EXPANDING ACCESS TO PAYMENT SYSTEMS: CONSIDERATIONS FOR A PATH FORWARD

Cross-border Payments Interoperability and Extension (PIE) task force: Task Team 1

February 2026

This report was prepared by a selection of PIE Task Team 1 members,* with additional inputs and comments from other parties. The views expressed in this report do not necessarily reflect those of the Bank for International Settlements (BIS), the BIS Committee on Payments and Market Infrastructures (CPMI), its member central banks, or the whole PIE Task Force and its members.

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EXECUTIVE SUMMARY

In October 2020, the G20 endorsed a roadmap to enhance cross-border payments. The roadmap was developed by the Financial Stability Board (FSB) in coordination with the Bank for International Settlements' Committee on Payments and Market Infrastructures (CPMI) and other relevant international organisations and standard-setting bodies.

The roadmap aims to achieve four principal outcomes: reducing costs and increasing the speed of transactions as well as improving access and greater transparency. The original roadmap divides the work into a set of 19 building blocks (BBs), each focused on a specific issue to be addressed in order to substantially improve the cross-border payments landscape. In 2023, the FSB published a prioritised roadmap, which placed additional emphasis on stakeholder engagement. Consequently, the CPMI established a task force on cross-border payments interoperability and extension (PIE task force), inviting firms that offer cross-border payment services, payment system operators and relevant industry associations to participate.

This report builds further on the CPMI report *Improving access to payment systems for cross-border payments: best practices for self-assessments* (CPMI Best Practices Report).[1] It is the result of the work carried out by PIE Task Team 1 to identify relevant considerations that can help improve (direct) access to payment systems for banks, non-banks, and payment infrastructures.

The report is intended to serve as a starting point for regulators, payment system operators, and other relevant stakeholders considering the expansion of access to payment systems. It provides a high-level overview from industry perspective of key issues, potential benefits, and implementation challenges, illustrated through jurisdiction-specific examples, and is designed to support initial discussions and assessments. For a more in-depth analysis of the legal, technical, and risk-related dimensions of expanded access, readers are encouraged to consult the CPMI Best Practices Report and seek additional resources that examine expanded access in specific jurisdictions.

[1] CPMI (2022): *Improving access to payment systems for cross-border payments: best practices for self-assessments*, May.

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INTRODUCTION

In the evolving landscape of global finance, the expansion of direct access to payment systems for non-bank payment service providers (PSPs) could potentially enhance the efficiency, inclusivity and innovation of financial services. By allowing a broader range of participants to engage directly with payment systems, economies could potentially unlock numerous benefits, such as increased competition, reduced transaction costs, improved financial inclusion and the stimulation of technological advancements.

At the same time, expanding access may introduce challenges, risks and costs that require careful consideration. Regulatory requirements, risk management concerns and the need for resilient technological infrastructure pose significant hurdles that must be thoughtfully addressed. Nevertheless, several jurisdictions have successfully broadened access to relevant payment systems (eg real-time gross settlement (RTGS) systems) and associated accounts held at the central bank, suggesting that with sound policy design and steady implementation, expanded access is achievable.

This report explores the benefits of expanded direct access to payment systems (particularly focusing on RTGS systems linked to central bank accounts), examines common challenges and obstacles and presents case studies from jurisdictions that have successfully expanded access – whether fully implemented or in progress. Finally, guided by the key insights from success stories, it offers a set of considerations to serve as a starting point for regulators and payment system operators who might be evaluating the expansion of access to ensure a balanced approach that maximises benefits while mitigating risks.

1. THE LAYERED ARCHITECTURE OF PAYMENT SYSTEMS: INTERACTION AND INTEGRATION

Payment systems are the backbone of today's economy, providing the infrastructure that enables the initiation, authorisation, clearing and settlement of a broad range of payments including merchant, peer-to-peer, business-to-business, and government transactions, in a secure and efficient manner. The design and operation of these systems have significant implications for accessibility, inclusivity and the overall efficiency and soundness of financial markets. Understanding the landscape of payment systems is crucial for analysing the various models of connectivity and the implications of expanding access.

Most payment systems operate in a layered architecture, with each layer performing a distinct function – such as user interface, authorisation, clearing or settlement. The foundational layer, which handles final settlement, however, is typically accessible only to a limited number of direct participants via central bank accounts and the associated RTGS system that interacts with central bank ledgers. To accommodate non-bank PSPs and other non-bank entities that are excluded from direct participation in one or more of these layers, access arrangements such as sponsorship models have been developed to enable indirect participation. By broadening access, these models enable additional service providers to enter the market, fostering greater competition, product diversity and consumer reach.

As payment systems evolve and new players come into the market, there also is a risk that excessive layering on traditional payment systems could eventually become overly complex to integrate, inefficient and sub-optimal. In such a context, there is a growing need to evaluate if and how expanding direct access should also act to streamline operations, reduce costs and enhance inclusivity. In parallel, stakeholders must address challenges such as regulatory compliance, technological and operational readiness and maintaining the long-term integrity of the system to implement impactful and sustainable solutions.

2. KEY CONCEPTS: UNDERSTANDING ACCESS TO PAYMENT SYSTEMS

2.1 The role of payment system operators and governance

Governance arrangements in payment systems range from fully public to fully private models, each with distinct operational and regulatory implications. Some systems are operated by public authorities, such as central banks, while others are managed by private entities. In many jurisdictions, payment systems – particularly those deemed systemically important – are subject to public oversight, including regulatory requirements and supervisory frameworks. This creates a spectrum of governance models, ranging from fully public to fully private, with various hybrid models where private operators function under strong public mandates or public-private partnerships.

Each governance model presents distinct opportunities and constraints. These can be summarised as follows:

- **Publicly operated systems** are managed by public authorities, typically central banks or similar entities. Examples include the United States' FedNow Service and Brazil's Pix instant payment system, both of which are operated by the respective central bank. Such systems often rely on public funding, political prioritisation and broader policy mandates. While this can provide long-term stability, it may also limit flexibility, innovation capacity and execution speed, as such systems are often influenced by shifting public expectations, macroeconomic conditions, and political alignment.
- **Privately operated systems** are managed by commercial entities. Though often more agile and responsive to market dynamics, they must secure their own funding and navigate commercial incentives. This may not necessarily build towards broader public policy goals or be supported by a sufficiently robust and open market to fully monetise their offerings. They may also be subject to regulation and supervision across jurisdictions. The Clearing House in the United States and EBA CLEARING in Europe are examples of private entities owning and operating systemically important payment systems, subject to oversight by the Federal Reserve and the European Central Bank, respectively.
- **Hybrid models** involve joint public-private operation or public sector delegation of relevant functions to private operators (such as privately operated RTGS systems linked to central bank ledgers). These models combine benefits and drawbacks of public and private models: they mobilise private investment and operational efficiency while maintaining alignment with public interest objectives. However, they may also face the tensions between public mandates, private commercial goals and agile innovation.

This classification of governance models should be understood as a spectrum rather than clear-cut categories. In reality, the distinction between models might not always be clear-cut. While the line separating each model may be somewhat blurred, these general categories help highlight the different types of challenges that tend to arise when expanding direct access under each model, and they offer a useful lens for identifying practical steps for relevant stakeholders in each case.

There is no one-size-fits-all model that addresses all challenges and all systems should ultimately aim to ensure the stability, security, and efficiency of the broader payments ecosystem. In practice, most jurisdictions employ a mix of public, private and hybrid systems, each serving different policy objectives, user needs and market segments. These systems often operate in parallel and, in some cases, interoperate.

2.2 Different models of connectivity to payment systems

The way PSPs connect to payment systems depends largely on the system's access criteria and the regulatory framework governing access to settlement accounts. Payment system rules define which types of participants may interact with each layer of the system and under what conditions. As a result, three main models of connectivity have emerged.

- **Direct access**: As defined in the CPMI Best Practices Report, a direct participant in a payment system is an entity that can initiate, clear and settle payments either on its own behalf or on behalf of a sponsored indirect participant. For the purpose of this report, a direct participant is understood as an entity that connects independently to all relevant layers of a payment system, without the need for sponsorship by another participant at any stage. This includes technical access to the payment system's infrastructure (such as software, messaging networks and interfaces used for initiating, authorising and clearing transactions), as well as the ability to hold and manage a settlement account (typically at a central bank) through which final settlement occurs.
- **Indirect access**: This occurs when an entity that is unable or ineligible to connect directly to a payment system gains access through a commercial sponsor that holds full direct access to the system. The sponsor retains control over the access credentials, operates the settlement account, and manages all technical interactions with the payment system on behalf of the indirect participant. As a result, the sponsor is responsible for instructing, clearing and settling payments through the system on behalf of the indirect participant. This type of arrangement is sometimes expressly allowed and regulated by the system's rules (such as in the case of Pix in Brazil or Pay.UK through their Code of Conduct for Indirect Access Providers) though other times, access is simply common practice.
- **Hybrid access**: This model refers to a setup in which a participant gains direct technical access to certain layers of a payment system (such as messaging infrastructure, software interfaces and clearing mechanisms) while still depending on a sponsoring institution for final settlement. The participant can send and receive payment instructions directly and interact with the system's infrastructure, but final settlement occurs through the sponsor's account with the central bank. For example, the UK's Pay.UK systems (Bacs and Faster Payments) expressly allows for *directly connected non-settling participants*, which connect directly to the system but rely on a sponsor for settlement through central bank money.[2] Argentina's Pagos con Transferencias follows a similar model, allowing licensed PSPs to connect directly to the system while conducting final settlement through sponsor banks with central bank accounts.

[2] See UK Finance (2023): *Access to Payment Systems. Unlocking Innovation and Competition*, July.

3. BARRIERS AND BOTTLENECKS: THE CONSEQUENCES OF LIMITED ACCESS

Restricting direct access to payment systems solely to banks and other traditional financial institutions, while common in many jurisdictions, may result in several suboptimal outcomes. Drawing on the experience of some Task Team members, and consistent with findings from analytical reports, such restrictions can affect the broader financial system and end users, by raising costs, stifling competition and, in some cases, increasing systemic vulnerabilities. Consequently, limited access to payment systems can give rise to a number of specific obstacles, consequences and limitations:

3.1 Heavy reliance on banks

Where non-banks are not given direct access to central payment systems, they must rely on banks or other authorised financial institutions for indirect access through sponsorship, even in hybrid-access models. While this arrangement (indirectly) enables access for non-banks, it also creates inefficiencies. Banks that provide sponsorship services must dedicate substantial time and resources to develop and maintain the necessary systems and infrastructure. This includes operational interactions, technical integrations, and ongoing evaluations of the financial and operational soundness of indirect participants, especially in terms of credit risk and operational resilience, as well as anti-money laundering and countering the financing of terrorism (AML/CFT) measures. As a result, only a few banks are both capable and indeed willing to offer these services, often at a high cost, which can sometimes be prohibitive for smaller non-bank entities. This limits the number of indirect participants who can afford to access the payment system through such sponsorships. Challenges like de-risking can even result in non-banks being denied sponsorship services entirely. Furthermore, the limited number of sponsoring banks can make it difficult for indirect participants to switch from one sponsor to another, creating a context of limited competition.

A critical challenge arises when indirect participants are substantially unregulated and/or unsupervised. In such cases, the regulatory risk falls on the sponsor banks, which are subject to thorough supervision. These banks are then compelled to design complex compliance programmes to manage risks posed by their indirect participants, which reduces their willingness to provide sponsorship services. This dynamic is inherently inefficient because the indirect participants, being closer to their clients and daily operations, are often better positioned to manage these risks directly. To comply with strict regulatory controls over all their clients' activities, banks may also need to review transaction and client information of the non-banks they sponsor. This can potentially raise questions over sensitive commercial information, as the sponsoring banks and non-banks might compete for the same customers. If banks and other traditional financial institutions are direct competitors to fintechs and other non-banks, the former may be less interested to offer sponsorship-model access to payment systems by new players.

3.2 Innovation bottleneck

When non-banks are dependent on banks' sponsorship services for direct access, they are also dependent on the banks' capacity and interest in investing in innovative solutions for their sponsorship services. For instance, if a sponsor bank does not participate in an instant payment scheme, non-banks are unable to offer such services. While innovation may still occur in jurisdictions with a large and competitive market for financial services, where the potential rewards justify investments, this is not universally the case. In markets with less consumer demand or fewer incentives for banks to innovate, non-banks face significant hurdles. It is unreasonable to place the burden on banks to invest in enhancing and innovating their sponsorship services, given that the primary user base belongs to the indirect participants. The entities that directly interface with consumers have a stronger incentive to innovate, as they stand to gain the most in terms of revenue and customer satisfaction from improved services.

3.3 Concentration risk

Due to the challenges faced by banks in providing sponsorship services, only a limited number of banks are able and willing to offer them. This can often lead to a concentration where all non-banks, even large ones that would have the means to manage their own direct connection if allowed, are inevitably connected through just a few banks. Such concentration can pose significant risks, as the failure or withdrawal of a key sponsor bank could disrupt access for a large portion of the market, potentially destabilising the broader financial system. In larger markets with a more diverse set of financial institutions, this concentration risk may be less pronounced due to greater competition and redundancy. Conversely, in smaller jurisdictions, where indirect participants are concentrated around very few sponsor banks, the risk is amplified. Broadening direct access can enhance financial access and resilience.

3.4 Higher costs

Restricting direct payment systems access to banks and other traditional financial institutions can lead to layering new networks and players on top of existing systems. Widespread indirect access schemes result in longer chains of participants and intermediaries, and consequently higher costs of processing. These costs are then passed on to end users, making payments more expensive for consumers and businesses alike. When higher costs cannot be passed onto users, it typically results in stifled innovation and competition, as payment services operate on small profit margins, leaving little room for experimentation or development of new, more efficient technologies. This can keep prices high and limit the introduction of innovative services that could benefit both end users and the broader economy. Expanding access can potentially lower costs, stimulate competition and create incentives for greater innovation.

At the same time, it is important to acknowledge that raising regulatory standards for non-banks to enable direct participation may increase the cost of doing business for these entities. Therefore, balanced, reasonable and risk-based regulation is critical for all regulated entities – both banks and non-banks. Regulatory compliance costs should not be prohibitive and, when well-calibrated, can help lower overall costs by reducing inefficiencies in sponsorship programmes, on which smaller non-bank institutions will likely continue to rely. Such a framework would not necessarily remove the need for sponsorship arrangements but could make them less costly and more sustainable by ensuring that regulation addresses actual risks without imposing unnecessary burdens. For larger non-bank PSPs, reasonable regulatory compliance costs should not be prohibitive, as larger entities are often better equipped to handle regulatory requirements, and the additional cost would likely be offset by the benefits of being granted direct access.

3.5 Limited financial inclusion

In some jurisdictions, restricting direct access to payment systems to traditional banks and financial institutions can limit the availability and variety of payment services in the market. When only a small number of institutions are allowed to connect directly and act as sponsors to allow indirect access, competition can be reduced and the development of new user-oriented solutions may be slowed. This lack of diversity may lead to payment services that do not fully meet the needs of different segments of the population, particularly those underserved by traditional providers. By expanding direct access to a broader range of entities, such as licensed fintechs or other non-bank PSPs, authorities can foster greater innovation in the design and delivery of payment solutions. This, in turn, can enhance financial inclusion by ensuring that more people can access and use efficient, affordable, and secure digital payment options tailored to their needs, including cross-border payment options.

4. POTENTIAL BENEFITS OF EXPANDING PAYMENT SYSTEM ACCESS

Reflecting input from various Task Team members, expanding direct access to payment systems for non-bank entities could be transformative in jurisdictions facing the challenges outlined in the previous section. By allowing a more diverse range of participants, such as fintech firms, other non-bank PSPs and large technology companies, payment systems can become more inclusive, competitive and innovative, leveraging the distinct capabilities these actors bring to the market. At the same time, such expansion also introduces new challenges that require careful regulatory and operational consideration to ensure that the benefits are realised safely and sustainably. When effectively implemented, broader direct access can deliver significant advantages to financial systems – not only through lower costs and faster payments, but also through greater market dynamism, efficiency and resilience. Beyond their domestic impact, such reforms strengthen the conditions for efficient cross-border payments by aligning access standards, and reducing intermediation layers across jurisdictions. The potential benefits include:

- **Increased competition**: Non-banks can potentially introduce new business models and technological innovations, leading to a more dynamic market and a broader range of services for consumers.
- **Efficiency gains:** Direct access reduces reliance on intermediaries, which can significantly lower transaction costs. These savings can be passed on to consumers and small businesses, promoting greater usage of digital payments.
- **Enhanced financial inclusion**: Non-banks can provide services to underserved populations and regions that traditional banks may overlook.
- **Technological advancements**: Increased competition provides incentives for adoption and development of cutting-edge technologies, which, in certain jurisdictions, could enhance payment system speed, security, and performance.
- **Reduced concentration risk**: Diversification of participants reduces concentration risk, contributing to a more resilient financial ecosystem.
- **Interlinking payment systems and enhanced cross-border payments**: Direct access, especially when provided to large non-bank PSPs, can facilitate further interlinking of payment systems, both domestically and internationally. Beyond interlinking of payment systems, closed loop solutions and payment networks can offer cross-border payments. Finally, these non-banks can assume the role of correspondent institutions at a time when correspondent relationships are declining.
- **Foundation for cross-border efficiency:** Broader participation in RTGS systems and instant payment infrastructures help reduce intermediation layers and potentially allow new and existing players in the payments industry to offer cross-border payment solutions to a broader segment of the population, laying the groundwork for more efficient and inclusive cross-border payment arrangements.

5. CASE STUDIES: SUCCESS STORIES IN EXPANDING ACCESS

As the global financial landscape continues to evolve, several jurisdictions have taken steps to expand direct access to payment systems for non-bank PSPs. These case studies show that expanded access is both possible and beneficial to the financial system. They also offer valuable insights into the challenges and obstacles faced by participants and regulators along the way toward expanded access, shedding light on the complexities of implementing relevant changes. Taking a closer look at such examples can enable other jurisdictions to draft effective roadmaps for the expansion of direct access. By understanding both the successes and the hurdles, policymakers and payment system operators can better navigate the path forward, ensuring that the expansion is both impactful and sustainable.

5.1. Brazil

Over 15 years have passed since the Central Bank of Brazil (BCB) expanded direct access and provided central bank settlement accounts to non-banks (provided that such non-bank entities are previously authorised by the BCB to operate) for final settlement of all transactions that occur through Brazil's domestic RTGS system (called STR - *Sistema de Transferência de Reservas*). At the time (2009), the STR had been operational for almost eight years (since its launch in 2002), and the only non-bank entities authorised by the BCB to operate were clearinghouses and settlement service providers. When payment institutions (*Instituições de Pagamento,* Brazil's non-bank PSPs) were formally regulated by the BCB in 2013, they were allowed direct access to the STR.

By the time Pix (BCB's instant payment system) was launched at the end of 2020, the issue of direct access and settlement accounts for non-banks, especially payment institutions, had already been tried and settled. Pix was created to operate directly through a separate RTGS called SPI (*Sistema de Pagamentos Instantâneos*), to which both banks and payment institutions have either mandatory or optional direct access: it is optional for those with less than 500,000 active user accounts and mandatory for those with more 500,000 or more active user accounts. The expansion of direct access for non-banks to STR in 2009 paved the way for the creation of an instant payment system that included payment institutions as direct participants from the start.

This regulatory framework ensured a more equitable and transparent process, preventing direct participants from exercising undue control over the access of smaller PSPs. It also allows smaller PSPs to initially choose an indirect connection, and transition to a direct connection if and when they develop a large enough user base to justify the additional costs of direct access. As of November 2024, Pix has recorded over 100 billion transactions, with around 150 million registered users. This mass adoption demonstrates the growing acceptance of Pix as a primary payment method. Furthermore, the volume of transactions has shown consistent growth over time, with the number of operations increasing at an average monthly rate of approximately 8% since its introduction. Notably, about 35% of transactions were carried out through payment institutions, reflecting the continued growth of non-bank PSPs and smaller institutions that offer innovative and accessible solutions, and the importance of allowing such institutions to participate directly in relevant payment systems.

5.2 Mexico

In Mexico, non-bank PSPs were first granted direct access to the local payment systems in 2019 to increase competition and innovation in the financial sector. This move was facilitated by the Fintech Law ("*Ley para Regular las Instituciones de Tecnología Financiera*" or Law to Regulate Financial Technology Institutions), and specifically by Circular 4/2019, issued by Banco de México. This circular established the regulatory framework and operational guidelines for non-bank PSPs to participate directly in the country's payment systems.

This initiative, overseen by the central bank, enables non-bank PSPs to participate in key payment infrastructure such as SPEI (Sistema de Pagos Electrónicos Interbancarios). By granting these entities direct access, Mexico aimed to enhance financial inclusion, reduce transaction costs, and improve the efficiency and reach of financial services. This regulatory framework supports a more inclusive financial ecosystem by allowing a wider range of financial players to offer payment services directly, promoting a diverse and dynamic financial market. Only financial institutions regulated and supervised by Mexican financial authorities are eligible to participate in SPEI to limit the risks generated by participants. These institutions, whether banks or non-bank PSPs, must comply with technical, information security and operational risk management requirements prior to joining the system. Circular 14/2017 outlines the criteria and procedures for non-bank PSPs to access SPEI.

5.3 Canada

In June 2021, Canada took an important step towards modernising its payment landscape with the enactment of the Retail Payment Activities Act (RPAA). This legislation established a supervisory framework for PSPs, focusing on managing operational risks, safeguarding end-user funds, and ensuring compliance through a mandatory registration process. PSPs subject to the RPAA were required to register with the Bank of Canada starting November 2024, marking an essential step in aligning these providers with operational and safeguarding standards.

Having a sound regulatory and supervisory framework for bank and non-bank PSPs is essentially the first step needed to ensure that such entities can later become direct participants in key payment systems. In June 2024, Canada advanced further by amending the Canadian Payments Act (CP Act). These changes expanded membership eligibility in Payments Canada, the organisation responsible for operating the country’s core clearing and settlement systems, and building real-time payment rails to support instant, final, irrevocable and data-rich payments. The amended CP Act broadens Payments Canada’s membership to include RPAA-registered PSPs, credit unions and other operators of financial market infrastructures. The next step to implementing expanded access is for Payments Canada to review and amend its by-laws and rules, which will be subject to consultation with relevant ecosystem players. Any proposed changes will then undergo the regulatory approval process, including drafting with the Department of Justice and publication in the Canada Gazette.

These measures illustrate a thoughtful, step-by-step approach to reform, balancing innovation with consumer protection and financial stability. By first establishing a robust regulatory framework for PSPs and then expanding access to core systems, Canada is laying the groundwork for a more competitive and resilient payments infrastructure. While the journey is far from complete, this incremental approach is a good example that could be followed in jurisdictions where non-bank PSPs are still largely unregulated, and where relevant players in the payments ecosystem are still unable to participate directly in key payment systems.

5.4 European Union (EU)

In 2020, the European Commission consulted on its Retail Payment Strategy, which included questions around expanding access to its payment systems. In September that year, the adopted Retail Payment Strategy acknowledged that *“indirect access via banks may not be the best option for many non-bank [PSPs], as this makes them dependent on those banks.”* As such, the European Commission committed to extending the scope of the Settlement Finality Directive (SFD). The SFD, a piece of legislation first introduced in 1998, defines the eligible participants in designated payment systems and initially excluded non-bank e-money institutions and payment institutions from that list.

The EU's Instant Payments Regulation (IPR), adopted in 2024, introduced amendments to the SFD, as well as amendments to the Payment Services Directive (PSD2). These amendments set out risk-based criteria that need to be assessed by local regulators before granting permission to directly connect to payment systems. The IPR mainly aimed to make euro instant payments mandatory. However, as the obligation to offer instant payments applied both to banks and to non-banks, giving non-bank PSPs direct payment system access was considered necessary. As of April 2025, all EU Member States were expected to have introduced the necessary amendments to their national rules to ensure non-banks can access the local payment systems.

To access a payment system, non-banks will need to provide assurances on safeguarding, governance and internal controls. In addition, they will also need to present a resolution plan (wind-up plan) in case of failure. EU Member States need to define the procedure to assess compliance with these requirements when transposing the rules into national law. In conclusion, the EU made the required changes to enable non-bank direct access to ensure that non-banks no longer had to rely on sponsoring to offer instant payments. EU policymakers also cited lowering costs to justify the changes, as well as countering de-risking by banks.

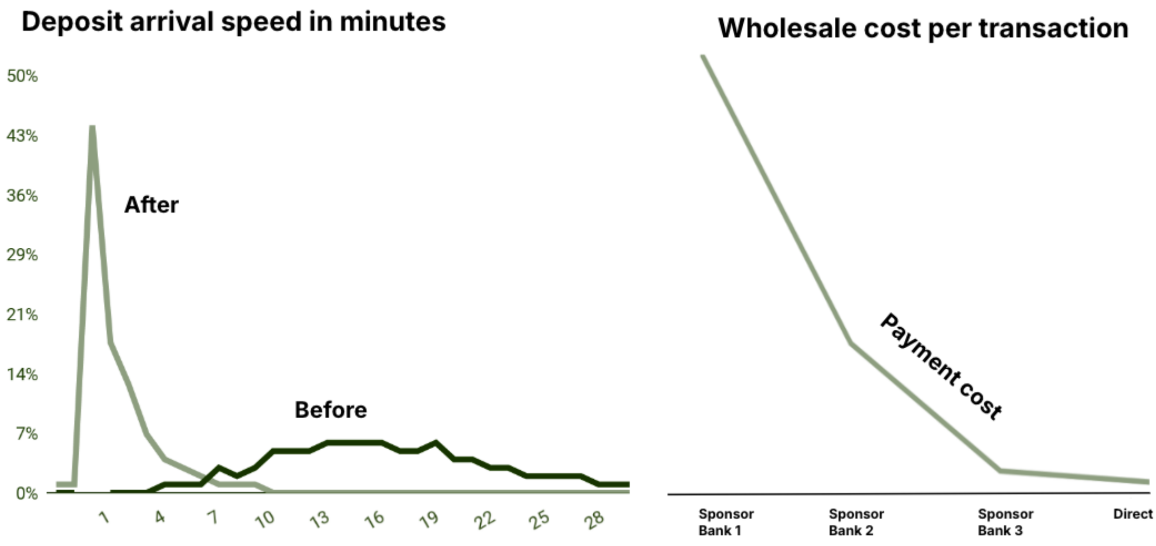
5.5 United Kingdom

In July 2017, the Bank of England announced plans to expand access to allow non-banks to have direct access to its RTGS system. The Bank of England gave its rationale for opening up access as *"competition and innovation in payment services […] in parallel this should support financial stability through greater diversity and risk-reducing payment technologies."* Specifically, the Bank of England highlighted how direct access *"in the longer term […] should promote financial stability by-creating more diverse payment arrangements with fewer single points of failure; identifying and developing new risk-reducing technologies; and expanding the range of transactions that can take place electronically and be settled in central bank money."* [3]

In April 2018, the Bank of England implemented direct access for non-bank PSPs to a central bank settlement account, enabling non-bank PSPs to become direct participants in the privately operated Faster Payment System. As Graph 1 shows, the speed of domestic transactions went from an average of 15 minutes to under a minute, and the cost of wholesale transactions was also dramatically reduced, enabling lower end user prices. In addition, the number of direct participants in the system went from 11 banks in 2015 to more than 47 today, driving innovation and competition in payments in the UK.

[3] Bank of England (2017): *Bank of England extends direct access to RTGS accounts to non-bank payment service providers*.

Graph 1: Speed and cost of payments in the UK before and after extending direct access to RTGS accounts to non-bank PSPs



Source: Wise

5.6 Japan

Access to Zengin, Japan's domestic payment system, has historically been restricted to local banks, *Shinkin* banks (credit associations), credit cooperatives, labour banks and agricultural cooperatives. Crucially, it was inaccessible to non-bank PSPs. Due to global movement towards direct access, a review of the future of Japan's payment system and Japan's Government's cashless payments promotion, Zengin formed the "Task Force for the Next-Generation Payment Systems" in 2020 to determine what a next generation payment network should look like. This task force published a recommendation in December 2020 (available only in Japanese) to invite non-banks to directly access the Zengin network.

Following a review in October 2022, Zengin-Net's Board decided to extend access to fund transfer service providers, which paved the way for non-bank PSPs to apply to directly join the system. The justification included a willingness to provide further and faster innovation, including via application programming interface (API) access, and Zengin believed that non-bank PSPs could provide valuable contributions to these discussions.

In 2024, this policy change was implemented in practice when Wise Payments Japan K.K. became the first non-bank PSP approved to join the Zengin System directly. The approval represented the initial application of the new eligibility framework for fund-transfer service providers and broadened the range of entities able to participate in clearing and settlement operations within Japan's domestic payment network. These steps indicate Japan's progressive move toward a more open access framework for its national payment infrastructure, reflecting a gradual expansion of eligibility beyond traditional banking institutions.

6. CHALLENGES AND CONSIDERATIONS FOR EXPANDED ACCESS

Expanding access to payment systems presents a number of challenges that must be addressed to ensure safe and effective implementation. This section outlines the most common challenges and concerns along with practical considerations for how they can be managed.

6.1 Risk management and compliance with relevant laws

Systemically important payment systems are typically held to rigorous legal and regulatory requirements of safety and soundness to ensure the stability of the financial system. These legal requirements may restrict their flexibility in granting direct access to non-banks. For instance, the PFMI[4] require financial market infrastructures (FMIs) such as systemically important payment systems to maintain access and participation criteria that are "*justified in terms of the safety and efficiency of the FMI [and] tailored to and commensurate with the FMI's specific risks*" (Principle 18). Accordingly, it is of utmost importance to assess the risks that providing direct access to non-bank financial institutions could introduce to the ecosystem.

Consideration: Risk-based regulation and supervision of non-bank PSPs

To address this challenge, it is crucial to align the regulation and supervision of non-bank PSPs to address the actual risks they pose. By implementing transparent, proportional and risk-based supervision for banks and non-bank PSPs, payment systems can better meet systemic importance requirements while enabling broader participation. This approach not only strengthens the safety of the system but also ensures that access policies remain equitable and sustainable.

Independently from payment systems, it is important to establish clear regulatory frameworks covering liquidity, credit risk, AML/CFT and sanctions compliance, and transparent supervision of non-banks to facilitate their participation in key payment systems without compromising the system's overall security. This is an important step in the direction toward expanded access. Without appropriate regulation and transparent supervision, the category of non-banks might include PSPs and other entities in the financial ecosystem with diverse range of activities and, therefore, substantially different activity-based risks. This lack of distinction makes it challenging for payment system operators to effectively manage expanded access, particularly in jurisdictions where non-banks are mostly unregulated, unlike banks, which are subject to highly stringent supervision.

Payment system operators rely on supervisory and regulatory regimes applicable to banks and financial entities to ensure the smooth operation of their payment systems, which makes such systems more efficient and cost-effective. The lack of harmonisation of the regulatory requirements for operational, financial and governance risk management (amongst others) applicable to banks and non-banks may necessitate additional verifications and validations by payment system operators, which increases related costs.

In the absence of comprehensive international standards and uniform supervision of those standards, jurisdictions have taken a variety of approaches to regulating and supervising non-bank PSPs in their provision of domestic and cross-border payments. Jurisdictions often use a mix of activity-based and entity-based approaches to this regulation and supervision, and some have the express intent of

[4] CPSS-IOSCO (2012): *Principles for financial market infrastructures, April.*

promoting a level playing field between banks and non-bank PSPs in their provision of cross-border payment services.[5]

In some cases, the result has been a clear regulatory and supervisory landscape for non-bank PSPs and other non-banks, facilitating their direct participation in payment systems. For example, Brazil's payment institutions legislation and the subsequent central bank regulation that enabled their inclusion as direct participants in key payment systems serve as one such example. In other cases, despite having a regulatory and supervisory framework in place for non-bank PSPs and other non-banks, it has fallen short in allowing payment system operators to fully assess and manage the potential risks that such entities could pose were they to become direct members of key payment systems.

While many jurisdictions have taken steps to regulate non-bank PSPs and other participants in the payments ecosystem, there may still be instances where such entities operate with limited regulation or supervision, or where certain payment activities remain restricted to banks and financial institutions. Depending on the political system of a jurisdiction, it may be necessary to combine legislative reforms with subsequent authority-based regulation and private reforms to achieve the goal of having a robust legal framework for non-bank PSPs. Once this step is completed (or in parallel), additional changes in the legal framework might be necessary to allow direct access to payment systems for non-banks. This would then be followed by the implementation stage, which requires coordination among many players in the ecosystem and often substantial investments of time and resources from both the public and the private sectors. Therefore, jurisdictions where the end users can benefit from non-bank PSPs having direct access to payment systems could consider adjusting their legal framework.

6.2 Redefined access criteria

To enable direct access for new participants in a payment system, it will be necessary to develop access criteria tailored to the specific type of entity and the potential impact – both positive and negative – of their participation on end users and the broader payments ecosystem. Ideally, new direct participants should contribute positively by broadening the availability of payment services, introducing innovative solutions, reducing concentration risks and lowering costs. However, their participation may also introduce risks, particularly credit, liquidity, operational and AML/CFT and sanctions compliance risks.

Consideration: Assessment of current rules and markets

The first step in defining new access criteria (or adapting existing frameworks to include non-bank participants) is to understand what the process would entail. This means identifying the necessary regulatory and practical changes and determining the stakeholders who needs to be involved. The specifics will depend on the type of payment system (public or private) and how it is regulated and overseen, whether through self-regulation by the operator, public oversight or a combination of both.

The next step is to analyse the state of the payments market in the relevant jurisdiction. This includes identifying which entities are already processing significant volumes of payments, either directly for end users or as intermediaries, and determining which of them rely on sponsorship for indirect access, whether partially or solely for settlement purposes. This analysis helps identify entities that are already integral to the payments ecosystem and for whom direct access could enhance the overall efficiency and resilience of the system.

Once these potential new types of participants are identified, it may be useful to categorise them based on: (i) the financial and payments-related activities they perform, (ii) whether they are subject to supervision, and (iii) the regulatory requirements they must meet (eg licensing and liquidity). This categorisation enables a detailed assessment of the potential contributions and risks associated

[5] FSB (2024): Recommendations for Regulating and Supervising Bank and Non-bank Payment Service Providers Offering Cross-border Payment Services – Final Report, December.

with each type of entity. Many risks, such as operational and cybersecurity risks, are likely to be similar across both banks and non-bank PSPs. However, others, like credit and liquidity risks, may vary significantly. It is therefore essential that the risk assessment is proportionate to the nature and scale of each participant's operations. The extent and nature of licensing and regulation, as well as supervision by a competent authority, will play an important role in the risk analysis of potential new participants. Therefore, having proportionate regulation and transparent supervision of non-bank PSPs in place is essential to effectively addressing the challenge of expanding access. While public sector authorities responsible for regulating payment systems would typically lead this analysis, private sector operators could also take the initiative in conducting such assessments.

Consideration: Coordination, participation and consultation

Coordination, participation and consultation are essential aspects of the success of any effort to expand access. It can be beneficial for one or a small number of stakeholders to take the lead in driving the project forward. From an organisational standpoint, this is often more straightforward in publicly operated payment systems, where a central authority can act as the "project manager" to coordinate stakeholder efforts, conduct consultations and implement any necessary regulatory changes. However, this approach depends on both political will and financial prioritisation, which may not always be guaranteed.

In privately managed systems, the payment system typically retains responsibility for establishing its own risk-based access criteria. In such contexts, industry associations can play a valuable role in facilitating knowledge-sharing and coordination, particularly on operational matters, such as engaging with public authorities or addressing implementation challenges. This is provided that these efforts are structured to avoid competition concerns. Ultimately, each case will require a tailored approach, so it is important to consider these organisational aspects early on in the process, to structure stakeholder engagement in the most effective way.

6.3 Maintaining robust infrastructure and operational resilience

Expanding access requires a secure and resilient technological infrastructure capable of supporting increased transaction volumes and a higher number of participants while maintaining robust cybersecurity and consistent performance. Legacy payment infrastructures, originally designed for a small number of participants and lower transaction volumes, may face challenges in meeting the demands of broader access. Substantial investments in modernising these systems will be necessary, requiring cooperation among private and public stakeholders to ensure coordinated technology updates. This includes designing, implementing, and maintaining updated infrastructures that can accommodate growth and ensure operational continuity. Such collaboration can help optimise resources and drive innovation, ultimately contributing to an accessible and efficient payment ecosystem.

Consideration: Cost analysis

A common setback in expanding access is the tendency to maintain legacy systems due to the high upfront costs of implementing new infrastructure. As a result, efforts often focus on minor or incremental adjustments rather than more substantive reforms, while entirely new and potentially transformative solutions are often excluded from consideration. Even when continuing with existing infrastructure may be the most prudent option, it is essential to carefully evaluate alternative approaches, as better solutions can be easily overlooked without a thorough analysis.

The cost structure of a payment system should be carefully designed to ensure that operational excellence, regular upgrades and system maintenance of the system are consistently and adequately funded. This is a highly sensitive issue, as regulators sometimes look to establish limits on pricing related to payment processing. Regardless of the reason behind any such limits, safeguarding the operational resilience of the system through continuous maintenance and periodic updates should remain a top priority. This becomes especially critical when expanding access to more players, which increases the volume of transactions to be processed, and the associated risks. Additionally, it is crucial for public sector operators of RTGS systems to maintain transparency regarding the cost-recovery principles that they apply.

Consideration: Stress testing

Ensuring operational security is also a fundamental aspect of expanding access to payment systems. Participants must establish secure and resilient setups capable of mitigating operational and cyber risks. As new entrants are allowed into the system, often alongside a system redesign to accommodate expanded access, robust testing and resilience mechanisms become paramount. This is equally critical for new entrants (who may lack prior experience in directly connecting to payment systems) as well as for legacy players (who may be accustomed to working with incumbent infrastructures and handling lower transaction volumes). To address these challenges, payment systems should undergo rigorous stress testing and validation during initial deployment and as part of ongoing operations. Continuous monitoring and regular audits are also essential to ensure resilience, in line with the operational risk requirements detailed in the CPMI-IOSCO Principles for Financial Market Infrastructures (PFMI).[6]

Consideration: Technical flexibility

Regulations should ideally support technological innovation by being flexible and structured as best practices, avoiding rigid requirements that can quickly become outdated, as technology typically evolves faster than regulations. A lack of adaptability in regulatory frameworks often arises from limited familiarity with emerging technologies, leading to the imposition of outdated or overly prescriptive requirements. Excessively rigid regulatory requirements can stifle innovation and impose unnecessary burdens on participants, particularly those with advanced technological capabilities. Examples of such challenges include outdated security protocols, inflexible identity verification methods, and stringent session management rules.

Rigid regulations can disproportionately affect entities that are at the forefront of technological innovation. To support innovation while ensuring safety and compliance, regulators should consider adopting a flexible approach that emphasises (i) outcome-based standards, focusing on achieving desired security and operational outcomes rather than prescribing specific tools or methods, (ii) technology-neutral requirements, which avoid prescribing specific technologies or solutions, allowing participants to implement the most effective tools for their unique contexts, and (iii) regular updates and consultation, establishing mechanisms for regularly reviewing regulations and working closely with industry stakeholders to ensure they remain relevant and effective, and aligned with current technological capabilities.

Operational security and resilience are fundamental to maintaining trust and ensuring the smooth functioning of payment systems. To achieve these goals effectively, infrastructure tests and security measures should ideally be tailored to the services used, avoiding unnecessary mandates that can result in inefficiencies or excessive burdens. To maintain operational resilience, it is crucial to conduct security tests and reviews periodically and with sufficient anticipation, especially when significant changes to infrastructure or processes are planned. However, these efforts must be grounded in practical, service-specific contexts rather than abstract scenarios. Overly prescriptive or generic mandates can create several issues, including resource misallocation, stifled innovation and operational inefficiencies.

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[6] CPSS-IOSCO (2012): *Principles for financial market infrastructures, April.*

Cybersecurity and cloud services are also essential to building future-proof payment systems. However, prescriptive mandates requiring physical location constraints or the use of proprietary hardware should ideally be avoided, as they can potentially hinder scalability and limit the adoption of innovative technologies. In addition, requirements for physical presence or local servers can potentially hinder the ability to respond to operational incidents in a timely manner. From a system safety and security perspective, it is therefore in the public interest to preserve flexibility and allow cloud-based infrastructure. The focus should ideally be on establishing clear rules for security, resilience, and contingency planning, which are more effective in ensuring system integrity while enabling growth and modernisation. Flexibility in cloud infrastructure offers significant advantages over traditional, location-specific setups, including scalability, cost efficiency, and global reach.

6.4 Participant liabilities and guarantees

As payment systems open to new types of participants, existing frameworks for liability, payment finality and risk coverage must be carefully reassessed. Defining participant liability in all scenarios, including fraud or operational failures, becomes more complex with a diversified participant base. At the same time, safeguarding payment finality is critical for preserving confidence and legal certainty within the system. To ensure systemic stability, appropriate guarantees and risk-mitigation mechanisms must be established to address the potential financial exposures introduced by new participants, especially where their risk profiles differ from traditional system members.

Consideration: Clear and comprehensive liability framework

A clear articulation of the rights and obligations of payment participants, including liability for errors, fraud, and other exceptions, is essential to maintaining stability and trust in the system. While a payment system may already operate under an established liability framework, the inclusion of new types of participants, particularly non-banks or entities with different business models, necessitates a careful review and, where necessary, revisions of these rules to ensure they are still appropriate and comprehensive. As operational practices evolve and new scenarios emerge, such as disputes, technical failures, or novel use cases, the liability framework must also be regularly reviewed and updated to reflect real-world developments. This ensures legal certainty, promotes accountability, and supports a level playing field among all participants.

Consideration: Proportional guarantees

Payment system operators must account for the fact that different types of entities, such as banks and non-bank PSPs, operate under varying regulatory regimes, especially regarding capital, liquidity and supervisory requirements. While it is important to manage these differences, any measures introduced, such as collateral requirements, transaction limits or other risk controls, should ideally be applied in a transparent, objective, and risk-based manner that is consistent with the principle of non-discriminatory access under the PFMI. Not all systems will require collateral or the same safeguards, and proportionality should guide the design of such rules. The overarching goal is to support broader access while ensuring that risk management practices uphold the safety and integrity of the system. The aim is not to impose identical obligations on all entities, but to ensure that risk is managed effectively to support both expanded access and system-wide stability. Associated guarantees should be sufficient to ensure the overall safety of the system, but not excessive or inadequate in a way that could become an unnecessary barrier for participants.

Consideration: Settlement via central bank accounts

One of the strongest safeguards in managing participant liabilities within payment systems is the use of settlement accounts at the central bank. By holding and settling funds in central bank money, participants avoid counterparty credit risk, thereby enhancing payment finality and reducing the need for additional guarantees or collateral arrangements. This provides a high degree of certainty and trust in the system, particularly during periods of market stress. It also helps mitigate concentration risk, where indirect participants rely heavily on a single sponsor bank for settlement, or where a small number of participants process a significant volume of payments. Allowing more participants to settle payments directly through their own central bank account mitigates the risk of disruption to access for multiple entities reliant on a single direct participant for settlement.

Brazil and the United Kingdom (UK) are examples of jurisdictions where direct non-bank participants of certain payment systems can hold special-purpose settlement accounts with the central banks:

- In the UK, firms seeking direct access to certain payment systems can choose between being a Directly Connected Settling Participant (DCSP) or a Directly Connected Non-Settling Participant (DCNSP). The difference lies in how settlement occurs: DCSPs are responsible for authorisation, clearing and settlement of transactions and must hold a settlement account at the Bank of England, whereas DCNSPs are connected to execute payments but rely on a sponsor to provide the final settlement on their behalf, thus avoiding the need for their own Bank of England settlement account.

- In Brazil, the regulatory framework for the country's instant payment system (Pix and its associated settlement system, SPI) requires all direct participants to hold Instant Payment Accounts (*Contas Pagamentos Instantâneos*, or *Contas PI*) at the BCB for settlement purposes. Certain types of participants – including banks, some financial institutions and non-bank PSPs authorised by the BCB – are required to connect directly to the SPI based on the volume of transactions they process and the systemic risk they represent, while smaller entities may connect indirectly through a sponsoring participant. Since Pix operates 24/7, these purpose-specific accounts must maintain sufficient balances at all times to ensure continuous settlement. To minimise the opportunity cost of holding liquidity at the central bank, the BCB introduced partial remuneration for these balances. The remuneration is determined at the close of the regular operating schedule of the Reserve Transfer System (STR), typically at 18:30. To preserve monetary-policy neutrality and prevent competition with other money-market instruments, remuneration is limited by a prudential cap set by regulation. By aligning incentives and ensuring liquidity availability throughout the day, the system improves cost efficiency for participants, supports settlement certainty in a 24/7 environment, and promotes overall financial-system integrity.

Central banks may have legitimate concerns regarding the type and use of settlement accounts held by non-bank PSPs. They may therefore impose restrictions on their structure and function, such as limiting their use to settlement purposes or capping the balances that may be remunerated. At the same time, clear eligibility criteria and robust oversight mechanisms should be in place to ensure that access by non-bank entities enhances efficiency and resilience without undermining financial stability or monetary policy objectives.

Brazil and the UK provide concrete examples of how such principles can be implemented in practice, allowing both banks and licensed non-bank PSPs to hold dedicated settlement accounts at the central bank. These accounts are strictly purpose-specific and operate under a regime of proportionate supervision and clear eligibility rules. In Brazil, allowing non-bank institutions to maintain overnight balances on these accounts and remunerating those balances within prudential limits has proved effective in addressing liquidity and efficiency challenges inherent to 24/7 payment environments. Moreover, this model mitigates potential operational complexities that may be involved when non-bank participants are required to empty settlement accounts at the end of each day, and reduces the liquidity frictions associated with repeated daily funding cycles. In light of these examples, similar frameworks could be considered at the global level as jurisdictions modernise their payment infrastructures, promoting a balance between efficiency, inclusiveness and the integrity of monetary policy.

7. IMPACT OF EXPANDED ACCESS ON CROSS-BORDER PAYMENTS

Though the benefits of expanded access to domestic payment systems have been debated and established, the connection between domestic and international payments remains relatively less explored. In this context, the G20 roadmap to enhance cross-border payments identified improving direct access to payment systems by banks, non-banks and payment infrastructures as one of the 19 building blocks aimed at achieving cheaper, faster, transparent and inclusive cross-border transactions.

Although new technologies and forms of ledgers are being developed and tested for payments and the international movement of funds (eg blockchain, central bank digital currencies (CBDCs) and crypto assets), the final settlement of international payments still relies predominantly on domestic RTGS systems as the foundational layer. This is generally true for both retail and wholesale payments. Consequently, the benefits of expanded access to domestic payment systems also extend to cross-border transactions: reducing reliance on intermediaries and shortening transaction chains can enhance speed and lower costs at the final settlement stage, while enabling a broader range of PSPs to connect efficiently to RTGS systems can diversify the payment services available and expand access across the population.

The growing trend of instant payments at the domestic level is expected to put significant pressure on the current landscape of cross-border payments to evolve and adapt to consumer needs. Projects to interlink domestic instant payment systems would benefit from streamlined RTGS settlement for a diverse range of participants, including traditional banks, non-bank PSPs, and foreign banks. As cross-border payment systems evolve, ensuring inclusive and efficient access to domestic settlement infrastructure will become increasingly relevant, as it contributes to creating a more interoperable, competitive and resilient global payments ecosystem.

8. CONCLUSIONS

Discussions around expanding access to payment systems are not new. As reflected in this report, regulators and payment system operators in several jurisdictions have taken substantial steps to allow non-bank PSPs to access RTGS systems, both through hybrid and direct participation. Considering these precedents, while the specific approaches to implementing expanded access may vary across jurisdictions, the debate around potential benefits and the need for expanded access is largely resolved. The focus has shifted from the 'what' to the 'how,' laying the groundwork for the next phase in expanding payment system access: concrete implementation.

What are the factors currently holding implementation back? Why does the topic of expanded access remain a low priority in some jurisdictions, despite the recognition of potential benefits and the global trend in concrete actions? The Task Team identified several factors causing this: the complexity of access frameworks, a perceived lack of immediate benefits, the natural tendency to gravitate towards existing operational models rather than potentially disruptive new ones, and the existence of more pressing issues on policy agendas.

Crucially, the topic of expanded access may often be delayed because certain foundational elements, such as the regulation and supervision of non-bank PSPs, must usually be addressed and solved first, or in parallel. Expanded access can only be a straightforward policy win if the groundwork has been properly laid. Moreover, the analysis of whether non-bank PSPs should be allowed to hold funds at the central bank, and the related policy questions around how such balances should be treated, can open the door to complex debates. There is a risk that efforts to expand payment system access may be postponed pending broader regulatory or operational reforms, stalling momentum behind expanded access initiatives.

While implementing expanded access is not without complexity, many jurisdictions have already implemented different regulatory approaches to define the legal framework applicable to non-bank PSPs, and insightful academic and policy analyses have been published on the topic, particularly with respect to cross-border PSPs.[7] These experiences and analyses provide regulators with evidence and tools to implement a solid legal and supervisory framework for non-bank PSPs.

In that spirit, this report aims to clarify the perceived complexity surrounding expanded access to payment systems, providing a concise summary of the potential challenges that might be faced when embarking on the path to expanded access models. It also illustrates how regulators and industry players across the globe have managed to overcome such issues, even with different regulatory contexts and market structures. These experiences demonstrate that progress is possible, even with different starting points.

As recognised by the G20, a comprehensive strategy to enhance cross-border payments includes the expansion of payment system access. Technology has continued to advance in ways that blur traditional jurisdictional boundaries in commerce and financial services. As this trend accelerates, cross-border solutions will become increasingly important and essential to design accordingly. With a growing number of publications offering practical guidance, and the visible experience of several jurisdictions to draw from, the path toward expanded access is becoming increasingly clear. The tools to begin are available, and with strong collaboration and sustained commitment from key stakeholders, meaningful progress will inevitably follow.

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[7] See for instance FSB (2024): Recommendations for Regulating and Supervising Bank and Non-bank Payment Service Providers Offering Cross-border Payment Services - Final Report, December.

References

Bank of England (2017): *Bank of England extends direct access to RTGS accounts to non-bank payment service providers*, July.

Committee on Payments and Market Infrastructures (CPMI) (2023): *Improving access to payment systems for cross-border payments: best practices for self-assessments*, July.

Committee on Payment and Settlement Systems[8] and International Organization of Securities Commissions (2012): *Principles for financial market infrastructures*, April.

Financial Stability Board (FSB) (2024): *Recommendations for regulating and supervising bank and non-bank payment service providers offering cross-border payment services: final report*, December.

UK Finance (2023), *Access to Payment Systems. Unlocking Innovation and Competition*, July.

[8] The Committee on Payment and Settlement Systems (CPSS) changed its name to Committee on Payments and Market Infrastructures in September 2014. References to reports published before that date use the Committee's old name.

Annex 1: Composition of Cross-border Payments Interoperability and Extension (PIE) Task Team 1 - Subgroup 1

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Annex 2: Acronyms and abbreviations

AML/CFT	Anti-money laundering and countering the financing of terrorism
API	Application programming interface
BCB	Banco Central do Brasil (Central Bank of Brazil)
BB	Building block of the G20 cross-border payments roadmap
BIS	Bank for International Settlements
CBDC	Central bank digital currency
CPMI	Committee on Payments and Market Infrastructures
CPSS	Committee on Payment and Settlement Systems (former CPMI name)
DCNSP	Directly connected non-settling participant (UK model)
DCSP	Directly connected settling participant (UK model)
EU	European Union
FSB	Financial Stability Board
IOSCO	International Organization of Securities Commissions
IPR	Instant Payments Regulation (European Union)
PI	Pagamento Instantâneo (Instant Payment)
PIE	Cross-Border Payments Interoperability and Extension Task Force
PSP	Payment service provider
RPAA	Retail Payment Activities Act (Canada)
RTGS	Real-time gross settlement
Selic	Sistema Especial de Liquidação e de Custódia (Brazil's overnight policy rate system)
SFD	Settlement Finality Directive (European Union)
SPI	Sistema de Pagamentos Instantâneos (Brazil's Instant Payment System)
STR	Sistema de Transferência de Reservas (Brazil's Reserve Transfer System)
VSR	Valor Sujeito a Recolhimento (value subject to compulsory reserve requirement)
Zengin-Net	Japanese Bankers Association Payment Network