

BIS Papers

No 168

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Monetary and Economic Department

March 2026

JEL classification: O33, D43, G21.

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ISSN 1682-7651 (online)

ISBN 978-92-9259-944-7 (online)

Opening doors to open finance: evidence from the international experience

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March 2026

Abstract

Open finance is transforming the financial system, with rapid adoption in several jurisdictions in the years since its introduction. By enabling the sharing and use of customer-permissioned data, open finance can foster innovation, competition and financial inclusion. Early evidence highlights a role for open finance in breaking through data silos, reducing information asymmetries and driving venture capital investment. Successful implementation depends on standardised data sharing protocols and interoperability that enable seamless payment system connectivity and data exchange, all underpinned by robust regulatory frameworks. This paper examines international experiences with open finance, shedding light on its impact on competition, market entry and financial access, while discussing the challenges that remain.

Keywords: open finance, financial inclusion, competition, data sharing.

JEL codes: O33, D43, G21.

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1. Introduction

Data are the lifeblood of modern economic decision-making, driving innovation and growth. Yet access to (personal) data remains uneven across different actors in the economy, and users (data subjects) often have limited control over their data and how they are used. In response, many jurisdictions are rethinking how data are shared and governed to empower users and broaden participation in the digital economy. In the financial sector, many authorities have introduced open banking or open finance initiatives.

Open finance refers to the sharing and use of customer-permissioned data by *financial institutions* with third-party firms, other financial institutions and developers, to build applications and services.² Open banking is a narrower concept and refers to the sharing and use of customer-permissioned data by *banks* with such third parties. Both can include both “read access” and “write access” to data. Read access allows for service provision based on viewing or reading the data. Write access allows for service provision based on modifying the data. Open finance practices can arise from customer demands or as a result of policies. Some of the first mandated open banking and open finance initiatives include the United Kingdom (UK) Open Banking framework (Fingleton Associates and ODI (2014)); the European Union (EU) Second Payment Services Directive (PSD2) (EU (2015)) with a stronger focus on payments; and Australia’s Consumer Data Right, which adopts an economy-wide open data approach (Productivity Commission (2017), Farrell (2023)).³ Over time, other jurisdictions like Brazil, India, South Korea and Türkiye have adopted similar frameworks. By 2024, 95 jurisdictions had some form of an open banking or finance policy framework in place with varied objectives, like promoting competition and innovation and enhancing consumer protection and financial inclusion (CCAF (2024), CGAP et al (2024)).⁴

² Throughout this paper, “open finance” refers to both open banking and broader open finance initiatives. Whereas open banking focuses primarily on bank accounts, open finance extends further to cover a broader range of financial products, including insurance, securities and mortgages. An even broader concept, used in some cases, is “open data”, which may cover customer-permissioned data sharing in other industries beyond the financial sector – such as healthcare, utilities, telecommunications or taxes. See Graph A.1 in the appendix.

³ In other jurisdictions, like the United States, some market-driven bilateral agreements to share financial data, particularly between banks and financial technology (fintech) companies, emerged prior to any regulation. Data access and sharing initially developed through market-led arrangements, eg bilateral agreements and connectivity based on application programming interfaces (APIs). There were implementations aligned with the Financial Data Exchange (FDX) standard, as well as legacy non-API techniques such as screen scraping used by some fintech aggregators. Section 1033 of the Dodd-Frank Wall Street Reform and Consumer Protection Act gives consumers a right to access information on their financial products and services and to authorise third parties to access that information on their behalf. The Consumer Financial Protection Bureau (CFPB) has advanced this through rulemaking.

⁴ Meanwhile, 52% of Alliance for Financial Inclusion (AFI) members (spanning 88 countries) are still in the initial exploration phase of open finance, and 4% have fully implemented frameworks (AFI Digital Financial Services Working Group (2024)). Members’ top motivations include improving financial inclusion and customer choice (each 21%), followed by innovation (20%) and enhanced competition (16%) (AFI (2025)). Regulation has been an enabler of such frameworks and is not just a reaction to innovation (OECD (2024)).

Open finance *policies* emerged largely as a response to the growing concerns about data monopolies and lack of competition in payment markets. Large financial institutions generate and control vast amounts of data, which can then feed into improving existing services and providing new ones. New services can generate even more data, which can be used to further entrench market dominance by large financial institutions.⁵ This can create barriers to competition and innovation. Open finance seeks to break this loop by promoting data portability and interoperability, allowing consumers to share their financial data securely with third-party providers (see Vives (2019)). This shift aligns with broader efforts to create a more inclusive, competitive financial ecosystem while addressing the risks posed by data-driven monopolies.⁶

In this paper, we provide evidence on the international experience with open finance. We draw on new data from jurisdictions with advanced open finance frameworks, as well as from academic research. We show that in some jurisdictions where open finance frameworks are operational, they have facilitated the entry of new types of intermediaries, like third-party financial technology (fintech) firms and large technology companies (big techs). Open finance has also promoted greater customer choice through tailored financial products and services and enhanced access for individuals and firms to financial services, notably new payment methods, and credit. While there are certainly challenges in implementation, and policy frameworks have had to adapt to experience, early evidence has been broadly positive.

We contribute to the literature on open banking and open finance (see eg Xie and Hu (2024) and Jeng (2023)) by collecting this international evidence in one place. This complements studies that focus on one jurisdiction (eg Alok et al (2024), Babina et al (2025) and World Bank (2024)). We also shed light on whether theoretical predictions (eg Jones and Tonetti (2020), He et al (2023) and Goldstein et al (2023)) are borne out in practice. We show that, in some cases, there are measurable changes in jurisdictions with open finance. But additional work will be needed to better understand that causal impact of policies and further effects as these frameworks are rolled out and adapted.

The paper is organised as follows. Section 2 outlines the origins of open banking and open finance initiatives. Section 3 presents international evidence on the adoption of open finance and describes its impact on competition, entry of new providers, venture capital (VC) investment and access to credit. Section 4 discusses challenges and lessons to date. Finally, section 5 concludes.

2. Origins and adoption of open finance and open banking

Before full-fledged regulatory frameworks, open banking existed in rudimentary forms in private sector practices. This included third-party providers using techniques

⁵ In the context of large technology (big tech) companies' entry into finance, such a dynamic is often called the data-network-activities (DNA) loop (BIS (2019)).

⁶ Risks include cyber threats, privacy breaches, data misuse, algorithmic bias, market concentration and unclear accountability that can undermine consumer protection and ecosystem stability if not governed effectively (Bonvino and Giorgino (2026)).

such as “screen scraping” or “reverse engineering”, which allowed their customers to transfer data into their budgeting, lending and payment apps.⁷ As concerns around persistent data monopolies in the financial sector gained traction, calls grew for consumer-permissioned data sharing via standardised application programming interfaces (APIs), either through regulatory intervention or through private initiatives.⁸

Rather than relying on screen scraping, reverse engineering or bilateral file transfers, APIs allow systems to communicate automatically. This communication takes place under clear technical rules that specify how requests are made (eg for account balances or payment initiation) and how responses are returned. This ensures that customer-permissioned data are shared in a consistent, secure and auditable way, while banks retain control over authentication, monitoring and access management. APIs form the backbone of scalable and interoperable open finance ecosystems and are the primary mechanism through which third-party providers can access and exchange data with larger financial institutions. Standardised APIs go one step further by simplifying integration for all stakeholders, enabling broad participation, lowering technical barriers for new financial services providers and minimising duplication of effort.⁹

Jurisdictions have followed a diverse set of approaches to open banking and open finance, driven by their unique goals. These approaches can be classified into three broad categories: (i) regulatory-driven prescriptive approaches, requiring banks to share customer-permissioned data using eg unified technical API standards and third parties to register with supervisors; (ii) facilitative approaches, where authorities publish guidelines and recommended practices;¹⁰ and (iii) market-driven approaches, where no explicit rules require or prohibit data sharing. In the third case, the ecosystem evolves largely through commercial private sector arrangements (BCBS (2019)). The choice of regulatory approaches can depend on various factors, including

⁷ Screen scraping refers to the practice of using customers’ online banking credentials, with their consent, to log into on their behalf and extract data directly from a bank (or financial institution) website. Reverse engineering involves analysing existing banking interfaces or software to replicate their functionality or enable data access without relying on official documentation or standardised APIs. This is often used by third parties prior to the introduction of open banking frameworks.

⁸ APIs are the “set of routines, protocols and tools for building software applications” that provide standardised interfaces for secure data exchange between banks and third parties (BCBS (2019)).

⁹ Open banking and open finance can serve as so-called digital public infrastructure (DPI) by providing shared, interoperable rails that enable secure data exchange and service connectivity across financial participants. Built on technical building blocks such as open API standards, digital identity and consent layers, trust and governance frameworks, and connectivity and aggregation services, these infrastructures support reliable data portability and service interoperability. By embedding common protocols for authentication, authorisation and data management, open finance can act as foundational digital infrastructure. This supports enhancing competition, inclusion and innovation while maintaining user trust and financial system resilience. For insights on this in the Indian context, see D’Silva et al (2019).

¹⁰ Facilitative approaches vary in how actively regulators get involved, ranging from light-touch guidance (eg Singapore’s non-binding MAS API Playbook or New Zealand’s early industry-led Payments NZ model) to more proactive encouragement (like Hong Kong’s phased Open API Framework that sets expectations without mandating participation). This spectrum shows that regulators can influence progress while keeping data sharing voluntary, distinguishing facilitative models from prescriptive ones (Monetary Authority Singapore (2016), Payments New Zealand (2026), HKMA (2018)). For an overview of approaches by jurisdiction, see Graph A.2 in the appendix.

banking sector concentration, quality of digital infrastructure, cultural norms and laws around data privacy and the broader political economy of the jurisdiction. Notably, all of these approaches can be implemented through either centralised or decentralised technical architectures.¹¹

The EU was among the first to formalise open banking through PSD2, which created a harmonised regime for third-party access to payment accounts. It required banks to provide both read and write permissions (account information and payment initiation services) underpinned by strong customer authentication. PSD2 exemplifies the regulatory mandate approach. The UK also followed this approach in parallel to PSD2 by mandating the nine largest banks to fund and implement a common API standard and central directory. This mandated technical interoperability and governance, driving adoption at scale (The Paypers (2019)).

Other jurisdictions have adopted facilitative frameworks that support open banking development through voluntary participation and industry coordination, rather than through regulatory mandates. Authorities typically promote standardisation and interoperability by issuing guidelines, technical playbooks and phased roadmaps, while leaving the market to determine adoption speed and scope. For instance, the Monetary Authority of Singapore (MAS (2016)) encourages open data exchange through its API Playbook, which provides governance principles, common data standards and consent frameworks without mandating bank participation. It also provides complementary initiatives, such as SGFinDex, which enable individuals to aggregate and share their financial data across institutions. Similarly, the Hong Kong Monetary Authority (HKMA (2018)) launched its Open API Framework in phases, beginning with open product data and gradually expanding to include customer and transactional interfaces. These facilitative approaches can foster innovation and interoperability through shared technical infrastructure, connectivity and trust frameworks, while allowing flexibility for market-led evolution.

There are also examples of the third approach. In the United States, open banking has historically evolved through market-led initiatives, with financial institutions and fintechs forming bilateral data sharing arrangements using private aggregation services. However, this landscape may shift, as the Consumer Financial Protection Bureau (CFPB) finalised the Personal Financial Data Rights rule in late 2024 under Section 1033 of the Dodd-Frank Act, establishing a regulatory framework for consumer-permissioned data sharing (Arner et al 2025)). The CFPB has since reopened the rulemaking process to modify and refine this framework, signalling a transition from a market-based model towards a more regulated one (CFPB (2025)).

Concurrently with the adoption of open banking and open finance initiatives, their use is rising rapidly. While data on adoption are not universally available, and

¹¹ In a centralised architecture, as in India and Türkiye, a single entity or common infrastructure manages key functions such as directories, trust/identity verification or data switching between providers (eg financial institutions) and recipients (eg third-party providers), simplifying participation and interoperability but creating dependency on that central node. By contrast, a decentralised architecture, as seen in Europe's PSD2 implementation and Brazil's open finance model, relies on direct bilateral connections via standardised APIs between data holders and users, offering greater flexibility but potentially raising coordination costs and implementation burdens for each ecosystem participant (World Bank (2024)).

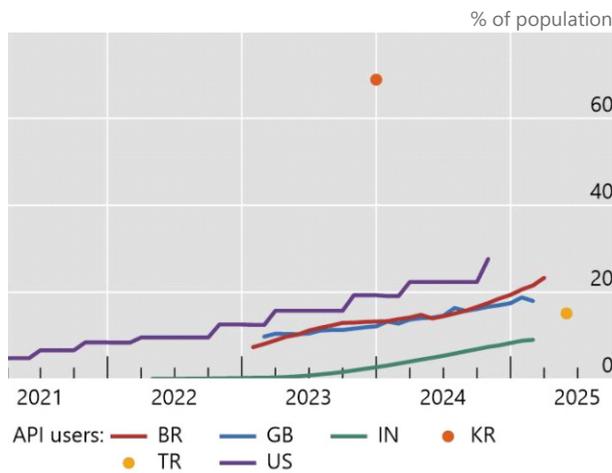
do not always use comparable definitions, data on users and API calls can be illustrative.¹²

Among the G20 jurisdictions for which data are available – Australia, Brazil, India, Korea, the UK, Türkiye and the US – Korea has the highest open finance adoption (Graph 1.A), with 36 million subscribers, 194 million registered accounts and an average of 20 API calls per person per month as of December 2023.¹³ The swift advance in Korea may be driven by its mature digital payments ecosystem and the widespread use of personal finance management apps, which had already integrated with earlier forms of open banking (CCAF (2025), World Bank (2024)). Per capita use

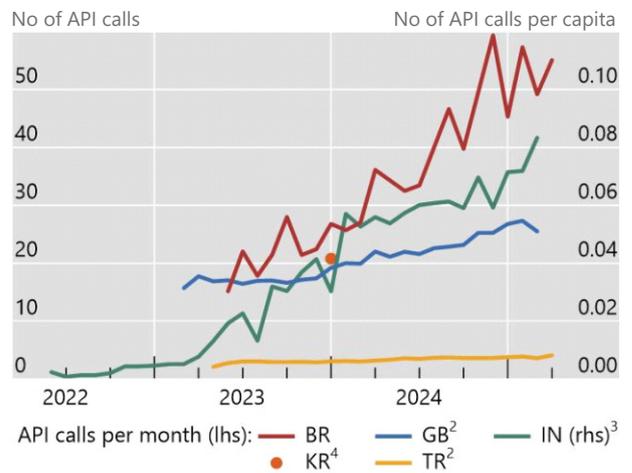
API-based open finance is taking off in several jurisdictions around the world

Graph 1

A. Number of open finance users is rising...¹



B. ...along with more open finance API calls



¹ For BR, based on stock of active consents. For GB, based on total number of users. For IN, based on cumulative number of accounts linked. For KR, based on total number of API subscribers as of December 2023. For US, based on cumulative number of users. ² Based on successful API calls. ³ Estimated as incremental consents fulfilled multiplied by 10. This corresponds to the number of data fetches facilitated through these consents in the lifetime of a consent. ⁴ Based on average total number of API calls in a day as of December 2023.

Sources: IMF, *World Economic Outlook*; BKM – the Interbank Card Center of Türkiye; Financial Data Exchange, “FDX hits 94 million accounts, CFPB publishes FDX’s standard-setting application”, 2024; Korea Financial Telecommunications & Clearings Institute; openbanking.org.uk; openfinancebrasil.org.br; Sahamati; authors’ calculations.

¹² Adoption of open finance can be measured in various ways, from basic indicators such as the number of registered users and API call volumes to more advanced system performance metrics, including success rates and response times. An API call refers to any transaction that involves secure, customer-permissioned data exchange using an API. This can be used as a measure of the intensity of use of open finance by individuals and businesses. See BIS (2020). Broader assessments may also track ecosystem coverage (eg participating institutions and data types), user behaviour patterns (such as consent activity) and market development (including active third-party providers and use-case uptake). For example, in Brazil authorities track headline indicators, such as participating institutions, registered customers and active consents, alongside more detailed measures like API call volumes, success rates and the distribution of calls across data types. They also distinguish between consent creation and actual data sharing, helping to identify the difference between nominal adoption and real use (Zetta (2024)).

¹³ This is nearly 70% of the population. Note that the number of subscribers likely includes some double counting, as the same individual may subscribe to or hold accounts with multiple financial institutions. Data source: Korea Financial Telecommunications & Clearings Institute (KFTC).

is highest in Brazil with 55 calls per user per month in March 2025 (Graph 1.B). That may reflect the relative ease of integration of open finance transactions with other widespread services, such as fast payments. Other jurisdictions, like the UK and US, are catching up, as seen in the number of users and API calls. India and Türkiye are also seeing quick growth in open finance use, but from a much lower base. Australia recorded around 13 API calls per capita for the banking sector in December 2025.¹⁴

Low adoption rates remain a persistent challenge for open finance in many jurisdictions. “Read-only” open banking may attract a small, financially savvy segment, while models that include payment initiation, such as in the UK, see faster uptake. Open finance can scale more effectively when embedded in everyday payments rather than offered solely as a data sharing tool (Lux and Zhao (2025)).¹⁵

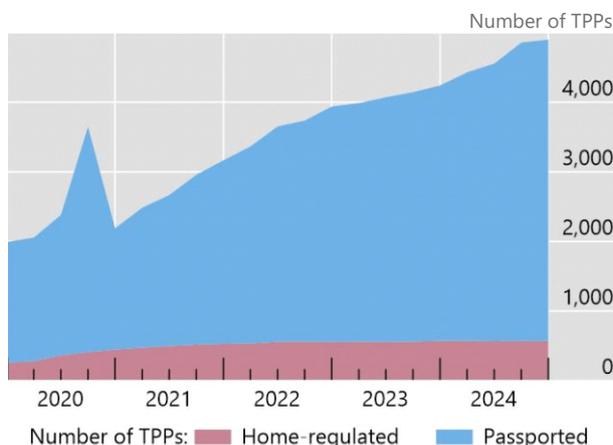
3. Impact on market entry, competition and financial inclusion

Despite being in early stages, open finance is facilitating the entry of new providers of financial services and new business models. In the EU and the UK, for instance, over 4,500 third-party providers of financial services have entered the market for retail financial services as of December 2024 (Graph 2.A). The vast majority operate across borders, through the EU’s so-called passporting rules.

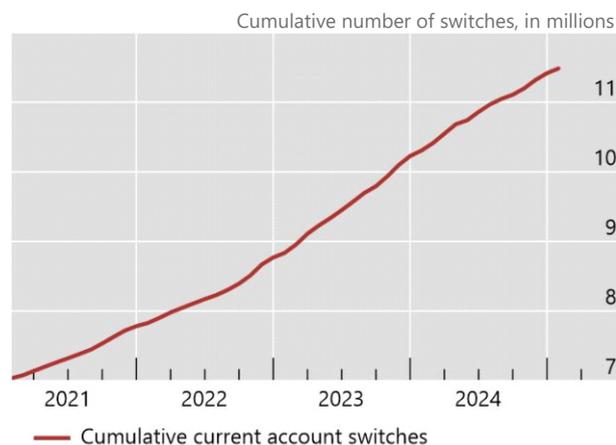
¹⁴ Data are taken from the Australian Consumer Data Right performance dashboard (<https://www.cdr.gov.au/performance>), selecting “Banking” as the sector and using the monthly view of “API Invocations” (API calls). Calculation: 374 million API calls ÷ 28.2 million population = ~13 API calls per capita (December 2025).

¹⁵ Reimsbach-Kounatze and Molnar (2024) offer additional evidence explaining why the uptake of data portability remains limited despite the presence of formal portability rights. Survey findings indicate that both awareness and actual usage of such rights under general data protection frameworks are low. Users are frequently discouraged by the complexity of the processes involved, concerns about potential risks and the effort required to actively manage data transfers. In contrast, open banking regimes have achieved significantly higher levels of usage by embedding data portability in standardised, API-based mechanisms that operate seamlessly in the background and are directly connected to specific services. This distinction between user-driven portability and integrated, service-oriented data sharing helps clarify why the mere existence of formal rights has not resulted in widespread adoption.

A. In Europe, more third-party providers (TPPs)¹ have entered the market



B. In the UK, over 11 million people have switched accounts with a dedicated switching service



¹ TPPs active in the European Union (EU) and United Kingdom (UK) operating within the home market or across borders using “passporting”. The drop in December 2020 corresponds to the withdrawal of the eIDAS certificates of UK TPPs as the Brexit transition period ended on 31 December 2020 (for further details see Financial Conduct Authority, “[FCA announces changes to open banking identification requirements](#)”, 11 March 2020; and Banfico, “[Brexit, eIDAS revocation and FCA changes to open banking identification requirements](#)”, 24 November 2020).

Sources: Konsentus, *Third Party Provider Open Banking Tracker*; Pay.UK; authors’ calculations.

Open finance and related initiatives are helping consumers to switch providers more easily.¹⁶ In the UK, the average length of a customer banking relationship is 14 years. This is a full two years longer than the average (romantic) domestic relationship, at 12 years (Fenton (2020)). Open finance frameworks can make it easier for clients to “port” data, including know-your-customer information and other verified identity and financial account data, from one provider to another. Data portability allows customers, with their explicit strong customer authentication and consent, to authorise the secure transfer or reuse of data relating to products and services that fall within the scope of the open finance ecosystem. The data are then transferred from one institution or service provider to another through standardised, encrypted APIs, ensuring privacy and control over personal information. This can simplify account opening and facilitate the transfer of recurring payments or standing instructions, reduce frictions in switching between providers and enable more integrated cross-provider financial services journeys in an open finance environment. While not formally part of the open finance framework, a related UK initiative – the Current Account Switch Service – has helped over 11 million individuals to switch current accounts among over 50 banks and building societies (Graph 2.B). This underscores the extensive user demand for such services that can be further promoted by open finance.¹⁷

¹⁶ Recent theoretical work also shows that open banking and open finance can enhance competition in credit markets but increase prices in payments markets. See Akoğuz et al (2025). This points to the need to account for cross-market spillovers when analysing the global effects of open banking policies.

¹⁷ The service is owned and operated by Pay.UK Ltd, a non-profit limited company that operates UK interbank payment systems.

In some cases, open finance policies can have a measurable impact on investment and on firms' access to credit. With a sample of 21 jurisdictions with open banking policies and using a staggered event study, Babina et al (2025) find that fintech VC funding increased (in volume and number of projects) significantly in the year following the introduction of the policies (Graph 3.A). This increase in VC funding for fintech companies underscores that open banking policies may be able to reduce barriers to entry and encourage smaller financial services providers to enter the market. Open finance may also benefit financial inclusion.¹⁸ For the UK specifically, Babina et al (2025) find that the open banking policy allowed small and medium-sized enterprises (SMEs) to form new credit relationships with non-bank lenders, although the gains are the largest for the firms that had access to credit previously (Graph 3.B). Other recent work shows that open banking enables small businesses to diversify the types of assets that they use as collateral (eg accounts receivable or inventory) and enhances credit provision to underserved and younger firms (Yu (2024), Xiong (2024)).¹⁹

Open banking and open finance are expanding worldwide, but effects are not uniform across jurisdictions, sectors and business models. One recent survey (World Economic Forum and CCAF (2025)) finds a range of views: some fintechs find them effective (29%), while others report limited usefulness or availability (24% ineffective; 23% unavailable but beneficial). Perceptions also differ by region and sector, with European, Middle East and North African (MENA) and Asia-Pacific fintechs generally more positive (42%, 33% and 31% effective, respectively). Overall, fintechs in advanced economies view frameworks more favourably than emerging market and developing economies (34% vs 23%). Furthermore, sectors like digital capital raising show the greatest dissatisfaction (40% ineffective), while high-satisfaction sectors include lending (39% effective), payments (36%) and wealth tech (37%).

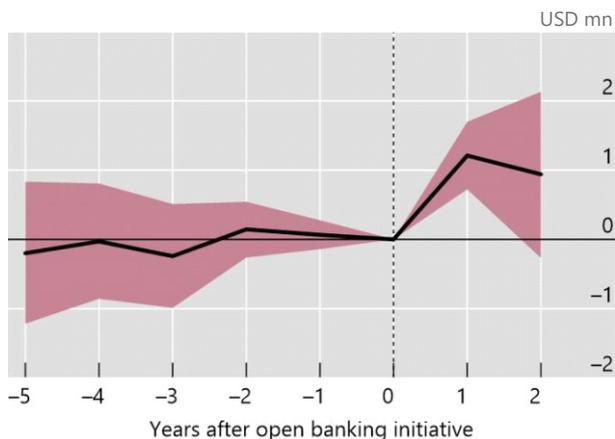
The impact of open finance on financial inclusion goes beyond firms. When borrowers who are deemed risky gain control over their personal data, they tend to disclose their payment information more frequently. This increased transparency leads to higher loan approval rates, lower interest rates and lower ex post defaults (Nam (2023)). As users assert more control over their data, they become more confident in sharing data with fintechs. This leads to fintechs offering lower loan rates, in particular to traditionally underserved groups (Doerr et al (2023)). Further, when lenders have access to more granular, real-time financial data, credit allocation can become more efficient, reducing information asymmetries and costs, for both new entrants such as fintechs and incumbents like banks (Bianchi et al 2024; Alok et al (2024)).²⁰

¹⁸ Financial inclusion can be defined as universal access to, and use of, a wide range of reasonably priced financial services. While this is often equated with access for individuals or households to transaction accounts, it neglects the much wider issues of access for individuals, households and (small) businesses to the full range of financial services. See Frost et al (2021).

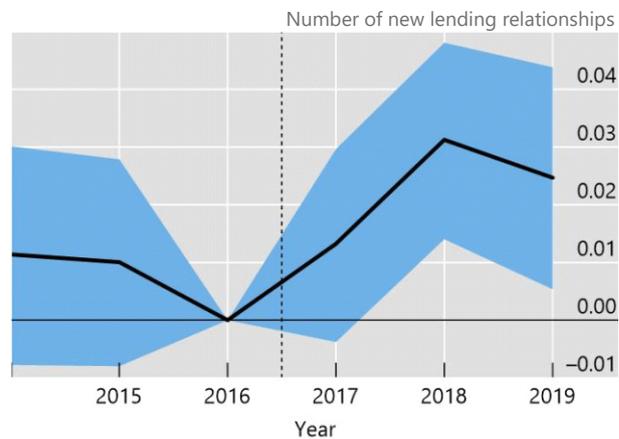
¹⁹ Note that in addition to the credit expansion effect, Xiong (2024) highlights an important trade-off between screening efficiency and screening cost that arises due to open banking policies.

²⁰ Beyond effects on fintech investment, credit access and financial inclusion, open finance can also influence bank valuations. Akyildirim et al (2025) examine stock market reactions of more than 3,400 banks in G12 countries following open finance-related announcements and find that bank stocks typically decline around announcement dates. This may reflect concerns about competition and compliance costs.

A. Open finance policies have driven fintech investment¹



B. Open finance led to greater lending to UK SMEs²



Ln(fintech VC investment): — Point estimate
 ■ 95% confidence intervals

New lending relationships: — Point estimate
 ■ 95% confidence intervals

¹ Changes in the natural logarithm (ln) of fintech venture capital (VC) investment activity before and after the passage of open finance policies in 21 jurisdictions. ² Changes in new lending relationship formation for small and medium-sized enterprises (SMEs) affected by the UK Commercial Credit Data Sharing (CCDS) policy.

Source: Babina et al (2025).

Within the umbrella of open banking and open finance frameworks, payments data have played a particularly salient role. By facilitating the sharing of digital payments data, open finance can provide lenders with high-frequency, verifiable information on borrowers who may lack formal credit histories. Evidence from India shows that incorporating digital payments data can improve the prediction of loan delinquency, strengthening both underwriting and post-disbursal monitoring of credit (Rishabh (2026)). Data from digital payments can also expand access to capital from fintech lenders at cheaper interest rates (Ghosh et al (2025)). Evidence from China shows that adoption of digital payments enhances financial inclusion and access to credit through the portability of payments data (Ouyang (2021)).

4. Challenges and lessons to date

The benefits of open finance are tangible, but implementation has not been without challenges. Experience to date highlights significant differences across regimes which eventually influence their success. Core challenges are around standardisation in data sharing, data governance and the transition from open banking to open finance, alongside the absence of a clear regulatory mandate in some jurisdictions (IIF 2025)). Other challenges include commercial misalignment, insufficient consumer trust and

legacy technical systems that may make incumbent institutions cautious in sharing data.²¹

A key issue is the absence of data sharing standards that are both politically enforceable and technically harmonised. Differences across jurisdictions in the structure and implementation of open finance reflect policy choices shaped by national contexts. In jurisdictions with facilitated or market-led approaches, where regulation is minimal or absent, there can be slower adoption and higher compliance costs for firms as they navigate inconsistent standards and limited coordination. By contrast, those mandating standardised APIs have enabled smoother implementation of open banking. For example, the UK's approach has improved interoperability and reduced integration costs for third-party providers, fostering greater innovation (CMA (2017)). In Türkiye, non-standard market practices prior to regulation posed significant barriers to interoperability. Localising standards and building centralised infrastructure enabled a more structured rollout and reduced friction for participants. Overall, mandating well-defined technical standards is a prerequisite for scalable and interoperable open finance.

Moreover, ensuring fairness in data sharing between traditional institutions and new entrants, including fintech and big tech firms, remains a key policy concern. Banks are mandated under regulations like PSD2 in the EU to share customer financial data with third-party providers, such as fintechs, when customers consent. This is intended to foster innovation and competition.²² However, non-banks, fintech companies or big techs are not subject to equivalent obligations, even though some of them may hold vast amounts of data that are relevant for the financial sector. Asymmetric data sharing and access can cause market distortions, hamper regulatory clarity or reinforce the DNA loop in the case of big techs providing financial services. Recent theoretical research shows that if open banking policies empower fintechs disproportionately, borrowers can be worse off (He et al (2023)).²³ Moreover, consent alone may be insufficient to protect consumers and may need to be complemented by a robust data and consumer protection framework. This includes effective oversight, privacy-by-design measures and safeguards against risks arising from eg data analytics and algorithms (Natarajan 2023)).

A distinct challenge is expanding from open banking, focused only on transaction data, to open finance. Broader frameworks, covering insurance, pensions, investments and mortgages, face gaps in regulation, complex data protection regimes and higher infrastructure costs, particularly for smaller institutions. An important effort in this direction is the design and implementation of data frameworks, which underpin stability, consumer protection and innovation. Ultimately, advancing open finance policies requires regulatory clarity, resilient infrastructure and institutional coordination.

While open finance is primarily implemented at the domestic level, the rising cross-border mobility of individuals and businesses reveals a key gap. Specifically,

²¹ Murray and Buckenham (2025) note that some of these challenges have complicated the shift towards a fully functioning open finance system in the UK, for instance.

²² One approach adopted in certain jurisdictions is to make participation mandatory. While this approach has generally helped address the historical concentration of data among incumbents, there is currently no evidence to suggest that it is a necessary condition for achieving a level playing field.

national API infrastructures and data sharing practices may not be sufficient for individuals and businesses that straddle borders to access financial services in line with their needs. Supporting cross-border access to financial services requires striking a balance between data sovereignty imperatives and interoperability between domestic open finance infrastructures, alignment on technical standards, consent management systems and governance models to enable secure and user-permissioned cross-border portability of financial data.²⁴ Bonvino and Giorgino (2026) argue that the open finance ecosystem can unlock greater innovation, competition and long-term sustainability when all stakeholders actively collaborate and co-evolve by harmonising standards, sharing data responsibly and jointly developing infrastructure and governance frameworks. The challenges of doing this are, naturally, even greater for stakeholders in different jurisdictions.

Meanwhile, ensuring wide participation in open finance and addressing structural (behavioural) barriers to adoption remain key. Evidence from Brazil shows that adoption is lower among less-educated and low-income individuals (CGAP (2023)). Adoption rates also vary by gender, with men more likely to use open finance than women.²⁵ In other cases, willingness to share data remains limited even when benefits are clearly presented. For example, when respondents were shown potential advantages such as improved loan terms or higher credit limits, only 27% indicated that they would share data to obtain those benefits (CGAP (2023)). In India, a CGAP survey shows similar trends. Of approximately 2,000 smartphone users, only 12% were familiar with account aggregators and 20% were willing to share financial data (Salman and Fernandez Vidal (2024)). Both awareness and willingness were markedly lower among women, rural residents and individuals with lower levels of education. Among loan applicants, only 10% reported using the account aggregator mechanism despite significant efficiency gains reported by financial service providers.

Finally, data access pricing is emerging as an important next stage in the evolution of open finance policies. Recent policy discussions have focused on how data should be valued and priced. For example, in 2025 JPMorgan introduced fees for third-party providers to access its consumer data, prompting renewed attention to the economic implications of data sharing arrangements (Shevlin (2025)). In the EU, ongoing deliberations on the scope of the Financial Data Access (FiDA) regulation, including proposals to exclude certain large technology firms, reflect broader concerns about market structure, eligibility criteria and reciprocity of access (Moens and Tamma (2025)). The proposed FiDA regulation represents a transformative but challenging shift towards an EU-wide open data economy. It would significantly expand PSD2 by mandating real-time access to a broad range of financial data, with the aim of empowering customers and stimulating innovation (Euro Banking Association (2025)). These developments have revived debates over whether measures perceived as protecting incumbent institutions could inadvertently limit competition and innovation. An opposing view is that pricing mechanisms can be viewed as legitimate compensation for the maintenance of proprietary infrastructure,

²⁴ Project Aperta by the BIS Innovation Hub explores innovative approaches to global interoperability, offering harmonised features, functionalities, use cases, security protocols, operating procedures and trust frameworks to support cross-border data portability in open finance.

²⁵ This may reflect differences in risk aversion and preferences towards data sharing. See Armantier et al (2025).

cyber security investments and the operational costs associated with secure data sharing systems.

5. Conclusion

Overall, jurisdictions' experiences suggest that realising the promise of open finance hinges on further refining open banking and open finance frameworks over time. The concept of open finance has been around for some time, but for many jurisdictions, implementation is still in its early days.²⁶ In this light, authorities can continue to learn from the experience of peer jurisdictions. Open finance holds strong potential to enhance consumer empowerment, promote competition, drive innovation and advance financial inclusion, while requiring careful risk mitigation.

There are a number of open questions where further research will be needed. While the initial evidence highlights the benefits of open finance in fostering fair competition, innovation and financial inclusion, more work is needed to understand the long-term impacts on market structure, financial intermediation and consumer welfare. Moreover, the role of data protection, privacy frameworks and pricing mechanisms for data access in shaping the adoption and success of open finance initiatives remains underexplored. Future research could examine the trade-off between data sovereignty/privacy and gains from open finance initiatives. Another interesting avenue to explore could be how variations in open finance frameworks across jurisdictions affect consumer trust and participation in financial markets.

Advancing open finance will also require deeper investigation of key performance indicators. This could include providing incentives to market participants, improving consent management mechanisms and establishing clear liability frameworks to ensure transparency, security and accountability (OECD 2023)). Open finance has the potential to bridge critical data and market gaps by expanding beyond sharing of consumer data to include SME transaction-level information, particularly sex-disaggregated data for women-owned businesses and alternative data for SME credit scoring. Leveraging these data sources globally could advance financial inclusion by offering tailored financial products and services and closing credit gaps for underserved enterprises. It could also inform research on how inclusive data sharing frameworks can strengthen economic resilience and foster inclusive growth.

Addressing these research gaps will be critical to designing resilient, inclusive and trustworthy open finance ecosystems that balance innovation with consumer protection and market integrity.

²⁶ See Graph A.3 in the appendix for a timeline of implementation in different jurisdictions. In some jurisdictions, eg India, the ecosystem is beginning to mature and show a wider variety of providers and use cases (see Graph A.4 in the appendix). As more jurisdictions launch open banking and open finance frameworks and as these are adopted, the evidence base will grow further.

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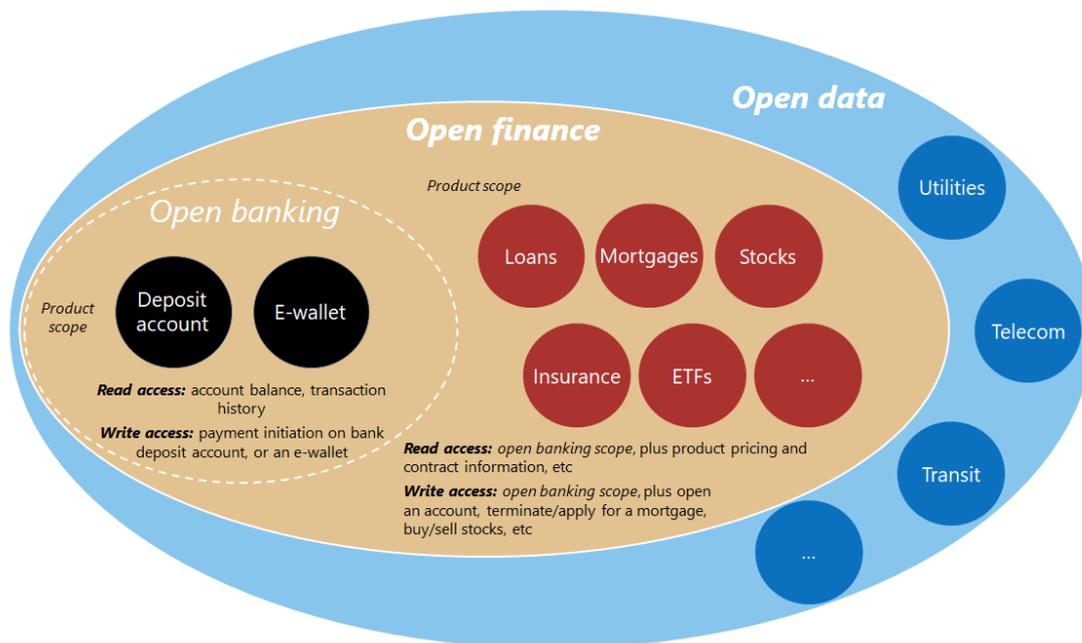
Appendix

Further insights on open finance

This appendix gives further information on open finance.²⁷ To start with, Graph A.1 visualises the scope of open banking, which includes deposit accounts and electronic wallets (e-wallets). Open finance can include a broader set of products, including loans, insurance and investment products like stocks or exchange-traded funds (ETFs). An even broader term is open data, which may include data from other sectors beyond financial services, such as utilities, telecom, transit, etc. Each of these can include both read access and write access. Read access allows for service provision based on viewing or reading the data. Write access allows for service provision based on modifying the data.²⁸

Scope of open banking and open finance

Graph A.1



Sources: CCAF (2024); BIS.

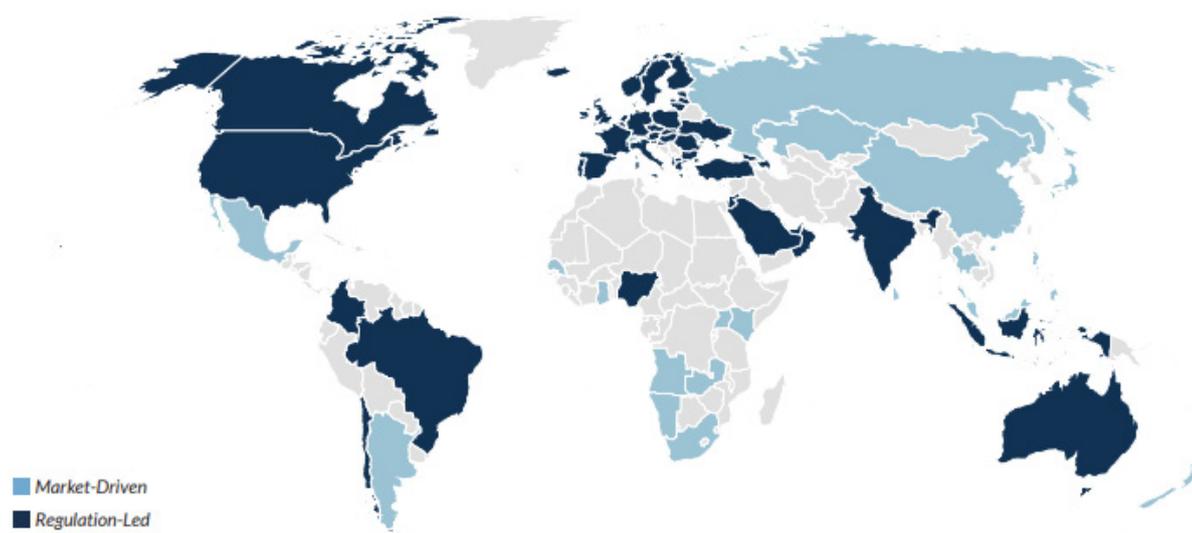
²⁷ There are several other definitions of open banking and open finance. The Geneva Report for World Economy describes “open banking” as a consumer right to access and share banking data (Petralia et al (2019)). The Basel Committee’s 2019 report similarly defined open banking as banks sharing customer-permissioned data with third parties (BCBS (2019)). The World Bank, International Monetary Fund (IMF), Bank for International Settlements (BIS) and CGAP define open finance as an innovation that facilitates customer-permissioned access to and use of customer data held by financial institutions in order to provide new and enhanced services and develop innovative business models (CGAP et al (2024)).

²⁸ For example, in the EU, PSD2 already provides a form of “write access” by allowing licensed payment initiation service providers (PISPs) to initiate payments directly from a user’s bank account with their

Jurisdictions differ in their approach to open finance. The Cambridge Centre for Alternative Finance (CCAF) gives an overview (Graph A.2). Some jurisdictions, such as the European Union, the United Kingdom, Canada, Brazil and India, have regulation-led approaches, while others, including China, Japan and Mexico, have market-led approaches. The United States is classified by CCAF as regulation-led, given the work of the Consumer Financial Protection Bureau (CFPB), but in practice it may be better classified as market-led. Argentina has transitioned from a market-driven approach to a regulation-led approach by implementing formal open finance rules through government decree and central bank regulation (Government of Argentina (2025)). The CCAF does not classify the framework in Korea, where open finance is widely adopted.

Open finance frameworks: regulation-led vs market-driven

Graph A.2



The use of this map does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status of, or sovereignty of any territory or its authorities, to the delimitation of international frontiers and boundaries and/or to the name and designation of any territory, city or area.

Note that the overview does not cover all known open finance frameworks, and classifications may change over time.

Source: CCAF (2024).

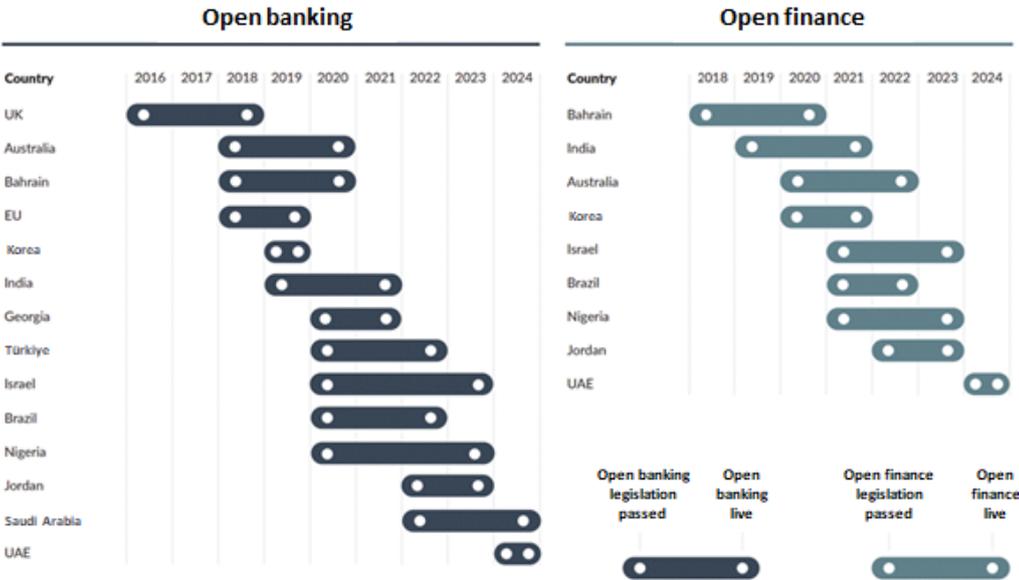
The stage of development of open banking and open finance also differs. Graph A.3 gives a timeline with the years in which regulatory changes were enacted to facilitate the transition towards an open banking or open finance ecosystem, including live implementation in some jurisdictions. In most cases, jurisdictions begin by establishing a regulatory framework for open banking before expanding their financial services to encompass a broader range of products and services under the open finance model. A few (eg Bahrain, India) moved in parallel. As of the latest assessment, only a few have progressed to the stage of implementing open finance.

consent, demonstrating how modifying data (eg submitting a payment order) enables automated services.

As more jurisdictions launch live open banking or open finance systems, there will be a larger evidence base to assess the impact in practice.

Timeline for year of legislation/regulation/guidance issues vs year of live implementation of open banking and open finance

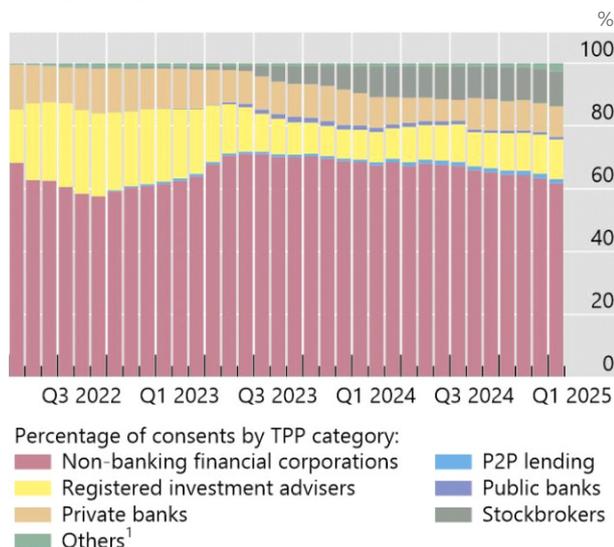
Graph A3



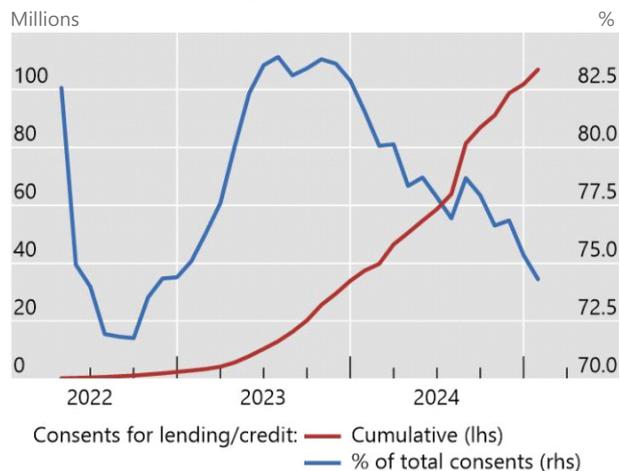
Source: CCAF (2024).

India, which was a relatively early mover, gives insights into the maturation of open finance ecosystems. Over time, the financial system has seen broader use cases, greater provider diversity and more structured governance models. For instance, third-party providers are enabling an expanding range of financial services, reflecting a more diverse set of intermediaries entering the open finance ecosystem. While non-bank financial corporations continue to hold the lion’s share, accounting for nearly two-thirds of third-party providers, stockbrokers have gained some share relative to investment advisers and private banks (Graph A.4.A). Moreover, while consents for lending surpassed the 100 million mark in the early months of 2025, their share in the total number of consents has steadily declined since the end of 2023, suggesting that, over time, users are increasingly adopting other financial services as well (Graph A.4.B).

A. A growing diversity of different TPPs



B. Consents for lending have passed 100 million



TPP = third-party providers.

¹ Includes alternative investment fund, asset management companies, housing finance companies, insurance brokers, insurance companies, prepaid payment instruments and trade receivables discounting systems, regional rural banks and small finance banks and retirement advisers.

Source: [Sahamati](#).

Glossary

Application programming interface (API): the set of routines, protocols and tools for building software applications that provide standardised interfaces for secure data exchange between banks and third parties. **Open API:** an interface that provides a means of accessing data based on a public standard.

Open banking: the sharing and leveraging of customer-permissioned data by banks with third parties.

Open data: the sharing and leveraging of customer-permissioned data in other industries beyond the financial sector – such as healthcare, utilities, telecommunications or taxes.

Open finance: the sharing and leveraging of customer-permissioned data by financial institutions with third parties. While open banking focuses primarily on bank accounts, open finance covers a broader range of financial products, including insurance, securities and mortgages.

Private API: an interface that provides a means of accessing data based on a private standard.

PSD2: the European Union's Second Payment Services Directive.

Reciprocity: a characteristic of data sharing in an open finance ecosystem in which eligible entities participate both as data holders and as data users (ie contribute to and benefit from shared data). In open banking, open finance and open data contexts, data sharing should only happen with customer consent.

Reverse engineering: analysing existing banking interfaces or software to replicate their functionality or enable data access, without relying on official documentation or standardised APIs. This is often used by third parties prior to the introduction of open banking frameworks.

Screen scraping: the practice of using customers' online banking credentials, with their consent, to log into on their behalf and extract data directly from a bank (or financial institution) website.

TPPs: Third-party providers, including fintechs, big techs and other (usually non-bank) intermediaries.