Instant Payment Systems in Latin America and the Caribbean

Considerations 2025

FLAR
FONDO LATINOAMERICANO DE RESERVAS

Latin American Reserve Fund – FLAR

Considerations for the development of Instant Payment Systems in Latin America and the Caribbean[1]

Fidel Jaramillo Buendía[2], Lina Lineros Bedoya[3], Deily Lozada Moreno[4], Ana María Morales[5], Carlos Eduardo Ramírez Rosas[6], Carolina Velásquez Santos[7]

[1] The authors thank the FLAR internal team and the World Bank for their valuable comments and guidance during the preparation of this document.

[2] FLAR
[3] Libe Legal
[4] FLAR
[5] Libe Legal
[6] FLAR
[7] Banco de la República (Central Bank of Colombia)

The results and opinions expressed herein are the sole responsibility of the authors and do not necessarily represent the views of FLAR or the participating central banks.

Content

1. Introduction

The evolution of digitalization has profoundly transformed the way in which individuals and businesses transact, driving the evolution of financial systems. In this scenario, instant payment systems (IPS) have emerged as a tool for modernizing the payment infrastructure, by allowing the transfer of funds in real time, 24/7,[8] promoting more dynamic economies, markets' operational efficiency, and reducing access barriers to the financial system.

In Latin America and the Caribbean, several countries have made progress in the development of their IPS, in some cases achieving robust infrastructures. However, in other countries, regulatory, technological, and operational challenges still persist, which hinder an effective and sustained implementation. These contrasts highlight the need to promote a shared vision that may accelerate the strengthening of IPS in the region and allows the transition toward more integrated and interoperable models.

Aware of this challenge and of the importance of strengthening these systems in the region, the Latin American Reserve Fund (FLAR) has launched cooperation initiatives among central banks, aimed at promoting the coordinated development of these infrastructures in its member countries. This effort responds to the regional interest in **improving efficiency, security, and financial inclusion**, from a regional integration perspective.

Within the framework of these initiatives, and thanks to the technical contribution and participation of the central banks of the member countries, this document has been prepared as a **regional technical guide**. Its purpose is to consolidate regional references on IPS development, identify the main challenges and opportunities, and define **strategic guidelines** as a roadmap for their implementation, strengthening and eventual regional interoperability.

FLAR acknowledges and thanks the participating central banks for their valuable collaboration, which has been fundamental in building a joint technical vision that may contribute to a structural transformation of the payment's ecosystem in Latin America.

[8] 24/7 availability.

1.1. Context and rationale

Over the last decade, **instant payment systems (IPS)** have gained relevance as a fundamental pillar in the modernization of payment ecosystems globally. The interest of the central banks in **increasing the efficiency of retail payments, reducing financial informality, and promoting more accessible and secure ecosystems** has driven their adoption.

In **Latin America and the Caribbean**, although considerable progress has been made, the adoption of IPS continues to be marked by **shared challenges**: interoperability between actors, operational risk management, regulation of new entrants, and the need for sustainable models that respond to the particularities of each country. These coincidences have underscored the convenience of generating a **common reference framework** that enables aligning visions, sharing learnings, and accelerating implementation processes under consistent technical criteria.

This document includes the analysis and recommendations arising from the technical cooperation spaces promoted by the **Latin American Reserve Fund (FLAR)**, especially the **I Regional Forum on Instant Payments (Quito, October 2023)**, the **II Regional Forum (Asunción, June 2024)**, the **III Regional Forum (Montevideo, May 2025)** and the LAC virtual payment working groups, which have become key scenarios for knowledge management, exchanging experiences, identifying good practices and generating shared learning among the region's central banks, developed between 2024 and 2025. As a result of these initiatives, a **joint roadmap** was defined to guide the strengthening of institutional and technical capacities in member countries with a view to **regional interoperability.**

Therefore, this document addresses the need stated by the central banks members of FLAR to have a strategic tool that **systematizes experiences, good practices and key guidelines** for the design, consolidation, and eventual integration of IPS. It also seeks to contribute to a regional vision of payments favoring convergence, **cross-border efficiency, and competitiveness of financial markets**.

1.2. Scope and methodology

This document addresses the implementation, development and strengthening of IPS in FLAR member countries: Bolivia, Chile, Colombia, Costa Rica, Ecuador, Paraguay, Peru, Uruguay, and Venezuela. It focuses on the challenges, opportunities, and best practices in the adoption of an IPS, considering regulatory, tech-

nological and interoperability aspects, while simultaneously integrating a quantitative exercise to identify the determinants of IPS adoption in the countries studied.

The document covers a comprehensive analysis of IPS and their impact, including:

- **Global and regional trends** in the adoption of instant payment systems and their evolution in different markets.

- **Success stories and lessons learned** in those jurisdictions that have managed to implement an IPS, identifying key factors that have driven its development.

- **Fundamental elements for the effective implementation of IPS**, considering aspects such as regulation, interoperability, and cybersecurity.

- **Econometric analyses in FLAR member countries** focused on the determinants for the adoption of current payment systems, aimed at identifying gaps and opportunities for improvement.

- **Strategic guidelines for the modernization of payment infrastructures** and their regional integration, promoting a more efficient and accessible financial ecosystem.

The document was drafted in several phases, combining technical research, consultations with experts and direct collaboration with the central banks involved in its development.

Analysis and information collection phase (2024):

- Literature review on global trends on instant payments.

- Analysis of experiences and success stories in different jurisdictions.

- Identification of shared challenges and specific needs of the region.

Diagnosis phase and working groups (first half of 2024):

- Surveys and interviews with central banks to assess current state of IPS.

- Development of working groups with experts on regulation, interoperability, and cybersecurity.
- Construction of a comparative matrix of country capacities.
- Preliminary results at the II Regional Payments Forum (Asunción, June 2024).

Document structuring phase (second half of 2024):

- Preparation of the draft with input from central banks.
- Socialization of the document with authorities and experts for validation.
- Incorporation of adjustments based on the needs of FLAR member countries.

Consolidation and validation phase (2025):

- Seeking to build a solid and articulated regional vision on the development of payment systems in Latin America and the Caribbean, each central bank was invited to designate a technical referent who would not only lead the development of the contributions corresponding to their jurisdiction, but also actively contribute to a collaborative process. This participation was key in nurturing a joint narrative that reflected common progress, challenges, and opportunities, thus strengthening the value of the document as a strategic tool for the region.
- Inclusion of quantitative analyses on the determinants of IPS adoption, based on a regional survey.
- Presentation of the preliminary version of the document at the III Regional Payments Forum (Montevideo, May 2025).
- Incorporation of final comments.
- Publication.

This document is conceived not only as a technical reference for central banks, but also as a guiding tool for future regional cooperation initiatives, public policy design, and institutional strengthening. Its purpose is to

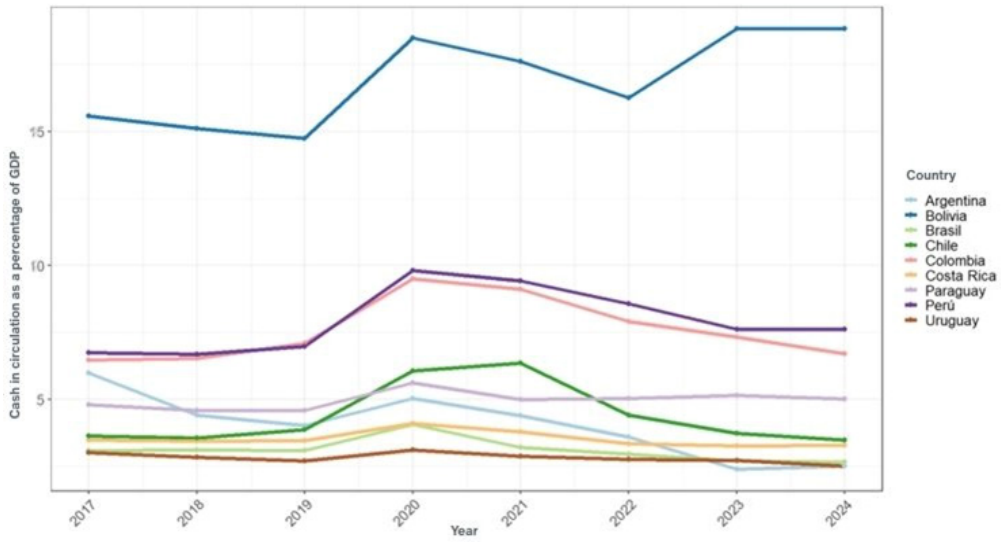
support the development of more digital, resilient, and interoperable payment ecosystems, thus contributing to sustainable development and financial integration in Latin America and the Caribbean.

2. Conceptual framework

2.1. The fundamental role of the IPS:

The evolution of payment systems in Latin America and the Caribbean has followed a trajectory marked by the transition from the predominant use of cash to increasingly digitized schemes. For decades, cash was the main medium of exchange in most economies in the region, given its accessibility and widespread acceptance. However, the rise of digital technologies, the growth of mobile connectivity, the emergence of new players in the payment ecosystem, and the change in consumer habits have been transforming this reality, and the use of cash as a means of payment is decreasing (Figure 1). The demand for faster, more accessible, secure, and frictionless payments has become a new standard. Thus, IPS have emerged as an effective response to the demands of the digital economy.

Figure 1. Evolution of cash in circulation



Source: Authors' calculations based on statistics on cash in circulation outside banks, published in the South American Payment System Report (RSPS), 2024.
Note: RSPS statistics are used up to 2023. For 2024, data was provided directly by central banks or obtained through consultations with their official sources.

This change in payment systems has been driven by several factors. First, the widespread digitalization of services has raised user expectations on the efficiency and ease of transactions. Consumers now expect to make payments in seconds, any time of day, anywhere, and with intuitive interfaces. Second, the COVID-19 pandemic was a turning point that accelerated the adoption of contactless alternatives, such as digital payments, instant transfers, and the use of QR codes.[9] This context has consolidated the trend in the reduction of cash use and highlighted the limitations of many traditional payment systems in terms of costs, efficiency, and accessibility for users (BPI, 2020).

Concurrently, the rise of financial technology or fintech[10] companies has transformed the financial ecosystem. These companies have introduced innovations that include the integration of instant payments into their platforms, thanks to their business models focused on digital solutions. These innovations have benefited from technological advances that have improved system connectivity, increased capacity, reduced data processing costs, and expanded information availability. As a result, transaction costs have been reduced and the offering of financial services has expanded, allowing new specialized players to participate in markets previously dominated by traditional financial institutions (Feyen et al, 2021). In the field of payments, this has resulted in the incorporation of functionalities such as instant payments in mobile applications, electronic wallets, and other digital platforms. This dynamism has intensified competition for traditional providers – such as banks – and has served as a catalyst for the modernization of financial infrastructures.

Despite these advances, structural challenges persist in many Latin American countries: low levels of financial inclusion, high transactional costs, digital exclusion, interoperability limitations between entities, and infrastructure that remains insufficient to sustain a fully digital economy (Gershenson et al, 2021). In this context, there is a growing interest in the public sector and some private actors on developing policy initiatives aimed at increasing efficiency and convenience in retail payments.

Instant payments involve electronic fund transfers between accounts in real-time, thus available to the receiver in a matter of seconds, and made at any time, without interruption. IPS, on the other hand, are the digital infrastructure that enables making these payments (CPMI, 2021; Frost et al, 2024). These are technological platforms that guarantee the immediate settlement of funds between different institutions, with continuous, 24/7 operational availability. For the purposes of the quantitative analysis carried out in this document (Chap-

[9] Method of representing information in a two-dimensional matrix of points called a symbol; It is made up of black modules arranged in a square shape on a white background. It features high storage capacity for different kinds of information, which can be encrypted.

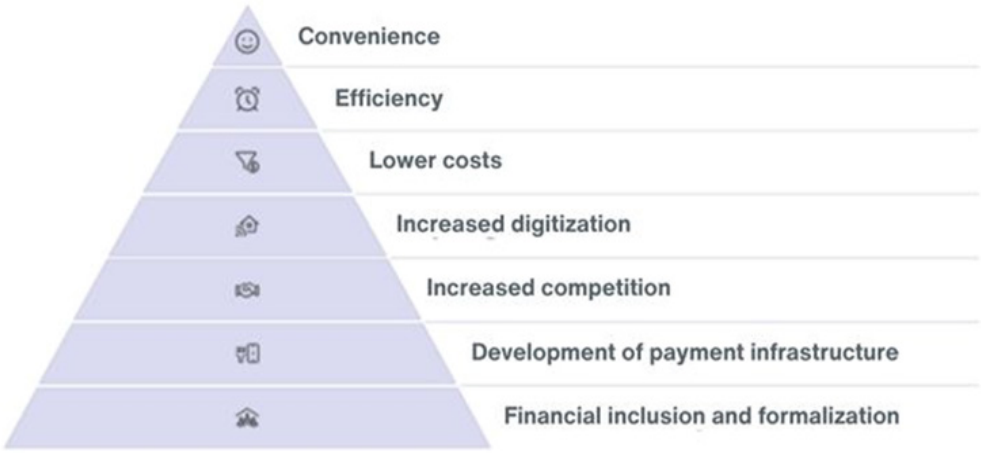
[10] Technology-enabled innovations in financial services that can result in new business models, applications, processes, and products with a material effect on financial markets and institutions and on the provision of financial services.

ter 4), the definition of instant payments is limited exclusively to interbank transfers, i.e., those that involve the movement of funds between accounts belonging to different financial institutions or payment service providers. Intrabank transfers (made and settled within the infrastructure of the same entity or provider) are not considered, as they do not require the use of a shared infrastructure and do not pose the same challenges in terms of interoperability, governance, or efficiency of the payment ecosystem.

IPS share essential characteristics that differentiate them from other traditional schemes. Their main advantage lies in the irrevocable and real-time transfer of funds, which means that once the transaction is completed, the resources cannot be reversed, and the recipient can dispose of them immediately. Moreover, depending on their design, they allow interoperability or fluid connection between different actors within the payment ecosystem, such as banks, fintechs, digital wallets and payment operators. Accessibility is also a key component: IPS can create greater benefits when they are designed to enable the participation of a wide range of payment service providers and users, including people who are unbanked or have limited access to formal financial services.

The benefits of adopting an IPS are manifold and have a direct impact on the well-being of citizens and the efficiency of the financial system (Figure 2). First, IPS offer **greater convenience and efficiency**, by optimizing payment processes and reducing settlement times, favoring both consumers and merchants. For instance, this speed facilitates cash flow management for small businesses and improves user experience in everyday transactions (Maniyar, 2025). Furthermore, by reducing cash use, IPS can contribute to reducing the security risks associated with the handling of physical cash, allow greater transaction traceability, and provide economic agents with greater control over their cash flows. Second, by **reducing operational costs** associated with intermediation, IPS enable reducing end user fees, making financial services more affordable (Duarte et al, 2022). This has positive implications on financial inclusion, by removing economic and logistical barriers that prevent access to digital means of payment.

Figure 2. Benefits of instant payment systems



Other important effects include the increased digitalization of the economy and the promotion of competition. IPS infrastructure, especially if it facilitates interoperability, opens the door to new actors that previously encountered obstacles integrating into the financial system, and can encourage the adoption of other financial applications (Copestake et al., 2025; Cornelli et al., 2024). Thus, fintechs, technology startups, and other players can offer innovative payment services on equal terms, which energizes the market and stimulates the continuous improvement of financial products. This diversity of participants, in turn, incentivizes the digitization and modernization of the financial system as a whole, contributing to a more resilient, efficient, and user-centric ecosystem. Instant payments also contribute to increasing competition in the traditional banking sector by allowing more participants to offer more convenient payment and transfer services (Sarkisyan, 2025).

Beyond their operational benefits, IPS can also play a key role as public policy tools. Their implementation allows progress in strategic objectives such as the development of payment infrastructures, the formalization of the economy, and financial education. IPS can be understood as a form of digital public infrastructure, just like other platforms such as e-ID or open data ecosystems. In this sense, IPS can constitute a reusable technological base at the national level and be part of a comprehensive digital infrastructure strategy[11] (World Bank, 2025). Furthermore, instant payments can promote the use of other formal financial products, such as credit and automatic transfers to savings instruments, thus strengthening the economic resilience of households

[11] This is the case, for example, of the Unified Payment Interface (UPI), the IPS in India. UPI is part of the "India Stack", a set of interoperable digital platforms promoted by the country's government, which also includes Aadhaar, eSign and Digilocker. UPI's integration into the India Stack has made it easier to deliver public and private services efficiently, and completely digitally.

and contributing to greater stability of the financial system. For example, empirical evidence suggests that workers who receive their income via direct transfer into a bank account tend to maintain higher levels of savings compared to those who receive cash payments (Blumenstock et al., 2018). Likewise, digital payments contribute to greater economic growth and reduce labor informality through greater access to credit and other financial services (Aguilar et al., 2024). In Latin America and the Caribbean, in particular, evidence suggests that the adoption of instant payments has gone hand in hand with greater access to these services (Aurazo et al., 2025). On the other hand, evidence also suggests that the increased use of digital payments has positive effects on the transmission of monetary policy, by virtue of greater access to formal credit and responsiveness of interest rates (Huang et al., 2024).

2.2. The role of central banks in IPS implementation

The involvement of central banks in payment systems has historically been an essential part of their mandate, especially with regard to maintaining trust in money and ensuring the security and efficiency of the payment system (CPMI, 2016). Since its inception, central banks have played a leading role in the high-value payments system through the provision of reserve accounts, settlement infrastructures, and real-time gross settlement (RTGS) systems.

In recent decades, technological changes and the digitalization of the economy have driven a progressive expansion of the role of central banks in the field of retail payments. This expansion of the institutional scope towards retail instant payments does not represent a break with the traditional role of central banks, but a natural evolution of their competences in response to the new needs of the payment ecosystem. Although specific roles may vary between jurisdictions, in general, central banks play an active role in IPS development and evolution, whether as operators, supervisors, catalysts for change, or a combination of these roles (Aurazo et al., 2025; CPMI, 2016).

Central banks and other authorities can play a crucial role in modernizing payment systems to achieve the public policy objectives sought by adopting IPS. This means rethinking their traditional role and adapting their operational services, especially those related to the provision of settlement and clearing services. Even if they are not directly involved in the operation of retail infrastructures, their involvement as settlement service providers (e.g., through RTGS systems or specialized services) is critical to the successful implementation of instant payments.

In their **monitoring, supervision, and/or regulation**[12] role, central banks promote the security and efficiency of the payment system by monitoring existing systems and inducing regulatory changes when necessary. This function becomes especially relevant in the face of the operational, liquidity, or credit risks associated with IPS. In some cases, monitoring also involves defining access rules, fees, interoperability conditions, and governance mechanisms.

For example, in **Uruguay**, the Central Bank has carried out different market interventions (issuing regulations and resolving disputes between agents) to enable access for new non-bank participants, promoting greater competition; in **Paraguay**, the BCP has defined regulatory criteria for the operation of the Instant Payment System (IPS), including technical and security standards; and in **Bolivia**, the Central Bank, exercising its constitutional authority, established a complete and comprehensive regulatory framework that regulates the mandatory interoperability and interconnection for the processing of transactions in payment channels, as well as the operational requirements and security standards for its operation.

Central banks also act as **operators**, not only of high-value systems such as RTGS, but in many cases of the core IPS infrastructure. In **Costa Rica**, the central bank operates SINPE Móvil, and in **Bolivia**, the BCB developed and operates the Integrated Payment Settlement System (LIP), whose low-value component is the Deferred Settlement Module (MLD), which has instant payment functionality with the BCB Bolivia QR Code. The Central Bank of **Venezuela** operates the IPS interbank payment system, managing both the platform and the access of the participating institutions. **Paraguay** is another case where the operation and administration of the IPS is in charge of the central bank.

In their role as **catalysts**, central banks use their influence, technical knowledge, and analytical capacity to facilitate public policy outcomes, often in coordination with other authorities and actors in the payment system. This role has been fundamental in FLAR member countries in promoting initiatives that seek to improve the efficiency, security, and accessibility of instant payments. Sometimes, playing this role, central banks have also focused on specific objectives, such as the integration of the payment market through common standards or financial inclusion through accessible digital solutions.

The technical leadership of the central banks has been key to driving viable solutions, adapted to the national context and the specific characteristics of each payment system. In **Colombia**, for example, the Banco de la República has led an articulation process between banks, fintechs and system actors to design a new intero-

[12] The scope of these functions over payment systems depends on the institutional framework of each country and the powers granted to them. In some cases, central banks are responsible for both the supervision and regulation of the payment system; in others, their role is limited to monitoring the operation of the system, while regulation and supervision is shared with or entrusted to other authorities.

perable infrastructure with unrestricted access criteria and common standards. In **Bolivia**, the BCB regulated the obligation to use a common and compatible standard throughout the financial system for the generation of QR Code payments. In **Peru**, the BCRP has promoted open technical standards and supported pilots with private actors to accelerate adoption. In **Ecuador**, the BCE has facilitated coordination between financial institutions, clearing houses, and private networks to integrate instant payment functionalities. In **Uruguay**, the BCU has promoted interoperability between different agents in the ecosystem, including banks, electronic money issuers, and acquirers, among others. In **Venezuela**, the BCV has promoted the expansion of the IPS through regulations that encourage the participation of new actors and the expansion of use cases. In **Costa Rica**, direct participation of fintechs in the payment system operated by the BCCR was authorized, promoting innovation and competition among traditional actors.

An active role of central banks in the design and implementation of IPS may not only be legitimate but desirable from an efficiency and social welfare perspective (Ragazzo and Caminha, 2024). In some cases, payment ecosystems have structural flaws – such as collective action issues, limited interoperability, and a lack of incentives for a coordinated solution – that justify central bank intervention as a neutral actor. For example, in their roles as operators, or even acting only as catalysts, central banks may require or incentivize the participation of dominant actors in the ecosystem and reduce coordination costs. This creates network effects that facilitate widespread adoption and accelerate competitive innovation.

Each of these roles is critical to fostering a secure, efficient, and inclusive instant payments environment. In FLAR member countries, central banks have adapted their level of involvement to local characteristics, combining functions or emphasizing one over others according to market maturity and public policy priorities. International experience shows that clarity of roles, cooperation between actors, and investment in institutional capacities are key to achieving a successful and sustainable implementation of IPS.

2.3. Challenges for central banks in implementing and adopting IPS

While the implementation of IPS brings with it multiple benefits, it also poses significant challenges for central banks. The main challenges in terms of liquidity, credit, operational, fraud, legal, and reputational risks are summarized below.

One of the main challenges is to ensure effective monitoring and supervision of the retail payment system in real time. The continuous nature and high frequency of operations in IPS require central banks to adapt their monitoring frameworks to enable the timely detection of operational incidents, cybersecurity issues, or inappropriate behavior by participants (World Bank, 2021a). This may require the reinforcement of analytical capacities, specialized human resources, and technology that allows real-time monitoring, especially in economies where the regulator also fulfills operational functions.

Managing liquidity risk is another sensitive challenge. When instant payments are settled in real-time, participants' liquidity needs increase. The occurrence of multiple low-value transactions in real-time requires payment service providers to maintain sufficient funds to process an unexpectedly high volume of transactions (Riksbank, 2025). Liquidity needs can be exacerbated if larger transactions migrate to immediate channels, making treasury management even more challenging. If the system operates with deferred settlement in cycles (net deferred model), demand for liquidity is concentrated at the end of each cycle; however, risks may arise if settlement occurs outside regular banking hours, for instance in the evening or on weekends (World Bank, 2021a).[13] Furthermore, incentives to keep liquid balances available in central bank accounts can have effects on the credit channel and traditional financial intermediation.[14] The design of operating windows, hybrid netting schemes, and the possibility of interoperating with the RTGS system are key elements to mitigate these risks (Riksbank, 2025; World Bank, 2021a).

In the case of deferred settlement, another important consideration is credit risk between participants. If the payer's payment service provider does not effectively transfer the funds to the payee's payment service provider upon settlement, the latter assumes the risk of default after crediting the receiving customer. Credit-risk

[13] In these cases, additional liquidity management tools, such as pre-funded accounts, collateral reserves, or agreements with liquidity providers, may be required to ensure that funds are available at all times.

[14] Empirical evidence on Pix, in Brazil, also shows important effects on bank behavior. Following the introduction of this IPS, banks significantly increased their holdings of liquid assets while also increasing lending to riskier segments. This suggests an impact on the banks' ability to transform deposits into long-term loans, leading them to hold safer, more liquid assets. Paradoxically, however, this substitution exacerbates their incentives to take greater risks (Ding et al, 2024).

management involves the proper design of the IPS settlement model and its security mechanisms. Many countries opt for instant settlements in central bank money, virtually eliminating credit risk. When this is not feasible, safeguards such as guarantee funds, bilateral exposure limits, intraday collateral requirements, or more frequent liquidations may be implemented.

On the other hand, the operation of an instant payment system places much greater technical and operational demands than those of traditional retail payment systems. IPS require continuous availability and high operational reliability, both for the core system platform and for each participating vendor. Unlike a traditional transfer (which could take hours or days), in an instant payment any delay or interruption is immediately visible to users, who expect confirmation within seconds. This implies that a technical problem, which in other systems may go unnoticed, in an IPS would instantly trigger complaints, eroding trust. Therefore, technological resilience is a critical challenge: central banks must ensure that system operators and their participants have robust infrastructure, contingency plans, and resilience to failures or disasters (Riksbank, 2025). At this point, money-laundering risk management also becomes important. While the existence of instant payments does not, per se, generate this risk, it can amplify it if adequate know-your-customer (KYC) controls and transaction monitoring are not in place.

Cybersecurity represents another relevant challenge. As interoperability grows and new entrants are incorporated – such as digital wallets, fintechs, or non-bank agents – risks associated with cyberattacks, fraud, and loss of sensitive data are amplified. The Riksbank (2025) notes that central banks must strengthen their operational risk management frameworks and establish common standards to ensure ecosystem resilience, without restricting innovation. It may also be necessary for competent authorities to extend their supervisory framework to cover critical non-bank or non-regulated actors. Protecting the IPS infrastructure against cyber threats is also a priority that may require advanced security measures, including strong encryption and multi-factor authentication, as well as 24/7 monitoring of anomalous traffic for early fraud detection. New forms of scamming targeting users, such as phishing or impersonation via digital channels, can erode public trust and hinder the adoption of IPS. To this end, cybersecurity frameworks could be complemented by consumer protection mechanisms, digital financial education programs, and clear incident management protocols.

The successful implementation of an IPS requires not only robust technical infrastructure but also an appropriate legal framework. By introducing novel features (irrevocable payments in seconds, 24/7 availability, participation of new suppliers, etc.) IPS must have regulations that provide legal certainty to all parties. For example, it is important to have clear rules about the purpose of payments, the settlement and clearing process, and the resolution of fraudulent or erroneous transactions. Central banks also face the challenge of adapting their surveillance and monitoring schemes according to the risks described. The design of adaptive

supervision and monitoring frameworks that incorporate data analysis, periodic assessments of participants' cybersecurity, resilience testing, among other elements, may be part of the best practices to ensure that the payment system operates safely, efficiently, and reliably.

Lastly, a cross-cutting challenge is to maintain public confidence in the IPS. In an instant payment scheme, adverse events can have a more immediate and amplified impact, undermining overall IPS image (World Bank, 2021a). It should be noted that the aforementioned risks – liquidity, credit, operational, cyber – are interrelated with reputational risk, and a failure in the management of any of them can lead to a loss of confidence in the system.

3. Overview of IPS in the global context

IPS have rapidly expanded globally in recent years, becoming one of the pillars of modern financial infrastructure. Their proliferation has been driven by the convergence of public and private efforts, technological advances, and the need for faster, more inclusive, and more secure transactions in the digital economy.

The evolution of instant payments at the international level is discussed next, and the principles and recommendations proposed by some international organizations are analyzed. The main global trends that have shaped the expansion of IPS are also identified. Finally, a reflection on the future of instant payments is offered, emphasizing their potential to improve cross-border payments.

3.1. Principles and recommendations of international organizations

International organizations such as the World Bank, the Inter-American Development Bank (IDB) and the Bank for International Settlements (BIS) agree on a series of key principles for the successful design and implementation of IPS. These best practices seek to ensure the efficient and secure operation of the system and, at the same time, encourage its adoption for the benefit of broader initiatives, such as the promotion of digitalization and financial inclusion.

One of the most prominent principles is **interoperability** in payment infrastructures. Interoperability in payment systems refers to the ability of different systems, platforms, and providers to interact frictionlessly. This allows users to send and receive payments, regardless of the payment service provider or network they

use. This interoperability can occur at different levels: at the point of origin of the payment (when the payer's provider is connected to multiple systems), between networks (when different payment systems are directly connected to each other) or through intermediaries (when one actor operates as a bridge between several systems) (World Bank, 2021b). These forms of interoperability allow payments to flow efficiently between different schemes, reducing the need for multiple specific connections between suppliers. In contexts where closed or fragmented networks predominate, the adoption of interoperable schemes has led to significant increases in the volume of instant payments and has strengthened the incentives of providers to innovate and improve their services (Copestake et al., 2025).

There are several elements that must interoperate to guarantee a functional system. These include payment instruments (such as wallets or mobile apps), payment messages, or information that underpins the transaction or system components (such as terminals or gateways). A key aspect in this regard is the standardization of the messages and technical protocols used in IPS. The adoption of open standards such as ISO 20022 for messaging, common specifications for QR Codes, and the use of open application programming interfaces (APIs) enables different actors in the payments ecosystem to exchange data and process transactions in real time without technical hurdles. This not only improves operational efficiency, but also reduces integration costs, eliminates duplications, and facilitates the participation of new suppliers, promoting a more competitive and dynamic environment.

Second, **broad coverage and participation** by different payment service providers are essential IPS elements. The integration of multiple use cases to achieve scale and utility and the inclusion of a large number of participants – such as banks, fintechs, e-money issuers, among others – can drive the adoption of instant payments (World Bank, 2021b; IDB, 2024; Frost et al, 2024). To this end, it is important to facilitate connection to the system under accessible and economically viable conditions in a way that promotes competition, encourages innovation, and reduces barriers to access.

Along the same lines, an **accessible design** and **user-friendly experience** are also characteristics that can determine the success of IPS. Ease of use, continuous availability, speed in confirming payments, and the incorporation of functionalities such as payment by alias, QR Codes, and real-time notifications contribute to users perceiving the system as convenient and reliable (World Bank, 2021b; Brandt & Lobo, 2021). IPS must be designed with a user-centered approach, where the system's benefits are evident and tangible in users' daily lives. This means that payments must be able to be made intuitively, without the need for complex technical knowledge, and through widely available channels such as mobile phones, barcodes, biometrics, or other simple interfaces. A positive user experience not only incentivizes adoption but also reinforces trust in the digital financial system, which is particularly important for traditionally excluded segments.

Having clear, effective, and **flexible regulatory and governance frameworks** is also important. Regulation and governance schemes adopted should balance the policy objectives of the IPS and the requirements of financial security and stability, while fostering innovation and competition. Public-private dialogue and coordination can ensure a level playing field for all payment service providers. Depending on the market context in each jurisdiction, the active role of the central bank in the operation of the IPS contributes to greater adoption by its users (IDB and World Economic Forum, 2022; Brandt & Lobo, 2021, Duarte et al, 2022; Frost et al, 2024).

3.2. Development, evolution, and current trends

Globally, IPS have shown significant growth driven by different structural and technological trends. One of the most relevant is the **progressive reduction in the use of cash as a means of payment** in many economies, a phenomenon that has coincided with the expansion of low-value digital payments (Demirgüç et al, 2022; Khiaonarong & Humphrey, 2023). The Covid-19 pandemic intensified this transition: lockdown measures and the need to make remote payments made the role of digital payments more evident for individuals and businesses, driving greater use of e-commerce and real-time transfers. In this context, IPS have contributed to meeting the demand for more efficient, convenient, and secure means of payment.

Additionally, **technological innovation has allowed the development of more flexible and affordable digital solutions**, which can be integrated into mobile devices or through applications. Technologies such as QR codes, digital wallets, and linking payments to different digital identifiers or aliases have democratized access to instant payments, allowing their use by populations previously excluded from the formal financial system. For example, in some Asian jurisdictions, national standards for interoperable QR codes have been adopted, enabling payments between any wallet or bank, even at the interbank level, in a straightforward way for small businesses and users (Bradford et al., 2019). Likewise, the existence of *proxy* databases or alias databases associated with IPS prevents the payor from having to know the beneficiary's account number, greatly simplifying the user experience. All these technical innovations reduce usage barriers and expand the reach of IPS into segments less familiar with traditional banking.

The focus on user experience has taken center stage in the evolution of IPS. Several of the most successful systems have incorporated features focused on people's daily needs early on, accelerating their adoption. For example, UPI in India or Pix in Brazil have shown that offering tools such as splitting expenses among friends, automatic recurring payments, third-party collection requests, integration with popular mobile apps, and real-time notifications create a strong network effect and motivate more users to try digital payments (Cantú

et al., 2024). The absence of transaction charges for individual users has also been an important incentive. In India, for example, regulations have maintained UPI as a free service for P2P and low-value transfers, which, combined with its ease of use, contributed to this system processing more than 15 billion transactions per month in 2024 (Cornelli et al., 2024). The rapid adoption of these user-centric systems suggests that people will migrate their payment habits to instant platforms when they offer clear benefits in terms of convenience, cost, and speed, compared to cash or traditional methods.

Another relevant trend is the strengthening **of security and operational resilience mechanisms** in IPS. Since these systems operate in real-time and have become critical to the economy, any disruption or fraud incident can quickly undermine public trust. As a result, instant payment operators and regulators are investing significant resources in cybersecurity, anti-fraud monitoring, and infrastructure redundancy. In recent forums, multiple central banks have noted that risk management – including fraud prevention and response to cyberattacks – is among the biggest challenges in ensuring the reliability of instant payments (Cantú et al., 2024). This has led to strengthening user authentication standards, implementing dynamic limit controls, monitoring suspicious transactions in real time, and coordinating joint incident responses. The goal is to preserve the integrity of the system 24/7, for users to maintain trust and increasingly adopt these means of payment.

Growing **public-private collaboration** has also been an important element for the success of many instant payment systems globally. In several countries, the central bank has led the coordination of efforts with the private sector – banks, fintechs, and other providers – to materialize contributions in innovation, customer knowledge, and service massification. This cooperation is reflected in shared governance schemes and joint development initiatives. For instance, the Central Bank of Brazil (BC) operates Pix as a public infrastructure, but it incorporated working groups and consultations with the private industry from the beginning, for the design of new functionalities and the continuous improvement of the system. In India, the IPS (UPI) is managed by the National Payments Corporation of India (NPCI), a purpose-built non-profit entity with joint participation of the central bank and commercial banks, ensuring that decisions on the platform are widely represented by industry (Cornelli et al, 2024). In other cases, even though operation falls on the private sector, the authorities maintain robust monitoring and supervision schemes and participate in the definition of standards to ensure interoperability and inclusion. In short, the alignment of objectives between public and private actors – through forums, working groups, sectoral agreements, minimum participation mandates, among others – has made it possible to design more innovative, scalable IPS adapted to the real needs of the market.

Lastly, IPS are playing a key role as an enabling infrastructure for the **improvement of cross-border payments**. IPS offer an enormous potential to reduce costs and increase the speed and transparency of international transactions. Cross-border payments are often slow, opaque, and expensive due to multiple intermediations

in correspondent banking chains. In contrast, IPS interconnection could allow almost instantaneous transfers between countries, replicating the immediacy and efficiency already achieved in domestic payments on an international scale (CPMI, 2024). These improvements would be especially beneficial for emerging economies, for example, by speeding up and lowering the cost of sending international remittances and reducing friction to incentivize international trade. Leveraging IPS infrastructure to establish connections across different jurisdictions would contribute to greater agility and accessibility in cross-border payments. To this end, interoperability, and the harmonization of standards across different IPS are essential. Currently, several jurisdictions plan to establish cross-border links or expand existing ones in the short term (Fitzgerald et al., 2024), while other countries have already established bilateral or intraregional links (a notable example is the Payment Interconnection System (SIPA) in Central America and the Dominican Republic).[15]

While bilateral links currently predominate, there are ongoing projects led by the BIS Innovation Center (BISIH) to design multilateral arrangements – either through hub-and-spoke[16] models or common platforms – to connect multiple countries. A prominent example of these efforts is the creation of *Nexus Global Payments* (NGP) by central banks participating in BISIH's Project Nexus. The initiative proposes a standardized multilateral scheme to link the IPS of different countries. It is designed to accommodate existing differences between national IPS rather than requiring their homogenization (BISIH, 2023). Rather than building specific links with each country involved in the project, Nexus defines a single connection for each system to a central platform through which an IPS can reach all other connected countries. This model was successfully tested between 2022 and 2023 by linking the Eurosystem's instant payments platform (TIPS) with those of Malaysia and Singapore, allowing transfers between Europe and Asia using only the beneficiary's phone number. NGP is currently established as an independent company aimed at implementing and managing the Nexus program.

Overall, IPS interconnection promises to address many of the shortcomings of today's cross-border payments. By reducing intermediaries and establishing common technical communication standards, such as the ISO 20022 standard for messages and the use of standardized APIs (CPMI, 2023), payment service providers will be able to transfer funds between countries more directly, eliminating redundant steps in the traditional transactional chain.

[15] SIPA is a regional cross-border transfer system operated by the central banks of Central America and the Dominican Republic. It allows users of banks and financial institutions affiliated with the system to make electronic fund transfers between countries in U.S. dollars, quickly, securely and at a low cost. The operating central banks internally determine the per operation fee. Over the past year, the number of transfers made through SIPA has increased by almost 50%.

[16] In this model, bilateral links between two or more payment systems (the "spokes") are replaced by links to a common intermediary (the "hub"). For further information on the different payment system interconnection models, see BIS et al. (2023).

Featured implementation cases: Several countries have reported rapid increases in IPS adoption, serving as benchmarks for others. Some notable examples are:	
India (UPI)	Powered by the *National Payments Corporation of India, the Unified Payments Interface* has become one of the most widely used instant payment systems in the world. Its success is attributed to an open, technology-agnostic architecture that allows multiple applications and banks to participate on a single platform, and to a zero-fee policy for end-users (Cornelli et al., 2024b). UPI facilitates fast and secure transactions between accounts at different banks through simple aliases and is integrated into widely used applications (including big tech and *fintech* apps), which has led to high adoption. These features, combined with strict security standards and joint governance between the central bank and the private sector, have led UPI to process record volumes of payments, contributing to the digitization of payments in India.
South Korea	This country has one of the highest levels of instant payments per capita worldwide. Since 2001, it has implemented a system of immediate electronic transfers through the banking network, later known as the *Electronic Banking System* (EBS), which settles obligations between payment service providers using the central bank's infrastructure (the *BoK-Wire* system). Thanks to this early integration and the availability of affordable instant transfers, South Korea has seen digital transactions grow rapidly while cash use has steadily declined. The South Korean case demonstrates that even deferred settlement schemes can effectively provide instant payments to the end user, provided an efficient and widely accessible interbank platform exists. Today, instant wire transfers are fully embedded in the daily lives of South Koreans, supported by banking and third-party applications that operate on top of the EBS unified infrastructure.
Brazil (Pix)	Launched in November 2020 by Brazil's Central Bank (BC), Pix achieved mass adoption in less than three years, redefining the country's payments ecosystem. Its design focused on ensuring universal interoperability (all financial and payment institutions, large or small, can connect), offering a very user-friendly experience (transfers with a few clicks, use of aliases such as email, phone, or tax ID, static and dynamic QR code payments) and continuous, 24/7 availability. Moreover, Pix's success was cemented by previous major regulatory reforms: BC regulated the mandatory participation of major banks from the start to achieve critical mass, allowed the participation of non-bank institutions (such as digital wallets) to expand the offer, and prohibited exclusivity agreements that limited competition. Additionally, Pix was offered free of charge for individuals and at extremely low costs for businesses, which made it immediately attractive compared to other traditional media. A few years after its creation, Pix is used by tens of millions of Brazilians for all kinds of everyday payments, from small purchases to payments for services, demonstrating the transformative power of a well-designed and inclusive IPS.
Thailand (PromptPay)	Launched in 2017 as part of the government's National Electronic Payments program, *PromptPay* is Thailand's IPS. Its core proposal was to link citizens' bank accounts with easy identifiers (aliases or keys), such as mobile phone or national id numbers, allowing instant person-to-person transfers and payments to merchants in a remarkably simple way. *PromptPay* has achieved wide adoption since most of the country's banks and digital wallets have joined the platform, offering free or very low-cost transfers for lesser amounts, which encouraged millions of users to register. Recently, Thailand has pioneered cross-border interconnection for instant payments: its central bank has linked *PromptPay* to counterpart systems in neighboring countries (such as Singapore, Malaysia, and Indonesia), enabling near-instant international payments via interoperable QR codes and bilateral settlement agreements. This regional initiative has made it easier, for example, for a tourist from Singapore to pay in Thailand by scanning a *PromptPay* QR code with their own banking app, with automatic currency conversion. The case of *PromptPay* illustrates how a successful domestic IPS can scale across borders, improving the efficiency of cross-border payments in ASEAN and setting a precedent for future international connections of real-time payment systems.

3.3. Future vision: towards a universal and accessible digital payments ecosystem

The future vision of instant payment systems points to the consolidation of a universal, inclusive, and accessible digital ecosystem. To achieve these objectives, IPS will need to move towards a more open, collaborative, and user-centered architecture, where interoperability and financial inclusion will remain as the guiding principles.

This vision was widely shared during the 3rd Regional Payments Forum organized by FLAR and the Central Bank of Uruguay. The participating central banks agreed that the future of payments will be completely digital, instantaneous, and borderless. In this projection, digital identity is recognized as the pillar of authentication methods, guaranteeing security, privacy, and trust. To achieve frictionless payments, guaranteeing interoperability based on shared standards, traceability, and governance will be essential.

To achieve this vision, forum participants identified three strategic milestones:

- The establishment of agreements and governance frameworks for interoperability between countries.
- Universal access to bank accounts linked to the user's digital identity allowing financial and payment services to be used through simple interfaces.
- The development of solid, resilient payment infrastructures with national coverage and the ability to operate 24/7

4. IPS in the region

In Latin America and the Caribbean, IPS have made considerable progress in recent years, driven by the commitment of the private sector, central banks, and other financial authorities to modernize payment infrastructure. As in the global context, the adoption of these systems responds to the need for faster, safer, and more accessible payment methods that promote financial inclusion and economic dynamization.

An updated overview with adoption data and key characteristics of IPS in FLAR member countries is presented here below, complemented by information from relevant economies in the region. This analysis summarizes the current status and trends in the implementation and use of instant payments.

Additionally, a description of the current IPS status in each FLAR member country is included.

4.1. Determinants for the adoption of IPS in FLAR member countries and other economies in the region

The emergence of digital technologies in payment systems has placed the importance of implementing IPS at the center of the debate among central banks and financial authorities. As described in previous chapters, IPS offer multiple benefits for users, businesses, and the economy in general, and these have been widely documented in specialized literature. However, achieving mass adoption of these systems is not an automatic result, even when the benefits are evident. Identifying what conditions favor rapid and sustained adoption has become a key question for policymakers and designers of these systems.

Along these lines, Frost et al. (2024) present global evidence that identifies IPS design features associated with higher levels of adoption. The study finds that central bank involvement, especially in the operation of the system, is linked to higher adoption rates. Likewise, the participation of non-banking entities, the availability of different use cases, and the existence of cross-border connections stand out as relevant factors.

In Latin America and the Caribbean, empirical evidence on the determinants of IPS adoption remains limited, despite the growing number of countries that have implemented or are developing these systems. Therefore, the purpose of this section, based on the region's experience, is to analyze which elements of institutional and operational design have favored higher levels of IPS adoption.

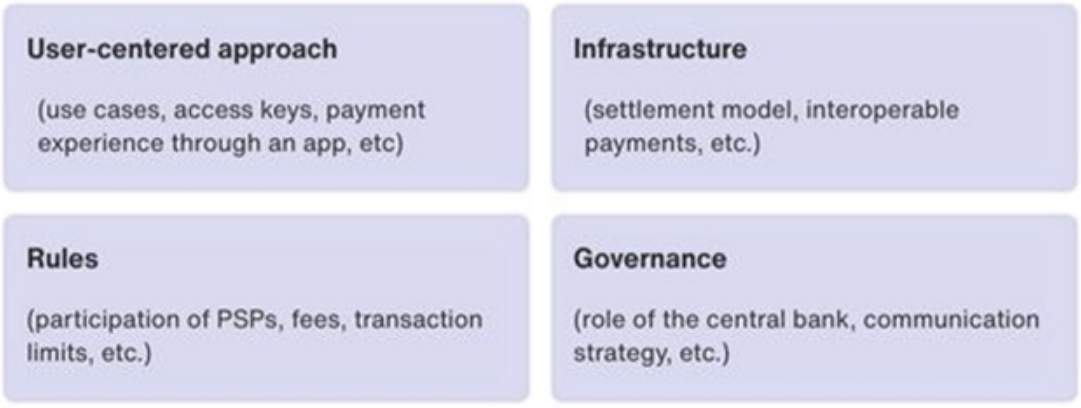
To this end, the analytical framework proposed by Frost et al. (2024) is taken and adapted to the regional context. The selection of variables and econometric specification is built on this basis, in order to generate comparable and useful findings for FLAR member countries in their decision-making processes.

Compared with the overall results of Frost et al. (2024), this study provides specific insights for FLAR member countries by identifying nuances in the determinants of IPS adoption. While both analyses agree on the relevance of expanding use cases and the importance of an active role for central banks, regional evidence adds two key elements: on the one hand, the availability of multiple keys or aliases as a factor that facilitates access and boosts adoption; and on the other, the regulation of end user fees as an additional incentive for the use of these systems. In contrast, the participation of non-bank payment service providers (NBPSPs), which is significant globally, has not yet shown a statistically significant effect in the region, possibly because their incorporation into Latin American IPS has been more recent. These findings enable international evidence to be adapted to the regional context and provide concrete inputs for FLAR member central banks in the design of policies to promote the adoption of instant payments.

4.1.1. Key elements in IPS design and data from the countries in the sample

Following the analytical framework of Frost et al. (2024), this study identifies four dimensions in IPS design that can influence their adoption: the user focus refers to those functionalities that facilitate and expand the use of the system, such as the diversity of use cases (P2P, payments to merchants, scheduled payments, among others) and the availability of multiple keys or aliases (cell phone number, email, id document) that simplify access. The infrastructure comprises the technological and settlement systems that enable the operation of IPS, including whether they are based on real-time gross settlement (RTGS) models or deferred clearing systems. The rules define participation requirements and conditions, as well as operational guidelines affecting adoption, such as the authorization of non-bank payment providers and the existence of fee regulation schemes for end users. Finally, governance relates to the role of the central bank in the IPS, which can range from a role of direct operator, regulator, or catalyst that promotes coordination between private actors and public policy objectives[17] (Figure 3).

Figure 3. Key design features for instant payments adoption

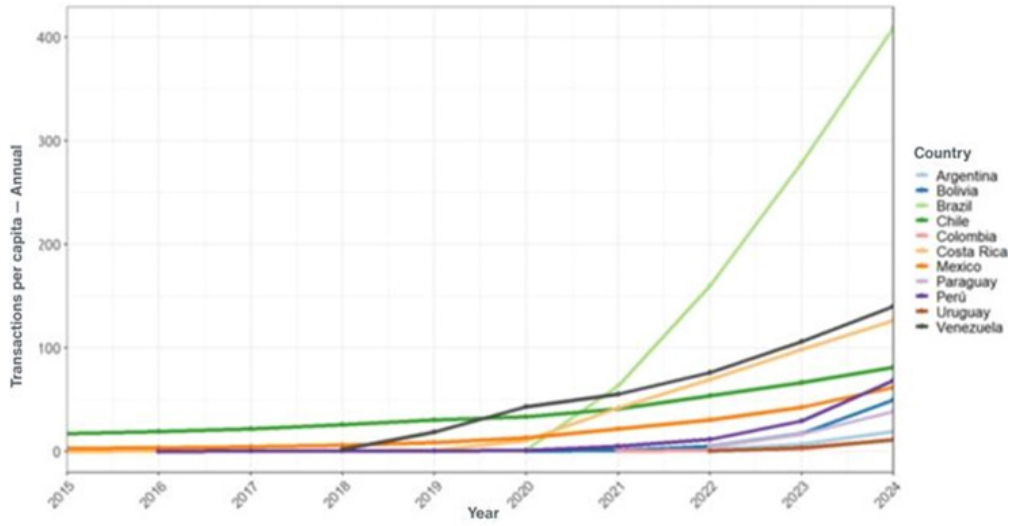


Source: Authors' elaboration based on Frost et al. (2024)

[17] For a better understanding of these characteristics, see Frost et al. (2024).

Based on these categories, the design features that encourage IPS adoption in each jurisdiction are identified. Defining how to measure IPS adoption is also important, as there are several metrics that could be used.[18] In this study, following the methodology of Frost et al. (2024), the monthly per capita number of transactions made through IPS was used as a dependent variable, including transactions made through digital wallets[19] (Figure 4). This measure was chosen because it allows capturing monthly dynamics of use and, therefore, offers greater variability and a broader number of observations. Furthermore, it is the most consistent and available information for the countries in the sample. The countries chosen for this analysis were some FLAR member countries,[20] plus Argentina, Brazil, and Mexico. Therefore, the database for this study consists of monthly observations from 11 jurisdictions,[21] between January 2010 and December 2024.

Figure 4. Evolution of transactions made in the Instant Payment System



Source: Prepared by the authors based on surveys in FLAR member countries and official information from central banks for other countries

18 Some of these metrics are the number of users registered in the system, proportion of adults with active accounts, degree of financial inclusion (Aurazo et al (2025)), downloads, and the use of associated mobile applications (Cornelli et al. (2024)) or the average value of the operations carried out.

19 For Argentina, Brazil, and Mexico, figures for transactions with digital wallets are not available.

20 FLAR member countries included are Bolivia, Chile, Colombia, Costa Rica, Paraguay, Peru, Uruguay, and Venezuela. Ecuador was not considered for this quantitative exercise because the series of its immediate payments was insufficient.

21 Countries were chosen because the purpose of this exercise was to measure the factors that promote IPS adoption in Latin America and the Caribbean. Additionally, the reason for choosing those non-FLAR member countries was the availability of monthly transaction data in their IPS.

Table 1 summarizes the characteristics of each IPS in the countries of the sample. It is worth noting that each variable, such as the number of use cases and keys, as well as the participation of NBPSP and the regulation of fees, changes over time. Therefore, this table reflects the data as of the end of 2024.

Table 1. Characteristics of Instant Payment Systems (Year 2024)[22]

Country	Transactions per capita[1]	Number of cases	Number of keys	NBPSP participation[2]	Fee regulation	Operated/managed by	Launch year[3]
Brazil	409	5	5	Yes	Yes	Public	2020
Venezuela	139	4	3	No	Yes	Public–private	2018
Costa Rica	126	6	1	Yes	Yes	Public	2015
Chile	82	4	1	Yes	No	Private	2013
Peru	67	1	1	Yes	No	Private	2016
Mexico	62	4	4	Yes	Yes	Public	2010
Bolivia	49	6	0	Yes	Yes	Public–private	2020
Paraguay	38	3	6	Yes	Yes	Public	2022
Argentina	19	4	3	Yes	Yes	Public	2021
Colombia	11	2	1^4	Yes	No	Private	2021
Uruguay	11	2	1	Yes	No	Private	2022

Notes / Sources

[1] Annual transactions. The number of transactions of each IPS corresponds to interbank transactions. The population used in the per capita calculation corresponds to

[2] Non-bank payment service providers (NBPSPs).

[3] Refers to the year in which the IPS was implemented in each country. For Bolivia and Chile, the year from which statistics are available is considered; however,

[4] This is the number of aliases (keys) through 2024 in the IPS "Transfiya". With the incorporation of "Bre-B", it will be expanded to five keys per user.

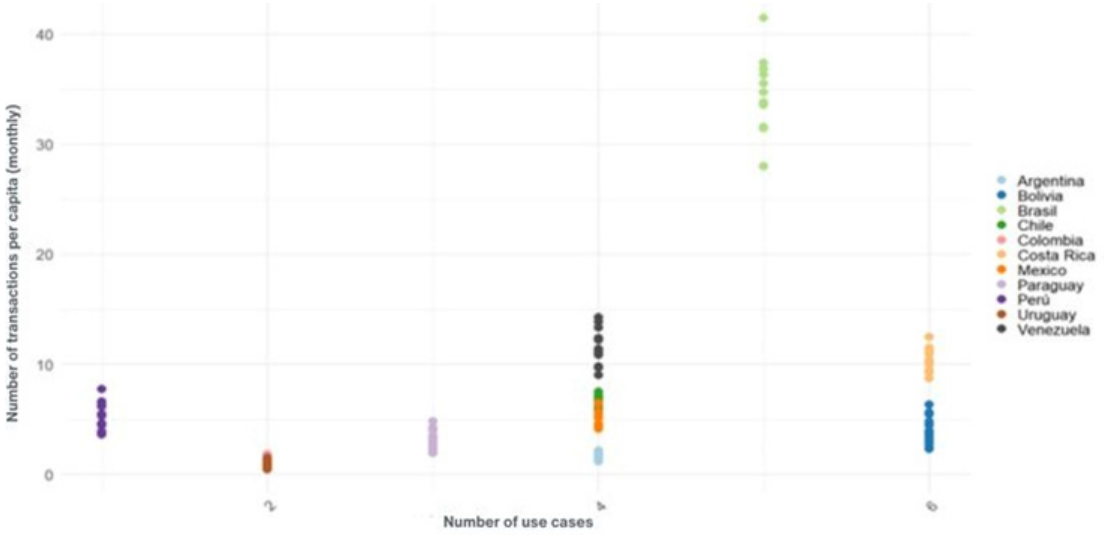
Sources: Central bank of each jurisdiction; World Bank.

Based on the information collected, an exploratory analysis of the data was performed to identify preliminary relationships between the design characteristics of the IPS and their level of adoption. The results, represented in Figures 5 to 8, show patterns consistent with the results observed by Frost et al. (2024) and provide initial evidence of the context of the region.

First, there is a positive relationship between the number of available use cases and the adoption of IPS (Figure 5). Systems that allow for a greater diversity of uses —for example, payments between people (P2P), payments to merchants (P2B), recurring payments, or payments to public entities—tend to have a higher volume of transactions per capita.

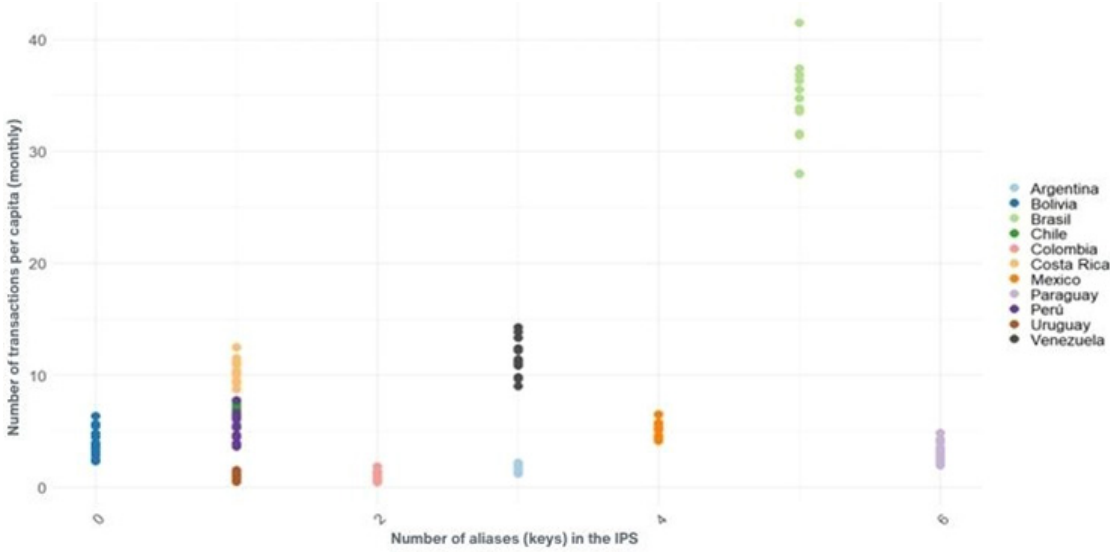
[22] See Appendix A for more details on the data, sources, and some findings linking IPS characteristics to their adoption.

Figure 5. Transactions per capita and number of use cases in the IPS



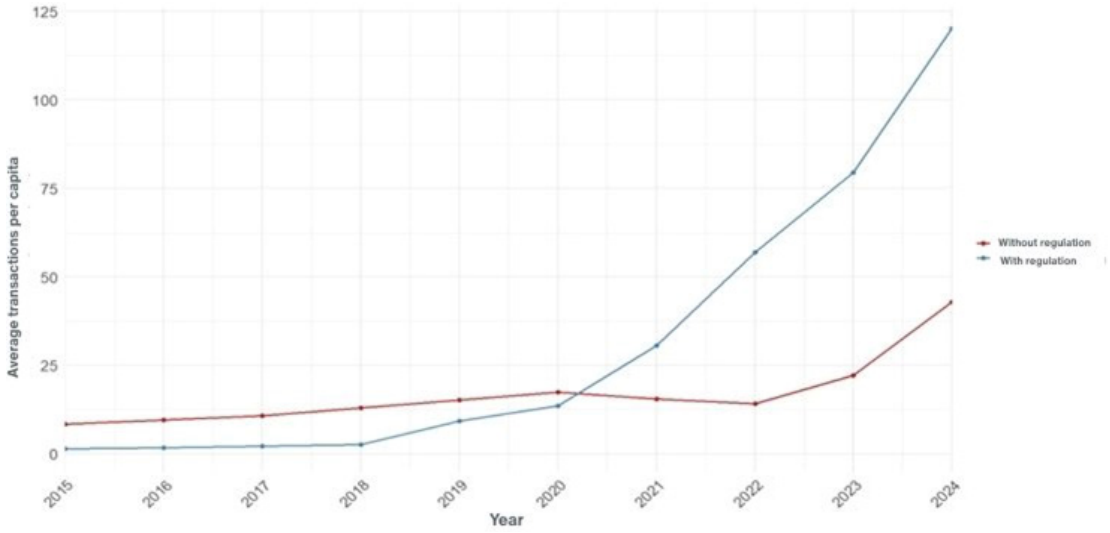
Similarly, results show a positive correlation between the number of enabled keys or aliases and adoption (Figure 6). The availability of multiple identifiers – such as a mobile number, email, or ID document – helps simplify access and reduce operational friction, which could increase the frequency of transactions. This evidence supports the idea that a user-centric design is key to boosting the use of instant payments.

Figure 6. Transactions per capita and number of keys in the IPS



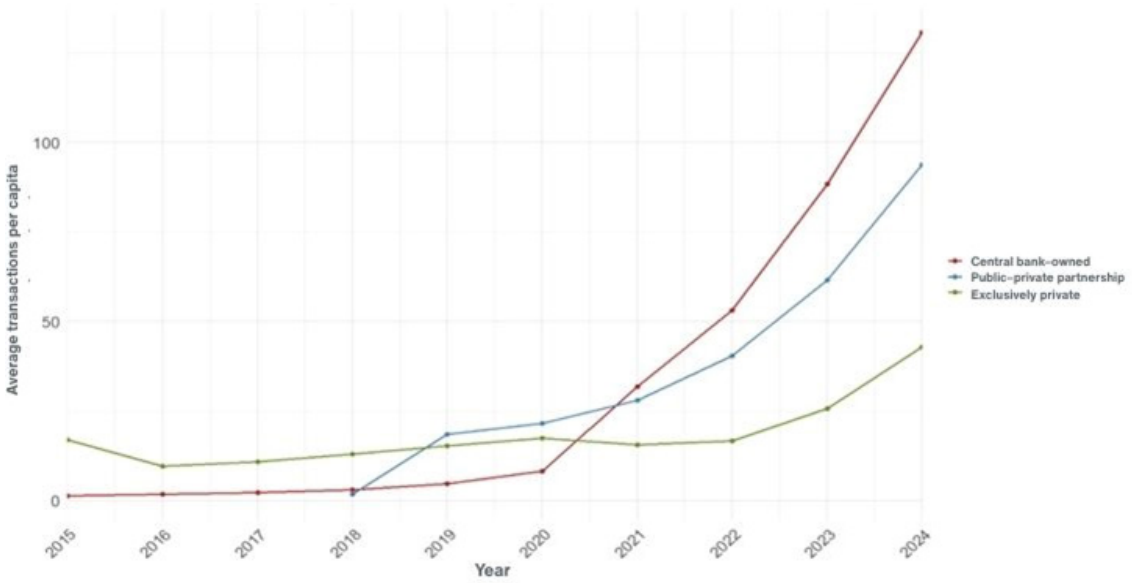
On the other hand, the existence of regulations on end-user fees is associated with higher adoption levels (Figure 7). This suggests that reducing or eliminating usage costs is an effective incentive to increase transaction frequency. Fee schemes, therefore, may be a relevant policy tool to accelerate adoption in contexts where cost barriers remain significant.

Figure 7. Per capita transactions and regulation of end-user fees in the IPS



Lastly, the role of the central bank in the operation of the system is also positively related to the adoption of instant payments (Figure 8). IPS operated directly by the central bank or under public-private governance schemes tend to exhibit higher levels of adoption.

Figure 8. Per capita transactions and IPS operation



4.2. Methodology and results

4.2.1. Variables and econometric model

Following the methodological specification of Frost et al. (2024), a fixed-effect regression is proposed to study the factors that lead to the adoption of IPS, as follows:

$$\Delta IPS\ transactions_{it} = \alpha + \beta_1 Number\ of\ use\ cases_{it} + \beta_2 Number\ of\ keys_{it} + \beta_3 NBPSP\ Participation_{it} + \beta_4 Regulatory\ tariff_{it} + \beta_5 CB\ Rol_{it} + \beta_0 \Delta IPS\ transactions_{i,t-1} + EF + \varepsilon_{it}$$

Where the explained variable $\Delta\ IPS\ transactions_{it}$, corresponds to the change (in level) in the per capita number of transactions in the IPS in country i between month t and the previous month. This measure seeks to capture the short-term dynamics in adoption, i.e., whether the IPS is gaining traction at a given time, and thus

identify the variables in its design that contribute to driving it. The purpose is not to explain why a country has more or less transactions in absolute terms, but to identify the factors that affect monthly growth.[23]

As explanatory variables, the design features discussed above were included.[24] Regarding the focus on the user, two variables were included: the first is the number of use cases, which represents potential IPS uses such as P2P payments, payments to merchants, payment of invoices, scheduled payments, among others.[25] Likewise, consideration is given to the number of keys corresponding to the number of aliases or access keys that users have to the IPS; among them, mobile number, email, identity document, etc.

On the other hand, explanatory variables that capture the rules in each IPS are considered. On the one hand, there is one that takes the value of 1 when these entities are allowed to participate in the IPS. On the other hand, there is one that takes the value of 1 when the IPS regulates end user fees. Finally, the governance dimension is captured by the variable role of the central bank. This variable captures the central bank's involvement in the IPS and takes the value of 1 when the central bank plays an active role in the development of the IPS, either as a system operator, a regulator that introduces key guidelines (for example, establishing mandatory interoperability between private actors), or as a catalyst that promotes cooperation with the private sector and promotes the deployment of instant payments.

This broad definition of the central bank's active role responds to two considerations. First, in FLAR member countries, even in those cases where central banks do not directly operate the IPS, their participation as regulators or catalysts has been decisive for its introduction and expansion. Second, from an econometric point of view, restricting the variable to the role of an operator reduced its variability in the sample and prevented its effect from being robustly identified. By incorporating the three involvement modalities, it is possible to better capture the impact of central bank intervention on the adoption of instant payments. Furthermore, the construction of the variable was done specifically for IPS, making it possible to identify the moments in which the central bank's "attitude" towards this kind of payments changed, in any of the three roles considered during the study period.

[23] It is worth noting that more mature countries tend to register lower growth rates compared to those that have recently introduced the system, where increases can be more pronounced. This difference should be considered when interpreting the results, as the model mainly captures expansion phases and not necessarily IPS consolidation levels.

[24] Of the possible explanatory variables proposed by Frost et al. (2024), for each category, only those that were available and showed variability over time were considered. Since, by construction, fixed-effect models do not allow the calculation of a coefficient associated with invariant variables, as they are confused with the term associated to each country.

[25] The use cases referred to in this variable are P2P, P2B, invoice payments, payment requests, bulk or batch payments, and scheduled payments, according to the use cases described in World Bank (2021).

In addition to the above, some controls that may have an impact on adoption were included. $\beta_0 \Delta IPS\ transactions_{i,t-1}$ refers to the lag in the change of per capita transactions of the IPS and controls the adoption dynamics and the size of the user base of the previous period.[26] Similarly, country fixed effects and fixed year effects were incorporated. Country fixed effects are controlled by those institutional factors in each jurisdiction that do not change over the years. The fixed effect of the year controls specific events of each period, such as the Covid-19 pandemic that affected all countries.

4.2.2. Results

Table 2 shows estimates of the effects of the IPS design features on its adoption. The preferred methodology is that of column I, which includes country and year fixed effects. It was found that, on average, there is a higher monthly growth of IPS transactions when there is a higher number of use cases, a larger number of keys, and when there is regulation on end-user fees. Likewise, the active role of the central bank is crucial for the increase in IPS transactions. The participation of NBPSPs has no significant impact on the change in the monthly per capita IPS transactions. This difference compared to the results of Frost et al. (2024) can be explained by several reasons associated with the regional experience. First, in most FLAR member countries, the enabling of NBPPs occurred late, in some cases only from 2024 onwards, which implies that their effects are not yet fully reflected in the data. Second, in most cases, the structure of the payment markets in the region is characterized by high banking concentration, which has limited the competitive space and the ability of NBPSPs to quickly capture a relevant portion of IPS users. Third, the scale and coverage of NBPSPs in most FLAR member countries is still incipient compared to that of banks, as many of these providers are still in pilot phases or with operations restricted to niche markets.

The relationships between the explanatory variables and the monthly growth of IPS transactions are not only significant but also have an important magnitude. In this sense, an additional use case in the IPS is associated with a 4.5% increase[27] in the number of transactions per capita. An additional access key is linked to a 2.7% increase, while the existence of end user fee regulation implies a 3.4% increase. The active role of the central bank is associated with a 4.8% increase in the number of IPS transactions per capita.[28]

[26] As explained in Frost et al. (2024), the use of the lagging dependent variable as an explanatory variable can introduce Nickell's bias; however, the focus is on the coefficients of the design variables and not on the lagging dependent variable itself.

[27] In calculating this magnitude and those that follow, it is necessary to bear in mind that the average monthly number of transactions per capita in the IPS is 2.91.

[28] The results in column II, when using only country-specific fixed effects, are similar to those in column I. Furthermore, these results are robust by including additional controls such as the percentage of people over 15 years of age with a bank account from the World Bank's Global Findex.

Table 2. Relationship between IPS transactions and their design characteristics[1]

	Monthly change in transactions per capita (I)	Monthly change in transactions per capita (II)
User focus: Number of use cases	0.13***	0.14***
	(0.02)	(0.03)
User focus: Number of aliases (keys)	0.08**	0.09***
	(0.03)	(0.01)
Rules: NBPSP participation	0.02	0.03
	(0.03)	(0.03)
Rules: Fees and charges regulation	0.10**	0.11**
	(0.03)	(0.07)
Governance: Role of the central bank	0.14***	0.17***
	(0.03)	(0.04)
Lag of the change in IPS transactions per capita volume	-0.39***	-0.38***
	(0.03)	(0.03)
Country fixed effects	✓	✓
Year fixed effects	✓	X
Observations	878	878
R-squared	0.28	0.29

[1] Standard errors in parentheses; ***/**/* significance at the 1/5/10% levels.
Source: Authors' calculations.

These results, compared to those obtained in Frost et al. (2024), are consistent in finding that the increase in the number of use cases, the increase in the number of keys, and an active role of the central bank imply that per capita IPS transactions increase. Additionally, findings are extended by incorporating and evidencing that the regulation of end user fees encourages the adoption of IPS payments.

4.2.3. Conclusions

IPS adoption largely depends on its own design characteristics, especially those focused on users (use cases, number of keys). These variables also reflect the ability of IPS to adapt to end user needs and behaviors.

International experience shows that other elements of the design are also important: participation of payment service providers, user education, accessibility, mandatory participation of regulated payment service providers. There are other precedent conditions that also contribute to the development of IPS, such as financial inclusion, development of digital infrastructure and institutional framework.

Central banks play a leading role in the adoption of instant payments, as regulators, operators, or catalysts. However, IPS operated exclusively by central banks do not necessarily show an increase in adoption. In their role as catalysts, central banks have actively promoted the development of the system, facilitating coordination between actors and the alignment of objectives, without the need to directly operate the system. Action as a catalyst has been key to the evolution of different governance models and to coordinating private objectives with public policy objectives.

4.3. IPS Overview

Below, the central banks of the 9 FLAR member countries present the outlook for IPS in each of their jurisdictions. In this sense, each central bank describes, in general terms, the state of development of the IPS in its country, including an overview of its operation, evolution and level of adoption, as well as the role played by the monetary authority (whether as an infrastructure provider, regulator or sponsor) and the regulatory framework that supports it.

Additionally, the operational design of each IPS is presented, addressing aspects such as interoperability between financial institutions, non-banking entities, mobile wallets, and other relevant actors; applicable rates, level of immediacy achieved, security mechanisms implemented, and guidelines oriented to the user experience.

Likewise, the shared interest in moving towards interoperability with other payment systems through cross-border payment schemes is highlighted, where the adoption or implementation process of the ISO 20022 standard is analyzed.

Finally, these central banks reflect on the main challenges they have faced in the development and implementation of their respective IPS.

4.3.1. Central Bank of Bolivia

4.3.1.1. IPS Overview

The development and modernization of the IPS in Bolivia have resulted from a series of coordinated efforts by various actors in the financial ecosystem, led by the Central Bank of Bolivia (BCB). The BCB defined a roadmap for the IPS development process that was ordered in stages, where the main tool was its regulatory capacity.

In fact, within the framework of the Political Constitution of the State, BCB has the power to regulate the national payment system, which is why it has issued a general regulatory framework that regulates the provision of payment services and instruments, risk management, and the evaluation of those systems considered to be of systemic importance. Additionally, it leads and promotes projects aimed at the provision of new services and payment instruments, while acting as a provider and administrator of the country's high-value payment system.

Moreover, pursuant to the provisions of Article 8 of the Financial Services Law (LSF) approved on August 21, 2013, the Financial System Supervisory Authority (ASFI) is responsible for issuing specific regulations and supervising their compliance within the framework of the regulatory provisions issued by the BCB on the payment system. Additionally, Article 9, paragraph 9, of the LSF stipulates, among the functions and powers of the ASFI, that of imposing administrative sanctions on financial intermediation entities, financial auxiliary service companies, and natural persons or legal entities that contravene the provisions of this LSF, its regulations and other regulations in force.

This institutional architecture represents a remarkable strength of the Bolivian regulatory model, as it clearly establishes the roles and competencies of each entity, avoiding overlaps and ensuring a clear division between financial supervision and the surveillance of the payment system, also institutionalizing coordination between these two instances.

In this context, the actions, and the separation of surveillance roles and supervision tasks are defined in the current regulations. In this regard, payment system monitoring tasks, in charge of the BCB, have a systemic approach that differs from the supervisory tasks of the ASFI, which individually focus on financial institutions.

In this sense, surveillance tools of the retail payment system include collaborative mechanisms with the ASFI, aimed at identifying risks and establishing corrective measures to minimize impact on other entities.

Furthermore, the Financial Services Law formalizes the inter-institutional coordination between the BCB and the ASFI and, in turn, regulates the ASFI's inter-institutional coordination with other authorities.[29] This allows joint efforts to strengthen the country's financial infrastructure and respond in a timely manner to the challenges of the digital environment.

Initially, in its role as provider and administrator of the electronic payment system, the BCB promoted the modernization of the high-value infrastructure with the implementation of the Integrated Payment Settlement System (LIP)[30] and its high-value module in 2014, which currently has 100 participants. Subsequently, in 2019, the Deferred Settlement Module (MLD) was implemented, which allows the processing of transactions between accounts in the financial system, becoming the integrating element of the retail payment system by achieving the incorporation of non-bank financial entities (Savings and Loan Cooperatives - SCCs, Housing Financial Institutions - EFV and Development Financial Institutions - DFIs),. besides consolidating interoperability among the Financial Market Infrastructures (IMFs)- Clearing and Settlement Houses (CSHs), Electronic Card Management Companies, and mobile wallet[31] issuing entities. Currently, this MLD has 57 participants.

Regarding the background on the implementation of IPS in Bolivia, it is worth noting that the Administrator of Clearing and Settlement Houses (CSHA),[32] in 2006, implemented the Clearing and Settlement Chamber for Electronic Funds Transfers (ACH), with the predominant participation of banks, guaranteeing from the outset instant payment to the accounts of beneficiary customers within an asynchronous scheme, that is, credits are processed as soon as the recipient's system is available, using a net multilateral clearing mechanism with deferred settlement cycles in the BCB's electronic payment system. In 2019, after evaluation and regulatory update by the BCB, the CSHA implemented the instant payments service with QR code, under a synchronous scheme, that is, operations are automatically rejected if there is no response from the receiver. This implementation initially included 11 banking entities, contributing to the diversification of the payment infrastructure in the country.

29 Section 30, Financial Services Act

30 The LIP replaced the High Value Payment System (SIPAV) that had been in operation since the end of 2003.

31 Within the framework of the Regulation on Payment Services, Electronic Payment Instruments, Clearing and Settlement, approved by Resolution of the Board of Directors of the Central Bank of Bolivia No. 79/2022 of September 6, 2022, and amended by Board Resolution No. 111/2024 of September 3, 2024, it is established that the mobile wallet is an electronic payment instrument, linked from its issuance to a specific type of account, referred to as a nominated payment account denominated in bolivianos.

32 The CSHA is a private Clearing and Settlement House that administers the clearing and settlement of checks, and as of 2006, transactions with Electronic Funds Transfer Orders.

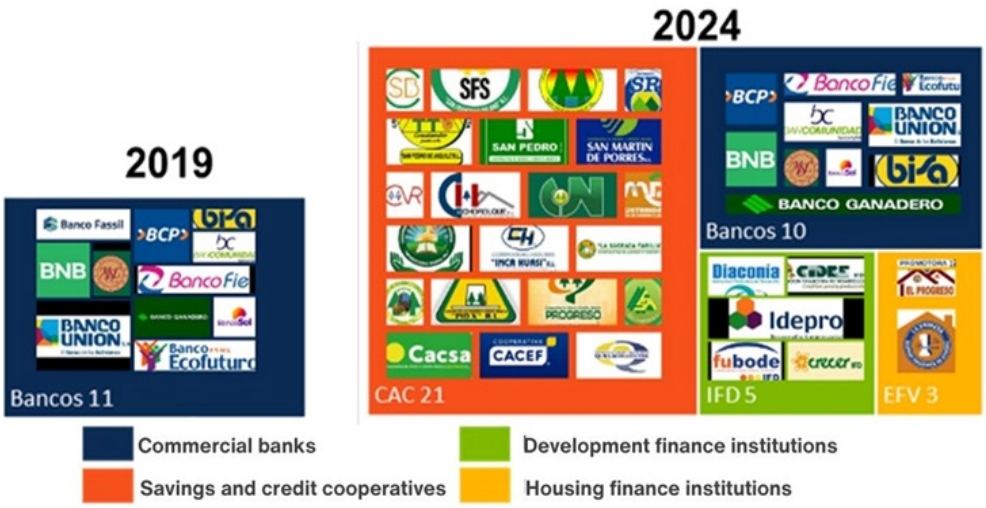
The consolidation of the IPS in Bolivia took place in 2022, with the implementation of instant payment processing with the BCB Bolivia QR code as a new functionality of the MLD, and the issuance of the regulatory update that stipulated the obligation to use a common and compatible standard for the generation of QR codes, democratizing access to electronic payment services throughout the country, expanding coverage to peri-urban and rural areas, and consolidating a more agile, secure, and inclusive financial ecosystem. UNILINK, another authorized CSH that also has an IPS available joined this effort, thus expanding the options for financial institutions and their users.

Currently, the IPS in Bolivia operates under a net multilateral clearing scheme, with settlement cycles that guarantee 24/7 transaction processing and deferred net settlement in BCB LIP accounts. Instant QR code payments are available for both interbank and intrabank transactions (which are processed in the internal systems of financial institutions), and QR codes may be static or dynamic, defined by the user at the time of their creation.

These developments have contributed to strengthening the architecture of the national payment system, facilitating agile and secure electronic operations under an interoperability framework that promotes financial inclusion and operational efficiency throughout the country.

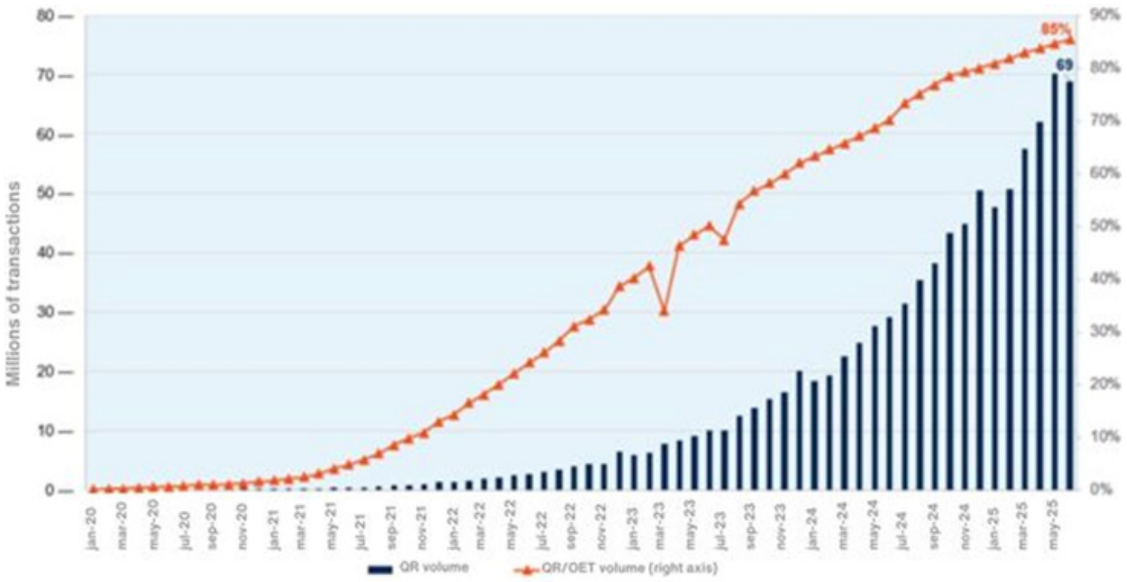
Regarding the adoption status, as shown in Figure 9, the implementation of the BCB Bolivia QR code generated a significant growth in the offer of instant payments with QR code, increasing from 11 to 39 financial institutions that have this service available. On the other hand, as a result of the regulated conditions, exponential adoption rates have been recorded in the financial system and among users, who have massified its use.

Figure 9. Entities with the instant payment service that have a QR code (Number)



Source: CSHA, MLD, UNILINK.
Prepared by: Central Bank of Bolivia (BCB)

Figure 10. QR code payments / total wire transfers (Number and percentage)



Source: CSHA, MLD, UNILINK.
Prepared by: Central Bank of Bolivia (BCB)

The modernization strategy promoted in Bolivia prioritized interoperability as a guiding principle, ensuring that banks, cooperatives, mobile wallet issuers, and other financial institutions such as Electronic Card Management Companies (EATEs) could operate under the same technical standard. This interoperability was reinforced with the integration of MLD, CSH, and EATEs, expanding the capabilities of the payment system, as well as the available use cases, so that currently mobile wallet applications allow reading and generating QR codes for the processing of instant payments, and POS[33] generate QR codes for the processing of payment transfers in accepting entities.

Interoperable and standardized infrastructure not only reduces transactional costs but also encourages competition among participating entities, directly benefiting the user. Fees applied to end users are regulated by Resolution No. 19/2025[34] of the BCB Board of Directors, which stipulates that electronic transactions, including instant payments, are free of charge up to Bs69,600. Additionally, the MLD charges a flat fee of Bs0.10 per transaction to participating financial institutions, promoting the use of electronic payments, and strengthening financial inclusion nationwide.

User experience has also been a central axis. The regulation required that all electronic transactions comply with high security standards, regulating the use of strong authentication mechanisms, data protection measures, fraud management mechanisms, and cybersecurity, promoting user confidence in digital financial services.

Minimum Operational Security Requirements for Electronic Payment Instruments and Channels (ROMS) are issued within the framework of the regulations established by the BCB, which are periodically reviewed and updated to strengthen security and confidence in the use of electronic transactions and constitute a reference standard for compliance with good practices in the retail payment system. These requirements are framed in international standards, such as the Payment Card Industry Data Security Standard (PCI DSS), Strong Customer Authentication (SCA), security protocols for the exchange of information with TLS vs 1.2 technology, among others, adapted to the national context. The latest ROMS update was made in February 2025, including measures to provide an additional layer of security that strengthens encryption in the processing of electronic transfers, the possibility of registering claims through web and mobile applications of financial

[33] "Device that allows the use of Electronic Payment Instruments-EPI at points of sale of goods and services to process Payment Orders-OP by contact or proximity; information is captured in paper vouchers or by electronic terminals designed to transmit the information. The Point of Sale Terminal is also known by its acronym in English: POS (Point of Sale)". Regulation of Payment Services, Electronic Payment, Clearing and Settlement Instruments (RSPEPICL).

[34] Disseminated through CIEX External Circular No. 2/2025, within the framework of the provisions of the RSPEPICL, Article 8, Paragraph I, in force since March 1, 2025.

institutions, the possibility of using digital wallets (E-wallet) and virtual cards, and the notification of unusual geographical locations and abnormal parameters to strengthen fraud prevention, improving transparency and user experience in mobile and electronic banking.

Likewise, considering the massive use of instant payments, the extension of the beneficiary's information to be displayed for operations with QR codes was established, as well as the customization of the QR code collection templates for the payment of basic services and the extension of the validity period of QR codes for up to 2 years.

Additionally, to continue promoting the use of electronic payment instruments, a regulation was issued for the automatic enabling of electronic transfers in web and mobile applications for a minimum amount of Bs69,600, in line with free access for this type of operation established by Regulation R.D. 19/2025, providing the possibility for users to modify this amount limit at any time. Lastly, for the use of electronic cards, the amount established for the processing of face-to-face payments without the need to write the PIN was increased from Bs150 to Bs200.

Bolivia's experience in modernizing its IPS offers several high relevance good practices and lessons learned. One of the main ones was the establishment of a regulatory framework that ensured the incorporation of all regulated financial institutions into the LIP, mandatory interconnection and interoperability between IMFs for the processing of transactions with Electronic Payment Instruments (EPIs) through all payment channels, and the definition of common standards, compatible and unique for the entire financial system, avoiding fragmentation and ensuring a consistent experience for end users.

Finally, the BCB's regulatory approach, which combines strategic planning, technological innovation, and progressive regulation in a staged development, is a valuable lesson to promote the effective and secure digital transformation of payment systems at the regional level. In this context, the actions carried out by the BCB have been recognized nationally and internationally, resulting in significant advances in digital financial inclusion.

4.3.1.2. IPS Challenges and opportunities

During the coordination process for interconnection and interoperability in the period of computer development and implementation of the MLD, and later of its instant payment functionality, called BCB Bolivia QR code, several challenges were faced. Among them, achieving the expansion of digital financial services coverage in peri-urban areas and remote locations, where traditional banking had a limited presence, and addressing the need to integrate non-banking entities, traditionally less technical, which represented a significant challenge in terms of training, technological adaptation and regulatory compliance.

However, these challenges opened up significant opportunities for strengthening financial inclusion, expanding the use of electronic means of payment, and modernizing public services. Likewise, the implementation of the BCB Bolivia QR code made it possible to democratize access to digital payments, reaching sectors historically excluded from the formal financial system.

An additional challenge was the initial resistance of the CSHs and the banking sector to the changes associated with the interoperable model of the MLD and the BCB Bolivia QR code, which generated delays in its implementation. This situation required coordination with active intervention by the ASFI to ensure regulatory compliance and the effective integration of all entities, overcoming technological and operational barriers in favor of a more inclusive and efficient payment system, as well as extensive coordination and monitoring tasks to accompany changes, adjustments and guarantee the implementation of the required adjustments in their systems.

The transformation process also generated opportunities to continue innovating in terms of operational efficiency, improving user experience, strengthening cybersecurity, and designing new digital financial services adapted to the needs of various segments of the population.

The issuance of a broad and comprehensive regulatory framework has ensured conditions conducive to infrastructure development. As a result, Bolivia's payment system has made considerable progress in offering electronic and mobile banking channels with 24/7 availability, regulated several years ago in the Regulation on Payment Services, Electronic Payment Instruments, Clearing and Settlement. This condition of the processing systems has driven increased infrastructure utilization, offering a wide range of ongoing services, from service inquiries and payments to interbank transfers and innovative functionalities, backed by security measures and 24/7 customer support to build trust.

Additionally, a critical path of technological evolution has been defined for the coming years, which includes migration to an infrastructure based on microservices, which will guarantee greater responsiveness and scalability for the MLD. This roadmap also includes the implementation this year of functionalities such as *Request to Pay*, WhatsApp payments, the issuance of regulations for open finance with a focus on payments, and the evaluation of the necessary adaptations for the adoption of the ISO 20022 standard, which will improve the interoperability and quality of information in electronic payments.

The implementation of the Alias Directory is currently being analyzed, representing an opportunity to continue deepening the use of electronic transfers in Bolivia, simplifying the process by linking accounts to easy-to-remember identifiers such as email; cell phone number; or id document. This functionality would complement instant QR code payments, reducing friction in the identification of the beneficiary and facilitating a more agile and accessible payment experience for users.

In this context, on May 5, 2025, Supreme Decree No. 5384 was enacted, establishing the regulatory framework for Financial Technology Companies (fintechs). This regulation stipulates the incorporation of fintechs as financial institutions into the scope of the LSF, to enable the provision of innovative services in the financial, securities and insurance sectors. This decree introduces key definitions such as Tokenized Asset, Virtual Asset, Blockchain, and Token, and establishes the figure of the Virtual Asset Service Provider (VASP). It also sets forth that fintechs must obtain authorization from the ASFI and may operate in a Controlled Test Environment (CTE) to facilitate the implementation of their services.

Along these lines, on July 4, 2025, the ASFI approved and implemented the Regulation for Financial Technology Companies[35], strengthening the regulatory framework established by DS No. 5384. This regulation details the requirements, conditions, and procedures for the incorporation, adaptation, and obtaining of an operating license for fintechs, consolidating a safer, more transparent, and formalized environment for financial innovation, providing greater security to users, and fostering confidence in the digital financial system. Moreover, the implementation of this regulatory framework is expected to boost financial inclusion and modernize the country's financial services.

[35] Compilation of Financial System Regulations, Title II, Chapter XI.

4.3.2. Central Bank of Chile

4.3.2.1. IPS Overview

Chile was one of the first countries in the world to have a system that allows funds to be transferred between accounts of different financial institutions, where the availability of resources to users is immediate.

While high-value payments are cleared and settled through the Central Bank of Chile (BCCh) Real-Time Gross Settlement System (RTGS),[36] the processing of retail payments currently has different clearing houses that settle in the BCCh RTGS System: the Check Clearing House; the ATM Clearing House; and the Low Value Payments Clearing House managed by the Centro de Compensación Automatizado S.A. (CCA), which provides the infrastructure for the electronic clearing of interbank transfers.

The IPS began operations in 2008 and is the result of a requirement of the then Superintendence of Banks and Financial Institutions. The CCA is the infrastructure through which Chile's IPS has been implemented since then, which is developed by the private sector. In this sense, Chile's experience shows that achieving a deep development of an IPS without its infrastructure being provided by the BCCh is possible.

Unlike the experience of other countries in the region, the IPS operated by the CCA does not have an associated trademark. The ability to transfer funds is part of the core services that account providers offer to their customers, and immediacy is a regulatory requirement. Thus, payments made through this system are generically referred to as Electronic Fund Transfers (EFTs).

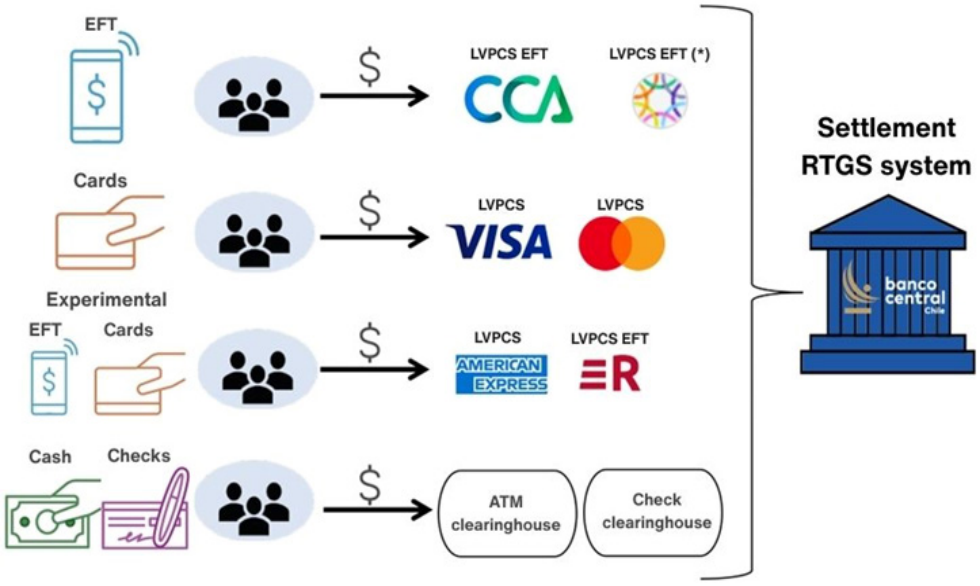
Payments processed in this system correspond to online transfers, where funds are credited to the beneficiary immediately, once the instruction is received; and through batch processes of credits and mass charges, where instructions are received to settle payments in a deferred manner, such as, for example, recurring payments of basic services such as water and electricity, or payrolls.

It should be noted that although payments processed by the CCA allow recipients to have resources immediately available 24/7, every day of the year, settlement between financial institutions is carried out on a deferred basis. This has enabled significant savings in terms of liquidity compared to a system that settles grossly and in real time, although it exposes participants to the credit risk of their counterparties.

[36] A transfer system in which the settlement of payments, transfer instructions, or other obligations is made individually, on a transaction-by-transaction basis, for the full real-time value.

In 2022, the BCCh, within the framework of its legal powers, issued a regulatory framework that allowed the constitution of Low-Value Payments Clearing Houses (LVPCH),[37] incorporating into the regulatory perimeter the clearing and settlement processes originated in low-value payment transactions (transfers of funds between accounts or EFT, payment cards, etc.). The first private company subject to this regulation was CCA in 2023 which, as mentioned above, was an industry arrangement that allowed it to carry out EFT, without being subject to specialized regulation and settling its operations through commercial banks. Currently, CCA's LVPCH complies with international standards for market infrastructures (PFMI), settles its operations in the BCCh RTGS System and is supervised by the Financial Market Commission (CMF). The publication of this regulation also made it possible to set clear and transparent rules, facilitating the entry of new actors that are created as LVPCH (for example, through experimental modalities with lighter requirements). Thus, during this year, the operation of other LVPCH was authorized, such as those operated by Visa and Mastercard, respectively. Additionally, experimental LVPCH projects for EFT and cards are added. The regulation of the LVPCH stipulates that transactions included and accepted by these clearing houses are final and irrevocable. (Figure 11)

Figure 11. Low-value payment clearing and settlement scheme



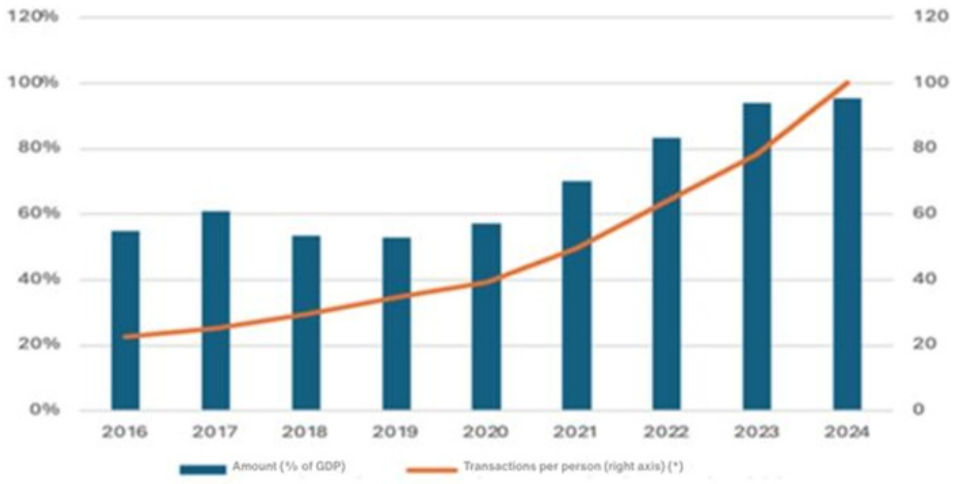
Source: Central Bank of Chile (BCCh)
(*) LVPCH EFT to be operated by the Shinkansen company. It is in the process of approval by the BCCh.

[37] Chapter III.H.6 of the Compendium of Financial Regulations of the Central Bank of Chile. Since 2008, CCA was supervised by the SBIF, as it was created as a support company for the banking sector. After the new BCCh regulation, the CCA becomes the administrator of the clearing house for low-value payments, supervised in that capacity by the CMF (the body that merged the Superintendence of Banks and Financial Institutions with the Superintendence of Securities and Insurance).

Thus, there is an obligation to clear and settle retail payments through these LVPCH, but financial institutions may choose to do so through the LVPCH operated by the CCA or by others created in accordance with the regulation. In other words, there is no obligation for all institutions that offer accounts to people to be participants in the CCA, although in practice all of them are.[38] On the other hand, it should be noted that fund transfers made between customers of the same financial institution are settled internally ("*on us*"), so they are not cleared through the LVPCH of the CCA or any other clearing house.

This has resulted in a high adoption level of instant payments by the population, which during 2024 made an average of 100 transactions per person, and the system processed amounts for 95% of GDP,[39] as seen in Figure 12.

Figure 12. EFT of natural persons (annual)



Source: Financial Market Commission (CMF) and National Institute of Statistics.
(*) Per person calculation considers only adult population between 15 and 65 years old.

The IPS operated by the CCA has transparent and non-discriminatory access conditions, which allows all entities that provide accounts to participate in it, either directly or indirectly. This enables interoperability, understood as the ability to make payments between people or companies regardless of their account providers.

[38] Currently, there are other LVPCH projects for electronic funds transfers (TEF) under implementation, which could eventually interoperate with the LVPCH of CCA.

[39] These numbers consider payments by individuals between the same or different financial institutions, besides other online payments.

The regulation applicable to LVPCH determines that there must be conditions that allow adequate interoperability with other LVPCH, Payment Systems and their participants. This has allowed a high degree of interoperability to make payments between people or companies regardless of their account providers. However, based on the experience with the implementation of the regulation of LVPCH, it is evident that additional regulatory requirements would be necessary to promote interoperability at the level of payments to merchants, since it has not occurred naturally in the market.

In terms of risk mitigation, the regulation of LVPCH and, therefore, the CCA starting as an operator of one of these clearing houses, has contributed in closing gaps with respect to international standards in terms of risk management typical of this type of market infrastructure, contributing to the resilience of instant payments in Chile.[40]

Regarding the ISO 20022 international standard, it has been successfully adopted in the BCCh RTGS System, specifically in the migration of SWIFT messaging carried out in November 2024. Furthermore, the migration of the legacy systems operated by the BCCh is planned for the third quarter of this year.

On the other hand, instructing and making money transfers through this IPS has no cost for end users, but there are fees between participants. These fees are not regulated and, unlike card interchange fees, the entity that provides the account to the originator of the payment must pay a fee to the entity that receives it.

In terms of user experience, while the main benefit of the system is the instantaneity of payments, there is no user experience standard, and therefore the way to originate a transfer is defined by each account provider. It is worth noting that there is a legal framework that limits the liability of users of means of payment and electronic transactions in the event of loss, theft, robbery, or fraud. A related industry practice limits the number of first-time transfers made to a recipient to approximately USD 250 in 24 hours.[41] Additionally, the processing of disputes at the customer level is not part of the functions of the LVPCH, which must be resolved between them and the entities that provide their accounts (or the merchants where they purchased, in the case of returns).

Finally, regarding the enactment of the regulations on low-value payment clearing houses, given the relevance that digital payments have been taking in general, and via electronic transfer in particular, the BCCh decided

[40] For more information, check the latest edition of the Payment Systems Report (2024) published by the BCCh.

[41] Law 21.234. There are also limits to the maximum daily amount each customer may transfer, which are set by the respective financial institutions. These amounts range approximately between USD 5,000 and 7,500.

to incorporate them specifically into the regulatory perimeter and demanding the requirements of a financial market infrastructure. This process was gradually implemented starting in 2022, especially considering that the system was already operating with an important level of acceptance by the population.[42]

4.3.2.2. IPS challenges and opportunities

The new regulatory framework for LVPCH allows the IPS to operate under adequate security, interoperability, and efficiency conditions. However, while the IPS may be used to make payments from and between people, companies or government entities, its most profound development has been in P2P payments. In other words, the P2B channel is less developed, noting that its deepening would bring benefits in terms of resilience, competition, greater use of digital means of payment and formality in the economy.

On the other hand, a challenge for the IPS is the lack of a centralized database of proxies or aliases for transfers. Thus, when a transfer is made to a first-time recipient, the originator must provide information that allows the account and the recipient to be identified: the national id number, destination entity, type and account number. This means that instructing the first payment demands several steps; however, once that information is stored in the originator's records, successive transfers are more expeditious.

In response to this difficulty, some specific entities have made efforts to improve user experience, such as the incorporation of QR codes or the use of the cell phone number as the identifier of the target account. These initiatives, for the time being, are fragmented and work for payments between customers of the same institution or between institutions that partner for this purpose.

Although EFT can currently be accessed through various channels, such as QR codes, each of the access channels is developed independently by each institution that offers this product,[43] which creates an opportunity to issue regulations unifying the standards under which these channels are governed, regardless of the institution.

[42] The regulated IPS began operations in March 2024 in a phased manner, starting with the clearing and settlement of each EFT trading cycle and subsequently the two Batch trading cycles.

[43] Immediate Payments and Interoperability Desk (MPIEI) (n.d.), "Excel Matrix Co-creation Workshop, Exercise 1-2".

It should be noted that the so-called "*Fintech Law*", enacted in December 2022, incorporates an Open Finance System in which the so-called Payment Initiators are regulated, among other entities.[44] Although other entities that provided the payment initiation service already existed, they did so outside the regulatory perimeter, and this *Fintech Law* regulates aspects such as the access and use of customer information that can be made by payment initiators. This regulation is being implemented, and when fully operational, the expectation is that these entities will contribute to increasing instant P2P and P2B payments.

Therefore, a challenge the system in Chile is facing is the incorporation of some of the existing functionalities in other countries aimed at improving user experience, and also to facilitate the adoption of direct transfers as a means of payment, competitive with cards. Advancing in these challenges is not trivial and requires both public and private efforts to solve not only technological challenges, but also coordination and contractual challenges, considering the powers that the BCCh has, and the different incentives faced by market participants.

Lastly, although in the specific case of the LVPCH of the CCA it has been determined within the internal protocols that an EFT must be completed within a maximum time of 15 seconds, 11 seconds to respond by the institution receiving the EFT and 4 seconds to respond by the LVPCH CCA to the institution originating the EFT, at the regulatory level, no minimum standard has been set standardizing the immediacy of payments in the IPS.

[44] Law No. 21,521

4.3.3. Bank of the Republic of Colombia

4.3.3.1. IPS Overview

Currently, in Colombia there are two forms of instant payments: interbank and intrabank operations. Likewise, there are three private payment system administrators (LVPS Administrators) that have implemented this service for their participating entities. The volume of intrabank operations is led by the main banks in Colombia and significantly exceeds the volume of interbank operations.

The aforementioned managing entities are: i) ACH Colombia, which implemented the "Transfiya" low-value instant payment system (SPBVI) to process P2P instant payments in 2019. Currently, 27 financial institutions participate in this system, and it processed nearly 282 million transactions in 2024, a 206.5% increase compared to 2023; ii) The SPBVI "Entrecuentas" of Redeban Multicolor S.A. began operations in October 2023, to provide the P2B instant payment service via QR codes. It had 17 participants and processed nearly 130 million transactions during 2024. Since January 2025, this same system is also providing the P2P instant payment service; and (iii) "Visionamos", which serves the solidarity sector, with about 170 participants in its system, including savings and loan cooperatives and employee funds. This LVPS Administrator processed 7.6 million transactions in 2023. Although its volume is smaller compared to the other SPBVI, it offers an opportunity for growth, especially in rural areas and in vulnerable segments of the population.

Considering this diagnosis, and seeking to promote the digitalization of transactional flows, the Bank of the Republic of Colombia (BRC) has been implementing the Interoperable IPS of Colombia (Bre-B) since 2022. Both the design and regulation and aspects of service delivery have been widely discussed with the payments industry, acknowledging the progress made, and guided by international best practices.

Thus, as of September 2025, the BRC will enable instant payments and/or transfers of interoperable funds, thanks to the fact that it will provide the digital public infrastructure that will interconnect the different SPBVIs. This centralized infrastructure consists of two technological nodes: the Centralized Directory (DICE), which will be the repository of the keys of all Colombians, and the Operational Mechanism for Settlement (MOL), which allows the settlement of operations, one by one, in real time.

Additionally, the BRC will provide an SPBVI called DRIXI. It should operate under the same rules as the other private SPBVIs mentioned above, and its objective is to promote access, efficiency, and innovation. Therefore, it will offer broad access to all potential participants enabled to provide the instant payment service and will

facilitate innovation by giving access to other key ecosystem agents (payment service providers, such as payment initiators, aggregators, and PSPs).

In Colombia, the following kinds of entities participate in the operation of instant payment services: SPBVs and financial institutions, including banks, financial corporations, financing companies, financial cooperatives, companies specialized in deposits and electronic payments, and companies not supervised by the Financial Superintendence of Colombia (SFC).

To take advantage of the technological and market advances, all the aforementioned entities will be able to participate in Bre-B and will be able to interoperate thanks to the technological nodes of the centralized infrastructure, DICE and MOL, which will be supported by the BRC, as shown in Figure 13.

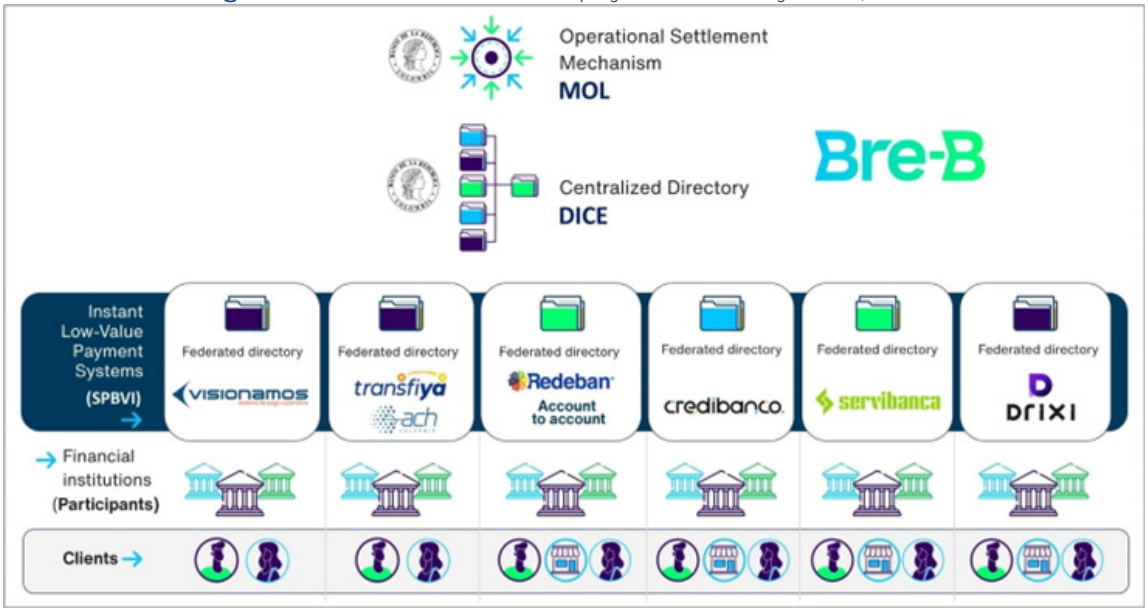
Likewise, the participation of the fintech industry is acknowledged by the PSP figure recognized in Decree 1692 of 2020, which, without being monitored by the SFC, allows them to be delegated by financial institutions to carry out some activities within Bre-B and thus increase operational efficiency or add value throughout the payment chain.

Regarding the regulatory framework, Article 104 of Law 2294 of 2023 (Law on the Government's National Development Plan 2022 - 2026) empowers the BRC Board of Directors to issue regulations on interoperability between the SPBVIs, and to provide the services and technological components necessary to enable this interoperability.

Within the framework of those powers, the BRC and its Board of Directors issued Resolution 6 and External Regulatory Circular DSP-465 in October 2023. These regulations set forth the components of Bre-B and describe the general, operational, and technological rules for its implementation.

Subsequently, the CEOS External Operational and Services Circulars DSP-470 and 471 were issued, stipulating the operating regulations of DICE and MOL, including, among others, operational guidelines, affiliation manuals, and activity continuity.

Figure 13. Colombia's instant payments ecosystem, Bre-B



To establish the regulatory framework, the BRC follows a defined internal process that involves going through a series of instances and socialization with the general public. However, in the case of the Bre-B regulation, it has additionally complemented this process with analyses and reviews of international experiences, contributions from payment industry actors provided by the Instant Payments Interoperability Committee (CIPI), and inputs provided via technical assistance from multilateral entities.

The CIPI is a dialogue scenario between the BRC and the other actors in the instant payments industry, created by Resolution 6 of 2023 of the BRC Board of Directors. It is implemented through working groups comprised by the SPBVIs, their participating entities and, depending on the topic, other related actors, or other authorities.

As Bre-B is a system under implementation that is about to go into production, its regulation is intended to be permanently complemented. The CRE DSP-465 External Regulatory Circular has had 4 modifications since its issuance in October 2023, and technical and operational regulations have been added, elaborately describing the operation of Bre-B components.

Since in order to achieve interoperability in Bre-B, SPBVIs need to implement technological steps for the connections to DICE and MOL, the BRC has developed an iterative and incremental adoption methodology

with the industry, involving organizing the implementation activities in fixed blocks of work over time, with deliveries of technical specifications at the end of each block.

To monitor the implementation, a technical committee was created as a public-private advisory body, where LVPS Administrators participate, and sometimes participating financial institutions are invited. This committee enables the joint monitoring of the implementation process and performs three main activities: i) timeline management, ii) communications management and iii) risk management.

Bre-B implementation began in May 2024 and will last 14 months. During this time, the BRC has provided 12 technical specifications, 7 different versions of work guides and has devoted more than 120 working hours with payment industry actors.

In the case of Bre-B, the BRC's decision to integrate all existing SPBVIs encouraged competition between them to maintain or improve their respective positions in the market. This has had a positive impact in improving the provision of the service to end users. Since the publication of the regulation of instant payments and the beginning of the implementation stage, the industry has begun operating complementary services, reduced some customer fees, and increased the number of participating financial institutions.

On the other hand, in Colombia the National Government is responsible for the issuance of regulations on payments in the financial sector, power that is exercised by the Ministry of Finance and the Financial Regulation Unit (URF). In the case of the BRC, the authority to regulate the interoperability of instant payment services may be understood as a subset within the general payment regulation.

The supervision, surveillance and control authorities involved in the framework for the provision of instant payment services are the SFC, for financial institutions, and the Superintendence of Solidarity Economy (SES) for entities in the solidarity sector.

For the implementation of the Bre-B IPS, the BRC also undertook the responsibility as provider of the initially described digital centralized infrastructure that enables interoperability. To provide these services, the BRC engaged a specialized technology provider with experience in implementing IPS in other jurisdictions. It is responsible for implementing its instant payments solution, adapting it to the regulatory needs and the Bre-B design. The BRC will be the technology operator, as MOL and DICE administrator.

To enable this 24/7, year-round interoperability, the Bre-B ecosystem uses DICE and MOL as follows:

DICE is a data repository that enables the association of a key (identifier associated with a user's means of payment) with the data of a means of payment (savings account, checking account, or low-amount deposit). The Federated Key Directories of each SPBVI are connected to DICE. When someone in Colombia wants to make an instant payment, they only need to know and type the key of the money recipient, and that key will be worked out in this structure of Federated Directories and the DICE.

MOL is a system that enables instant payments to be settled one by one and in real time. This system is technologically integrated with the BRC's Real-Time Gross Settlement (RTGS), to offer settlement in central bank currency in accordance with international best practices shared by the IMF and the World Bank. In turn, MOL is the interconnection point between all existing and future IPS in the country.

Regarding the collection of fees, the Bre-B design includes three (3) linkage levels between the ecosystem actors (See Figure 13):

The first one is the link between the centralized infrastructure provided by the BRC and the LVPS Administrators. Regarding the provision by the BRC of the two centralized services, it has decided not to charge for DICE services during the first 15 years of Bre-B operation, to ensure full interoperability. And regarding the MOL, the BRC set a zero rate during the first three years of operation, and from the fourth year a fee equivalent to COP$3.23 per end point, that is, COP$6.46 per transaction.

The second level is between LVPS Administrators and their participants, the entities that provide payment or immediate transfer services to the end users.

And lastly, the third level is between SPBVI participants and end users or customers.

The regulation does not include any indication of charge per transaction for these last two levels. Within the framework of the free enterprise principle, LVPS Administrators and their participants will decide the fee schedule. Since the beginning of the Bre-B project, there has been a rate update in the payment industry, favoring payment massification. Currently, most financial institutions have eliminated charges for P2P payments, and with the consolidation of Bre-B this trend is expected to continue.

The end-user experience was outlined in Annex 3 of CRE Circular DSP-465 since the creation of the Bre-B Zone. It should be found in the digital channels of the entities participating in the SPBVIs where payment and/or immediate fund transfer services are provided.

The Bre-B Zone includes guidelines on the following aspects: steps to make a payment or transfer with the defined access technologies (Key or QR code); processes related to key management (registration, modification, cancellation, portability, blocking, reactivation and queries); transaction history queries, and associated thereto, the possibility of requesting refunds or reversals; creation of an additional channel to file petitions, complaints and claims; and lastly, an "other functionalities" option was also stipulated for participants to include additional functionalities, related to Payment Orders and/or Instant Fund Transfer services.

It is worth noting that regulations state that these guidelines must be implemented in the participants' channels, adapting them to their brand identity, seeking to acknowledging the differences between the digital environments of each entity.

As to international standards, the Bre-B IPS technology implements the ISO 20022 standard, a first step towards future interoperability with other jurisdictions, although this is not yet part of a defined implementation roadmap.

In terms of cybersecurity, financial institutions participating in the SPBVIs have the same obligations they had already implemented in their channels, such as guaranteeing the integrity, confidentiality, availability and non-repudiation of transactions, offering strong authentication mechanisms, carrying out tightening processes on servers, defining principles, procedures and guidelines for the management of information security and cybersecurity risk in the entity, among others.

Regarding the handling of fraud, the payment orders and/or immediate fund transfers to be processed by the Bre-B system must comply with the regulations issued by the SFC and the SES on the handling of fraud in payments and transfers in general. However, the BRC established a specific working group within the framework of the CIPI that began sessions in the first quarter of 2025, whose purpose is to define new rules associated with instant payments and transfers. As a result of these discussions, in the last regulatory update, some complementary rules were added to contribute to the management and prevention of fraud by financial institutions. Among others, they added the possibility of reducing transaction limits by the customer, as well as limiting the number of keys offered to the user.

Bre-B regulation in Circular DSP-465 included a provision stating that SPBVIs must require their participants to have a personal data processing and protection policy, including their customers' authorization allowing such processing. The above must be complied with following the provisions of Law 1581 of 2012 (which dictates general provisions for the protection of personal data).

Annex 4 of Circular DSP-465 includes the operational guidelines for dealing with fraud, errors and petitions, complaints, and claims. Regarding the handling of petitions, complaints and claims, besides formal indications related to transfers and instant payments, it states that they must be guided by the provisions offset forth in Law 1328 of 2009, Law 1480 of 2011, the Basic Legal Circular of the SFC, and Law 1755 of 2015.

Furthermore, Annex 4 creates the following processes: voluntary refund request procedure initiated by the originating customer; voluntary refund request procedure initiated by the receiving customer; refund procedure in case of fraud; refund procedure due to technological failure; and reversal procedure applicable to P2B payments.

Although the architecture of Colombia's ecosystem could be classified as unique, its design has included elements used in other IPS implemented, such as:

- An alternative settlement mechanism that acts in conjunction with the BRC's RTGS, a model similar to that of Australia.
- A structure of federated directories and centralized directory of aliases, similar to those of Peru.
- The adoption of a multi-key scheme, similar to PIX implementation in Brazil.

The Bre-B implementation project, both in its regulation and technological adoption, has allowed the BRC to acknowledge the following as effective strategies for the development of these fronts:

- Creation of dialogue instances with the industry.
- Acknowledgement of industry advances, "Building on what has been built".
- Active leadership from the central bank toward payment systems and financial institutions.
- Definition of a roadmap with achievable objectives, and open to changes.
- International reference consultation and support from multilateral organizations' experts in payments.

4.3.3.2. IPS challenges and opportunities

Despite the advances in the volume of payments processed by these administrative entities, there is no interoperability between them, which implies friction for end users to make payments and transfers between different financial institutions. Some of these frictions involve excessive costs, long times in the completion of operations, and dissimilar user experiences depending on each entity and system, among others.

The development of a regulatory framework that enables the integration of existing SPBVIs is a challenge to reach industry consensus. This has implied setting up permanent spaces for public-private dialogue, for which purpose the BRC has implemented the following tools:

- Payment Systems Forum, as a broad or general convening instance where the agenda on instant payments and the updates on the progress of Bre-B implementation are communicated to the entire market.
- The CIPI Committee, comprised by working groups with SPBVIs, participants, PSPs, and other members, to receive industry's proposals about the IPS, and as a first instance to discuss new initiatives, adjustments, or complements to the regulation. Likewise, it serves as a channel to receive suggestions about the development of related technical studies.
- The technical implementation group, to follow up the technological implementation that will enable Bre-B, and to accompany SPBVIs that are joining.

In-depth talks on Bre-B. These instances are directed particularly to entities that must comply with the Bre-B regulation, and their purpose is to deepen the understanding of the published standards, make clarifications, and sort out doubts.

Going forward, regulations are expected to continue complementing each other as progress is made in the scalability agenda, which includes new functionalities, such as recurring payments and referenced payments, as well as new use cases, such as B2B payments.

On the other hand, the implementation of a technology project in parallel to the development of the regulatory framework imposes stresses on work timelines, arising from the ability to manage controls of changes in the requirements, and accommodation to the delivery dates set out to comply with the regulations' provisions. Having a comprehensive vision of the project ensures adequate coordination of the two work fronts and thus achieving the fulfillment of the purposes and defined times.

Lastly, Bre-B has posed a challenge within the BRC to develop and strengthen capacities and work teams. Knowledge about IPS has permeated different areas of the organization, leveraging new operations and support processes and ongoing dialogue with the industry. Recognizing the challenge of implementing Bre-B since the beginning of the project, BRC's senior management led and helped prioritize and expedite the processes required for procurement, human talent management, regulatory approval, and communications, among others.

4.3.4. Central Bank of Costa Rica

4.3.4.1. IPS Overview

The Central Bank of Costa Rica (BCCR) created the Sinpe Móvil service in 2015 to provide a fast, simple, and secure electronic payment mechanism for the people, which would replace cash in low-value transactions. Through this service, participating entities allow their customers to link mobile phone numbers to their fund's accounts in national currency, using authenticated channels.

Each affiliated user is entered into a local mobile registry of the entity and reported to the BCCR through a private automatic interface. With the information provided by all the entities, the BCCR creates an interbank mobile registry.[45] This way, users of the service can transfer funds in real time by simply entering the amount and mobile phone number of the destination user.

Intrabank transactions are sorted out internally by the entities, while in interbank transactions, the BCCR routes the payment to the destination entity for it to carry out the corresponding validations and determine whether to authorize or reject the transaction.

Sinpe Móvil works through the service platforms of the participating entities, in the different channels they make available to their customers (banking website, mobile applications, ATMs and SMS channel). The operation of Sinpe Móvil is optional; it can be implemented both by entities offering fund accounts (banks, savings and loan cooperatives, mutual savings and loan companies, solidarity associations), and by Payment Service Providers (fintech companies) that provide resource management accounts to their users.

[45] Article 154 of the Payment System Regulations defines it as the centralized registry of all mobile phone numbers associated with accounts by the participants of the SINPE Móvil service. https://www.bccr.fi.cr/marco-legal/DocReglamento/Reglamento_Sistema_Pagos.pdf

Due to the interoperability capacity of the SINPE platform, the Sinpe Móvil service brings together 44 subscribed entities, representing 90% of the entities authorized to manage fund accounts in the national financial system.

The service respects the principles of irrevocability and finality. Payment orders already accepted by the system cannot be revoked or modified by the customer who originated them; and when such orders are processed and settled in accordance with the rules of the operational cycle of the service, they are considered final and cannot be cancelled.

The speed with which payments are made is a key element in the fast adoption of the service. Currently, processing a payment takes an average of 700 milliseconds, well below the 5-second "time out"[46] set forth in the system.

BCCR plays the role of service operator and regulator. As an operator since 1997, it has provided a technological infrastructure that interconnects 100% of financial institutions (banks, non-banking financial institutions, mutual savings and loan institutions, savings and loan cooperatives, brokerage firms, investment fund companies, pension operators, currency exchange offices, National Stock Exchange), and the main public institutions in the country through the platform of the National Electronic Payment System (SINPE). This is done through a private telecommunications network, which enables electronic fund mobilization between standardized accounts with IBAN (International Bank Account Number) codes, using services that can settle accounts in the BCCR in a deferred manner, or in real time. SINPE operates 24/7 year-round with accreditation and immediate availability of funds for transaction beneficiaries.[47]

As a regulator, BCCR is in charge of regulating SINPE and the financial services it offers, through the Payment System Regulations and the complementary rules that govern each of the services;[48] Direct Loans, Instant Payments, Sinpe Móvil, Direct Debits and Real-Time Debits. The Sinpe Móvil service operates on this national payment platform, one of more than 30 financial services for the collection, payment, and transfer of funds and securities operated in SINPE.

46 Predefined time period to finalize the transaction; if it is not executed within this period, it is rejected.

47 Immediate Payments and Interoperability Desk (MPIEI) (n.d.), "Excel Matrix Co-creation Workshop, Exercise 1-2".

48 Payment System Regulations, amended by Article 7 of the minutes of session 6240-2025 held on February 20, 2025, published in the official journal "La Gaceta", number 43 dated March 5, 2025.

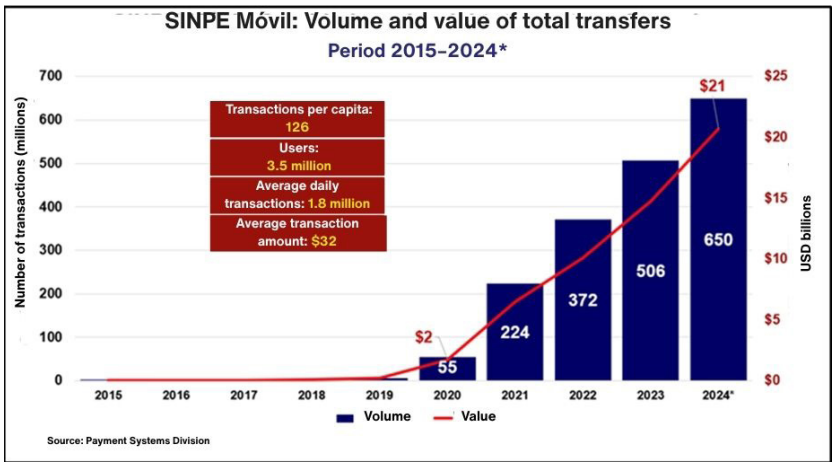
An important aspect of the regulation that has contributed to the credibility and security of transactional services is the obligation imposed on SINPE participating entities to notify, in under a minute and by electronic means, any intra- or inter-bank transactions applied to their customers' fund accounts.

Sinpe Móvil has made considerable progress in the country's banking penetration, reducing the use of cash in monetary transactions used daily by the population. This banking penetration stood at 91% of the population over 15 years old at the end of 2024. Moreover, it has been in charge of providing the population with an agile, secure, and fast mechanism to make money transfers in national currency, using the telephone number as the alias for the destination account. The service is available 24 hours a day, every day of the year, and from anywhere in the country.

Among the positive and transformative impact caused by Sinpe Móvil is that of significantly contributing to reduce the social cost of payment transactions in the country. In fact, in 2024, operations carried out through Sinpe Móvil represented 14% of the Gross Domestic Product (GDP), reflecting its growing relevance in the national economic dynamics. Similarly, it has been a fundamental tool for small and medium-sized enterprises (SMEs), making it easier for them to receive electronic payments without handling cash, which was especially crucial during the pandemic to ensure their safe and efficient operational continuity. Additionally, the widespread use of Sinpe Móvil has made it possible to reduce the risks inherent to the use of cash, and it facilitates the traceability of money flows.

Although the service was born in 2015, since the restriction measures imposed by the Covid-19 pandemic in 2020, Sinpe Móvil experienced exponential growth, as may be seen in Figure 14.

Figure 14. Number and value of total transfers



In 2024, 650 million transactions were made (2.1 million per day), and this figure is expected to exceed 800 million transactions by 2025.

On the other hand, the BCCR agreed with Sinpe Móvil participants that users who originate payments through Sinpe Móvil should not be charged any commissions on amounts not exceeding a cumulative total of CRC$100,000. Likewise, charging commissions to users who receive payments not exceeding a cumulative total of CRC$2,000,000 is not allowed.

In terms of cybersecurity, the BCCR issued the Technical Standard "Cybersecurity Requirements to participate in SINPE" in 2023, a regulation whose purpose is to strengthen information security for all electronic transactions settled through this system, including those of Sinpe Móvil.

This regulation is mandatory for all entities affiliated with SINPE, and its main purpose is to strengthen the system's security network and prevent cyberattack risks. The main regulations incorporated in this Technical Standard are the following: Mandatory and Optional Controls (the latter will be implemented gradually and, as the technological maturity of the participants increases, they will be mandatory controls); Infrastructure and Equipment, which involves the infrastructure necessary to operate, including connection equipment, users, data exchange layer, and interconnected servers; and Evaluation and Compliance, which involves an annual evaluation by entities to ensure compliance with the regulations.

4.3.4.2. IPS challenges and opportunities

Each SINPE participant must submit an annual regulatory compliance report from an external audit to the BCCR, carried out by a certified information security expert. This report should show compliance with the regulation to opt for BCCR authorization. During 2024, 100% of SINPE participants were certified, but in any case, progress will continue to be made in banking penetration to reach the closest possible level to 100% of the population.

On the other hand, although fraud rates have been growing in recent years, as a result of increased banking penetration and use of electronic means of payment, seeking to strengthen the resilience, confidence and security of the financial system, the BCCR is working intensively on the following fronts: prevention and financial education campaigns about the different kinds of fraud through social networks and the media, in coordination with financial institutions; coordinated inter-institutional collaboration with telephone operators

and participating entities to implement additional controls; and a fraud monitoring and detection system, developing a centralized system in the BCCR that enables early detection, analysis and proactive response to potential fraud. In this sense, fraud and cybersecurity in SINPE use continues to be a challenge for Costa Rica.

In terms of cross-border payments and payment interconnection, Costa Rica has a single centralized payment platform in the BCCR to which all the country's financial institutions are interconnected, including payment service providers and the country's main public institutions. Retail payments (SINPE Móvil) do not operate cross-border.

As far as ISO 20022 is concerned, payments made through the SWIFT network at the international level use this standard, but not national payments (SINPE). The development of a project to migrate SINPE to ISO 20022 is being proposed for those fund or securities movement services that have any link or need at the cross-border level, project which is expected to start in 2026.

One of the challenges that the Costa Rican IPS still faces is to continue reinforcing the computer systems to support the increase in the transactional capability of the service, ensuring the efficiency and availability of the service in times of high demand, as well as to implement new functionalities on SINPE Móvil, or develop a new service that meets face-to-face and e-commerce payment needs. Likewise, implementing and developing the use of the QR code and the definition of the international standards to which they want to adhere to is also important.

In Sinpe Móvil, funds are credited to users' accounts in real time, once the transaction has been validated and accepted by the entities involved. However, the settlement of the service on the accounts held by the participants in the BCCR is carried out through a net multilateral settlement mechanism (t+1).

Therefore, a challenge faced by the BCCR is to migrate the current settlement mechanism to a real-time gross settlement scheme, thus eliminating counterparty credit risks. This change was incorporated into the latest version of the Payment System Regulations currently under public consultation.

4.3.5. Central Bank of Ecuador

4.3.5.1. IPS Overview

In recent years, instant payments have gained relevance in Ecuador as part of the country's financial system digital transformation. These solutions allow money transfers to be made in real time, available 24/7, and have also contributed to financial inclusion, improving individuals and small businesses' access to agile and efficient payment services.

The Organic Monetary and Financial Code (COMYF) entrusts the Central Bank of Ecuador (BCE) with the duty of managing the Central Payment System (SCP), promoting the interoperability of the payment ecosystem. Likewise, the COMYF includes, within the duties of the Financial and Monetary Policy and Regulation Board (JPRFM), a State body that dictates monetary and foreign exchange policy, those of regulating and determining the requirements and conditions for the operation of payment systems.

Article 103 of the COMYF states that the National Payment System is comprised by the SCP and the Auxiliary Payment System. The Auxiliary Payment System includes public or private systems authorized, regulated, and supervised by the BCE and interconnected with the SCP to carry out fund transfers, money remittances and compensation between those who participate in them. Moreover, funds processed in the Auxiliary Payment System are settled by the BCE.[49]

Instant payments in Ecuador have been developed by financial institutions, which have created apps where payments are made in real time using keys or QR codes; however, they are closed payment systems, for the sole use of users of their respective financial institutions, among which the following stand out:

DEUNA: A technological platform for instant payments where payments can be made using technologies such as QR codes and cell phone numbers. The project began in 2020 and was launched to the market in 2022. DeUna has been adopted by small businesses and between individuals. The app allows payments from USD 0.01 to USD 500.00 per transaction. Currently, payments made with the DeUna solution have no fee; and DeUna operates as a participant in the Auxiliary Payment System under the supervision of the BCE.[50]

[49] https://www.cosede.gob.ec/wp-content/uploads/2024/03/Codigo-Organico-Monetario-y-Financiero-2024.pdf, Organic Monetary and Financial Code, 2024.
[50] Available at: https://soporte.deunaapp.com/hc/es-419/sections/14357942137108-Montos-m%C3%ADnimos-y-m%C3%A1ximos

PEIGO: Digital platform for instant payments that began operations in 2022 and allows users to make payments with QR codes or via cell phone numbers at no cost, receive payments, make virtual purchases with debit and credit cards, and withdraw cash at authorized points. PEIGO offers a PEIGO Visa virtual card integrated into the Google wallet, which has allowed it to reach approximately 800,000 customers.[51] Peigo S.A. operates as a participant in the Auxiliary Payment System under the supervision of the BCE.

WIP: An alliance created in 2024 by three financial institutions that currently use Banred's technological and operational infrastructure. WIP allows immediate interbank transactions between accounts of the different participating financial institutions, using only the recipient's cell phone number. WIP fee is zero for transfers up to USD 50.[52] There is no limit to the number of daily transfers, but the maximum amount is USD 50 per transfer. WIP operates under the supervision of the BCE and uses the Specialized Clearing House (SCC) to process transactions between participating institutions.

CHAS: An interoperable QR code payment network, created in May 2025, which connects cooperatives and financial institutions and allows their members to pay at affiliated businesses using their own app. They currently operate with 10 cooperatives, facilitate instant payments, promote digitalization, and strengthen the popular and solidarity financial sector. Chas operates as a participant in the Auxiliary Payment System under the supervision of the BCE[53].

Additionally, real-time interbank transfers and payments are processed without the use of keys or aliases, as in the case of Direct Payment. To make these transfers, entering the account number, ID or RUC, and full names is necessary. Transactions are irrevocable and cost USD 0.36.

Regarding security and encryption standards to protect transactions and data, these may vary in Ecuador depending on the payment method in question. But in any case, there are regulations that provide security standards to protect customer information and guarantee secure transactions.[54]

The BCE promotes competition and encourages equal opportunities and non-discrimination, as it allows both large and small participants in its payments system. For this purpose, there are Participants in the Auxiliary Payment System (PSAP) in Ecuador, which are the public or private entities are authorized by the BCE to carry out payment operations, and are monitored and supervised by the BCE.

51 Available at: https://www.peigo.com.ec/
52 Available at: https://wipea.com/#que
53 Available at: https://www.chas.com.ec/
54 Immediate Payments and Interoperability Desk (MPIEI) (n.d.), "Excel Matrix Co-creation Workshop, Exercise 1-2".

By means of Resolution No. JPRM-2025-006-M dated July 16, 2025, the Financial and Monetary Policy and Regulation Board (JPRFM) issued the "Codification of Monetary Policy and Operations Resolutions of the Central Bank of Ecuador", which sets forth the country's electronic means of payment, and incorporates the "Processing of electronic means of payment" service provided by the Participants of the Auxiliary Payment System to banks, savings and loan cooperatives, and mutual savings and housing loan associations, to process means of payment. Additionally, it states that the entities participating in the Auxiliary Payment System must interoperate between their platforms and others existing in the payment system, complying with the rules and technical standards issued by the BCE.

Resolution No. JPRM-2025-006-M dated 16 July 2025 regulates interoperability for real-time electronic money transfers, and entrusts the BCE with the responsibility for managing the Central Key System, clearing cross-network transactions, and complying with the provisions on Distributed Directories.[55] Furthermore, it incorporates the use of QR codes as access technology, which may be static or dynamic and must contain information that identifies the user, with the BCE responsible for setting the applicable standards; and it sets a milestone for instant payment transfers in Ecuador by incorporating the National Payment System, the Integrated Payment System (SIP) and the Instant Payment Network (RPI).

The BCE issued Resolution No. BCE-GG-008-2025 "*Standard for the Implementation of the Interoperability of Electronic Money Transfers to Make Real-Time Payments*" in May 2025, setting the guidelines, integration criteria, implementation stages, responsible parties, and deadlines for compliance with the implementation. In this context, Ecuador will implement the necessary infrastructure to make instant transfers 24/7, 365 days a year. To this end, the BCE will commission the SIP platform to connect all existing or new payment networks, facilitating interoperability between different participants.

SIP emerges as a platform that facilitates interconnection between the different members of the payment ecosystem, such as financial institutions, SEDPES, and other actors, allowing users to order and receive payments from any entity. RPI is the payment network managed by the BCE that incorporates processes and functionalities to facilitate electronic transfers of funds for real-time payments.

Regarding maximum amounts, Resolution No. JPRM-2025-006-M dated July 16, 2025, states that making instant payments by keys equivalent to up to one Unified Basic Salary (SBU) is allowed. If the payment amount

[55] Data structure and operational model managed by payment networks, aimed at storing and managing keys, along with all relevant information associated with customers, pursuant to Resolution No. JPRM-2025-006-M of 2025.

exceeds this limit, the transaction must be made exclusively by using payment credentials. To this end, members of the payment networks and their administrators must process these orders in real time, up to a maximum amount of USD15,000, guaranteeing interoperability and using the infrastructure of the payment network to which they are connected.

Payments ordered and authorized through the National Payment System will be considered irrevocable, mandatory, and enforceable against third parties as set forth by the COMYF and the Regulations of the Financial and Monetary Policy and Regulation Board. Payments will be processed in real-time for the beneficiary customer, but the obligations arising from these payments are offset and settled in deferred processes.

Regarding the implementation of security, data protection and anti-fraud standards, payment networks and their participants must guarantee information and transaction security through mechanisms that ensure their confidentiality, integrity, availability, authenticity, and traceability. To this end, they must apply protocols aligned with international standards and BCE guidelines, supported by documented and auditable procedures.

Such mechanisms shall include at least the following:

a) Encryption of data in transit and idle

b) Access control and strong authentication

c) Vulnerability management

d) Event monitoring

e) Continuity and disaster recovery plans

f) Registration and traceability of relevant events.

4.3.5.2. IPS challenges and opportunities

The main challenge is to achieve effective and efficient interoperability, for which all participants in the payment ecosystem must standardize their procedures, adopting international standards such as ISO 20022 messaging and the use of QR codes, facilitating interoperability between entities belonging to different payment networks.

4.3.6. Central Bank of Paraguay

4.3.6.1. IPS Overview

2013 marked a transcendental milestone in Paraguay's financial history with the inauguration of the Paraguayan Payment System (SIPAP) by the Central Bank of Paraguay (BCP). This initiative represented a profound and crucial transformation for the dynamism of the financial system and the country's economic development. The initial phase of SIPAP included the implementation of the Real-Time Gross Settlement (RTGS) system, the Automated Clearing House (ACH), and the Securities Depository (DEPO), laying the foundation for a more efficient and reliable payments system.

Payments through SIPAP have grown exponentially since 2014. Transaction volume went from USD$16,675 million, to USD$127,278 million in 2024. The number of transactions has also grown significantly, from 200,000 in 2014 to more than 179 million in 2024. This growth was particularly accentuated during the COVID-19 pandemic, when mobility restrictions boosted the use of electronic payments, reaching a 197% growth in 2020 and 192% in 2021, compared to the previous year.

Since the RTGS was not designed to handle large volumes of retail operations (i.e., those below USD$627), its use for this purpose led to inefficiencies and potential risks for the financial system. Consequently, the Central Bank of Paraguay promoted the development of a system specialized in retail payments, the Instant Payment System (IPS), marking a new chapter in the modernization of the Paraguayan payment system.

In 2020, BCP publicly announced its decision to develop an IPS that would allow the financial system to offer a real-time (24/7) payment scheme, with innovative functionalities such as simplified routing through aliases, diversity of payment modalities, including credit transfers, fund returns and payment requests, and schemes

that would facilitate interoperability between different participants such as banks, financial institutions, cooperatives and electronic means of payment entities (EMPEs).

Figure 15. Characteristics of Paraguay's IPS

Source: Central Bank of Paraguay

After two years of intense work and development, the IPS was officially integrated into SIPAP on May 23, 2022. This addition, operated and managed by BCP, represented a significant advance in the country's ability to process retail payments efficiently, securely, and in real time. The IPS uses the ISO 20022 standard for financial messaging and was designed to facilitate immediate fund transfer between bank accounts, exclusively in Guaranies, with a USD$627 limit per transaction. This uninterrupted, 24/7 availability redefines the accessibility and convenience of financial transactions in the country. Moreover, the IPS uses the ISO 20022 messaging standard for the Paraguayan system to be technically aligned with payment platforms in other countries.

IPS growth has exceeded all expectations, consolidating itself as a fundamental pillar in the country's payments ecosystem. At the end of 2024, the IPS reached a volume of more than 170 million transactions, a 135% increase compared to the previous year. This figure reflects the growing adoption of digital payments and the trust placed in the system. The IPS has become the vital infrastructure for everyday transactions, handling

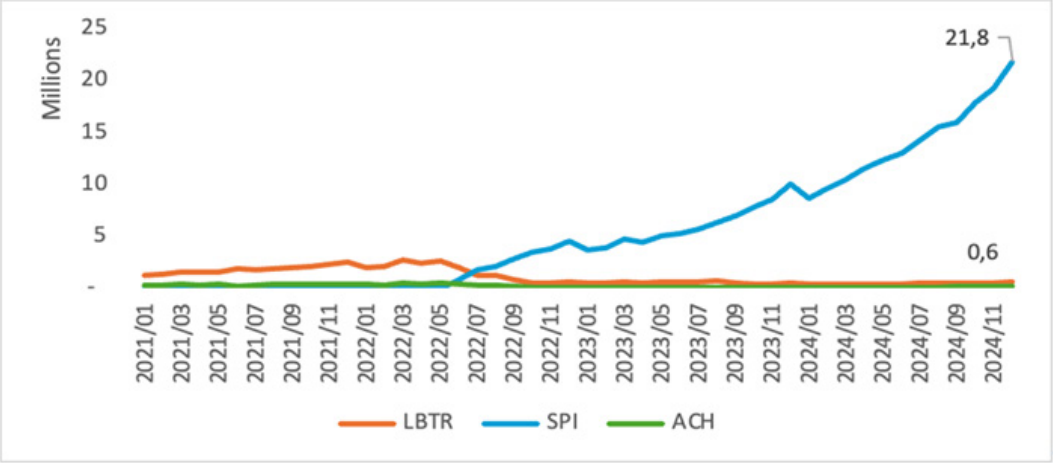
37% of the total number of low-value transactions, and 71% of the total volume of low-value amounts, compared to other payment instruments.

Likewise, the amount processed through the IPS almost doubles ATM withdrawals, showing a clear decrease in cash dependence and a strengthening in the adoption of digital payments. Financial inclusion has significantly advanced thanks to the IPS; in 2024, a monthly average of 150,000 new accounts were incorporated, including basic savings accounts, digital accounts, and accounts in cooperative entities. This growth reflects the system's impact on expanding access to financial services, while its improved speed and security, with an average transaction time of just 2.8 seconds, has strengthened user confidence and boosted its mass adoption.

The BCP has also promoted the integration of cooperatives and Electronic Payment Entities (EMPE) through the figure of the sponsoring service (Resolution No. 9, Minute No. 42 dated 11.08.23), which currently represents 5% of total operations. This diversified participation expands the coverage of the system and strengthens the channels of financial inclusion and equitable access to digital financial services.

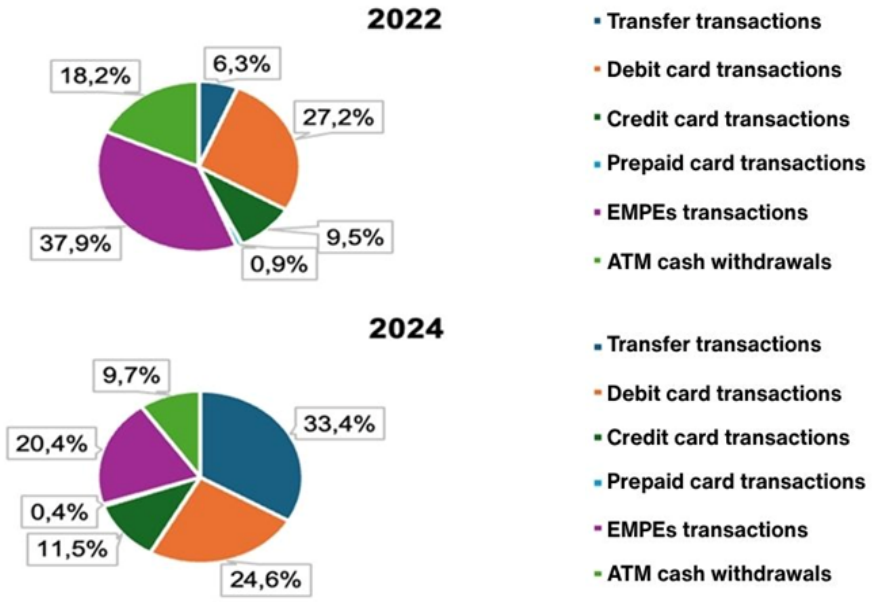
As seen in Figure 16, since its implementation, the IPS has progressively absorbed the flows that were previously processed by the RTGS and the ACH, showing a natural migration towards an instant payment environment. Timesheet records show intense activity during evenings and weekends, reflecting the dynamism of e-commerce and digital services.

Figure 16. Number of operations per module



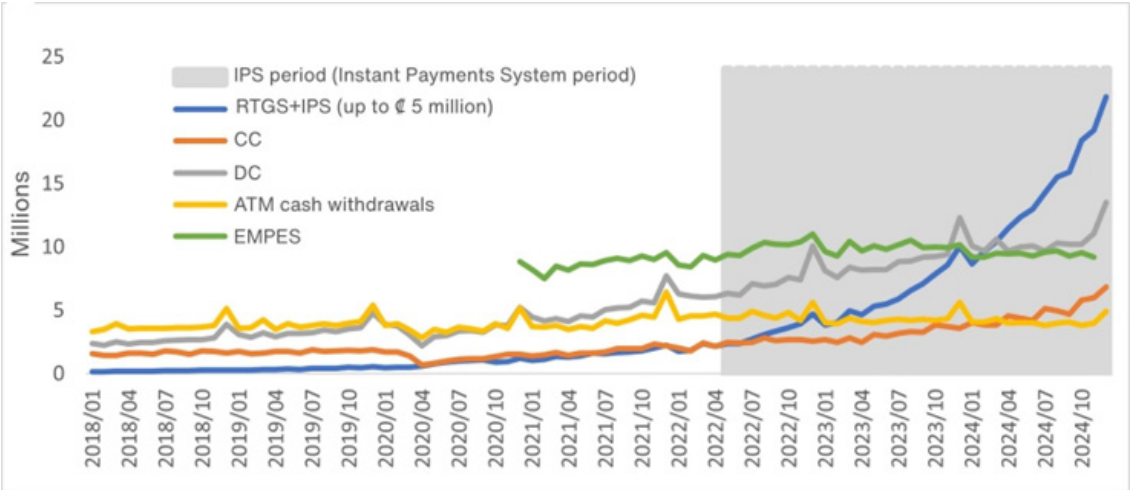
Source: Central Bank of Paraguay

Figure 17. Number of IPS operations vs. other means of payment



Source: Central Bank of Paraguay

Figure 18. Number of Trades by Instrument Type



Source: Central Bank of Paraguay

In terms of security, transfers made through the IPS are irrevocable, meaning that once the operation is completed, it cannot be unilaterally cancelled. However, the system includes mechanisms to manage errors or unwanted operations. There are two key functionalities for these cases: the Return of Funds, which allows a person to voluntarily return an amount received in error; and the Refund Request, through which the counterparty is requested to return the amount transferred. The latter is subject to the approval of the recipient of the funds. In the event that none of these options solve the issue, BCP has published the procedure that must be followed on its website, through the customer's bank, to request the return of the funds.

To ensure its proper functioning, the BCP stipulates clear regulations. In this regard, participants who manage fund accounts and who are authorized to offer the fund transfer service are obligated, according to the General Regulations of the SIPAP,[56] to provide their customers with these services associated to the possibility of mobilizing funds between their institution and any other entity participating in the SIPAP. SIPAP services must be offered by the participants through at least one distribution channel and provided with the same efficiency with which they provide their own services, provided the services are self-managed by customers, via home banking, applications (APP), or other similar services.

Regarding cybersecurity, system participants are responsible for implementing fraud prevention procedures for the early detection of anomalies in transactions, informing the BCP about these procedures and the tools used. In the case of digital channels such as websites, home banking and apps, the use of OTP (One-Time Password) is mandatory for all SIGAP transactions, regardless of the amount. When identity theft or cloning of digital channels is detected, participants must act diligently to take down fake sites.

One of the fundamental pillars of the IPS is full interoperability, which allows fund transfers between all participants in the system, including banks, financial institutions, cooperatives and EMPEs. This capability ensures an inclusive and efficient ecosystem, where users can operate freely, regardless of the institution to which they belong.

A breakthrough in terms of financial inclusion was achieved precisely thanks to this interoperability, especially between cooperatives/EMPE and financial institutions, allowing transfers between customers in both sectors to be made continuously and in real time. This scheme operates under the figure of the Sponsoring Service, through which a direct SIPAP participant (such as a bank or a financial company) sponsors a cooperative or EMPE as a sub-participant, and the cooperative or EMPE uses its sponsor's account to settle operations in SIPAP.

[56] Resolution No. 1, Minute No. 35 of 07/11/2023 - General Regulations of Payment Systems of Paraguay (SIPAP)

The implementation of the IPS was a gradual process, designed to ensure a balanced and safe development. The initial phase focused on establishing the core functionality of the "24/7 credit transfer", allowing immediate interbank transactions with a maximum confirmation time of 40 seconds. Additionally, new functionalities were introduced to improve user experience and expand financial inclusion, such as:

- CAS (Central Addressing Scheme) module transfers by alias (CI, RUC, email, cell phone, etc.).
- Return of funds: Return of funds by the beneficiary in the event of an error.
- Recall: A request for a refund by the payor, subject to beneficiary approval.
- Request to Pay: Payment request initiated by the beneficiary, used for collections by QR code, NFC, etc.
- Sub-participant: Inclusion of cooperatives and EMPEs through sponsors.
- Payment Initiation Request: Participation of Payment Initiation Service Providers (PISP) as transfer initiators.

It is worth noting that, since its inception, SIPAP has maintained a zero-cost policy for both financial users and end users, as an incentive mechanism to encourage the use of digital payments. This policy has generated social benefits that far exceed the financial costs of the service. In this context, the BCP authorized a specific fee applicable only to certain additional services related to the operation of the system, such as the payment initiation service and the sponsor service (P2M). However, and in line with the goals of financial accessibility and inclusion, person-to-person (P2P) transfers made through the IPS continue to be completely free for end users, thus ensuring equitable and barrier-free access to electronic payment services.

Lastly, it is worth noting that the IPS operates exclusively in local currency (PYG) and is limited to transactions within the national territory. In this regard, although Paraguay has adopted the ISO 20022 international standard, it has not yet implemented cross-border payments. Participating financial institutions, authorized by the BCP, must operate within this framework.

Law No. 7503/2025 of the "National Payment System" was enacted[57] on June 27, 2025, setting a fundamental milestone in the strengthening and modernization of the payment ecosystem in Paraguay. This new regulation updates the current legal framework aimed at accompanying technological advances, incorporating new payment actors and services, and promoting the sustained growth of the payment ecosystem. The law provides the Central Bank of Paraguay (BCP) with a solid legal basis to set a clear and homogeneous regulatory framework, consolidating its role as regulator, supervisor, and operator of payment infrastructures. It

[57] Law 7503/25, "National Payment System"

also promotes interoperability, interconnection, competition, innovation, and efficiency, ensuring a safer and more dynamic environment for the development of digital means of payment. This reform also represents a significant advance in terms of financial inclusion by facilitating citizens' access to financial services. With this legislation, Paraguay is positioned at the forefront in the region, with a market infrastructure prepared to accompany the country's economic and financial growth in an orderly and sustainable manner.

4.3.6.2. IPS challenges and opportunities

BCP continues to work on the evolution of the payment system with key initiatives that promise to further strengthen the Paraguayan financial ecosystem, such as the regulation for the QR code standard for payments and its implementation guide, approved in July 2024 by means of Resolution No. 12, Minutes No. 34. This regulation stipulates that all PSPs that process QR code payments must adopt the EMV QRCPS standard,[58] thus preventing the development of different standards in the market that hinder interoperability or do not comply with international best practices in terms of security and efficiency. Therefore, it requires that all PSPs that offer payment services based on QR codes must generate them in accordance with said international standard, following the Implementation Guide issued by the BCP (Resolution No. 12, Minutes No. 34 dated 24.07.24). As of the end of the adaptation period on June 30, 2025, the QR code payment ecosystem now operates under a unified regulatory framework that enhances system security and efficiency.

Seeking to expand the use of QR codes as a means of payment initiation by a larger number of actors in the system, considerable progress has been made in the development of the QR Hub module. At the technical level, coordination meetings have been held resulting in significant progress in the installation of its components in the test environment (TEST), facilitating the progress of various technical and functional processes, thus laying the foundations for the next stages of implementation, with a view to its release into production in March 2026.

Likewise, seeking to increase the access of new participants to the Instant Payment System (IPS), the Central Bank of Paraguay approved the Regulation of Payment Initiation Service Providers (PISP) by means of Resolution No. 15, Minutes No. 35 dated August 27, 2025, incorporating financial technology companies (fintechs) as IPS participants.

[58] EMV® QRCPS (Quick Response Code Payment Specification) is an international standard developed by EMVCo, a joint organization of the main payment brands (Visa - Mastercard), which guarantees interoperability and security in payments using QR codes on mobile devices, facilitating fast and efficient transactions.

On the other hand, the alias functionality for sub-participants, including cooperatives and Electronic Payment Entities (EMPEs), has been in force since May 30, 2025. Although these entities already operated in the IPS under the sponsor scheme, they can now use aliases as a simplified routing mechanism that speeds up and facilitates transfers, a functionality that was previously reserved solely for banks and financial institutions.

Lastly, the Central Bank of Paraguay is in the research and development stage for the incorporation of the payment modality through NFC (Near Field Communication) technology in the IPS, whose implementation is scheduled for the second half of 2026, with the purpose of continuing to strengthen innovation, interoperability, and efficiency of the national payment ecosystem.

4.3.7. Central Reserve Bank of Peru

4.3.7.1. IPS Overview

Instant payments in Peru are processed on the Immediate Transactions (TIN) platform, operated by the Electronic Clearing House (CCE), and owned by the main banks. This infrastructure is responsible for processing interbank operations and account-to-account transactions. The service was started in 2016.

This IPS enables real-time, irrevocable electronic fund transfers available 24/7, including holidays. Immediate transfers have been a central element in the modernization of the payment system in Peru to promote the use of digital payments with faster, safer, and more efficient payments, both between people and between companies. Its evolution has been accompanied by a robust regulatory framework provided by the Central Reserve Bank of Peru (BCRP) and has been adapted to technological advances and market needs. These real-time transfers have maximum limits of approximately US$10,000.

Currently, 32 participants – banking companies (15), financial companies (5), municipal savings banks (7), rural savings and loan banks (1), electronic money issuing companies (2), cooperatives (1), indirect participants (1) – are connected to the CCE-TIN platform, mainly enabling person-to-person (P2P) payments.[59]

[59] https://www.transferenciasinterbancarias.pe/transferencias/#inmediatas

CCE-TIN was designed as an infrastructure under international standards and is part of the interoperability ecosystem promoted by the BCRP. Since its implementation, the use of this payment instrument has shown sustained growth. The monthly average number of operations increased from 12.4 million in 2023 to 20.6 million in 2024, a 66% increase. As for transacted values, the monthly average went from S/ 11 billion in 2023 to S/ 15 billion in 2024, showing a 41% increase. This growth is due to a greater demand for digital payments, good service, ease of use of this payment instrument, and improved user experience by allowing the use of an alias (cell phone) for transfers.

On the regulatory side, the BCRP, as the country's IPS regulator, regulates both clearing houses and interoperability guidelines. It has the power to impose technical, governance and security standards. This framework allows for active system monitoring, mitigating operational and systemic risks.

In this regard, the BCRP issued Circular No. 035-2015-BCRP in September 2015, approving the Rules for Immediate Transfer Clearing Houses. This regulation defined the clearing and settlement process of this payment instrument and allowed non-bank financial institutions (EFNBs) to participate in the CEC to process immediate transfers.

Subsequently, the conditions for access to and operation of these services have been updated. Thus, in December 2019, the BCRP issued Circular No. 029-2019-BCRP applicable to Exchange and Clearing Companies (ESECs), specifying access modalities (for financial institutions, municipal and rural savings banks, electronic money issuing companies, and savings and loan cooperatives) and ESEC operation, providing a clearer and more structured basis for clearing services, including immediate transfers. A relevant milestone in this regulatory evolution took place in November 2020, with the approval of Circular No. 030-2020-BCRP that adapted the TIN service to the 24/7 scheme.

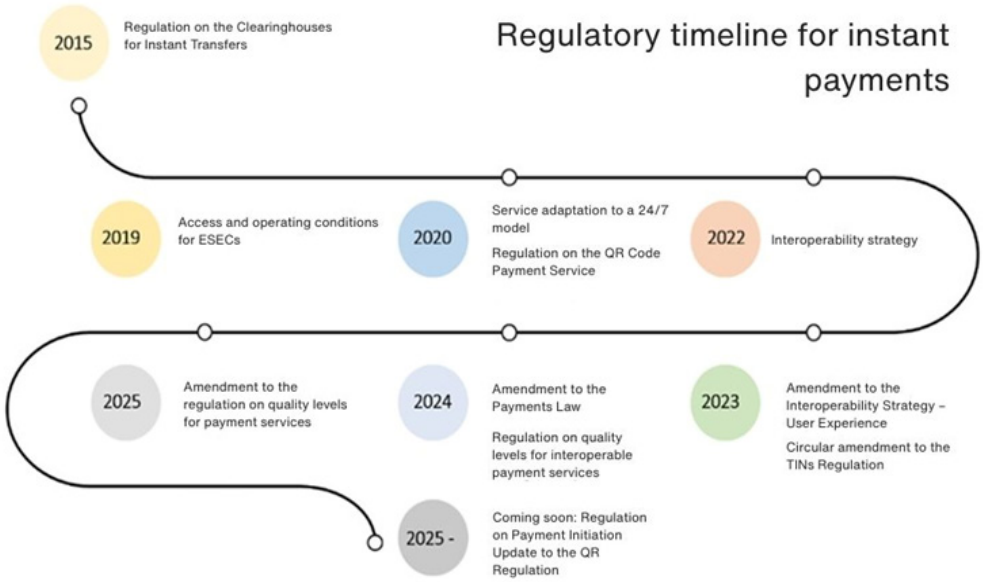
Likewise, the issuance of the Rules for the Payment Service with Quick Response Codes (QR code), by means of Circular No. 0003-2020-BCRP, set the standard for QR codes used in payments and the regulatory requirements for the payment service with QR codes. The scope of these Rules for the Payment Service with Quick Response Codes covered QR code and Wallet providers, and the payment networks participating in this service. The Registry on the Web Portal of the entities under its scope was also created, allowing different companies to offer this payment service, including the CCE as QR code providers..

More recently, during 2023, the BCRP expanded access to this service by allowing savings and loan cooperatives to participate in the clearing of immediate transfers (Circular No. 0021-2023-BCRP dated November 8, 2023), provided they comply with the stipulated technical and operational requirements. Likewise, in June

2023, Circular No. 0010-2023-BCRP amended the same rules to replace the Access Procedure to ESEC Exchange and Clearing Services and to allow direct access of Electronic Money Issuing Companies (EEDEs) to the CCE, as part of the BCRP Interoperability Strategy.

Lastly, Legislative Decree No. 1665 dated September 24, 2024, amended the Payments Law to promote the development of accessible and secure digital payments for the inclusion of new providers in the market. Figure 19 shows the regulatory timeline for instant payments, including those related to interoperability, described below:

Figure 19. Regulatory timeline for instant payments in Peru



BCRP does not operate the infrastructure directly, but has led the process as a regulator, in coordination with the Superintendence of Banking, Insurance and Pension Fund Administrators (SBS), industry participants and other agencies to set norms, security standards, Quality of Service Indicators (ICDs), and guidelines on user experience. The progressive and collaborative approach – based on agile methodologies, ongoing monitoring, and technical forums – has allowed for low-friction implementation, even in heterogeneous technological environments.

Likewise, P2P transfers have been assured to remain for free to maximize the adoption of digital payments, while P2B operations have been oriented towards sustainable fee schemes, replicating best practices observed in instant payment platforms in Asia and Latin America and the Caribbean.

Although the CCE is the original rail for account-to-account IPS, the bulk of immediate operations in Peru have been catalyzed by the Interoperability Strategy promoted by the BCRP since 2022. As part of this strategy, in October 2022, the Rules on the Interoperability of Payment Services provided by payment providers, agreements, and systems were set out, by means of Circular No. 024-2022-BCRP and amendments,[60] constituting a core pillar to massify digital payments. As a result, instant payments made by using credentials other than the Interbank Account Code (CCI), such as card credentials, which are widely used in our market, saw significant growth. The average monthly number of transactions increased from 42.5 million in 2023 to 107.5 million in 2024, a 153% year-on-year variation. In terms of value, the monthly average transacted rose from S/ 3 billion to S/ 7 billion, equivalent to a 141% increase.

The implementation of the interoperability strategy comprised four progressive phases, defining functional milestones on different segments of the ecosystem:

Phase 1 (March 2023) introduced interoperability between the main digital wallets (Yape and Plin), which operate on card rather than bank account rails. The functionality of instant P2P payments was enabled through telephone aliases and directory consultation, with progressive integration supervised by the BCRP.

Phase 2 (September 2023) was the inclusion of financial institutions that offer immediate transfers in their mobile banking applications, and the mandatory interoperable reading of registered QR codes. This phase integrated the CCE account-to-account rail with the mobile ecosystems, operating with data masking (cellular aliases, etc.) and distributed directory management.

Phase 3 (December 2023) involved extending interoperability to EEDE Companies, such as GMoney and TPP, through direct and indirect connection models (sponsor model) and the BIM (Building Information Modeling) Electronic Money Payment Agreement. This enables instant payments between e-money and bank accounts, promoting greater financial inclusion.

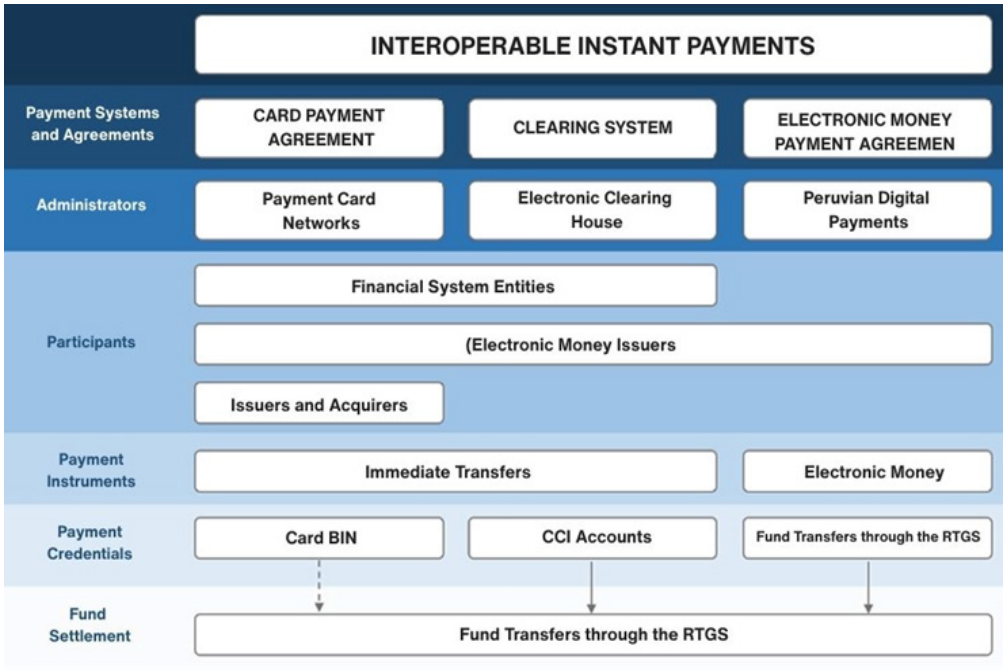
[60] Circular No. 0013-2023-BCRP: amends Circular No. 0024-2022-BCRP

Phase 4 (2024, in progress) is focused on facilitating the participation of new actors through a payment initiation model on an open API architecture, in line with Open Banking principles. This component introduces flexibility and competitive innovation on top of a common interoperable infrastructure.

Digital payment interoperability has enabled making instant payments among millions of users using aliases (cell phone numbers) and distributed directories, processed in real time and with full availability. On a technical level, this interoperability is articulated through functionalities such as CCI masking, directory management, and alias resolution. As such, the interoperability mandate made it possible to connect schemes that were previously closed and vertical, increasing system efficiency and promoting competition between financial institutions and new non-bank participants (such as fintechs and EEDEs). This advancement has meant that interoperability not only complements but also expands the reach of the country's IPS, incorporating card, e-money, and bank account rails into a single functional framework.

The following diagram shows the main actors in the interoperable instant payments' ecosystem:

Figure 20. Interoperable instant payments in Peru



Instant payment interoperability, besides requiring a robust and secure technological infrastructure, demands a smooth, reliable, and homogeneous user experience between the different applications operating in the ecosystem. In this context, the BCRP, as the regulatory authority of the payment system, has set specific guidelines to ensure user experience minimum standards, recognizing that friction in the interactions with applications is one of the main inhibitors of sustained use of interoperable services.

Based on the provisions of Article 8 of the Interoperability Rules (Circular No. 0024-2022-BCRP), and after identifying practices that could compromise interoperability, the BCRP approved and published Annex 3 on October 29, 2024.

From a payment infrastructure perspective, these guidelines are a critical piece for the consolidation of the interoperable model, as they address the most common frictions experienced by users: entry barriers; risk of rejection or mistrust due to errors prior to the execution of the operation; high need to contact support areas of the entities for transaction traceability; and unnecessary obstacles in the transaction payment flow.

The payments ecosystem has understood that user experience trust is not an accessory, but a structural component of the payment infrastructure, comparable in importance to security, availability, or efficiency. Therefore, these guidelines consolidate the vision of digital payments as a universal digital public service where all actors must align themselves in delivering a homogeneous, simple, and secure experience.

Within the framework of strengthening the interoperable payments ecosystem, Circular No. 0009-2024-BCRP issued the Rules on Quality Levels of Interoperable Payment Services on March 25, 2024, to establish minimum mandatory standards to ensure system efficiency, availability and performance. These rules include immediate transactions processed through the infrastructure within its scope of application, thus reinforcing the technical quality framework in account-to-account services. The rules introduced ICDs and service level agreements (SLAs) that must be adhered to by all regulated entities involved in the provision of interoperable services.

In response to the experience accumulated in the commissioning and information gathering phases, the BCRP updated the SLA regulations by means of Circular No. 0005-2025-BCRP, published on March 12, 2025, aimed at attuning the sanctioning framework and ensuring the system's operational sustainability.

4.3.7.2. IPS challenges and opportunities

One of the main challenges of Peru's IPS has been the closed ecosystems before the interoperability regulation, as users had to belong to more than one payment ecosystem to transfer funds. Likewise, the high dependence on cash has been a challenge for Peru, as it generates high handling costs, limited traceability, and security risks. Another challenge is low financial literacy, which limits users' ability to make informed decisions and confidently adopt new digital financial instruments. Technological heterogeneity between participants, from environments developed in the cloud to centralized environments, has been another challenge that poses important technological challenges that have been gradually dealt with. Lastly, user experience homogenization has met resistance.

In this sense, in developing its IPS, Peru continues joining efforts to implement actions for ICD compliance and interoperable SLAs; advancing the standardization of the technical specifications of the EMVCo standard for QR codes –currently set forth by Circular No. 0023-2020-BCRP– still under discussion in the technical forums; developing the digitization of use cases such as public transport, international remittances, payments in digital ecosystems, and offline payments; and promoting the integration of open APIs and payment initiation, to foster greater innovation and competition.

4.3.8. Central Bank of Uruguay

4.3.8.1. IPS Overview

In its Payment System Roadmap, the Central Bank of Uruguay (BCU) included an activity linked to the promotion of the implementation of a Fast Payment System (FPS)[61] in its 2023 - 2025 agenda, in line with international best practices.

This activity is part of its strategy to modernize the payment system by promoting competition, openness, and the inclusion of new instruments and agents to encourage the development of new ventures and promote innovation.

[61] Comply with the objective of 'completing the implementation of comprehensive clearing and settlement systems, with access for the entire regulated industry, 24/7 operation, and high security standards, serving as the basis for the development of new products.

The SPR has two fundamental components in Uruguay: On the one hand, the so-called "instant or immediate transfers", which involve P2P account-to-account payments, and on the other, the so-called "Transfer Payments" (PCT) or P2B, which, at the operational level. also imply an immediate electronic fund transfer.

Considering international experiences and the specific situation of the Uruguayan National Payment System, the BCU faced the dilemma of creating a fast payment system under its administration and operation, or, in contrast, promoting or accompanying the development process of a system with these characteristics in the private sector.

Chapter VII of Law No. 18,573, known as the Payment System Law, states the competences and powers conferred upon the BCU regarding the National Payment System. The ability to operate clearing and/or payment settlement systems is currently not among them, and the agency is only competent to authorize the institutions that will carry out this operation. This implies the existence of a legal restriction to implement its own SPR, unlike the case in several countries in the region.

In order to have this competence, in 2024 the BCU submitted a draft to the Ministry of Economy and Finance that incorporates, among several projected articles, the possibility of managing and operating payment clearing systems. The draft is currently under analysis.

The aforementioned restriction has therefore meant that currently there is only one SPR in the country, whose ownership and management belongs to a private company (Urutec S.A.). However, it is worth noting that the system centrally settles in the accounts opened by the participants in the BCU. In this scenario, the BCU has limited itself to promoting the project, defining, and approving the applicable regulation, granting the necessary authorizations, facilitating the settlement of payments in its central settlement system, and monitoring intervening systems.

Along these lines, the BCU has modified regulations related to fast payments and 24/7 instant transfers in books I, II, III and VI of its Collection of Payment System Standards (RNSP), which introduces changes in the definition of "Acquirer of electronic means of payment," and incorporates new figures; it defines the PCT (Book VII of the RNSP); and expands the definition of point-of-sale terminals, to include QR codes as access channels for payments. Furthermore, many of the provisions regulating Automated Clearing Houses (ACHs) and other operational aspects for the interaction of participants with the BCU systems were modified.

Importantly, when SPR went live, most issuers (banks and e-money issuing institutions) were already operating in the ACHs for standard interbank transfers. This process began in 2011 and, since then, issuing entities

have gradually been incorporated. The standard interbank transfer module is called the Interbank Payment System, known by its acronym IPS, and also managed by Urutec S.A. Over the past decade, the BCU has promoted the inclusion of new participants in the clearing house. Thus, in part, the most relevant issuers are present and include non-banking entities among them. In this operation, settlement also takes place in a deferred manner, using the accounts of the participants in the BCU, but in these cases users do not receive the funds instantly.

P2P instant transfers are not identified by a specific trade name or distinctive name. They began operating in May 2021 when the first launch was made, where 4 banks began operations on banking business days and in a reduced schedule, from 9 a.m. to 5 p.m. The list of institutions that offered this facility gradually grew to include more banks and other kinds of institutions (such as institutions issuing electronic money), as well as in terms of the operating hours offered, until reaching 24/7 on June 6, 2023. Initially, operations were based on bilateral guarantee agreements between the entities. That stage was completed, and work is currently underway, and the accounts created for these purposes are expected to be operational in the second half of 2025, instead of settling against common checking accounts opened in the RTGS System.

The "24/7 availability" goal was particularly challenging, especially considering that the BCU Central Settlement System does not have such availability, nor achieving that status was intended. That is why Urutec, together with the BCU, sought a viable alternative for all actors, managing to implement a system where electronic transfers are settled immediately for users, although settlement between financial institutions is deferred, but with sufficient guarantees to ensure it.

On the other hand, the product referred to payments with local P2B transfers, which has been operational since September 2024, was called "Toke". To make it viable, a new figure regulated by the BCU, called "acquirers of payments with transfer of national funds" was created, allowing new actors such as fintechs and QR code platforms to be directly integrated into the payment system. With this new figure, an environment of greater competition is created and the product's ability to achieve greater capillarity is enhanced.

It should be noted that adherence to the SPR (in any of its components) is not mandatory for any of the participants. However, when joining the Fast Payments Clearing House operated by Urutec, agents must comply with all applicable regulations and requirements.

Regarding interoperability, initiatives driven by the BCU since 2023 to ensure the integration of existing agents and products into a new means of payment stand out, such as payment by transfer. BCU's actions have been motivated by the purpose of promoting interoperability and stimulating payment system competition.

The BCU worked together with the industry to achieve an interoperable QR code standard. Although some goals have not been met yet –there is no standard– agents were able to begin dialogues and exchange ideas on the subject, thus understanding that the way to move forward in this area is by collaborating.

Thus, when developing PCTs, their owner and the main agent operating in the market with payments via QR codes, reached an agreement to enable all PCT issuing participants to read QR codes generated by either of these two systems, thus becoming integrated. Although a single standard was not set by regulation, both companies must comply with certain internal guidelines to which they committed. The BCU did not participate directly in these definitions, but it was on the lookout for the institutions to reach the agreement, from its role as promoter of the payment system.

Lastly, it should be noted that there is a legal basis to keep these commitments, as the institutions must comply with the legal and regulatory provisions on the promotion and defense of competition and interoperability, and other regulations set forth in Laws No. 18,159 and No. 18,573, and in Books VI and X of the BCU RNSP.

Regarding end-user fees and prices, the BCU has limited legal competence in terms of pricing. In particular, there is no regulation on fast payment prices for end users.

Although the BCU has not regulated it, within the framework of the promotional work carried out, Urutec, owner of the PCT product, has stated that payments via transfers should be considered, in terms of costs, as an instrument similar to debit cards. To this end, it determined that the fees that purchasers receive from merchants would be the same as those applied to debit instruments (less than 1%) and that, to promote the instrument, consumers would have no costs. Moreover, the interchange fee would be around 0.80%. This definition considers that the main parties in charge of promoting the use of Toke are the issuers, unlike other jurisdictions where the owner of the infrastructure has this task.

Lastly, the BCU worked in coordination with the tax authority to adapt the regulations on tax issues, to incorporate the PCT into the tax withholding regime, thus leveling the playing field with other electronic instruments. To this end, meetings were held with these agencies to analyze the need to modify the regulatory decrees associated to the issue, ensuring that this new means of payment has the same tax benefits and obligations as all other similar instruments (e.g., debit cards or electronic money instruments).

Regarding user experience, the BCU, in conjunction with the industry, promoted the implementation of the following:

• Account masking, as a modality that allows the user ordering an electronic transfer, with a reasonable degree of certainty, to identify the holder of the destination account. this way, the transferor visualizes, in a partial or "masked" manner –so as not to breach bank secrecy provisions–, certain characters of the name of the holder of the destination account entered by the user who is sending the funds. Some characters are hidden behind asterisks. This prevents –and evidence has shown this– operational risks caused by human error, for example, by incorrectly typing the beneficiary's bank account number and sending the funds to another account. In fast payment schemes, these tools are indispensable, because by reducing settlement times, users have less time to cancel the operation before it is accepted by the system. This is relevant for the concepts of payment finality and irrevocability provided by law.

• Aliases for both standard and fast P2P transfers, using only the cell phone number of the final beneficiary and without the need to know, remember or type the account number of the payment recipient.

• 24/7 availability for instant credit transfers and transfer payments.

• As all SPR participating entities are regulated and supervised by this body, they must comply with cybersecurity or fraud rules, regulations that are aligned with international best practices.

• Uruguay has a robust legal framework that ensures the right to personal data protection, mainly protected by the Constitution of the Republic and Law No. 18,331. As set forth in Article 3 of the aforementioned law, "The regime of this law shall apply to personal data registered in any medium that makes them susceptible to processing, and to any modality of subsequent use of this data by public or private spheres". "Bank secrecy" is also provided for in financial intermediation institutions, by Decree Law No. 15,322. This decree prohibits companies and the individuals who work in them from sharing confidential information about customers. The BCU has also regulated certain rights and obligations of agents, in line with the current legal framework.

Regarding cross-border payments and payment system interconnection, BCU's internal systems are being updated for the implementation of the ISO 20022 messaging structure. Thus, it was determined that the use of this messaging format would be mandatory for standard international electronic transfers as of November 2025. Notwithstanding the fact that at an initial stage the BCU will use messaging converters to adapt to ISO 20022 requirements, a project is already underway to bring the systems fully up to date.

It should be noted that, in these initial stages, the obligation referred to will only apply to standard international transfers. This will not apply to domestic payments, nor to the messaging formats used between the BCU and the national financial system participants (even when these include instructions for the BCU to make transfers abroad on their behalf). Once migration is completed, the need for demanding it will be studied in the ACHs and local participants.

However, once the ISO 20022 standard is implemented, the country is expected to have the necessary infrastructure to be able to evaluate the implementation of instant cross-border payments. Although the issue is being studied and international experiences on this kind of initiative are closely followed, this project is not currently classified as a priority by the BCU, although its incorporation into the agenda is being evaluated.

In relation to instant payments, it is also interesting to point out that, since the end of 2023, Brazilian tourists can use the PIX instrument to make purchases or payments for services in Uruguayan commercial establishments. For this to be possible, the BCU had to introduce certain modifications in its regulations, such as adapting them to a regulated figure, thus admitting the acquisition of payments by electronic fund transfers from abroad in scenarios where a seal or brand is not involved, as is the case with card rails. This update was made to enable those participants who intended to form alliances with Brazilian financial institutions to channel payments to local businesses and thus allow tourists to pay with this means of payment.

On the other hand, a mirror model which would offer Uruguayans the possibility of using Toke in foreign businesses is being studied.

4.3.8.2. IPS challenges and opportunities

The main challenges faced when planning and monitoring the implementation of the IPS are related to system interoperability and the promotion of competition.

As described above, in Uruguay the ownership and management of both the ACH of standard transfers and the Fast Payments Clearing House (including instant transfers and transfer payments) belong to a private company, Urutec S.A. This company has the particularity that its final beneficiaries are, mostly the banks themselves.

Urutec's experience in the clearing house management makes it an ideal entity to venture into the administration of a new clearing house, seeking to facilitate fast payments. However, its concentration of activities,

as well as its ownership structure, may not only increase operational risks, but may also create competition issues such as restrictions or entry barriers for new players, as well as possible challenges to innovation processes. That is why BCU continuously monitors this kind of situations, seeking market competition.

Another challenge relates to the surveillance framework to be applied to the SPR and the supervision of its participants when incorporating it, considering the risks that are enhanced by the immediacy of payments. Thus, as SPR and the technology through which it is implemented are developed, surveillance will need to become more robust and specialized, especially regarding chargebacks, and information security and fraud risks.

On the other hand, although the operation of the SPR is incipient and has room to increase its efficiency, some opportunities for improvement have been detected, such as the following: reduction of processing times for fast payments; incentives for the use of the instrument by end-users and commercial establishments; deepening the user experience continuous improvement process; promoting the participation of more actors to encourage ongoing system innovation; possibility of making and receiving immediate cross-border payments, among others.

Furthermore, BCU has been evaluating the possibility of promoting open finance initiatives in the country since 2021, reason for which a working group was formed, comprised and led by financial sector participants, fintechs, government agencies, consulting and technology companies, as well as international organizations. This work culminated in the publication of a document in August 2024 entitled "Towards an Open Finance Ecosystem in Uruguay", whose main task was to share BCU's vision on this issue with the industry. So far, no specific regulation has been issued. However, evaluating its implementation in different initiatives, including fast payment systems, is included in the organization's agenda.

Lastly, the challenges Uruguay faces in the implementation and consolidation of its SPR include the following: promoting universal access for all participants, including new agents and unbanked institutions (e.g., fintechs); ensuring interoperability between them; and ensuring homogeneity in standards and regulations for different electronic payments that resemble each other, to contribute to a greater supply of instruments or products in payment systems and, therefore, greater incentives to achieve a more solid, competitive, efficient, secure, innovative and accessible National Payment System.

4.3.9. Central Bank of Venezuela

4.3.9.1. IPS Overview

In Venezuela, low-value or retail payment systems have had important technological advances and innovations during the past eight years, where instant electronic payments such as Interbank Mobile Payment (PMI), Immediate Credits, and Immediate Debits, have positioned themselves among the main instruments used by the population at the national level.

The Central Bank of Venezuela (BCV), protected by a broad regulatory framework included in its operating law[62] that provides for its actions as payment system administrator, regulator, participant, watchdog, supervisor, and promoter, has decidedly favored the development, modernization, and widespread use of electronic payment systems.

Four (4) systems are inserted within the current infrastructure of retail payment systems, where twenty-seven (27) banking institutions participate and settle almost all their operations in the BCV, and which are classified as follows: clearing and settlement system of interbank operations of ATMs and mobile payments; Electronic Clearing House (CCE) system, operated and administered by the BCV, where Immediate Checks, Credits and Debits are processed; system for processing payments made with debit cards and the like; and system for processing payments made with credit cards and the like.

Regarding the clearing and settlement system for mobile payment operations, as well as the Electronic Clearing House that includes Immediate Credit and Debit, they propose instant payments to customers, completed in real time, with 24/7 service availability on P2P, P2B, B2P and B2B operations,. concluded within 15 seconds. On the other hand, although Immediate Credit operations are completed in a maximum of 20 seconds, and in 120 seconds in the case of Immediate Debit, the average is 0.07 thousandths of a second.

The IPS in Venezuela began with a pilot plan in 2017 for the adoption of the PMI, whose implementation began in early 2018 via mobile devices, in its real-time P2P modality, and included 5 banking institutions.

Subsequently, throughout 2018, other PMI modalities such as P2C and C2P were incorporated, which reduced the importance of cash as a means of payment. In turn, the Covid-19 pandemic accelerated the process

[62] Official Gazette No. 6,211 Extraordinary, Decree No. 2,179, by which the Decree with the Rank, Value and Force of Organic Law of Reform of the Law of the Central Bank of Venezuela is issued, Chapter V: Title IV "On the Payment Systems that operate in the country", dated 12/30/2015.

of adopting digital payments, favoring the development of home deliveries and simplifying the way payments are made in the country.

After the recovery of the economy in the post-pandemic stage, the BCV promoted the boom of new instruments and means of payment, aware of the importance of IPS for economic activity and financial stability.

To this end, in June 2021, through the CCE, the BCV began Immediate Credit operations, which complement those of the PMI. This CCE is an automated system with national coverage, operated by the BCV with XML electronic messaging,[63] in compliance with the ISO 20022 international standard. Then, in August 2023, the BCV offered a new option to the general public when making electronic transactions through the different means of instant payments used by its customers: Immediate Debits.

By law, BCV exercises the duty of surveillance and supervision of the payment systems operating in the country. This means it is authorized to dictate operation and/or functioning rules to regulate both those who aspire to manage a payment system, and those who apply to act as a PSP.[64]

In this sense, the BCV seeks to ensure that payment systems work correctly, and that there is a growing adoption of digitalization in payment instruments and means by participating institutions, to expand different alternatives to cash payments, ensuring they work efficiently and securely within the highest international standards, and based on best practices within the current legal framework. Additionally, the BCV cooperates with other regulators in the financial sector to achieve greater financial inclusion, digitalization, and the development of electronic means of payment.

Likewise, the BCV has the power to set bank fees and commissions. Thus, in 2008 it issued a single fee schedule that includes all the rates the country's banks may charge their customers for the provision of their banking services and products, including payment services in their different modalities. It is worth noting that banks are under the obligation to disclose the respective fees, both on their website and in conspicuous places within their branches, for their customers to be able to compare them with those of other institutions.

63 Using XML syntax as an international open standard helps interoperability

64 Resolution No. 18-12-01 "General Standards on Payment Systems and Non-Bank Payment Service Providers (PSPs) Operating in the Country". Circular: requirements and procedures for obtaining recognition and authorization to operate payment systems and non-bank payment service providers; and circular referring to the guidelines and requirements for the prevention of the Money Laundering, Financing of Terrorism and Financing of the Proliferation of Weapons of Mass Destruction (LC/FT/FPADM) risks, which PSPs must observe and comply with.

It should be noted that the main premises in the structuring of the aforementioned fees are to facilitate public access to digital services under conditions that balance the cost with a fair return for the banks, allowing service provision and reinvestment, especially in those of a digital nature. This confirms the role of the BCV in promoting free competition in the provision of payment services. In fact, the digitization of payments has deepened, and 95% of payment transactions in the country are estimated to be carried out via digital channels, given the digital transformation of the banking system and the financial inclusion of the population. It is worth noting that these actions are carried out in accordance with the provisions of the Constitution of the Bolivarian Republic of Venezuela and the Law of the Central Bank of Venezuela, in terms of promoting the stability of the banking and financial system for the benefit of general interests.

Making instant payments through the PMI and the CCE has maintained an upward trend, in both transaction value and volume. Thus, Figure 21 shows that the IPS traded operations worth USD 96.976 billion and totaled 3.886 billion operations in 2024, an 81% and 43% growth, respectively, compared to 2023.

This responds to a greater dynamism in terms of the volume and value of transactions carried out via PMI in the P2P modality, representing 74.6% and 49.4% of total instant payments, respectively.

Although the PMI has been the main means of instant payment used by the population from its inception, since 2023 CCE Immediate Credits have gained space in terms of value by reaching USD44.507 billion in 2024. Finally, it is important to highlight the growth of the P2C modality in the PMI, which increased by 146% in value and 147% in volume during 2024, and although its participation in the PMI remains around 8%, businesses are expected make greater use of this instrument in the near future.

Figure 21. Instant Payment Systems in Venezuela
(Value in millions of Bs. and their equivalent in USD millions, and Volume in thousands)

Payment Instruments and Media			Year					
			2020	2021	2022	2023	2024	Annual Variation % (2023-2024).
Interbank Mobile Payment (PMI)								
Person to Person (P2P)	Value	Bs.	2.131	38.316	155.980	827.567	1.836.664	122%
		USD	6.827	11.830	23.135	28.892	47.943	66%
	Volume		1.141.058	1.365.161	1.598.464	2.075.345	2.899.268	40%
Commerce to Person (C2P)	Value	Bs.	47	1.688	8.433	49.552	162.851	229%
		USD	149	521	1.251	1.730	4.251	146%
	Volume		9.530	29.080	60.945	101.779	251.174	147%
Commerce to Person (C2P)	Value	Bs.		12	276	1.634	4.118	152%
		USD		4	41	57	108	88%
	Volume			287	2.588	10.644	14.829	39%
Electronic Clearing House System (CCE)								
Immediate Credits (CI)	Value	Bs.		855	46.149	657.021	1.705.020	160%
		USD		264	6.845	22.938	44.507	94%
	Volume			4.097	226.231	526.875	719.326	37%
Immediate Debits (DI)	Value	Bs.				2.432	6.424	164%
		USD				85	168	98%
	Volume					417	1.415	240%
Total Immediate Payments	Value Bs.		2.177	40.870	210.839	1.538.207	3.715.078	142%
	Value USD		6.976	12.618	31.271	53.703	96.976	81%
	Volume		1.150.588	1.398.624	1.888.228	2.715.061	3.886.011	43%

Note: Average exchange rate for the year (Purchase).
Provisional figures
Source: BCV.

It should be noted that users have mechanisms and procedures to ensure their protection and timely attention to claims in these payment systems. In line with the Superintendence of Banking Sector Institutions (Sudeban),[65] to guarantee the security and proper operation of electronic banking, this protects and improves the user inclusion, and promotes the use of the services.

4.3.9.2. IPS challenges and opportunities

During the past five years, driven by technological advances, the BCV has made considerable progress in the modernization of instant payments in the country, which requires robust and flexible systems.

[65] Sudeban: Resolution 641.10 "Rules that regulate the use of Electronic Banking Services," dated 12/23/2010.

In this context, one of the challenges in terms of instant payments is the deepening of the adaptation of the QR code for beneficiary authentication, a technology implemented in 2023, as it allows the operation of the PMI to be faster and more secure, simplifying the way for paying without additional costs for users.

Progress has been made in Venezuela on the adoption of QR codes in compliance with the technical specifications of EMVCo,[66] which enable interoperability and security in retail payments. To this end, it seeks to promote that the twenty-seven (27) banking institutions progressively adhere to QR code to promote the digital economy, without implying additional costs for users.

Likewise, as payment system watchdog and supervisor, the BCV faces a challenge in the IPS, specifically with respect to the PMI, since it is in a process of significant investment of time, resources and technology to guarantee the sustained growth of its transactions, which translates into a future challenge for the payment ecosystem actors to continue working on the modernization of the country's payment systems.

Additionally, the incorporation of the contactless payment card method in the country is gradually being advanced. This process is estimated to take place from 2025 to 2027, leading to the expansion of the possibilities for making payments in e-commerce transactions, and undoubtedly increasing the volume of this kind of operations and, thereby, instant payments will also grow.

In that same sense, the project called "Payment with Contactless Technology" is under way, through C2P mobile payment using Near Field Communication (NFC) technology, available for reading on mobile phones and points of sale with a unique code that cannot be cloned, using a dynamic key for each transaction, which reduces the risk of fraudulent or erroneous operations. This will allow businesses to charge for goods and services without requesting data from the customer and with the funds available immediately, thus speeding up the circulation of liquidity and facilitating users' payment experience.

Pursuant to the above, the BCV has been developing actions to maximize the growth potential of electronic payments in the country. That is why issues such as cybersecurity, people's full access to means of payment, adjusting the rules to the emergence of new actors and business models, and providing robustness to payment infrastructures in all their instances, are reasons for ongoing review, both within the BCV and in the different scenarios where this kind of public policy is coordinated.

[66] EMVCo QR Code Specification for Payment Systems is a global standard used for QR Code payments, to achieve an interoperable and secure solution.

5. Policy considerations and implications

The comparative analysis of FLAR member countries in IPS implementation provides concrete and useful evidence —both qualitative and quantitative— to guide policy decisions in different jurisdictions. Documented regional experience shows that, although there is no single successful model, there are certain common elements that tend to correlate with higher levels of adoption, system stability, financial inclusion, and dynamism in payment ecosystems. These lessons allow us to identify six guiding considerations for creating IPS policies in the region and in other economies with similar characteristics:

1. Institutional design and the role of the central bank are decisive

Central banks play a leading role as regulators, supervisors, operators, or catalysts. They do not necessarily have to act as operators. Their role in coordinating with the private sector to overcome market failures has been essential to the evolution of IPS in the region.

Although governance models vary between countries, all cases analyzed in this paper indicate that central bank participation —as operator, regulator, or articulator— has been essential to coordinate the ecosystem, define common standards, and build trust in IPS. This institutional presence has made it possible to enable both public and private models, guaranteeing essential principles such as inclusion, interoperability, and a competitive environment.

This finding is reinforced by quantitative analysis, which confirms that central bank involvement is directly associated with a significant increase in the number of transactions per person. This correlation suggests that central banks play a catalytic role, even when they are not system operators. Their leadership facilitates coordination between actors with different interests, ensures clear governance, and allows for the gradual introduction of rules that align private objectives with public policy goals.

2. Interoperability must be promoted through public policy

Interoperability must be promoted through clear and decisive public policy. Beyond the technical aspects, achieving real interoperability between all actors in the system –banks, fintechs, non-banks, acquirers, issuers, and merchants– requires an institutional design that not only allows, but actively promotes it. For instant payments to work smoothly and universally, it is essential for users to be able to send and receive money no matter which provider they operate with, which is only possible if there is a common framework that guarantees the connection between all participants on a level playing field.

Important operational and strategic challenges remain, such as tool standardization (e.g., the use of interoperable QR codes), connection between different payment rails (banking, digital, wallets), and implementation of unique identifiers or aliases that work transversally. In many countries, moving towards this interoperability has required targeted regulation, technical governance schemes, coordinated oversight, and sustained public-private collaboration. Without an active public policy that defines clear rules, encourages openness, and prevents exclusive practices, systems run the risk of fragmentation, limiting their scope, usefulness, and transformative potential in the economy.

3. An end-user-centric approach boosts IPS adoption

IPS adoption depends largely on its own design features, especially user-focused elements.

International experience highlights other key design elements: PSP participation, user education, accessibility, mandatory participation, and regulated PSPs. Other preconditions also contribute.

Features that facilitate access and daily use by users —such as the availability of multiple use cases (P2P, P2B, bills, taxes, utilities, among others) and the possibility of using different access keys (cell phone number, id document, email, alias, or QR codes)— are decisive for IPS success. When a system can be easily integrated into different daily life situations, it becomes more useful, relevant, and attractive to a greater number of people. Furthermore, reducing the need to remember complex bank details and allowing the use of simple identifiers significantly improves user experience, reduces friction, and facilitates the inclusion of new users.

Quantitative evidence from the study shows that these variables have a direct and significant relationship with the growth in the number of transactions within the system. In other words, the more uses the system has,

and the easier it is to access, the greater its adoption. The combination of practical utility and technical simplicity means that instant payments are no longer a one-off solution but an everyday tool, intensively used by both people and businesses. This logic reinforces the need to design payment infrastructures that are flexible, interoperable, and focused on the real needs of the users to achieve sustained and mass adoption.

4. Including new actors strengthens the ecosystem, but requires clear regulation

Opening IPS to non-banking entities –such as fintechs, electronic money issuers or cooperatives– has made it possible to expand their coverage and innovation. However, their incorporation must be accompanied by clear participation rules, standardized technical conditions and supervision proportionate to the risks. Although the econometric model did not find a statistically significant relationship between the participation of these non-bank entities and the direct increase in IPS transactions, their role is key to reaching historically excluded population segments and to promote competition.

5. Fees and incentives should be designed without sacrificing efficiency

Most of the countries studied in this document have adopted schemes with zero or exceptionally low user fees, which has facilitated the massification of instant payments. The experience in Latin America and the Caribbean shows that free education for individuals has been a key driver for adoption, especially among unbanked sectors. This approach has enabled millions of people to access efficient and secure digital payments, driving financial inclusion. However, this expansion is sustained thanks to parallel business models, such as charging reduced commissions to merchants, offering value-added services, or using interoperable infrastructures that improve ecosystem efficiency.

For these systems to be sustainable over time, balancing free education with viable economic models for the system's participants, such as banks, fintechs and payment service providers, is necessary. In this sense, fee regulation can play a key role in avoiding anti-competitive practices and guaranteeing equitable access, but it must be accompanied by adequate incentives for efficiency, technological innovation, and service quality.

6. Regional cooperation drives efficiency

Most FLAR member countries show increasing convergence on technical and regulatory aspects of their IPS, such as the adoption of common standards (e.g., ISO 20022), interoperable alias and QR code schemes, and open governance models. This alignment opens up opportunities for moving towards greater regional integration of payment systems, facilitating processes such as immediate cross-border payments and the harmonization of regulatory criteria. Technical cooperation between countries and the systematic exchange of good practices can accelerate these advances and reduce regulatory, operational, and technological asymmetries within the region.

In short, the success of an IPS does not depend solely on the available technological infrastructure. It also requires a robust institutional design, clear regulation, open and interoperable architecture, reliable user experience, and a governance framework that aligns public and private sector interests. The experience in FLAR member countries shows that these systems can become critical infrastructures for financial inclusion, digitalization of the economy and regional integration. Sharing these learnings and strengthening cooperation between different countries enables enriching the debate and supporting other jurisdictions in the design of solutions adapted to their realities, but informed by comparative experience.

Annex A: Data Sources and IPS Characteristics vs. Adoption

A.1 Variables and sources

Between March and April 2025, the "Instant Payments Survey" was carried out with each FLAR member central bank, aimed at knowing the characteristics of each IPS identified as key to its adoption in Figure 3. The central banks of Bolivia, Chile, Colombia, Costa Rica, Paraguay, Peru, Uruguay, and Venezuela were surveyed. These central banks provided the information on the number of monthly transactions processed in their IPS.

This survey obtained the variables shown in Table 1. Besides these variables, the questionnaire asked about other IPS attributes, such as mandatory participation of financial institutions, existence of transaction value caps, creation of a new infrastructure for the IPS, operation settlement scheme, and the possibility of making cross-border transactions. These variables were not considered in the econometric specification because they did not show variability over time.

On the other hand, information on the volume of IPS transactions for Argentina, Brazil and Mexico was sought in the reports of each central bank. Likewise, data for these countries shown in Table 1 were obtained from official sources of each country's IPS. Lastly, population of all the countries in the study was obtained from the World Bank.

Abbreviations

General:

1. ATM: Automated Teller Machine
2. B2B: Business-to-Business Payments
3. B2P: Business-to-Person Payments
4. BCB: Central Bank of Bolivia
5. BRC: Bank of the Republic of Colombia
6. BCCh: Central Bank of Chile
7. BCCR: Central Bank of Costa Rica
8. BCE: Central Bank of Ecuador
9. BCP: Central Bank of Paraguay
10. BCRP: Central Reserve Bank of Peru
11. BCU: Central Bank of Uruguay
12. BCV: Central Bank of Venezuela
13. CCE: Electronic Clearing House
14. IMFs: Financial Market Infrastructures
15. RTGS: Real-Time Gross Settlement System
16. P2B: Person-to-Business Payments
17. P2G: Person-to-Government Payments
18. P2P: Person-to-Person Payments
19. NBPSP: Non-bank payment service providers
20. GDP: Gross Domestic Product
21. POS: Point of Sale
22. PSP: Payment Service Providers

Bolivia:

23. ASFI: Financial System Supervisory Authority
24. LIP: Integrated Payment Settlement System
25. MLD: Deferred Settlement Module
26. SCC: savings and loan cooperative
27. EFV: Housing Financial Institutions
28. DFI: Development Finance Institutions
29. FMI: Financial Market Infrastructures
30. CSH: Clearing and Settlement House

31. EATE: Electronic Card Management Companies
32. CSHA: Clearing and Settlement House Administrator
33. ROMS: Minimum Operational Security Requirements for Electronic Payment Instruments and Channels
34. EPI: Electronic Payment Instruments
35. LSF: Financial Services Act
36. Fintechs: Financial Technology Companies
37. VASP: Virtual Asset Service Provider
38. Regulatory Sandbox: Controlled Test Environment

Chile:

39. CCA: Centro de Compensación Automatizado S.A.
40. EFT: Electronic Funds Transfers
41. BCCh: Central Bank of Chile
42. LVPCH: Low-Value Payment Clearing Houses
43. CMF: Financial Market Commission
44. RTGS: Real-Time Gross Settlement System
45. PFMI: Principles applicable to Financial Market Infrastructures

Colombia:

46. LVPS Administrators: Entities Administering Low-Value Payment Systems
47. SPBVI: Immediate Low Value Payment System
48. Bre-B: Colombia's Interoperable Instant Payment System
49. DICE: Centralized Directory
50. MOL: Operational Settlement Mechanism
51. DRIXI: SPBV del BRC
52. CIPI: Instant Payments Interoperability Committee
53. URF: Financial Regulation Unit
54. SES: Superintendence of the Solidarity Economy
55. RTGS: Real Time Gross Settlement

Costa Rica:

56. SINPE: National Electronic Payment System
57. IBAN: International Bank Account Number
58. SMEs: Small and Medium Enterprises

Ecuador:

59. COMYF: Organic Monetary and Financial Code
60. SCP: Central Payment System
61. JPRM: Monetary Policy and Regulation Board
62. CSH: Clearing and Settlement House
63. ASAP: Auxiliary Payment System Operators
64. SIP: Payment Integrator System
65. RPI: Instant Payments Network
66. SBU: Unified Basic Salary

Paraguay:

67. SIPAP: Paraguay's Payment System
68. RTGS: Real-Time Gross Settlement
69. ACH: Automated Clearing House
70. DEPO: Securities Depository
71. IPS: Instant Payment System.
72. EMPEs: Electronic Payment Entities
73. APP: Applications
74. OTP: One Time Password
75. CI: identity card
76. RUC: Single Taxpayer Registry
77. NFC: Near Field Communication
78. PISP: Payment Initiation Service Providers
79. SNP: Law of the National Payment System
80. EMV QRCPS: Quick Response Code Payment Specification

Peru:

81. TIN: Immediate Transactions
82. ECH: Electronic Clearing House
83. EFNB: Non-Banking Financial Institutions
84. ESEC: Exchange and Clearing Companies
85. SBS: Superintendence of Banking, Insurance and AFPs
86. ICD: Quality of Service Indicators
87. CCI: Interbank Account Code
88. EEDE: Electronic Money Issuing Companies
89. SLAs: Service Level Agreements
90. EEDEs: Electronic Money Issuing Companies

Uruguay:

91. FPS: Fast Payment System
92. PCT: Transfer Payments
93. RNSP: Collection of Payment System Standards
94. IPS: Interbank Payment System
95. ACH: Automated Clearing Houses

Venezuela:

96. PMI: Interbank Mobile Payment
97. CCE: Electronic Clearing House System
98. P2C: Person-to-Business Payments
99. C2P: Business-to-Person Payments

References

Aguilar, A, J Frost, R Guerra, S Kamin, A Tombini (2024), "*Digital payments, informality and economic growth*", BIS Working Papers, no. 1196, July.

Aurazo, J, Franco C, Frost J, McIntosh J (2025), "*Fast payments and financial inclusion in Latin American and the Caribbean*", BIS Papers, no. 153, March.

World Bank (2021), "*Interoperability in fast payment systems*", World Bank Fast Payment Toolkit, September.

Inter-American Development Bank (IDB) (2024), "*Digital Payment Ecosystems in Latin America and the Caribbean*".

Inter-American Development Bank (IDB) and World Economic Forum (2023), "*Accelerating Digital Payments in Latin America,*" May.

Bank for International Settlements (BIS) (2020), "*Central banks and payments in the digital era*", Annual Economic Report, Chapter III, June.

Blumenstock, J, M Callen, T Ghani (2018), "*Why do defaults affect behavior? experimental evidence from Afghanistan*", NBER Working Paper, no. 23590, July.

Bradford, T., Hayashi, F., Toh, YL (2019), "*Developments of QR code-based mobile payments in East Asia*", Kansas City Fed Payments System Research Briefing, June.

Brandt, C., Lobo, B (2021), "*Pix: the Brazilian fast payment scheme*", Journal of Payments Strategy and Systems, vol 15, no. 4, December.

Cantú, C., Chimienti, M., Frost., Randall, D., (2024), "*A Revolution of Instant Payments in Latin America*", World Bank Blogs, June.

Copestake, A., Kirti, D., Martinez-Peria, M., "*Growing retail digital payments. The Value of interoperability*", IMF Fintech Notes, note 2025/004, June.

Committee on Payments and Market Infrastructures (CPMI) (2024), "*Linking fast payment systems across borders: governance and oversight. Final report to the G20*", October.

Cornelli, G, J Frost, J Warren, C Yang, C Velásquez (2024), "*Retail fast payment systems as a catalyst for digital finance*", BIS Working Papers, no. 1228, November.

Cornelli, G., Frost, J., Gambacorta, L., Sinha, S., Townsend, R (2024b), "*The organisation of digital payments in India. Lessons from the Unified Payments Interface (UPI)*", in: "Faster digital payments: global and regional perspectives", BIS Papers, no, 152, December.

Demirgüç-, A, L Klapper, D Singer, S Ansar (2022): "*The Global Findex Database 2021: Financial inclusion, Digital payments, and Resilience in the Age of COVID-19*", World Bank.

Duarte, A., Frost, J., Gambacorta, L., Koo Wilkens, P., Shin H.S., (2022), "*Central banks, the monetary system and public payment infrastructures: lessons from Brazil's Pix*", BIS Bulletin, March.

Ding, D., Gonzalez, R., Ma, Y., Zeng, Y (2024), " *The effect of instant payments on the banking system: liquidity transformation and risk-taking*", The Wharton School Research Paper, April.

Fitzgerald, E, A Illes and T Lammer (2024), "*Steady as we go: results of the 2023 CPMI cross-border payments monitoring survey*", CPMI Brief, no 5, June.

Frost, J., Koo Wilkens, P., Kosse, A., Shreeti, V., Velásquez, C. (2024), Fast payments: design and adoption. BIS Quarterly Review, 31.

Feyen, E, Frost, J Gambacorta, L, Natarajan, H, Saal, M (2021), "*Fintech and the digital transformation of financial services: implications for market structure and public policy*", BIS Papers, no. 117, July.

Gershenson, D, Herrera, L, Lambert, F, Ramos, G, Rousset, M, Torres, J (2021), "*Fintech and Financial Inclusion in Latin America and the Caribbean*", IMF Working Papers, August.

Huang, Z, Lahreche, A, Saito, M and Wiriadinata, U (2024), "*E-Money and Monetary Policy Transmission*", IMF Working Paper, No 2024/069, International Monetary Fund.

Khianaonarong, T; Humphrey, D; (2023): "*Measurement and use of cash by half the world's population*", IMF Working Papers, no. 23/62, March.

Maniyar, V, (2025), "*The role of instant payments and central bank digital currencies in transforming merchant cash management*", Journal of Payments and Strategy, vol. 19, no. 1, January.

Sarkisyan, S, (2025), "*Instant payment systems and competition for deposits*", Jacobs Levy Equity MAnagement Center for Quantitative Financial Research Paper, May.

Coauthors

The authors express their sincere thanks to the central bank teams of the FLAR member countries, whose commitment and generous collaboration made this document possible. Their input of data, technical knowledge, and national perspectives invaluably enriched the analysis and captured the diversity of experiences that bring this study to life. Thanks to their dedication, this document more fully reflects the region's progress and challenges.

The co-authors and collaborators who contributed decisively to this work are recognized here below:

Central Bank of Bolivia	**Andrea Ortiz**, Head of the Payment System Surveillance Department. **Wilder Serdán**, Senior Payment System Surveillance Analyst.
Central Bank of Chile	**María José Meléndez**, Head of the Financial Infrastructure Group **Carmen López Araya**, Economic and Financial Advisor, Infrastructure and Financial Regulation Management **Pablo Furche**, Head of the Development and Innovation Group Gabriel Aparici, Manager of Infrastructure and Financial Regulation **Josefina Rodríguez Orellana**, Senior Economic and Financial Advisor, Infrastructure and Financial Regulation Management
Bank of the Republic of Colombia	**Estela Martínez**, Advisor, Deputy Manager of Payment Systems and Banking Operation **Carlos Roa**, Consulting Engineer, Information Systems Department
Central Bank of Costa Rica	**Francisco Carvajal**, Director of the Payment System Department. **Allan Chinchilla**, Management and Regulations Area, Sinpe Department, Payment Systems Division.

Central Bank of Ecuador	**Jennifer Paredes**, Deputy Manager of Payment Systems Administration. **Dayana Acosta**, Payment Systems Specialist. **John Arroyo**, Manager of Payment Methods and National Services
Central Bank of Paraguay	**Bruno Enrique Gómez Lezcano**, Director, Payment Systems Analysis Department, Deputy General Manager of Financial Operations **Derlis Fernando Montania Salinas**, Payment Systems Analysis Department, Deputy General Manager of Financial Operations **Daisy Karina Barrios Chávez**, Department of Analysis of Payment Systems, Deputy General Manager of Financial Operations. **Diego Legal**, Deputy General Manager of Financial Operations
Central Reserve Bank of Peru	**Mónica Fernández**, Department of Innovation and Promotion of Digital Payments, Management of Monetary Operations and Financial Stability **José Luis Vásquez Paz**, Deputy Manager of Retail Digital Payments Strategy and Development.
Central Bank of Uruguay	**Cecilia Gutiérrez Castro**, Analyst of the Payment Systems Management. **Eduardo Lerete**, Head of the Market Development and Promotion Department, Payment System Management
Central Bank of Venezuela	**Pascual Pinto**, Vice President of National Operations. **Marcos Gómez**, Manager of the Financial Market Analysis Unit

FLAR
FONDO LATINOAMERICANO DE RESERVAS

Latin American Reserve Fund | FLAR
Calle 84A No. 12-18 Piso 7 | Bogotá, Colombia
Email: flar@flar.net
Phone: (571) 634 4360