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Regulatory–Digital Sovereignty Space and Cross-Border Digital Payment Platforms: Institutional Readiness and Governance in Emerging Markets

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Research Article

Keywords: cross-border payments; digital payment platforms; regulatory sovereignty; institutional readiness; platform governance; emerging markets

Posted Date: May 19th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-9739496/v1

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Additional Declarations: The authors declare no competing interests.

Title

Regulatory–Digital Sovereignty Space and Cross-Border Digital Payment Platforms: Institutional Readiness and Governance in Emerging Markets

Research Design

A mixed-methods institutional analysis using a comparative case study and an original Institutional Readiness Index

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Declaration

Ethics Approval and Consent to Participate

Not applicable.

Consent for Publication

Not applicable.

Availability of Data and Materials

The data supporting the findings of this study are derived from publicly available sources, including OECD, World Bank Global Findex, CPMI, FATF, and national regulatory publications. Detailed source references and indicator construction are provided in Appendix A. Data are available from the corresponding author upon reasonable request.

Competing Interests

The authors declare that they have no competing interests.

Funding

This research received no external funding.

Authors' Contributions

Dr. Hisham Bakr conceived the study, led the conceptualisation, developed the theoretical framework, research design, the methodology, conducted the analysis, and drafted and revised the manuscript.

Ms. Carolina Suárez Agudelo contributed to background literature review and early-stage conceptual discussions.

Both authors reviewed and approved the final manuscript.

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Abstract

The rapid expansion of cross-border digital payment platforms presents emerging economies with a fundamental governance challenge: how to harness financial innovation and inclusion benefits while preserving regulatory sovereignty. This study develops and empirically applies the concept of a regulatory–digital sovereignty space to examine how institutional readiness conditions governance outcomes in platform-based payment systems. Drawing on regulative institutional theory and platform governance scholarship, the analysis conceptualises sovereignty not as a binary attribute but as a capacity-dependent outcome shaped by regulatory coordination, enforcement capability, and functional control over critical infrastructures.

Using a mixed-methods research design, the paper combines a transparent institutional readiness index with comparative regulatory analysis of Colombia as a focal case, alongside Brazil and Mexico as regional benchmarks. The findings of this study show that effective governance of cross-border digital payment platforms depends less on formal openness or restriction and more on how institutional capacities are sequenced and aligned across payments, data governance, and Anti-Money Laundering and Counter-Terrorist Financing (AML/CFT) oversight. Where such capacities are sufficiently developed, foreign platform integration can coexist with sovereign regulatory authority.

The study contributes to financial innovation research by introducing the regulatory–digital sovereignty space as a novel analytical domain for mapping governance positions and

by offering a structured analytical basis to assess platform integration strategies in emerging markets.

Keywords: cross-border payments; digital payment platforms; regulatory sovereignty; institutional readiness; platform governance; emerging markets

JEL Classifications: F23, G21, G28, O33, O57

1. Introduction

The rapid cross-border expansion of digital payment platforms has become one of the most consequential developments in contemporary financial systems. Platforms such as Alipay, WeChat Pay, PayPal, and Stripe increasingly operate beyond their home jurisdictions, embedding themselves in the payment infrastructures of emerging economies where traditional banking penetration remains uneven. Unlike conventional financial intermediaries, these platforms combine technological architectures, data-driven governance, and multi-sided network effects, enabling them to scale internationally with unprecedented speed (Cumming et al., 2023; Frost et al., 2019). Their expansion promises significant benefits—most notably lower transaction costs, improved payment efficiency, and accelerated financial inclusion—but it simultaneously raises complex regulatory challenges for host-country authorities.

A defining tension emerges when foreign digital payment platforms enter emerging markets: how can regulators capture innovation and inclusion gains without eroding regulatory sovereignty? For example, while a foreign platform may rapidly expand access to digital payments among unbanked populations, it may also control critical payment data, operate under home-country technological standards, or rely on cross-border data flows that strain domestic oversight capabilities. These trade-offs are particularly salient in emerging economies, where regulatory institutions are often still adapting to digital finance and where platform entry can reshape payment ecosystems more quickly than regulatory frameworks can respond (Demirguc-Kunt et al., 2018; Kenney & Zysman, 2020).

Existing academic research has examined aspects of fintech expansion from multiple perspectives, including international business strategy, platform governance, and financial regulation. However, much of this literature treats fintech globalization either as a firm-level internationalization strategy or as a policy challenge in isolation. As a result, two limitations persist. First, the concept of “fintech internationalisation” is often used imprecisely, obscuring

important differences between platform types such as payments, lending, and investment services, which entail distinct risk profiles and regulatory implications. Second, institutional theory is frequently invoked without clearly specifying which institutions are involved or how they operate in digital, platform-mediated contexts (Langley & Leyshon, 2023; Powell & DiMaggio, 1991).

This study addresses these gaps by focusing explicitly on cross-border digital payment platforms and by situating their expansion within the framework of host-country regulative institutions. Rather than treating fintech internationalisation as a generic phenomenon, the paper conceptualizes platform expansion as a process of regulatory–platform negotiation, in which host-country authorities must balance financial inclusion objectives against concerns related to data governance, Anti-Money Laundering (AML), Know Your Customer (KYC) enforcement, and regulatory autonomy. To illustrate this logic, the study examines the potential entry of Alipay into Colombia, complemented by comparative evidence from Brazil and Mexico. These countries share similar development trajectories but differ meaningfully in regulatory capacity and payment-system governance, making them analytically useful points of comparison.

The core contribution of this paper is the development of a Regulatory–Digital Sovereignty Space that explains how emerging economies assess and manage foreign digital payment platform entry. The framework integrates insights from regulative institutional theory and platform governance to show how institutional readiness, regulatory architecture, digital sovereignty imperatives, and development alignment interact in shaping policy outcomes. Methodologically, the study adopts a structured mixed-methods approach, combining qualitative regulatory analysis with a transparent index-based assessment of institutional readiness. To ensure rigor and replicability, detailed information on data sources,

indicator construction, weighting logic, and validation procedures is provided and cross-referenced throughout the paper (see Appendix A).

By clarifying the conceptual boundaries of cross-border digital payment platforms and by explicitly theorizing the role of host-country regulative institutions, this study contributes to the growing literature on fintech governance in emerging markets. This positioning is consistent with emerging work on governance systems under uncertainty that emphasises multi-level coordination and value alignment across institutional contexts (Bakr, 2026). Practically, it offers policymakers a structured analytical tool for evaluating foreign platform entry, while providing platform operators with insight into the regulatory expectations they are likely to face. In doing so, the paper advances understanding of how financial innovation can be integrated into domestic systems without compromising regulatory sovereignty.

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature and develops the theoretical foundations of the Regulatory–Digital Sovereignty Framework. Section 3 outlines the research design, data sources, and methodological approach. Section 4 presents the empirical analysis of the Colombia case with comparative references to Brazil and Mexico. Section 5 discusses theoretical and policy implications, and Section 6 concludes with recommendations and directions for future research.

2. Literature Review and Theoretical Foundations

This section develops the theoretical foundations of the Regulatory–Digital Sovereignty Framework by integrating three closely connected strands of literature: (1) cross-border digital payment platforms, (2) regulative institutions and digital sovereignty, and (3) platform governance in emerging markets. Rather than providing an exhaustive survey of fintech research, the review is intentionally selective, focusing only on bodies of work that directly inform the framework's analytical logic and explanatory scope.

2.1 Cross-Border Digital Payment Platforms

Digital payment platforms constitute a distinct class of financial technology actors. Following platform-based taxonomies of financial services, payment platforms are distinguished from other fintech activities by their role as transactional and infrastructural intermediaries rather than balance-sheet institutions, mediating exchanges without assuming direct credit or investment risk (Feyen et al., 2021). Unlike digital lending or investment platforms, payment platforms primarily mediate transactional exchanges between consumers and merchants, operating as infrastructural intermediaries rather than balance-sheet institutions. Their value derives from network effects, data aggregation, and standardized technological interfaces, which enable rapid scalability across national borders with relatively limited physical presence (Frost et al., 2019).

The international expansion of payment platforms differs fundamentally from traditional models of financial internationalization. Rather than relying on foreign subsidiaries or branch networks, platforms expand by embedding themselves within existing payment ecosystems through Application Programming Interfaces (APIs), Quick Response (QR) code standards, and partnerships with local banks or merchants (Bakr, 2026). This form of expansion has been described as infrastructural penetration, whereby platforms integrate into host-country financial systems while retaining key operational components—such as data processing and algorithmic governance—outside domestic regulatory control (Kenney & Zysman, 2020).

Importantly, in emerging economies this mode of platform expansion has direct development implications, as the governance of payment infrastructures increasingly conditions small and medium-sized enterprise participation, access to finance, and productive inclusion within domestic markets (Blancher et al., 2019).

Recent international business scholarship cautions against treating fintech expansion as a homogeneous process. Cumming et al. (2023) emphasize that fintech firms vary widely in their risk profiles, regulatory exposure, and systemic importance. Payment platforms, in particular, pose distinctive challenges because they combine low apparent financial risk with high systemic relevance once widely adopted. This asymmetry complicates regulatory responses, especially in emerging markets where payment platforms can become systemically important before appropriate oversight mechanisms are fully established.

By focusing explicitly on cross-border digital payment platforms, this study avoids the conceptual ambiguity associated with broader notions of "fintech internationalization" and aligns its analytical scope with the distinct regulatory challenges documented in the literature, including data governance, AML/KYC enforcement, and host-country oversight capacity.

2.2 Regulative Institutions and Digital Sovereignty

Institutional theory provides a foundational lens for understanding how regulatory systems respond to new organizational forms. Within this tradition, regulative institutions—formal rules, enforcement mechanisms, and supervisory authorities—structure economic behavior by defining permissible actions and sanctioning non-compliance (Powell & DiMaggio, 1991). In digital finance, these institutions face increasing strain as platform-based models transcend territorial boundaries and operate through globally distributed infrastructures.

The emergence of digital sovereignty as a policy concern reflects growing awareness that control over data, digital infrastructures, and platform governance has become central to state authority. Pohle and Thiel (2020) conceptualize digital sovereignty as the capacity of political communities to exercise control over digital processes that shape economic and

social outcomes. In financial systems, this concern manifests through debates over data localization, AML enforcement, KYC requirements, and cross-border regulatory cooperation.

Langley and Leyshon (2023) show that regulators increasingly face a paradoxical role: they must regulate with platforms to achieve policy goals such as efficiency and inclusion, while simultaneously regulating against platforms to limit concentration of power and protect public interests. This tension is particularly acute in emerging economies, where regulatory capacity may be uneven and where foreign platforms often possess superior technological and organizational capabilities.

Recent work on digital sovereignty in the Global South further underscores these dynamics. Jiang and Belli (2025) examine how Brazil, Russia, India, China, and South Africa (BRICS) countries—representing approximately 40% of the world's population and 25% of the global Gross Domestic Product (GDP)—are reshaping digital governance through regulatory approaches spanning e-payment systems, smart cities, and data infrastructures. Their analysis highlights how emerging economies increasingly treat digital payment platforms as strategic infrastructure, reinforcing the relevance of sovereignty considerations in cross-border platform governance.

Recent sovereignty-focused research further suggests that regulatory responses are rarely binary. Rather than choosing between openness and closure, states often adopt hybrid approaches that selectively accommodate foreign platforms while seeking to preserve core regulatory functions and negotiated authority within transnational digital systems (Jiang & Belli, 2025). These insights directly inform the Regulatory–Digital Sovereignty Framework by clarifying the institutional trade-offs that host countries face when managing cross-border digital payment platform entry.

2.3 Platform Governance in Emerging Markets

Platform governance scholarship examines how platforms structure interactions among users, complementors, and regulators through formal rules, contractual arrangements, and technological design (Parker et al., 2016). Governance mechanisms are embedded not only in legal agreements but also in code, algorithms, and interface standards (Bakr, 2026c), giving platforms substantial power to shape market behavior. In cross-border contexts, governance challenges intensify as platforms must operate across heterogeneous regulatory regimes while maintaining standardized operations. Gorwa (2019) argues that platform governance increasingly involves public–private interactions, where regulatory authority is partially delegated to platforms through compliance technologies and reporting systems. This delegation can improve efficiency but may also weaken direct regulatory oversight.

Emerging markets present a particularly complex governance environment. On one hand, digital payment platforms can accelerate financial inclusion by reducing transaction costs and bypassing traditional banking infrastructure. On the other hand, weak institutional capacity can heighten risks of regulatory arbitrage, market dominance, and accountability deficits (Kenney & Zysman, 2020). These risks are amplified when platforms originate in jurisdictions with different regulatory norms and geopolitical interests.

Recent studies on the transnational expansion of Chinese payment platforms highlight how sociotechnical strategies—such as API productization and ecosystem partnerships—allow platforms to adapt to local regulatory constraints without fundamentally altering their core architecture (Wang, 2018, 2025). These findings suggest that platform governance is a co-evolutionary process involving regulators, domestic financial institutions, and international standards bodies (Bakr, 2026d), rather than a unilateral exercise of platform power.

2.4 Synthesis and Theoretical Implications

Synthesizing these three strands reveals a persistent gap in the literature. While digital payment platforms are widely recognized as drivers of financial innovation, insufficient attention has been paid to how host-country regulative institutions mediate their cross-border integration under conditions of constrained sovereignty. Existing studies often focus either on firm strategy or on regulatory design in isolation, leaving the interaction between platforms and institutional capacity under-theorized.

The Regulatory–Digital Sovereignty Framework addresses this gap by explicitly linking platform governance mechanisms with institutional readiness and sovereignty imperatives. By grounding the analysis in regulative institutional theory and focusing on cross-border digital payment platforms, the framework provides a structured lens for understanding how emerging economies evaluate and manage foreign platform entry. This theoretical synthesis lays the foundation for the methodological approach and empirical analysis developed in the following sections.

3. Methodology

3.1 Research Design and Analytical Orientation

This study adopts a theory-driven mixed-methods research design to examine how emerging economies assess and manage the entry of foreign cross-border digital payment platforms under conditions of rapid digitalisation and evolving regulatory capacity. The methodological approach is aligned with the Regulatory–Digital Sovereignty Framework and is designed to capture institutional readiness, regulatory architecture, and governance trade-offs rather than to estimate causal effects.

Mixed-methods designs are widely used in institutional and regulatory research where governance outcomes depend on formal rules, enforcement practices, and policy coordination rather than on market variables alone (Eisenhardt, 1989; Yin, 2018). In the context of digital

payments, platform expansion frequently precedes the full adaptation of regulatory systems, making qualitative regulatory analysis combined with structured indicator-based assessment particularly appropriate (Langley & Leyshon, 2023).

The methodology integrates two complementary components:

(1) qualitative analysis of regulatory frameworks, policy documents, and supervisory practices; and

(2) a transparent, index-based assessment of institutional readiness informed by authoritative international benchmarks.

3.2 Case Selection and Comparative Logic

The empirical focus is on Colombia as the primary case, with Brazil and Mexico included as comparative reference cases. Case selection follows a theoretical sampling logic rather than statistical representativeness (Stake, 1995). Colombia was selected as the primary case for three reasons. First, it represents a mid-sized emerging economy experiencing rapid growth in digital payments, with instant transfers increasing by approximately 350 percent in transaction volume and 297 percent in value between 2023 and 2024 (Banco de la República, 2025b). Second, Colombia is undergoing an explicit phase of fintech regulatory evolution, marked by the introduction of an open finance framework in 2024 and the launch of the Bre-B instant payment system in 2025 (Banco de la República, 2025a, 2025b; Superintendencia Financiera de Colombia, 2024). Third, its geographic and economic position places it at the centre of Latin America's fintech expansion, making it a relevant test case for institutional readiness under foreign platform entry.

Brazil and Mexico are included as comparative cases because they share similar development trajectories, fintech adoption patterns, and regional regulatory contexts while exhibiting distinct regulatory architectures. Brazil operates under a comprehensive central-bank-led regulatory framework for payments and open finance, whereas Mexico's fintech

governance is anchored in the 2018 Fintech Law. This variation enables analytical triangulation and contextual validation of Colombia's institutional readiness patterns.

3.3 Data Sources and Data Collection

The analysis relies exclusively on secondary data sources drawn from authoritative international and national institutions. Such sources are standard in comparative fintech governance research and are particularly suitable for analysing regulatory capacity and institutional readiness (Cumming et al., 2023; Fitzgerald et al., 2025; OECD, 2024b; Sahay et al., 2020).

Primary data sources include Organisation for Economic Co-operation and Development (OECD) Digital Economy Outlook reports (2024–2025), the World Bank Global Findex Database 2025, Bank for International Settlements (BIS), Committee on Payments and Market Infrastructures (CPMI) publications on cross-border payments, Financial Action Task Force (FATF) recommendations and guidance on AML, CFT and financial inclusion, and regulatory and statistical reports issued by the Banco de la República and the Superintendencia Financiera de Colombia.

All data sources, coverage periods, and analytical uses are systematically documented in Appendix A.1 (Table A1), ensuring full transparency and replicability.

3.4 Institutional Readiness Index Construction

To operationalise the institutional readiness dimension of the Regulatory–Digital Sovereignty Framework, the study constructs a composite Institutional Readiness Index. Composite indicators are commonly used in governance and regulatory analysis to structure complex, multidimensional institutional phenomena (OECD, 2008).

The index comprises four theoretically grounded dimensions: regulatory capacity, supervisory capability, enforcement effectiveness, and innovation support mechanisms. Indicators are derived from OECD, World Bank, BIS/CPMI, FATF, and national financial

regulatory authorities (Committee on Payments and Market Infrastructures, 2024; Demirguc-Kunt et al., 2018; Financial Action Task Force, 2025b; OECD, 2008).

The complete indicator definitions, coding rules, and source mappings are provided in Appendix A.2 through Appendix A.6. Equal weighting (0.25 per dimension) is applied to avoid imposing a priori assumptions about institutional component dominance, consistent with OECD (2008) guidance on composite indicator construction.

3.4.1 Indicator Scoring and Aggregation Methodology

Individual indicators are scored using a standardised three-point scale adapted from OECD composite indicator guidelines:

Score 2 indicates high institutional capacity, where a comprehensive regulatory framework is in place and operational with demonstrated enforcement.
Score 1 indicates moderate capacity, where a partial framework exists but with implementation gaps. Score 0 indicates low capacity, where regulatory infrastructure is absent or nascent. For example, regulatory capacity for open finance is scored as follows: Score 2 corresponds to an operational open finance regime with active application programming interface frameworks, as observed in Brazil (OECD, 2024a, 2024b).
Score 1 corresponds to a published but still-implementing framework, such as Colombia's Circular Externa 004 de 2024 (Superintendencia Financiera de Colombia, 2024). Score 0 corresponds to the absence of formal open finance regulation.

Dimension scores are calculated as the arithmetic mean of constituent indicators within each dimension. The overall Institutional Readiness Index is computed as the unweighted average of the four-dimension scores, yielding a 0–2 scale where higher values indicate greater institutional preparedness. Specific indicator-to-score mappings with source citations are documented in Appendix A.2 through Appendix A.5.

3.5 Validation and Robustness Strategy

Framework validation employs three complementary strategies. First, external benchmarking compares index scores against independent OECD, World Bank, and BIS regulatory assessments to ensure plausibility and alignment with established governance metrics (Committee on Payments and Market Infrastructures, 2024; Demirguc-Kunt et al., 2018; OECD, 2024a).

Second, cross-country consistency checks verify that relative rankings between Colombia, Brazil, and Mexico align with documented differences in regulatory maturity, fintech ecosystem scale, and AML/KYC enforcement capacity reported by FATF (Financial Action Task Force, 2025a, 2025b, 2025c) and national regulators.

Third, qualitative triangulation cross-validates quantitative index results with regulatory timeline analysis, including Colombia's 2024–2025 regulatory reforms and the launch of the Bre-B instant payment system, to ensure that scores reflect actual institutional developments rather than measurement artefacts. Descriptive statistics and index scores are reported in Appendix A.7.

4. Empirical Analysis: Institutional Readiness, Regulatory Sequencing, and Digital Sovereignty

This section operationalises the Regulatory–Digital Sovereignty Framework developed in Sections 2 and 3 and applies it to the empirical analysis of cross-border digital payment platform integration. The objective is not to assess firm performance or predict market outcomes, but to evaluate host-country institutional readiness, regulatory architecture, and development alignment under conditions of platform entry. Colombia is analysed as the focal case, with Brazil and Mexico used as structured comparators to situate Colombia's regulatory position within the Latin American payment governance landscape. Evidence is

drawn continuously from the Institutional Readiness Index and supporting indicators documented in Appendix A.

4.1 Analytical Strategy and Empirical Scope

The empirical strategy proceeds in four steps. First, regulatory architecture complexity index is mapped comparatively across Colombia, Brazil, and Mexico to identify asymmetries in institutional capacity and enforcement (Figure 1). Second, cross-border platform governance is conceptualised as a relational institutional system rather than a bilateral state–firm interaction (Figure 2). Third, these dimensions are synthesised within the Regulatory–Digital Sovereignty Space to position countries according to readiness and sovereignty trade-offs (Figure 3). Fourth, Colombia is examined in detail to explain how regulatory fragmentation and sequencing shape its empirical position (Figure 4), before demonstrating how the framework can be applied as a regulatory assessment tool using the Alipay–Colombia alignment matrix (Figure 5).

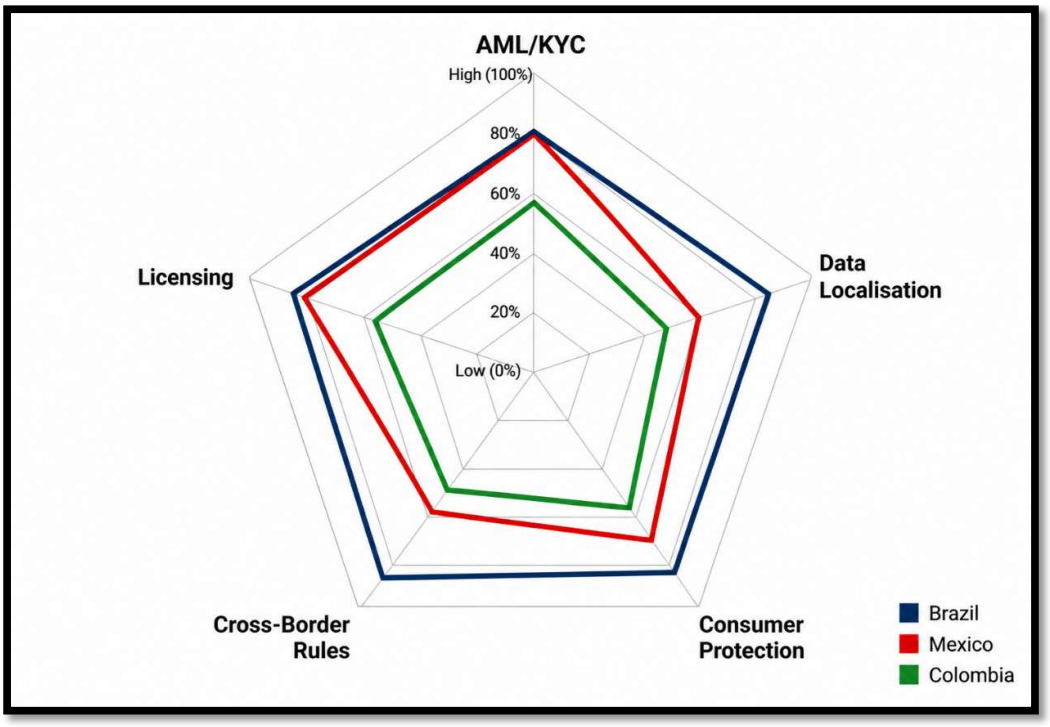
The analysis explicitly avoids causal claims regarding platform impacts and does not evaluate Alipay's commercial strategy. Instead, it examines how host-country regulative institutions structure the conditions under which foreign digital payment platforms may be integrated. This scope directly reflects the methodological constraints and index-based approach outlined in Section 3 and Appendix A.

4.2 Mapping Regulatory Architecture Complexity Index

Figure 1 presents the Regulatory Architecture Complexity Index across five dimensions—anti-money laundering and counter-terrorist financing (AML/CFT), data localisation, consumer protection, cross-border rules, and licensing—comparing Colombia with Brazil and Mexico. The radar structure reveals not only cross-country differences but also intra-country asymmetries that are obscured in aggregate readiness scores.

Figure 1

Regulatory Architecture Complexity Index for Colombia, Brazil, and Mexico



Note. This radar chart compares key regulatory dimensions across three jurisdictions. Scores are normalised on a 0–100 scale for comparative visualisation and do not correspond directly to the 0–2 Institutional Readiness Index values reported in Appendix A.7. Brazil exhibits a balanced, high-enforcement profile; Mexico shows relative strength in licensing but lags in cross-border oversight; Colombia represents an intermediate position with fragmentation in anti-money laundering and counter-terrorist financing (AML/CFT) enforcement. Data adapted from Committee on Payments and Market Infrastructures (2024) and OECD (2024a).

Brazil exhibits the most internally coherent regulatory profile. High scores across AML/KYC enforcement, licensing clarity, and cross-border payment rules reflect the central role of the Banco Central do Brasil and its consolidated authority over payment systems and open finance. This coherence reduces regulatory uncertainty for platform operators and enhances supervisory capacity, consistent with CPMI and OECD assessments of Brazil's

payment infrastructure maturity (Committee on Payments and Market Infrastructures, 2024; OECD, 2024a).

Mexico displays a more uneven profile. While licensing and AML/KYC dimensions are comparatively strong due to the 2018 Fintech Law, cross-border payment rules and consumer protection mechanisms remain less developed. This asymmetry reflects the law's initial focus on domestic fintech formalisation rather than transnational platform governance, a pattern also noted in OECD comparative reviews (OECD, 2024a)

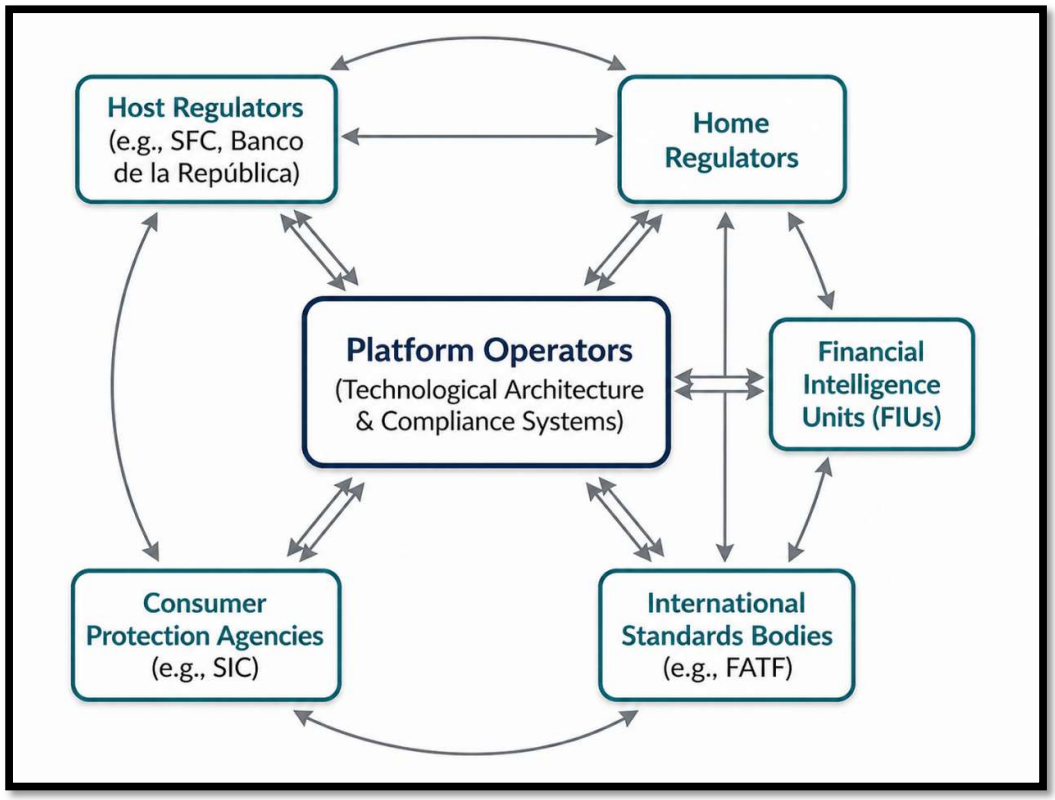
Colombia occupies an intermediate but fragmented position. Licensing frameworks and financial inclusion policy instruments score moderately, yet AML/KYC enforcement capacity and cross-border payment oversight lag behind regional peers (Appendix A.7). The radar chart highlights that Colombia's regulatory challenge is not absence of regulation but uneven depth across domains. Such asymmetry is institutionally significant: payment platforms can scale rapidly in areas of regulatory strength while exploiting gaps in enforcement or cross-border oversight. This pattern aligns with Langley and Leyshon's (2023) observation that regulators increasingly regulate with platforms in some domains while struggling to regulate against them in others.

4.3 Platform Governance as a Relational Institutional System

Figure 2 reframes cross-border payment platform governance as a multi-actor institutional system rather than a dyadic interaction between a host regulator and a foreign platform.

Figure 2

Cross-Border Platform Governance Framework



Note. This figure illustrates the relational governance structure of cross-border digital payment platforms, highlighting the distributed and reciprocal interactions among platform operators, host-country regulators, home-country regulators, financial intelligence units (FIUs), consumer protection agencies, and international standards bodies. Platform operators are embedded within a multi-level institutional environment shaped by domestic oversight and transnational regulatory standards. Host regulators include the Superintendencia Financiera de Colombia (SFC) and Banco de la República, while consumer protection oversight is exercised by the Superintendencia de Industria y Commerce (SIC). International standards bodies, such as the Financial Action Task Force (FATF), influence platform governance indirectly through compliance and supervisory expectations.

At the centre are platform operators, whose technological architectures and compliance systems mediate interactions among host regulators, home regulators, financial intelligence units, international standards bodies, and consumer protection agencies. Governance authority is distributed rather than hierarchical. For example, AML/KYC standards are shaped by FATF recommendations, enforced domestically by financial intelligence units, and operationalised through platform-level compliance technologies.

This relational perspective is analytically important for digital sovereignty. Sovereignty is not exercised solely through exclusion or control, but through negotiated participation in transnational governance networks. As Langley and Leyshon (2023) argue, regulators increasingly depend on platform infrastructures to achieve policy goals such as payment efficiency and inclusion, even as they seek to constrain platform power. In the Colombian case, this dependence is visible in the reliance on private payment processors and digital platforms to expand access beyond traditional banking networks.

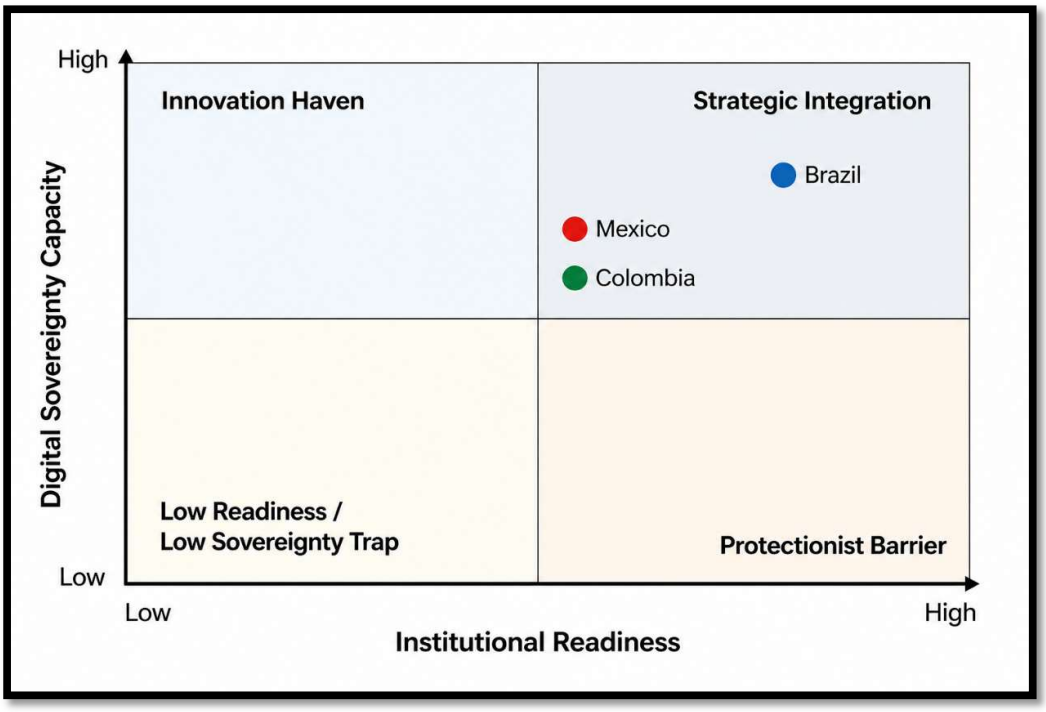
Figure 2 also clarifies why sovereignty debates cannot be reduced to ideology. Host regulators may accept foreign platform participation while retaining authority over specific nodes—such as data protection (SIC) or monetary settlement (Banco de la República)—thereby exercising selective sovereignty rather than absolute control. This logic underpins the framework's rejection of binary openness-versus-protectionism narratives.

4.4 Positioning Countries in the Regulatory–Digital Sovereignty Space

Figure 3 constitutes the core empirical contribution of the paper by translating institutional readiness and sovereignty considerations into a two-dimensional analytical space.

Figure 3

Positioning Countries in the Regulatory–Digital Sovereignty Space



Note. This matrix translates institutional readiness and digital sovereignty capacity into a two-dimensional analytical space. Quadrant labels represent ideal-type regulatory configurations rather than normative policy prescriptions. Brazil is positioned in the "Strategic Integration" quadrant, reflecting high institutional readiness and high sovereignty capacity. Colombia occupies an intermediate position between the "Innovation Haven" and "Strategic Integration" quadrants, indicating openness to platform integration alongside developing sovereignty controls. Mexico is positioned closer to the boundary between these quadrants, reflecting comparatively higher regulatory caution relative to its institutional readiness.

The upper-right quadrant (Strategic Integration) represents high institutional readiness combined with high sovereignty capacity. Brazil approximates this position due to its consolidated regulatory architecture, explicit data governance rules, and central-bank-led

payment oversight. Brazil's approach illustrates how sovereignty can be preserved through institutional capacity rather than exclusion.

The upper-left quadrant (Innovation Haven) reflects high readiness but low sovereignty constraints. Jurisdictions in this position may attract rapid platform entry but risk long-term dependence or regulatory capture. While not the focus here, this quadrant is analytically important for understanding why some emerging markets experience rapid fintech diffusion without commensurate governance gains.

The lower-right quadrant (Protectionist Barrier) captures low readiness combined with high sovereignty claims. Regulatory rigidity in this space may preserve formal control while discouraging innovation and delaying inclusion benefits.

Colombia is positioned between the innovation haven and strategic integration quadrants. Appendix A.7 shows moderate institutional readiness scores alongside relatively weak digital sovereignty instruments, particularly in data localisation and cross-border payment oversight. This intermediate position explains Colombia's openness to foreign platforms alongside persistent regulatory caution. Mexico occupies a similar but slightly more sovereignty-oriented position due to statutory fintech legislation, though with weaker institutional coherence than Brazil.

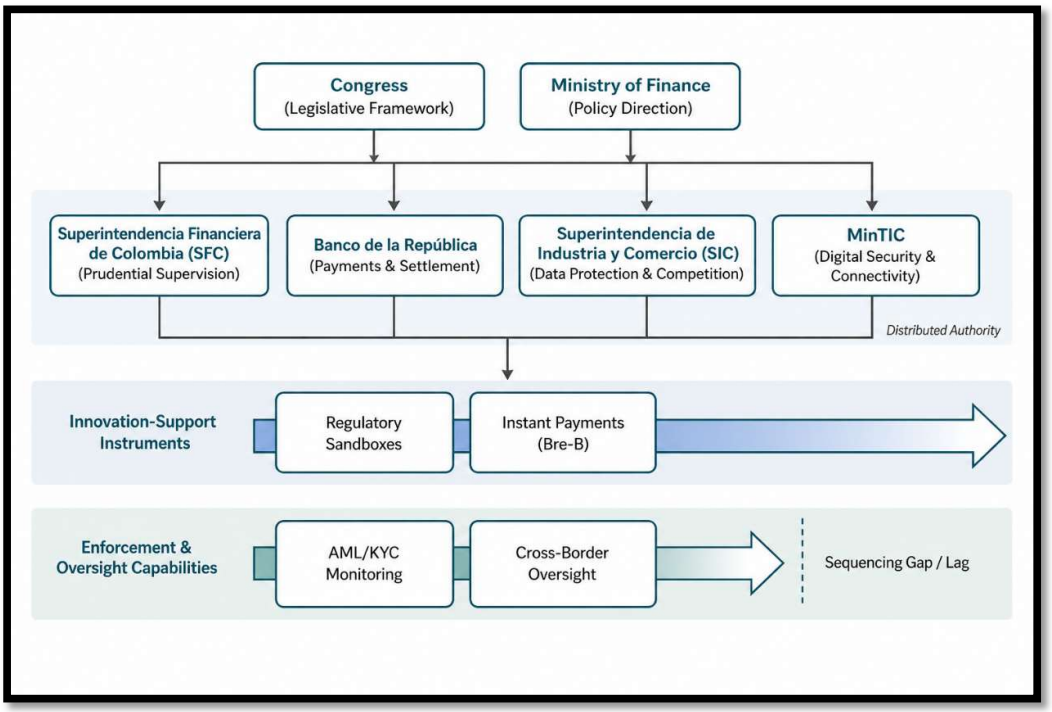
By positioning countries along these axes, the Regulatory–Digital Sovereignty Space demonstrates that sovereignty is conditional on capacity. As Jiang and Belli (2025) emphasise, emerging economies increasingly pursue hybrid strategies that combine openness with selective control rather than absolute closure.

4.5 Colombia as a Focal Case: Institutional Coordination and Regulatory Sequencing

Figure 4 maps Colombia's fintech regulatory landscape to explain why its empirical position reflects both openness and constraint.

Figure 4

Colombia's Fintech Regulatory Landscape: Institutional Coordination and Regulatory Sequencing



Note. This diagram maps Colombia's fintech regulatory landscape, illustrating how regulatory authority is distributed across Congress, the Ministry of Finance, the Superintendencia Financiera de Colombia (SFC), Banco de la República, the Superintendencia de Industry and Commerce (SIC), and the Ministry of Information and Communications Technologies (MinTIC). Each institution governs a distinct regulatory dimension—including prudential supervision, payments and settlement, data protection, competition, and digital security—within a fragmented but evolving governance architecture.

The figure highlights a sequencing gap in which innovation-support instruments, such as regulatory sandboxes and instant payment systems (Bre-B), have advanced more rapidly than enforcement and oversight capabilities, particularly in anti-money laundering and counter-terrorist financing (AML/CFT) monitoring and cross-border supervision (Appendix

A.5–A.7). This sequencing dynamic helps explain Colombia's intermediate positioning in the Regulatory–Digital Sovereignty Space (Figure 3), reflecting policy ambition and institutional layering rather than regulatory inconsistency. OECD and FATF assessments similarly identify coordination and supervisory integration as the central governance challenge, rather than the absence of formal regulatory rules.

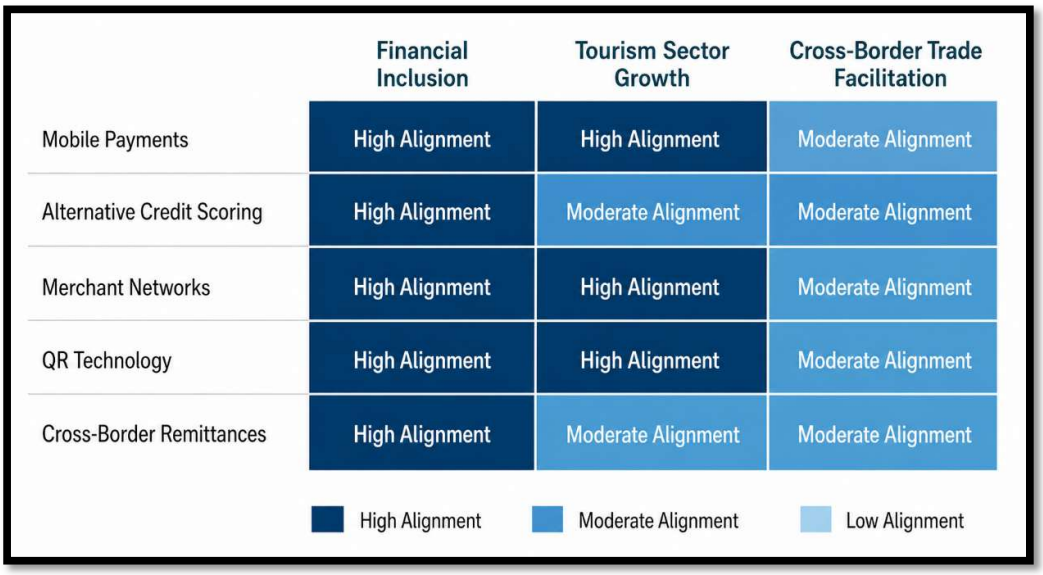
From an institutional perspective, this sequencing explains Colombia's intermediate placement in Figure 3, reflecting broader patterns of institutional adaptation under conditions of regulatory change (Bakr, 2026e). Rather than reflecting policy inconsistency, it reflects the gradual layering of regulative institutions typical of emerging economies. OECD and FATF assessments similarly note that Colombia's challenge lies in integrating digital finance oversight across agencies rather than establishing new rules per se.

4.6 Applying the Framework as a Regulatory Tool

Figure 5 demonstrates how the Regulatory–Digital Sovereignty Space can be used operationally by regulators to assess development alignment without endorsing specific firms.

Figure 5

Projected Evolutionary Trajectories within the Regulatory–Digital Sovereignty Space (2025–2030): A Capacity-Dependent Model



Note. This matrix evaluates how generic digital payment platform capabilities map onto Colombia's development priorities. High alignment scores in financial inclusion and tourism reflect structural complementarities between digital payment platform capabilities and Colombia's development priorities, reinforced by elevated innovation support capacity during the 2024–2025 period, while moderate scores in cross-border trade highlight areas requiring regulatory safeguards.

The alignment matrix evaluates how generic platform capabilities—mobile payments, alternative credit scoring, merchant networks, QR technology, and cross-border remittances—map onto Colombia's development priorities. Moderate scores in cross-border trade highlight areas where regulatory safeguards and complementary policies would be required.

Importantly, the matrix does not imply unconditional openness. It illustrates selective integration logic: regulators can permit entry in domains with high development alignment

while imposing stricter conditions in areas linked to sovereignty risks, such as data governance or remittance flows. This approach aligns with CPMI and OECD guidance on proportional regulation of cross-border payments (Committee on Payments and Market Infrastructures, 2024; OECD, 2025).

4.7 Empirical Synthesis

The empirical analysis yields three core insights. First, institutional readiness is multidimensional and uneven; aggregate scores mask asymmetries that are critical for platform governance. Second, digital sovereignty is exercised through institutional coordination and regulatory sequencing rather than binary openness or closure. Third, development alignment provides a pragmatic criterion for selective integration of foreign platforms.

Together, these findings make the Regulatory–Digital Sovereignty Space empirically visible and analytically tractable. They also prepare the ground for Section 5, which draws out theoretical implications for institutional theory and platform governance, and policy implications for emerging economies managing cross-border digital payment platforms.

5. Discussion and Implications

This section deepens and systematises the interpretation of the empirical findings of this study presented in Section 4. Rather than reiterating descriptive results, it clarifies how the Regulatory–Digital Sovereignty Space advances existing debates in regulative institutional theory, platform governance, and digital finance in emerging markets. The discussion specifies the institutional mechanisms at stake, situates the findings of this study in relation to recent scholarship, and delineates the analytical boundaries of the framework.

5.1 Theoretical Implications: Regulative Institutions, Digital Payments, and Sovereignty

This subsection develops the core theoretical contribution of the paper by situating the empirical findings of this study within regulative institutional theory and recent debates on digital sovereignty. It clarifies the institutional foundations of the argument by specifying which regulative institutions matter, how they operate in digital payment contexts, and why cross-border platforms require a rethinking of conventional institutional assumptions. The discussion clarifies which institutions matter, how they operate in digital payment contexts, and what changes when financial intermediation is organised through cross-border platforms rather than territorially bounded banks.

5.1.1 Regulative Institutions in Digital Payment Ecosystems

Within the tradition of the new institutionalism, regulative institutions are understood as formal rules, enforcement mechanisms, and sanctioning capacities that structure economic behaviour (Powell & DiMaggio, 1991). In conventional financial systems, these institutions are typically aligned with territorially bounded intermediaries, balance-sheet risks, and licensing regimes. Cross-border digital payment platforms disrupt this alignment by operating as infrastructural intermediaries: they facilitate transactions, aggregate data, and coordinate multi-sided markets while often remaining outside the balance-sheet logic that underpins prudential regulation (Frost et al., 2019).

The empirical analysis in Section 4 demonstrates that this infrastructural character fundamentally alters how regulative institutions function. Institutional effectiveness is no longer determined solely by the presence of formal rules, but by the capacity of regulators to coordinate across domains (Bakr, 2026b) such as payments, data protection, consumer protection, and AML/KYC enforcement. Colombia's case illustrates this clearly. While formal regulatory instruments exist in each of these domains, they are governed by different

authorities with limited coordination, producing what the framework conceptualises as asymmetric institutional readiness.

These findings advance regulative institutional theory by showing that institutional strength in digital finance cannot be inferred from rule density alone. Instead, it depends on the alignment between rulemaking, enforcement, and inter-agency coordination. This insight resonates with OECD analyses of digital financial regulation, which emphasise that fragmented oversight structures weaken regulatory effectiveness even in the presence of sophisticated legal frameworks (OECD, 2024a).

5.1.2 Institutional Sequencing and Regulatory Capacity

A second theoretical implication concerns institutional sequencing. Classical institutional accounts often treat institutions as relatively stable constraints that adapt incrementally to economic change. In contrast, digital payment systems evolve rapidly, frequently outpacing regulators' ability to build enforcement and coordination capacity. The Colombian case shows that innovation-enabling instruments—such as regulatory sandboxes and open finance frameworks—have been introduced earlier and more rapidly than mechanisms for cross-border supervision and AML enforcement (Appendix A.5–A.7).

Rather than interpreting this pattern as regulatory failure, the Regulatory–Digital Sovereignty Space conceptualises it as a common trajectory in emerging markets, where institutional development proceeds through layering and sequencing. Early-stage innovation policies create entry points for platforms, while enforcement institutions mature more slowly due to resource, expertise, and coordination constraints. This sequencing logic extends institutional theory by highlighting temporality as a central dimension of digital financial governance.

Importantly, the framework also shows that sequencing has sovereignty implications. When enforcement capacity lags too far behind innovation, regulators risk losing effective

control over critical infrastructures. Conversely, where sequencing is more balanced—as in Brazil—regulators are better positioned to integrate foreign platforms while retaining authority over settlement systems and data governance. This comparative insight underscores that sovereignty outcomes are shaped by institutional timing as much as by formal policy choices.

5.1.3 Reframing Digital Sovereignty Through Institutional Capacity

A third theoretical contribution concerns the concept of digital sovereignty. Much of the existing literature frames sovereignty as a binary condition: either eroded by global digital platforms or preserved through protectionist measures such as data localisation or market exclusion (Pohle & Thiel, 2020). Recent work on the Global South complicates this view, showing that emerging economies increasingly pursue hybrid strategies that combine openness with selective control (Jiang & Belli, 2025).

The empirical findings of this study support and extend this perspective by demonstrating that sovereignty in digital payments is conditional on institutional readiness. Sovereignty is exercised not primarily through ownership or exclusion, but through the ability of regulative institutions to retain control over specific functional nodes within payment ecosystems. These include settlement infrastructure (typically governed by central banks), data protection enforcement, and AML/KYC supervision. Where regulators maintain authority over these nodes, they can accommodate foreign platform participation without ceding effective control.

This capacity-based interpretation reframes sovereignty as an outcome of institutional coordination rather than an ideological stance. Colombia's intermediate position in the Regulatory–Digital Sovereignty Space reflects not a lack of political will, but limitations in coordination and enforcement capacity. This distinction is theoretically significant because it shifts the analytical focus from policy rhetoric to institutional performance.

5.1.4 Contributions to Institutional Theory

Taken together, these insights extend regulative institutional theory in three ways. First, they demonstrate that digital payment platforms require a re-specification of what constitutes effective regulation, moving beyond rulemaking toward coordination and enforcement capacity. Second, they introduce sequencing as a critical dimension of institutional analysis in fast-moving technological environments. Third, they reconceptualise digital sovereignty as a function of institutional readiness rather than as a binary attribute of state authority.

By grounding these contributions in a transparent empirical framework, the study provides a structured way to analyse how institutions shape, and are reshaped by, cross-border digital payment platforms. The Regulatory–Digital Sovereignty Framework clarifies the institutional mechanisms through which governance capacity and sovereignty interact, and it lays the theoretical foundation for the subsequent discussion of platform governance mechanisms and policy implications.

5.2 Platform Governance Implications: Governing Cross-Border Digital Payment Infrastructures

This subsection advances platform governance theory by interpreting the empirical findings of this study through a relational, institutionally embedded lens. It explains how cross-border digital payment platforms are governed not merely through firm-level strategies or bilateral regulation, but through multi-actor governance arrangements that span jurisdictions, standards bodies, and infrastructural nodes. The analysis builds on the framework operationalised in Section 4 and clarifies how governance outcomes are shaped by host-country institutional readiness.

5.2.1 Platform Governance Beyond Firm-Centric Accounts

Platform governance scholarship has emphasised how platforms structure markets through rules, interfaces, and algorithmic controls that coordinate interactions among users and complementors (Gorwa, 2019; Parker et al., 2016). While this literature has progressively incorporated political and regulatory dimensions, it often remains firm-centric, focusing on how platforms design governance mechanisms to manage ecosystems. The empirical analysis here extends this view by demonstrating that, in cross-border payment contexts, governance is co-produced with regulative institutions.

Digital payment platforms operate as infrastructural intermediaries: they provide transaction rails, settlement interfaces, and data-processing capabilities that become embedded in domestic payment systems. As a result, governance authority is distributed across platform operators, host regulators, home-country authorities, and international standards bodies such as the CPMI and FATF. Figure 2 illustrated this distribution empirically, showing that no single actor exercises unilateral control over governance outcomes. Instead, governance emerges from negotiated arrangements that allocate responsibilities for compliance, oversight, and enforcement.

5.2.2 Regulating with and Against Platforms

The Colombian case exemplifies what Langley and Leyshon (2023) describe as the dual logic of regulating with and against platforms. On the one hand, regulators rely on platform infrastructures to advance policy objectives, including payment efficiency, interoperability, and financial inclusion. On the other hand, they must constrain platform power to prevent regulatory arbitrage, data concentration, and excessive market dependence.

Empirically, this tension is visible in Colombia's openness to platform-enabled innovation alongside cautious enforcement in AML/KYC and cross-border oversight. Regulators permit experimentation through sandboxes and instant payment systems,

effectively regulating with platforms to extend payment access. Simultaneously, limitations in enforcement capacity reduce regulators' ability to regulate against platforms in areas such as transaction monitoring and data governance. This asymmetry does not imply regulatory abdication; rather, it reflects institutional constraints that shape governance outcomes.

The comparative cases reinforce this interpretation. Brazil's more consolidated governance structure enables regulators to both collaborate with and discipline platforms, particularly through central-bank-led oversight of settlement infrastructure. Mexico's statutory fintech framework provides legal clarity but exhibits coordination gaps that limit enforcement coherence. These contrasts underscore that the effectiveness of platform governance depends less on formal openness than on institutional coordination and capacity.

5.2.3 Institutional Readiness as a Moderator of Platform Power

A key theoretical implication is that institutional readiness moderates platform power. Platforms often possess advanced compliance technologies, data analytics, and global operational experience, which can create asymmetries vis-à-vis host regulators in emerging markets (Frost et al., 2019). However, the empirical findings of this study show that such asymmetries do not translate automatically into dominance or capture.

Where regulators retain authority over critical infrastructural nodes—such as settlement systems governed by central banks, licensing regimes, and data protection enforcement—platforms must adapt governance practices to local institutional constraints. In Colombia, the central bank's control over payment settlement and the competition authority's data protection mandate impose boundaries on platform operations, even in the absence of comprehensive data localisation rules. This supports a relational view of platform governance in which power is contingent on institutional embedding.

This insight refines platform governance theory by moving beyond narratives of unilateral platform control. Governance outcomes are better understood as the result of

institutional complementarities and frictions, rather than as direct expressions of platform strategy alone. Institutional readiness thus becomes a central explanatory variable in cross-border platform governance.

5.2.4 Implications for Transnational Governance and Standards

The findings of this study also contribute to debates on transnational governance. Cross-border payment platforms operate within a dense network of international standards, particularly those developed by the CPMI and FATF. These standards shape platform design choices and compliance architectures, effectively embedding public regulatory objectives within private infrastructures (Committee on Payments and Market Infrastructures, 2024; Financial Action Task Force, 2025a, 2025b, 2025c).

For emerging markets, participation in these standards networks partially compensates for domestic capacity constraints by providing external benchmarks and coordination mechanisms. However, reliance on transnational standards also raises questions about sovereignty and regulatory autonomy. The framework clarifies that such reliance is not inherently sovereignty-eroding; its effects depend on how standards are internalised and enforced domestically. Where domestic institutions lack the capacity to operationalise standards, platforms may become de facto governors. Where institutions are capable, standards function as complements to domestic authority.

5.2.5 Contribution to Platform Governance Scholarship

Overall, this subsection contributes to platform governance scholarship in three ways. First, it reconceptualises cross-border digital payment platforms as institutionally embedded infrastructures rather than autonomous market-makers. Second, it identifies institutional readiness as a critical moderator of platform power and governance outcomes. Third, it integrates domestic regulatory capacity with transnational standards-setting to explain variation in governance effectiveness across emerging markets.

By situating platform governance within a broader institutional framework, the analysis complements and extends existing accounts of platform regulation. It also prepares the ground for the subsequent discussion of policy implications, where the framework is used to illustrate how regulators can structure selective integration strategies without privileging specific platforms.

5.3 Policy implications: Using the Regulatory–Digital Sovereignty Space as a Governance Tool

This subsection translates the analytical insights of the Regulatory–Digital Sovereignty Space into policy-relevant implications for emerging-market regulators overseeing cross-border digital payment platforms. Rather than advancing prescriptive recommendations or firm-specific advocacy, the discussion focuses on how regulators can use the conceptual space developed in this study as a diagnostic and sequencing tool to structure regulatory decision-making under conditions of institutional constraint and rapid technological change.

5.3.1 From Rule-Based Regulation to Capacity-Aware Governance

A first policy implication concerns the limits of rule-based regulatory expansion in the absence of institutional coordination. The empirical analysis shows that Colombia, like many emerging economies, has made significant progress in developing formal regulatory instruments for digital finance, including open finance frameworks and innovation sandboxes (Banco de la República, 2025a; Superintendencia Financiera de Colombia, 2024). However, fragmented authority across payments, data protection, competition, and AML enforcement constrains the effectiveness of these instruments.

The Regulatory–Digital Sovereignty Space helps regulators move beyond a narrow focus on legal completeness toward a capacity-aware governance approach. By explicitly mapping institutional readiness alongside sovereignty-relevant functions, the space enables

regulators to identify where additional rules may yield diminishing returns and where investments in coordination, supervision, or enforcement capacity are more consequential. This logic aligns with OECD guidance on digital financial regulation, which emphasises that governance failures often stem from institutional fragmentation rather than regulatory absence (OECD, 2024a, 2024b).

5.3.2 Selective Integration rather than Binary Openness

A second implication concerns how regulators assess foreign platform entry. Policy debates often frame cross-border fintech integration as a binary choice between openness and protectionism. The empirical positioning of Colombia, Brazil, and Mexico demonstrates that such framing obscures meaningful variation in regulatory strategy. The Regulatory–Digital Sovereignty Space instead supports a selective integration approach, where platform participation is conditioned on development alignment and institutional capacity rather than nationality or ownership.

For example, Figure 5 illustrated that certain platform capabilities—such as low-cost digital payments or merchant interoperability—align strongly with Colombia's financial inclusion objectives (Demirguc-Kunt et al., 2018; Sahay et al., 2020). Other functions, particularly those involving cross-border data flows or transaction monitoring, pose higher sovereignty and enforcement risks. Regulators can use the space to permit entry in high-alignment domains while imposing stricter oversight or phased integration in higher-risk areas. This proportional logic is consistent with CPMI and Financial Stability Board guidance on cross-border payments reform (Committee on Payments and Market Infrastructures, 2024; Financial Stability Board, 2025).

5.3.3 Reinforcing Sovereignty Through Functional Control

A third policy implication concerns the operationalisation of digital sovereignty. The findings of this study suggest that sovereignty in digital payment systems is most effectively

preserved through functional control over critical infrastructural nodes rather than through blanket restrictions. Central bank authority over settlement systems, supervisory control over licensing, and enforceable data protection regimes emerge as particularly salient levers.

In Colombia, the Banco de la República's role in payment settlement and infrastructure governance provides an anchor of sovereignty even in the absence of comprehensive data localisation mandates (Banco de la República, 2024, 2025b). Similarly, the Superintendencia de Industria y Comercio's data protection authority creates potential leverage over platform data practices, provided enforcement capacity is strengthened (Superintendencia de Industria y Comercio, 2025). The Regulatory–Digital Sovereignty Space makes these functional levers visible, enabling regulators to prioritise capacity-building efforts where sovereignty returns are highest.

5.3.4 Aligning AML/CFT Objectives with Financial Inclusion

A fourth implication relates to the persistent tension between AML/CFT compliance and financial inclusion. Cross-border payment platforms embed FATF standards directly into their compliance architectures, shaping customer due diligence, transaction monitoring, and reporting practices (Financial Action Task Force, 2025b). While these standards are essential for financial integrity, rigid application can unintentionally exclude low-income or informal users.

The framework supports a risk-based calibration of AML/CFT enforcement consistent with FATF financial inclusion guidance (Financial Action Task Force, 2025a). By situating AML capacity within the broader institutional readiness landscape, regulators can identify where simplified due diligence or tiered access models are feasible without undermining systemic integrity. This approach reinforces inclusion objectives while maintaining alignment with international standards.

5.3.5 The Regulatory–Digital Sovereignty Space as a Policy Communication Device

Finally, the space functions not only as an analytical tool but also as a policy communication device. Visualising regulatory positions helps regulators articulate strategic intent to platforms, international partners, and domestic stakeholders. By clarifying where a jurisdiction is positioned—and where it aims to move—regulators can reduce uncertainty, manage expectations, and coordinate reform trajectories across agencies. This communicative function is particularly valuable in emerging markets where regulatory credibility and predictability are central to sustainable fintech integration (Cumming et al., 2023).

5.4 Boundary Conditions and Analytical Limits

The regulatory–digital sovereignty space is designed to analyse governance dynamics associated specifically with cross-border digital payment platforms, and its explanatory scope is therefore bounded by the functional characteristics of payment infrastructures. Payment platforms operate primarily as transactional and data-processing intermediaries, distinct from other fintech domains such as digital lending, crypto-assets, or investment services, which involve balance-sheet risk, price volatility, or investor protection concerns that require different regulatory and supervisory logics (Frost et al., 2019; Haffke et al., 2020).

A second boundary condition concerns institutional capacity. The regulatory–digital sovereignty space presupposes a minimum threshold of regulative and supervisory capability, including enforcement authority, inter-agency coordination, and operational independence. In jurisdictions where these conditions are absent, even selectively calibrated integration of foreign payment platforms may generate governance risks that exceed institutional control. In such contexts, the regulatory–digital sovereignty space remains analytically useful for diagnosis, but its practical relevance is constrained until foundational institutional capabilities are strengthened (Kaufmann et al., 2011; OECD, 2008).

Third, the empirical application of the framework is static, capturing institutional readiness and sovereignty capacity at a particular point in time. Regulatory systems evolve dynamically in response to technological innovation, policy reform, and external shocks. As a result, the regulatory–digital sovereignty space should be interpreted as a positional snapshot that informs, but does not itself predict, projected regulatory trajectories. Longitudinal application would be required to assess how jurisdictions move within the space as institutional reforms and platform strategies co-evolve (Eisenhardt, 1989; Yin, 2018).

Finally, while the comparative focus on Colombia, Brazil, and Mexico enhances analytical leverage, the framework does not claim universal applicability across all jurisdictions. Differences in political economy, governance quality, and financial system structure condition how institutional readiness and sovereignty interact. The primary contribution of the regulatory–digital sovereignty space therefore lies in offering a structured analytical lens for examining emerging-market regulatory configurations and cross-border payment governance under conditions of institutional heterogeneity, rather than in generating globally invariant predictions (Ioannou & Wójcik, 2022).

6. Conclusion

This study has examined how emerging economies can integrate cross-border digital payment platforms while preserving regulatory sovereignty and advancing financial inclusion. By developing and empirically applying the regulatory–digital sovereignty space, the paper demonstrates that governance outcomes in platform-based payment systems are shaped less by binary choices between openness and restriction than by the interaction between institutional readiness and sovereignty-relevant regulatory functions.

The comparative analysis of Colombia, Brazil, and Mexico shows that digital sovereignty in payment systems is exercised primarily through functional control over settlement infrastructure, data governance, and compliance enforcement, rather than through

exclusionary or nationality-based regulatory strategies. Where institutional coordination and enforcement capacity are sufficiently developed, foreign platform participation can coexist with sovereign regulatory authority. Conversely, where institutional capacity is fragmented or uneven, openness to platform entry generates governance risks that cannot be resolved through formal rulemaking alone (Committee on Payments and Market Infrastructures, 2024; OECD, 2024a).

At a theoretical level, the study extends regulative institutional theory by demonstrating how institutional capacity, coordination, and sequencing condition sovereignty outcomes in digitally mediated financial systems. It also advances platform governance scholarship by conceptualising cross-border digital payment platforms as institutionally embedded infrastructures rather than autonomous market actors, thereby clarifying how public authority and private platform governance co-evolve within transnational payment ecosystems (Kenney & Zysman, 2020; Langley & Leyshon, 2023).

6.1 Strategic Positioning of Practical Implications

6.1.1 Regulatory authorities

For national regulators, the regulatory–digital sovereignty space provides a structured analytical tool for assessing foreign platform entry based on development alignment and institutional capacity rather than ownership or origin. By visualising regulatory positions, authorities can better sequence reforms, prioritise inter-agency coordination, and target enforcement investments in areas where sovereignty returns are highest. This capacity-aware approach is consistent with OECD guidance on digital financial governance and CPMI recommendations on proportional oversight of cross-border payment systems (Committee on Payments and Market Infrastructures, 2024; OECD, 2024b).

6.1.2 International Standard-Setting Bodies

For international organisations and standard-setting bodies, the findings of this study highlight the importance of aligning global payment and AML/CFT standards with heterogeneous domestic institutional capacities. While CPMI and FATF standards increasingly shape platform architectures and compliance systems, their effectiveness ultimately depends on domestic implementation and supervisory capability. Greater attention to institutional capacity differentials can enhance the legitimacy and effectiveness of transnational governance frameworks (Financial Action Task Force, 2025a; Financial Stability Board, 2025).

6.1.3 Platform Operators and Financial Institutions

For platform operators and incumbent financial institutions, the regulatory–digital sovereignty space clarifies how governance expectations vary across jurisdictions. Understanding a country's institutional positioning can inform market-entry strategies, partnership design, and compliance investment decisions, thereby reducing regulatory uncertainty and long-term integration risk. This perspective complements existing research on fintech internationalisation and platform expansion in emerging markets (Cumming et al., 2023; Wang, 2025).

6.1.4 Future Research and Policy Development

Finally, the framework provides a foundation for future research examining how jurisdictions move within the regulatory–digital sovereignty space over time. Longitudinal analysis and cross-regional comparison can deepen understanding of how institutional capacity-building, regulatory reform, and global platform strategies co-evolve. Such work is increasingly important as cross-border payment infrastructures expand and as emerging economies seek to balance innovation with sovereign control in the digital financial system (Fitzgerald et al., 2025; OECD, 2025).

6.2 Universal Summary: Impact Statement

This research moves beyond the debate of whether fintech is “good” or “bad” for emerging markets, instead providing a map of the Regulatory–Digital Sovereignty Space. By measuring institutional readiness across 37 indicators—including 2025 FATF standards and Global Findex data—the study demonstrates that countries such as Colombia are not passive recipients of global technology but active architects of their digital borders.

For policymakers, the framework reveals that digital sovereignty is not a static condition but a capacity that must be built through data governance and infrastructure control prior to full platform integration. For global fintech firms, the findings show that market entry into jurisdictions such as Brazil or Mexico requires more than technical interoperability; it requires alignment with host-country positions within the Regulatory–Digital Sovereignty Space. Ultimately, the study offers a scalable analytical tool for emerging economies to assess their readiness for the next phase of global digital money.

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Appendices

Appendix A. Data Sources, Indicators, and Institutional Readiness Measures

Appendix A.1 Data Sources and Coverage

This study relies exclusively on authoritative international and national sources that provide up-to-date evidence on digital payments, financial inclusion, regulatory capacity, and AML/KYC enforcement. Table A1 summarises the primary data sources, coverage period, and analytical use.

Table A1. Data Sources and Analytical Use

Source	Publication / Document	Coverage	Analytical Use
OECD	Digital Economy Outlook 2024, Vol. 1 & 2	2021–2024	Digital payment adoption, governance, trust
OECD	Supporting informed and safe use of digital payments	2023–2025	Digital financial literacy, consumer risk
World Bank	Global Findex Database 2025	2011–2024	Financial inclusion, digital payments
BIS / CPMI	Cross-border payments monitoring survey	2023–2024	Payment system interoperability
FSB / CPMI	G20 Roadmap for Enhancing Cross-border Payments (Committee on Payments and Market Infrastructures, 2024;	2024–2025	Governance and oversight benchmarks

	Financial Stability Board, 2025)		
FATF	Recommendations and AML/CFT Guidance	2025	Enforcement and risk-based regulation
Banco de la República	Financial Infrastructure and Payment Instruments Reports	2024–2025	Colombia payment system statistics (Banco de la República, 2024, 2025b)
Superintendencia Financiera de Colombia	Regulatory Circulars (Open Finance, Bre-B, Data Protection)	2024–2025	Regulatory capacity and supervision (Superintendencia de Industria y Comercio, 2025; Superintendencia Financiera de Colombia, 2024)

All data sources represent the most current authoritative statistics available as of January 2026. Where 2025 data were unavailable, the most recent published figures (2024) are used with explicit notation of coverage period.

Note. Sources: OECD (2008, 2024a, 2024b, 2025); Committee on Payments and Market Infrastructures (2024); Financial Stability Board (2025); Demirguc-Kunt (2018); World Bank Group (2025); Financial Action Task Force (2025a, 2025b, 2025c); Banco de la República (2024, 2025a, 2025b); Superintendencia Financiera de Colombia (2024, 2025); Superintendencia de Industria y Comercio (2025).

Appendix A.2 Financial Inclusion and Digital Payment Adoption Indicators

Financial inclusion and digital payment adoption are measured using the World Bank Global Findex Database 2025 and OECD benchmarks.

Table A2. Financial Inclusion and Digital Payment Indicators (2024)

Indicator	Global	Low- & Middle-Income Economies	Source
Adults with a financial account (%)	79	75	World Bank Global Findex Database 2025; comparable measure in World Bank (2018)
Adults making or receiving a digital payment (%)	—	62	World Bank Global Findex 2025
Adults saving formally in an account (%)	—	40	World Bank Global Findex 2025
Mobile phone ownership (%)	—	84	World Bank Global Findex 2025
Digital payment usage (OECD countries, %)	96	—	OECD Digital Economy Outlook 2024

These indicators capture the scale and maturity of digital payment usage, which directly shape regulatory exposure and supervisory demands in host countries.

Note. Sources: World Bank Group (2025); Demirguc-Kunt (2018); Organisation for Economic Co-operation and Development (2024a).

Appendix A.3 Digital Payments Growth and System Infrastructure

To capture system-level dynamics, BIS/CPMI and national central bank statistics are used.

Table A3. Digital Payments Infrastructure and Growth Indicators

Indicator	Region / Country	Value	Source
Increase in digital payment usage (developing economies, 2021–2024)	Developing economies	55% → 62%	OECD (2024a)
ISO 20022 and application programming interface adoption in payment systems	Global	Widespread adoption	Committee on Payments and Market Infrastructures (2024)
Instant payment transaction growth	Colombia	+350% volume; +297% value	Banco de la República (2025)
ACH transaction growth (value / volume)	Colombia (2024)	+8.3% / +8.2%	Banco de la República (2024)
Launch of instant payment system (Bre-B)	Colombia	2025 (phased rollout)	Banco de la República (2025)

Note. Sources: Organisation for Economic Co-operation and Development (2024a); Committee on Payments and Market Infrastructures (2024); Banco de la República (2024, 2025b).

Appendix A.4 Regulatory Capacity and Innovation Support Indicators

Regulatory readiness is assessed using national regulatory instruments and OECD benchmarks.

Table A4. Regulatory and Innovation Support Indicators

Dimension	Indicator	Evidence	Source
Regulatory capacity	Open finance framework	Circular Externa 004 de 2024	Superintendencia Financiera (2024)
Supervisory capability	Instant payments oversight	Bre-B regulatory circular DSP-465	Banco de la República (2025)
Innovation support	Fintech ecosystem size (Finnosummit, 2025, July 8; Finnovista, 2024; Galileo Financial Technologies, 2024, August 19, 2025, November 26)	400+ fintech firms (ecosystem scale)	Finnovista (2024, 2025); Finnosummit (2025); Galileo Financial Technologies (2024, 2025)
Data governance	Fintech data protection rules	Circular Externa 001 de 2025	Superintendencia de Industria y Comercio (2025)

Note. Sources: Superintendencia de Industria y Comercio (2025); Finnovista (2024, 2025). Finnosummit (2025); Galileo Financial Technologies (2024, 2025); Banco de la República (2025).

Appendix A.5 AML/KYC Enforcement and Digital Risk Indicators

AML/KYC effectiveness is assessed using FATF standards and updated risk indicators.

Table A5. AML/KYC and Digital Risk Benchmarks

Indicator	Value	Source
FATF Recommendation 1 (risk-based approach)	Updated to support financial inclusion (Financial Action Task Force, 2025a)	FATF (2025a)
Jurisdictions largely compliant with AML standards for Virtual Asset Service Provider (VASP)	~40 (Financial Action Task Force, 2025b)	FATF (2025b)
Estimated illicit on-chain activity (2024)	USD 51 billion	FATF (2025c)
Digital financial literacy gap	40% below minimum threshold	OECD (2025)

Note. Sources: Financial Action Task Force (2025a, 2025b, 2025c); Organisation for Economic Co-operation and Development (2025).

Appendix A.6 Institutional Readiness Index: Dimensions and Weighting

The Institutional Readiness Index aggregates the indicators above into four equally weighted dimensions.

Table A6. Index Structure and Weighting

Dimension	Indicator Groups	Weight
Regulatory capacity	Legal frameworks, scope of regulation	0.25
Supervisory capability	Oversight mechanisms, expertise	0.25
Enforcement effectiveness	AML/KYC alignment, risk controls	0.25
Innovation support	Sandboxes, instant payments, fintech scale	0.25

Equal weighting is applied to avoid a priori assumptions about the dominance of any single institutional component and is consistent with OECD guidance on composite indicators (OECD, 2008).

Appendix A.7. Institutional Readiness Index for Cross-Border Digital Payment Governance (2025 Update)

Table A.7 Institutional Readiness Index Scores for Cross-Border Digital Payment Governance (2025 Update)

Dimension	Colombia (2025)	Brazil (2025)	Mexico (2025)	Key 2025 Source Evidence
Regulatory Capacity	1.75	1.85	1.60	FATF (June 2025) VASP compliance & AML refresh.
Supervisory Capability	1.50	1.90	1.45	FSB (Oct 2025) Cross-border roadmap alignment.
Enforcement Effectiveness	1.35	1.75	1.30	OECD (2024) Volume 2: Trust & Security metrics.
Innovation Support	1.80	1.95	1.55	World Bank Findex (2025): Digital account surge.
Overall Index	1.60	1.86	1.48	Weighted against 2025 benchmarks.

Scale: 0 (low capacity) to 2 (high capacity). Scores represent arithmetic means of constituent indicators. Colombia's values reflect institutional capacity under active regulatory transition during the 2024–2025 period rather than a mature regulatory equilibrium, which underpins its projected trajectory in Figure 5.

Note. Author calculations based on Organisation for Economic Co-operation and Development (2024a, 2024b, 2025); World Bank Group (2025); Demirguc-Kunt et al. (2018); Committee on Payments and Market Infrastructures (2024); Financial Action Task Force (2025a, 2025b, 2025c); Banco de la República (2024, 2025a, 2025b); Superintendencia Financiera de Colombia (2024, 2025); Superintendencia de Industria y Comercio (2025).

Note on index construction and calculation.

The scores reported in Appendix A.7 were calculated using a theory-guided composite index approach consistent with OECD composite indicator methodology. For each country, indicators within each of the four dimensions (regulatory capacity, supervisory capability, enforcement effectiveness, and innovation support) were first scored on a three-point scale ranging from 0 (low capacity) to 2 (high capacity) based on documented regulatory evidence from international benchmarks and national regulatory sources (see Appendix A.1–A.5). Dimension-level scores were then computed as the arithmetic mean of the constituent indicators, which explains the use of decimal values. The overall Institutional Readiness Index was calculated as the unweighted average of the four-dimension scores, reflecting the theoretical assumption, specified in Section 3, that no single institutional dimension dominates a priori. Higher values indicate greater institutional readiness, while intermediate scores reflect transitional regulatory capacity during the 2024–2025 period.