment systems. India's Unified Payments Interface (UPI), administered by the National Payments Corporation of India and its international arm, NPCI International Payments Ltd (NIPL), has been extended through bilateral linkages — most notably with Singapore's PayNow — and unilateral merchant-acceptance arrangements to nine countries as of mid-2026, including the United Arab Emirates, France, Mauritius, Nepal, Bhutan, Sri Lanka, Qatar and Cambodia.⁴¹ Cross-border UPI transaction volumes grew from 37,060 in the 2024 financial year to over 755,000 in the 2025 financial year, with a further

601,000 transactions recorded in the first four months of FY26 — a scale of growth that is nonetheless still modest in absolute value (on the order of tens of millions of US dollars) when set against SWIFT-mediated correspondent-banking flows.⁴² This model illustrates a materially different pathway to cross-border payment innovation: rather than constructing a new multi-jurisdictional settlement asset, it interconnects existing sovereign retail payment systems bilaterally, a strategy also being pursued at a regional level through the ASEAN Regional Payment Connectivity initiative linking Thailand's PromptPay, Indonesia's QRIS, Singapore's PayNow and Malaysia's DuitNow.⁴³

9. Comparative Analysis between SWIFT and Digital Currency-Based Payment Systems

A structured comparison across governance, legal status, operational efficiency, cybersecurity, and compliance dimensions reveals a pattern of complementary strengths rather than clear superiority on either side.

9.1 Governance and Legal Status

SWIFT operates under a settled, judicially tested legal status as a Belgian cooperative subject to binding G10 central-bank oversight, now reinforced by statutory footing under 2025 Belgian legislation.⁴⁴ By contrast, CBDC platforms such as mBridge operate under bespoke, purpose-built "rulebooks" negotiated among participating central banks rather than an established body of company or financial-market-infrastructure law, and their legal characterisation — as decentralised networks "built by central banks for central banks" — remains without close precedent in international financial law.⁴⁵ Stablecoin issuers, following the GENIUS Act and MiCA, now operate under clearer statutory licensing regimes, but these regimes remain nationally or regionally bounded, creating potential conflict-of-laws questions for genuinely cross-border stablecoin circulation that SWIFT's single, globally harmonised legal form does not present.

9.2 Operational Efficiency

Correspondent banking via SWIFT messaging can involve multiple intermediary banks, each applying its own fees and compliance checks, contributing to settlement times that may extend to several days and cumulative costs that have long been criticised as opaque. mBridge's

atomic settlement design is reported to eliminate Herstatt (cross-currency settlement) risk at the protocol level, with both legs of a foreign-exchange transaction settling simultaneously.⁴⁶ Equally, however, SWIFT's own "gpi" initiative and the broader G20 Roadmap for Enhancing Cross-Border Payments have materially compressed settlement times and improved fee transparency within the existing correspondent-banking model, narrowing — without eliminating — the efficiency gap that DLT-based platforms claim to close.

9.3 Cybersecurity

SWIFT has invested heavily in security following high-profile incidents involving compromised member-bank credentials (rather than breaches of SWIFT's own network), and is subject to external ISAE 3000 security audits — most recently reappointing Deloitte as external security auditor for the 2023–2025 period — alongside ongoing oversight attention to post-quantum cryptography readiness and penetration testing.⁴⁷ DLT-based CBDC platforms present a different risk surface: smart-contract vulnerabilities, validating-node compromise, and novel governance questions over dispute resolution and liability allocation among multiple sovereign operators, for which mBridge's steering committee has developed a bespoke governance and legal framework compatible with the Ethereum Virtual Machine.⁴⁸ Neither architecture is inherently more secure in the abstract; each concentrates risk differently — SWIFT at the endpoint (member institutions) and CBDC platforms at the protocol and validator layer.

9.4 AML/CFT and Sanctions Compliance

SWIFT-mediated correspondent banking benefits from decades of embedded AML/CFT compliance infrastructure, including standardised originator/beneficiary data fields consistent with FATF Recommendation 16. The FATF's June 2025 revision of Recommendation 16 extends and standardises these requirements — including originator name, address and date of birth for cross-border peer-to-peer transfers above USD/EUR 1,000 — across both traditional payment messages and virtual-asset transfers, with compliance required by the end of 2030.⁴⁹ Virtual asset service providers (VASPs) handling stablecoins and other digital assets are subject to the FATF's "Travel Rule" under Recommendation 15/16, though implementation remains markedly uneven: as of the FATF's 2025 survey, roughly 85 jurisdictions had passed Travel Rule legislation (up from 65 in 2024), with only a minority reporting supervisory

enforcement action against VASPs for non-compliance.⁵⁰ This uneven implementation represents a material compliance gap for digital-currency-based cross-border payments relative to the comparatively mature and consistently enforced compliance architecture surrounding SWIFT-based correspondent banking, notwithstanding the latter's own documented vulnerabilities to money laundering through complex correspondent-banking chains.

9.5 Financial Stability

SWIFT poses no direct financial-stability risk of its own, as it does not hold or create money; its systemic risk lies in operational continuity and the correspondent-banking relationships it facilitates. CBDCs and stablecoins raise materially different stability questions. Retail CBDCs risk disintermediating commercial bank deposits during periods of stress, a concern the ECB has sought to address through anticipated non-interest-bearing status and holding caps for the digital euro.⁵¹ Stablecoins raise classic "run" risk: because most holders transact through secondary-market arbitrageurs rather than directly with the issuer, price stability depends on the depth and diversity of the arbitrageur base, with empirical research finding significant disparities between issuers — for instance, one major issuer averaging around six active redeeming arbitrageurs per month against another's several hundred.⁵² These divergent risk profiles underscore why the FSB and BIS have converged on a functional, activity-based regulatory principle — "same activity, same risk, same rules" — rather than treating digital-currency instruments as a unified category exempt from prudential concerns applicable to traditional payment and deposit-taking institutions.

9.6 Interoperability

Perhaps the most significant emerging trend is not substitution but interconnection. SWIFT itself is a named participant in the BIS-convened Project Agorá alongside JPMorgan, Citi and HSBC, and has conducted live trials — jointly with Ant International and Standard Chartered — of a bank-to-wallet payment solution built on ISO 20022 messaging standards.⁵³ This suggests that ISO 20022 is emerging as a common interoperability layer across both incumbent messaging infrastructure and tokenised settlement platforms, positioning SWIFT as a potential bridge — rather than a casualty — in a multi-rail future, even as it simultaneously loses exclusive relevance within corridors, such as China–Gulf trade settlement via mBridge, where DLT-based platforms now operate largely independently of correspondent-banking messaging.

10. International Legal and Regulatory Framework

10.1 Financial Action Task Force (FATF)

The FATF is the principal global standard-setter for AML/CFT, issuing forty Recommendations adopted, in substance, by more than 200 jurisdictions notwithstanding the FATF's own lack of direct regulatory or enforcement authority.⁵⁴ Recommendation 15 (and its Interpretive Note, updated in 2019) extends AML/CFT obligations to virtual assets and virtual asset service providers, while Recommendation 16 (the "Travel Rule") governs the information that must accompany payment and value-transfer messages. The June 2025 revision of Recommendation 16 clarifies that the payment chain begins with the financial institution first receiving a customer instruction, standardises minimum originator/beneficiary data for cross-border peer-to-peer transfers above USD/EUR 1,000, and requires deployment of fraud-prevention tools such as "Confirmation of Payee" services, with a compliance deadline of end-2030.⁵⁵ Notably, the FATF has clarified that it does not apply the Travel Rule to VASPs directly, but rather indirectly through a tailored new-technologies framework supported by its Virtual Asset Contact Group — a structural nuance that leaves considerable discretion to national regulators in translating the standard into binding domestic law.⁵⁶

10.2 Bank for International Settlements (BIS)

The BIS, through its Innovation Hub, has served as convenor and technical steward for the majority of major multi-CBDC experiments (Jura, Mariana, Dunbar, Nexus, mBridge and Agorá), while the BIS's Committee on Payments and Market Infrastructures (CPMI) develops principles for financial market infrastructures against which SWIFT's own oversight is benchmarked.⁵⁷ The BIS's institutional posture — convening experimentation while declining to become a permanent operator, as demonstrated by its formal withdrawal from mBridge in October 2024 — reflects a considered position that central-bank digital infrastructure should ultimately be governed and operated by the sovereign authorities whose currencies are at stake, rather than by a supranational technical body.

10.3 International Monetary Fund and World Bank

The IMF and World Bank participate as observers in several CBDC initiatives, including mBridge, and have jointly contributed to G20-mandated work on cross-border payment frictions, remittance costs, and macro-financial implications of digital currency adoption,

particularly for capital-flow management and reserve-currency dynamics in emerging economies.⁵⁸ Both institutions have consistently emphasised that digital-currency innovation should not come at the expense of AML/CFT integrity or macro-financial stability, particularly in jurisdictions with weaker supervisory capacity.

10.4 ISO 20022 and Technical Standards

ISO 20022 is rapidly becoming the common structured-data backbone across both traditional and tokenised payment infrastructure. SWIFT itself is a joint registration authority for the standard, and the FATF's 2025 Recommendation 16 revision expressly favours ISO 20022-structured payment information to satisfy AML transparency requirements.⁵⁹ The Payments Market Practice Group's May 2024 decision — implemented from November 2025 — to permit a hybrid structured/unstructured address-data format for SWIFT and leading payment market infrastructures illustrates the ongoing, incremental harmonisation of legacy and emerging messaging requirements.⁶⁰

10.5 G20 Roadmap for Enhancing Cross-Border Payments

The G20's 2020 Roadmap for Enhancing Cross-Border Payments, coordinated by the FSB and CPMI, sets quantitative targets for cost, speed, transparency and access in cross-border payments, and provides the overarching policy framework within which both SWIFT's gpi improvements and CBDC/stablecoin experimentation are formally situated.⁶¹ The FSB's 2023 update of its High-Level Recommendations on Global Stablecoin Arrangements is itself a direct output of this Roadmap, illustrating that international standard-setters are treating incumbent and emergent payment technologies as components of a single policy objective — faster, cheaper, more transparent and more inclusive cross-border payments — rather than as mutually exclusive alternatives.

11. Challenges to Replacing Existing Payment Infrastructure

Legal and jurisdictional fragmentation: Digital-currency platforms operate across multiple sovereign legal systems without a unifying body of law comparable to SWIFT's settled Belgian corporate and cooperative-oversight status; mBridge's own steering committee found it necessary to construct a bespoke rulebook precisely because no existing legal framework adequately governed a decentralised, multi-sovereign settlement platform.

Journal of International Research & Multidisciplinary Innovation

Uneven AML/CFT implementation: As of 2025, a majority but far from universal share of jurisdictions had implemented the FATF Travel Rule for virtual assets, and enforcement action remains rare, creating compliance and reputational risk for institutions routing payments through less mature digital-currency rails.

Capital controls and currency convertibility: China's continuing capital-account restrictions constrain the e-CNY's international usability regardless of technical capability, illustrating that legal and monetary-policy constraints, not technology, often bind digital-currency internationalisation.

Network effects and switching costs: SWIFT's incumbency across more than 11,000 institutions in over 200 countries creates powerful network effects; any alternative must achieve comparable multilateral reach before it can offer equivalent utility, a threshold no single CBDC or stablecoin platform has yet reached.

Financial-stability and monetary-sovereignty concerns: Central banks remain cautious about retail CBDC designs that could trigger deposit disintermediation, while stablecoin growth raises dollar-substitution and reserve-composition concerns for smaller economies, both of which counsel measured rather than wholesale adoption.

Geopolitical fragmentation: The bifurcation between mBridge (led by China, the UAE, Thailand, Hong Kong and Saudi Arabia) and Agorá (led by G7-aligned central banks, with SWIFT as a participant) suggests that digital-currency infrastructure is developing along geopolitical blocs rather than toward a single interoperable global standard, which may reproduce, rather than resolve, the fragmentation concerns raised about SWIFT-based sanctions exposure.

12. Opportunities for Integration and Interoperability

Despite these challenges, several developments point toward a future of managed interoperability rather than binary substitution. SWIFT's active participation in Project Agorá and its joint bank-to-wallet trials with Ant International and Standard Chartered demonstrate that the incumbent messaging network is positioning itself as connective infrastructure across tokenised and traditional rails rather than resisting integration.⁶² The convergence of AML data standards around ISO 20022 across both traditional wire transfers and virtual-asset transfers,

as embedded in the FATF's 2025 Recommendation 16 revision, provides a common compliance grammar that could allow CBDC platforms, stablecoin issuers, and SWIFT-based correspondent banks to interoperate without a common settlement asset.⁶³ Regional fast-payment-system interlinkage — UPI-PayNow, and the broader ASEAN Regional Payment Connectivity initiative — offers a lower-friction model of interoperability at the retail and remittance level, achieved through bilateral regulatory cooperation rather than the construction of new multilateral settlement assets.⁶⁴ Finally, the Eurosystem's own tokenised-finance initiatives — including its planned Pontes DLT settlement solution launching in the third quarter of 2026 — indicate that even central banks not pursuing a CBDC-based cross-border settlement platform are nonetheless integrating distributed-ledger settlement for central-bank money into their broader payments strategy, suggesting convergence in underlying technology even where currency and governance models differ.⁶⁵

13. Case Studies

13.1 Project mBridge

As detailed above, mBridge is the most operationally advanced multi-CBDC cross-border settlement platform, having processed an estimated US\$55 billion across more than 4,000 transactions by late 2025, overwhelmingly denominated in the digital yuan.⁶⁶ Its significance lies less in aggregate scale — still a fraction of daily correspondent-banking flows — than in its demonstration that a legally workable, jurisdictionally compliant multi-sovereign settlement rail bypassing correspondent banking is technically achievable, at least within a defined and politically aligned corridor such as China–Gulf trade.

13.2 The Digital Euro

The digital euro illustrates the opposite design philosophy: a retail-focused, legally cautious, cash-complementary instrument explicitly not intended to challenge SWIFT's cross-border messaging function, and whose issuance remains contingent on the completion of a still-pending EU legislative process, with a realistic issuance horizon of 2029.⁶⁷ Its principal strategic rationale, as articulated by ECB officials and European legislators, is monetary sovereignty and resilience against dependence on non-European payment infrastructure, rather than a direct assault on SWIFT's messaging role.

13.3 The Digital Yuan (e-CNY)

The e-CNY combines the world's largest retail CBDC user base with an increasingly assertive cross-border strategy, including a new Shanghai-based International Operations Center (launched September 2025) and a Cross-Border e-CNY Transfer Service through which 26 financial institutions had signed up by mid-2026.⁶⁸ Yet independent analysts continue to characterise the internationalisation of the e-CNY as incremental rather than structurally disruptive, constrained by capital controls and modest overseas demand for renminbi-denominated liquidity.

13.4 India's UPI Cross-Border Initiatives

UPI demonstrates a materially different model of cross-border payment innovation — expansion through bilateral fast-payment-system linkages and merchant-acceptance agreements, rather than a new settlement currency — with NPCI-BCG projections targeting UPI availability in more than twenty countries by March 2029 and material remittance-cost reductions for a country that was the largest single recipient of global remittances in 2024 at approximately US\$129 billion.⁶⁹ Its scale, while growing rapidly in percentage terms, remains modest in absolute cross-border transaction value relative to SWIFT-mediated flows, underscoring that retail fast-payment interoperability and wholesale CBDC settlement address distinct segments of the cross-border payments market.

13.5 Stablecoin-Based Rails and RippleNet

Private blockchain-based payment networks such as RippleNet have marketed themselves as faster, lower-cost alternatives to correspondent banking for cross-border remittance and liquidity management, leveraging on-demand liquidity provision through digital assets to reduce the need for pre-funded nostro accounts. More broadly, stablecoin usage for business-to-business cross-border payments is projected to grow materially: an EY survey cited in recent analysis found that while only 13 per cent of surveyed companies currently use stablecoins for such purposes, over half of non-users expect to adopt them within six to twelve months, with stablecoins projected to account for 5–10 per cent of cross-border payment value by 2030 — a meaningful but still minority share of the overall market.⁷⁰

14. Critical Analysis

Journal of International Research & Multidisciplinary Innovation

The evidence assembled above resists a simple binary conclusion. On one hand, SWIFT's core messaging function — as distinct from the correspondent-banking settlement model it supports — is not itself substantially threatened by CBDC or stablecoin adoption; indeed, ISO 20022 convergence and SWIFT's own participation in Agorá suggest SWIFT is adapting to become an interoperability layer across paradigms rather than being bypassed altogether. On the other hand, within specific, politically aligned corridors — most clearly China's trade with Gulf states via mBridge — DLT-based wholesale CBDC settlement is already operating at meaningful scale largely independent of correspondent-banking messaging, indicating that partial, corridor-specific displacement is empirically occurring even as global, universal displacement remains a distant and uncertain prospect.

A further critical observation concerns geopolitical bifurcation. The near-simultaneous BIS withdrawal from mBridge and launch of Agorá, and the divergent trajectories of the GENIUS Act and MiCA, suggest that digital-currency infrastructure is not converging toward a single global standard but rather fragmenting along geopolitical and monetary-sovereignty lines. This raises the possibility that the future cross-border payments landscape could feature multiple, only partially interoperable digital-currency blocs alongside a persistently necessary SWIFT-based messaging layer for transactions that cross bloc boundaries — a scenario of managed multipolarity rather than either SWIFT's replacement or its untroubled continuation.

A third consideration concerns the asymmetry between technological capability and legal/regulatory maturity. mBridge and comparable platforms have demonstrated technical feasibility for atomic, low-cost, near-instant settlement, yet AML/CFT implementation, dispute-resolution mechanisms, and cross-border legal certainty for DLT-based settlement remain considerably less mature than the decades-deep compliance architecture surrounding SWIFT-based correspondent banking. This asymmetry — rather than any inherent technological inferiority — constitutes the more binding constraint on rapid, wholesale displacement of SWIFT, and is likely to narrow gradually rather than disappear suddenly, given the multi-year implementation horizons (to 2030 for the FATF Travel Rule revisions, and to 2029 at the earliest for digital euro issuance) built into the relevant regulatory timelines.

15. Findings

Journal of International Research & Multidisciplinary Innovation

- SWIFT remains the dominant global financial messaging infrastructure, now operating under a more robust statutory oversight framework following the 2025 Belgian legislative reform, and is not a payment or settlement system itself.
- No single CBDC, stablecoin, or blockchain-based platform currently matches SWIFT's near-universal multilateral reach across more than 11,000 institutions in over 200 countries and territories.
- Wholesale CBDC platforms, exemplified by Project mBridge, have demonstrated technical and operational viability at meaningful scale within specific, politically aligned corridors, but remain geopolitically bifurcated rather than globally interoperable.
- Stablecoin regulation has matured rapidly since 2025 through the GENIUS Act, MiCA, and comparable Asian frameworks, but jurisdictional divergence and uneven global Travel Rule implementation continue to constrain their reliability as a universal SWIFT substitute.
- Retail fast-payment-system linkages such as India's UPI address a materially different segment of cross-border payments (retail remittances and point-of-sale transactions) than SWIFT's correspondent-banking messaging function, and are best understood as complementary rather than substitutive.
- Interoperability — through ISO 20022 convergence and SWIFT's direct participation in projects such as Agorá — is emerging as the dominant integration pathway, suggesting a layered future architecture rather than a single winner-take-all outcome.
- AML/CFT and sanctions-compliance architecture remains considerably more mature and consistently enforced within SWIFT-mediated correspondent banking than across digital-currency platforms, representing the most significant near-term legal constraint on wholesale displacement.

16. Recommendations

- Regulators should prioritise accelerating and harmonising Travel Rule implementation across jurisdictions ahead of the FATF's 2030 compliance horizon, given the current disparity between jurisdictions that have legislated the rule and those that have meaningfully enforced it.
- Central banks pursuing wholesale CBDC platforms should invest in bespoke but internationally consistent legal rulebooks — building on the mBridge and Nexus precedents — to reduce jurisdictional fragmentation and facilitate eventual cross-bloc interoperability.
- Stablecoin regulators in major jurisdictions should pursue closer alignment of reserve, redemption, and disclosure standards (building on the convergence already visible between the GENIUS Act, MiCA, and the Hong Kong and Singapore regimes) to reduce regulatory arbitrage risk.
- SWIFT and its overseers should continue to deepen participation in interoperability initiatives such as Project Agorá and ISO 20022 harmonisation, positioning SWIFT as

connective infrastructure across tokenised and traditional payment rails rather than a static incumbent.

- Emerging-market central banks should carefully calibrate CBDC and stablecoin adoption strategies against domestic financial-stability and capital-flow-management considerations, rather than adopting digital-currency infrastructure primarily as a geopolitical hedge.
- International standard-setting bodies (FATF, BIS, FSB) should continue to apply a functional, activity-based regulatory principle across both incumbent and emergent payment technologies, to avoid regulatory gaps that could otherwise be exploited for illicit finance or sanctions evasion.
- Legal practitioners and compliance functions advising cross-border transacting parties should closely monitor the divergent implementation timelines (2029–2030) applicable to digital euro issuance, FATF Recommendation 16 compliance, and comparable stablecoin regimes, given the material compliance-planning implications of this multi-year transition period.

17. Conclusion

This paper has examined, on a doctrinal and analytical basis, whether digital currencies are likely to replace SWIFT as the infrastructure underpinning global cross-border payments. The evidence does not support a confident prediction of either outcome commonly advanced in public discourse — neither SWIFT's imminent obsolescence nor the indefinite continuation of the status quo unchanged. Instead, the weight of legal, regulatory, and operational evidence points toward a gradually evolving, layered architecture in which SWIFT's messaging function persists and adapts — most visibly through its participation in interoperability initiatives such as Project Agorá and ongoing ISO 20022 harmonisation — while wholesale CBDC platforms, stablecoins, and retail fast-payment linkages expand within specific corridors, use-cases, and regulatory jurisdictions where they offer demonstrable advantages in cost, speed, or monetary sovereignty.

Three broad future scenarios are consistent with current evidence. First, a continued-coexistence scenario, in which SWIFT retains its central messaging role for the majority of cross-border correspondent-banking flows while digital-currency platforms serve as complementary, corridor-specific solutions — the trajectory currently best supported by the data. Second, a fragmented-multipolarity scenario, in which geopolitically aligned blocs (illustrated by the mBridge/Agorá bifurcation) develop increasingly self-contained digital-currency settlement ecosystems, with SWIFT-based messaging persisting principally for cross-

bloc and residual transactions. Third, a more disruptive convergence scenario, in which maturing AML/CFT compliance, harmonised stablecoin regulation, and successful multi-CBDC interoperability frameworks enable digital-currency rails to capture a substantially larger share of cross-border payment volume by the early 2030s, a trajectory that would depend on legal and regulatory developments — particularly full FATF Travel Rule implementation by 2030 and successful digital euro issuance from 2029 — that remain contingent and, as of mid-2026, incomplete.

Given the multi-year regulatory and legislative horizons documented throughout this paper, and the genuine scholarly and institutional disagreement over the ultimate trajectory of geopolitically bifurcated digital-currency infrastructure, this paper declines to predict which of these scenarios will predominate. What can be stated with confidence, on the basis of the evidence reviewed, is that the future of cross-border payments is substantially more likely to be characterised by coexistence, interoperability, and incremental evolution across multiple parallel infrastructures than by the wholesale replacement of one system by another.

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Journal of International Research & Multidisciplinary Innovation

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