

Toward Effective Open Finance: A Policy Framework for Latin America and the Caribbean

A comparative analysis of cross-jurisdictional frameworks and design recommendations for regional implementation

Capstone Project Final Report for Inter-American Development Bank



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Executive Summary

This report examines how Latin American and Caribbean countries can design and implement open finance ecosystems that maximize financial inclusion, competition, and innovation. The report combines comparative analysis of three global benchmark countries — the United Kingdom, Australia, and South Korea — with a quantitative assessment of Brazil's implementation and qualitative evaluations of Peru and Chile's emerging frameworks.

The benchmark analysis reveals that no single model guarantees success, but specific design choices consistently separate high-performing ecosystems from underperforming ones. The United Kingdom's competition-driven, regulator-mandated approach achieved strong adoption by launching narrowly and expanding incrementally. South Korea's government-led, centralized model reached rapid scale by leveraging mature digital infrastructure and a concentrated banking sector. Australia's broad, rights-based framework achieved near-universal infrastructure coverage but recorded only 3–4% consumer adoption, revealing that supply-side mandates alone are insufficient without demand-side activation.

From these benchmarks, six hypotheses emerge to guide Latin American implementation: (1) sequencing should match starting conditions, with phased approaches favored where infrastructure is still maturing; (2) action initiation must not be delayed beyond data sharing; (3) demand-side activation is as critical as infrastructure mandates; (4) governance complexity should match institutional capacity; (5) uniform compliance requirements risk excluding the smaller institutions closest to underserved populations; and (6) sustainable funding models must be defined early and explicitly.

Brazil's experience provides the strongest regional evidence base. Quantitative analysis demonstrates that Pix — Brazil's instant payment system — has been the primary driver of open finance adoption, accounting for 33.2% of ecosystem growth by Shapley value decomposition. A structural break analysis reveals that the elasticity between Pix transactions and credit growth increased by approximately two-thirds following the introduction of open finance, indicating meaningful complementarity between instant payments and data-sharing infrastructure. Credit origination models show the strongest results, with personal loan originations exhibiting statistically significant growth associated with open finance adoption. Default rate models suggest that improved information sharing may be contributing to better credit risk assessment over time.

Peru and Chile, at earlier stages of implementation, largely validate the six hypotheses while illustrating distinct strategic choices. Peru's roadmap, led by the Superintendencia de Banca,

Seguros y AFP (SBS), follows a phased, regulator-driven approach with strong alignment to the sequencing and governance hypotheses. Chile's Fintech Law (Ley 21.521) establishes a comprehensive framework but faces coordination challenges between its two lead regulators — the Comisión para el Mercado Financiero (CMF) and the Banco Central de Chile (BCCCh) — and its cost distribution framework (*Anexo 4*) remains unpublished fifteen months into the implementation window, underscoring the importance of resolving funding questions early. Both countries' experiences with instant payments — Yape and Plin in Peru, and emerging infrastructure in Chile — reinforce Brazil's evidence on the foundational role of real-time payment systems.

Drawing on this combined evidence, the report identifies nine building blocks for effective open finance implementation, organized in two layers. Three foundational pre-conditions must be in place before an open finance ecosystem can function: a legal and regulatory framework, a governance architecture with clear accountability, and instant payment infrastructure. Six design choices must then be made during implementation: scope, sequencing, and action initiation strategy; participation design and tiered compliance; technical architecture and standards; a sustainable funding model; demand-side activation strategy; and multistakeholder consultation and transparency mechanisms. These building blocks are sequenced across four phases — from pre-conditions through design, implementation, and maturation — providing a practical roadmap adaptable to each country's institutional capacity and digital infrastructure readiness.

The report concludes that the most effective path forward for Latin American countries is not to transplant any single benchmark model but to calibrate these building blocks to local realities. Multilateral collaboration (through the IDB and peer-to-peer exchange among regional regulators) can accelerate this process by facilitating shared technical infrastructure, harmonized standards, and the transfer of implementation lessons across countries at different stages of open finance development.

1. State of Open Finance: Global Benchmark

In this first part of the report, we provide an overview of three countries that have already (successfully) implemented open finance. These three “jurisdictions” are the United Kingdom, Australia, and South Korea. Understanding how these three jurisdictions dealt with the implementation of open finance will provide a point of reference for policy recommendations to be made to countries in Latin America and the Caribbean, as those are in the process or intend to implement open finance themselves. The output of the research on the United Kingdom, Australia, and South Korea is presented in eight aspects, which are the ones that are analyzed.

These aspects are the following:

- Policy Origins
- Core Design Choices
- Governance Architecture
- Technical and Operational Architecture
- Participation and Market Coverage
- Implementation Strategy and Evolution
- Observed Outcomes and Trade-Offs
- Cross-Country Synthesis Contributions

Without further delay, the United Kingdom’s approach to the implementation of open finance is presented.

1.1. United Kingdom

Table 1: United Kingdom – Key Metrics Snapshot

Indicator	Value
Active Open Banking Users (Mar 2025)	≈13.3 million
User Connections (Mid-2025)	>15 million
Monthly API Calls (2025)	>2 billion
Open Banking Payments (Mar 2025)	≈31 million
One-Off Payments Processed (early 2025)	>23 million
VRP Transactions (Mar 2025)	3.7 million
VRP Share of OB Payments	≈13%
OB Tax Payments to HMRC (Jan 2024)	£3.3 billion
Projected GDP Boost (Open Finance)	£30.5bn/year
Global OB Market Projection (2031)	USD 122 billion
Governance Reform Body	JROC

1.1.1. Policy Origins

The United Kingdom’s Open Banking regime originated as a competition policy remedy. In 2016, the Competition and Markets Authority (CMA) completed a major investigation into retail banking and concluded that competition was weak, customer switching was limited, and significant “search and switching” frictions reduced competitive pressure (CMA, 2016). Rather than a fintech modernization initiative, the CMA treated data portability and interoperability as tools to unlock competition. The underlying logic was that if consumers and small businesses could securely share their transaction history with other providers, new entrants could compete with incumbent banks and consumers could receive more tailored financial services.

The CMA’s 2017 Retail Banking Market Investigation Order required the nine largest UK banks (the “CMA9”) to implement standardized APIs so customers could share account data with regulated third parties and authorize payment initiation (CMA, 2017). The CMA9 accounted for the large majority of personal current accounts, ensuring meaningful ecosystem coverage from day one (CMA, 2016). The UK had transposed PSD2—the European Union’s Second Payment Services Directive, which requires banks to open their customer account data and payment

initiation capabilities to licensed third-party providers— into domestic law (Payment Services Regulations, 2017) before Brexit, then retained and built upon it independently—creating more comprehensive coverage than either instrument alone (The Global State of Open Banking and Open Finance Report 2024 - Cambridge Center for Alternative Finance, University of Cambridge Judge Business School, hereinafter “CCAF”).

Two implications follow: first, the UK’s initial objective was competition in core retail banking, not broad “Open Finance.” Second, the starting point in competition policy prioritized enforceability and standardization over breadth. This means the CMA chose to require a small number of large banks to share data in a single, uniform format rather than attempting to cover all financial products and institutions from the outset. This trade-off ensured that the initial mandate could be monitored and enforced credibly, even though it limited the range of consumer data available through Open Banking.

1.1.2. Core Design Choices

The UK model is classified as “regulation-led, mandated, and standardized” (CCAF, 2024). Three design choices shaped early performance. First, mandatory participation by the CMA9 (the original nine mandated banks; participation has since expanded voluntarily, with over 100 additional firms now registered as third-party providers, though the mandate itself still applies only to the CMA9) made the ecosystem viable for third-party providers and reduced consumer confusion about bank coverage. The trade-off was that compliance costs concentrated on large incumbents. Second, centralized standards through Open Banking Limited (OBL)—the independent implementation entity established and funded by the CMA9 banks specifically to build, operate, and maintain the Open Banking technical infrastructure— created a single technical specification, trust framework, and participant directory, reducing transaction costs and fragmentation (KPMG & Innovate Finance, 2024). OBL’s trust framework rests on six principles: consumers never share banking credentials with third parties; Open Banking is opt-in; it depends on explicit consent; revoking permission is as easy as granting it; only authorized entities participate; and a redress mechanism exists (KPMG & Innovate Finance, 2024).

Third, the UK deliberately adopted a narrow initial scope focused on personal and business current accounts, enabling Account Information Services (which allow third-party apps to read a customer’s bank account data with consent) and Payment Initiation Services (PIS) which allow those same third parties to trigger payments directly from a customer’s bank account. Both AIS and PIS were enabled from the outset of the UK’s Open Banking launch in January 2018, as the CMA Order and PSD2 transposition required both capabilities simultaneously. The CCAF’s global mapping scores the UK at just 17% on data-type coverage (1 of 6 categories), covering only payment account transaction data (CCAF, 2024). It is worth indicating that the 6 data-type

categories are payments, general insurance, savings & investments, mortgages, customer lending, and pension). For comparison, South Korea, Brazil, and Australia score 100% on allowed data types (CCAF, 2024). The narrow scope in the UK improved enforceability but limited broader consumer value propositions.

The UK is now debating how to expand. The KPMG & Innovate Finance roadmap (2024) outlines three scenarios: a universal mandate across all sectors; incremental sector-by-sector initiatives; or a strategic cross-sector plan with a central future entity. The Data Use and Access Act (DUAA), introduced to Parliament in November 2024, provides the legislative foundation for Smart Data schemes, which is a government-backed program that requires firms in specific sectors (such as energy, telecommunications, and pensions) to share customer data in standardized formats, effectively extending the Open Banking model to the broader economy beyond banking (CCAF, 2024; Murray & Buckenham, 2025).

1.1.3. Governance Architecture

Open Banking governance in the UK is multi-actor. Whereas the CMA created the mandate (CMA, 2017), the Financial Conduct Authority (FCA) licenses and supervises third-party providers. The Payment Systems Regulator (PSR) oversees payment system rules and is advancing fraud-detection data sharing for Authorized Push Payment (APP) transactions (KPMG & Innovate Finance, 2024). Finally, Open Banking Limited (OBL) maintains technical standards, operates the participant directory, and publishes performance metrics (CCAF, 2024).

As the ecosystem scaled, the Joint Regulatory Oversight Committee (JROC) was created to drive reforms and design a “Future Entity” with a clearer mandate and with sustainable funding. The CMA roadmap was completed in 2025 and the Future Entity transition is currently underway alongside a Long-Term Regulatory Framework (Murray & Buckenham, 2025). The Future Entity is designed to take over from OBL with a broader open finance mandate covering standard-setting, ecosystem oversight, and dispute resolution; its funding model—currently incumbent bank-funded through the CMA9—will need to expand as participation widens, with options including levies on all regulated participants or hybrid transaction-based fees (FCA, 2025).

1.1.4. Technical and Operational Architecture

The UK pairs its mandate with a single standards framework and visible performance monitoring. Three core capabilities exist: Account Information Services (AIS) for data access; Payment Initiation Services (PIS) for bank-account payments; and Variable Recurring Payments (VRPs). These allow users to authorize recurring payments with variable amounts within defined parameters (Murray & Buckenham, 2025). VRP transactions reached 3.7 million in March 2025,

and Open Banking is increasingly positioned as a strategic alternative to card payments, offering lower transaction fees (Murray & Buckenham, 2025).

By mid-2025, OBL reported more than 2 billion monthly API calls and high availability (OBL, 2025). Over 23 million one-off payments had been processed (Murray & Buckenham, 2025). A striking illustration of scale is the HMRC (His Majesty's Revenue and Customs, the UK's tax authority) use case: £3.3 billion of tax payments were made via Open Banking in January 2024 alone (KPMG & Innovate Finance, 2024). The UK's decision to publish performance metrics creates accountability and signals that the infrastructure is not "compliance theater" (KPMG & Innovate Finance, 2024).

1.1.5. Participation and Market Coverage

OBL reported approximately 13.3 million active users by March 2025, rising to over 15 million connections by mid-2025 (OBL, 2025). Growth from roughly 9 million users in January 2024 suggests a rate of approximately 50% in just over a year (KPMG & Innovate Finance, 2024; OBL, 2025). The FCA notes that Open Banking adoption mirrors the early digital wallet adoption curve (Murray & Buckenham, 2025). Product scope remains largely current accounts, which limits value propositions. The UK covers only payment data (1 of 6 CCAF categories), compared with jurisdictions covering all 6 (CCAF, 2024). The UK received more than \$5 billion of fintech investment in 2023—more than the next 28 European countries combined (KPMG & Innovate Finance, 2024).

1.1.6. Implementation Strategy and Evolution

The UK shows two phases: launching under a hard mandate with centralized standards (2016–2018), and evolving governance once adoption reached scale. The CCAF data shows a roughly two-year timeline from legislation to live services—comparable to Australia (CCAF, 2024). In March 2025, the FCA convened an Open Finance Sprint with over 110 stakeholders, developing a shared 2030 vision built around adaptive regulation, data privacy, interoperability, financial education, and real-time services (FCA, 2025). This sprint is significant for the long term because it signals the UK's commitment to moving beyond Open Banking (limited to current accounts) toward a comprehensive Open Finance regime covering pensions, insurance, investments, and mortgages—a transition that requires cross-sector coordination and new legislative authority. The FCA committed to producing an open finance roadmap and publishing research on the impact of evolving technology on open finance by the end of 2025 (FCA, 2025). The FCA subsequently published its roadmap in October 2025, confirming a phased expansion path starting with pensions dashboards and mortgage data, alongside a Long-Term Regulatory Framework that will give the Future Entity statutory powers to set standards and resolve disputes across sectors (Murray & Buckenham, 2025).

1.1.7. Observed Outcomes and Trade-Offs

Adoption and usage represent the UK's clearest outcome, with scale indicators showing repeated, embedded usage rather than pilot behavior. Contestability outcomes are less conclusive: the CCAF confirms a "significant increase in fintech entry" (CCAF, 2024), —with over 300 regulated third-party providers now active in the ecosystem, many offering personal finance management, credit scoring, and merchant payment services that did not exist before Open Banking— but the FCA notes many banks view Open Banking primarily as a compliance obligation (Murray & Buckenham, 2025). Innovation is diverse, spanning personal finance management, affordability checks, SME tools, and merchant payments. Resilience is strong, with high reported availability and advanced fraud detection (Murray & Buckenham, 2025). Cost distribution remains contested: initial costs sat with the CMA9, and the Future Entity planning explicitly addresses sustainable funding for a broader regime (KPMG & Innovate Finance, 2024). Consumer protection varies by payment method; card schemes offer stronger protections than Open Banking payments, and the Future of Payments Review (November 2023) called for purchase protections on OB transactions (KPMG & Innovate Finance, 2024).

1.1.8. Cross-Country Synthesis Contributions

The UK case suggests several conditional design patterns. (1) Mandated participation tends to accelerate ecosystem scale when regulator enforcement capacity is credible and the mandate targets institutions covering most consumer accounts (CCAF, 2024). (2) Centralized standard-setting tends to reduce fragmentation and lower entry costs for third-party providers (KPMG & Innovate Finance, 2024). (3) Publishing performance metrics tends to strengthen trust and accountability. This transparency practice, unique among the three benchmark countries analyzed in this section of the report, allows third-party providers and consumers to verify that banks are meeting their data-sharing obligations rather than engaging in superficial compliance. (4) Incumbent bank-funded (CMA9) implementation entities can function during a compliance phase, but sustainability becomes contested as the regime broadens (CCAF, 2024; Murray & Buckenham, 2025). (5) Expansion from Open Banking to Open Finance tends to require statutory authority and governance redesign, not just technical extensions (KPMG & Innovate Finance, 2024). (6) Narrow initial data scope can still generate significant innovation, but it constrains broader consumer value propositions (CCAF, 2024). Conversely, broad scope from day one is most viable when digital infrastructure is mature, government implementation capacity is strong, and the banking sector is sufficiently concentrated to coordinate—conditions that vary widely across countries.

1.2. Australia

Table 2: Australia – Key Metrics Snapshot

Indicator	Value
CDR-Enabled Bank Accounts	99.74% of all accounts
CDR Penetration (H1 2025)	3–4%
Banking & Energy Data Holders in CDR (Oct 2024)	99
Accredited Data Recipients (Oct 2024)	41
Data-Type Coverage (Allowed)	100% (6 of 6 categories)
Data-Type Coverage (Live)	83% (5 of 6 categories)
Lead Authority	Australian Treasury
Primary Policy Objective	Enhancing Customer Protection
Action Initiation Legislation	August 2024

1.2.1. Policy Origins

Australia’s open banking framework emerged from a broader consumer data rights agenda rather than a sector-specific competition remedy. In 2017, the Australian Treasury published its “Review into Open Banking in Australia,” which recommended creating a Consumer Data Right (CDR) that would give consumers the ability to access and share their data with accredited third parties across multiple sectors (CCAF, 2024). Unlike the UK, where a competition authority imposed a banking-specific mandate, Australia’s framework was designed from the outset as a cross-sector data portability regime, with banking designated as the first sector, followed by energy, and with non-bank lending, insurance, and superannuation planned for future phases (CCAF, 2024).

Australia’s approach reflects a developed market with near-universal financial access: 98% of Australians aged 15+ hold a bank account, 92% own a debit card, and 93% used the internet in the past month (World Bank Global Findex, 2024). Despite this access, the banking sector remains concentrated, and the CDR was intended to enhance both customer protection and competitive dynamics. Notably, the CCAF classifies Australia as unique among all jurisdictions analyzed: it is the only country to designate “enhancing customer protection” as its primary policy objective, with “improving competition” as secondary (CCAF, 2024).

1.2.1. Core Design Choices

Australia adopted a regulation-led, mandated, and standardized approach to data sharing (CCAF, 2024). The CDR framework, enacted through amendments to the Competition and Consumer Act 2010, empowers the Minister for Digital Economy to designate sectors via legislative instrument. The Data Standards Body (DSB), part of Treasury, develops the technical standards prescribing how data must be shared. This centralized standardization model parallels the UK approach, reducing fragmentation and ensuring interoperability across participants.

A critical design choice was the CDR's initially "read-only" scope: from its 2019 launch, the CDR enabled consumers to share data with accredited third parties but did not allow transaction initiation (CCAF, 2024). This limitation persisted until August 2024, when the Treasury Laws Amendment (Consumer Data Right) Bill enabled "write access," allowing customers to initiate transactions through third parties. Specifically, the latter includes initiating bank account payments (similar to the UK's PIS), setting up or modifying direct debits, switching financial products between providers, and opening or closing accounts. These action types are significant because they move the CDR beyond passive data portability into active market participation, enabling consumers to act on the insights derived from their data without needing to interact with each institution separately (CCAF, 2024). The five-year gap between data sharing and action initiation we have referred to significantly limited the CDR's impact on payment innovation during that period. It is true that the phased approach also carried some potential benefits, as it allowed regulators to build institutional expertise in data-sharing oversight, gave data holders time to develop robust security and consent frameworks, and enabled the ecosystem to learn from banking-sector implementation before extending write access to higher-risk transaction types. However, the trade-off is that this sequencing may have contributed to the low adoption rates observed, as consumers saw limited immediate value from read-only data sharing.

On data breadth, Australia scores 100% on allowed data types (6 of 6 CCAF categories: payments, general insurance, savings and investments, mortgages, consumer lending, and pensions) and 83% on live data types (5 of 6, missing pension) (CCAF, 2024). This is considerably broader than the UK's 17% allowed score and positions Australia among the most comprehensive regulatory frameworks globally. However, the government paused CDR implementation in superannuation, insurance, and telecommunications to allow the framework to mature in banking and energy first. As of early 2026, this pause remains in effect for telecommunications and insurance. However, non-bank lending was designated as the next priority sector, with Phase 1 rule-making underway (APAC Report, 2025). Superannuation

data-sharing is expected to resume once the Treasury completes its review of the CDR's banking performance (CCAF, 2024).

1.2.2. Governance Architecture

Australia's governance model is distinctive for placing a government ministry (the Australian Treasury) as lead authority, rather than a central bank or financial regulator. Indeed only Australia and New Zealand empower a government ministry in this role (CCAF, 2024). Treasury implements policy settings, advises on CDR sector expansion, and leads program delivery. The Australian Competition and Consumer Commission (ACCC) regulates the CDR: it manages accreditation, enforcement, compliance, and the CDR Register. The Office of the Australian Information Commissioner (OAIC) oversees privacy and data protection aspects and handles complaints. The Data Standards Body (DSB) develops and maintains the technical standards (APAC Report, 2025).

This four-body model distributes governance across policy (Treasury), competition and compliance (ACCC), privacy (OAIC), and standards (DSB). The advantage is clear functional separation; the risk is coordination complexity as the CDR expands to additional sectors.

1.2.3. Technical and Operational Architecture

The CDR operates through regulated API standards that mandate how data holders share consumer and product data with accredited data recipients (CCAF, 2024). Consumer data requires authenticated API access with strong security controls, while product data (generic information about available products) can be shared through unauthenticated APIs at lower implementation cost (Open Finance Sectoral Assessment, 2022). The DSB maintains these standards to ensure consistency across banking and energy, with provisions to adapt rules for new sectors such as non-bank lending.

Scale indicators remain modest compared to the UK. As of October 2024, there were 99 banking and energy data holders in the CDR and 41 accredited data recipients. By mid-2025, the APAC Report noted continued growth in the number of accredited data recipients, though exact figures remain below 100—still a fraction of the UK's 300+ registered third-party providers (APAC Report, 2025). Nearly all customer bank accounts (99.74%) are CDR-enabled, demonstrating comprehensive infrastructure coverage even if active usage remains low. Operational metrics such as API call volumes and payment transaction counts are not publicly reported with the same granularity as the UK's OBL dashboard, which limits direct comparison.

1.2.4. Participation and Market Coverage

CDR penetration in the first half of 2025 stood at 3–4% of adult consumers who have actively authorized at least one CDR data-sharing arrangement with an accredited third party, as measured by the CCAF, which compares unfavorably with the UK's 11% at a comparable five-year mark. The slow uptake reflects several factors: the absence of action initiation (write access) for the first five years was a design mistake that severely constrained use cases; consumer awareness remains low; and the ecosystem of accredited data recipients is still developing.

Data coverage, however, is a strength. The designated data classes under the CDR Rules (Schedule 3) include personal and business credit cards, home loans, personal loans, business finance, investment loans, lines of credit, asset finance, and consumer leases (Open Finance Sectoral Assessment, 2022). The planned expansion in 2026 to non-bank lending is significant: non-bank lenders provide approximately 40% of business loan volumes and serve market segments often underserved by banks, including SMEs (Open Finance Sectoral Assessment, 2022). The SME dimension is analytically important for Latin America, where similar frictions in SME credit access exist.

1.2.5. Implementation Strategy and Evolution

Australia followed a phased implementation strategy: the CDR was legislated in 2018, rules introduced in 2019, and live services launched in 2020—a roughly two-year timeline comparable to the UK (CCAF, 2024). The first phase covered banking; energy was designated next. In January 2022, the Minister announced that “Open Finance” data would be the next priority, with Phase 1 encompassing non-bank lending, merchant acquiring services, general insurance, and superannuation (APAC Report, 2025).

A 2024 amendment expanding the CDR to include transaction initiation marked a significant evolution. This positions Australia to support payment competition and fintech innovation comparable to the UK's PIS and VRP capabilities, though at an earlier stage. The CCAF classifies Australia among only six regulation-led jurisdictions that have “fully unlocked Open Finance” (alongside Brazil, South Korea, Turkey, UAE, and the US) (CCAF, 2024).

1.2.6. Observed Outcomes and Trade-Offs

Adoption remains Australia's principal challenge. At 3–4% CDR penetration (measured as the share of adult consumers with active CDR data-sharing authorizations), active usage lags significantly behind the UK despite near-universal infrastructure coverage. The late introduction of action initiation (2024) constrained the ecosystem's ability to deliver payment-related and product portability use cases for five years. Contestability has been mixed: the CDR's broad data

coverage creates strong theoretical conditions for competition, but low adoption limits practical impact. Innovation is emerging in account aggregation, comparison services, and SME financial tools, though the ecosystem of accredited recipients (41 as of October 2024) is still small relative to the UK's Third Party Provider base. Resilience and operational stability are difficult to assess given limited public performance reporting. Cost distribution is an active concern: CDR compliance costs fall primarily on data holders, and smaller non-bank lenders may lack the technological sophistication for compliance without the minimum size exemption. In other words, without a rule that would spare the smallest data holders from compliance obligations if their market share or transaction volume falls below a certain level threshold (Open Finance Sectoral Assessment, 2022). Consumer protection is embedded through the OAIC's privacy oversight and the CDR's strict accreditation requirements.

1.2.7. Cross-Country Synthesis Contributions

The Australia case suggests several conditional design patterns. (1) A cross-sector data portability framework (CDR) can achieve broad data coverage from the outset, but breadth does not automatically translate into adoption (CCAF, 2024). (2) Placing a government ministry as lead authority provides strong coordination capacity but may lack the enforcement culture of a financial regulator or competition authority—a pattern observed in Australia's experience, where Treasury sets policy but enforcement of data-sharing obligations falls to the ACCC, and some stakeholders have noted that compliance monitoring has been less proactive than in the UK, where the FCA directly supervises and sanctions third-party providers. The concern is that a ministry-led model may prioritize policy design over day-to-day enforcement against non-compliant data holders. (3) Read-only data access significantly constrains ecosystem innovation; action initiation capabilities are essential for payment-related use cases (CCAF, 2024). (4) Near-universal infrastructure coverage (99.74% of accounts CDR-enabled) is necessary but not sufficient—demand-side activation requires consumer awareness and compelling third-party propositions. (5) Phased sector expansion with deliberate pauses to incorporate lessons learned reduces implementation risk but slows momentum (CCAF, 2024). (6) Broad data-type coverage from the outset may contribute to slower initial adoption, as implementation complexity increases for both data holders and recipients (CCAF, 2024).

1.3. South Korea

Table 3: South Korea – Key Metrics Snapshot

Indicator	Value
Open Finance Registrations (Sep 2022)	54.8 million (including duplicates)
Cumulative MyData Subscriptions (Feb 2024)	117.8 million
Data Transmission Requests (Jan 2022–Dec 2023)	>380 billion
Average Daily API Calls	30 million
MyData Service Providers (End 2023)	69
Data-Type Coverage (Live)	83% (5 of 6 categories)
Open Banking Launch	December 2019
MyData Full Launch	January 2022
Lead Authority	Financial Services Commission (FSC)
Technical Infrastructure Operator	KFTC

1.3.1. Policy Origins

South Korea’s open banking and open finance regime reflects a government-led digital finance strategy rather than a response to a specific competition remedy as in the UK or a consumer data rights agenda as in Australia. The Financial Services Commission (FSC), Korea’s highest financial policy authority, drove the initiative as part of broader efforts to modernize financial infrastructure and expand financial inclusion (World Bank, 2024). In 2017, the Credit Information Use and Protection Act was amended to codify the right to data portability, establishing the legislative foundation for what would become the MyData framework (World Bank, 2024).

The policy rationale combined several objectives: expanding basic financial inclusion through increased account ownership, facilitating electronic identity (eID) for KYC and onboarding, and enabling fintech companies to compete with traditional financial institutions (World Bank, 2024). The CCAF classifies South Korea as regulation-led with mandated and standardized data sharing, with “improving competition” as a primary policy objective (CCAF, 2024).

1.3.2. Core Design Choices

South Korea adopted a centralized technical architecture with the Korea Financial Telecommunications and Clearings Institute (KFTC) serving as the sole intermediary for open banking APIs (World Bank, 2024). This design simplifies the development process for both financial companies and fintechs, harmonizes API specifications and operating hours, and mitigates cybersecurity risks through a single intermediary (World Bank, 2024). The centralized model contrasts with decentralized approaches where each financial institution maintains individual APIs; the trade-off is that centralization may constrain premium API development and private-sector innovation at the interface level (World Bank, 2024).

In 2015–2016, the FSC established a Data API Standardization Working Group that brought together financial companies, industry associations, and fintech companies to develop interoperable API specifications (World Bank, 2024). This collaborative standard-setting process parallels the UK’s centralized approach through OBL, though Korea’s model routes all traffic through KFTC rather than relying on bilateral API connections against a common specification.

On data coverage, South Korea scores 100% on allowed data types (6 of 6 categories) and 83% on live data types (5 of 6 categories) under the CCAF's framework, making it one of the broadest regulatory frameworks globally alongside Brazil and Australia (CCAF, 2024). Korea achieved the transition from Open Banking legislation to live services in approximately one year, which was faster than both the UK and Australia (CCAF, 2024).

1.3.3. Governance Architecture

The FSC serves as the leading authority, deliberating on financial supervision matters including open banking and MyData policy and licensing (FSC, various years). The Financial Supervisory Service (FSS) implements FSC decisions and examines financial institutions. KFTC operates the centralized open banking hub and retail payment settlement systems (World Bank, 2024). The Financial Security Institute (FSEC) provides security inspections and, under a January 2025 amendment, manages the “MyData Secure Provision System” that all operators must use (BIIA, 2025).

The MyData licensing regime, established through the 2020 amendment to the Credit Information Use and Protection Act, requires any company seeking to become a licensed MyData operator—that is, a firm authorized to aggregate and analyze consumers’ financial data across institutions—to hold a minimum capital of KRW 500 million (approximately USD 352,000). This is not a participation fee paid to join the ecosystem but rather a minimum equity threshold that each applicant must demonstrate to the FSC as part of its licensing application, intended to ensure operators have sufficient financial stability to protect consumer data. Also, operators must meet staffing, infrastructure, and business plan standards for FSC approval.

(KLRI, 2020). This low capital threshold was designed to facilitate fintech entry while maintaining regulatory oversight.

1.3.4. Technical and Operational Architecture

KFTC operates the centralized open banking platform, which standardizes API specifications and manages all data traffic between financial companies and third-party providers (World Bank, 2024). The platform handles both payment functions and information inquiry services. In a pilot launched in August 2016 and formalized in October 2019, KFTC established shared open infrastructure that provides core financial services with standardized open APIs, allowing fintech operators to provide banking services without mandatory bank partnerships (Oh et al., 2024). Fees were reduced by approximately one-tenth through standardized open APIs compared to prior bilateral arrangements (OECD, 2023).

While scale indicators properly relate to observed outcomes (Section 1.3.7), they are presented here to illustrate the operational capacity of KFTC's centralized platform. Scale indicators are substantial. By September 2022, 54.8 million users had registered for open finance services—a nearly fourfold increase from 14.2 million in January 2022 (World Bank, 2024). Average daily API usage reaches 30 million calls, notably higher than the UK's 6.55 million as of December 2022 (Development Asia/ADB, 2024). By February 2024, cumulative MyData subscriptions reached 117.8 million (including duplicates across providers), with over 380 billion data transmission requests processed between January 2022 and December 2023 (FSC, 2024). The MyData ecosystem included 69 licensed service providers by the end of 2023: 12 banks, 24 fintechs, 10 financial investment firms, 8 card companies, 3 insurers, and others (FSC, 2024).

1.3.5. Participation and Market Coverage

South Korea's participation model followed a phase-in approach, starting with commercial banks before expanding to insurance and other financial sectors (World Bank, 2024). The phased strategy prioritized large financial companies first and considered the practical burden on small and medium-sized companies (World Bank, 2024). The fintech ecosystem is well-developed: companies like Toss provide payment and money transfer services across multiple banks through the open banking platform, demonstrating cross-institutional service delivery (World Bank, 2024).

Market coverage is broad. The CCAF classifies South Korea among only six regulation-led jurisdictions that have “fully unlocked Open Finance” (CCAF, 2024). The regime covers five of six CCAF data categories with live data sharing (and all six as allowed), and the MyData framework enables consolidation of personal financial data across institutions for product recommendations and financial advice (KLRI, 2020). In April 2024, the FSC announced “MyData

2.0,” focusing on improving user convenience, expanding service availability, enhancing data usability, and strengthening data protection measures (FSC, 2024).

1.3.6. Implementation Strategy and Evolution

South Korea’s implementation was notably fast. Open banking was piloted in October 2019 and fully launched in December 2019. The MyData pilot began in December 2021, with the full government-led program launching in January 2022 (FSC). The one-year timeline from legislation to live services was faster than both the UK and Australia (CCAF, 2024), reflecting Korea’s strong government initiative and existing digital infrastructure. The CCAF notes that both Korea and Australia were “early adopters of Open Banking but slower to transition to Open Finance,” suggesting that broader data coverage from the outset may have contributed to implementation complexity (CCAF, 2024).

The January 2025 amendment to the Credit Information Act expanded MyData operators’ capabilities, including permitting face-to-face sales and clarifying standards for data combination (BIIA, 2025). Separately, the amended Personal Information Protection Act (June 2025) granted data subjects the right to transmit personal information across sectors, providing a legal basis for broader MyData implementation beyond financial services (Library of Congress, 2025).

1.3.7. Observed Outcomes and Trade-Offs

Adoption is South Korea's strongest outcome: 54.8 million open finance registrations by September 2022, rising from 14.2 million in January 2022. By February 2024, cumulative MyData subscriptions had reached 117.8 million (including duplicate registrations across providers), suggesting continued rapid growth well beyond the September 2022 figure (FSC, 2024). These figures include duplicate registrations across providers — Korean adults registered across an average of 3.5 applications (World Bank, 2024) — but the fourfold growth rate and 117.8 million cumulative MyData subscriptions with over 380 billion transmission requests indicate repeated, embedded usage at infrastructure scale (FSC, 2024). Contestability appears positive: the low MyData capital requirement (KRW 500 million, USD 352,000) and KFTC's standardized APIs reduced barriers for fintech entry, and the diverse provider base (69 operators spanning banks, fintechs, insurers, and card companies) suggests meaningful market participation (FSC, 2024). Innovation is evident in the breadth of use cases enabled by full data-type coverage and the emergence of super-app models.

Trade-offs exist. The centralized KFTC model’s efficiency comes at the cost of potential constraints on premium API innovation (World Bank, 2024). The mandatory participation burden on smaller financial companies remains a concern (World Bank, 2024). Cost distribution is less publicly documented than in the UK. Consumer protection is embedded in the MyData

licensing regime and the FSEC's security inspection mandate, but the rapid scaling raises questions about oversight capacity that merit further examination.

1.3.8. Cross-Country Synthesis Contributions

The South Korea case suggests several conditional design patterns. (1) A centralized API intermediary (KFTC model) tends to accelerate adoption and reduce development costs when government infrastructure capacity is strong, but may constrain interface-level innovation (World Bank, 2024). (2) Low capital requirements for MyData licensing (KRW 500 million, USD 352,000) can facilitate diverse market entry across financial institutions, fintechs, and non-traditional providers (FSC, 2024). (3) Broad data-type coverage from the outset (6 of 6 categories) enables comprehensive consumer services but may slow initial implementation (CCAF, 2024). (4) Rapid implementation timelines (~1 year) are achievable when government initiative is strong and existing digital infrastructure is mature (CCAF, 2024). (5) Phased participant onboarding—starting with large financial companies—reduces implementation risk while building ecosystem credibility before expanding to smaller institutions (World Bank, 2024). (6) Collaborative standard-setting through working groups that include financial companies, industry associations, and fintechs tends to produce more implementable and accepted specifications (World Bank, 2024).

1.4. From Benchmarks to Application: An Analytical Framework for Latin America

The three country benchmarks above — the United Kingdom, Australia, and South Korea — reveal a set of recurring design choices, trade-offs, and implementation patterns that are not country-specific but structural. Each jurisdiction made deliberate decisions about scope, governance, technical architecture, and sequencing that produced measurably different outcomes in adoption, innovation, and market participation. The purpose of this concluding section is to distill these patterns into an analytical framework that can guide the Stage 2 assessment of open banking and open finance implementation in Latin American jurisdictions.

1.4.1 Seven Design Dimensions for Cross-Country Analysis

The three benchmarks consistently diverge along seven dimensions that will structure the Stage 2 country assessments.

First, **policy origin and primary objective**. The UK started from a competition remedy, Australia from a consumer data rights agenda, and South Korea from a government-led digital finance modernization strategy. Each starting point shaped what was prioritized: the UK prioritized enforceability, Australia prioritized breadth, and South Korea prioritized speed. For Latin American countries, identifying whether the primary driver is financial inclusion, competition, consumer protection, or fintech ecosystem development will determine which benchmark model is most instructive.

Second, **scope and sequencing**. The UK launched with narrow data coverage (1 of 6 CCAF categories) and achieved strong adoption; Australia launched with broad coverage (6 of 6 allowed) but experienced slow uptake; South Korea launched broad and achieved rapid adoption, but with mature pre-existing digital infrastructure. The central question for Latin American policymakers is whether to start narrow and expand (the UK path), start broad with phased implementation (the Australian path), or start broad with strong centralized infrastructure (the Korean path). Brazil's phased open finance rollout (2021–2023) provides a regional reference point for evaluating these trade-offs.

Third, **governance architecture**. The UK distributes governance across a competition authority, financial regulator, payment systems regulator, and industry implementation body. Australia distributes across a government ministry, competition commission, privacy commissioner, and standards body. South Korea centralizes through the FSC with KFTC as technical operator. The choice between centralized and distributed governance depends on existing institutional capacity, regulatory culture, and the number of sectors the framework is intended to cover. For

jurisdictions with strong central bank mandates, a centralized model may be more feasible; where multiple regulators already have overlapping mandates, a coordinated model may be necessary.

Fourth, **technical architecture and intermediation**. South Korea's centralized KFTC hub reduced development costs and accelerated adoption but may constrain interface-level innovation. The UK's decentralized model (bilateral API connections against a common OBL specification) preserves competitive dynamics but increases integration costs. Australia's DSB-maintained standards sit between these extremes. Latin American countries with existing interbank clearing infrastructure may find the centralized hub model more immediately implementable.

Fifth, **funding and cost distribution**. In all three jurisdictions, initial compliance costs fall primarily on incumbent financial institutions. The UK's CMA9-funded model, Australia's uniform compliance requirements, and South Korea's government-supported KFTC infrastructure represent different approaches to cost allocation. For Latin American markets with smaller financial institutions, cooperatives, and microfinance providers, uniform compliance requirements risk excluding the institutions closest to underserved populations. Proportional compliance thresholds, shared infrastructure, or public co-investment may be necessary adaptations.

Sixth, **action initiation and read-write access**. Australia's five-year gap between data sharing (2019) and action initiation (2024) is widely associated with low adoption. The UK launched both simultaneously under PSD2. South Korea's KFTC platform included payment functions from the outset. The evidence across all three benchmarks suggests that action initiation capabilities are essential for driving adoption and should be included from launch or introduced with minimal delay.

Seventh, **digital infrastructure readiness**. South Korea's rapid implementation was enabled by near-universal smartphone penetration, high-speed internet coverage, a mature interbank clearing system, and strong digital identity infrastructure. Australia and the UK had similarly advanced starting conditions. Latin American countries vary significantly in digital readiness, and a realistic assessment of baseline infrastructure — internet penetration, smartphone ownership, digital identity coverage, and existing payment system maturity — will be essential before selecting an implementation model.

1.4.2 From Benchmarks to Country Assessments

Stage 2 will apply these seven dimensions to assess the specific conditions, constraints, and opportunities facing Latin American jurisdictions. The analysis will examine each country's existing regulatory framework, institutional capacity, digital infrastructure, financial sector structure, and stated policy objectives. Rather than recommending a single model, the

framework recognizes that the optimal design choices depend on local conditions — the same lesson that emerges from comparing the United Kingdom, Australia, and South Korea.

The benchmarks also surface several cross-cutting themes that are particularly relevant for the Latin American context: the role of SME credit access as a use case for open finance data sharing; the risk that uniform compliance requirements exclude small financial institutions; the importance of demand-side activation strategies alongside supply-side infrastructure mandates; and the question of whether government co-investment in shared technical infrastructure can accelerate adoption in markets where incumbent-funded models may be less viable.

These themes will inform the Stage 2 assessments and ultimately shape the Stage 3 recommendations for implementation approaches adapted to the realities of each jurisdiction.

1.5. Hypotheses and Key Takeaways for Open Finance in Latin America

The three country benchmarks—the United Kingdom, Australia, and South Korea—each represent a distinct path to open finance. Having examined their design choices, implementation trajectories, and observed outcomes, several working hypotheses emerge that can inform how Latin American countries approach open banking and open finance design.

First, sequencing matters—but the optimal sequence depends on starting conditions. The UK launched narrowly (banking data only) and achieved strong adoption before expanding scope. Korea launched broadly from day one and reached high adoption quickly, but only because it had mature digital infrastructure, a concentrated banking sector, and strong government execution capacity. Australia launched broadly but experienced weak adoption, in part because these prerequisites were less fully in place. The hypothesis for LatAm: broad scope from launch is viable in markets with mature infrastructure and strong institutional capacity; elsewhere, a phased approach—starting narrow and expanding as adoption grows—is likely to deliver better outcomes.

Second, action initiation must be included from launch or introduced rapidly. Australia's five-year gap between data sharing and action initiation was a critical design mistake. Without write access, the CDR was limited to account aggregation and comparison tools—useful but not transformative enough to drive mass adoption. The UK launched AIS and PIS simultaneously under PSD2; Korea's KFTC platform included payment functions from the outset. The evidence is clear: frameworks that delay action initiation are likely to experience adoption gaps and constrained innovation. For LatAm countries designing open finance frameworks, action

initiation (equivalent to PSD2's Payment Initiation Services) should be planned as a core capability from the beginning, even if phased in shortly after launch.

Third, infrastructure coverage is necessary but not sufficient—demand-side activation is equally critical. Australia achieved 99.74% CDR-enabled account coverage yet recorded only 3–4% active consumer usage. This gap reveals that supply-side mandates alone do not generate adoption. Consumer awareness, compelling use cases, and a healthy fintech ecosystem must be cultivated in parallel. LatAm countries should plan for demand-side activation strategies alongside infrastructure mandates: this could include government-led anchor use cases (e.g., tax data sharing, social benefit integration), fintech ecosystem support programs, and consumer awareness campaigns. Building it does not guarantee they will come.

Fourth, governance architecture should match institutional capacity. Australia's four-body model (Treasury, ACCC, OAIC, DSB) offers functional clarity but creates coordination complexity. The UK's multi-regulator model (FCA, CMA, PSR, OBL) works because all bodies have strong institutional capacity and well-defined mandates. For many LatAm countries—where regulatory capacity is more limited and coordination across agencies is more difficult—simpler governance structures, with clear authority concentrated in one lead institution, may deliver better outcomes. The hypothesis: LatAm countries should match governance complexity to their actual institutional capacity, prioritizing clear accountability over elaborate multi-stakeholder structures.

Fifth, uniform compliance requirements risk excluding the institutions closest to underserved populations. In all three benchmark countries, compliance costs—API development, security certification, ongoing reporting—fall primarily on financial institutions. For large incumbents these are manageable; for smaller players they are disproportionate. In LatAm, where cooperatives, “cajas populares”, and microfinance institutions serve communities that traditional banks do not, this is particularly consequential. If open finance compliance requirements are uniform, these institutions may be effectively excluded—defeating the financial inclusion goals that motivate open finance in the first place. Tiered compliance thresholds, shared technical infrastructure, or public co-investment in data-sharing rails should be considered design priorities in the LatAm context.

Sixth, funding models for open finance infrastructure are a critical and often overlooked design choice. The UK's OBL is funded by the CMA9 incumbent banks—a model that works during a mandate-driven compliance phase but becomes contested as the regime expands. The Future Entity will need a broader funding base. Korea's government-backed KFTC model sidesteps the incumbent funding problem but requires strong state capacity. For LatAm, where incumbent

banks may have less capacity or willingness to cross-subsidize open finance infrastructure, and where government resources are constrained, the funding question is particularly acute. Levies on all regulated participants, transaction-based fees, or multilateral development bank co-investment (as the IDB has done in other digital infrastructure contexts) deserve explicit consideration in framework design.

These hypotheses are not prescriptions. They are informed propositions that the Stage 2 country assessments—covering Brazil, Chile, Peru, Colombia, and Mexico—will test against local conditions. The goal is not to transplant a benchmark model wholesale, but to identify which design choices are most likely to succeed given each country’s specific regulatory framework, institutional capacity, digital infrastructure, financial sector structure, and inclusion objectives. What the benchmarks make clear is that the right open finance model is the one calibrated to local realities—and that the cost of miscalibration, whether in scope, sequencing, governance, or compliance design, can significantly delay the realization of open finance’s inclusion and innovation potential.

2. State of Open Finance in Brazil

2.1. Ecosystem overview

Brazil's path to Open Finance began in 2019. In April, the Central Bank of Brazil (BCB) formally announced the Open Finance project, embedding it within the broader Agenda BC# initiative, which positioned competition and efficiency as two pillars of the financial system's future (CBC, 2026). In August, the BCB followed with a public consultation, recognizing that a reform of this scale required broad stakeholder buy-in and opening a structured dialogue with banks, fintechs, consumers and industry associations to shape the system's technical and regulatory design. This consultative process was critical: it helped define the scope of mandatory participation, the standards for API interoperability, and the consent architecture that would later govern how customers authorize data sharing.

In 2020, the Open Finance regulatory foundation was formally laid with a publication in May, which mandated data sharing across the financial system and established the legal basis for the phased rollout that would begin in 2021 (Open Finance Brasil, 2025). Just months later, in November 2020, Brazil launched Pix, the national instant payment system. Pix demonstrated that Brazilian institutions could rapidly adopt standardized APIs and that the BCB could coordinate a complex multi-institution rollout of Open Finance.

By the time Open Finance Phase 1 launched in February 2021, Brazil had already normalized the idea of an open and innovative financial infrastructure. This demonstrates that Brazil's success relied not only on implementation activities but also on the building blocks before 2021, which were critical to ensure policy alignment, regulatory vision, and market readiness for the upcoming transformation.

In Table 4, the four phases are described, including their main effects on the ecosystem and the key players.

Table 4: Phases of Open Finance Implementation and Ecosystem Impact

Phase	Key Features	Participants
Phase 1 Feb 2021 Open Data	Mandated public sharing of products, services and pricing data. Forced institutions to build API infrastructure. Created first layer of consumer awareness.	Mandatory: Itaú, Bradesco, Banco do Brasil, Caixa Econômica, Santander, Nubank. Voluntary: Smaller banks and fintechs.

Phase 2 Aug 2021 Consumer Data Sharing	New consent management framework enabling customers to share registration data, card information and credit history across institutions to receive personalized offers.	New entrants: Mercado Pago, PicPay, Sicoob, XP Investimentos. Customer opt-in required.
Phase 3 Dec 2021 Transactionality	One-time and recurring payment initiation via Open Finance; cross-institution credit proposals; Smart Transfers; Auto Pix groundwork laid.	Payment Transaction Initiators (PTIs) join: Mitera, Quanto, Cloudwalk. Belvo and other data aggregators expand role.
Phase 4 2022-2024 Open Finance	Expanded scope to FX, investments, insurance and pension plans. Journey Without Redirection introduced. Credit portability pipeline begins. Open Insurance launched in parallel.	Full incumbent ecosystem active. Investment players join: BTG Pactual, Safra, Rico. Insurance sector onboarded via SUSEP.

Finally, Figure 1 shows the key stakeholders of Open Finance to date. This includes regulators, associations, financial institutions, technology providers and consumers. At the top, the Banco Central do Brasil (BCB) and the Conselho Monetário Nacional (CMN) set the regulatory framework, while the Open Finance Brazil Association (AOF) coordinates governance among industry associations that represent the interests of their members across the ecosystem. This dialogue integrates Incumbents (large banks, investment platforms, credit unions) and fintechs (digital banks, payment initiators, lending platforms). This ecosystem requires technology providers from trust framework operators like Raidiam to aggregators like Pluggy and payments infrastructure like Pix, which make interoperability, security, and data sharing technically possible (The Paypers, 2025).

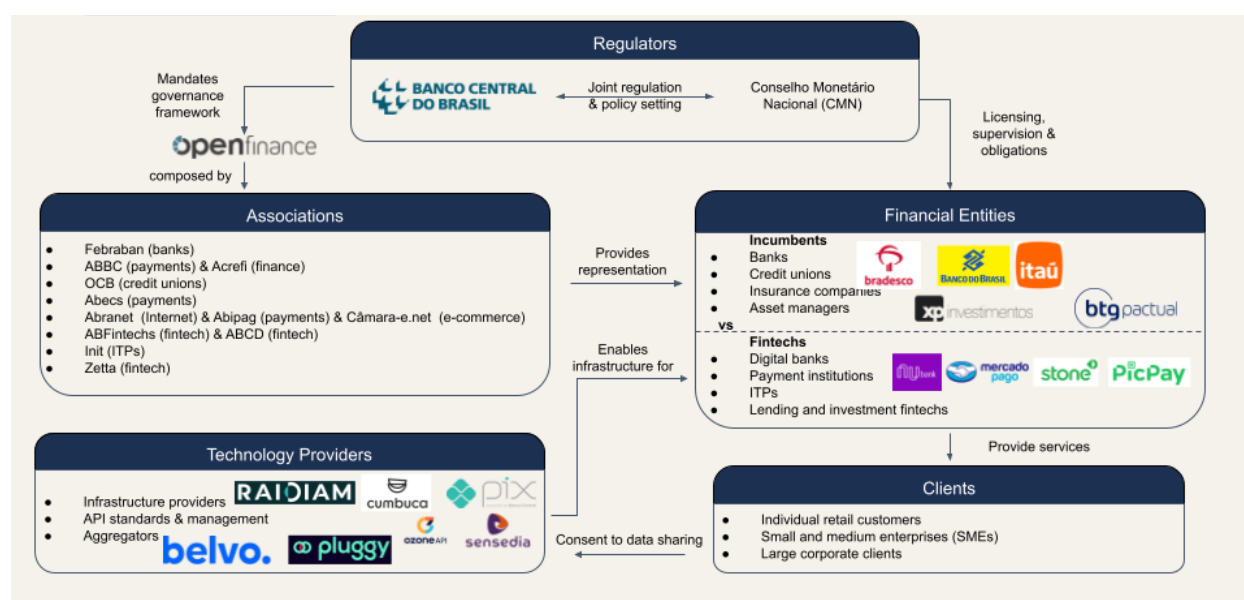


Figure 1: Overview of Open Finance Ecosystem in Brazil

2.2. Regulatory and policy framework

Brazil's open finance ecosystem was built incrementally over two decades through foundational statutes, Central Bank regulations, and data protection frameworks. The country adopted a regulation-led model in which the Central Bank of Brazil (BCB) assumed a proactive role in designing rules, standards, and phased implementation timelines. This section reviews the most consequential laws and regulations that created the institutional conditions for what is now one of the most advanced open finance systems in the world.

2.2.1 Block 1 – Foundational Laws (1964–2018)

Brazil's open finance system did not emerge in a vacuum. Before any regulation explicitly addressed open data sharing or API-based interoperability, a series of foundational laws had already established the institutional preconditions without which the framework could not have functioned. These statutes defined who regulates the financial system and with what authority, set the rules governing the confidentiality and permissible disclosure of financial data, built the credit information infrastructure needed to assess risk beyond the walls of a single bank, and progressively opened the market to non-bank participants under proportionate regulatory regimes. None of these laws were designed with open finance in mind, but collectively they resolved the structural questions — regulatory authority, data governance, credit transparency, and market access — that any consent-based data-sharing system would eventually need answered before it could operate at scale.

Law No. 4,595/1964 – Banking Reform Law

This foundational statute created the National Financial System (SFN) and established the institutional roles of the National Monetary Council (CMN) and the Central Bank of Brazil (BCB), granting the latter broad authority to license, regulate, and supervise all entities in the financial system. While enacted decades before open finance, it concentrated regulatory power in the BCB — an arrangement that proved decisive when the Central Bank, rather than the legislature, drove the design and implementation of open banking. Its broad delegation of supervisory powers provided the legal basis for the BCB to issue the circulars, resolutions, and joint normative acts that structured the open finance ecosystem without requiring new primary legislation for each reform.

Supplementary Law No. 105/2001 – Banking Secrecy Law

The Banking Secrecy Law mandated that all operations and services rendered by financial institutions remain confidential, making unauthorized disclosure a criminal offense. However, it

enumerated specific exceptions, including disclosure upon the express consent of the client. For years this regime reinforced the informational dominance of incumbent banks, which accumulated client data that competitors could not access. When the BCB later designed open banking (Joint Resolution No. 1/2020), it anchored the entire data-sharing framework on this consent exception, transforming it from a narrow legal carve-out into the backbone of an interoperable system. Open finance thus did not override banking secrecy; it operationalized the consent mechanism at scale. This matters because open finance must function without undermining bank secrecy: sharing is framed as controlled and permissioned rather than unrestricted.

Law No. 12,414/2011 – Positive Credit Registry (Cadastro Positivo)

This law created the Cadastro Positivo, a system for collecting payment compliance records to build credit histories. Prior to it, Brazil's credit infrastructure was predominantly "negative," recording only defaults. The registry introduced comprehensive credit scoring based on full payment behavior. Its 2019 amendment (Complementary Law No. 166) switched it from opt-in to opt-out, automatically enrolling all individuals and companies unless they requested exclusion. This dramatically expanded positive credit data coverage, reduced information asymmetry between large banks and smaller entrants, contributed to lower interest rates for good payers, and established an early regulatory precedent for the principle that data mobility promotes competition and financial inclusion – a concept the open finance framework later generalized.

Law No. 12,865/2013 – Electronic Payments Law

This landmark statute granted the CMN and BCB authority to regulate payment arrangements and payment institutions, while stipulating that payment institutions were not financial institutions – subjecting them to a lighter, proportional regulatory burden. It fundamentally opened the market to non-bank participants: digital wallets, prepaid card issuers, and acquirers could now enter without a full banking license. The resulting wave of new entrants introduced innovation and competition into a previously concentrated market. The law also established regulatory principles – interoperability, efficiency, security, and financial inclusion – that carried through into the open finance framework. Most significantly, it provided the legal foundation for the BCB to later create Pix, since Pix was designed as a payment arrangement under the authority this statute granted.

CMN Resolution No. 4,656/2018 – Fintech Credit Regulation (SCDs and SEPs)

This resolution created two new categories of financial institutions for digital lending: the Direct Credit Company (SCD), authorized to lend using its own capital through electronic platforms, and the Peer-to-Peer Lending Company (SEP), authorized to intermediate P2P lending without

retaining credit risk. Both required a simplified licensing process with minimum capital of R\$1 million. Prior to this, fintechs had to operate through partnership arrangements with licensed banks. Resolution 4,656 eliminated that dependency, enabling technology-driven entrants to offer loans with lower costs and more agile underwriting. It created a significant population of new regulated participants that would later benefit from the open data-sharing framework, diversified the credit supply side, and signaled the BCB's commitment to using regulation to foster innovation.

2.2.2. Block 2 – The Open Finance Framework (2018 onward)

Beginning with the enactment of the General Data Protection Law in 2018, Brazil entered a period of deliberate, coordinated regulatory construction aimed directly at building an open financial ecosystem. This second wave of regulation addressed the specific components that open finance requires: a general-purpose legal framework for consent and data portability, an instant payment infrastructure capable of supporting real-time third-party transactions, a detailed regulatory architecture for standardized data sharing through APIs, the formal expansion of that architecture beyond banking into insurance, pensions, and investments, the interoperability standards needed to connect sectors governed by different supervisory authorities, and the institutional autonomy to sustain such a complex, multi-year reform program across changes of government.

Law No. 13,709/2018 – General Data Protection Law (LGPD)

Modeled on the European GDPR, the LGPD established a comprehensive framework for personal data processing, defining key concepts (personal data, sensitive data, controllers, processors), establishing ten lawful bases for processing (including consent and credit protection), and creating the National Data Protection Authority (ANPD) with enforcement powers. For open finance, the LGPD is the legal backbone of the entire trust architecture: it enshrined the principle that individuals own their personal data and have the right to portability between service providers, and it gave the consent-based data-sharing model a robust legal definition — including requirements around purpose limitation, transparency, data minimization, retention, and security — that extends well beyond sector-specific regulation. The BCB adopted consent as the exclusive legal basis for open finance data transfers, aligning the sectoral framework with the LGPD's broader principles and creating a dual layer of accountability between the ANPD's general oversight and the BCB's sector-specific supervision. In practice, the LGPD's compliance expectations have shaped how consent journeys, data governance, and incident response are designed across the ecosystem, pushing participants toward standardized and auditable processes that reduce legal and reputational risk and, critically, making consumers more willing to authorize the portability and sharing on which the entire system depends.

BCB Resolution No. 1/2020 – Pix (Instant Payment System)

This resolution established Pix, Brazil's instant payment system, with the BCB as both operator and rule-setter. Pix enables real-time account-to-account transfers 24/7 through an open-loop scheme in which banks and non-banks participate. A complementary regulation (BCB Resolution No. 19/2020) prohibited charging individual users for transfers, removing cost barriers. Pix launched in November 2020 and by December 2024 processed over 6 billion transactions monthly, surpassing credit and debit cards combined. For open finance, Pix provided the instant transactional infrastructure that enabled third-party payment initiation (Phase 3); its standardized API promoted account portability by eliminating the need to change systems when switching institutions; and its massive adoption demonstrated consumer receptiveness to digital financial innovation, building confidence for subsequent open finance phases.

CMN/BCB Joint Resolution No. 1/2020 – Open Banking/Finance Regulation

This is the principal regulatory instrument establishing open finance in Brazil. It defined the scope of participating institutions, data categories, governance, and phased implementation, guided by four principles: innovation, competition, financial citizenship, and system efficiency. Participation was mandatory for institutions in segments S1 and S2 (the largest conglomerates), with voluntary participation for others subject to data reciprocity. Consent was established as the sole basis for data sharing – free, informed, prior, and unambiguous. The resolution mandated standardized APIs, and created an assisted self-regulatory governance structure (a Deliberative Council of financial association representatives) to define technical standards and dispute resolution. Implementation proceeded in four phases: Phase 1 (February 2021) – public product data; Phase 2 (August 2021) – consented personal financial data; Phase 3 (late 2021 onward) – third-party payment initiation and credit proposal forwarding; Phase 4 (2023–2024) – expansion to insurance, pensions, investments, and foreign exchange, completing the transition from open banking to open finance.

Complementary Law No. 179/2021 – Central Bank Autonomy

After 30 years of debate, this law granted the BCB technical, operational, administrative, and financial autonomy, characterizing it as a special-nature agency with no hierarchical subordination to any ministry. It established fixed four-year terms with staggered appointments, and limited grounds for dismissal. While not a fintech statute per se, it is foundational to the sustainability of open finance: it insulated the BCB's ambitious regulatory agenda from political transitions, reducing the risk that the multi-year open finance program could be disrupted by changes in government. The inclusion of financial system efficiency as an explicit statutory objective also gave the BCB clear legal backing for pro-competition initiatives such as open

finance. This institutional confidence has been cited as a key factor in why Brazil's program has maintained momentum and coherence across administrations.

Joint Resolution CMN–BCB No. 4/2022 – Formal Transition from Open Banking to Open Finance

This amended the foundational Joint Resolution No. 1/2020 to formally execute the transition from Open Banking to Open Finance. The resolution replaced all references to "Open Banking" (Sistema Financeiro Aberto) with "Open Finance" throughout the regulatory framework, and critically expanded the scope of mandatory data sharing beyond strictly banking products to encompass foreign exchange operations, investments, insurance, open supplementary pension plans (previdência complementar aberta), and salary accounts. It also strengthened the governance framework by authorizing the self-regulatory convention to progressively include additional data categories and services within the Open Finance perimeter, established participant monitoring mechanisms with mandatory notification requirements, prohibited the centralization of client transaction data except where expressly provided by regulation, and required institutions to maintain all monitoring-related documentation for a minimum of five years. This resolution is significant because it is the legal instrument that gave effect to Phase 4 of the implementation roadmap, transforming what had been a banking-centric data-sharing system into a genuinely cross-sectoral open finance ecosystem. By extending consent-based data portability, Joint Resolution No. 4 enabled consumers to share a comprehensive view of their financial lives beyond banking, allowing both incumbents and new entrants to build integrated, personalized products informed by the full breadth of a customer's financial relationships.

Joint Resolution CMN–BCB–CNSP No. 5/2022 – Open Finance Interoperability Framework

Joint Resolution No. 5, published on May 20, 2022, and effective from January 2, 2023, established the interoperability framework for cross-sector data sharing within Open Finance. Jointly developed by the BCB and the Superintendence of Private Insurance (SUSEP), and approved by four regulatory bodies (BCB, CMN, SUSEP, and CNSP), it mandated that participants from both the Open Banking/Finance and Open Insurance ecosystems adopt common technical standards and operational procedures, and defined the supporting infrastructure — participant directories, service desks, dispute resolution platforms, and API testing environments. This resolution addressed a critical structural gap: while Joint Resolution No. 4 had expanded the scope of Open Finance to include insurance, pensions, and investments, those sectors remained under distinct supervisory authorities, and without a binding interoperability framework their data would have stayed effectively siloed. Resolution No. 5 ensured that the cross-sectoral ambition was matched by the technical and institutional arrangements needed to deliver it, enabling a unified consent-based sharing architecture spanning credit, insurance, and pensions.

2.3. Implementation in Brazil Analysis: Payment Systems and Open Finance in Brazil

This section examines the role of payment systems, and in particular Pix, in shaping the development of Open Finance in Brazil. The analysis proceeds in three steps, focusing on the relative contribution of payment instruments, the decomposition of Pix transaction flows, and the relationship between Pix usage and access to financial services.

First, we assess the relative importance of major payment instruments, including Pix, cards, and bill payments, in explaining variation in Open Finance outcomes. Using Shapley decomposition and standardized coefficients, this part identifies which instruments contribute most to the overall development of the Open Finance ecosystem.

Second, we focus on Pix and provide a detailed decomposition of its transaction flows. By disaggregating transactions across payer and receiver types, as well as across nine distinct transaction categories, we examine which types of economic interactions are most closely associated with Open Finance development.

Finally, we evaluate whether the implementation of Open Finance has altered the relationship between Pix usage and access to financial products and services. Using a structural break framework, we analyze how the association between digital payment activity and financial inclusion evolves following the effective rollout of Open Finance in Brazil.

2.3.1 Data Source

This study draws on multiple data sources to capture payment activity, Open Finance infrastructure, and macroeconomic conditions in Brazil. Data on Pix usage are obtained from the Central Bank of Brazil and consist of monthly observations on the total value of transactions, including both payment orders and returns within each period. Information on broader payment system usage is drawn from quarterly statistics on the number of transactions by payment method, providing a consolidated comparison across instruments such as Pix, cards, and bill payments. To provide a more detailed breakdown of Pix transactions, we use monthly data disaggregated by transaction type, which classify Pix flows according to payer and receiver categories. These data include only transactions settled through the Instant Payment System (SPI) and exclude non-SPI flows. To proxy the intensity of Open Finance activity, we use data on the total number of API calls related to registration and transaction data, sourced from publicly available statistics released by Brazil Open Finance.

Macroeconomic controls are obtained from the Central Bank's SGS database and include the Broad National Consumer Price Index (IPCA), the seasonally adjusted Economic Activity Index (IBC-Br), the Selic policy rate, and the BRL/USD exchange rate. All series are available at monthly

frequency, and monthly averages are constructed for variables originally reported at higher frequency. The baseline analysis is conducted using monthly data, while variables are aggregated to quarterly frequency, using period averages, in specifications where payment method data are only available at that level. Across all regressions, macroeconomic control variables are included with a one-period lag to account for the inherently lagged effects of macroeconomic conditions on financial outcomes.

2.3.2 Drivers of Open Finance: The Role of Payment Instruments

This section assesses the relative contribution of different payment instruments to the development of Open Finance in Brazil. Specifically, we focus on three dominant payment modalities: Pix, Cards (aggregating credit, debit, and prepaid cards), and Bill Payments (including boleto, agreement-based payments, and direct debit). Together, these channels account for the vast majority of payment activity and thus provide a meaningful lens through which to evaluate the drivers of Open Finance adoption.

To quantify their relative importance in shaping Open Finance adoption, proxied by API usage, we employ two complementary approaches. First, we use a Shapley decomposition, which allows us to attribute the explanatory power of a multivariate regression model to each payment instrument in a theoretically consistent way. Second, we estimate standardized beta coefficients, which provide a scale-independent measure of the marginal impact of each payment method. Taken together, these approaches offer both a variance-based and a coefficient-based perspective on the relative importance of payment instruments.

2.3.2.1 Shapley Decomposition Results

The Shapley decomposition results indicate a highly uneven distribution of contributions across payment instruments. Pix emerges as the dominant driver, accounting for the largest share of the model's explanatory power (around 33.2%). In contrast, Cards contribute a smaller but still meaningful share (around 28.0%), while Bill Payments account for the lowest contribution (around 2.4%).

This ranking suggests that the rapid expansion of Pix has played a central role in shaping the evolution of Open Finance in Brazil. From a structural perspective, this is consistent with the design features of Pix: instant settlement, interoperability, and low transaction costs. These characteristics not only increase usage intensity but also generate high-frequency transactional data, which is critical for Open Finance ecosystems that rely on data sharing and digital integration.

Cards, while still important, appear to contribute less to incremental explanatory power. This likely reflects their more mature and saturated adoption stage, where marginal increases in usage generate less additional variation in Open Finance outcomes. Bill Payments, by contrast,

are relatively more static and less data-rich, limiting their contribution to dynamic data-sharing frameworks.

2.3.2.2 Standardized Beta Results and Comparison

The standardized beta estimates broadly confirm the findings from the Shapley decomposition. Pix exhibits the largest standardized coefficient, indicating that a one-standard-deviation increase in Pix usage is associated with the largest increase in the Open Finance adoption among the three instruments. Cards show a moderate standardized effect, while Bill Payments have the smallest coefficient.

Importantly, the consistency between the two approaches strengthens the robustness of the results. While the Shapley decomposition captures the relative contribution to overall model fit, the standardized beta reflects the marginal effect size. The fact that Pix ranks first in both metrics suggests that its dominance is not an artifact of model specification or variable scaling, but rather a fundamental feature of the data.

There are, however, subtle differences in interpretation. The Shapley decomposition emphasizes explained variance, which may be influenced by the volatility and distribution of each variable. In contrast, standardized betas focus on partial correlations, controlling for other factors in the model. The alignment of both results therefore indicates that Pix is both highly informative (in terms of variance) and strongly associated with Open Finance outcomes (in terms of marginal effects).

Moreover, these results should be interpreted with appropriate caution. Despite the very high overall model fit, the individual coefficients are not statistically significant, likely reflecting the limited sample size and potential multicollinearity among the regressors. Accordingly, the analysis places greater emphasis on relative importance and economic magnitude, rather than on formal statistical inference.

2.3.2.3 Conclusion

Overall, the evidence points to a clear conclusion: Pix is the primary payment channel driving the development of Open Finance in Brazil, both in terms of its contribution to explanatory power and its marginal impact. Cards continue to play a secondary but non-negligible role, while Bill Payments appear to have limited influence in this context.

From a policy perspective, these findings underscore the importance of real-time, data-rich payment infrastructures in enabling Open Finance ecosystems. The success of Pix suggests that scalable, interoperable systems can significantly enhance data availability and user engagement, thereby accelerating financial innovation. Conversely, more traditional and less dynamic payment methods contribute relatively little to this process.

2.3.3 Drivers of Open Finance: Disaggregation of Pix Transaction

Building on the previous analysis of aggregate payment instruments, this section further disaggregates Pix transactions by type of counterparty flow to identify which transactional channels are most strongly associated with the development of Open Finance in Brazil. Pix transactions can be classified into nine categories based on the identity of the payer and the receiver: government (G), businesses (B), and individuals (P), yielding flows such as G2G, G2B, G2P, B2G, B2B, B2P, P2G, P2B, and P2P.

This classification allows for a more nuanced understanding of how different segments of the economy contribute to the development of Open Finance. As in the previous section, we employ both Shapley decomposition and standardized beta coefficients to evaluate the relative importance of each transaction type. To structure the analysis, we first group transactions by payer type, then by receiver type, and finally examine all nine transaction categories individually.

2.3.3.1 Shapley Decomposition Results by Payer Type

We begin by grouping Pix transactions according to the originating sector, namely government, businesses, and individuals. The Shapley decomposition indicates that business-initiated transactions make the largest contribution to the model's explanatory power (26.3%). Person-initiated transactions rank second (25.5%), while government-initiated transactions account for the smallest share (24.1%).

Although the differences across groups are relatively small, the ranking remains informative. The leading contribution of business-originated payments suggests that the role of Pix in supporting Open Finance extends beyond retail usage and is closely linked to its integration into commercial activity. Payments initiated by firms may generate particularly relevant signals by capturing formal economic activity, recurring cash flow patterns, and linkages between firms and consumers.

At the same time, transactions initiated by individuals account for a substantial share of explanatory power, only slightly below that of business-originated flows. This confirms that household-level usage remains a core component of the Pix–Open Finance relationship. Individual users generate frequent, granular, and behaviorally rich transaction data, which are especially valuable in data-sharing environments aimed at improving financial profiling, product personalization, and financial inclusion.

By contrast, government-initiated transactions contribute the least among the three groups. While such flows can be significant in absolute terms, particularly in the case of transfers, benefits, or other public-sector payments, they tend to be more programmatic and less heterogeneous than business or household transactions. As a result, they contribute less to the variation in Open Finance development captured in the model.

2.3.3.2 Shapley Decomposition Results by Receiver Type

We next group transactions according to the receiving sector, namely government, businesses, and individuals. The Shapley decomposition shows that business recipients account for the largest share of explanatory power (26.3%), followed by government recipients (25.2%), while individual recipients contribute the smallest share (24.3%).

This pattern differs in important ways from the payer-based decomposition. While business-originated transactions already ranked first, their prominence becomes more pronounced when viewed from the receiver side. This suggests that the role of firms as endpoints of transactions is particularly important for Open Finance, likely reflecting the centrality of merchant payments, bill settlements, and other business-facing flows in generating structured and high-value financial data.

The relatively strong contribution of the government as a recipient, ranking above individuals, also stands in contrast to the payer-side results. This may reflect the informational content embedded in payments such as taxes, fees, and other obligations, which are more standardized and closely linked to formal economic activity. Such flows may carry disproportionate weight in explaining variation in Open Finance outcomes despite their lower frequency.

By contrast, individual recipients contribute the least, reversing their relatively stronger position on the payer side. This asymmetry suggests that while individuals are key drivers of transaction initiation, the destination of payments, particularly toward businesses and government, plays a more decisive role in shaping the data structures underpinning Open Finance. Overall, the comparison highlights that both ends of the transaction matter, but receiver-side composition appears more closely aligned with formalization and data standardization channels.

2.3.3.3 Shapley Decomposition Results by Transaction Type

We now turn to the full disaggregation across the nine Pix transaction types. The Shapley decomposition reveals a relatively concentrated distribution of contributions, led by business-centered flows. Specifically, B2B transactions account for the largest share of explanatory power (15.3%), followed by P2B (13.9%) and B2P (13.3%). These are closely followed by B2G (12.8%) and G2G (12.3%), while the remaining categories contribute more modestly, including P2P (8.6%), P2G (7.6%), and very small shares for G2B (1.00%) and G2P (0.96%).

Several important insights emerge from this distribution. First, transactions involving businesses, either as senders or receivers, dominate the decomposition. The leading role of B2B transactions suggests that Pix's integration into inter-firm payment networks is particularly important for Open Finance. These flows likely capture structured economic relationships such as supply-chain payments, supplier settlements, and recurring contractual transactions, which generate stable and information-rich data. Similarly, the strong contributions of P2B and B2P

highlight the importance of interactions between households and firms, including retail purchases, service payments, and income-related transfers. These flows connect the consumer and production sides of the economy and are therefore highly relevant for financial profiling and data sharing.

Second, transactions purely among individuals contribute less to explanatory power than their prevalence might suggest. Although P2P transactions are among the most frequent in volume, their limited contribution indicates that they may be less informative in explaining variation in Open Finance outcomes. This likely reflects their more fragmented and less standardized nature, as well as the absence of direct links to formal economic activity.

Third, government-related transactions exhibit a heterogeneous pattern. While B2G and G2G contribute meaningfully, suggesting that tax payments, fees, and intergovernmental transfers carry relevant information, G2B and G2P transactions remain negligible. This may reflect their more programmatic and less variable structure, limiting their contribution to model explanatory power.

Overall, the results indicate that Open Finance in Brazil is most strongly associated with payment flows embedded in formal economic relationships, particularly those linking firms with other firms and with households, rather than purely retail or government-driven transactions.

2.3.3.4 Standardized Beta Results and Comparison

The standardized beta estimates provide a complementary perspective on the marginal effects of each transaction type. The results show that B2B transactions have the largest standardized coefficient, followed by P2B and B2P, while the remaining transaction types display smaller coefficients in absolute values. This ranking is broadly consistent with the Shapley decomposition results, which also identify business-centered and household-firm interactions as the dominant contributors to model explanatory power.

The comparison between the two approaches is informative. The Shapley decomposition captures the relative contribution of each transaction type to the overall model fit, while the standardized beta coefficients reflect partial correlations conditional on other variables in the model. The fact that both approaches point to the same set of leading transaction types, particularly those involving firms and their interactions with households, reinforces the robustness of the overall pattern.

At the same time, the standardized beta results should be interpreted with caution. Coefficients are not statistically significant, and some exhibit negative signs. This does not imply that these transaction types have a negative relationship with Open Finance. Rather, it reflects the presence of strong multicollinearity across transaction categories, given that all flows are components of the same underlying payment system and tend to move together. In such

settings, regression coefficients can become unstable in both magnitude and sign, as they capture only the residual variation after controlling for highly correlated variables.

For this reason, the analysis does not place emphasis on the precise magnitude or sign of individual coefficients. Instead, greater weight is given to the relative explanatory power captured by the Shapley decomposition, which is more robust in the presence of multicollinearity. In other words, in a high-correlation environment, coefficient estimates may be unreliable indicators of economic relationships, whereas contribution-based measures provide a more stable and informative assessment of the role of different transaction types.

2.3.3.5 Conclusion

Overall, the evidence points to a clear and consistent conclusion: the contribution of Pix to the development of Open Finance in Brazil is primarily driven by transaction flows involving businesses and their interactions with households. Across multiple specifications, including payer-based, receiver-based, and fully disaggregated transaction types, business-centered flows such as B2B, P2B, and B2P emerge as the most important contributors to overall explanatory power. These transactions capture economically meaningful relationships, including supply-chain activity, merchant payments, and income flows, which generate structured and high-value financial data. At the same time, the analysis highlights important asymmetries across transaction roles.

From a policy perspective, these findings underscore the importance of payment infrastructures that facilitate strong linkages between households and firms, as these interactions appear to generate the most relevant data for Open Finance development. The results suggest that beyond expanding access and usage, policymakers should prioritize systems that enhance the depth, structure, and interoperability of transaction data. In this context, Pix's success reflects not only its scale but also its ability to embed digital payments within broader economic activity, thereby supporting more advanced financial services and data-driven innovation.

2.3.4 Pix and Open Finance: Access to Financial Inclusion

This section examines whether the implementation of Open Finance in Brazil has amplified the role of Pix in expanding access to financial products and services. While previous sections focused on the relative importance of payment instruments and transaction types, the analysis here shifts toward evaluating how the interaction between Pix usage and the rollout of Open Finance affects financial inclusion outcomes.

To capture access to financial services, we construct a proxy based on new, non-earmarked credit operations extended to households, which primarily reflect unsecured or freely allocated lending not tied to specific purposes such as housing or vehicle financing. This category of credit

is typically more responsive to changes in financial access and reflects broader availability of consumer and working capital financing.

The data are sourced from the Central Bank of Brazil's credit statistics and measured in Brazilian reais (R\$, million). To ensure comparability over time and to account for changes in population scale, we normalize total credit flows by the number of households, thereby obtaining a per-household measure of new credit access. The number of households is estimated using population data from World Population Review, combined with the average household size for 2026. This transformation allows us to interpret the variable as an indicator of the intensive margin of financial inclusion, capturing the extent to which households are able to access new financial products and services within the formal financial system.

2.3.4.1 Model Specification

We estimate the following regression model:

$$l_credit_hht = \beta_0 + \beta_1 l_pixt + \beta_2 postt + \beta_3 (l_pixt \times postt) + \gamma X_t + \epsilon_t$$

Where, $l_credit_hh_t$ denotes the logarithm of household-level new financial operations per household; $post_t$ is a dummy variable equal to 1 from January 2023 onward; X_t includes macroeconomic controls.

We define January 2023 as the beginning of the post-Open Finance period. This choice is motivated by the implementation timeline of Brazil's Open Finance framework, with Phase 4 formally completed in December 2021. Allowing for an adjustment period of approximately one year, we assume that by early 2023 the system had reached a stage of effective operationalization and broad market adoption. This timing reflects the lag between regulatory completion and full-scale usage, including the integration of data-sharing infrastructure, institutional readiness, and user uptake.

The model is estimated using Newey-West standard errors to account for potential heteroskedasticity and autocorrelation. Given the time-series nature of the data, we adopt a truncation parameter based on $T^{0.25}$, which provides a conservative and robust correction for serial correlation up to lag 3.

2.3.4.2 Empirical Results and Interpretation

The regression results indicate that both the post dummy and the interaction term between Pix usage and the post period are statistically significant at the 10 percentage level, pointing to both a structural shift in the baseline level of household financial access and a change in how Pix usage relates to that outcome after the effective implementation of Open Finance.

The coefficient on log Pix usage is 0.177 and is statistically significant at the 1 percentage level. This implies that, in the pre-Open Finance period, a 1 percent increase in Pix usage is associated

with an increase of about 0.177 percent in new non-earmarked household credit operations per household. Even before Open Finance was fully operational, higher Pix adoption was therefore already associated with broader access to formal financial products and services, likely because digital payment usage generated information on transaction behavior and increased households' integration into the formal financial system.

The coefficient on the post dummy is -2.627 and is significant at the 10 percentage level. This coefficient captures a downward shift in the intercept, meaning that, for a given level of Pix usage, the baseline level of household credit access was lower after January 2023 than before. This negative level effect should not be interpreted as evidence that Open Finance reduced financial inclusion. Rather, it more plausibly reflects the broader macro-financial environment prevailing during the post period, including tighter credit conditions, elevated interest rates, and more cautious lending behavior. In that sense, the post dummy likely captures an adverse common shift in household credit dynamics rather than the standalone effect of the reform.

The key result is the coefficient on the interaction term, which is 0.118 and statistically significant at the 10 percentage level. This indicates that the relationship between Pix usage and household credit access became stronger after Open Finance took effect. Quantitatively, the elasticity of household credit access with respect to Pix rises from 0.177 in the pre-period to 0.295 in the post-period, obtained by summing the coefficient on log Pix and the interaction term. In other words, after Open Finance became effectively operational, the association between Pix usage and access to financial services increased by roughly two-thirds.

This finding is consistent with a complementarity mechanism between Pix and Open Finance. Pix generates granular, high-frequency transaction data, while Open Finance provides the institutional framework that allows such data to be shared, standardized, and incorporated into financial intermediation. Once this framework became fully operational, the informational content embedded in Pix transactions likely became more useful for screening, customer assessment, and product targeting. As a result, the same increase in Pix usage carried a larger implication for household access to financial services in the post period than it did before.

To further assess the validity of the chosen policy timing, we conduct a Quandt Likelihood Ratio (QLR) test for structural breaks. The results indicate that the most likely breakpoint in the series occurs around January 2023, which aligns with our definition of the post period. This provides additional support for the empirical strategy and suggests that the observed changes in both the level and slope are not arbitrary, but correspond to a meaningful structural shift in the data.

2.3.4.3 Conclusion

Overall, the results suggest that the implementation of Open Finance in Brazil has strengthened the relationship between Pix usage and financial inclusion, rather than generating a uniform increase in access to financial services. While the negative intercept shift points to a weaker

overall credit environment in the post period, the positive and significant interaction term indicates that increases in Pix usage are more strongly associated with financial inclusion after the reform.

This pattern highlights a key mechanism: Open Finance appears to improve how digital transaction data, generated through Pix, is used within the financial system. As a result, the same level of payment activity carries greater informational value in facilitating access to financial products and services.

2.4. Analysis of the implementation in Brazil: Credit and Open Finance in Brazil

This section examines the impact of Open Finance on credit in Brazil, with a focus on financial inclusion, by combining multiple data sources:

1. SCR.Data (Sistema de Informações de Crédito): monthly aggregated credit data published by the Central Bank of Brazil (BCB), including active credit portfolios, default rates, and credit originations (flows).
2. BCB SGS (Sistema Gerenciador de Séries Temporais): credit originations by modality, SME credit stock, and average interest rates/tenors.
3. PIX transaction volumes: Brazil's instant payment system, a core pillar of Open Finance infrastructure.
4. Open Finance customer counts: the number of customers with active data-sharing consents.

We investigate whether the expansion of Open Finance is associated with:

- Credit origination growth: higher flow of new lending (prioritized over stock measures for financial inclusion).
- SME credit expansion: credit access for micro, small, and medium enterprises (MPMe).
- Consumer credit growth: especially unsecured personal loans where information asymmetry is highest.
- Lower default rates: improved credit quality as information-sharing reduces adverse selection.
- Changes in lending conditions: whether interest rates decline as Open Finance increases competition.
- Differential effects by client type: whether individuals (PF) and firms (PJ) are affected differently.

2.4.1 Background

2.4.1.1 Open Finance and credit in Brazil

By enabling lenders to access a borrower's full financial history across institutions, Open Finance has the potential to:

- Expand credit access: lenders can better assess previously opaque borrowers.
- Reduce default rates: richer information reduces adverse selection and improves risk pricing.
- Lower interest rates: increased competition among lenders benefits borrowers.

2.4.1.2 SCR (*Sistema de Informações de Crédito*)

The SCR is the Central Bank's credit information system, containing loan-level data from all regulated financial institutions. The public SCR.Data release provides monthly aggregated statistics on:

- **Carteira Ativa (Active Portfolio):** total outstanding credit stock, computed as the sum of amounts due (to mature and overdue) across credit modalities.
- **Inadimplência (Default Rate):** the share of the portfolio with any installment overdue by more than 90 days.
- **Ativo Problemático (Problem Assets):** broader measure of distressed credit.

Data is disaggregated by client type (PF: individuals, PJ: firms), credit modality, state, economic sector, and other dimensions.

2.4.1.3 PIX

PIX is Brazil's instant payment system, launched in November 2020. It enables real-time, 24/7 transfers at zero cost to end users. In the Open Finance context, PIX enables payment initiation via third-party providers, which is a core infrastructure pillar.

2.4.1.4 Selic and IBC-Br

- **Selic:** Brazil's policy interest rate target, set by the Monetary Policy Committee (COPOM). The Selic is the primary instrument for influencing inflation and economic activity, and is a critical determinant of credit costs and lending volumes across all modalities.
- **IBC-Br:** The Central Bank's monthly economic activity index (Índice de Atividade Econômica do Banco Central), a high-frequency GDP proxy. Year-over-year growth in IBC-Br is used as the primary business cycle control, capturing demand-side drivers of credit expansion.

2.4.2 Data Sources and Construction

2.4.2.1 Overview

The empirical dataset integrates six distinct data sources spanning different time horizons and covering different dimensions of credit market activity. The core analytical period (determined by the availability of Open Finance customer counts) runs from January 2023 through the most recent available month. The broader credit and macroeconomic dataset extends to June 2012, enabling baseline estimation without Open Finance controls.

2.4.2.2 SCR.Data: Credit Stock Variables

Monthly national aggregates from the BCB's SCR.Data portal cover June 2012 to June 2025, yielding 157 monthly observations. Three files form the basis of the credit stock analysis:

- carteira.csv: Active credit portfolio in R\$, with the sample ranging from R\$ 2.1 trillion (June 2012) to R\$ 6.6 trillion (June 2025).
- Inadimplência.csv: Default rate (%), ranging from 2.01% to 3.97% over the sample period.
- ativo-problemático.csv: Problem asset rate (%), a broader measure of credit distress.

Supplementary breakdowns include PF/PJ client-type decompositions and PF modality-level data, each covering the same 157-month span. At the latest available month, the key PF credit modalities by outstanding stock are: housing (R\$ 1,232.5 bn), payroll loans (R\$ 700.2 bn), credit cards (R\$ 633.9 bn), vehicles (R\$ 364.6 bn), and personal loans (R\$ 344.6 bn).

2.4.2.3 BCB SGS: Originations, SME Credit, and Interest Rates

Time series data from the BCB's SGS system cover a longer window (180 observations from March 2011 to February 2026) and provide three additional dimensions of credit market analysis:

- Credit Originations (Concessões): Flow-based measures of new lending, covering total credit, PF personal loans (total and non-payroll), PF credit cards, PJ total originations, and PJ working capital facilities. These flow measures are methodologically preferred to stock measures for financial inclusion analysis, since growth in originations captures whether new borrowers are accessing credit, not just whether existing loans are being maintained.
- SME Credit Stock: The outstanding credit balance for Micro, Small & Medium enterprises (MPMe), drawn from BCB SGS Series 27701, covering 170 months from January 2012 to February 2026.
- Interest Rates: Average lending rates for PF total credit, PF personal non-payroll, and PJ small business borrowers, enabling analysis of whether Open Finance expansion is associated with declining borrowing costs.

2.4.2.4 PIX, Open Finance Customers, and API Call Data

PIX transaction volumes and Open Finance customer counts are drawn from data/data_monthly.xlsx. The PIX and macroeconomic series extend from November 2020 to December 2024 (62 months), while the Open Finance customer count data covers January 2023 onwards (36 months with customer data). Open Finance API call volumes by category are

available from November 2023 onwards (30 months), providing 22 observations that overlap with the SCR credit data.

The API data distinguishes credit-relevant calls (Cartão de Crédito, Empréstimos, Financiamentos, and Direitos Creditórios Descontados) from other Open Finance data-sharing categories, enabling construction of a credit-specific activity measure.

2.4.2.5 Merged Dataset

After merging all sources on a monthly date key, the combined dataset contains 62 months of observations. Months with credit data: 56. Months with PF/PJ decomposition data: 56. Months with both credit data and Open Finance customer counts (the core analytical sample for the extended models) total 30 observations.

2.4.3 Empirical Methodology

2.4.3.1 Regression Framework

All models are estimated as time-series OLS regressions with Newey–West heteroskedasticity- and autocorrelation-consistent (HAC) standard errors, using the sandwich and lmtest packages in R. HAC standard errors are appropriate given the likely autocorrelation in monthly time-series credit data and potential conditional heteroskedasticity. The lag truncation parameter is set to 4 (corresponding to a four-month window), consistent with common practice for monthly macroeconomic data.

2.4.3.2 Treatment Variable

The primary treatment variable for Open Finance is $\ln(\text{Customers})$, the natural logarithm of the number of customers with active Open Finance data-sharing consents. The logarithmic transformation accounts for the diminishing marginal effect of incremental adoption and normalizes the scale of the variable relative to credit growth rates measured in percentage points.

An alternative treatment variable— $\ln(\text{API Credit Calls})$, the natural log of credit-related API call volumes—is used in Part F to measure the intensity of Open Finance use in the credit market specifically, as distinct from the breadth of adoption captured by customer counts.

2.4.3.3 Part A: Credit Growth Models

Tests whether Open Finance adoption is associated with credit expansion, controlling for monetary policy and the business cycle. The specification is:

$$g_{\text{Credit},t} = \beta_0 + \beta_1 \cdot \text{Selic}_t + \beta_2 \cdot g_{\text{IBC-Br},t} + \beta_3 \cdot \ln(\text{Customers}_t) + \varepsilon_t$$

where g_Credit is the year-over-year percentage growth rate of the active credit portfolio. The hypothesis is $\beta_3 > 0$: Open Finance adoption is associated with faster credit growth.

2.4.3.4 Part B: Default Rate Models

Tests whether Open Finance is associated with improved credit quality. The dependent variable is the 12-month change in the default rate ($\Delta_{12} \text{Default}_t$), isolating changes in credit quality from the level of default rates:

$$\Delta_{12} \text{Default}_t = \beta_0 + \beta_1 \cdot \text{Selic}_t + \beta_2 \cdot g_IBC\text{-}Br,t + \beta_3 \cdot \ln(\text{Customers}_t) + \varepsilon_t$$

The hypothesis is $\beta_3 < 0$: Open Finance adoption is associated with declining default rates (better credit quality), as information sharing reduces adverse selection.

2.4.3.5 Parts C–F: Extended Models

Parts C through F follow the same structural form, replacing the dependent variable with credit origination growth (Part C), SME credit growth (Part D), year-over-year interest rate changes (Part E), and using API call volume as the treatment variable (Part F). Throughout, baseline models omitting the Open Finance variable (Selic + IBC-Br only) are estimated on the full sample to provide a reference point, while the extended models are estimated on the shorter overlapping sample that includes customer count data.

2.4.4 Descriptive Analysis

2.4.4.1 Credit Portfolio Evolution

Brazil's total active credit portfolio has expanded substantially over the sample period, rising from R\$ 2.1 trillion in June 2012 to R\$ 6.6 trillion in June 2025. This represents a near-tripling in nominal terms. Growth was not monotonic: the COVID-19 period (2020–2021) created a structural break, with emergency credit programs briefly accelerating portfolio growth before a subsequent normalization. The high-Selic environment from 2022 onwards moderated the pace of expansion, particularly in long-duration modalities such as housing.

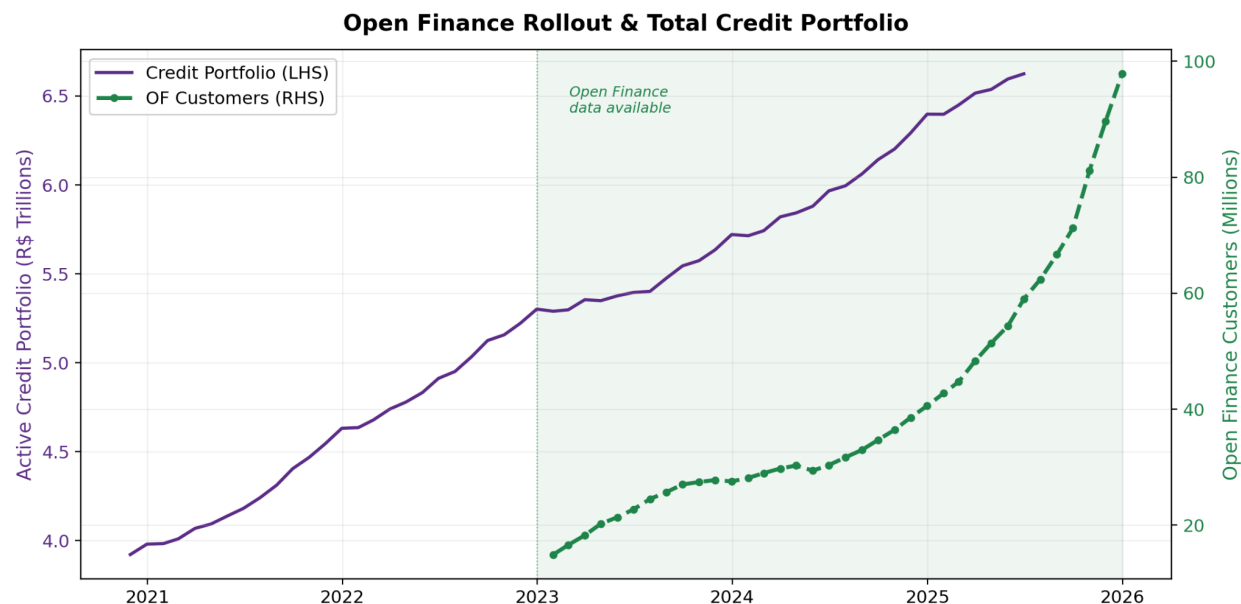


Figure 2: Total active credit portfolio (Carteira Ativa) from BCB SCR.Data. Shaded region indicates Open Finance rollout period from 2021.

2.4.4.2 Credit Portfolio by Client Type

PF (individual) credit has grown faster than PJ (corporate) credit over the sample period, increasing from R\$ 957 billion in June 2012 to R\$ 4.2 trillion by the latest available data point. PJ credit grew more modestly, from R\$ 1.15 trillion to R\$ 2.4 trillion. The PF share of total credit expanded from roughly 45% to over 60%, reflecting the deepening of consumer credit markets and the rapid growth of payroll lending, housing credit, and credit cards.

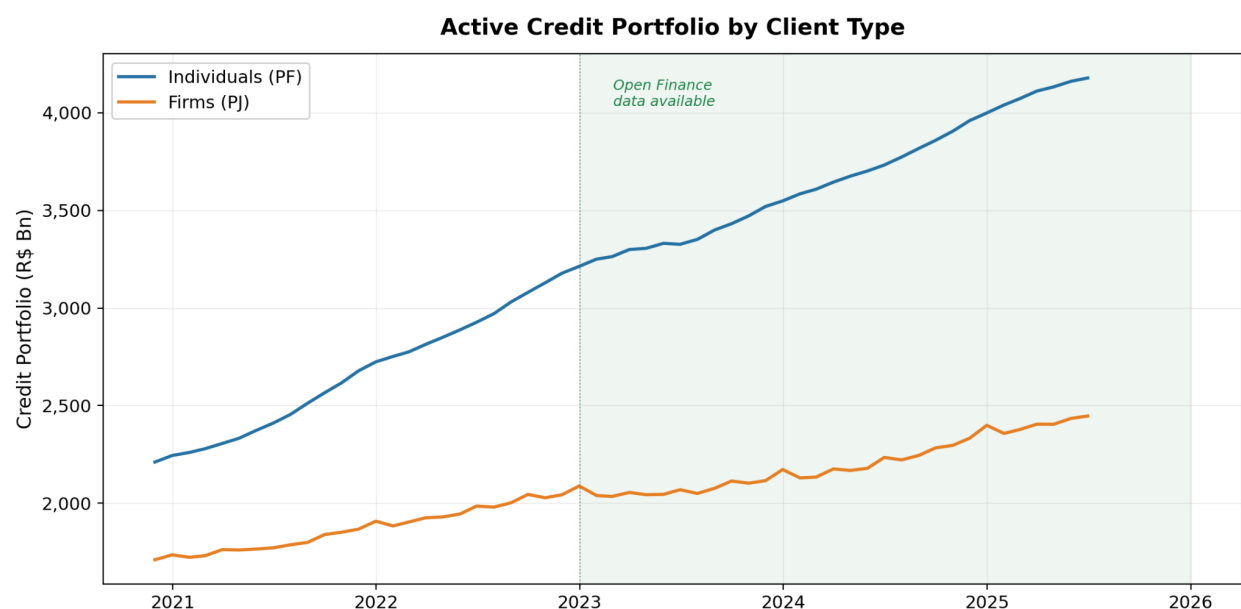


Figure 3: Credit portfolio decomposed by PF (individuals) and PJ (firms). Source: BCB SCR.Data.

2.4.4.3 PF Credit by Modality

Within the PF segment, housing credit is the dominant modality at R\$ 1,232.5 billion, followed by payroll loans (R\$ 700.2 bn), credit cards (R\$ 633.9 bn), vehicles (R\$ 364.6 bn), and personal loans (R\$ 344.6 bn). Personal loans are the highest-friction segment, unsecured, without automatic repayment deduction, making them the most theoretically relevant modality for Open Finance analysis, since borrower information quality has the largest impact on lending decisions in this category.

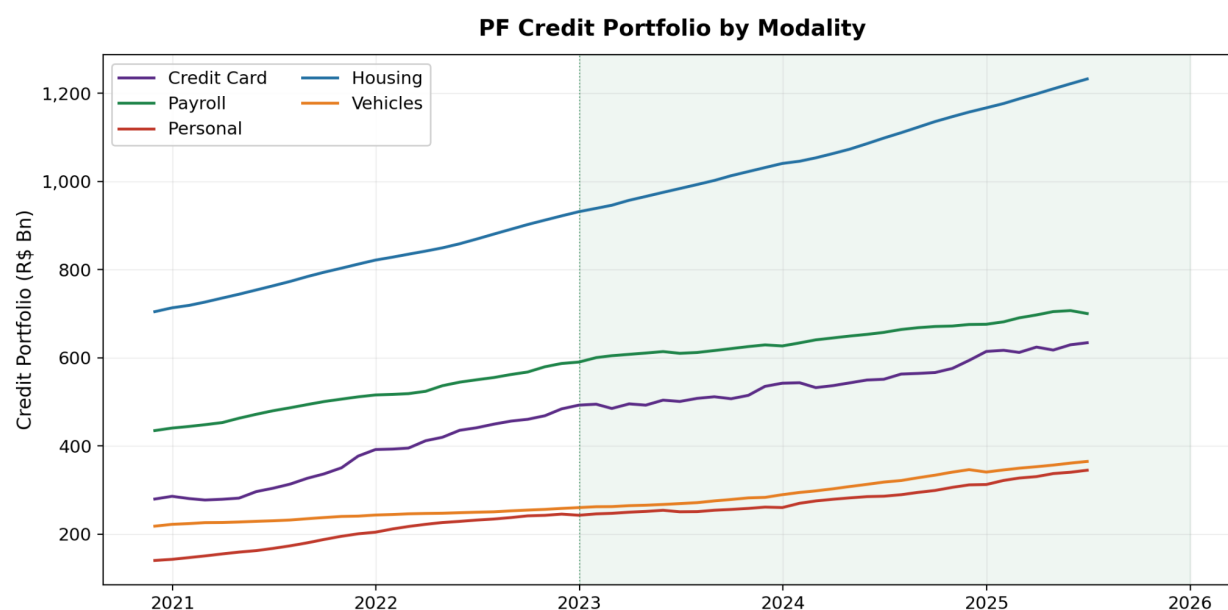


Figure 4: Decomposition of PF credit portfolio across key modalities. Source: BCB SCR.Data.

2.4.4.4 Default Rates

The overall default rate has ranged from 2.01% to 3.97% over the 2012–2025 sample, with a mean of 3.03%. The rate spiked during the 2015–2016 recession, compressed in 2019–2020, and rose again through 2022–2023 as monetary tightening increased debt service burdens. As Open Finance customer counts have grown through 2023–2025, default rates have generally declined. This is a descriptive pattern examined more rigorously in the regression analysis.

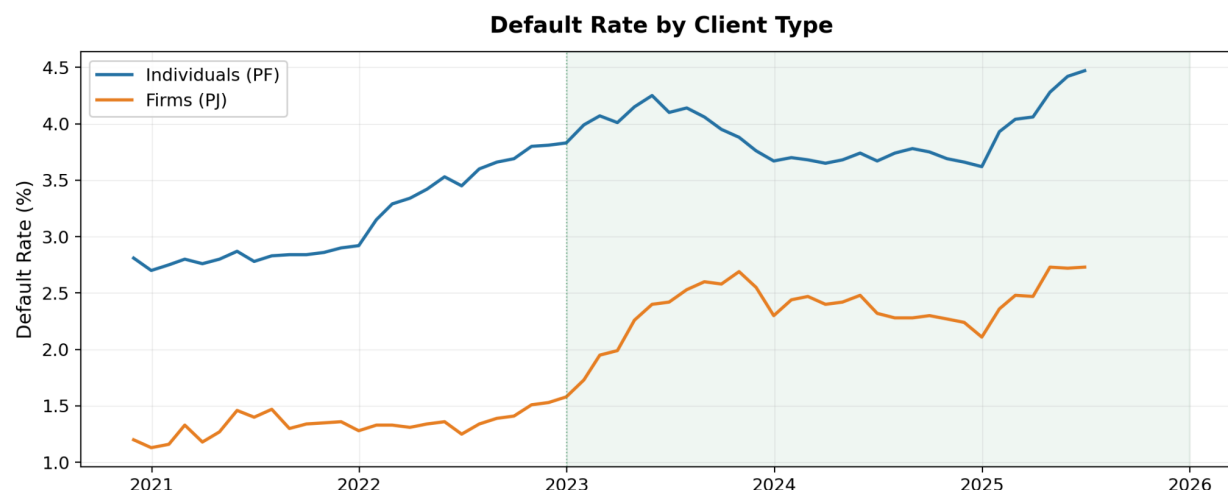


Figure 5: National default rate (share of portfolio > 90 days past due). Source: BCB SCR.Data.

2.4.4.5 Credit YoY Growth

Year-over-year credit growth has been volatile, ranging from single digits during periods of macroeconomic stress to above 20% in post-pandemic rebound years. The baseline period for the Open Finance customer models (January 2023 onwards) exhibits a gradual deceleration in YoY credit growth from pandemic-era highs, consistent with the broader credit cycle normalization under elevated Selic rates.

2.4.4.6 Correlation Matrix

Table 5 presents the pairwise correlation matrix for the key variables over the 30-month overlap period (months with both credit and Open Finance customer data, N = 30).

Table 5: Pairwise Correlation Matrix (N = 30 months, variables in levels)

	Credit Portfolio	Default Rate	PIX	Customers	Selic	IBC-Br
Credit Portfolio	1.000	0.233	0.966	0.959	-0.099	0.560
Default Rate	0.233	1.000	0.136	0.474	0.751	0.225
PIX	0.966	0.136	1.000	0.912	-0.271	0.590
Customers	0.959	0.474	0.912	1.000	0.114	0.544
Selic	-0.099	0.751	-0.271	0.114	1.000	-0.116
IBC-Br	0.560	0.225	0.590	0.544	-0.116	1.000

The correlation matrix reveals several patterns. Credit portfolio levels are highly correlated with PIX volumes ($r = 0.966$) and Open Finance customer counts ($r = 0.959$), consistent with all three trending upward through the 2023–2025 period. Default rates show strong correlation with the Selic rate ($r = 0.751$), confirming the importance of monetary policy as a control variable. Note that level correlations between trending variables may overstate the true relationship; the regression models address this by using growth rates and first differences as dependent variables.

2.4.5 Regression Results

2.4.5.1 Part A: Credit Growth Models

Baseline: Credit Growth $\sim$ Selic + IBC-Br

The baseline model for year-over-year credit growth uses only macroeconomic controls and is estimated on the full sample of $N = 44$ observations with valid YoY growth rates. Neither the Selic rate nor IBC-Br growth is statistically significant at conventional levels. The intercept of approximately 12.1 pp implies a secular credit growth trend of roughly 12% per year in the absence of macroeconomic variation, consistent with historical averages. The very low R^2 of 0.005 suggests that macroeconomic controls alone explain virtually none of the short-run variation in YoY credit growth in this sample window, motivating the addition of Open Finance variables.

Table 6: Credit Growth: Baseline Model (YoY, HAC standard errors)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Credit Base (YoY)	Intercept	12.0588	5.0836	2.372	0.022 *	0.005	44
Credit Base (YoY)	Selic	-0.0627	0.3767	-0.166	0.869	0.005	44
Credit Base (YoY)	g_IBC-Br (YoY)	0.1059	0.2975	0.356	0.724	0.005	44

Extended: Credit Growth $\sim$ Selic + IBC-Br + $\ln(\text{Customers})$

Adding $\ln(\text{Customers})$ to the model raises R^2 from 0.005 to 0.430 and reveals significant macroeconomic controls. The Selic rate and IBC-Br growth are both highly significant ($p < 0.01$), confirming the importance of controlling for monetary policy and the business cycle. The Open Finance coefficient ($\ln_cust = 0.141$) is positive but not statistically significant in the aggregate model ($p = 0.875$), suggesting that at the national aggregate level, Open Finance adoption does

not independently predict faster credit growth after controlling for macro conditions. The significant Selic and IBC-Br estimates in the extended model (vs. the baseline) reflect the shorter, higher-information overlap sample.

Table 7: Credit Growth: Extended Model with Open Finance (YoY, N = 30, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Credit + OF (YoY)	Intercept	-0.779	14.387	-0.054	0.957	0.430	30
Credit + OF (YoY)	Selic	0.529	0.139	3.810	0.001 ***	0.430	30
Credit + OF (YoY)	g_IBC-Br (YoY)	0.565	0.161	3.503	0.002 **	0.430	30
Credit + OF (YoY)	ln(Customers)	0.141	0.893	0.158	0.875	0.430	30

Credit Growth by Client Type

Disaggregating by client type reveals divergent Open Finance associations. For PF (individual) credit, the ln(Customers) coefficient is negative and highly significant ($\beta_3 = -2.917$, $p < 0.001$), indicating that PF credit growth has been decelerating as Open Finance adoption has grown. This likely reflects the operation of the monetary policy cycle: the high-Selic period (2022–2024) that coincides with the Open Finance rollout suppressed consumer credit growth. For PJ (corporate) credit, the coefficient is positive and significant ($\beta_3 = 4.766$, $p = 0.001$), consistent with firms benefiting from improved data portability, particularly small businesses with previously opaque credit profiles.

Table 8: Credit Growth by Client Type (N = 30, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
PF Credit + OF	Intercept	51.874	10.761	4.821	<0.001 ***	0.690	30
PF Credit + OF	Selic	0.708	0.118	5.986	<0.001 ***	0.690	30
PF Credit + OF	g_IBC-Br (YoY)	0.509	0.122	4.172	<0.001 ***	0.690	30
PF Credit + OF	ln(Customers)	-2.917	0.667	-4.374	<0.001 ***	0.690	30

PJ Credit + OF	Intercept	-80.995	20.872	-3.881	<0.001 ***	0.597	30
PJ Credit + OF	Selic	0.293	0.188	1.557	0.131	0.597	30
PJ Credit + OF	g_IBC-Br (YoY)	0.660	0.229	2.878	0.008 **	0.597	30
PJ Credit + OF	ln(Customers)	4.766	1.292	3.687	0.001 **	0.597	30

PF Credit Growth by Modality

Among PF credit modalities, results are consistent with the information asymmetry hypothesis. Personal loans (non-payroll) show a positive and significant Open Finance association ($\beta_3 = 7.641$, $p = 0.003$), the strongest effect among all modalities. This is the unsecured consumer lending segment where borrower screening depends most on financial history data. PF housing credit shows a significant negative coefficient ($\beta_3 = -0.657$, $p = 0.001$), likely reflecting the high interest rate sensitivity of mortgage lending and the coincidence of Open Finance rollout with the tightening monetary cycle. Credit card lending is also negatively associated with Open Finance customer growth ($\beta_3 = -3.805$, $p = 0.039$), potentially reflecting that the revolving credit market has consolidated alongside Open Finance expansion rather than grown.

Table 9: PF Credit Growth by Modality (N = 30, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
PF Card + OF	Intercept	52.912	28.087	1.884	0.071	0.707	30
PF Card + OF	Selic	1.788	0.230	7.771	<0.001 ***	0.707	30
PF Card + OF	g_IBC-Br (YoY)	0.907	0.228	3.978	<0.001 ***	0.707	30
PF Card + OF	ln(Customers)	-3.805	1.753	-2.171	0.039 *	0.707	30
PF Personal + OF	Intercept	-126.662	37.087	-3.415	0.002 **	0.558	30
PF Personal + OF	Selic	0.329	0.324	1.017	0.319	0.558	30
PF Personal + OF	g_IBC-Br (YoY)	1.109	0.410	2.709	0.012 *	0.558	30
PF Personal + OF	ln(Customers)	7.641	2.300	3.322	0.003 **	0.558	30

PF Housing + OF	Intercept	17.886	3.067	5.833	<0.001 ***	0.766	30
PF Housing + OF	Selic	0.371	0.049	7.610	<0.001 ***	0.766	30
PF Housing + OF	g_IBC-Br (YoY)	0.152	0.020	7.541	<0.001 ***	0.766	30
PF Housing + OF	ln(Customers)	-0.657	0.177	-3.722	<0.001 ***	0.766	30

2.4.5.2 Part B: Default Rate Models

Baseline: Default Rate Change ~ Selic + IBC-Br

The baseline default rate model performs well even without Open Finance controls. Selic is strongly positive ($\beta_1 = 0.170$, $p < 0.001$), confirming that monetary tightening raises default rates, which is consistent with the debt service channel. IBC-Br growth is negative ($\beta_2 = -0.076$, $p = 0.005$), indicating that stronger economic activity reduces defaults. The baseline R^2 of 0.621 indicates that macro conditions explain a substantial share of default rate variation over the full sample.

Table 10: Default Rate Change: Baseline Model (N = 44, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Default (YoY)	Base Intercept	-1.509	0.547	-2.758	0.009 **	0.621	44
Default (YoY)	Base Selic	0.170	0.039	4.302	<0.001 ***	0.621	44
Default (YoY)	Base g_IBC-Br (YoY)	-0.076	0.026	-2.964	0.005 **	0.621	44

Extended: Default Rate Change ~ Selic + IBC-Br + ln(Customers)

Adding ln(Customers) dramatically improves model fit: R^2 rises from 0.621 to 0.959, which is one of the highest explanatory power levels observed across all models. The Open Finance coefficient is negative and highly significant ($\beta_3 = -0.449$, $p < 0.001$), indicating that a 10% increase in Open Finance customers is associated with a reduction in the YoY default rate change of approximately 0.045 percentage points. The Selic coefficient strengthens substantially ($\beta_1 = 0.263$, $p < 0.001$), reflecting more precise estimation on the overlap sample.

Table 11: Default Rate Change: Extended Model with Open Finance (N = 30, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Default + OF (YoY)	Intercept	4.850	1.248	3.886	<0.001 ***	0.959	30
Default + OF (YoY)	Selic	0.263	0.014	18.920	<0.001 ***	0.959	30
Default + OF (YoY)	g_IBC-Br (YoY)	-0.028	0.012	-2.226	0.035 *	0.959	30
Default + OF (YoY)	ln(Customers)	-0.449	0.077	-5.837	<0.001 ***	0.959	30

Default Rate by Client Type

The negative Open Finance association holds for both PF and PJ client types, though with an asymmetry that runs counter to the prior expectation. PJ (corporate) default rates show a larger Open Finance coefficient ($\beta_3 = -0.765$, $p = 0.004$) than PF ($\beta_3 = -0.185$, $p = 0.002$). Both models achieve high R² values (0.935 for PF, 0.708 for PJ), suggesting that the combination of Selic, IBC-Br, and Open Finance customer counts provides a nearly complete characterization of default rate dynamics over this period.

Table 12: Default Rate Change by Client Type (N = 30, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Default PF + OF	Intercept	-0.645	0.931	-0.694	0.494	0.935	30
Default PF + OF	Selic	0.314	0.016	19.911	<0.001 ***	0.935	30
Default PF + OF	g_IBC-Br (YoY)	0.037	0.011	3.483	0.002 **	0.935	30
Default PF + OF	ln(Customers)	-0.185	0.055	-3.348	0.002 **	0.935	30
Default PJ + OF	Intercept	11.915	3.841	3.102	0.005 **	0.708	30
Default PJ + OF	Selic	0.169	0.035	4.901	<0.001 ***	0.708	30
Default PJ + OF	g_IBC-Br (YoY)	-0.129	0.038	-3.413	0.002 **	0.708	30
Default PJ + OF	ln(Customers)	-0.765	0.239	-3.204	0.004 **	0.708	30

2.4.5.3 Part C: Credit Origination Models

Credit originations measure the flow of new lending and are methodologically preferred to stock-based measures for financial inclusion analysis. Origination growth indicates whether new borrowers are gaining access to credit, rather than simply capturing whether existing loan balances are being maintained.

Total Originations

The total origination model with Open Finance ($R^2 = 0.636$) shows a significant positive coefficient on $\ln(\text{Customers})$ ($\beta_3 = 5.928$, $p = 0.013$). A 10% increase in Open Finance customer count is associated with a 0.59 pp increase in YoY origination growth. The Selic rate is now negative and significant ($\beta_1 = -1.995$, $p = 0.002$), correctly capturing the rate-dampening effect on new lending flows (as opposed to stock measures where the sign differs). IBC-Br growth is strongly positive ($\beta_2 = 1.780$, $p < 0.001$), indicating that stronger economic activity drives origination volumes.

Table 13: Total Credit Originations: Extended Model (N = 36, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Orig Total + OF	Intercept	-73.393	32.838	-2.235	0.033 *	0.636	36
Orig Total + OF	Selic	-1.995	0.588	-3.394	0.002 **	0.636	36
Orig Total + OF	g_IBC-Br (YoY)	1.780	0.325	5.471	<0.001 ***	0.636	36
Orig Total + OF	$\ln(\text{Customers})$	5.928	2.252	2.633	0.013 *	0.636	36

PF Personal Non-Payroll Originations

The non-payroll personal loan origination model is the strongest in the entire analysis ($R^2 = 0.790$). The Open Finance coefficient is large and highly significant ($\beta_3 = 24.337$, $p < 0.001$): a 10% increase in Open Finance customers is associated with a 2.43 pp increase in YoY origination growth in non-payroll personal lending. This is the segment with the highest information friction (unsecured, without guaranteed repayment) making it most responsive to the information improvements that Open Finance enables. The Selic effect is also notably large and negative ($\beta_1 = -7.567$, $p < 0.001$), confirming the extreme rate sensitivity of this modality.

Table 14: PF Personal Non-Payroll Originations (N = 36, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
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Orig PF Personal + OF	Intercept	-320.246	59.951	-5.342	<0.001 ***	0.790	36
Orig PF Personal + OF	Selic	-7.567	0.672	-11.270	<0.001 ***	0.790	36
Orig PF Personal + OF	g_IBC-Br (YoY)	2.212	0.584	3.785	<0.001 ***	0.790	36
Orig PF Personal + OF	ln(Customers)	24.337	3.307	7.359	<0.001 ***	0.790	36

PJ Originations

PJ total originations and working capital originations both show significant positive Open Finance associations. The PJ total model achieves $R^2 = 0.749$ with $\beta_3 = 12.743$ ($p < 0.001$). Working capital originations (the most operationally relevant credit type for SMEs managing cash flows) show a significant Open Finance coefficient of 27.187 ($p = 0.001$), suggesting that Open Finance data portability is particularly relevant for short-term business credit access.

Table 15: PJ Originations (N = 36, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Orig PJ + OF	Intercept	-165.739	40.885	-4.054	<0.001 ***	0.749	36
Orig PJ + OF	Selic	-4.353	0.744	-5.848	<0.001 ***	0.749	36
Orig PJ + OF	g_IBC-Br (YoY)	2.519	0.573	4.400	<0.001 ***	0.749	36
Orig PJ + OF	ln(Customers)	12.743	2.670	4.772	<0.001 ***	0.749	36
Orig PJ WkCap + OF	Intercept	-422.914	113.909	-3.713	<0.001 ***	0.419	36
Orig PJ WkCap + OF	Selic	-4.127	1.977	-2.087	0.045 *	0.419	36
Orig PJ WkCap + OF	g_IBC-Br (YoY)	2.560	1.244	2.058	0.048 *	0.419	36
Orig PJ WkCap + OF	ln(Customers)	27.187	7.462	3.643	<0.001 ***	0.419	36

2.4.5.4 Part D: SME Credit

The SME (MPMe) credit model tests whether micro, small, and medium enterprises (which often have thin credit files and limited institutional history) benefit from Open Finance data portability. While the model achieves $R^2 = 0.562$, the Open Finance coefficient is not statistically significant ($\beta_3 = -1.560$, $p = 0.121$). The Selic rate remains a dominant and highly significant driver ($\beta_1 = 1.536$, $p < 0.001$), and IBC-Br growth is also significant ($\beta_2 = 0.549$, $p = 0.012$). The absence of a significant Open Finance effect on the SME stock measure may reflect measurement limitations: the stock aggregation is broad and may obscure heterogeneity between micro enterprises (more information-opaque) and larger SMEs. The origination-based PJ results above provide stronger evidence of Open Finance benefits for firm credit access.

Table 16: SME Credit Growth: Extended Model (N = 36, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
SME Credit + OF	Intercept	14.653	17.662	0.830	0.413	0.562	36
SME Credit + OF	Selic	1.536	0.219	7.013	<0.001 ***	0.562	36
SME Credit + OF	g_IBC-Br (YoY)	0.549	0.206	2.662	0.012 *	0.562	36
SME Credit + OF	ln(Customers)	-1.560	0.979	-1.593	0.121	0.562	36

2.4.5.5 Part E: Interest Rate Models

The interest rate model tests whether Open Finance is associated with lower borrowing costs. The theoretical mechanism is that data portability increases competition among lenders, compressing interest rate spreads. Contrary to the hypothesis (which predicted $\beta_3 < 0$), the PF personal non-payroll interest rate model yields a positive and significant Open Finance coefficient ($\beta_3 = 0.124$, $p = 0.011$), suggesting that interest rates have risen alongside Open Finance adoption. This result most plausibly reflects the monetary policy cycle: the high-Selic period of 2022–2024 drove lending rates upward independently of Open Finance, and the customer count variable cannot cleanly separate these effects in a sample of only 36 observations. Neither Selic nor IBC-Br is individually significant in this model, confirming severe multicollinearity concerns. The API-based interest rate model below provides a cleaner test.

Table 17: PF Personal Interest Rate Change (N = 36, HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
PF Rate + OF	Intercept	-1.882	0.809	-2.326	0.027 *	0.249	36
PF Rate + OF	Selic	0.007	0.014	0.493	0.626	0.249	36
PF Rate + OF	g_IBC-Br (YoY)	-0.013	0.014	-0.905	0.372	0.249	36
PF Rate + OF	ln(Customers)	0.124	0.046	2.701	0.011 *	0.249	36

2.4.5.6 Part F: API Call Volume as Alternative Treatment Variable

Part F replaces ln(Customers) with ln(API Credit Calls) — the volume of credit-related API calls in the Open Finance system — as the treatment variable. This measure captures the intensity of Open Finance use specifically within the credit market, as distinct from the breadth of adoption. The API-based models are estimated on a shorter sample (N = 16 for credit and default models, N = 22 for SME and interest rate models).

The most important result from Part F is the default rate model: the API credit call coefficient is negative and significant ($\beta_3 = -0.027$, $p = 0.042$), and the model achieves extraordinary explanatory power ($R^2 = 0.984$). This corroborates the customer-based default rate finding and provides evidence that the mechanism operates through active data usage, not merely enrollment. Critically, the interest rate model with API calls yields a negative and significant coefficient ($\beta_3 = -0.114$, $p = 0.002$, $R^2 = 0.473$), consistent with the competition-through-data-portability hypothesis. This reversal compared to the customer-based interest rate result suggests that it is the active querying of credit data — rather than cumulative enrollment — that drives improvements in lending conditions.

Table 18: API Call Volume Models — Default Rate and Interest Rates (HAC SEs)

Model	Term	Estimate	SE (HAC)	t	p-value	R ²	N
Default + API Calls	Intercept	-1.955	0.131	-14.938	<0.001 ***	0.984	16
Default + API Calls	Selic	0.199	0.005	40.629	<0.001 ***	0.984	16
Default + API Calls	g_IBC-Br (YoY)	-0.013	0.005	-2.848	0.015 *	0.984	16
Default + API Calls	ln(API Credit)	-0.027	0.012	-2.275	0.042 *	0.984	16

PF Rate + API Calls	Intercept	1.100	0.439	2.506	0.022 *	0.473	22
PF Rate + API Calls	Selic	0.050	0.009	5.646	<0.001 ***	0.473	22
PF Rate + API Calls	g_IBC-Br (YoY)	0.017	0.012	1.436	0.168	0.473	22
PF Rate + API Calls	ln(API Credit)	-0.114	0.032	-3.535	0.002 **	0.473	22

2.4.5.7 Robustness: Month-over-Month Growth

As a robustness check, credit growth models are re-estimated using month-over-month (MoM) growth rates rather than YoY changes, increasing the available sample to N = 55 for the baseline. The baseline MoM model has low explanatory power ($R^2 = 0.102$) and only IBC-Br growth is marginally significant, reflecting the high frequency noise in monthly credit data. The extended MoM model (N = 30) confirms the Selic and Open Finance associations observed in the YoY specification: Selic is negative and significant ($\beta_1 = -0.134$, $p = 0.001$) in the MoM model, and ln(Customers) is positive and significant ($\beta_3 = 0.444$, $p = 0.005$), providing robustness to the choice of growth rate specification.

2.4.6 Summary of Key Results

Table 19 consolidates the Open Finance coefficient estimates across all primary models, providing a comprehensive view of the estimated associations.

Table 19: Open Finance Coefficient Summary: ln(Customers) across all models

Model	β_3 (OF)	SE (HAC)	p-value	R^2	N
Credit Growth (Total)	0.141	0.893	0.875	0.430	30
Credit Growth (PF)	-2.917	0.667	<0.001 ***	0.690	30
Credit Growth (PJ)	4.766	1.292	0.001 **	0.597	30
PF Card	-3.805	1.753	0.039 *	0.707	30
PF Personal Loans	7.641	2.300	0.003 **	0.558	30
PF Housing	-0.657	0.177	<0.001 ***	0.766	30
Default Total	-0.449	0.077	<0.001 ***	0.959	30

Default PF	−0.185	0.055	0.002 **	0.935	30
Default PJ	−0.765	0.239	0.004 **	0.708	30
Orig Total	5.928	2.252	0.013 *	0.636	36
Orig PF Personal (NC)	24.337	3.307	<0.001 ***	0.790	36
Orig PJ Total	12.743	2.670	<0.001 ***	0.749	36
Orig PJ Working Capital	27.187	7.462	<0.001 ***	0.419	36
SME Credit	−1.560	0.979	0.121	0.562	36
PF Interest Rate	0.124	0.046	0.011 *	0.249	36

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. All models use Newey-West HAC standard errors.

2.4.7 Interpretation

2.4.7.1 Credit Growth and Open Finance

The aggregate credit growth model does not yield a significant Open Finance coefficient, but the disaggregated results are more revealing. PF personal loans (the segment with the highest information friction) show the strongest positive association ($\beta_3 = 7.64$, $p = 0.003$, $R^2 = 0.56$). A 10% increase in Open Finance customer count is associated with a 0.73 percentage point increase in YoY personal loan growth. This is precisely where the theory predicts Open Finance should matter most: unsecured consumer lending where the ability to assess a borrower's complete financial history has the largest impact on credit availability.

PF housing credit shows a negative coefficient ($\beta_3 = -0.66$, $p < 0.001$, $R^2 = 0.77$), but this is most plausibly driven by the interest rate cycle. Housing credit is the most Selic-sensitive modality ($\beta_1 = 0.37$, $p < 0.001$), and the 2022–2024 high-Selic environment suppressed mortgage origination regardless of Open Finance progress. The negative coefficient likely reflects coincident timing rather than a causal relationship.

2.4.7.2 Default Rates and Open Finance

The default rate results are among the most consistent and statistically robust findings in the analysis. Across all three default rate models—total, PF, and PJ—the Open Finance coefficient is negative, significant, and large relative to the baseline default rate variation. The aggregate model achieves $R^2 = 0.959$, with the addition of $\ln(\text{Customers})$ raising fit from 0.62 (macro-only baseline) to 0.96. This dramatic improvement suggests that Open Finance adoption captures

important variation in default rates unexplained by monetary policy and economic activity alone.

The magnitude of the PJ effect ($\beta_3 = -0.765$) exceeding the PF effect ($\beta_3 = -0.185$) is noteworthy. Corporate borrowers—particularly micro-enterprises and MEIs (individual microentrepreneurs) with thin credit files—may be benefiting disproportionately from Open Finance data portability. The financial history of a sole proprietor running through their personal account is precisely the type of non-traditional credit data that Open Finance makes available to lenders, enabling better risk assessment for this historically underserved segment.

2.4.7.3 Credit Originations as the Preferred Financial Inclusion Metric

The origination-based models provide the most policy-relevant evidence on financial inclusion. Growing originations indicate that new borrowers are gaining access to credit, not simply that existing loan balances are being maintained. The PF personal non-payroll origination model is the analysis's strongest result ($R^2 = 0.790$), with a large and precisely estimated Open Finance coefficient ($\beta_3 = 24.34$, $p < 0.001$). The PJ origination results reinforce this picture: both total PJ originations ($\beta_3 = 12.74$) and working capital originations ($\beta_3 = 27.19$) show significant positive associations. These flow-based findings support the interpretation that Open Finance is contributing to an expansion in the reach of credit, not just the volume of existing credit.

2.4.7.4 API Call Volume vs. Customer Count

The two Open Finance treatment variables capture different dimensions of adoption. Customer counts measure the cumulative breadth of consent registration — a stock measure that grows monotonically. API call volumes measure the active intensity of data usage — a flow measure that fluctuates with actual lending activity. The interest rate models illustrate the distinction: the customer-count specification yields a counterintuitive positive coefficient (conflated with the monetary policy cycle), while the API-call specification yields the theoretically predicted negative coefficient ($\beta_3 = -0.114$, $p = 0.002$). This suggests that it is the active use of Open Finance data in credit decisions — rather than the mere accumulation of consents — that drives improvements in lending conditions. Future research with longer API time series should prioritize this distinction.

2.4.7.5 Data Gaps and Recommended Extensions

Several dimensions of financial inclusion analysis remain out of reach with publicly available data. Borrower segmentation by income, geography, or formality status is not available in the public SCR aggregates; a meaningful analysis of inclusion effects on low-income or rural borrowers requires either BCB/Open Finance Brazil cooperation or access to proprietary institution-level data. Similarly, the SCR does not segregate credit data by institution type,

making it impossible to assess whether fintech lenders (which may use Open Finance data more intensively) are driving the observed associations. These gaps represent important priorities for future work.

2.4.8 Caveats and Limitations

The findings should be interpreted with several important caveats in mind.

- Short overlap period. Open Finance customer data is available only from January 2023, yielding a maximum of 30 to 36 observations for the extended models depending on data series. This limits statistical power and makes the results sensitive to specific time periods.
- Endogeneity. All regressors are potentially endogenous. Open Finance adoption, credit growth, and macroeconomic conditions are jointly determined over the sample period. Absent a valid instrument or a clean experimental design, the coefficients should be interpreted as associations rather than causal effects.
- Collinearity with time trend. Customer counts are monotonically increasing and highly correlated with any upward time trend in financial variables. Significant coefficients may partially capture secular trends in credit market development rather than Open Finance-specific effects.
- Omitted variables. Key omitted drivers include regulatory changes (credit card fee caps, payroll lending eligibility rules), fiscal policy dynamics, housing market conditions, commodity price shocks, and supply-side structural changes such as fintech entry and bank consolidation. Some of these may be correlated with the Open Finance rollout timeline.
- Aggregation bias. National-level data masks significant heterogeneity across regions, income groups, financial institutions, and credit modalities. The Open Finance impact may be concentrated in specific underserved segments not visible at the aggregate level, potentially biasing aggregate coefficients toward zero.
- COVID-19 structural break. The pandemic (2020–2021) created a major structural break in credit markets through emergency lending programs, payment moratoria, and economic disruptions. PIX was launched during this period, and the post-pandemic recovery period substantially overlaps with the Open Finance rollout, making clean identification of Open Finance-specific effects challenging.
- SCR data granularity. Aggregated SCR data may group low-count observations under "Outros Créditos" (Other Credits), introducing measurement error at the modality level. National totals are less affected than disaggregated series.

2.5. Lessons learned

Based on the research done on the Open Finance ecosystem in Brazil and selected countries in the world including the United Kingdom, Australia and South Korea, the following lessons have been identified to scale open finance in the Latin American and Caribbean region.

Clear data confidentiality laws and management

Having a clear data confidentiality law increases the adoption of users to authorize access to their data and sharing rights, which is the building block for the entire open finance ecosystem. In Brazil, the General Data Protection Law (LGPD) is a clear example of a regulatory framework that enables the trust between consumers and financial institutions to join open finance. As well, having an independent regulator of data protection in a country, such as the National Data Protection Agency (ANPD) signals a high level of efficiency in a country to regulate, monitor, and sanction the incorrect use of data shared from consumers and financial institutions.

Standardized APIs and technical standards for data sharing and portability

Establishing standardized APIs drives efficiency, more competition and reduces the cost for financial institutions to access consumer data and develop portability services. A good example is the case of the UK, where it was mandated for the 9 largest banks to implement a standardized API. This resulted in reducing transaction costs for the incumbents as well as trust frameworks for the customers that shared their account data. Overall, centralized technical standards seemed to be more efficient in comparison to decentralized approaches where each financial institution maintains individual APIs, though in practice, the choice between centralized and decentralized models should be driven by each country's existing infrastructure and institutional capacity, as discussed in Building Block 6 in Section 3.2 of this report.

Clear regulatory frameworks that implement OF and previous policy work that enables it

It is equally as important to create an open finance regulation as it is to create the set of pre-existing legal and institutional foundations around which open finance works. These foundations include responding to questions related to regulatory authority, data governance, and market access. In Brazil, this work started in 1964 with the Banking Reform Law, followed by the Banking Secrecy Law that operationalized the consent mechanism at scale, and finally, the Electronic Payments Law in 2013 that provided the legal foundation for the BCB to later create Pix. All these regulations were critical to avoid implementation delays and legal ambiguity that slow adoption and erode stakeholder confidence.

Phased implementation

A phased implementation allows regulators, financial institutions, and consumers to build capacity incrementally rather than absorbing the full complexity of the system at once. Brazil's four-phase implementation, which started with open data in February 2021, to financial data sharing in August 2021, to transactionally features in late 2021, and finally to full open finance scope covering insurance, pensions, etc. between 2022 and 2024, is the clearest regional example of this approach. Because each phase builds on the infrastructure and institutional learning of the previous one, a phased implementation allows the ecosystem to mature before expanding and reduces risk management.

Strong institutions with a clear mandate

A strong institutional authority with technical capacity and political independence is needed to ensure an open finance implementation process can actually roll out through the years. This includes a thoughtful analysis during regulatory design when defining who is responsible for what and how ready those institutions are. This can take the form of a single institution that controls all dimensions of open finance, like Brazil, or multiple distributed responsibilities, like the UK. In Brazil, the Central Bank held an unusually broad mandate relative to most central banks globally, concentrating monetary policy and financial system development functions in a single body, including under its mandate the development of open finance. On the other hand, the UK distributed governance across multiple bodies that had a well-defined and non-overlapping mandate and created Open Banking Limited (OBL) as the entity in charge of managing the technical infrastructure.

- Multistakeholder consultation at the early stage of open finance implementation for the technical design and establishing an open finance association

Multistakeholder consultation is a condition rapid adoption of technical standards that govern the open finance ecosystem as well as for legitimacy of the set of regulations that mandate participation. In Brazil, the Central Bank launched a formal public consultation process in August 2019, more than a year before the principal open finance regulation was published, to gather input from banks, fintechs, consumer associations, and industry bodies on scope, technical design, and governance. This process directly shaped the consent architecture and API standards that were included in the four-phase regulation. In addition, the establishment of the Open Finance Association as the self-regulatory body responsible for technical governance has provided an institutional space for stakeholders to participate in the ongoing standards coordinations.

- Creation of a national mobile payment platform (Pix)

The creation of Pix became rapidly a catalyst of Open Finance in Brazil and, according to our research, it is the primary payment channel driving its development. It is worth noting that this

national instant payment system was only built in this way due to the broad mandate of the Central Bank that includes financial system efficiency. However, at a regional level, the general lesson is that having an instant payment system with interoperability features and low transaction costs significantly increases usage intensity of open finance and generates digital transactional data, which is critical for financial inclusion as it facilitates access to financial products and services.

- Open finance must be a regulatory-led process

Open Finance requires a regulatory-led implementation process, driven by two distinct but interconnected challenges. The first is a coordination problem: regardless of institutional willingness, open finance demands agreement across a wide range of actors on fundamental questions: how data will be structured, how consent will be requested and recorded, what technical standards will govern API communication, and how liability will be allocated when things go wrong. These are collective action problems that cannot be resolved through bilateral negotiations between individual institutions.

The second challenge is political economy: incumbent financial institutions have strong incentives to resist open finance, not only because of the operational burden of standardizing and exposing their data, but because doing so enables smaller, more agile competitors to offer superior products to their existing customers. Left to voluntary arrangements, incumbents will delay, fragment, or water down implementation. A regulatory body with clear enforcement powers is therefore a prerequisite, not an option. The South Korean case illustrates this boundary condition: Korea pursued a model coordinated through the KFTC under government direction but without a hard legislative mandate specifically compelling participation, and while functional, the result has been slower adoption and greater fragmentation compared to the approaches of Brazil, the United Kingdom, and Australia, where binding regulatory frameworks with clear enforcement mechanisms were established from inception.

- It is not necessary to have a centralized governance like Brazil (BCB) but it can be governed by multiple ministries, as long as there is a clear distribution of responsibilities and governance, and coordination among them.

The governance structure does not need to follow a single institutional model, but it must establish a clear distribution of responsibilities and effective coordination mechanisms. Brazil's model, where the Banco Central do Brasil holds a comparatively broad mandate relative to most central banks globally, concentrating both monetary policy and financial system development functions, is one configuration. However, it is not the only viable one. Australia distributes responsibility across three bodies: the ACCC leads competition and compliance enforcement, the OAIC oversees data privacy, and the Treasury holds overall policy authority. The system functions effectively because roles are unambiguous and coordination mechanisms are

formalized. South Korea separates financial policy (FSC) from payment infrastructure operations (KFTC).

The practical lesson is that the governance structure must be designed around the existing institutional architecture of each country, assigning open finance responsibilities to the bodies that already hold the relevant mandate — whether that is a central bank, a financial superintendence, a sector regulator, or a combination — and establishing explicit inter-institutional coordination protocols where responsibilities overlap.

- Mandatory participation of the large incumbents at the early stage

Mandatory participation of large incumbent institutions from the earliest stages of implementation has been a consistent driver of success across the case studies examined. The United Kingdom mandated its nine largest banks by name from inception; Australia required its Big Four from day one; Brazil applied mandatory participation to institutions above a defined size and systemic importance threshold. The rationale operates on multiple levels. First, the largest banks hold the vast majority of customer relationships and historical financial data; without their participation, the ecosystem has limited practical value regardless of how well it is technically designed. Second, mandatory inclusion of large incumbents allows smaller financial institutions to observe, learn from, and gradually integrate into a functioning ecosystem, rather than being left to navigate implementation in isolation. Third, because these institutions tend to operate on legacy core banking systems built decades ago, their mandatory inclusion forces the entire ecosystem to develop integration standards and middleware solutions that can bridge modern APIs with older infrastructure. This is a technical challenge that would otherwise remain unresolved and would eventually block broader adoption.

Importantly, mandatory participation from incumbents should be paired with a reciprocity requirement for institutions that wish to receive data. In Brazil, smaller institutions seeking to access data shared through the Open Finance ecosystem are required to share their own data in return. This is a critical design choice: without reciprocity, the framework risks creating a one-directional flow where large banks are compelled to expose their customer data while newer entrants consume it without contributing. Reciprocity rebalances this dynamic, and in the long term it creates an incentive structure that can ultimately benefit the large banks themselves. As smaller digital-native institutions accumulate customer bases and transaction histories, the data they are required to share becomes increasingly valuable for incumbents seeking to refine credit models, identify new customer segments, and compete in markets where fintechs currently hold informational advantages.

- Promote financial literacy and establish strong consumer protection to prevent banks from burying fees and charges in obscure terms and conditions / to reduce the risk of increased fees and charges by the incumbents that negatively impact customers

Consumer-facing dimensions of open finance require attention on two distinct fronts, which are often conflated but demand separate policy responses. The first is financial literacy: for consent to be meaningful, consumers must understand what they are authorizing, which institution will access which data, for how long, and to what end. Brazil encountered significant adoption friction in its early phases precisely because many consumers did not have a clear understanding of what participation involved or how it could benefit them. Regulators and participating institutions must invest actively in consumer education: not as a communications afterthought, but as a condition for the legitimacy of the consent architecture itself.

The second front is consumer protection from predatory or misleading competitive offers. Open finance, by enabling competitors to see the precise terms of a customer's existing credit products, creates conditions for targeted refinancing offers. While this is a central mechanism through which competition is supposed to reduce the cost of credit, it also creates room for manipulation: a competing institution may offer a lower monthly interest rate while extending the loan term significantly, resulting in higher total interest paid over the life of the contract. Regulators must therefore develop disclosure standards and comparison frameworks that make the true cost of switching, including total interest, fees, and term, transparent and comparable at the point of offer, not buried in terms and conditions. The competitive dynamic open finance unlocks is only beneficial to consumers if they have the tools and information to evaluate offers on equivalent terms.

3. Country Evaluations and Recommendations

3.1. Chile and Peru's Evaluation of Open Finance

3.1.1. Chile

Open Finance in Chile, which is still not active yet, appears as a regulated and mandated system, with the Fintech Law as the initial piece of regulation for open finance in the country. However, before the Fintech Law was enacted, Chile had already laid some foundational groundwork for Open Finance through earlier legislation. The Financial Portability Law of 2020 enabled customers, both individuals and companies, to switch financial products between institutions, reducing the costs and processing times involved in the transfer. Importantly, its scope extended beyond banks to include insurance companies, cajas de compensación, cooperatives, and other credit card issuers.

The formal establishment of Open Finance came with the Fintech Law (Ley 21.521), promulgated in December 2022 and published in January 2023, with the Comisión para el Mercado Financiero (CMF) designated as the primary supervisory and regulatory authority. It is key to understand that the law, as its name indicates, has broader objectives than just open finance. The Fintech Law indeed is the initial cornerstone that regulates open finance, but it also covers all the fintech services in Chile. The Fintech Law incorporates new entities into the CMF's regulatory perimeter and establishes the implementation framework for the Open Finance System in the country.

Regarding open finance policy objectives, Chile has three main goals, which are the following: (i) first, open finance is put forward to increase competition in the financial market, (ii) second is financial inclusion, and (iii) the last objective is to preserve the stability and the integrity of Chile's financial system. In particular, the competition logic in Chile intends to break the pricing and distribution advantages of the four main incumbent banks (Banco Santander Chile, Banco de Chile, Banco de Crédito e Inversiones, and BancoEstado), enabling fintechs and other mid-tier players (like Itau) to compete better.

In terms of data scope, the law covers six categories: public data on products and services, which requires no consent; customer registration and identification data; transactional data encompassing current accounts, credit lines, savings accounts, credit cards, loans, insurance policies, investment instruments, and payment services; communications related to financial

portability processes; data necessary for payment initiation services; and any additional categories the CMF may define through general regulation.

The law distinguishes four types of participants, two as providers and two as consumers. Starting with the providers (those who are mandated to provide information), we find Account Information Providers and Information Provider Institutions (IPIs). Whereas Account Information Providers include banks, cooperatives, and prepaid issues, Information Provider Institutions are split into two groups, with the first group having a shorter deadline to share information than the second group. Group 1 includes banks and card issuers, and group 2 contains card operators, CACs (savings-and-credit cooperatives), and AGFs (fund managers), among others.

Moving to the consumers, these players participate voluntarily upon registration with the CMF, subject to meeting defined technical and security requirements to access customer data. Within consumers, Chile distinguishes between Information-Based Service Providers (Proveedores de Servicios basados en Información) and Payment Initiation Service Providers (Proveedores de Servicios de Iniciación de Pagos). Information-Based Service Providers include IFIs and providers registered in the Sistema de Finanzas Abiertas (Chile's Open Finance System, which was created by the Fintech Law with the purpose of facilitating the exchange of financial customer information—from customers who have expressly consented to such sharing—and other types of data among various service providers). The second type of consumers are Payment Initiation Service Providers, which constitute a specific subcategory authorized to instruct payment orders on behalf of customers directly from their accounts, without requiring a prior contractual relationship with the account-holding institution. On the technical side, all data exchange must occur through standardized remote-access APIs whose minimum specifications are set by the CMF, and all participants are required to adopt minimum cybersecurity standards, information security policies, and risk management controls defined by the regulator. The law also establishes explicit consent and authentication requirements: customer consent must be prior, explicit, free, and specific as to the type of data, purpose, and validity period, and can be revoked at any time.

A defining feature of Chile's Open Finance design is the decision to bring banks, insurance companies, investment firms, cooperatives, and cajas de compensación under a single regulatory umbrella from the outset, in contrast to jurisdictions like Brazil where banks and insurance, pensions and investments evolved under separate timelines. Two justifications underpin this choice. First, modern financial products are deeply integrated, including savings-linked insurance, cross-sold investment vehicles, and bundled credit and protection products, and artificially separating them by industry would generate friction that ultimately harms the consumer experience and the breadth of use cases the system can support. Second,

from a regulatory engineering standpoint, the marginal effort of incorporating additional industries decreases substantially once the base methodology for APIs, security standards, and consent architecture is built, making sequential expansion more costly than a unified rollout. The trade-off, however, is non-trivial: a broader simultaneous scope increases coordination complexity, multiplies the number of participants that must be technically ready at launch, and concentrates supervisory load on a single regulator whose capacity may be tested by the diversity of supervised entities.

The implementing regulation "Norma de Carácter General N° 514" was issued by the CMF in 2024 and operationalized the Open Finance system established by the Fintech Law. It defined the technical standards for API-based information exchange, minimum cybersecurity and risk management requirements, the consent architecture and authentication mechanisms, participant registration procedures, and the non-discrimination obligations applicable to information-providing institutions. The norm originally established a 24-month implementation window to allow participants to prepare technically and operationally. However, the CMF subsequently extended this deadline by an additional year, citing the need for greater technical gradualism and announcing the incorporation of a voluntary pilot phase during which institutions could test interoperability and API performance before mandatory compliance came into force.

The one-year postponement of NCG 514 reflects a combination of political-economy and technical considerations that are worth disentangling. On the political-economy side, the consultation process revealed opposition from several incumbent sectors, particularly non-bank card issuers and segments of the banking industry, given the implications of Open Finance for their existing business models. On the technical side, Chile opted to adopt FAPI 2.0 as its security standard rather than the FAPI 1.0 used in earlier implementations such as the United Kingdom and Brazil; this forward-looking decision required waiting for the corresponding certification, a process that extended the realistic implementation horizon. During this window, the CMF also incorporated a voluntary piloting phase, a "marcha blanca," during which participants could test API performance and interoperability without facing sanctions, an addition that improves the likelihood of a smoother launch but inevitably stretched the calendar.

A noteworthy regulatory design principle adopted by the CMF is proportionality in security through mandatory exclusion thresholds rather than through the relaxation of standards. The reasoning is that security in data exchange is non-negotiable: a single material breach would erode trust in the entire system, and trust is the foundation of any financial market. Rather than allowing smaller entities to enter the system with weaker controls, the regulator defined size and capacity thresholds below which participation in the Group 2 mandate is not required,

though voluntary entry remains available provided full standards are met. This approach protects systemic stability and consumer confidence, while still leaving the door open for smaller players who choose to invest in compliance to participate on equal technical footing.

Another instructive design choice concerns the relationship between consent purpose and data type. Incumbents proposed tightly binding the two, so that if the stated purpose was credit, only credit-related data could be accessed, but the CMF rejected this model on the grounds that it would constrain innovation. Decoupling purpose from data type allows financial service providers to build more comprehensive credit analysis models that incorporate, for example, payment history or alternative scoring inputs not strictly classified as "credit data," which in turn enables better products and potentially more competitive pricing for consumers. The structural concern with this approach is whether customers fully understand the breadth of access they are granting at the moment of authorization, an issue that has emerged as a recurring challenge in mature jurisdictions such as the UK and Brazil. Addressing this concern rests on regulatory guidance on consent design, including clarity, explicitness, and standardized user-experience requirements, to ensure customers are not misled or overwhelmed at the point of authorization, complemented by the CMF's ex-post supervisory authority to audit how receiving institutions use the data they obtain.

In terms of implementation pace and strategy, as already mentioned, Open Finance is not yet active in Chile. The country expects to unleash Open Finance in July 2027, in a phased-approach manner. The first stage will commence in July 2027 with the sharing of data of individuals. At that initial point, the data from individuals that will be allowed to be shared will include all the data that banks are responsible for managing (e.g. account information, credit cards, transaction history). Company data is expected to be shared three months later. It is important to note that Chile categorizes organizations (for open finance implementation purposes) and distinguishes banks (phase 1) with what Chile refers to as "subsidiaries", which are other financial institutions, such as insurance companies and asset management firms. Open Finance regulations will affect these "subsidiaries" in phase 2, which is expected to start in 2029.

The early inclusion of cajas de compensación and savings and credit cooperatives is particularly relevant from a financial inclusion standpoint. These institutions serve segments of the population that are typically underbanked or hold lower-income profiles, and several of them reach client bases of considerable scale: one caja alone serves several million customers in a country of approximately twenty million inhabitants. Their reception of Open Finance has been broadly constructive, with the underlying business case oriented less toward poaching clients from larger banks and more toward expanding and improving the product offering for their existing customer base. By giving these actors access to a richer information environment from day one, the framework creates conditions for tailored credit, insurance, and savings products

to reach populations that the traditional banking sector has historically served less intensively, reinforcing the financial inclusion objective of the policy.

Beyond financial inclusion, this concentration positions cajas and cooperatives as potential champions of Open Finance, providing a counterweight to incumbent caution and lending the system legitimacy from a non-fintech, non-bank corner. This is a structurally distinctive feature of the Chilean market; in other Latin American jurisdictions where comparable concentration exists among non-bank institutions serving lower-income segments, similar dynamics could be cultivated to broaden the coalition supporting Open Finance implementation.

Finally, regarding implementation strategy, it is worth noting that Chile does not plan to enable payment initiation from the start of the Open Finance rollout, but instead expects to introduce it in mid-2028. This policy choice aligns with Australia, which similarly delayed action initiation. As observed in the Australian case, this type of decision can hinder Open Finance penetration. Nevertheless, unlike Australia, Chile plans to enable payment initiation within a relatively short timeframe after launch, so the negative effects on Open Finance penetration in the country should be modest.

A subtler observation worth registering is that incumbents with operations in jurisdictions where Open Finance is already active, particularly Brazil, have generally shown lower resistance and a more pragmatic posture during Chile's implementation discussions. Prior exposure appears to ease cooperation, likely because the strategic uncertainty has already been resolved in another market and internal teams have accumulated operational know-how that can be transferred. While this observation should not be overgeneralized, it suggests that regional knowledge spillovers are a real asset and that fostering cross-border dialogue among financial institutions can meaningfully reduce friction in jurisdictions still preparing for launch.

Supervision and real-time monitoring emerge as one of the most consequential and underappreciated dimensions of Open Finance implementation. Effective oversight requires two complementary layers: traditional in-situ supervision of individual entities, and continuous online monitoring of performance indicators such as API availability, latency, and request success rates, tracked at the level of individual institutions and pairs of participants. The latter is essential for detecting potential anti-competitive behavior concealed as technical failures. Data security supervision adds a further layer of complexity, requiring tools capable of processing large volumes of information to identify anomalies that may indicate data breaches or misuse of customer information.

Building this supervisory capacity, however, faces two interrelated constraints in Chile and across the region. The first is budgetary: developing and maintaining real-time monitoring infrastructure, alongside the directory that the CMF must provide directly, requires investments

that compete with other regulatory priorities. The second is a matter of design philosophy: because system-wide monitoring is not perceived as urgent in the pre-launch phase, it tends to be deferred, a reactive posture that risks being insufficient once the ecosystem is live. Brazilian regulators have publicly acknowledged that monitoring tools should have been designed with greater depth from the outset, a lesson that is highly transferable. If supervisory capacity is not built proactively and in parallel with the technical rollout, the development of Chile's Open Finance ecosystem may proceed more slowly than its formal timeline suggests, and early problems, whether competitive, technical, or related to data security, may not be identified in time to be addressed efficiently.

3.1.2. Peru

Governance

The concept of open banking entered Peru's regulatory conversation as early as 2021, when a group of legislators introduced Law No. 1584/2021-CR, which declared open banking a matter of national interest and to formally delegate its regulatory design to the Superintendencia de Banca, Seguros y AFP (SBS) (Villafuerte Mendoza, 2022). The law proposed that the SBS lead the development of a strategy to expand access to financial services through data portability and API-based interoperability.

In October 2025, the SBS formally created the Open Finance Department, a dedicated internal unit charged with designing and overseeing the implementation of an open finance model for Peru (Andina, 2025). The SBS also established an internal steering committee composed of representatives from its various adjunct superintendencies and management units.

Finally, Open Finance process in Peru will involve working groups with the Banco Central de Reserva del Peru (BCRP), the Superintendencia del Mercado de Valores (SMV), the Instituto Nacional de Defensa de la Competencia y de la Proteccion de la Propiedad Intelectual (Indecopi), and the Ministry of Justice, reflecting the multi-institutional coordination that open finance demands.

Design and implementation strategy

In February 2026, the SBS publicly released its Open Finance Roadmap (El Peruano, 2026). The Roadmap outlines a four-phase process for implementing open finance across the Peruvian financial system. The document positions open finance as a tool to modernize the financial market, foster innovation, and strengthen financial inclusion, particularly among populations

currently underserved by formal financial institutions. Only 33% of adults hold credit within the financial system.

The four phases of the Roadmap are shown in Figure 6 (SBS, 2026). The first phase focuses on a diagnostic assessment of the financial industry's current state of readiness, evaluating the maturity of the ecosystem, existing API infrastructure, and relevant legal frameworks. The second phase will address regulatory and technical design, including the development of rules for how third parties such as fintechs can enter the ecosystem through registries or licenses, and establishing common technical standards. The third phase will cover progressive implementation, beginning with banks under an open banking model and the Bank-as-a-service “BasS”, then extending to two data groups by 2027 and 2028, respectively. This phase is designed as a live testing ground for bank-fintech integrations before full deployment. The fourth and final phase, anticipated for 2029 and beyond, will expand open finance to all supervised entities, covering banking, insurance, and pension funds, effectively transitioning from open banking to a fully consolidated open finance system. The SBS has stated that the Open Banking phase alone is expected to take approximately two years from the approval of the Roadmap before expanding to other sectors (RPP Noticias, 2026).

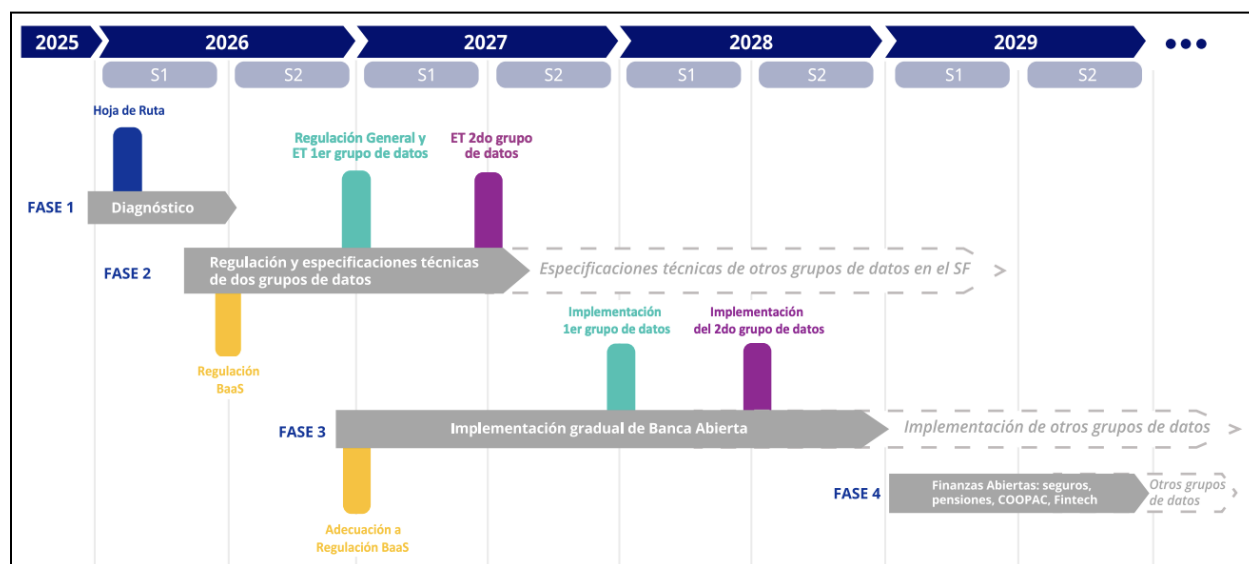


Figure 6: Roadmap of Open Finance in Peru

Key Stakeholders

On one hand, the incumbents are represented by the Peruvian Banking Association (ASBANC). Participants include major commercial banks, including Banco de Credito del Peru (BCP), BBVA Peru, Interbank, and Scotiabank, who will be the primary data holders in the open finance system. These four institutions collectively dominate Peru's banking market by credit, deposits,

and equity, and their cooperation is essential for the system's success (Ancalle & Garcia, 2024). ASBANC, the banking industry association, formally welcomed the open finance initiative during the legislative consultations in 2022, acknowledging that greater data sharing would expand access to financial products, improve financial inclusion, and strengthen market competitiveness. In anticipation of the regulatory framework, several institutions have already begun upgrading their internal API architecture.

On one hand, the fintechs are represented by The Fintech Association of Peru. While Peru's fintech sector remains early-stage, the Association has been more active in the payment interoperability's working groups with the BCRP. Lending platforms represent the largest segment, comprising nearly 25% of all fintechs in the country, according to Statista. Open finance holds particular promise for this sector, as it would give fintechs access to consumer financial data with user consent, enabling them to offer credit scoring, personalized lending, insurance comparison, and financial management products that previously required banking relationships to deliver.

Payments

Peru's payments ecosystem is the most advanced component of its broader open finance trajectory. Before 2022, digital payments in Peru were fragmented. Yape, the standalone digital wallet launched by Banco de Credito del Peru, and Plin, a payment functionality embedded within the mobile banking apps of BBVA Peru, Interbank, and Scotiabank, were the two dominant platforms, each with approximately 13 million users as of September 2023 (Ancalle & Garcia, 2024). However, they operated as closed systems, users could only send money within each wallet's own ecosystem, not across platforms.

By August 2022, the BCRP designed its Retail Payments Interoperability Strategy, establishing a four-phase implementation plan and, in October 2022, they mandated interoperability among digital wallets, mobile banking immediate transfer services, and other BCRP-designated providers (BCRP, 2022). Therefore, by March 2023 Yape and Plin were interoperated, which led to full interoperable transactions in the country. As of now, Digital wallets now account for approximately 69% of all low-value retail payments in the country. The Phase 4 of the Interoperability Strategy, currently in design and led by the BCRP, will introduce Payment Initiation Services (PSIP), enabling third parties to initiate payments on behalf of users through standardized, open APIs.

Key Differentiators

- Pragmatic approach: prioritizes relevant use cases from the outset.
- Multi-sector working groups with banks, microfinance institutions, cooperatives, fintechs, and public authorities.
- BaaS was the first concrete short-term regulation, prior to the general Open Finance regulatory framework.
- Coordination, but not integration, with BCRP's interoperable payments system.

3.1.3. Open Finance Frameworks Across Brazil, Peru, and Chile

Table 20: Comparative Open Finance Implementation in Latin America: Brazil, Peru, and Chile

	Brazil	Peru	Chile
Regulator entity	BCB	SBS	CMF
Phased out approach	Yes - 4 phases	Yes - 4 phases	Yes
Mandated	Yes - CMN/BCB Joint Resolution No. 1 in 2020	Yes - Law No. 1584/2021-CR in 2021	Yes, Fintech Law and Norm 514
In operation	Yes	No	No
Instant payments	government-led and centralized (Pix)	multiple private entities + backed by regulation	Multiple fintechs
Initial Participant Coverage	Only major banks	Only major banks	All banks and card issuers
End Participant Coverage (intended)	Banks, fintechs, Insurance and investments	Banks, fintechs, Insurance and investments	Banks, insurance, fintechs, and investments
Main motivation	Efficiency of financial system	Modernization	Competition

3.2. Building Blocks to Effectively Implement Open Finance in LatAm Countries

The three benchmark countries, the Brazilian implementation, and the Peru and Chile assessments converge on a common insight: there is no single model for open finance, but there is a set of building blocks that every successful framework requires. This section translates the lessons, hypotheses, and evidence from the preceding sections into actionable policy components, organized in two layers: foundational pre-conditions that must exist before open finance can function, and design choices that countries must make during implementation. Each building block is grounded in evidence from the benchmark and regional cases and maps directly to one or more of the seven design dimensions and six hypotheses established in Section 1.

Analytical Framework: Hypotheses Guiding the Recommendations

The building blocks presented below operationalize the six hypotheses developed in Section 1.5, which emerged from the comparative analysis of the United Kingdom, Australia, and South Korea. These hypotheses were subsequently tested against the Brazilian implementation (Section 2) and the Peru and Chile assessments (Section 3.1). For the reader's convenience, they are restated here in summary form:

Hypothesis 1 — Sequencing depends on starting conditions. Broad scope from launch is viable in markets with mature digital infrastructure and strong institutional capacity; elsewhere, a phased approach—starting narrow and expanding as adoption grows—is likely to deliver better outcomes.

Hypothesis 2 — Action initiation must not be delayed. Frameworks that delay action initiation (write access, payment initiation) beyond data sharing are likely to experience adoption gaps and constrained innovation. Action initiation should be planned as a core capability from the beginning, even if phased in shortly after launch.

Hypothesis 3 — Demand-side activation is equally critical. Infrastructure coverage alone does not generate adoption. Consumer awareness, compelling use cases, and a healthy fintech ecosystem must be cultivated in parallel with supply-side mandates.

Hypothesis 4 — Governance should match institutional capacity. Countries should match governance complexity to their actual institutional capacity, prioritizing clear accountability over elaborate multi-stakeholder structures. Simpler governance models with authority concentrated in one lead institution may deliver better outcomes where regulatory capacity is limited.

Hypothesis 5 — Uniform compliance risks excluding underserved populations. If open finance compliance requirements are applied uniformly, cooperatives, microfinance institutions, and smaller players that serve communities traditional banks do not may be effectively excluded—defeating the financial inclusion goals that motivate open finance. Tiered compliance, shared infrastructure, or public co-investment should be considered.

Hypothesis 6 — Funding models are a critical and often overlooked design choice. In Latin America, where incumbent banks may resist cross-subsidizing infrastructure and government resources are constrained, explicit consideration of levies on participants, transaction-based fees, or multilateral development bank co-investment is needed from the outset of framework design.

The building blocks that follow translate these hypotheses into concrete, actionable policy components. Each block specifies what is required, draws on benchmark and regional evidence, and indicates which hypotheses it addresses.

3.2.1 Pre-Conditions: The Foundation Layer

Before drafting open finance regulation, countries must ensure that the legal, institutional, and infrastructural foundations are in place. Without these, even well-designed open finance frameworks will face delays, legal challenges, and adoption failures.

Building Block 1: Legal and Regulatory Foundations

Open finance cannot operate in legal ambiguity, but the legal foundations it requires can be delivered through more than one legislative vehicle. The functional requirements are non-negotiable: (a) clear regulatory authority over the financial system, with explicit power to mandate data sharing; (b) a consent exception to banking secrecy, so that customer-authorized data sharing is legally compatible with existing confidentiality obligations; (c) a data protection regime that ensures consent, portability, and purpose limitation; and (d) a legal pathway for non-bank entities to participate in the financial system. What our research shows is that the decision whether these foundations are pre-existing general-purpose laws or embedded in the open finance legislation itself, is a design choice that countries can calibrate to their own circumstances.

Two pathways have produced functioning open finance ecosystems. Under the pre-condition pathway, the general legal stack is mature before open finance regulation. For example, the United Kingdom had a mature data protection regime well before an open banking framework. Likewise in Brazil, banking secrecy, non-bank participation and data protection, which only became fully enforceable six months after Open Finance Phase 1 launched. Under the embedded pathway, the functional requirements are delivered through the open finance

legislation itself. Australia and South Korea are the clearest examples: both bundled the data protection updates, consent architecture, and authorities for data portability into a single legislative package alongside the open finance mandate.

Even though both pathways are feasible, for most Latin American countries the embedded pathway is likely to be the better fit. General-purpose data protection reform in the region has historically moved on long, uncertain timelines: Brazil's data protection law took roughly eight years to enact, and Chile's is taking over eight years to take full effect. Tying open finance to that broader reform agenda risks indefinite delay. Embedding the missing functional requirements within the open finance legislation itself captures momentum, reduces inter-agency coordination risk, and produces a coherent legal architecture for the sector even when general data protection reform remains stalled. The trade-off is that this approach produces a sectoral rather than comprehensive data protection regime, which can create inconsistencies if the perimeter later expands into adjacent sectors. To mitigate this, countries should align the open finance consent and data protection provisions with international standards, so that the two regimes can be harmonized once general reform arrives.

Building Block 2: Governance Architecture and Accountability

Open finance requires a regulatory-led implementation process, and the governance structure must answer three questions from the outset: who leads, how do agencies coordinate, and what happens when things go wrong.

On leadership, the governance structure should be built around the institution that holds the legal authority over the financial system in each country, rather than around a one-size-fits-all approach. Where one institution concentrates broad authority over the financial system, a centralized governance model is the strongest configuration. Brazil illustrates this: the BCB held an unusually broad mandate, combining monetary policy and financial system development, which proved decisive for the design and supervision of open finance. Where authority is necessarily shared across multiple agencies, explicit coordination protocols and clear, non-overlapping mandates become essential. The UK's multi-regulator mode works because each body has strong institutional capacity and well-defined responsibilities. The broader principle is that governance architecture should follow the institutional reality of each country, anchoring leadership in the body with the relevant legal mandate and formalizing coordination wherever authority is shared.

On accountability, a formal dispute-resolution mechanism must be designed before action initiation goes live, not after. When payment initiation enables third parties to move money across 300+ participants, incidents involving data breaches, failed transactions, and cross-party liability are inevitable. Brazil's self-regulatory AOF handles standards coordination, and the UK's Future Entity is being designed with dispute resolution as a core function. Dispute resolution is not an afterthought; it is integral to governance architecture and must be built into the framework from the design phase.

Building Block 3: Instant Payment Infrastructure

A real-time, interoperable, low-cost retail payment system is the single most important piece of infrastructure that open finance builds on top of. The quantitative evidence shows Pix as the primary payment channel driving the development of Open Finance in Brazil. The analysis further shows the association between Pix and access to financial services which increased by roughly two-thirds. The reason for this strong association is that Pix generates the granular, high-frequency transaction data that Open Finance's sharing infrastructure makes useful for credit decisions.

Peru's BCRP-mandated interoperability between Yape and Plin, which now accounts for approximately 69% of low-value retail payments, positions the country well on this dimension. Chile, by contrast, lacks a Pix-equivalent system. This is arguably its single most important constraint: without an instant payment system generating the transactional data that feeds open finance use cases, payment initiation services will have limited infrastructure to operate on. Countries without instant payment networks should prioritize building them before or alongside open finance rollout.

3.2.2 Design Choices: The Implementation Layer

With foundational pre-conditions in place, countries face a set of interrelated design choices that will determine whether their open finance frameworks achieve adoption and impact, or become compliance exercises with limited practical value.

Building Block 4: Scope, Sequencing, and Action Initiation

Three questions are inseparable: how broad to launch, in what order to expand, and when to enable write access. The benchmark evidence and Hypotheses 1 and 2 frame the trade-offs clearly.

On scope and sequencing, the UK launched with narrow data coverage (1 of 6 CCAF categories) and achieved strong adoption. Australia launched broad (6 of 6 allowed) but experienced weak uptake. South Korea launched broadly and achieved rapid adoption, but only because it had

mature digital infrastructure, a concentrated banking sector, and strong government execution capacity. Brazil's phased four-phase approach offers the most relevant regional model: start with product data, expand to consumer data sharing, then add transactionality, then broaden to insurance and investments. For most Latin American countries, a phased approach starting with banking data and expanding as adoption grows is likely to deliver better outcomes than attempting comprehensive coverage from launch.

On action initiation, the evidence is definitive. Australia's five-year gap between data sharing (2019) and action initiation (2024) was a critical design mistake, producing only 3–4% penetration despite 99.74% infrastructure coverage. The UK launched AIS and PIS simultaneously and achieved strong, embedded usage. Korea's KFTC platform included payment functions from the outset. Within this range, 12-18 months represents a reasonable upper bound: long enough to allow phased operationalization, short enough to preserve the data-sharing-to-payment-initiation feedback loop that drives adoption. Chile has mandated approximately this gap, with PIS rollout scheduled for mid-2027, and Peru's BCRP interoperability Phase 4 timeline is consistent with the same logic. Frameworks that delay write access materially beyond this window risk Australia-style adoption gaps and constrained innovation.

Building Block 5: Participation Design — Who Must Join, and On What Terms

Two complementary decisions must be made together: mandatory participation for large incumbents and differentiated obligations for smaller institutions.

On mandatory participation, the evidence across all successful cases is consistent. The UK mandated its nine largest banks by name. Brazil applied mandatory participation to S1 and S2 institutions. Australia required its Big Four from day one. Large banks hold the vast majority of customer relationships and historical financial data; without their participation, the ecosystem has limited practical value regardless of how well it is technically designed. Mandatory inclusion should be paired with a reciprocity requirement: any institution that accesses shared data should share its own data in return. Brazil's reciprocity requirement prevents one-directional extraction and, over time, creates an incentive structure that benefits incumbents as fintechs accumulate their own valuable customer data.

On tiered compliance, Hypothesis 5 warns that uniform requirements risk excluding the institutions closest to underserved populations. In Latin America, where cooperatives, *cajas populares*, and microfinance institutions serve communities that traditional banks do not, this is particularly consequential. Chile's framework illustrates both the opportunity and the risk: a high potential number of participants including cooperatives, CACs, and small card issuers, many of which lack API-build capacity, and with Anexo 4 (cost distribution) still unpublished.

Chile's Group 1 and Group 2 tiering differentiates by timeline but not by technical requirements. Options for managing this trade-off include later deadlines for smaller institutions, shared technical infrastructure subsidized by government or multilateral development banks, and explicit size-based exemptions below a defined threshold. The goal is to include, not exclude, the institutions that serve financially underserved populations.

Building Block 6: Technical Architecture and Standards

Standardized technical architecture is a prerequisite for interoperability, and two models have proven effective. South Korea's centralized KFTC hub routes all API traffic through a single intermediary, simplifying development, harmonizing specifications, and mitigating cybersecurity risk; the trade-off is potential constraints on premium API innovation. The UK's decentralized model, with bilateral API connections against a common OBL specification, preserves competitive dynamics but increases integration costs. Both produced successful ecosystems. Fragmentation, where each institution maintains individual, non-standardized APIs, has produced successful ecosystems in neither.

In practice, most Latin American countries implementing open finance have adopted decentralized architectures with common API specifications—closer to the UK model than South Korea's centralized hub. Brazil's Open Finance ecosystem uses bilateral connections governed by a shared technical standard maintained by the governance structure. Chile's framework similarly requires participants to build and expose their own APIs according to CMF-defined specifications (NCG 514), without a central routing intermediary. For countries earlier in implementation, the choice should be driven by existing infrastructure and institutional capacity: those with mature interbank clearing platforms could consider centralized routing, while others can follow the bilateral-with-common-standard approach that is already emerging as the regional norm. What matters most is that a single, mandatory technical standard exists and that a designated body maintains and enforces it.

Building Block 7: Sustainable Funding Model

Hypothesis 6 identifies funding as a critical and often overlooked design choice. Who pays for building, operating, and maintaining the open finance infrastructure, including APIs, directories, dispute resolution, and monitoring, must be decided explicitly and early. Chile's experience is a cautionary example: Anexo 4 remains unpublished as of April 2026, fifteen months into the implementation window, creating investment uncertainty across the ecosystem.

The benchmark models offer three approaches: incumbent-funded implementation entities (UK's CMA9-funded OBL, which works during the compliance phase but becomes contested as the regime broadens), state-funded operators (Korea's government-backed KFTC, which requires

strong fiscal capacity), and levies on all regulated participants or transaction-based fees. For Latin America, where incumbent banks may resist cross-subsidizing infrastructure and government resources are constrained, hybrid models deserve consideration: initial co-investment from multilateral development banks to de-risk the build phase, transitioning to participant levies or transaction-based fees as the ecosystem matures and generates revenue.

Building Block 8: Demand-Side Activation Strategy

Hypothesis 3 delivers the starkest warning from the benchmarks: building open finance infrastructure does not guarantee that consumers and businesses will use it. Australia achieved 99.74% CDR-enabled account coverage and recorded only 3–4% active usage. Supply-side mandates alone do not generate adoption.

Effective demand-side activation requires three parallel efforts. First, at least one government-led anchor use case that demonstrates tangible value to consumers: the UK's HMRC tax payments (£3.3 billion via Open Banking in January 2024 alone) and Brazil's Pix, which served as a de facto demand-side catalyst, are the clearest examples. For Latin American countries, potential anchor use cases include integrating tax data with financial accounts to enable seamless filing and payments; enabling portability of social benefits across institutions; consolidating fragmented pension accounts to improve transparency; and modernizing public-sector payments to reduce costs and increase efficiency. These high-frequency, high-relevance use cases can establish immediate utility, build user trust, and catalyze broader ecosystem uptake. Second, fintech ecosystem support programs that enable third-party providers to build compelling products. Third, consumer awareness strategies that communicate value in concrete terms. Itaú Chile's approach of modernizing customer journeys without branding them as "Open Finance" reflects the reality that consumer awareness of the term itself is low; what matters is demonstrating value through use cases, not promoting a regulatory label.

Building Block 9: Multistakeholder Consultation and Transparency

Structured, time-bound consultation with banks, fintechs, consumers, and regulators before finalizing technical standards produces implementable specifications with ecosystem buy-in and legitimizes the mandate. Brazil's August 2019 public consultation, eighteen months before the principal regulation was published, directly shaped the consent architecture and API standards. South Korea's 2015–2016 API Standardization Working Group, which brought together financial companies, industry associations, and fintechs, produced more accepted and implementable specifications. Chile's Anexo 3 consultation rounds follow this pattern.

Equally important is post-launch transparency: public reporting of API performance metrics, adoption data, and compliance indicators. The UK's OBL publishes monthly API performance dashboards, a practice unique among the benchmark countries that creates accountability and signals that infrastructure obligations are genuine rather than performative. Brazil publishes Open Finance customer counts and API call data. At minimum, countries should mandate and publish API uptime, response times, monthly call volumes, number of active consents, and participant compliance status.

3.2.3 Sequencing the Building Blocks

Not all building blocks need to be in place simultaneously. The evidence from the benchmarks and regional cases suggests a natural sequencing:

Phase 0: Pre-Conditions (1–3 years before launch)

- **Legal and Regulatory Foundations (BB1):** Enact or update data protection law; ensure regulatory authority has clear mandate; resolve banking secrecy consent exceptions; enable non-bank participation.
- **Governance Architecture (BB2):** Designate lead regulator; formalize inter-agency coordination protocols where multiple bodies share jurisdiction.
- **Digital Infrastructure (BB3):** Launch or accelerate instant payment system; integrate state digital identity into financial authentication infrastructure.

Phase 1: Design (12–18 months before launch)

- **Multistakeholder Consultation (BB9):** Run structured consultations with banks, cooperatives, fintechs, consumer groups, and technology providers to shape API standards and consent architecture.
- **Scope, Sequencing, and Action Initiation (BB4):** Decide on initial data scope (banking first is recommended for most countries), phasing strategy, and action initiation timeline (within 12 months of data sharing).
- **Participation Design (BB5):** Define mandatory participation threshold; design tiered compliance for smaller institutions.
- **Technical Architecture (BB6):** Select centralized hub or common-specification model based on existing infrastructure.
- **Funding Model (BB7):** Design and publish cost allocation framework. Do not leave this decision unresolved into the implementation phase.

Phase 2: Implementation (12–24 months)

- Sandbox / voluntary pilot phase to test interoperability and API performance.
- Performance monitoring and transparency reporting go live (BB9).
- Data sharing goes live (read access) for Group 1 / mandatory participants.
- Demand-side activation campaign launches alongside or immediately after go-live (BB8).

Phase 3: Maturation (6–12 months after data sharing)

- Action initiation (write access / PSIP) goes live.
- Dispute-resolution mechanism activated (BB2) before or concurrent with payment initiation.
- Tiered compliance deadlines for Group 2 / smaller institutions (BB5).
- Scope expansion to insurance, investments, and pensions.

3.2.4 The Role of Multilateral Collaboration

Multilateral development banks, and the IDB in particular, can play a catalytic role at specific pressure points where Latin American countries face constraints that domestic resources alone are unlikely to resolve.

Technical assistance for regulatory design. The World Bank’s co-facilitation of the SBS Open Finance Department workshop in Peru (October 2025) is a direct example. The IDB can provide comparable support: helping regulators draft implementing regulations, design consent architectures, and define technical standards by drawing on the accumulated experience of jurisdictions that have already implemented, particularly Brazil.

Co-investment in shared technical infrastructure. For smaller countries and institutions, the cost of building API infrastructure, participant directories, and security certification systems may exceed what domestic funding models can support, especially in the early phases before the ecosystem generates revenue. IDB co-investment can de-risk the build phase, with a structured transition to participant-funded models as adoption scales. This directly addresses Hypothesis 6 and the funding gap visible in Chile’s unresolved Anexo 4.

Cross-country standard harmonization. As multiple Latin American countries implement open finance on parallel but independent timelines, the IDB’s convening power can prevent fragmentation by facilitating regional alignment on API specifications, consent protocols, and data taxonomies. Cross-border interoperability is a longer-term objective, but the foundations must be laid during initial national implementations.

Demand-side activation support. The Australian experience demonstrates that infrastructure alone does not produce adoption. The IDB can fund research on effective demand-side activation strategies adapted to Latin American contexts, support the design of government-led anchor use cases, and finance consumer awareness programs that translate the abstract concept of “open finance” into tangible value propositions for citizens and businesses. This role is particularly valuable because regulators in the region often face legal restrictions on partnering directly with private entities for joint communication campaigns, leaving consumer education structurally under-provisioned and frequently deprioritized until after launch. As a multilateral, the IDB is well positioned to bridge this public-private gap and ensure these efforts begin pre-launch. The empirical case is reinforced by Brazil: five years after launch, surveys indicate the main barriers among non-users are trust and knowledge rather than security concerns, signaling that sustained education, not technical fixes, is what unlocks broader adoption.

3.3. Conclusion

This report set out to answer a practical question: how should Latin American and Caribbean countries design open finance frameworks that achieve adoption, competition, and financial inclusion, rather than producing regulatory infrastructure that exists on paper but fails to transform markets?

The answer, drawn from three global benchmarks, Brazil’s quantitative record, and the emerging frameworks in Peru and Chile, is that there is no single model, but there is a clear set of principles.

Sequencing must match starting conditions. The UK’s narrow-then-expand approach worked because enforcement was credible and the CMA9 covered most consumer accounts. Korea’s broad launch succeeded because digital infrastructure was mature and government execution capacity was strong. Australia’s broad scope produced weak adoption because these prerequisites were less fully in place. For most Latin American countries, a phased approach starting with banking data and expanding as adoption grows is the path most likely to succeed. Peru’s pragmatic, narrow-first roadmap reflects this lesson. Chile’s broader ambition is viable given its infrastructure assets, but only if execution challenges, particularly the CMF-BCCCh coordination gap and the unresolved cost-distribution question, are addressed.

Payment initiation is non-negotiable. Australia’s five-year gap between data sharing and write access is the clearest cautionary tale in global open finance. Without payment initiation, open finance is limited to aggregation and comparison tools that are useful but not transformative

enough to drive mass adoption. Every Latin American framework must include action initiation from launch or within 12 months.

Infrastructure is necessary but not sufficient. The Brazilian evidence quantifies what the benchmarks suggest qualitatively. Pix is the primary payment channel driving open finance development, and the interaction between Pix usage and open finance has strengthened the relationship between digital payments and access to financial services by roughly two-thirds. At the same time, Australia's 99.74% infrastructure coverage with 3–4% usage proves that supply-side mandates alone do not generate adoption. Demand-side activation, through government-led anchor use cases, fintech ecosystem support, and consumer awareness, is equally critical.

Governance must be designed for the capacity that exists, not the capacity that is desired. Chile's CMF-BCCh split, the absence of a dispute-resolution mechanism for 300+ participants, and the timeline slippage that followed illustrate what happens when governance complexity exceeds institutional capacity. For most countries in the region, simpler structures with clear authority concentrated in one lead institution will deliver better outcomes than elaborate multi-stakeholder architectures.

Open finance must include, not exclude, the institutions closest to underserved populations. Uniform compliance requirements risk defeating the financial inclusion goals that motivate open finance in the first place. Tiered obligations, shared technical infrastructure, and public co-investment in data-sharing rails are design priorities, not optional accommodations.

Funding cannot be an afterthought. Chile's Anexo 4 experience confirms Hypothesis 6: the economics of who builds and maintains the infrastructure must be resolved before implementation begins, not left as an open question that creates uncertainty across the ecosystem.

The nine building blocks presented in Section 3.2, organized as pre-conditions and design choices, provide a practical framework for any Latin American country to assess its readiness, identify gaps, and sequence its implementation. The evidence is clear that the right open finance model is the one calibrated to local realities: to the country's regulatory capacity, digital infrastructure, financial sector structure, and inclusion objectives. The cost of miscalibration, whether in scope, sequencing, governance, or compliance design, is not abstract. It is measurable in years of delayed adoption, in excluded institutions, and in the unrealized potential of a financial system that could be more competitive, more inclusive, and more innovative than the one that exists today.

The building blocks exist. The evidence base is substantial. The question for each country is whether it will design its framework with the discipline and ambition the opportunity demands.

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Appendix I: Data Sources

#	Source	Description	File / Series ID
1	SCR.Data — Carteira Ativa (Total)	Active credit portfolio (R\$)	carteira.csv
2	SCR.Data — Carteira Ativa (PF/PJ)	Portfolio by client type	carteira_pf_pj.csv
3	SCR.Data — Carteira Ativa (PF Modalities)	PF portfolio by credit modality	carteira_pf_modalities.csv
4	SCR.Data — Ativo Problemático (Total)	Problem asset rate (%)	ativo-problemtico.csv
5	SCR.Data — Ativo Problemático (PF/PJ)	Problem rate by client type	ativo_problematico_pf_pj.csv
6	SCR.Data — Inadimplência (Total)	Default rate (%)	inadimplencia.csv
7	SCR.Data — Inadimplência (PF/PJ)	Default rate by client type	inadimplencia_pf_pj.csv
8	PIX / Macro / Customers	PIX volumes, Selic, IBC-Br, OF customers	data_monthly.xlsx
9	BCB SGS 20631 — Concessões Total	Total credit originations (R\$)	concessoes_total.csv
10	BCB SGS 20672 — Concessões PF Pessoal	PF personal credit originations	concessoes_pf_pessoal_total.csv
11	BCB SGS 20666 — Concessões PF Não Consig	PF personal non-payroll originations	concessoes_pf_pessoal_nao_consig.csv
12	BCB SGS 20656 — Concessões PF Cartão	PF credit card originations	concessoes_pf_cartao.csv
13	BCB SGS 20635 — Concessões PJ Total	PJ total originations	concessoes_pj_total.csv
14	BCB SGS 20642 — Concessões PJ Capital Giro	PJ working capital originations	concessoes_pj_capital_giro.csv
15	BCB SGS 27701 — Crédito MPMe	SME credit stock (Micro, Small & Medium)	credito_mpme.csv
16	BCB SGS 20716 — Taxa Juros PF Total	Average interest rate — PF total	taxa_juros_pf_total.csv

17	BCB SGS 25464 — Taxa Juros PF Pessoal NC	Average monthly rate — PF personal non-payroll	taxa_juros_pf_pessoal_nao_consig.csv
18	BCB SGS 26429 — Taxa Juros PJ Pequ Porte	Average rate — PJ small businesses	taxa_juros_pj_pequeno_porte.csv

Appendix II: List of experts interviewed

In preparing this report, we conducted interviews with a range of relevant stakeholders across the open finance ecosystem in Latin America. To respect the confidentiality of those who contributed, individual names and affiliations have been omitted. The interviewees represented the following sectors:

- **Banking:** senior executives responsible for digital business and open finance strategy at major banks operating in Brazil and Chile.
- **Payments:** senior leadership in economics and regulatory affairs at a leading payments company in Brazil.
- **Investment platforms:** senior digital product leadership at a major investment and brokerage platform in Brazil.
- **Open finance governance:** executive leadership of the organization responsible for governing open finance implementation in Brazil.
- **Financial regulators and supervisors:** specialists and coordinators in open finance and financial innovation at the financial regulatory bodies of Peru and Chile.

Together, these stakeholders provided perspectives spanning the private sector, governance entities, and public regulatory institutions across multiple jurisdictions in the region.