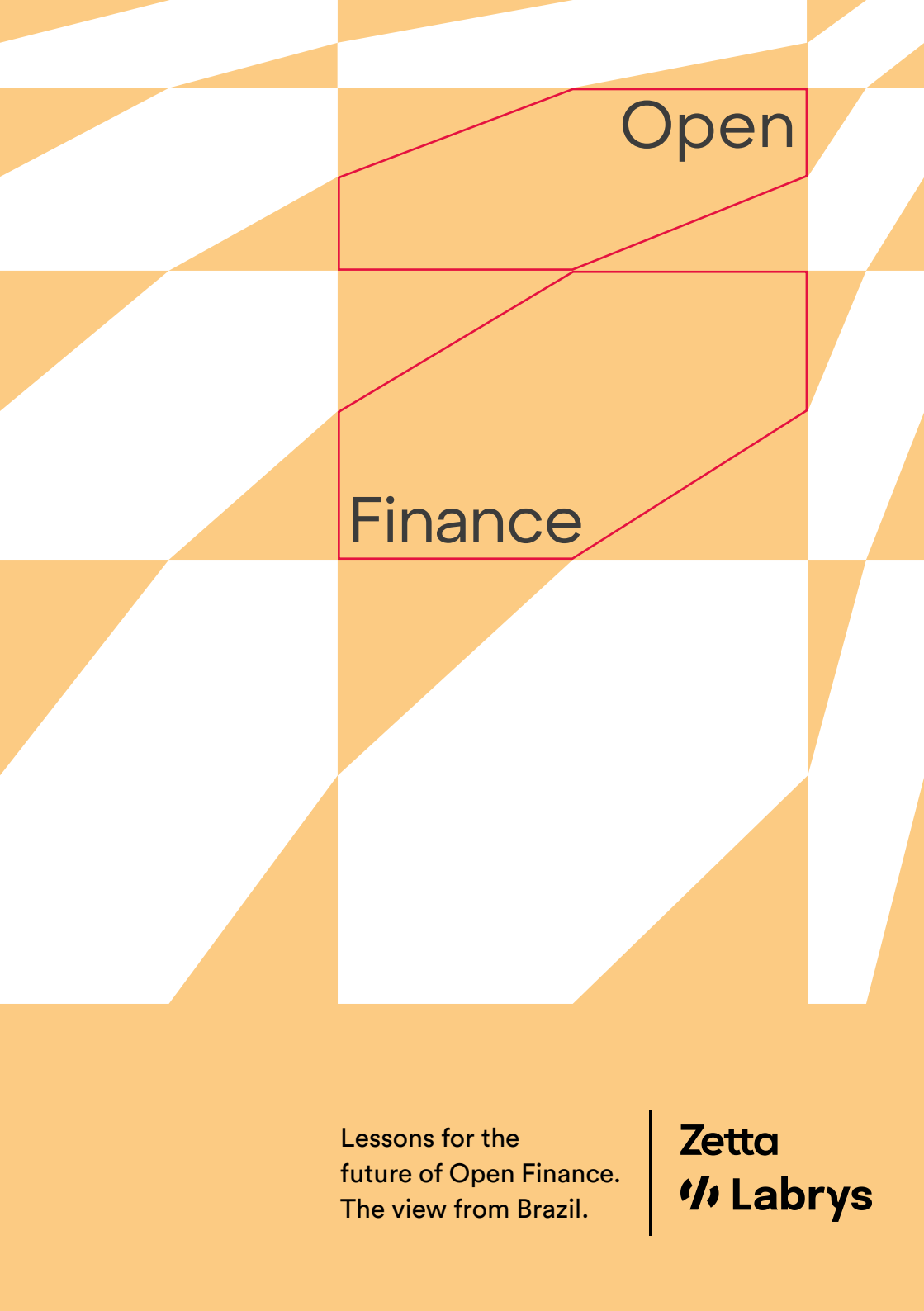




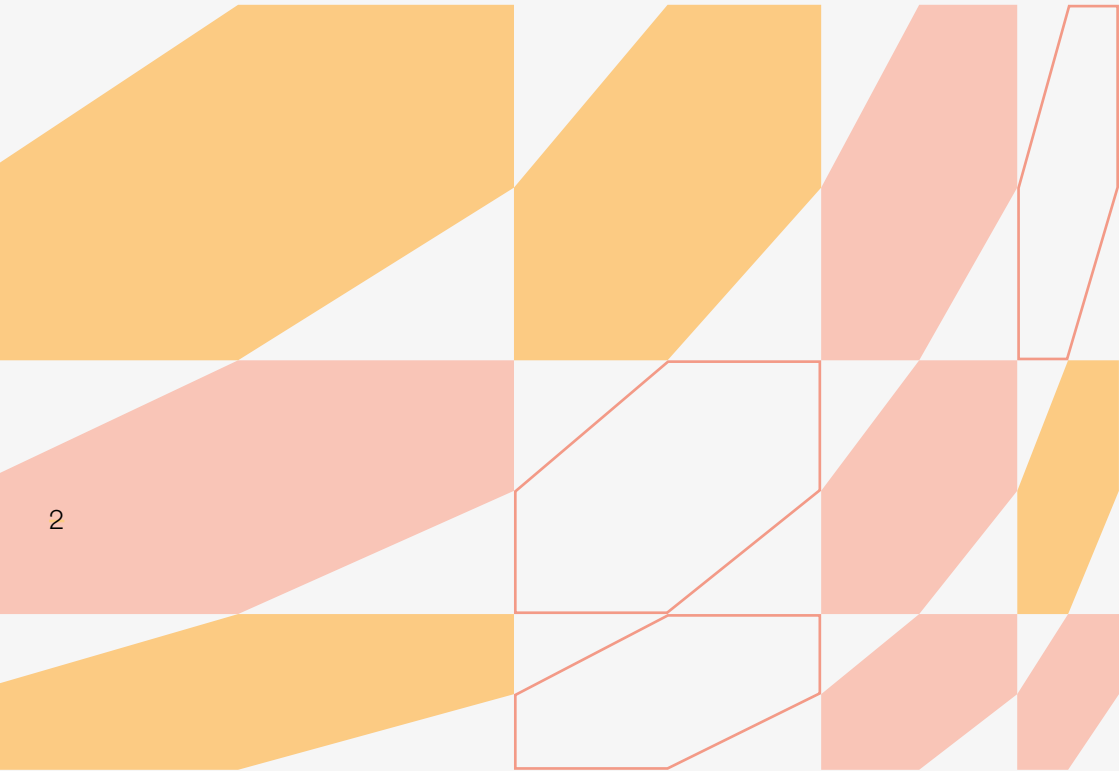
Open

Finance

Lessons for the
future of Open Finance.
The view from Brazil.

Zetta
 **Labrys**

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Summary of this study

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Open Finance has earned attention on the world stage as a public policy intended to reduce asymmetry of information, and promote competition, innovation, efficiency and customer inclusion in countries' financial systems, also putting each client more in control of their financial life, in a way that is secure, and standardized. Many countries have adopted it, and various different models of Open Finance can now be seen around the world, in terms of characteristics and stage of implementation.

This study, which aims to review the context from which Open Finance emerged, and how the theme has developed, globally, has been jointly produced by **Zetta**, an association of leading fintechs in Brazil, and **Labrys**, a public-interest research entity centered on technology, design and public policy, based in São Paulo and Barcelona.

Four years after its implementation in Brazil¹, Open Finance has received about 30 million single consents and provided some interesting use cases for the population. These include: aggregation and management of accounts, personalized alerts of fund movements, and improvement of the processes of onboarding and credit analysis.

The performance of fintechs has been a significant feature in its development – with 56% of respondents to the Datafolha survey noting perception of their significant position in Open Finance. Together, **Nubank**, **Mercado Pago** and **PicPay** have accumulated over 17 million consents as data receivers, and nearly 15 million consents as transmitters. We interpret these figures as showing the level of competition in the ecosystem, and giving an indication of how Open Finance is being used throughout the market.

Some regulatory, technical and strategic factors have contributed to the progress of Open Finance in Brazil. **Zetta** believes that the Central Bank's main successes in the Brazilian Open Finance system have been the adoption of a model that: (i) is mandatory for large institutions; (ii) is standardized from a regulatory and technical point of view; (iii) is designed for a broad scope of data and services; (iv) is free for client users; (v) allows market participation via self-regulation; and (vi) includes robust metrics for monitoring and performance of the ecosystem.

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Although there has been significant progress, the ecosystem is still maturing and has not yet reached its full potential, especially in terms of performance of institutions, and efficiency. In the Datafolha survey of clients who have used payment services in Open Finance, 55% indicated non-availability, or errors in use, as the main problems of the ecosystem. Another problem pointed out in the survey is about reliability of data. 45% of respondents believe they cannot trust the balance of other accounts that appear in the app when they use Open Finance.

Clearly, this type of problem not only affects the end-user experience, but also progress on important use cases, especially in relation to payments. In response to these challenges, **Zetta** is advocating some proposals that it considers to be essential to unlock the full potential of Open Finance in Brazil. These are:

(I) maintenance of a pro-competition governance structure that guarantees equality in terms of participation and relative scale of the various business models;

(II) improvement of the performance of the ecosystem, with implementation of an effective monitoring process, to ensure a seamless customer experience;

(III) creation of an event notification mechanism that ensures all institutions have access to reliable, updated data; and

(IV) progress on the portability agenda, as a way to empower consumers and increase high-impact use cases, focusing on (1) salary portability, using the Smart Transfer solution, and (2) portability of payday credit via Open Finance over a shorter time and with no payments of RCO (operational costs).

The study strengthens the conviction that Open Finance is very important for the promotion of competition, innovation and inclusion in Brazil's national financial system. Also, due to its characteristics of demography, culture and market, Brazil is fertile ground for realization of the full potential of Open Finance, and able to serve as an example – as has already happened – for other jurisdictions.

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I. A 'tidal wave' of regulations

Open Finance is a global trend that promises to revolutionize the financial market and payment systems in general. It offers great opportunities for opening of the market to competition and innovation, in finance, digitalization, efficiency and improvement of the quality of financial services.

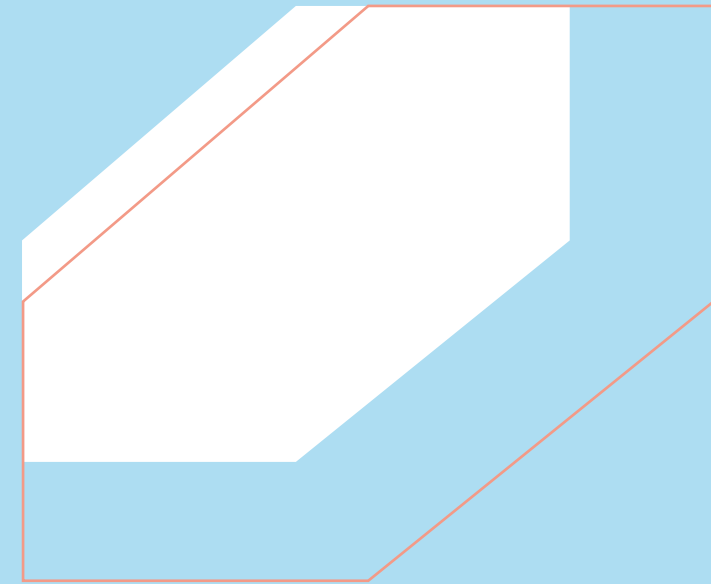
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The essence of Open Finance is the possibility for clients of regulated financial institutions to share their financial data with other organizations authorized to provide financial services, in a way that is simple and secure. The fundamental idea is that clients (not the banks) are 'owners' of their financial data – and that as a result they can use these data to have access to better and cheaper products and services, including outside the financial institution that previously controlled their data. That is to say: the information that was previously restricted to one regulated institution can now be taken to others that offer options that are more advantageous for that particular client.

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10 This notion began to come into being as soon as financial services were first transposed into digital form, and Internet banking emerged². The trend has grown enormously throughout the world, especially when associated with the phenomenon of the fintechs. Fintechs were born with a DNA that is by nature digital, with a mission of offering an alternative to the traditional banks, based mainly on innovation, accessibility and convenience.

Over the years, what began as an initiative to create a new space in the market has gained a field of regulation of its own – and ever-increasing importance in the lives of its clients. Today, the theme is the subject of debate in several countries, both in terms of regulation and from the point of view of business opportunities and technological development that arise as a result of it.



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All this attention has not happened merely by chance. Open Finance has the potential to reduce the asymmetry of information between financial institutions, reduce market entry barriers for new competitors, reduce the cost of distribution of financial services, strengthen banking innovation and competition, and expand the freedom of choice of the clients of these services due to reduction of the cost for the client of changing his or her banking supplier.

I.1.

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Origin and motivation; regulation and practice

The terms Open Banking and Open Finance, increasingly becoming better known, have slightly different meanings. The term originally referred to the expression in English: “Open API standard for banking” or “Open standard for APIs³ for banking services” Later, the term banking was replaced by finance to reflect that the data covered by the regulation are not limited to basic banking services, but to a wider range of financial services, such as investments, insurance, etc⁴.

As well as referring to the movement, in regulation as a whole, toward requiring regulated institutions to allow third parties to access the data of their clients, the terms Open Finance and Open Banking can also be used in a much wider sense – that is to say, to refer to any ecosystem that allows clients of one regulated institution to share data and financial services outside that institution, whether due to a specific regulation, or simply as a market practice.

On this basis we could say that the origin of Open Banking dates back to the late 1990s, when the first digital banking services began to emerge. In both the United States and Europe, what later became a major ecosystem began as simply a market movement⁵. Before there was any discussion on regulations or APIs, the concept of aggregation of banking data had emerged, along with the formation of “account aggregators”.

These were initially service providers who sought to offer clients the ability to look at information on more than one of their bank accounts in a single place⁶. They would ask the customer for the user code and bank password to access each of their accounts, fetch the necessary information and present it in a single user-friendly interface. This method of obtaining bank data through user name and password information became known as web scraping or screen scraping⁷.

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Over time, aggregators began to also offer services to the financial institutions themselves, and fintechs, and thus began to function as intermediaries between the institution with whom the client wanted to share data and all the banks that store data from that client. In this framework, to launch a personal finance application, instead of connecting with 10,000 different institutions so that its users can automatically import their data, a developer would have to connect only with one entity, which is already connected to the 10,000 institutions. In many contexts this has led to creation of increasingly close relationships between these aggregators and financial institutions, especially fintechs and new entrants in general.

Historically, aggregators and incumbent banks were initially on opposing sides, due to concerns on business objectives and security. The way the subject developed from there shows the emergence of the three main regulatory models of Open Finance: (1) the market-oriented model, typical of the United States; (2) the model oriented to regulation, such as that of the European Union; and (3) the model oriented to a technological standard, such as those of the United Kingdom, and Brazil.

A. Development of Open Finance in the USA

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In the USA, development of Open Finance was considerably faster. The first Internet banking service was launched in 1994⁸, and the first bank account aggregation services were created in 1999⁹. Also in 1999 the first lawsuit was filed by a bank against an account aggregator – although it was promptly abandoned¹⁰. The desistence from this lawsuit was accompanied by the launch, by each of the major banks, of their own proprietary account aggregation services, up to the year 2001¹¹. One of these banks, indeed, was the one that had filed the lawsuit two years before, trying to prevent the practice¹². Debate on regulation of the market for services aggregating bank account information dates back to the year 2000¹³; a decision simply not to regulate the subject was taken in 2001¹⁴.

Thus, the activity of account information aggregation has effectively had the approval of the regulator, although by omission, and of the market, since the turn of the century¹⁵. There was also a lot of interest and expectation among academics on the formation of this market¹⁶. Advocates of the practice centered their approval on its low cost and speed of implementation, which favored rapid development of the market in the USA¹⁷, and the fact of having a less rigid structure for delivery of data also facilitated evolution of specific and varied use cases¹⁸. Everything that the client can access with his password, he can authorize a third party to access in his place¹⁹, thus eliminating a prior effort throughout the market to organize the data.

After the 2008 crisis, as part of the reforms of the financial system that followed, the United States Congress approved what became known as the Dodd-Frank Act²⁰. In its Section 1033, this law²¹ recognized the right of clients of financial institutions to access their data and share them with third parties. The law also created an agency dedicated to the protection of clients of financial institutions (the Consumer Financial Protection Bureau – CFPB), responsible for creating the necessary rules for the enforcement of this right.

For more than a decade, the CFPB did not issued any specific rules on the subject; but this did not stop the rapid evolution of the data aggregation market in the years following the Dodd-Frank Act. One of the most significant use cases to emerge in the 2010 decade, and which propelled a major expansion in the use of this type of service, was the partnership between an aggregation service provider, Plaid²², and Venmo²³, the popular interpersonal instant funds transfer service in the United States. Because interbank transfers in the United States were (and still are) expensive and slow, Venmo does not always withdraw funds from the payer's account before sending the money to the receiving party²⁴. Thus, although the customer's experience is an instant transfer, actual settlement can take one day. Plaid helped to mitigate the risk of this operation by informing Venmo in real time whether the payer's account had a sufficient bank balance to pay for the transfer²⁵.

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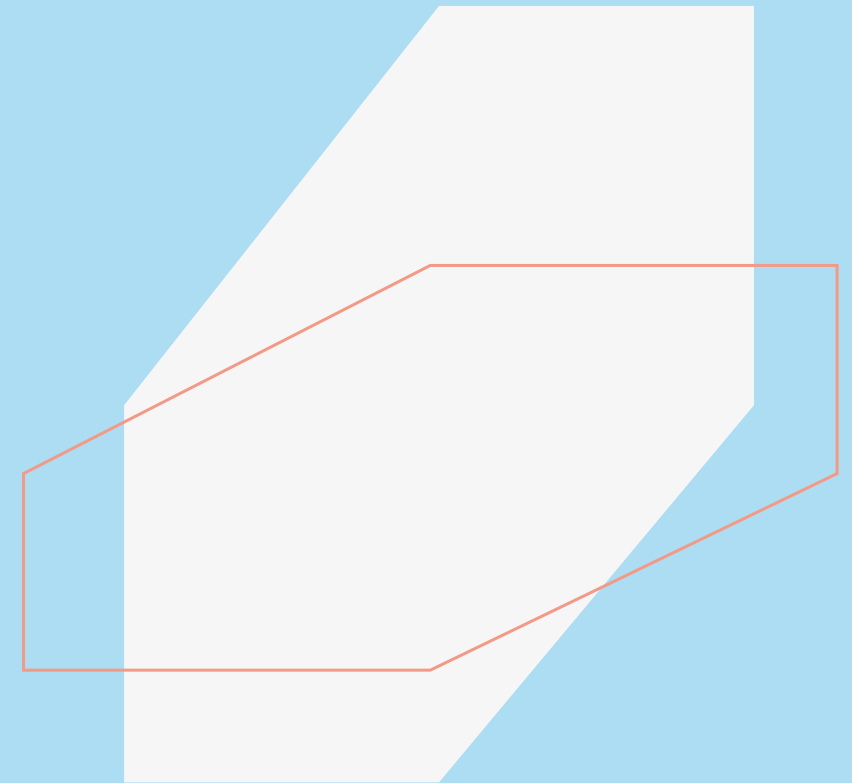
In the second half of the 2010 decade, as the use of screen scraping services grew increasingly fast, the banks' resistance to the use of this type of service also grew²⁶. A movement began of migration from screen scraping to bilateral agreements that would not require sharing of bank passwords²⁷. At this time, concerns also began to emerge about competition in the aggregation market^{28 29}.

In 2021, President Biden published the Executive Order on Promoting Competition in the American Economy³⁰, which, among other things, "encouraged" the director of the CFPB to "commence or continue a rulemaking under section 1033 of the Dodd-Frank Act to facilitate the portability of consumer financial transaction data so consumers can more easily switch financial institutions and use new, innovative financial products"^{31 32}. In 2023, the CFPB finally proposed a series of rules to implement Section 1033 of the Dodd-Frank Act³³, which have not yet been enacted. Two of the main objectives of the regulator are: (i) to guarantee consumers the right of access to the data; and (ii) to accelerate the change, in the market, from screen scraping to methods that do not depend on sharing of a password³⁴.

Data indicate that about 40% of the adult population of the USA (100 million people) have so far authorized third parties to access their financial information, and made about 100 billion requests for data³⁵. Only half of these data sharing operations (i.e. 20% of the population) are now carried out via screen scraping – indicating a natural evolution, from that method, to use of APIs with bilateral agreements.

Regulations of the United States

(some still in the process of decision)



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Governance

The Legislative Branch assigned the responsibility for defining rules to the Consumer Financial Protection Bureau (CFPB), with an obligation to hold requests for rounds of comments (§ 1033.101 (a)). The CFPB was instructed to “encourage” development of a “qualified industry standard” that would be “fair, open and competitive”³⁶ (§ 1033.311 (b)). This standard was to be set and defined by any entity that meets the requirements specified in the regulations (§ 1033.141).

Scope

Only data from individuals and trust funds (see § 1033.131). The products subject to the regulation are: Individual accounts covered by Regulation E³⁷; credit cards covered by regulation Z³⁸; and products or services that facilitate payments from accounts covered by Regulation E or from cards covered by regulation Z (see § 1033.111 (b)). The data covered by the regulation are: (1) information on transactions, including history of transactions up to at least the last 24 months, with value, date, type of payment, status, receiving party or name of the merchant, reward points credit, and any charges; (2) the balance on the account; (3) information to initiate payment from or to an account governed by Regulation E, for example, the information necessary to initiate a transaction in the Automated Clearing House (ACH); (4) terms and conditions of the contract, including amounts and periodicity of charges, interest rates such as the annual percentage rate (APR) and annual percentage yield (APY), terms of reward programs, whether an automatic overdraft limit is contracted, and whether there is an arbitration option clause; (5) information on pending amounts, including accounts scheduled for payment; and (6) basic client registry information, such as name, address and telephone number associated with the financial product (§ 1033.211).

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Data transmitting participants – Scope

The regulation has a main focus on the obligations of parties transmitting data. Thus, it defines as mandatory the participation of card issuers covered by Regulation Z, financial institutions covered by Regulation And, payment facilitation providers, such as wallets, and any person or entity that holds data covered by the regulation. There are no provisions requiring voluntary participation by other entities, but there are also no restrictions on sharing data in alternative or complementary ways (§ 1033.111).

Data receiving participants – Scope

On the receiving side, no mandatory requirements nor restrictions are applied as to who may voluntarily qualify to receive data, as long as they have the authorization of the consumer (§ 1033.111). It is worth mentioning, however, that there are some additional requirements for transparency on the part of data aggregators who intermediate in the access to data for those who will consume the data (§ 1033.431).

Technology

The proposed regulation does not impose a single standard, but it does require that the technology used must follow a qualified industry standard or, in the absence of such a standard, must use technology that is widely adopted in the industry (see § 1033.131, § 1033.141). It does, however, specify a series of requirements for the technology that is to be used. It must: (1) comprise an interface for the final consumer and an interface for developers; (2) send machine-readable files on demand; and (3) have a success rate of at least 99.5%, commercially reasonable performance, and reasonable availability and operating limits (§ 1033.301, § 1033.311).

Pricing

Charging is not allowed, within the scope of the regulation (§ 1033.301(c)).

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B.

Open Banking in Europe

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In the European Union (EU) the development of Open Banking, in the market and in terms of regulation, took a different path. In 2001, data aggregation via screen scraping had already attracted the attention of banks in several countries, such as Germany³⁹ and Spain⁴⁰. In Spain, there was also an initial movement in favor of creating an alternative mechanism to scraping to enable clients to access their banking details without sharing the password⁴¹.

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The level of adoption as this market evolved, though, was similar to that in the United States. One of the most important actors in the ecosystem at the time suggested that one of the main reasons for Europeans' relative lack of interest in aggregation services was the difference in the stage of digitalization of the services in use⁴². This market participant argued that in the United States it was already much easier to access other non-bank information over the Internet with a username and password – a prime example of this access was the number of points in different mileage programs. This meant that aggregators were able to gather more information for the client, which made their value proposals more attractive⁴³.

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Two years after a company offered an account aggregation service (as one of a bundle of various services) for the first time in Europe, the first company emerged that specialized only in this service⁴⁴. By the end of the year 2000, some of Europe's largest banks already offered some version of the service⁴⁵. As in the US, this did not prevent filing, in 2009, of the first lawsuit by a bank against an aggregation service provider⁴⁶. In 2011, the German competition authority intervened in defense of fintechns that were practicing screen scraping to overcome the barrier of entry into the financial market⁴⁷. This case was later decided in favor of the data aggregators in both the administrative⁴⁸ and the judicial⁴⁹ spheres.

Shortly thereafter, in 2013, the European Parliament proposed, and in 2015 passed, the Revised Payments Services Directive (PSD2)⁵⁰. From then on, this standard has regulated the activity of Account Information Service Providers (AISPs), with the purpose of enabling clients to share their own data with authorized third parties digitally in a way that is safe, simple and secure.

In relation to payments, PSD2 also created the legal entity of the Payment Initiation Service Provider (PISP). These would be institutions with a lighter regulatory burden than traditional banks and payment institutions, and would send payment orders to be executed by the payer's bank.

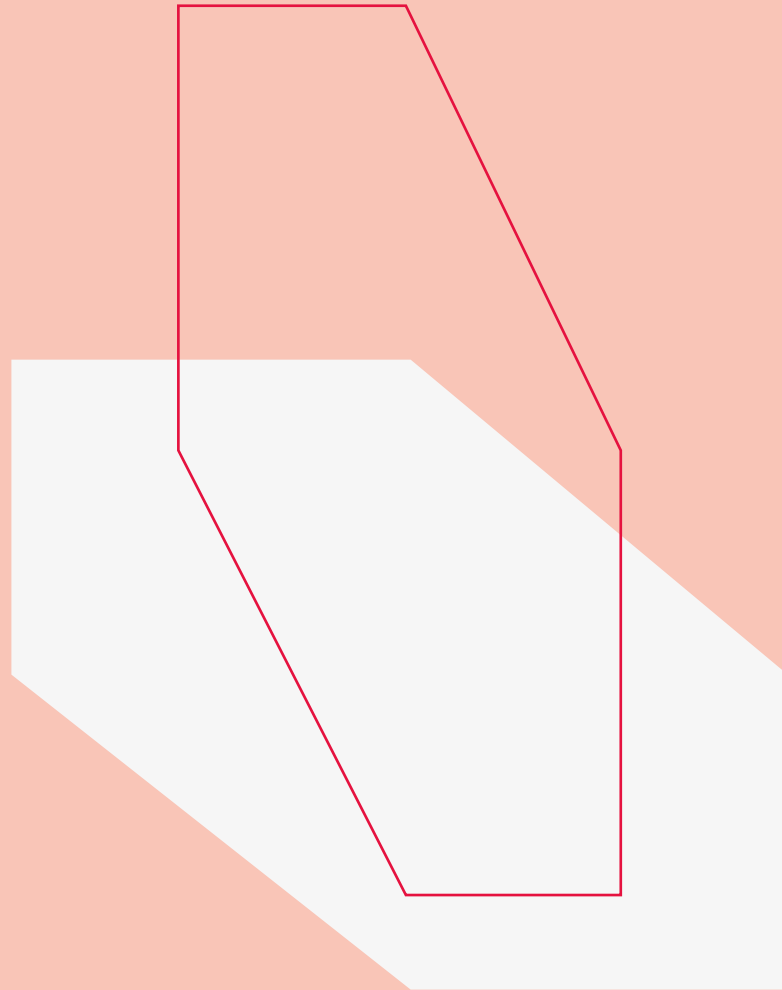
Among the reasons set out by the European Parliament for approval was: *"to provide consumers with adequate protection for their payment and account data as well as legal certainty about the status of account information service providers"*⁵¹. In other words, the objective was to regulate the already existing market for aggregation of bank data, reducing legal disputes between aggregators and financial institutions, and also guarantee basic rights and greater security for the holders of current accounts with these services. In relation to initiation of payments, the European Parliament was also making clear its aim to make payments more efficient.

The Directive also determined that the European Banking Authority (EBA) should develop a document called "Regulatory Technical Standard" (RTS) with minimum general requirements for authentication and security of communications between account service providers and payment aggregators or initiators⁵². At that point, the United Kingdom, which was still part of the European Union at the time, took a number of additional measures, which are considered separately in the next section (C), below.

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Regulations of the European Union (2015)

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Governance

The general rules were set out and specified by the EU's legislature (the European Parliament). The European Banking Authority (EBA) was put in charge of developing, in cooperation with the European Central Bank and after hearing the opinion of relevant interest groups, the "Regulatory Technical Standard" (RTS), with minimum general requirements for authentication and security of communications between account service providers and payment aggregators or initiators (Art. 98, 1). The rules were then converted into regulations by the European Commission (executive branch).

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30 **Scope**

PSD2 is a directive dealing with payments. Thus, its scope is limited to access to information on accounts that operate transactions. It determines that institutions which offer accounts on which transactions can be made must allow access "to the same information [...] that is made available to the final client [...], provided that this information does not contain sensitive payment data"⁵³. PSD2 also lays down that the initiator of a payment must be able to send the information necessary to initiate the transaction, and receive back all the information that a final client would receive if they carried out the transaction directly⁵⁴.

Data transmitting participants – Scope

All institutions in the European Union offering accounts on which transactions can be made, with a few narrow exceptions⁵⁵.

Data receiving participants – Scope

Companies interested in offering payment initiation services must seek authorization to operate; and those which aim to operate with access to account information must register with the competent authorities of each country. There is also a requirement to maintain insurance to cover any claims for indemnity of damages⁵⁶.

Technology

PSD2 does not specify or require any specific technology. The regulations of the European Commission specify an obligation to maintain dedicated interfaces that also comply with the requirements for strong authentication as designed by the EBA. In practice, APIs such as those of the Berlin Group, are used, although screen scraping still persists in many cases.

Pricing

No charge may be made for access via APIs to any data that final clients would not be charged for if they made access directly⁵⁷.

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C.

Open Finance in the UK: From regulation to standardization

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In 2016, the UK Competition and Markets Authority (CMA) made an analysis called “*Making banks work harder for you*”⁵⁸. It focused on points of diagnosis and some recommendations, aiming to “pave the way for the Open Banking revolution”⁵⁹. As well as detailed points on the structure of bank fees and the model of charging for overdrafts, the diagnosis focused on two main points:

- **The high cost of changing banks**, the lack of simple mechanisms, and inertia, cause many people and small businesses to ‘get stuck’ with their financial institutions, and find it difficult to compare offers of services from various banks. Only 3% of private individual bank clients, and 4% of holders of company accounts, were changing their banks each year in the UK⁶⁰. This curious fact popularized the expression: “An Englishman is more likely to change his wife than his bank account”⁶¹.
- For regulated financial institutions the cost of acquiring new clients was very high, which meant an advantage for the incumbent against new entrants seeking a market niche. Also, older, consolidated banks have access to cheaper credit than new entrants.

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Given this situation, the CMA proposed a package of measures which aimed basically to achieve two things: (1) increase the 'responsiveness' of clients to better offers from the competition – in other words reduce the cost of changing banks; and (2) make the market more attractive for new entrants, to the benefit of innovation. This package of measures contained what would turn out to be the specific 'model' of Open Finance in the UK: creation of a single standard for APIs to access financial data, and requiring all banks to adopt and maintain it⁶².

Finally, in 2017, the CMA made the definitive decision to issue a special order creating the Open Banking Implementation Entity (OBIE, now Open Banking Limited – OBL) to decide on and specify the technical standards, after participative consultation with the market⁶³. It also ordered the nine largest institutions in the country (which became known as 'the CMA 9') to put this standard in place by 2018⁶⁴.

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Regulation in the United Kingdom (2017)

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Governance

The first rule came from the legislative branch (in Europe, via the PSD2, in 2015, and in the UK from the Payment Systems Regulator (PSR) in 2017)⁶⁵. The specific regulation that marked the British model came from the UK's competition authority (CMA), which laid down a series of more specific rules, and delegated the duty of building the precise standard for a self-regulation structure (to the OBIE – which became the OBL).

Scope

Current accounts and credit cards, with information on: balance, transactions, recipients, direct debits, pending orders, products, offers, scheduled payments and statements. Initiation of payments: domestic, international, pre-scheduled; and automatic transfer of funds (variable recurring payments – VRPs) between a customer's accounts, such as transferring excess funds to another savings account or using them to repay a loan or overdraft account (an operation known as 'sweeping').

Data transmitting participants – Scope

The regulation laid down that participation by the UK's nine largest banks (by number of employees and volume of corporate current accounts) was mandatory⁶⁶, but optional for all other Payment Service Providers (PSPs). Currently there are more than 90 entities registered as PSPs on the website of Open Banking Limited.

Data receiving participants – Scope

Data receiving participants – Scope: Along the same lines as PSD2, any UK entity wanting to offer payment initiation services must apply for authorization to the UK's Financial Conduct Authority (FCA); and to offer services of access to account information, they require only registration with the FCA⁶⁷. As in Europe, the requirements for access to account information are lighter, although professional indemnity insurance (PII) is required.

Technology

APIs.

Pricing

No charging allowed for any services within the scope of the regulation.

D.

The PSD2 and the CMA (Post-2018)

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In 2018, European Commission Delegated Regulation 2018/389 approved the Regulatory Technical Standards (RTS), with provisions governing authentication of clients, and requiring account service providers to provide dedicated interfaces for access to data⁶⁸. The PSD2 and the CMA order were both implemented in 2018, and the RTS came into effect in 2019.

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In the absence of a technical standard for APIs and for client data structure defined and set by the EU, several European banks jointly created and implemented a standard. The main actor in this transformation was the 'Berlin Group', a pan-European initiative created in 2004, which in 2017 created a standard for implementation of Open Banking in Europe, facilitating adherence of institutions to the requirements of PSD2 and the RTS⁶⁹. Even so, screen scraping is still used in many use cases⁷⁰.

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A 2022 study indicates that about 10% of the population of Spain, 9% of the population of France, and 7% of the population of the Netherlands use Open Banking services today⁷¹. These numbers can be seen as promising, although they are considerably lower than those of the United States.

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In April 2022 the European Banking Authority (EBA) published a proposal to modify the RTS to relax some requirements for authentication⁷² – the purpose being, according to the EBA, to reduce “friction” in the user experience. This proposal, however, has not yet been adopted⁷³.

In June 2023, the European Commission submitted a proposal for evolution of the rules governing Open Finance (to be called PSD3)⁷⁴. The proposal is for (i) some changes to PSD2, including “Standardisation of customer data and the required technical interfaces”⁷⁵, and also (ii) a new Payment Services Regulation (PSR), aiming to improve competition, transparency and inclusion in the European payment market.

In the UK, the CMA decided in 2021 to require the ‘CMA 9’ institutions to implement variable recurring payments (VRPs – automatic transfer of funds between a customer’s accounts, referred to as ‘sweeping’). More recently, the authorities have organized their work to address some barriers to evolution of the ecosystem. These objectives include: (1) to improve the availability and performance of APIs; (2) to mitigate risks of financial crime; (3) to structure mechanisms for resolution of conflicts; (4) to improve flows in reporting of errors to final clients; (5) to promote use cases in payment initiation, for example not limiting it only to emergency uses (such as replenishing a client’s overdraft from another of that client’s accounts)⁷⁶. According to the governance structure of Open Banking UK, about 10% of the UK’s population (7 million)⁷⁷ have consented to sharing of data or services through the APIs of Open Banking UK⁷⁸.

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I.2.

The three models of Open Finance

As can be seen, the history of the emergence of Open Finance comprises the structuring of three major models for regulating it. **The market-oriented model**, adopted in the United States, is based around a generic rule that limits itself to recognizing the right of clients to access their data, and to share it with third parties, but without regulations that implement it and/or establish any mandatory standards.

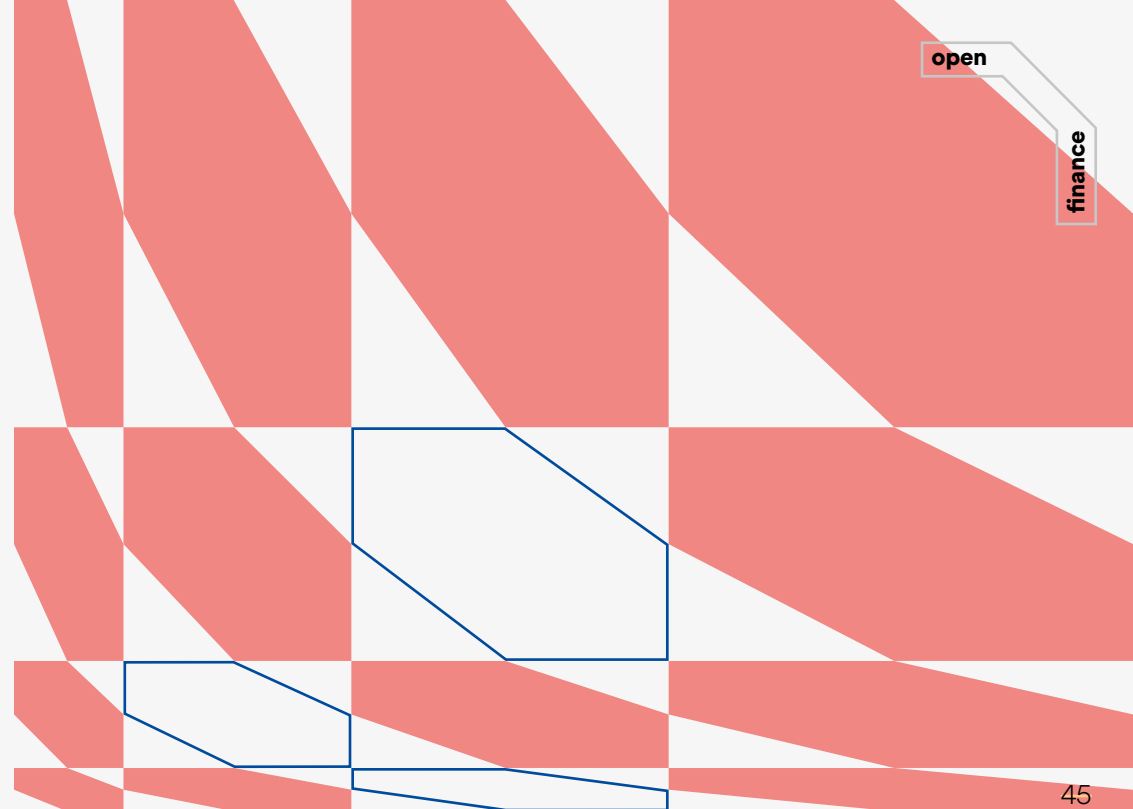
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This model has resulted in exacerbated dependence on account aggregators as intermediaries. The more widely spread the market is, the more difficulties there are in creating and maintaining stable connections for importing financial data, especially in the absence of a technical standard for this process of integration – hence, the greater is the need for outsourcing of this service to specialized service providers. Also, competition between these service providers becomes more difficult, because the first company to achieve a certain scale of connections and accesses has a clear advantage over the others.

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A model oriented on the basis of regulation, like the one adopted by the European Union, has as a main feature a requirement for regulated banks and institutions to make financial data available for customer access, and to share it with third parties, through dedicated interfaces. The European legislator, however, has not established a standard for making this service available. This means that the details of which data can be accessed, and how, have not been specified, in detail, in regulation. This could result in a situation similar to the American situation of dependence and concentration, but that risk has been mitigated by the action of the Berlin Group in defining an API standard, which is now widely used in Europe.

The model based on a technical standard – the situation in the UK – has a regulatory framework guaranteeing the right of access to, and sharing of, financial data, accompanied by the obligation to create, maintain and implement one single technological standard for all exercise of this right. In the case of the UK, this standard was specification of open APIs. Open Finance Brazil, as will be explained in detail below, was inspired in particular by the British model.



1.3.

Experiences of other countries

Sharing of banking and financial data has become a reality in numerous jurisdictions around the world other than the US, the EU and the UK. Leading examples include Australia, India, Brazil, and other countries of Latin America such as Mexico, Colombia and Chile.

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A. Australia

Open Finance in Australia began in 2010⁷⁹, with the Competition and Consumer Act, which established the Consumer Data Right, or CDR. Even before the publication of specific regulation, though, the data aggregation market was already in full development, in a market-oriented model. Data from the association FinTech Australia show that in 2016, about 9% of the Australian population already used some kind of service that depended on screen scraping⁸⁰. That same year, the association itself sent a study to the Australian Government's Productivity Commission, requesting standardization of APIs for access to financial data⁸¹.

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In 2020, Australia migrated to a standard-oriented model with the publication of regulations called the Competition and Consumer Rules⁸², which defined the governance structure and criteria for development of standards for secure sharing of data with authorized third parties.

The governance structure was created to have a main focus on (i) transparency, and (ii) openness to participation by all and any interested parties. The process of defining technical parameters began with a team from Australia's national science agency⁸³, submitting a proposal to public consultation for the central technical decisions on each particular topic⁸⁴. This proposal was then sent, with the public's comments, for final decision by the person appointed as having the final responsibility for the standard, the Data Standards Chair. The Chair was further advised by representatives of the companies that will implement the standard, through the Data Standards Advisory Committee (DSAC). Once approved, the decision was published, and work began on writing the specification documents based on the technical decisions taken.

49

Australia has adopted a phased approach to implementation of its regulation. The regulations were initially focused on the four largest Australian banks, and in February 2022 became mandatory for all banks⁸⁵. They include a reciprocity rule: any third parties who decide to access data from any participating institution must make their own data available. The CDR structure is still actively in development today. For example, as well as carrying data on corporate finance, investments, and asset management, it now has APIs for information on electricity supply services⁸⁶.

Z.

Regulation in Australia (2020)



50

Governance

The process of defining technical parameters began with a team from Australia's national science agency⁸⁷ submitting a proposal to public consultation for the central technical decisions on each particular topic⁸⁸. This proposal was then sent, with the public's comments, for final decision by the person appointed as having the final responsibility for the standard, the Data Standards Chair. The Chair was further advised by representatives of the companies that will implement the standard, through the Data Standards Advisory Committee (DSAC). Once approved, the decision was published, and work began on writing the specification documents based on the technical decisions taken.

Scope

Personal accounts, including current, deposit and debit or credit card accounts; corporate credit card accounts; mortgages; personal loans; personal and company credit lines; automatic overdraft facilities (personal and corporate), joint accounts, and numerous other account types. In October 2022⁸⁹ progress began on the expansion of this scope to include electricity supply services⁹⁰. The scope of the CDR so far does not include any 'writing actions' (such as payments)⁹¹, but Australia's real-time payments system (NPP) has a function ("PayTo") for initiation of payments by third parties.⁹²

Data transmitting participants – Scope

Initially focused on the four largest Australian banks, the system became mandatory for all the country's banks in February 2022, with a reciprocity rule. A proposal was made in 2023 to expand the scope of mandatory application to non-banking institutions that offer credit.⁹⁴

Data receiving participants – Scope

Any company that meets the legal and technical requirements.⁹⁵

Technology

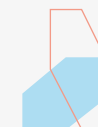
APIs

Pricing

Not covered in the regulation

open

finance



51

Australia in numbers

Population
26 million⁹⁶

Banked
population
99.32%⁹⁷

Bank
concentration
index
69.1⁹⁸

Fintechs in
operation
830⁹⁹

Z.

52

B. India

India's economy has undergone accelerated digitalization in the last 15 years, with great repercussions for financial inclusion¹⁰⁰. The process has created what is known as the "India Stack", a set of APIs and public services aiming to provide a digital solution for identity, payments and data management for the country's entire population.¹⁰¹

One of the first steps for this transformation was taken in 2009 with the creation of the Unique Identification Authority of India (UIDAI)¹⁰². This authority is responsible for issuing the Aadhaar, an identity service linked to a single identity number for people in India. As well as each person's basic details – name, date of birth and address – biometric data¹⁰³ are also collected during the registration process¹⁰⁴, and can be used by linked service providers for authentication of the person's identity.

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Z.

54

In 2013, UIDAI launched an e-KYC (electronic Know Your Customer) identity checking service. Based on Aadhaar¹⁰⁵, this enables validation of the person's identity by biometric means or by a password. This service caused a substantial reduction in identity verification costs¹⁰⁶. Three years later, India launched its Unified Payments Interface (UPI) an instant transfer and payment service¹⁰⁷. As from its introduction the UPI has always had the functionality of initiating payments via third-party applications¹⁰⁸. Part of the reason for this was that the Indian banks and regulators were themselves concerned about the growth trend of unregulated account applications (wallets)¹⁰⁹. Both groups were interested in creating a mechanism to give customers greater freedom to choose the app they wanted to use, without having to move their funds out of the financial system. The solution found was initiation of payment via a central architecture.

In 2016, India's central bank (RBI) published a general regulation creating the Account Aggregator License (known as the AA). The regulation defines the activity of Account Aggregators as: "providing the service of retrieving or collecting financial information pertaining to the customer", organizing it, and presenting it to the consumer or to any other regulated entity receiving data, always with the consent of the consumer. The regulation also defines a range of types of entity, including banks, financial institutions, investment managers and insurance companies, as data transmitting institutions, or "financial information providers (FIPs)".

In 2019 ReBIT, the technology branch of the RBI, published the first version of the technical standards to be implemented by the ecosystem¹¹⁰. A few days later, the RBI made these standards mandatory for all regulated entities.¹¹¹ In 2021, the first account aggregators began operating¹¹².

The context of this regulation is a wider vision for India as a data-rich economy¹¹³, also enshrined in the country's concept of Data Empowerment and Protection Architecture (DEPA)¹¹⁴, which was developed in a joint effort by regulators and industry to drive digitalization, and the empowerment of individuals and the country. From a technical point of view, DEPA involves a set of APIs and consent flow for data sharing, initially launched with a focus on financial services and with the participation of 8 banks¹¹⁵.

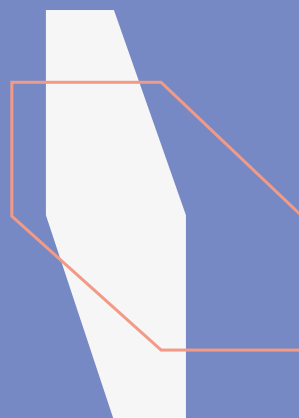
It is worth noting that DEPA was built and started operating before India had a data protection law, which was passed only in 2023¹¹⁶. Today, DEPA has more than 64 million consents¹¹⁷, and this growth has been accelerating in recent months. Compared to the Indian population¹¹⁸, however, this means only a maximum of 4.5% of the population¹¹⁹ is using some service that employs DEPA.

55

Z.

Regulation in India (2016)

56



Governance

In payments, the UPI was developed and is operated by the National Payments Corporation of India (NPCI), which is run by the largest Indian banks, with the participation of India's central bank (RBI). In terms of data, after creating the Account Aggregator License in 2016, RBI assigned its own technology division to the task of setting industry-wide standards. More generally, DEPA is considered a public-private partnership that involved several Indian government bodies and several private sector companies, including a new consortium called Sahamati.^{120 121}

Scope

The regulation on account aggregation applies to: Bank accounts, deposits, various types of investment, insurance, and pensions¹²².

Data transmitting participants – Scope

The provisions on data apply to every “financial information provider”, of which examples are: banks, non-bank financial institutions, asset management companies, and insurance companies¹²³.

Data receiving participants – Scope

Only regulated entities can receive financial data¹²⁴. Any company that meets the requirements to receive an Account Aggregator (AA) license issued by the Indian Central Bank (RBI)¹²⁵ but these institutions only intermediate the access to data and are not allowed to store it.

Technology

APIs, and consent management architecture.

Pricing

Account aggregators may charge receiving institutions, or the end client¹²⁶.



57

India in numbers

Population
1.42 billion¹²⁷

Banked population
77.53%¹²⁸

Bank concentration index
40.9¹²⁹

Fintechs in operation
3,085¹³⁰

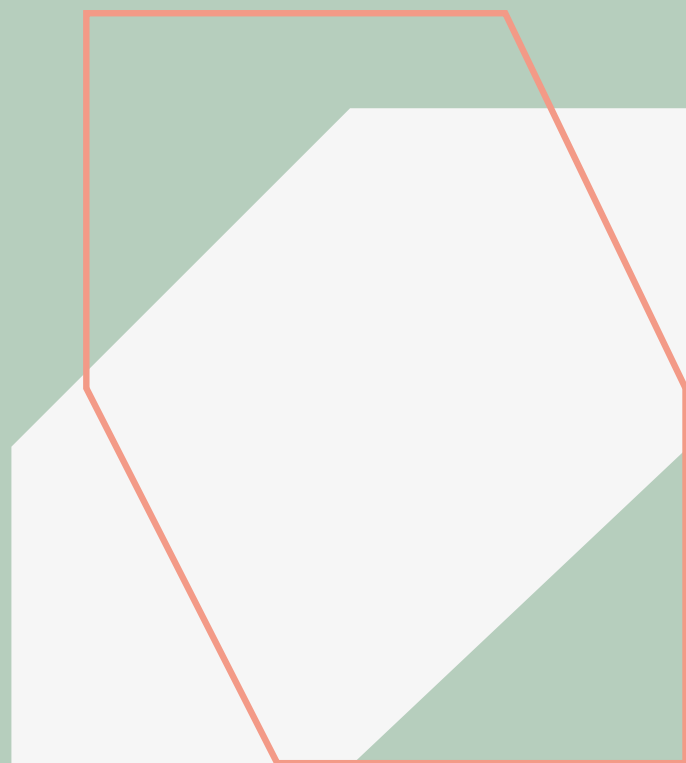
Z.

C. Mexico

In 2018, Mexico published its 'Fintech Law'¹³¹, which ordered regulations to be created to implement a standard-oriented Open Finance model. The defined scope of data was: Open data, aggregated data, and transaction data. It required these regulations to be created within 24 months¹³².

In 2020, the Central Bank of Mexico (Banxico) published standards¹³³ regulating the APIs to be implemented by credit records agencies and clearing houses, but did not publish any technical specifications that could be executed. Three months later, the National Banking and Securities Commission (CNBV) released rules¹³⁴ defining the technical and security requirements for the use of APIs, as well as a specification for the Open Data API. Since 2020, though, there were no further developments on the subject until, in October 2023, the conclusion was announced of a 6-month pilot API standardization project carried out jointly with CNBV¹³⁵. The scope of this pilot project was to test guidelines for consent and sharing of transaction data.

The regulation requires standardization of APIs to connect regulated institutions. To date, however, only the standard of the open data APIs has been developed.¹³⁶ Currently, due to a certain lack of clarity in the process of deciding on APIs, it is still uncertain whether they will be made available at some time in the near future. At the same time, it is difficult to point to exactly what specific challenges have slowed the progress of Open Finance in Mexico. At present, its development appears to be paused, awaiting more detailed regulation.



Regulation in Mexico (2018)

Governance

The Central Bank of Mexico (Banxico) and the National Banking and Securities Commission (CNBV) define rules and technical standardization.

Scope

Open financial data (from financial service providers such as products offered, addresses, etc.), aggregated data (about the operation of each financial service provider, without personal data being identifiable), and transaction data.¹³⁷

Data transmitting participants – Scope

All banks and financial institutions, money transmitters, credit information organizations, clearing houses, ITFs (“Financial Technology Institutions”, governed in Mexico by a specific law) and companies authorized to operate with innovative models.¹³⁸

Data Receiving participants – Scope

Companies have to obtain authorization from regulators to offer the service of access to regulated APIs.

Technology

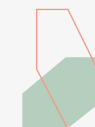
APIs

Pricing

Charging is allowed, if deemed reasonable, but must be registered with regulators.

open

finance



Mexico in numbers

Population
127.5 million¹³⁹

Banked population
59.72%¹⁴⁰

Bank concentration index
49.5¹⁴¹

Fintechs in operation
642¹⁴²

Data aggregation fintechs
11.9%¹⁴³

Fintechs using data aggregation technologies
67%¹⁴⁴

D. Colombia

In Colombia, the first bases for the development of Open Finance date back to the Habeas Data Act¹⁴⁵ (Law No. 1266 of 2008) and the Personal Data Protection Act¹⁴⁶ (Law 1581/2012), which gave citizens ownership of their financial data. Although it is difficult to say exactly when the first data aggregators emerged, there are records of banks using this type of service in the country since 2018.¹⁴⁷

Decree 1297 of 2022¹⁴⁸ first regulated Open Finance in Colombia, moving in the direction of a standard-oriented model. It assigned responsibility for setting standards to the Colombian financial supervision authority SFC (Superintendência Financeira da Colômbia or 'Superfinanciera'), the government body responsible for overseeing financial regulation.

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The decree specifies, among other points, the rules for:

(1) Allowing marketing of client data, subject to express client authorization, and full compliance with the Habeas Data and Data Protection laws; (2) provision of non-regulated third party services on platforms of regulated entities (e.g. financial 'superapps'¹⁴⁹); (3) provision of services of regulated entities on non-regulated platforms ('embedded finance'¹⁵⁰); and (4) payment initiation services (PISs).

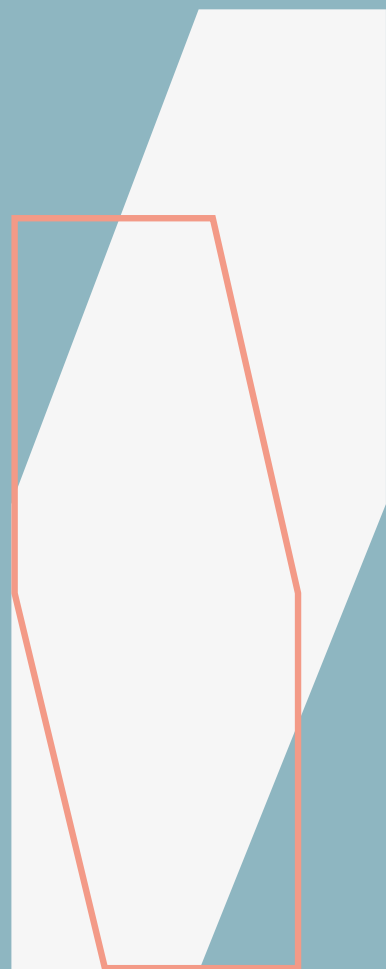
The SFC itself was given the responsibility for the governance of Open Finance, including "designing, structuring and defining standards"¹⁵¹, always with the cooperation of other public and private entities.¹⁵² In compliance with Decree 1297, SFC set out a phased schedule for creation of the technical standardization and implementation of Open Finance¹⁵³. The first phase was completed in February 2024, with publication of the first rules and technical standards (SFC External Circular 004/2024.¹⁵⁴). The others, which cover payment initiation, "financial aggregation" and "financial portability" are scheduled for December 2024, September 2025 and June 2026, respectively.

In contrast to other countries, the Colombian model makes participation of regulated entities in the Open Finance ecosystem voluntary¹⁵⁵. Another important distinction is that the regulator has not imposed any rule governing tariffs for access to data, which can be freely set by data transmission institutions.¹⁵⁶ The SFC has also not restricted participation in Open Finance to entities supervised by it.

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To enable non-regulated entities to participate, an indirect supervision structure was established, in which regulated entities are obliged to supervise non-regulated entities, checking a specified series of requirements in the non-regulated entity before allowing it to connect. (If the requirements are met, they are not allowed to refuse access.) Both regulated and non-regulated institutions that decide to participate in the ecosystem are obliged to comply with its rules and adapt to its technological and security standards.¹⁵⁷

Z.



Regulation in Colombia (2018)

Governance

The SFC itself was given the responsibility for the governance of Open Finance, including “designing, structuring and defining standards”¹⁵⁸, always with the cooperation of other public and private entities.¹⁵⁹

Scope

Data on payments, transfers and authentication; public data of participating institutions; and transaction data of clients.

Data transmitting participants – Scope

Voluntary participation by regulated entities.

Data receiving participants – Scope

Participation of non-regulated entities is conditional on validation with a regulated entity of compliance with specific requirements – in an indirect regulation mechanism.

Technology

APIs

Pricing

Charging for access to APIs is allowed.



Colombia in numbers

Population
51.8 million¹⁶⁰

Banked
population
59.72%¹⁶¹

Bank
concentration
index
73.8¹⁶²

Fintechs in
operation
642¹⁶³

Data
aggregation
fintechs
11.4%¹⁶⁴

Fintechs
using data
aggregation
technologies
60%¹⁶⁵

68

E. Chile

Chile is an interesting case, in which the market proactively organized itself to make an agreement between traditional institutions and data aggregators¹⁶⁶. The agreement, which became known as the Acordo Marco ('Milestone Agreement'), established commitments between the Chilean Banks and Financial Institutions Association (ABIF) and the Chilean Fintech Companies Association (FinteChile) to make screen scraping more secure for all those involved¹⁶⁷.

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In February 2023, Chile took an important step with its Fintech Law, which has taken it in the direction of a standard-oriented model. This law defined an initial regulatory framework for development of Open Finance in the country, and also advanced several other important agendas for the sector. It specifies that the following types of institution may be participants in the Chilean "Open Finance System" (known by its Spanish acronym SFA): institutions that qualify as information providers (data transmitters); providers of information-based services (data receivers); account providers; and payment initiation service providers. In other words, all regulated institutions that hold client data and provide account services will be required to participate in the SFA, and comply with its rules.

Z.

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The law also: (1) established minimum requirements for the consent of clients of participating institutions; (2) prohibited charging for access to data, allowing only reimbursement of the marginal costs of any requests in excess of a level of volume to be defined by the regulation; (3) required interfaces for communication of client data to be standardized; (4) specified a minimum set of data to be covered by the regulation; (5) gave the country's monetary authority (CMF – Comisión para el Mercado Financiero) the responsibility for deciding the specific rules, and a timetable for successful implementation of the ecosystem in phases; and finally, (6) set a deadline of 18 months – to June 2024 – for the publication of the resulting regulations¹⁶⁸.

In December 2023, the CMF created the “Open Finance System Forum” (Foro del Sistema de Finanzas Abiertas)¹⁶⁹, with “non-binding, consultative, collaborative” duties,¹⁷⁰ to support the CMF in the role given to it by the Fintech Law. This forum comprises a Consultative Group and Technical Groups¹⁷¹, with participation of representatives of both public and private entities. This structure has organized regular meetings since then¹⁷², plus “advisory roundtables” to discuss specific subjects¹⁷³¹⁷⁴ ¹⁷⁵. This SFA Forum has also published working papers,¹⁷⁶ indicating that significant progress has resulted from its efforts. In March 2024 the CMF announced that it expected to publish the public consultation on the SFA regulations by April 2024, and the final version by July 2024.¹⁷⁷

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According to the latest information published by the CMF, the forecast is that, after the publication of the standard, there will be a window of 18 months, for the development of infrastructure and necessary processes, before the rules come into force¹⁷⁸. Introduction is planned in phases: (i) First, registration of payment initiators (to January 2027); then, (ii) implementation of the standards by banks and card issuers (July 2027); and finally (iii) by the other institutions (up to January 2029).¹⁷⁹

Z.



Regulation in Chile (2023)

Governance

In December 2023, the CMF created the “Open Finance System Forum” (Foro del Sistema de Finanzas Abiertas)¹⁸⁰, with “non-binding, consultative, collaborative” duties¹⁸¹, to support the CMF in the role given to it by the Fintech Law. This forum comprises a Consultative Group and Technical Groups,¹⁸² with participation of representatives of both public and private entities. This structure has organized regular meetings since then, plus “advisory roundtables” to discuss specific subjects^{184 185 186}. This SFA Forum has also published working papers¹⁸⁷, indicating that significant progress has resulted from its efforts. In April 2024, the CMF published the public consultation on the regulations of the SFA¹⁸⁸. The final version is expected to be published by July. 2024¹⁸⁹.

Scope

Public data of the institutions (such as information about general terms and conditions of products and services, channels for communication with the public); client registration information; information on clients’ contracts and transaction data; communications between financial entities for the purposes of portability; and data necessary for initiation of payment. The products covered by the law are: Current accounts and their credit lines; credit cards and their associated credit lines; credit transactions; insurance; investments, and card operation services.¹⁹⁰

Data transmitting participants – Scope

Participation as a data transmitter is mandatory for banks and issuers of credit cards and payment cards and other companies in the investment and insurance sectors¹⁹¹.

Data receiving participants – Scope

Regulated entities and any company that (voluntarily) meets the requirements defined by CMF¹⁹².

Technology

APIs

Pricing

Charging not allowed

open

finance



Chile in numbers

Population
20 million¹⁹³

Banked population
87%¹⁹⁴

Bank concentration index
52.2¹⁹⁵

Fintechs in operation
361¹⁹⁶

Data aggregation fintechs
6%¹⁹⁷

Fintechs using data aggregation technologies
54.7%¹⁹⁸

73

Z.

II.

Origin and development of Open Finance in Brazil

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open

finance

II.1.

Motivation, antecedents, context of its emergence; its objectives

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In Brazil, Open Finance was formally introduced into regulations in 2020 by Joint Resolution 01, issued by the Brazilian Central Bank and National Monetary Council – the authorities responsible for regulation and supervision of (i) payments, and (ii) the financial system, respectively. Before we describe how its regulations developed and were implemented, however, a brief retrospective on origins and its antecedents in prior regulations. We divide it into two periods: (1) from 2010 to 2019; and (2) the full regulatory framework created in 2020.

Z.

A.

Open Finance in Brazil: from 2010 to 2019

The first financial data aggregators began to operate in Brazil in the decade from 2010¹⁹⁹. Similarly to what had happened in the European Union, the operation of the service providers was received with a lot of preserved by the financial market. As in Germany, one of Brazil's competition authorities became involved in the dispute to defend the rights of financial institutions' clients to access their data.²⁰⁰

Brazil's Secretariat for Promotion of Productivity and Advocacy for Competition (Seprac) not only made a submission to the court as amicus curiae, but also took the case to Brazil's main competition authority, Cade (Administrative Council for Economic Defense). In 2019 Cade decided to accept administrative proceedings, recognizing that "there were strong indications of infringement of the economic order"^{201 202}.

In practice, the Central Bank and the Monetary Council have been managing the process of opening of the finance and payments markets since 2013. The process began with publication of a regulation creating the Brazilian Payments System (Sistema de Pagamentos Brasileiro), and with it the class of Payment Institutions, as regulated entities with a lighter regulatory burden, to reduce barriers of entry into the market.

Since then further interventions in regulation have been made, aiming to remove barriers to competition, and indeed create significant conditions for competition – always with the Central Bank in a central position creating rules and monitoring conduct to guarantee solidity of the market. This trend intensified in 2016, with the structuring of the so-called “Agenda BC+” (Central Bank Agenda), and its evolution, in 2019, as the “Agenda BC#”.

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These two agendas represent a major effort in planning of public policies organized by the Brazilian Central Bank, with the objective, among others, of increasing ‘financial citizenship’,²⁰³ and the efficiency of the financial system; reducing the cost of credit; and making even further progress on the agenda of inclusion, competitiveness, sustainability and transparency.²⁰⁴

There are in fact four trends in regulation in Brazil that came before Open Finance, and have been contributing to the evolution of the Brazilian model since 2013.

The **first** of these trends comprises a group of measures to implement principles of proportional regulation, and an approach based on risk: these have helped to create a regulatory context this that was propitious for the major boom in fintechs in Brazil. More than 10 years later, there are now estimated to be 2,300 fintechs in the country²⁰⁵.

The **second** of these trends was the activity of the Central Bank and the Monetary Council to create material conditions for competition to develop²⁰⁶. In the last ten years there have been significantly growing discussions, within the regulatory agenda, on inter-operability in the payments system²⁰⁷, portability of salary accounts²⁰⁸, and evolution in the registries for protection of credit²⁰⁹.

The **third** trend was the expansion of the so-called ‘regulatory perimeter’²¹⁰ of the Brazilian Central Bank. Activities that previously were open to non-regulated entities now began to require a Central Bank license to operate – for example, issuance of electronic balances in transactions below a certain amount²¹¹. Another example was participation in the PIX instant payments system of payment institutions not subject to Central Bank authorization to operate. Initially, the Central Bank had permitted these entities to participate indirectly, without significant restrictions²¹². Although these organizations were technically outside the Central Bank’s ‘regulatory perimeter’, it now required them to submit to the rules of the Brazilian Payments System.²¹³

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The **fourth** factor was the publication, in 2018, of two sets of rules preparing the way for the regulation of Open Finance to be introduced two years later. These were: (i) the General Data Protection Law, which recognized people’s basic rights over their personal data; and (ii) the cybersecurity regulations of the National Monetary Council and the Brazilian Central Bank, which laid down rules for security of information for financial institutions and payment institutions, respectively.

Z.

B. History of Open Finance in Brazil: the key Regulation of 2020

The key basis of Brazil's regulation today, Joint Resolution No. 1 of 2020, was issued after intense debates with the market²¹⁴. The aim of the regulator was to attack one of the biggest causes of bank concentration in lending in Brazil: the asymmetry of information between, on the one side, the traditional incumbent financial institutions, and on the other, the fintechs and new entrants.²¹⁵

In practice, the role that the Central Bank decided to take for itself was to speed up the rate at which technology was able to power competitiveness in the market²¹⁶ – while at the same time working to ensure that the technological transformation did not undermine the solidity of the financial system. For this reason the Central Bank has, since the beginning of the first debates on Open Finance, always been strongly concerned about guaranteeing the security and protection of personal data.

The regulation thus produced a major emphasis on the subject of safety, and was able to be based on the General Data Protection Law. The regulation did three other things: (1) It limited its scope to the exchange of information between entities regulated by the Central Bank; (2) it created special restrictions for sharing data with non-regulated entities; and (3) it created a new entity, the payment transaction initiator (ITP). The status of ITP was introduced as a lighter form of payment institution license, that could bring within the regulatory scope of Central Bank any account aggregators interested in having access to data and services existing inside the Open Finance ecosystem.

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The new regulation, therefore, made it difficult for unregulated entities to operate in this ecosystem, and opened up a relatively simpler and less costly way for them to become regulated entities. The objective of the regulator was to ‘bulletproof’ the ecosystem against participants who were not subject to the rules and constant supervision of the BCB²¹⁷.

A few months later, the competition authority, CADE, recognized the right of clients to use third-party services to access their bank details. It also recognized the importance of “facilitating transit of data”, to ensure that there is freedom of choice of banking service provider, and to reduce asymmetry of information between competitors²¹⁸.

II.2.

Brazilian Open Finance: main features

A. Model based on technical standards

Joint Resolution N° 1/2020²¹⁹ adopted a model for Open Finance based on a technical standard, along the lines of the system that was developed in the United Kingdom. Thus, the regulation laid down a clear obligation for participating institutions, with well-defined substance and form: to enable access to the data specified in the scope of the regulation through dedicated interfaces that were standardized throughout the whole of the market.

The responsibility for developing the technical specifications, however, was delegated to self-regulation by the participants – who thus had the responsibility of structuring and creating a standard for interfaces (APIs), data dictionaries, plus other technical aspects of the ecosystem, such as security and the final user’s experience.

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Z.

B. Scope

For technical and public policy design reasons, Joint Resolution No. 01/2020 precisely defined the scope of data to be covered by the obligation to share in Open Finance – in the same way as happened in the United Kingdom and, as from 2020, Australia. However, the scope defined by the Brazilian Central Bank was considerably wider than that adopted in the UK. To organize the efforts of standardization and implementation, the Central Bank adopted a phased approach, dividing the scope of Open Finance into three modules:

1 Data sharing – this being divided into:

- Public data, on service channels, and products and services offered by participating institutions (accounts, cards, credit transactions, investments, social security, foreign exchange, accreditation, private pension plans, and insurance);
- Registration data of individual clients and their representatives; and
- Transaction data, relating to products and services contracted by clients (accounts, cards, lending, investments, foreign exchange, accreditation, private pension plans. and insurance).

2 Payment initiation services; and

3 Submission of credit transaction proposals:

The reason for inclusion of this modality is to enable clients to have access to various different lending proposals and their terms (e.g., period, interest rate, etc.), so as to be able to opt for the most advantageous option.

For full details of the scope of data of products and services required to be incorporated into Open Finance, see Joint Resolution 1/2020 and Circular 4015/2020. We discuss the current status of implementation in more detail later in this report.

C. Rules for participation

86

Only entities authorized to operate by the Brazilian Central Bank were allowed to participate in Open Finance. This includes banks, other financial institutions and payment institutions authorized to operate by the Central Bank, but does not include institutions that do not require Central Bank authorization.

Two modalities were created for authorized entities to operate in data within the ecosystem: Mandatory and voluntary – with different rules depending on their Open Finance service module. Participation is mandatory for larger financial institutions, classified as S1 and S2 under CMN Resolution 4553/2017, and voluntary for all other regulated entities.

In July 2024, the Brazilian Central Bank expanded the requirement for mandatory participation, through a regulation requiring the participation of all authorized institutions which individually or via a conglomerate have more than 5 million clients. This comes into effect only in January 2025.

For payment transaction initiation services, the requirement for mandatory participation applied to a larger proportion of all entities. Participation was made mandatory for all institutions offering transactional accounts, including current accounts, payment accounts and savings accounts. And for the service of submission of lending proposals, participation was made mandatory for all institutions that enter into contracts with correspondent banks for receiving and forwarding any proposals for lending or leasing that are made electronically.

The Central Bank also instituted a reciprocity rule: Any institutions that decide to participate in the ecosystem voluntarily must implement interfaces for data access: thus, if any regulated entity decides to participate in Open Finance to access data held at other institutions, it must also implement the APIs to allow access to the data held by itself. In other words, it is a two-way street.

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Z.

D. Governance and the role of self-regulation

As mentioned, the Central Bank and the National Monetary Council have delegated to the market the task of creating the technical standardization necessary for the implementation of Open Finance in the form defined by the regulator. This model has become known as “assisted self-regulation”²²⁰. To achieve this, an organizational structure was created, in three levels of operation. Circular 4032/2020 orders that this structure shall comprise:

- **The Governing Board (Conselho Deliberativo):**

This is the strategic level of the structure, formed by associations representing the participating institutions, and one independent Council member²²¹. It represents the structure in relations with regulators, sets strategic guidelines, approves internal regulations, and makes final decisions on the work of the Technical Groups (GTs).

- **Secretariat:** This operates at the administrative level in the structure, organizing and managing the work plans, coordinating the actions and agendas between the GTs, and providing support to the Governing Board.

- **Technical Groups (GTs):** These comprise specialists from various areas and are responsible for developing technical standards, security directives, and other specifications necessary for the data sharing ecosystem to operate. They follow work plans approved by the Governing Board. The composition of these groups is flexible, allowing the experts to be included from various areas of the financial sector.

The governance of Open Finance was designed with the aim of promoting collaboration between banks, fintechs, and other financial market participants, under the supervision and guidelines of the Central Bank. Thus, both in the Governing Board and in the technical groups, six associations or coalitions of associations participate, ideally with equal representation between the most varied sizes and areas of activity.

These associations are divided into two groups: (1) those mainly comprising traditional financial institutions; and (2) those mainly comprising payment institutions and fintechs. Each of these groups is subdivided into three levels, depending on the size of the entities represented:

- Subgroup 1.1, comprising the largest banks by volume of lending (classified as S1 and S2 by CMN Resolution 4.553/2017²²²) – recall that these are the institutions there are subject to mandatory participation in terms of data;
- Subgroup 1.2, comprising smaller institutions (S3 and S4) not qualifying as within the description of lending fintechs;
- 90 • Subgroup 1.3, comprising smaller financial institutions (S5) not qualifying as within the description of lending fintechs (mostly cooperatives);
- Subgroup 2.1, comprising payment institutions that are part of the same group as S1 and S2 banks;
- Subgroup 2.2, comprising all the other regulated payment institutions;
- Subgroup 2.3, comprising the so-called credit fintechs, which practice direct lending and loans between individuals.

As well as these levels, the governance structure of Open Finance in Brazil was given the responsibility of creating and maintaining a series of services that the regulator deemed to be necessary for the ecosystem to operate. These are:

- The **Participant Directory**: Management of the registration, credentials and information of participating institutions.
- The **Service Desk**: Provides support for access to the Directory, and forwards demands to the participating institutions.
- The **Website of Open Finance Brazil**: Holds information that is significant for participants and citizens in general, as well as the statistics on use of the APIs.
- **API testing environment**: Provides an environment for participating institutions to test whether their implementation of the specified standard is sufficiently homogeneous with the rest of the market.
- **Dispute resolution platform**: To mediate and resolve conflicts that may arise between participating institutions.
- **Metrics collection platform**: A platform to help the governance structure monitor the quality of services provided by participating institutions.
- **Data Quality Engine**: To help the governance structure evaluate and, as needed, correct situations where the minimum requirements for integrity of data are not being met by the APIs of the participating institutions.

Before going on to the next point, it is worth making a brief general comment on the role that self-regulation has assumed in the context of Open Finance in Brazil, especially in comparison with the role assumed in other regulatory contexts. It is worth looking in detail at the significant differences in the final overall design of the system that have resulted from this difference in approach.

While self-regulation assumed a leading role in Open Finance Brazil, receiving the task of organizing technical work, formulating the initial proposals to be discussed and deciding on each technical aspect of the standard, at the same time the Central Bank decided that the decisions made by self-regulation should be submitted to it for analysis, and incorporation into the regulation itself. Employees of the Central Bank participate in the meetings of the GTs and the Governing Board, with the aim of ensuring that the regulation is being obeyed, and that the decisions taken are aligned with the objectives and principles specified in the regulation.

By contrast, the Central Bank adopted a different stance in the context of the design and construction of Brazil's PIX instant payment system²²³: in March 2019 it created a separate, permanent forum to deal with this function of monitoring and development: the *Instant Payments Forum*²²⁴ – later renamed the PIX Forum²²⁵. The PIX Forum consists of two levels of structure. There are specific Working Groups for different technical Subject areas; and an overall Plenary Session, which brings together all the participants in all the Working Groups. The working structure is relatively

simple: In each of the Working Groups, the Central Bank internally formulates a design and technology proposal for each component of the system, and sends it to the other members of the subject area groups, to collect any comments and/or any alternative proposals. At the end of each cycle of contributions, a Plenary Meeting is scheduled for the Central Bank to present the decision that was made on each point of discussion.

This model gives the regulator the task of doing the heavy lifting of organizing the work, separating the issues into blocks of decisions that need to be made, formulating initial proposals, considering comments and alternative proposals, and making the final decision on each subject.

In contrast, the approach adopted by the Central Bank in building the Open Finance system delegated to the governance structure the responsibility for devising, debating and delivering a single proposed position, for regulatory approval. As a result, this decision-making process took on some of the characteristics of a *design by committee*²²⁶, which tends to hinder consistency, efficiency and openness to innovation in the technical specification process²²⁷.

However, with a view to mitigating these risks, the member organizations of Zetta have observed that the Central Bank has been taking an increasingly proactive stance in meetings of both the Technical Groups and the Governing Board – presenting annual priority timetables and, when necessary, initial designs of models and assumptions, which it expects the market to develop and design in detail.

Also, recently, the Central Bank published the final definitive structure for governance of Open Finance, to be implemented by January 2, 2025. Among other aspects, the Governing Board will have: (i) 2 independent members; and (ii) representatives of the following 8 categories of the industry, as indicated by entities representing the institutions participating in Open Finance.

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The 8 categories now to be represented:

- S1 and S2;
- S3, S4 and S5 - S5, except for credit cooperatives, payment institutions, direct credit companies (SCD) and peer-to-peer lending companies (SEP) - ABBC and Acrefi;
- Credit cooperatives;
- Payment institutions accredited under S1 or S2 or controlled by institutions under S1 or S2;
- Payment institutions accredited that are not under S1 or S2;
- Payment institutions initiating payment transactions;
- Payment institutions holding accounts; and
- SCD and SEP

In comparison with the initial model, the final structure increases the number of associations and segments that can participate and vote directly in the Governing Board of Open Finance – it attributes one seat to Zetta, and one to INIT, as associations representing (i) account-holding and (ii) payment-initiating payment institutions, respectively.

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Although the new structure has as its premise a relationship between voting power and the contribution which each type or group of institutions contributes to the cost of the Open Finance system, the greater representation of the industry, with the entry of Zetta and INIT, and the addition of one more independent board member, show the regulator's commitment to promoting balance and diversity in debates on Open Finance in Brazil, expanding the scope of discussions and strengthening the plurality of agents.

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II.3.

Status of implementation; next steps

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As we outlined above, the implementation of Open Finance took a phased approach, with some fine tuning over practicable delivery dates. Now we have a look at its current status – in place and functioning, and ready for a consideration of next steps.

Data sharing in Open Finance began on February 1, 2021. Initially, no client data was being shared, only data on client service channels, and products and services offered by participating institutions. As from August 13, 2021 clients have been able to share their data relating to accounts, cards and lending transactions.

Full sharing of services via Open Finance began with payment transaction initiation in the PIX structure. This work took place in four phases, from October 29, 2021 to February 17, 2022 – when all the functionalities of PIX were launched via Open Finance for all clients, available 24/7.

Currently, the governance structure is working on launching and/or enhancement of new functionalities for initiation of Pix transactions. Two of these projects are called the “No-redirection Route” (Jornada Sem Redirecionamento) and “Smart Transfers” (Transferências Inteligentes). The “No-redirection” method offers a simpler route for initiating a PIX payment, via API. By the general rules of payment initiation, for each transaction the end-client needs to make the initiation request to the initiator, and subsequently confirm the transaction with the institution that holds the account. In other words there is a double authentication in each transaction. With the “No-redirection Route”, this order flow can be done with only one authentication, to register an account with the payment initiator. After that, it will be possible to make transactions without the need for the client to be redirected to the institution that holds the account.

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The “Smart Transfers” solution, officially launched in April 2024, has enormous potential to transform means of payment: it allows the client to make payments, etc., between his accounts held in different institutions in a programmed and automatic way via PIX. The big differential of this solution is that it does not require date programming or a fixed amount for a transfer to be executed. That is, you can set predefined triggers and rules for the transfer to be executed. This feature makes it possible, for example, to transfer a balance between accounts to prevent one of them going into overdraft. The client can also create a command so that every time an amount is credited to his account (e.g. salary, random deposits, etc.), this amount is immediately sent to another account that he holds (for example, with another institution).

At present Smart Transfers can only be between accounts in the name of one single holder, but it is expected that the functionality will be expanded to allow transfer between accounts held by different holders.

In April 2023, a process of expansion began in the scope of types of data able to be shared – beyond traditional banking products and services, to include investments, foreign exchange, accreditation, supplementary pension plans, and insurance. This process is still in evolution. Also, in September 2023 and April 2024 there were two expansions in the scope of sharing of clients’ transaction data – beyond traditional bank products and services, to include (in September) data on investments and (in April) data on foreign exchange.

This agenda of evolution, bringing other products within the scope of regulation, continues. Currently two priorities are: portability of credit, and the “No-redirection” module for initiating payments. There is also an agenda for evolution of the Open Finance system, with implementation of essential technical and regulatory improvements. We describe some of these in detail further on in this report.

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III.

Open Finance in Brazil in practice today: Diagnosis for the future

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III.1.

Diagnosis in use: perception by the population; figures for volume; use cases

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Four years on from the regulation of Open Finance in Brazil, it is worth looking at how the market has evolved and what the effective impacts of the regulatory intervention by the Central Bank and the National Monetary Council have been so far. We examine three main sources of data: (1) the survey by the Datafolha opinion poll company, commissioned by Zetta; (2) data provided by the self-regulation governance structure of Open Finance in its “Citizen Dashboard”²²⁸; and (3) information on use cases offered to clients, available on the channels of the participating institutions²²⁹.

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(A note on our method:)

- The data provided by the governance structure are those that the participating institutions of Open Finance send to it for monitoring of the structure.
- We extracted the data available up to February 2, 2024.
- To evaluate the actual use of the connections existing within Open Finance, we took the number of single consents and the number of API data calls with response in the 200-299 range (which indicates that the request was successful and the server returned the expected response). That is to say, we disregarded the number of calls with response in the 500-599 range, which indicates that the server encountered an error when processing the request, and also calls to the APIs dealing with funds and consent.
- The quality of the connections was evaluated separately, based on the average percentage of successful requests with in the largest data transmitting institutions.
- The reason for excluding calls to the funds and consent APIs was to exclude requests that were more administrative in character, and focus exclusively on the calls that returned clients' data. Where appropriate, we have made the distinction between APIs dealing with client registration data and those dealing with transaction data.

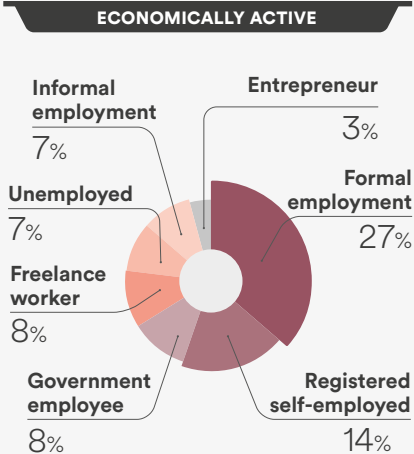
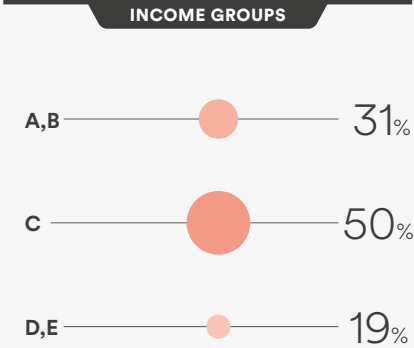
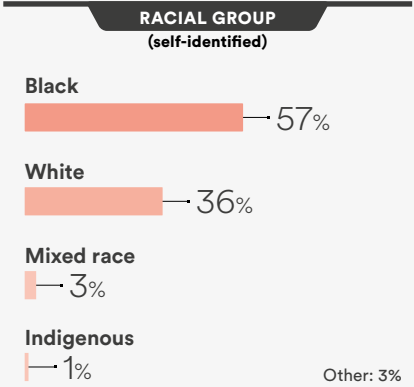
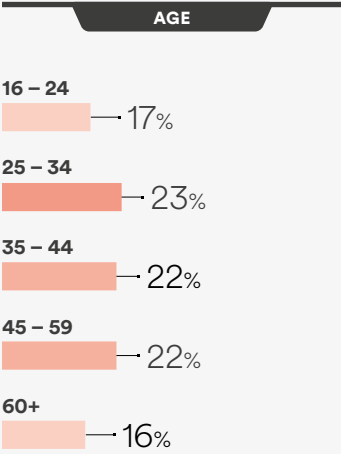
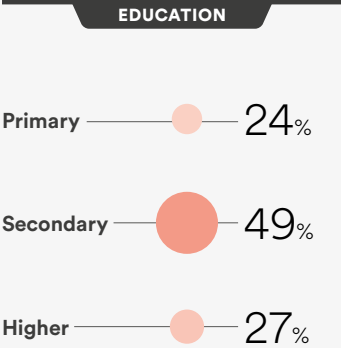
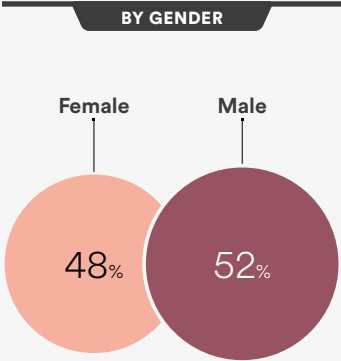
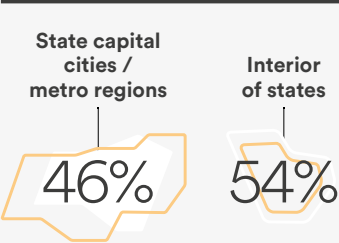
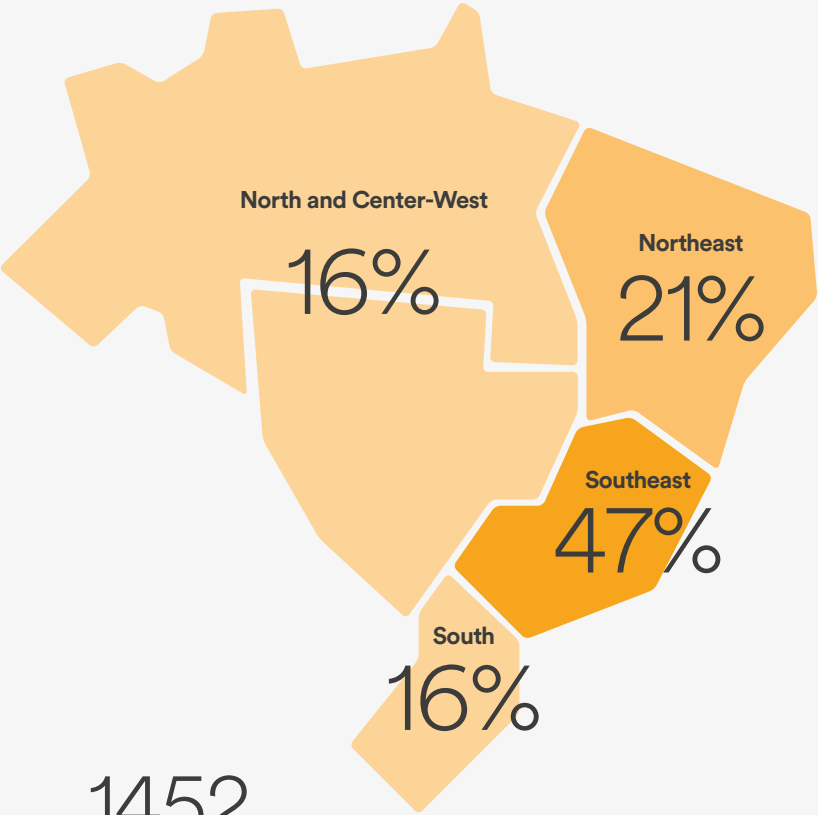


A. The Datafolha Survey –

The population's perceptions on Open Finance

Zetta commissioned the poll company Datafolha to carry out a survey to find out how well Open Finance was known to members of the public who have bank accounts, and their evaluation of the concept. The survey interviewed 1,452 people who have a relationship with a bank, in 113 Brazilian cities, providing a 95% confidence level, and a margin of error of 3 percentage points.

Who was interviewed



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The results of the survey indicate that the population has only medium to low levels of knowledge about Open Finance. In spontaneous answers, 45% of respondents said they have heard of Open Banking or Open Finance, but most of them said they knew little, or ‘not very much, really’ (‘mais ou menos’) about the subject. Awareness of the subject was greater among those who were economically active, and also among those with higher levels of schooling or in higher income groups. This can be seen as indicating that there is still a long way to go to bring Open Finance closer to people’s everyday reality.

Among banking clients who had heard of Open Banking or Open Finance, the main benefits they perceived from it were: (i) ease of access to credit, and/or (ii) increase in their borrowing limit; followed by: (iii) improved financial organization; and (iv) more practicality in operating bank accounts. Of total respondents, 12% mentioned the possibility of sharing data between different institutions as a benefit. But in spite of being benefits directly sought by Open Finance, reduction of interest rates and access to better payment solutions were indicated in fact by only a small proportion of interviewees.

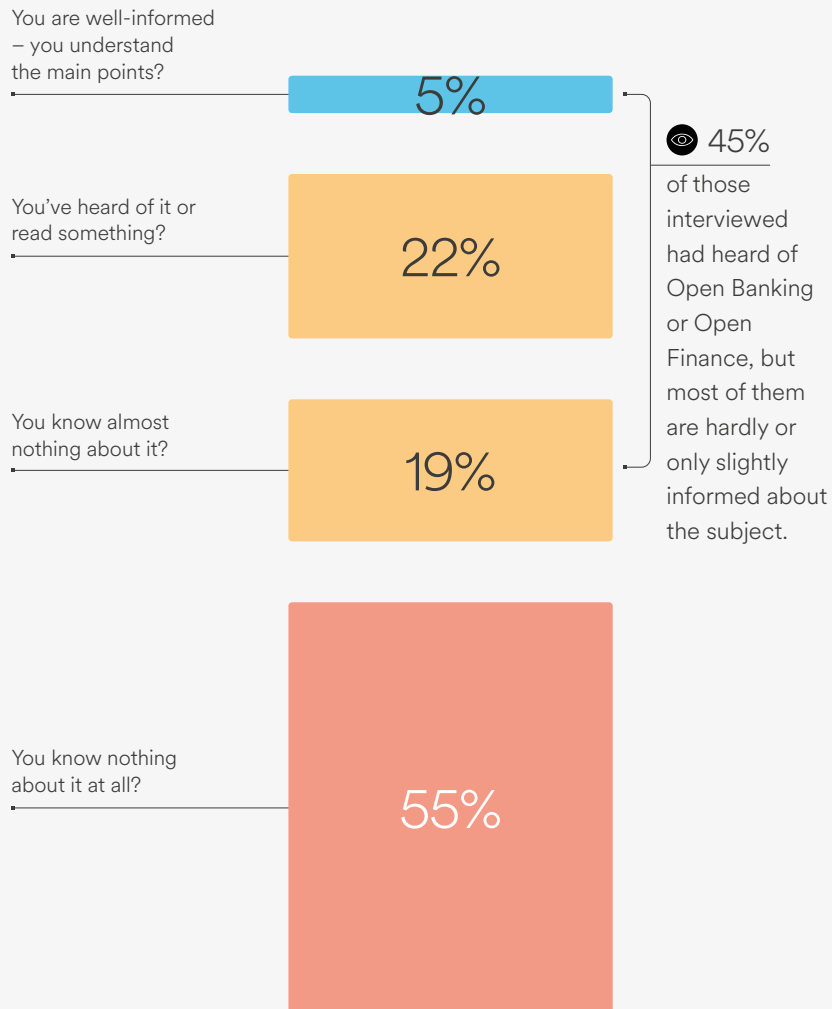
Another fact that stands out is the high percentage (36%) of consumers who were unable to indicate any benefits arising from Open Finance, which serves to emphasize that the advantages of Open Finance are not yet well-known to the population as a whole.

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How familiar are you with open finance?

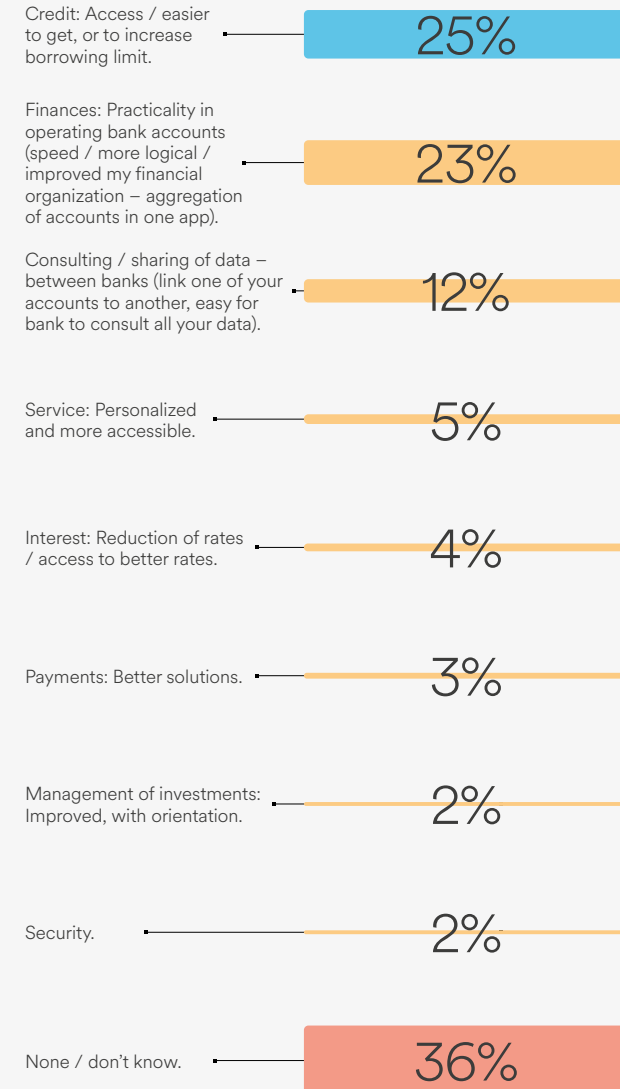
Question Have you heard of Open Banking or Open Finance – the open financial system?
Based on what you know, would you say that:



RESPONDENTS: All 1,452 interviewees.

Opinion on the benefits of open finance for consumers

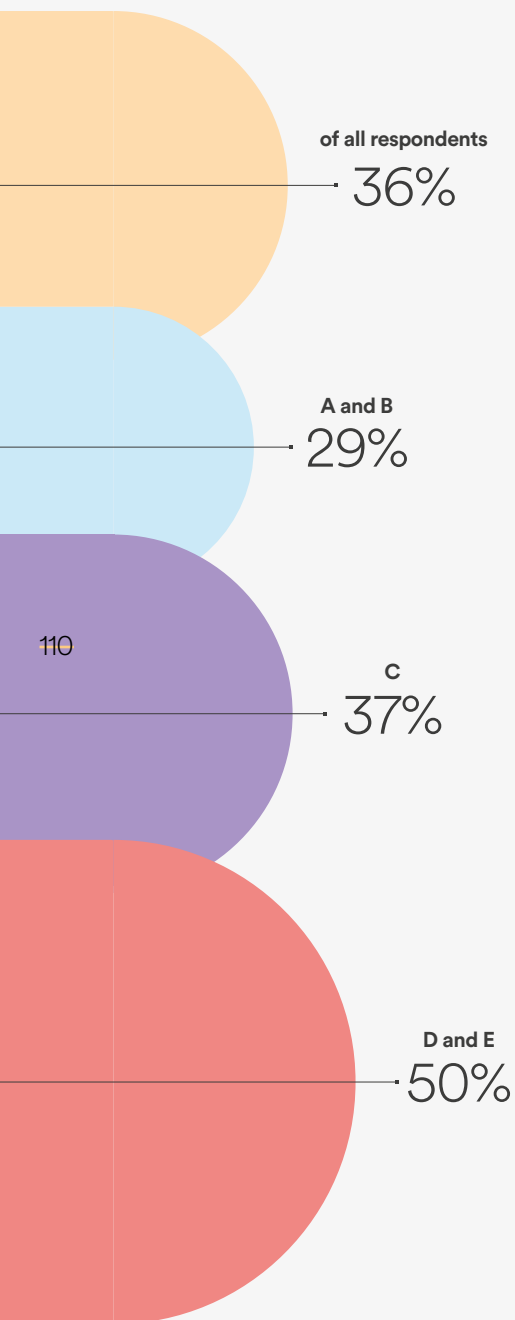
Question In your opinion, based on what you know or have heard, what are the main benefits of Open Finance for consumers?



Main benefits felt by consumers:
– access to and ease of credit;
– increased credit limits.

RESPONDENTS: The 658 interviewees who have heard of Open Finance.

Respondents who could not state any benefits of Open Banking:



Of the respondents who could not indicate any benefits of Open Finance, 50% were in the D and E income groups. In practice, it can be seen that the less favored economic groups showed less knowledge about the benefits of Open Finance.

One salient result is that, of the respondents who were unaware of any benefits of Open Finance, 50% were in the D and E income groups. That is to say, the people who most lack knowledge about Open Finance and its benefits are those belonging to the lowest income groups.

The Datafolha survey asked consumers' opinions about the performance of institutions in Open Finance. For 56% of respondents who have used Open Finance, the institutions that most stand out in their responses are fintechs and digital banks; incumbent institutions were cited in 43% of responses. We interpret these figures as showing the level of competition in the ecosystem, and giving an indication of how Open Finance has been used by consumers in the market.

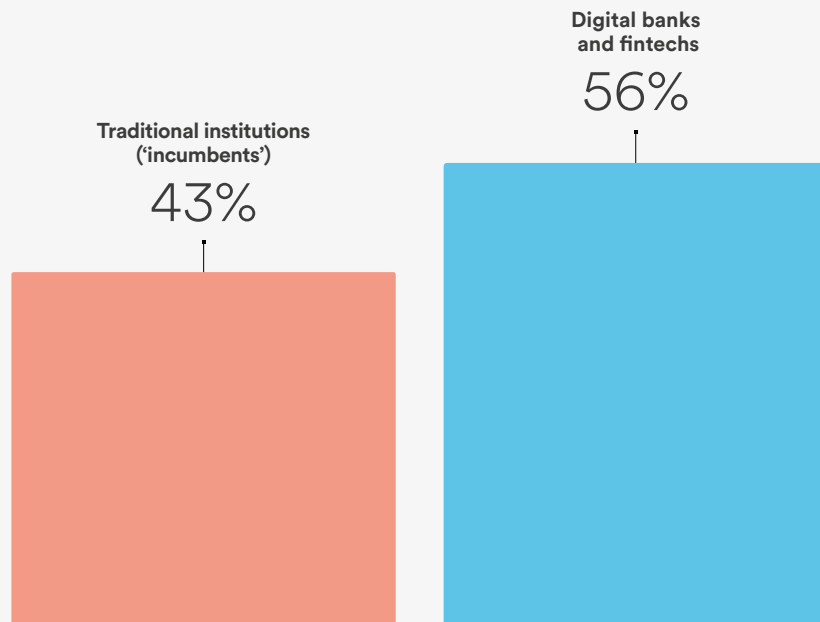
Perception on which institution stands out most in open finance

Question Which of these institutions do you think is the best or is outstanding in the area of Open Finance?



Among interviewees who had already used Open Finance, Nubank was considered to be the outstanding institution in the subject, with 41% of mentions – followed by Caixa Econômica (Federal Savings Bank), Banco do Brasil and PicPay.

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RESPONDENTS: Interviewees who have used Open Finance payment or data sharing services.

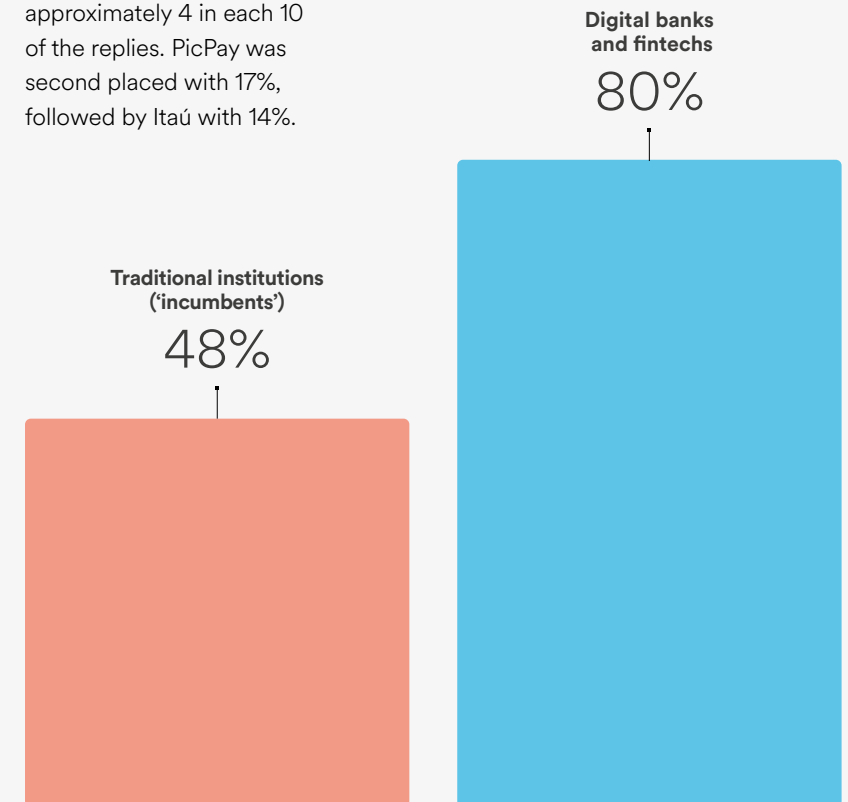
Destination institutions in data sharing via open finance

Question When you have shared or tried to share your data using Open Finance, what institutions were you aiming to share with ?



Nubank was the institution to which those interviewed had most frequently tried to transmit data, with approximately 4 in each 10 of the replies. PicPay was second placed with 17%, followed by Itaú with 14%.

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RESPONDENTS: The 185 interviewees who have shared their data using Open Finance.

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One interesting result concerns which institutions customers most favor as destinations for their information: The answers coincide with the data from the Citizen Dashboard: the fintechs and the digital banks are the institutions for which interviewees most tried to share their data. Overall, the data show that 80% of respondents shared data with at least one of the fintechs and/or digital banks, while at least 48% shared data with traditional institutions.

At the other end of the connection, i.e. the origin institutions for sharing of data, the incumbent institutions comprise 66% of responses, and the digital banks and fintechs 38%.

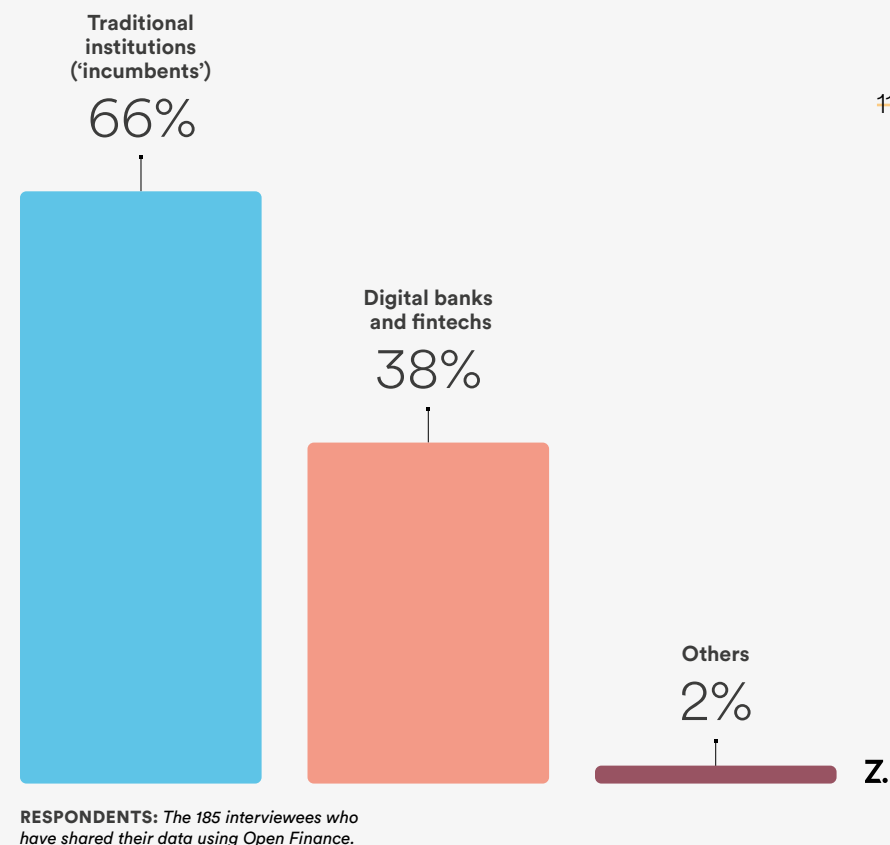
The Datafolha survey also sought to map any problems, in the interviewees' perception, related to Open Finance. In the survey, 55% of respondents indicated (i) non-availability, or (ii) errors in use, as the main problems of Open Finance, followed by (iii) absence of clear benefits (indicated by 29%), and (iv) a confusing customer experience (26%). These figures underline the need to improve the functioning and performance of the ecosystem, to ensure a seamless end-to-end experience for the customer.

Origin institutions in data sharing via open finance

Question When you have shared or tried to share your data via Open Finance, what was the destination institution of the data?



The most frequent origin institutions in sharing of data were Nubank and Caixa, followed by Bradesco and Itaú.

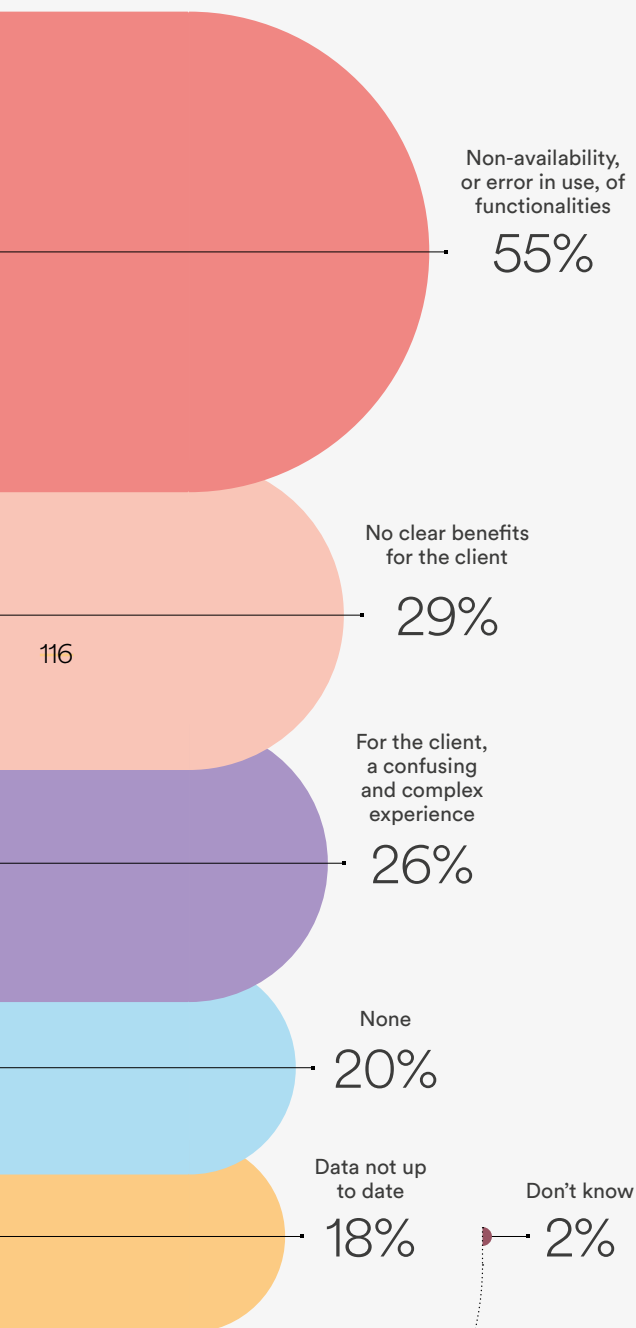


Main problems associated with open finance

Question *In your opinion, what are the main problems of Open Finance?*



Of the five aspects of Open Finance service evaluated, data not being updated tends to be the least problematic for users.



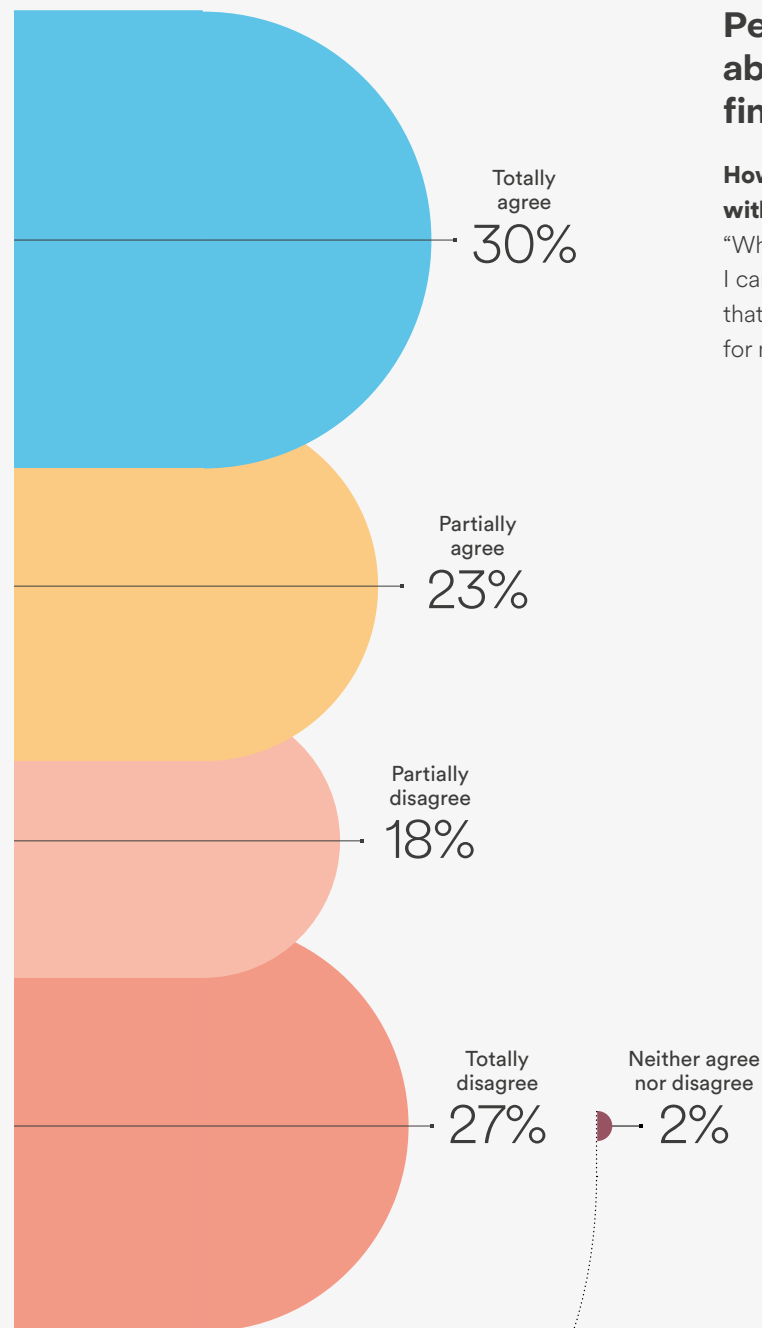
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RESPONDENTS: The 185 interviewees who have shared data using Open Finance.

Perceptions about open finance

How much do you agree with this statement:

"When I use Open Finance, I can trust the balances that appear in the app for my other accounts."



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RESPONDENTS: All 1,452 interviewees.

What functionalities do clients want?

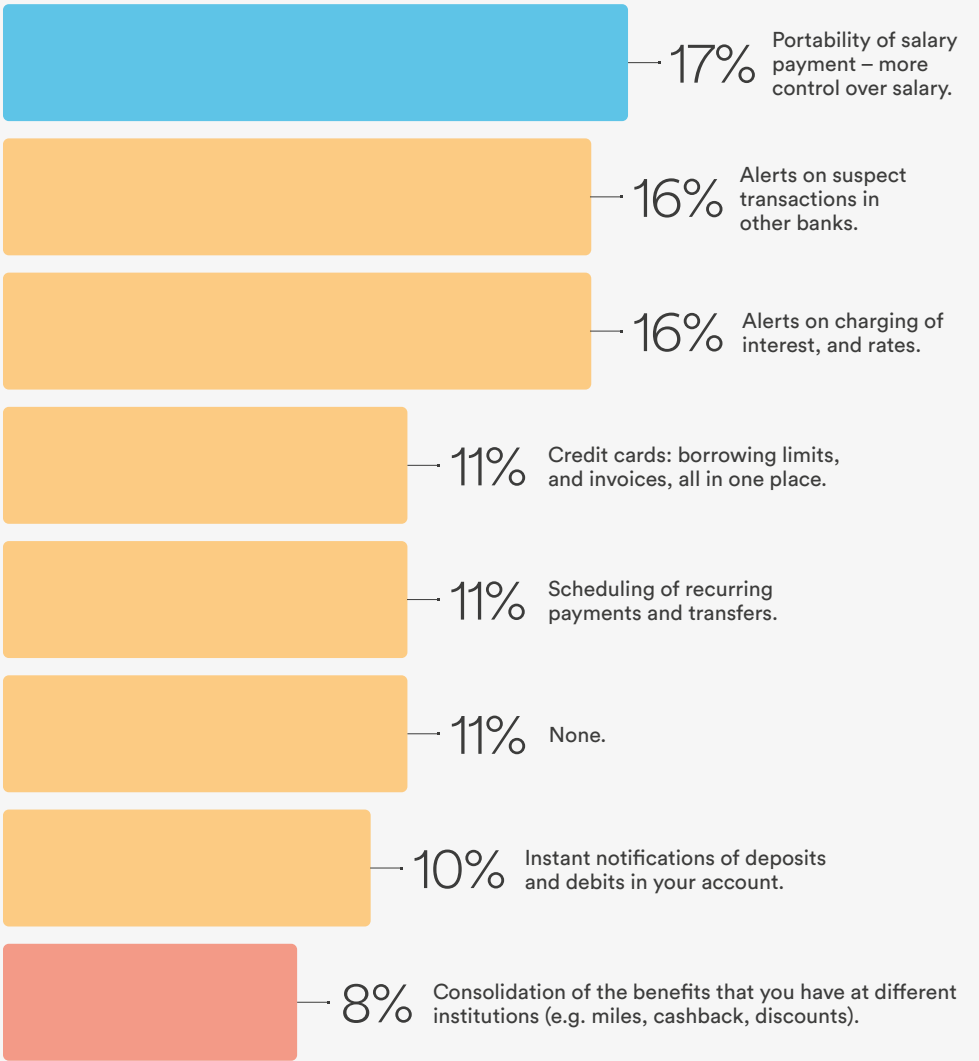
Question *What services would you like Open Finance to provide?*

Another problem pointed out in the survey concerns the reliability of data. 45% of respondents believe they cannot trust the figures shown for their balances on other accounts as they appear in the app when using Open Finance.

Among potential uses, interviewees cited as the most desirable functions: (i) portability of salary; and (ii) alerts informing them about (a) suspicious transactions, and (b) interest or fees charged by other institutions. This shows the synergy between Open Finance and portability solutions, which give users greater control over their finances.

Broadly speaking, the survey shows that the use of Open Finance is still relatively low, with 12% of respondents saying they have shared or tried to share data in Open Finance. Payments and transfers made via Open Finance are less common – reported by only 6% of respondents. A great part of respondents, though, recognized the value of the system for the public as a whole, and it can be affirmed that there is major scope for expansion of Open Finance in terms of adoption.

Below we highlight some of the already significant numbers in the operations of the ecosystem, and some of the new uses and solutions launched so far.



B. Overall numbers

According to data from the Citizen Dashboard, by our date in February 2024 Open Finance Brazil had received more than 29 million single consents, and had more than 900 participating institutions. On average, more than 1 billion requests for data are successfully completed each week. Showing how fast it is growing, the annual report of Open Finance points to an increase of approximately 97% in the number of consents in 2023.

Of the institutions with clients sharing data, fintechs and digital banks are the most active, both as transmitters and receivers. In the study period, Nubank, Mercado Pago and PicPay together accumulated over 17 million consents as data receivers, and nearly 15 million consents as transmitters.

As to types of data accessed, in the whole ecosystem, in the last year, the items of information most accessed were: account balances, followed by borrowing limits and transactions in current accounts, then borrowing limits and transactions on credit cards. This data is consistent with the products and facilities that the institutions are offering to clients to operate in the ecosystem, on their client communication channels.

Endpoints²³⁰ most accessed in the last year

	API	Endpoint	# of requests
1	Accounts	Recent transactions in the account	3,264,585,398
2	Credit card	Credit card transactions	1,584,521,258
3	Accounts	Balance on the account	1,175,798,757
4	Accounts	Borrowing limits	670,339,836
5	Loans	Loans	298,733,052
6	Credit card	Credit card borrowing limits	286,914,811
7	Financings	Identification of the Contract	206,661,542
8	Credit card	Recent credit card transactions	203,250,950
9	Accounts	Transactions on the account	183,929,671
10	Loans	Contractual repayments	93,053,309

In payment initiations, although we are already seeing significant activity by fintechs and digital banks, as the dominant payment initiators, the ecosystem has not yet reached a significant volume. The number of successful payment initiation transactions in January shows a still low proportionate number in relation to the client base of the institutions²³¹.

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C. Use cases: How have institutions used Open Finance to create value for clients?

Open Finance has already enabled the launches of several important use cases, in addition to enhancement of existing solutions and services:

- Improvements in onboarding²³² of clients
- Aggregation and financial management solutions for individuals and legal entities
- Financial education solutions
- More efficient credit analysis
- Optimization of credit portability
- Optimization of salary portability
- Simplified payment procedures
- Programmable payments

Fintechs and digital banks have played a significant role in launching new use cases based on Open Finance. In addition to the aggregation solution, and facilitated management of accounts, Zetta associate companies have offered other innovative functionalities based on Open Finance, including: overdraft account alerts; notification of idle funds in the account earning low or zero return; and access to a credit score.

One important use case has been the use of Open Finance data to simplify the process of salary payment portability. This has resulted in an increase in the number of requests completed for clients, and also in their rates of approval.

In payments, Nubank, Mercado Pago and PicPay also offer the payment initiation solution, which simplifies the movement of funds between accounts, including payments and transfers. The Smart Transfers solution, recently enabled within Open Finance, is likely to boost the figures for payments.

In addition to the use cases mentioned above, it is important to highlight that other participants have developed interesting solutions for their customers based on Open Finance. One interesting case is Sicredi. This credit cooperative reports that it has already been able to increase the credit card borrowing limits of its members who joined Open Finance by more than R\$ 3.5 million, and increase its offer of credit by more than R\$ 7.3 million.²³³

There is an interesting parallel to these data in the answers to the Datafolha survey: 25% of the respondents who had heard of Open Finance cited (i) ease of access to credit, and (ii) increased borrowing limits, as the main benefits of Open Finance.

D. Performance: Quality

of connections? The user's experience?

124 Client perceptions, and the developing volume of transactions, are naturally connected to the level of performance of the ecosystem as a whole – the better the performance, more streamlined the client's experience, the greater the potential and scalability of Open Finance.

Hence it is appropriate to give a brief overview of the quality of the connections between the participating institutions. Among the ten institutions that most provided data in January 2024, requests were positive 86% of the time. In the responses to the Datafolha survey, this percentage was lower: Only 82% of respondents who said they had so far tried to share data said they were successful. And the data from Citizen Dashboard suggest that even those who succeed tend to make more than one attempt. This is because – an impressively low figure – only 40% of sharing flows are completed.

This is a low level of service quality, and reflects the end users' perception of the ecosystem. To illustrate the point, this level of service is as if, of every 5 messages sent by a messaging app, 1 failed. These numbers are in line with the answers in the Datafolha survey (above), to the effect that the biggest problems of Open Finance identified in the survey (55% of respondents who have used it) are (i) unavailability, and (ii) errors in the use of functionalities.

The explanation for this may be (i) lack of incentives for data transmission institutions to maintain their connections, and/or (ii) absence of strict quality or monitoring criteria on the part of the Open Finance governance structure. In any case, this is certainly an important conclusion about the reality of Open Finance in Brazil: The performance of some institutions is still below expectations, and this limits development of the ecosystem, especially in terms of creation and evolution of use cases.

In response to this, the Brazilian Central Bank has taken some important measures to improve the performance of the ecosystem and enable a more effective monitoring process on the part of the structure, as detailed below.

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E. Some answers, and new questions

Based on the data described here, we come to four partial conclusions. The first conclusion is that fintechs clearly occupy a prominent space in terms of participation and innovation in Open Finance in Brazil. Nubank, PicPay and Mercado Pago are the three institutions with the highest percentage of clients participating in the ecosystem, while traditional Brazilian banks also show promising initial numbers. The figures show that Open Finance is fulfilling its role of generating new business and innovation opportunities for all market players – whether fintechs, digital banks or incumbent institutions – all on an equal footing. PwC's Strategy& report for 2023 on the Brazilian financial services sector concluded that Open Finance has the potential to generate additional revenue of R\$ 42 billion for Brazilian financial institutions by 2026.

The second, partial, conclusion is that in terms of scope of services and participants, implementation of Open Finance in Brazil has been successful, with a comprehensive model, and that it has become a point of reference for other countries. On the other hand, acceptance and adoption of its services by end clients, although significant and showing promise, is still at an early stage. The estimate of 9% of the Brazilian population (6%–11%) is compatible with the averages of European countries, but falls short of the transformative potential of Open Finance, so that we expect the ecosystem to evolve significantly in the coming years. Possible reasons for the low level of acceptance so far can be seen to include: (i)

the low availability of services; (ii) the characteristics of the method of consent adopted; and (iii) absence of perception by end clients of a clear benefit from using the system.

The third conclusion is that the availability of APIs for Open Finance is still below the expected service level of a product conceived for mass acceptance. Other possible reasons for this so far weak performance may include: (i) a lack of initial rigor in the minimum levels required, and/or in the monitoring and/or punishment of bad actors; or (ii) the technological aspects inherent to the ecosystem. In this context the Brazilian Central Bank has intensified efforts to improve the quality of connections, and consequently the final user's experience, to achieve acceptable functionality, and hence expansion for the system.

Finally, our fourth partial conclusion is that the payment transaction initiation numbers are still low. This may be due to: (i) the regulatory requirements of the consent process; (ii) the performance of the institutions themselves; (iii) the technology employed; and/or (iv) the fact that, up to the present moment, the PIX system is still more efficient for payments. The market is expecting that the new Smart Transfers solution, combined with improvement in the overall performance of the ecosystem, and simplification of the payment process, will transform this scenario, and cause a significant increase in payments based on Open Finance.

III.2.

Lessons from Open Finance Brazil – outlook for its future in the country and the region

With Brazil now completing its fourth year with Open Finance regulation, in the position of leader of the region, and a major global example, we can examine what lessons it provides for the development of other ecosystems in the region and beyond. In the following pages, Zetta offers an analysis of the best practices that it believes other countries could benefit from adopting, plus some aspects of regulator's efforts that have proved to be ineffective in achieving its objectives; and where appropriate, course corrections adopted by Brazil's Central Bank which can be taken into account in the construction of similar ecosystems in other countries.

a) The supervised self-regulation model

As it has done in other contexts, the Brazilian Central Bank has in our view made the correct decision in not assuming for itself the task of defining, in isolation, all the significant technology issues for the ecosystem. Although it has an extremely competent and specialized technical staff, in some situations the regulator does not have perfect information about the reality of the market. The path of making decisions, especially about technology, without market participation can be dangerous, and the Brazilian Central Bank has actively avoided this path, for many years – not only in relation to Open Finance, but in several other contexts of financial regulation including payments.

On the other hand, nor did it give the market carte blanche to self-organize and define its own rules and standards in isolation. Continuing its dynamic of 'supervised autonomy', in this project, too, the regulator required that the outcome of the decisions of the self-regulation governance structure would require its own regulatory approval before coming into effect. Thus, "as well as its existing responsibility for implementation of Open Banking, the structure was also given the role of consultant in the process of creating regulations" (excerpt from the decision in Circular 4,037/2020).

Hence in this model, the supervised self-regulation model gave the market a protagonist role, enabling the institutions themselves to focus on and specify some important aspects for the ecosystem, in an organic approach. If on the one hand supervised self-regulation increases involvement of the market in the implementation process, at the same time it increases a dependence on consensus for technical decisions, risking the phenomenon of “design by committee”. In this situation the scope for innovative decisions tends to be smaller²³⁴, and some decisions may need to be corrected or enhanced – which is what the Central Bank is doing through its technical Working Groups and its Governing Council. That approach also means it can occasionally be proactive and bring forward priority subject areas – sometimes, indeed, including even initial models and assumptions that had already been decided.

When adopting a protagonist role for the market in a self-regulation model, it is essential to ensure diversity of the associations participating in the governance structure, so that the different sectors of the industry are properly represented and have equal voting power, regardless of size – to avoid productive discussions becoming compromised or biased due to one group or another having greater weight in the making of decisions. In counterpart to this, it is also important that regulators should have the prerogative to assess whether the decisions taken are in compliance with the general principles and objectives of Open Finance in terms of regulation.

b) Rules of participation and reciprocity

We believe the decision to make participation by the country’s largest financial institutions mandatory was a good decision, in the sense of generating stimuli and leading e appropriate and significant development of Open Finance in the country. In our view this decision, which was made on the basis of the financial volume involved, makes sense considering that one of the main objectives of the regulation was to reduce the existing asymmetry of information, and consequently increase competitiveness in the credit market and in the financial and payments system.

The regulator also included a principle of reciprocity: to obtain data through Open Finance, interested institutions also had to make their own data available – a two-way street. The Brazilian experience so far has been that the principle of reciprocity has not inhibited voluntary participation by the most important players in the market. As has been shown, Brazilian fintechs and digital banks have not only participated in the Open Finance ecosystem, but established a leading position in it, with significant volumes and use cases that are important for the population.

Under this regulation, several additional data sources have been added to the ecosystem, strengthening clients’ empowerment in relation to their data. The Citizen Dashboard data show that three of the five largest data transmitters in the ecosystem are voluntary participants with obligation of reciprocity (Nubank, PicPay and Mercado Livre).

c) Broad scope of data and services

The decision to adopt a broad scope of data and services to be implemented in parts over time was also, in our view, appropriate and beneficial, since the extended scope increases the potential for new use cases and hence the transformative potential of the ecosystem, especially with the successive expansions in scope with the evolution of Open Banking into Open Finance (Brazilian Central Bank Resolution 138/2021 and Joint Resolution 04/2022). Such developments in our view could include mechanisms of portability and transfer of services, further increasing clients' control in management of their financial lives.

132 d) Quality metrics; monitoring of the ecosystem

The metrics for quality, and the measures for monitoring participating institutions, that were initially put in place have not been sufficient to ensure a good performance of the ecosystem: there have been shortfalls in both quality and reliability of connections – adversely affecting the user experience.

As a course correction, Brazil's Central Bank asked the self-regulation governance structure for improvements (Joint Resolution 04/2022), and in December 2023 approved version 1.0 of the Brazilian Open Finance Monitoring Manual. The new manual made the process of monitoring of the ecosystem more robust, since it made reporting on a series of important parameters relating to quality of connection, and performance of institutions, mandatory.

Additional mandatory requirements for monitoring the infrastructure include: (i) performance and availability of APIs; (ii) specifications, registrations, certification and publication of APIs; (iii) quality of data; (iv) client experience, including setting of a minimum transaction conversion rate; (v) maximum deadlines for resolution of tickets; and (vi) deadlines for reporting of information. The manual also established the need for self-regulation measures to be applied to institutions in a situation of non-compliance, including warnings and fines, depending on the case.

It is clear that specification of robust metrics of quality, and of effective monitoring of the ecosystem, with provision for penalty measures, is essential to ensure its smooth functioning and continuous evolution. In other words, the success of Open Finance also depends on prior specification of metrics to ensure that individual institutions perform properly and do not compromise the user experience.

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e) Fluid and frictionless experience for the user

I) Sharing of data and services

The methods and processes for data sharing have been the subject of rigid definition in the regulations. The General Data Protection Law (LGPD), the Banking Secrecy Act²³⁵, and the Cybersecurity Regulations allow financial institutions to share clients' financial data with service providers via simple informed consent. For sharing data at the client's request, though, the process is substantially more complex. Sharing for the purpose of exercising the right of the final client brings with it specific requirements to contain risks of inappropriate sharing. As currently defined in regulation, the process is considerably more complex: redirection is not the only option for ensuring the end client's security, and can cause complexity that affects the user experience, resulting in a confused process, which can often compromise usability, and thus inhibit expansion of the ecosystem.

For this reason, Zetta believes that the success of Open Finance necessarily involves development and adoption of rules to remove, or reduced to the maximum, any practices, barriers and/or friction that are harming users' experience, and hindering conclusion of flows that have been initiated. This indeed is what the Brazilian Central Bank has done by adopting improvements to regulations to provide a better user experience and eliminate unnecessary frictions – and continuing to do so.

II) Characteristics of consent

The Brazilian Central Bank has recently made some changes to improve the user's experience in relation to consent. It has (i) removed the 12-month limit on validity of the consent; and (ii) make it possible to change the period, purpose and scope of the consent without needing to confirm with the transmitting entity. The preamble to its Joint Resolution 07/2023²³⁶ gives the reason for the change as “to simplify the process of changing and renewing consent, contributing to client retention”.

In our assessment, simplification of the process of maintaining and renewing consent is essential for the evolution of the ecosystem, and indeed to enable institutions to create value for the client in both the short and the medium term (maintaining the provision that the client can withdraw consent at any time).

III) Initiation of payment transactions

Payment solutions already available in Open Finance have so far been little used. The client's perception and the low rate of use of payment solutions are the result of the low performance of the institutions, and the friction in the process for the client. Thus it is important to define some minimum metrics for performance, and for effective monitoring mechanisms, as well as avoiding unnecessary friction in flow of payments.

In response to the need to simplify the process (and thus also develop the potential for more use cases) the Central Bank recommended that the governance structure should create a method for flow of payment initiation that does not involve any redirection – i.e. one that would allow the client to connect an account with a Payment Transaction Initiator, and as from that moment be able to authorize transfers directly from the ITP interface, without any need for confirmation in the account holder's App²³⁷.

The current Non-Redirect initiation model is optional, and still depends on signing of a contract between the parties involved. The Central Bank has, though, indicated that it will soon implement the mandatory model, in which institutions will be obliged to authorize flow without redirection, whether not they have a

signed contract with the initiating institution, providing that the latter complies with certain technical and regulatory requirements designed to ensure security and mitigate risks for the client. In other words, institutions that wish to initiate payment without redirection must show that they have an adequate technical, financial and regulatory structure for this.

Products for scheduling future recurring payments, and Smart Transfers have been launched recently, reducing friction in the process for the client, in that the client does not need to be redirected, separately, for each transaction. Both features are aligned with the goal of simplifying the client's experience, increasing the potential for developing new payment use cases, without giving up security.

In short, the Brazilian experience shows that it is essential to ensure agility and simplicity in the client experience, in particular in creating or renewing consent, and in general in use of Open Finance features. Access to a fluid experience is a determining factor for use cases to be able to scale up and be widely used by the population, and to generate the necessary mechanisms for institutions to be able to exploit the full potential of Open Finance.

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Zetta's future vision: key proposals for success of Open Finance in Brazil

Following this overview of the processes of regulation and implementation of Open Finance in Brazil, and the system's performance, Zetta now puts forward some proposals for improvement that it considers to be essential for the advancement and full adoption of Open Finance in Brazil.

The aim of the proposals below is to improve the performance of the ecosystem, and enable the development of important use cases, with the overall aim of expanding clients' use of Open Finance in their daily lives.

a) Towards a final governance structure

To recap the recent history: Initially the Central Bank created a transitory governance structure responsible for implementing Open Finance in Brazil ('the Initial Governance Structure'), comprising two groups of associations: (1) those with significant representation of traditional financial institutions; and (2) those with significant representation of payment institutions and fintechs.

Circular 4032/2020, however, stated that this detailed structure would be transitory, and the Central Bank is expected to define a new governance structure sometime this year (2024), able to drive the advancement of Open Finance in a professionalized way and with the greatest autonomy possible, and to include, among other characteristics, direct contracting of suppliers and service providers including through direct hiring of suppliers and service providers.

Bearing in mind that Brazil adopted a "supervised self-regulation" model in which the market has a strong influence on the advancement of the regulatory agenda and important technical aspects of Open Finance, Zetta states its conclusion that the new governance structure responsible for implementation of Open Finance needs to cover all sectors of the financial and payment system equally, without any concentration of decision-making power.

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In other words, it is essential that the new governance structure must ensure equality of participation and strength of representation on the Governing Council for all the different business models existing in the country. We say this because we believe that for Open Finance in Brazil to achieve its full potential, two factors are essential: (i) there must be an agenda for its evolution that is entirely pro-competition – and that if this environment of competition is fully in place its dynamism will be able to produce new solutions for users and for the financial sector; and (ii) the governance structure must give equal space and importance to all the sectors of the industry, so that all the participating institutions will be making contributions on an equal basis, regardless of their size, or segment.

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b) Event notification mechanisms

One of the main objectives of Open Finance is to give citizens control of their data and their financial life, through more accessible and personalized solutions, and democratization of access to financial services.

It is essential that data should be shared efficiently and quickly, ensuring that clients are confident of the security and reliability of the information they are receiving. For this to be possible, receiving institutions participating in Open Finance need to have mechanisms for access to reliable data updated in real time – which currently do not exist. The result can be seen in the Datafolha responses: 45% of respondents believe they cannot trust the balances of other accounts that appear in the app when they use Open Finance.

This is because, in the current architecture, the receivers have no way of knowing when any of the shared data undergoes a change (e.g. updating of an account balance): there is no notice or communication of the data from the transmitting institution. This means the receiving institutions have to consult the data of the provider institutions on a recurring basis, on demand or periodically, without, indeed, knowing whether there is a current need for any such request. This inability to see up-to-date information prejudices the client's experience.

Thus, considering that the current dynamic is inefficient in operational terms and impairs the client's ability see up-to-date data, and thus the client's ability to make decisions, Zetta is advocating for creation of an event notification mechanism. This is expected to happen in the second half of 2024. With this improvement, clients will be able to see their data in real time, and also receive timely notifications about significant events in their accounts (e.g. going into overdraft, deposit of salary, deduction of a financing installment, etc.).

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c) Portability of services

The processes of portability of credit, salary and investments in Brazil are extremely inefficient, time-consuming and incompatible with a financial system that has been widely modernized in recent years, especially with widespread digitalization of financial services and the implementation of advances such as the PIX system and Open Finance.

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Banking clients have become accustomed to making transactions instantaneously, and increasingly seek ease in managing their finances: bureaucratic and inefficient processes have simply lost ground, been phased out, and/or disappeared. In our view, there is an urgent need for complete revision or simplification of the portability processes, to enable competition and innovation in the Brazilian financial system to become a reality.

Zetta argues that the existing Open Finance infrastructure should be used to simplify the processes of portability of credit, salary and investments, since the ecosystem already allows secure and direct integration between institutions, through APIs and without the need for any intermediary.

142 In addition to technical capability, Open Finance has great synergy with the service portability solution, in that it allows the client to have full control of his financial life and decide which institution he wants to contract for each service or product. In other words the development of a portability module seems to be a natural development from what Open Finance has achieved so far.

The aim would be for clients to be able to share data between regulated institutions and make transactions in various accounts through a single app, via Open Finance, but also to migrate services from one institution to another – expanding the client's access to more attractive and personalized proposals.

We thus list below improvements for which Zetta advocates, to accelerate the Open Finance portability agenda:

I) Credit portability

Portability of credit was regulated by the Brazilian Central Bank in 2006, and improved in 2013 – to enable individuals and legal entities to transfer an already contracted credit transaction to another institution offering more advantageous terms, especially lower interest rates.

This is an important mechanism for promoting competition, as it makes it possible to reduce interest rates and increase the volume of lending in certain types of credit. According to the Central Bank's Banking Economy Report, in 2020 clients who used portability experienced a significant improvement in their credit terms: average interest rates were reduced by 2.9 p.a. and rates for payday credit were reduced by 5.7 percentage points.

The problem is that only a small portion of the population are aware of or have benefited from portability of credit, due to its benefits not being widely known, and the bureaucracy involved. For example, (1) in 2019 only 6.4% of the potential of real estate credit portability was realized²³⁸; (2) in 2020 a considerable proportion of borrowers were paying rates above the average practiced in the market; and (3) in 2022 there was a significant drop in portability of credit, with a return to levels similar to those of 2017²³⁹: the number of credit portability requests fell by 50.6% from 2021, and the rate of acceptance and contracting of proposals was down 57%. That is to say, of a total of 5.1 million applications made, only 1.9 million were realized.

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Zetta believes that as well as effects in the economy – for example the high Selic rate at the time – part of the unrealized potential of credit portability has been due to the bureaucracy of the process. As detailed in the Zetta publication *The Portability Panorama*, the process is indeed bureaucratic for the client, and can take about 20 days to complete.

From the institutions' point of view, the process is costly and inefficient, since it depends on activity by an intermediary²⁴⁰, and even payment of an RCO (charge for operational cost) by the proposing institution to the original creditor of the transaction.

Thus, in line with the Central Bank's agenda of priorities for the year 2024, Zetta advocates for implementation of credit portability flow within Brazil's Open Finance, subject to the guidelines mentioned below.

Scope

Zetta argues that the flow of credit portability via Open Finance should initially include, at least, the modalities of payday credit and personal credit. Subsequently, as the solution and the ecosystem mature, the scope should be expanded to include unsecured lending, and credit card invoices.

Exclusion of the RCO charge

Another important aspect for credit portability via Open Finance to be successful is exclusion of the requirement for RCO (compensation for operational cost of the transaction). Its inclusion affects the competitiveness of new proposals, compared to the original creditor's terms – in other words, it inhibits the benefits arising from efficiency on the part of institutions from being transformed into benefits and lower rates for the consumer.

The regulatory initiatives and changes put in place over recent years to encourage competition have indeed made the system more efficient, through entry of new players, and/or elimination of various operational costs, including the costs of client prospecting and supply/management of credit. The following are some examples – initiatives and mechanisms that have contributed to greater efficiency of the Brazilian financial system:

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- **PIX:** A widely used tool, which has increased the efficiency of the payment system and significantly reduced costs connected with payments, transfers and settlements;
- **Open Finance** has provided access to universal information enabling enhancement of institutions' credit engines, as well as simplifying and empowering the processes of offering of credit;
- **Credit Information System (SCR):** The Sistema de Informações de Créditos is a channel that can be consulted on all the credit transactions of a client;
- **"Positive record"** (Cadastro positivo): A database which can be consulted to check the financial behavior of clients as to compliance with commitments, etc.;
- **Credit Bureaus:** Databases with the payment history and credit scores of clients;
- **Simplification and digitalization of processes:** Evolution of the Brazilian financial system has also resulted in simplification of the processes of offering and contracting credit, for example through the use of digital platforms and electronic service channels, significantly reducing the costs associated with such processes;
- **More efficient credit models:** As well as the operational improvement, the improvements in the Brazilian financial system have permitted greater access to information, enabling institutions to develop more efficient models.

These advances have enabled development of models for acquisition and management of credit that are much more efficient, and much cheaper, than at the time when the RCO was conceived – the amount charged as RCO no longer corresponds to the costs actually disbursed by the original lenders, and is not justified in the current scenario. Hence, to allow the population to benefit from competitiveness in the credit market and have access to lower interest rates, Zetta advocates for excluding any OCR charge in the context of credit portability.

Reduction and unification of deadlines

Currently, the flow in credit portability is time-consuming and involves multiple deadlines and steps: (i) 5 business days for the application to be put into effect; (ii) 2 more business days for the original lender to inform the proposing institution if the client decides not to go ahead; (iii) 2 working days for the original creditor to confirm receipt of the amounts paid by the proposer as settlement of the transaction (if the transfer is approved); and (iv) another 2 working days, from confirmation of receipt of funds, to send a document confirming the operation.

Zetta argues that the overall period for credit portability via Open Finance should be substantially reduced, and that the stage of approval of the transfer (or not, if so decided) should take a maximum of 2 business days. With the evolution of the mechanisms of data sharing and payment settlement, and the integration of institutions into the Open Finance environment, Zetta argues that a period of 2 working days is more than enough for the current lender to make a counter-offer (retaining the client) or, if the client still goes ahead, confirm approval of the request.

148 We believe that the receiving institution should have four hours to confirm receipt as from notification, and that this confirmation can be made through the Open Finance system. This is a simple confirmation, for which a period of working days is not justified. Finally, as from this confirmation, we believe the original creditor should have a maximum of one business day to provide the confirming document.

The deadlines that Zetta is proposing are feasible in the Open Finance environment, and would make the credit portability process much simpler and faster, reducing the process from approximately 9, to 2 or 3 business days – much more in line with consumers' expectations at the current stage of development of the Brazilian Financial System.

II) Portability of salary via Smart Transfer

The current process of salary portability is inefficient, slow and incompatible with a financial system that has recently been modernized. Currently the process involves much filling in and validation of information, taking up to 10 business days to be approved – and there is still a high rate of rejection of requests.

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Cases and information published by some institutions show their data and services sharing infrastructure of Open Finance can be used to simplify salary portability. Also, in line with the regulatory agenda published by the Initial Governance Structure, sharing of data on the payment source of the client's salary will become mandatory, which should further improve the flow.

Although some improvements are already possible in the phases of identification, form-filling and validation of data that are required for a salary portability request, the process still (i) currently has to be carried out through an intermediary (Nuclea), (ii) takes up to 10 business days, and (iii) has a high rate of rejection of requests.

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Thus, Zetta advocates not only improvement of the sharing of data on the paying source, but also creation of a simplified flow via Open Finance, enabling the client to schedule portability in a few clicks, with immediate effect. The objective is that this flow be carried out entirely in the Open Finance environment, with no dependence on intermediary institutions. For this, we propose the use of the Smart Transfers solution – launched in April 2024 and now operating – which allows clients to schedule transfers of funds between their accounts. For salary portability to be executed entirely within Open Finance, automated and with no dependence on intermediary institutions, it is necessary that the salary account²⁴¹ owned by the client be handled via PIX. Currently, salary accounts are handled only via TED²⁴² and TEC – neither of which is integrated into Open Finance.

Once this adjustment has been made, clients could program salary portability directly in the Open Finance environment²⁴³, safely and immediately, using the Smart Transfer solution. Finally, it is worth noting that in the Datafolha perception survey, salary portability was the solution that clients said they would most like to see in Open Finance.

III) Investment custody portability (‘Open Capital Markets’)

Transfers of custody of securities are regulated by Resolution 32 of the Brazilian Securities Commission (CVM): (a) they must be executed within 2 working days; and (b) the custodian must (i) publish on its website the documents necessary for a transfer request, and (ii) inform the client of a non-compliance in documentation delivered for the transfer.

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In addition to CVM Resolution 32, intermediaries adopting Anbima self-regulation must obey the guidelines set out in the Distribution Code and the related rules and procedures.

There are specific procedures for each type of asset, and the regulation does not establish standardization of the documentation required for transfer requests, or the form of exchange of information between custodians of origin, destination and central depository, where applicable. In general, the experiences are not investor-friendly. In many cases the bureaucracy is so great that investors choose to sell the asset, receive the funds and repurchase the same securities at another broker – giving up the portability process and consequently not enjoying any of its potential benefits.

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The lack of standardization of procedures and the documentation required for transfer of custody is one of difficulties and inefficiencies faced by investors trying to move their investments.

The absence of an infrastructure, and rules for standardization of the forms involved for exchange of information between the custodians and the central depository, means that there are different, customized flows for exchange of files between particular pairs of participants, including by e-mail in some cases. The need to maintain manual flows limits the scalability of processing securities transfer requests (STVMs), generates recurring breaches of regulatory deadlines, and increases the risk of operational errors.

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The difficulties and inefficiencies faced by investors, as well as the recurring breaches of the 2-business-day period currently specified by CVM Resolution 32, have been documented in a CVM report published in June 2022: *Regulatory Impact Analysis: Transfer of Custody of Securities – an analysis of the regulatory criteria for custody transfers and the experience of the investor public.*²⁴⁴

To address these issues, the CVM held its Public Hearing No. SDM 2/23, with a proposal for new regulations governing securities portability. In its draft, the CVM opted to strengthen the rules of conduct regarding portability, without establishing mandatory adoption of any specific technology. The main proposals contained in the public consultation notice are:

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1) Change of the agent able to receive the portability request

Supported by local and international comparisons, the CVM proposes that the request for portability may be received by either the custodian of origin or the custodian of destination, or, also, where applicable, by the central depositary.

2) Transfer request in logged area

CVM proposes that it should be mandatory to offer the client the option to request portability by digital means on the website or app of the intermediary provider of service or custody, providing security and practicality for the investor.

3) Resetting of deadlines for each asset type

The CVM further proposes to replace the single-deadline approach with a range of deadlines according to the characteristics of the asset to be transferred. The main objective is to achieve alignment between investor expectations and the operational time taken in each case.

4) Channel for monitoring investor's request

Establishment of a new standard of transparency: all intermediaries and custodians must make available, at a location easily accessible for clients, the applicable procedures and estimated time limit for completion of a transfer of each type of investment.

5) Central depositary to be responsible for storage of information on private-sector fixed-income securities

Making the central depositary responsible for storing transaction information avoids the need for additional exchange of data between custodians, making the processing similar to that of securities traded in organized markets.

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Zetta's opinion

Zetta agrees that the 5 changes proposed by the CVM at its SDM 2/23 public hearing are important and contribute to alleviating the difficulties and inefficiencies faced by investors.

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In addition to these 5 changes, Zetta advocates creation of an investment portability flow through Open Finance, to be implemented gradually as from 2025.

As with the other portabilities, Zetta believes that the infrastructure for sharing of data on registry and investments already existing in Open Finance, accompanied by the payment initiation solution, can facilitate and generate efficiency gains for the portability of investments. In addition to the direct integration already existing between the participating institutions of Open Finance, work on an investment portability flow could benefit from the discussions on portability of credit expected to take place in the second half of 2024, adding additional efficiency in dealing with the subject.

Further, the systemic integration provided by the Open Finance ecosystem enables standardization and automation of processes, reducing or even eliminating the need for manual exchange of information. This will make processing of transfer requests much more scalable, robust and with less exposure to operational risks, as well as enabling: (a) reduction of the processing time limits necessary for all types of assets; (b) provision of a channel for investors to monitor the status of their transfer in real time; (c) receipt of the transfer request by the destination custodian, through an experience that is automated for the investor; and (d) coordinated, simultaneous transfer of assets given in guarantee and the related credit transactions, with data made available enabling the destination custodian to make an appropriate assessment of the client's credit risk.

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Zetta argues that: (1) to maximize the efficiency that Open Finance infrastructure can add to the process of investment portability, participation should be mandatory for all intermediaries and custodians that have a significant role in the Brazilian capital market. Also, (2) measures to gain efficiency should be adopted, such as (a) flows without redirection, or use and monitoring of conversion SLAs, (b) monitoring of real-time APIs, and (c) measures to ensure institutions comply with the rules and maintain high levels of performance.

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Zetta believes that due to the complexity of the subject and its consequences, and the necessary funding, the best strategy is to divide the project into smaller phases, with the least degree of complexity possible, with concrete delivery of value, if necessary in steps, to the investor. Zetta proposes that (a) a specific working group should be created to discuss technical and regulatory aspects of investment portability; and (b) the timetable, and the rules, of Open Finance should be adjusted to include portability of investments.

Zetta believes that integration and interoperability with Open Finance will also result in efficiency gains for the next stages of the CVM-led Open Capital Markets agenda. Automated and integrated data sharing will enable a more robust and automated client registry process, giving the client a more fluid experience, and at the same time increasing the effectiveness and efficiency of the procedures for prevention of money-laundering and fraud. Similarly, improving data sharing will enable adoption of new methods for assessing client suitability (investment profile), with more precise analytical metrics, without increasing friction, especially for first-time clients who are in the process of learning and seeking to make their first investments.

IV.

Conclusion

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Open Finance has been proven to be an excellent instrument for promoting competition, innovation and efficiency in the financial system, and as such has been adopted in numerous jurisdictions worldwide in different formats. The model adopted in Brazil has proved to be assertive, and its development has been positive, in that it has achieved participation of the largest players in the market, a wide scope of services and products, and significant engagement of the market in general. Definition of performance metrics has also been essential for optimum development of the ecosystem.

Due to the demographic, cultural and market characteristics of the country, in our view the potential for Open Finance in Brazil is practically unlimited: the country has a large population, with great penetration of digital financial services; a natural propensity for mobile solutions; and a fintech market that is consolidating and promoting banking innovation. The terrain is fertile and, in our view, few countries could be better positioned to become the frontier of development of Open Finance.

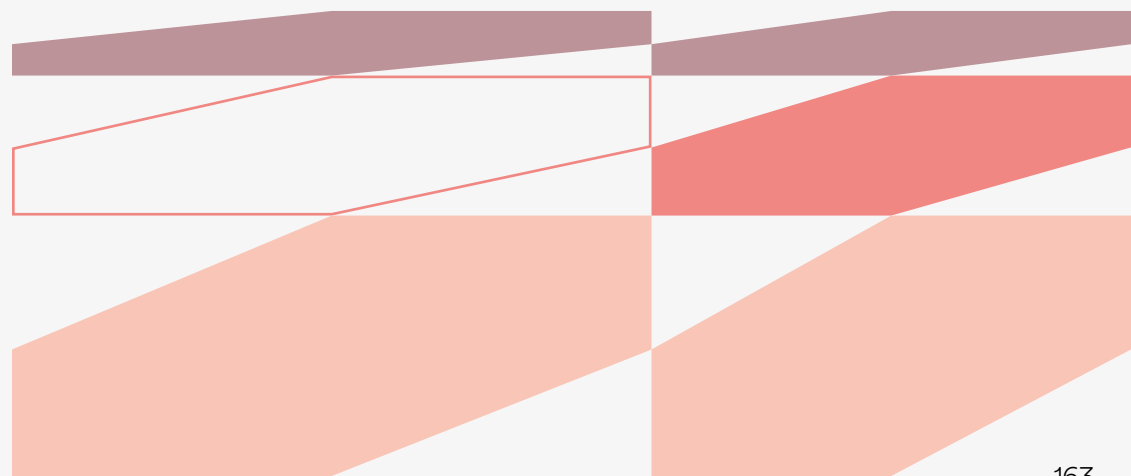
Brazil's track record so far bears witness to its success and importance – a total of more than 29 million consents. Within this success, fintechs and digital banks have achieved a predominant role, with leading numbers of consents and launches of innovative use cases. Overall, this movement provides a competition scenario that benefits the consumer, with better and more accessible services.

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In spite of the positive numbers, there are still improvements to be made in the ecosystem to fully unlock its transformative potential, especially with regard to the performance of institutions. Based on the Brazilian experience, we conclude that for Open Finance to be successful it will require: (i) regulation that ensures standardization; (ii) good performance by the participants; and (iii) a fluid experience for the client. In the models based on self-regulation, it is essential that the governance structure should be pro-competition and should allow participation of all sectors and business models that exist within the financial system on an equal footing.

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The main overall lessons to be learned from Open Finance Brazil for other countries that plan to follow its example relate, in our analysis, to the importance of adjusting the incentives, technology and governance adopted to the needs and situation of each country. In the case of Brazil, for example, it was essential to make it mandatory for large players to participate, due to the country's high rate of banking concentration, and asymmetry of information.

Finally, it is worth noting that innovation is favored in an environment of more flexibility and less difficulty. In our view initiatives such as Open Finance, which seek to allow institutions to have equal conditions of access to data and reduce entry barriers for those that are seeking to make a challenge in the market, are essential for providing a more competitive environment, and have proven to be effective in this role in Brazil.

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About **Zetta**

Zetta (<https://somoszetta.org.br/>) is a non-profit association representing technology companies that offer digital financial services inspired by the same principle: technology should give people and businesses freedom of choice in managing their money and making the decisions that are best for them, their data and their customers.

Currently, Zetta has 26 member companies: 99 Pay, Agibank, Banco VR, Bitso, Caju, Cappta, CERC, Cloudwalk, Cora, CSU Digital, Fintech Magalu, Fitbank, Ifood, Isaac, Iugu, Mercado Pago, NaturaPay, Neon, Nubank, PicPay, Recarga Pay, Transfero, Unico, WillBank, Wise and Zoop.

Our goal is to ensure a competitive economic environment that results in greater financial inclusion, innovation and customer satisfaction. Zetta advocates digitization of financial services, and works toward a situation in which there are no barriers to innovation and competition.

For all these reasons, Zetta seeks to collaborate with the regulator and with society, to enhance the impact of technology on the financial sector and on means of payment.

About **Labrys**

Labrys (www.labrys.one) is an independent international center dedicated to research and development in technology, design and policies, with offices in Barcelona and São Paulo – working at the same time on development of technology, and studies on the relationship between technology and the public interest. All our work is based on a systemic, proactive and positive approach that takes into account aspects of technology, public policies and business, seen as an integrated whole.

We believe that any isolated analysis of one of the multiple facets of a problem leads to shallow and ineffective proposals. Our team therefore has experts in technology, business and public policy, able to move between domains and understand the various forces at stake to identify complex problems and propose systemic solutions. This is the heart of the methodology we develop, and summarizes the way we see the world.

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219. Brazilian Central Bank (BCB) and National Monetary Council (CMN) Resolution 01/2020: [://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=Resolu%C3%A7%C3%A3o%20Conjunta&numero=1](https://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=Resolu%C3%A7%C3%A3o%20Conjunta&numero=1)

220. Valor Econômico, Open banking terá autorregulação assistida pelo BC, diz diretor (2020): <https://valor.globo.com/financas/noticia/2020/06/29/open-banking-tera-autorregulacao-assistida-pelo-bc-diz-diretor.ghml>.
221. To meet the requirement for independence, this board member may not have had any link to any institution participating in Open Finance in the 12 months prior to his/her appointment.
222. Brazilian Central Bank Resolution 4,553/2017: <https://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=RESOLU%C3%87%C3%83O&numero=4553>
223. PIX is the instant payments system created by the Central Bank of Brazil.
224. Brazilian Central Bank Order 102,166/2019: https://www.in.gov.br/materia/-/asset_publisher/Kujrw0TZC2Mb/content/id/67765121/do2-2019-03-20-portaria-n-102-166-de-19-de-marco-de-2019-67764964
225. Brazilian Central Bank, Fórum Pix: <https://www.bcb.gov.br/estabilidadefinanceira/forumpagamentosinstantaneos>
226. Peter Merholz, Why Designing Products and Services is a Team Sport: <https://hbr.org/2009/03/why-designing-products-and-ser>
227. W3C, Design by Committee: <https://www.w3.org/People/Bos/DesignGuide/committee.html>
228. <https://openfinancebrasil.org.br/dashboard-do-cidadao/>. For our study we downloaded all the data available on the Citizen Dashboard up to our study start date. In other words we covered the period from February 24, 2023 to February 2, 2024.

229. We looked at the following cases:

Nubank: <https://blog.nubank.com.br/open-finance-nubank-alerta-cheque-especial/>; <https://international.nubank.com.br/consumers/nubank-now-allows-customers-to-access-in-the-app-their-balance-from-other-institutions-via-open-finance/>

Itaú Unibanco: https://www.youtube.com/watch?v=o-1vXw77BD0&ab_channel=Ita%C3%BABBA ; <https://youtu.be/Rp3t3rLVtzA> ; <https://youtu.be/a0whwRo6D6Q>; https://youtu.be/LEMFNu_vdo

Mercado Pago: <https://www.mercadopago.com.br/c/openfinance>; <https://mercadoeconsumo.com.br/10/10/2023/meios-de-pagamento/mercado-pago-ultrapassa-os-25-milhoes-de-consentimentos-no-open-finance/>.

Santander: <https://www.santander.com.br/hotsite/open-finance/>; <https://www.santander.com.br/hotsite/santanderfinanciamentos/blog/open-finance.html>; <https://www.santander.com.br/blog/open-finance-iniciacao-de-pagamento>.

Banco do Brasil: <https://www.bb.com.br/site/open-finance/>; <https://www.bb.com.br/site/open-finance-2/>

PicPay: <https://picpay.com/open-finance>; <https://meajuda.picpay.com/hc/pt-br/articles/4410650296467-O-que-%C3%A9-a-Consulta-de-CPF>; <https://valorinveste.globo.com/produtos/servicos-financeiros/noticia/2023/07/28/com-app-conta-das-contas-picpay-ve-adesao-de-clientes-ao-open-finance-crescer.ghml>.

Bradesco: https://banco.bradesco/open-finance/#ancora_agregador; <https://banco.bradesco/open-finance/>

Caixa Econômica Federal: <https://www.caixa.gov.br/open-finance/Paginas/default.aspx>

Sicredi: <https://www.sicredi.com.br/site/blog/open-finance/open-finance-revolucao-financeira/>

230. An endpoint is a communication point in a network system where interactions occur between different institutions, allowing secure sharing of specific data.
231. Brazilian Central Bank: <https://www.bcb.gov.br/estatisticas/detalhamentoGrafico/graficospix/PixTransacoesporIniciador2>.
232. Onboarding: the process of capture, registration and integration of clients so that they can use new products and/or services.
233. Sicredi, Open Finance: "The financial revolution is only just beginning": <https://www.sicredi.com.br/site/blog/open-finance/open-finance-revolucao-financeira/>
234. Jackie Dryden, How Consensus Kills Innovation (2019): <https://www.forbes.com/sites/forbesagencycouncil/2019/02/22/how-consensus-kills-innovation/>.
235. Brazilian Congress, Complementary Law 105 of 2001: https://www.planalto.gov.br/ccivil_03/leis/lcp/lcp105.htm.
236. BCB/CMN Joint Resolution 07/2023: <https://www.bcb.gov.br/estabilidadefinanceira/exibenormativo?tipo=Resolu%C3%A7%C3%A3o%20Conjunta&numero=7>
237. PressUp, Open Finance: BC announces process without redirection at INIT event (2023): <https://pressup.com.br/open-finance-bc-anuncia-jornada-sem-redirecionamento-em-evento-da-init/>
238. 2019 Banking Economy Report: https://www.bcb.gov.br/content/publicacoes/relatorioeconomiabancaria/REB_2019.pdf
239. 2022 Banking Economy Report: <https://www.bcb.gov.br/publicacoes/relatorioeconomiabancaria/reb2022p>

240. Nuclea is the intermediary institution responsible for operationalization of credit and salary portability – responsible for the exchange of information between the institutions involved in the process.
241. An account opened at the request of the employer, after authorization by the employee, for payment of salary.
242. Traditional cash transfer methods in the Brazilian Financial system.
243. The Smart Transfer solution has a secure process of double validation of the client's consent, taking place in the environment of the institution that owns the account and the institution that initiates the payment.
244. <https://www.gov.br/cvm/pt-br/centrais-de-conteudo/publicacoes/estudos/estudo-cvm-transferencia-de-custodia.pdf/@download/file>

