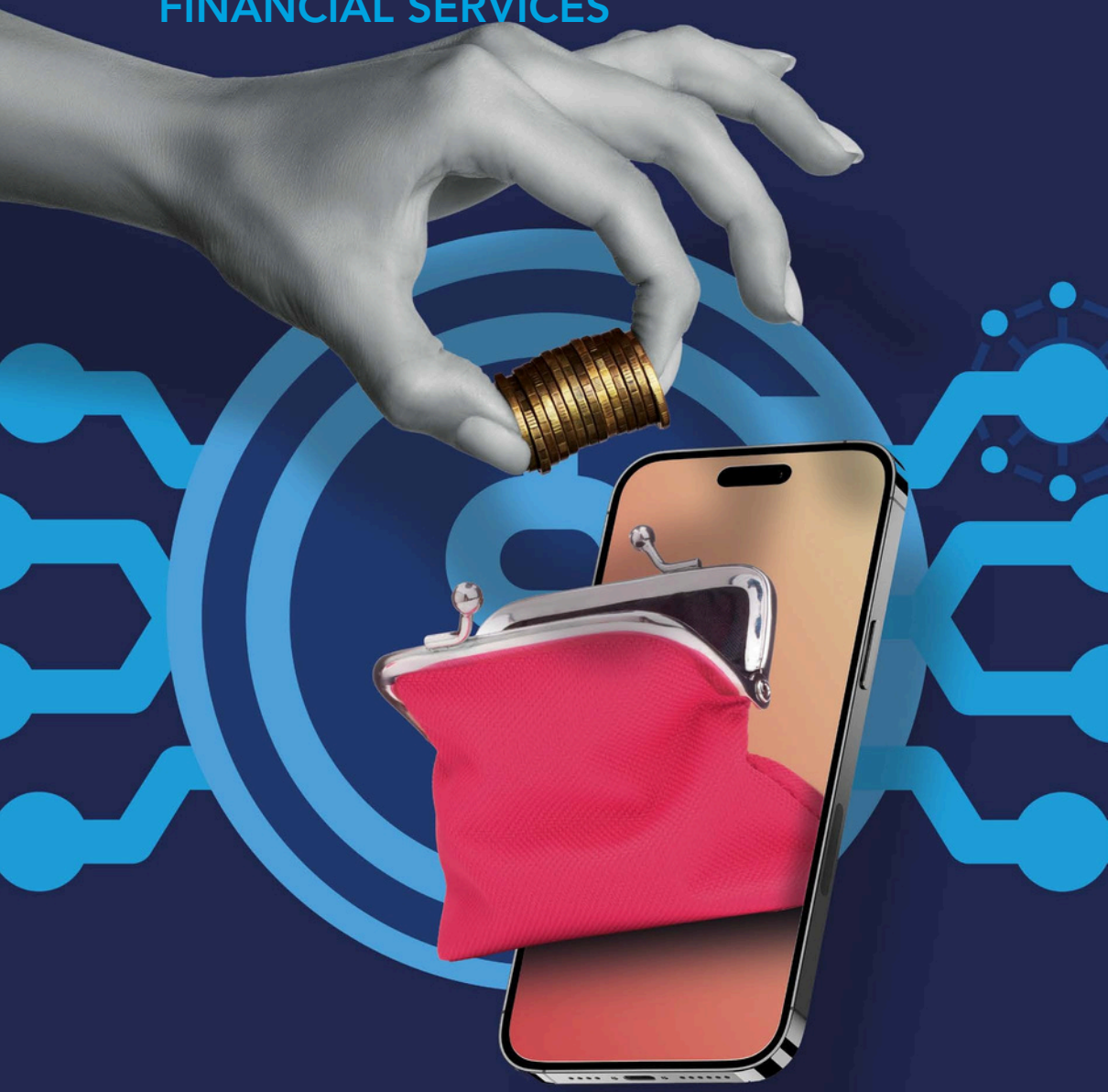
Cofece
Comisión Federal de Competencia Económica

STUDY OF COMPETITION AND FREE MARKET ACCESS IN DIGITAL FINANCIAL SERVICES



Study of competition and free market access in digital financial services

General Directorate of Economic Studies
General Directorate of Digital Markets

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Content

Abreviations and acronyms

API	Application Programming Interface
Banxico	Bank of Mexico
BIS	Bank for International Settlements
TAC	Total Annual Cost
Circular 3/2012	Circular 3/2012. Provisions applicable to the operations of credit institutions, regulated multiple-purpose financial companies that maintain equity links with credit institutions, and the National Financing Agency for Agricultural, Rural, Forestry, and Fishing Development
Circular 5/2019	Circular 5/2019 addressed to Legal Persons incorporated in accordance with Mexican Commercial Legislation, other than Financial Technology Institutions, Financial Institutions and other entities supervised by a Supervisory Commission or by the Bank of Mexico, interested in obtaining authorization from the Bank of Mexico to, through innovative models, carry out routing services, clearing or settlement, or any combination of such services relating to the general provisions on novel models
Circular 12/2018	Circular 12/2018 addressed to Electronic Payment Fund Institutions, regarding the general provisions applicable to the operations of Electronic Payment Fund Institutions

Circular 14/2007	Circular 14/2007 related to the general provisions referred to in Article 4 of the Law for the Transparency and Regulation of Financial Services in the area of interest rates.
Circular 21/2009	General provisions that establish the calculation methodology, formula, components and assumptions of the Total Annual Cost (TAC)
CMA	Competition and Markets Authority of the United Kingdom
CNBV	National Banking and Securities Commission
CNSF	National Insurance and Bonds Commission
Cofece	Federal Economic Competition Commission
Consar	National Commission of the Retirement Savings System
CUB	Single Circular of Banks
DAIFPE	Provisions applicable to electronic payment fund institutions referred to in Articles 48, second paragraph; 54, first paragraph, and 56, first and second paragraphs of the Law to Regulate Financial Technology Institutions
DCGA124LACP	General provisions referred to in Article 124 of the Popular Savings and Credit Law
DCGA58LRITF	General provisions referred to in Article 58 of the Law to Regulate Financial Technology Institutions
DCGAEACP	General provisions applicable to popular savings and credit institutions, integration bodies, community financial companies, and rural financial integration organizations referred to in the Popular Savings and Credit Law
DCGOAAC	General provisions applicable to auxiliary credit organizations, bureau of change, credit unions, limited-purpose financial companies, and regulated multi-purpose financial companies

DCGRIPAIE	General provisions relating to standardized computer application programming interfaces referred to in the law to regulate financial technology institutions
DCGRSAOMN	General provisions relating to companies authorized to operate novel models referred to in the law to regulate financial technology institutions
DCGASCAP	General provisions applicable to the activities of savings and loan cooperative societies
DFS	Digital financial services
DGCAITF	General provisions applicable to financial technology institutions
EACP	Popular savings and credit institutions
EIG	Economic Interest Group
IFPE	Electronic Payment Fund Institutions
Fintech	Financial technologies
CFI	Collective Financing Institutions
GDP	Gross Domestic Product
IPAB	Institute for the Protection of Bank Savings
LACP	Popular Savings and Credit Law
LFCE	Federal Economic Competition Law
LFPIORPI	Federal Law for the Prevention and Identification of Operations with Resources of Illicit Origin
LGOAAC	General Law on Credit Organizations and Auxiliary Credit Activities
LIC	Law on Credit Institutions
LOAC	Law to Regulate the Activities of Auxiliary Credit Organizations
LPDUSF	Law on the Protection and Defense of Users of Financial Services
LRASCAP	Law to Regulate the Activities of Savings and Loan Cooperative Societies
LRSIC	Law to Regulate Credit Information Societies
LRITF	Law to Regulate Financial Technology Institutions
LSP	Payment Systems Law

LTFCCG	Law on Transparency and Promotion of Competition in Guaranteed Credit Law for the Transparency and Regulation of Financial Services Organisation for Economic Co-operation and Development Individual with business activity Legal person Digital Financial Services Mexican financial system Credit Information Societies Tax Administration Service Savings and Loan Cooperative Societies Popular Financial Societies Multiple Purpose Financial Companies Point of sale terminal Investment units
LTOSF	
OECD	
PFAE	
PM	
SFD	
MFS	
CIS	
SAT	
Socap	
Sofipo	
Sofom	
POS	
UDI	

Legal attribution

Section XXIII of Article 12 of the LFCE empowers Cofece to conduct studies, research work, and general reports on free market access and economic competition.

This study is aligned to the 2022-2025 Strategic Plan of Cofece, which establishes the conduction of market studies that identify restrictions to competition in priority sectors and, if this is the case, the monitoring of compliance of the recommendations issued.

In said plan, based on seven criteria, the Commission identified eight priority sectors to focus its efforts on those with the greatest impact on economic growth and people's welfare. Among the priority sectors are the financial and digital.

This study does not define relevant markets or determine substantial power in terms of the LFCE for the purposes of investigating monopolistic practices, unlawful concentrations, or special procedures.

Cofece collected information from various economic agents, which will not be disclosed individually in compliance with the General Law on the Protection of Personal Data in Possession of Obligated Subjects. This study presents only aggregate data. Any reference to names and data on economic agents is based on public records and sources and not on confidential statistics, responses to requirements or requests for information.

Executive Summary

1. This study analyzes the impact of digital financial services on the conditions of competition and free market access in the savings, credit, and payment markets, which are the ones that have the greatest impact on the welfare of the population.
2. The study identified possible risks and obstacles to competition and free market access of a structural, behavioral, and regulatory nature. Therefore, it is recommended that the authorities implement various legal changes and public policies that promote more competition. With more intense competition, more people will have access to quality financial services, at lower prices and better adapted to their needs, which could improve the financial health of the entire population.

Findings

3. Mexican banks generate higher profits compared to those in other countries in the region, measured in terms of net interest margin and profitability. Some financial services are expensive and financial exclusion prevails: half of the adult population does not have a bank account; nine out of ten people do not have a credit card, and only a third of the population has paid with digital means.
4. Financial technologies have the potential to transform the Mexican financial system, with more efficient digital financial services that have a lower need for branch networks and ATMs and encourage the entry of new players.

5. The emergence of Fintech companies may intensify competition and improve efficiency in the markets; however, the outcome will depend on how the entry of Fintech startups, tech giants, and other companies is arranged, the response of incumbent banks, and the development of regulation. The result could be one of these scenarios: a partnership between incumbent banking and Fintech, intensified competition, or financial markets dominated by tech giants.
6. The use of digital financial services is limited by factors that go beyond the financial system itself. Among these are: the lack of internet connectivity and the use of smartphones; the preference for cash payments; the lack of financial education and digital skills, and the size of the informal economy.
7. Fintech companies have entered the market under different legal figures (multiple banking, *Sofipo*, Sofom, IFPE, CFI), each with its own regulatory burden and authorized services. However, some of these legal figures are not designed to provide completely digital services, so there is a risk of regulatory arbitrage, and that similar activities may not have the same regulation.
8. In some aspects, the regulation for Sofipo and IFPE is stricter than the one for banks, such as the operation with correspondents, the exceptions for contracting third-party suppliers or operational contingency plans, without justification in terms of systemic risk.
9. Authorities have been relaxing secondary regulation to adapt it to the digital environment; however, this is done first for banks and then for the rest of the financial institutions. Sometimes this may not be justified, which would generate a barrier to the efficient performance of these institutions.

10. There are structural, behavioral, and regulatory obstacles that make it difficult for users to have multiple financial service providers (multihoming), even though the technology for this is available, which has an impact on competition. Among the main ones are:
    a. Networks of branches, ATMs and correspondents are still decisive for accessing financial services, given the population's preference for the use of cash. Users develop brand loyalty and face
    b. costs to switch providers.

c. *Sofipo* and IFPE, although they can receive deposits, are excluded from the payroll portability scheme.

11. Non-financial companies that do not require authorization from the CNBV when lending their own resources compete in credit markets. Several Fintech ventures have entered these markets through non-financial companies. This strategy has pros and cons: entrants enter the MFS through figures with fewer barriers to entry, but providers operate without the restrictions of regulated entities, generating risks that are difficult to assess.
12. Fintech business credit has not grown at the same pace as consumer credit. One obstacle that was identified is that onboarding cannot be carried out completely digitally, as in the case of individuals, which prevents greater automation of the procedure for granting credits. However, Cofece will further analyze this market in the future.
13. With open finance, financial institutions exchange data to provide new services. The lack of secondary regulation has prevented progress in this regard, such as the regulation of aggregated and transactional data in the banking sector and the general provisions on open finance in the insurance sector and the retirement savings system.
14. To promote Fintech innovations, the LRITF introduced the figure of novel models, the purpose of which was to make regulation more flexible for financial institutions that use innovative technology. The CNBV has not yet authorized any company as a novel model, due to the ambiguity of the definition of innovation.

Recommendations

The 21 recommendations of this study are grouped under seven headings:

1. Ensure regulation commensurate with risk.
2. Reduce consumers' switching costs.
3. Promote correspondent and commission agents.
4. Informe consumers.
5. Encourage alternative means of payment.
6. Move towards an open finance regime.
7. Change the scheme of novel models.

Introduction

Information Gathering

To prepare this study, Cofece held interviews with various associations of financial intermediaries, economic agents, sector authorities, academics, experts, and pro-bono consultants. Cofece also analyzed growing recent literature on the subject; requested information from Banxico; made 13 requests for information to digital financial services companies; analyzed the public databases of Banxico, the CNBV, and INEGI, and consulted the websites and public reports of several economic agents. Cofece thanks all people for their time and knowledge to complete this study.

Definition of Digital Financial Services and Financial Technologies

In 2014, Cofece investigated the financial sector and identified obstacles and risks to competition and free market access.1 This investigation derived in 36 recommendations to various authorities, of which several were adopted in their entirety, others partially and only some were not adopted. These reforms, along with others that made up the so-called financial reform, promoted competition in the financial sector.2

That investigation identified that the ATM network operates in a fragmented manner. Banks with the largest networks charge high prices for using their network to customers of other banks; a price that is higher than necessary to cover the costs of operating and expanding the network, so the network is underutilized. To replicate the network of the largest banks, an entrant needs to invest a considerable amount and deploy an ambitious construction program, beyond its reach. As a result of the

1. Federal Economic Competition Commission [Cofece] (2014).
2. Bátiz-Zuk & Lara (2021).

publication of Cofece (2014), Banxico authorized and encouraged banks to share their infrastructure, without extra commissions for users. As a result, there is currently a network of ATMs that integrates the infrastruc- ture of six banks, in addition to various bilateral ATM-sharing agreements; however, the measure had a limited impact, because some of the banks with the largest networks do not have infrastructure-sharing agreements with smaller commercial banks at the time of writing this report.3

The financial sector has changed considerably since the publication of that study. On a global level, innovations in system connectivity, the increase in the use of smartphones, internet penetration, processing capacity, and the exploitation of large databases make it possible for financial services to be produced and consumed digitally, reducing the need to go to a branch or ATM, which has reduced costs for the suppliers and demanders of these services.4 Although it seems that the physical network is no longer so crucial for banks to maintain their market share, in the Mexican context this is not necessarily the case, as will be seen below.

New digital technologies used in financial services include, among others, blockchain technology, data science, internet of things, cloud comput- ing, artificial intelligence, biometric technologies, virtual and augmented reality, application programming interfaces, smartphones, and crypto- currencies.5 These technologies reduce transaction costs in financial services and, consequently, new business models have emerged, and new companies have entered these markets.6

DFS are, for the OECD, "financial operations using digital technology, including electronic money, mobile financial services, online financial services, *i-teller* and branchless banking, whether through bank or non- bank institutions."7

3. Although it does with development banks. Bank of Mexico [Banxico] (2024a).
4. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. v).
5. Organisation for Economic Co-operation and Development [OECD] (2018, p. 11) and OECD (2020, p. 9).
6. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. i).
7. OECD (2017, p. 14).

The OECD also notes that Fintech "involves not only the application of new digital technologies to financial services, but also the development of business models and products that are based on these technologies and, more generally, on digital platforms and processes."8 [Emphasis added].

The BIS defines Fintech as "technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services".9 [Emphasis added]

In short, the term Fintech is broader than DFS, as it encompasses new business models.10 The concepts of DFS and Fintech cover services present in a large part of the financial system, including traditional providers. Both terms will be used in this study. In addition, this study will use the term "Fintech companies" to identify those that were conceived and operate in a larger or fully digital environment, in contrast to companies that adapted digital processes or products to their offer (incumbent banking).11

For the purposes of this study, the term Fintech will be used in the broad sense defined above, which is the one used in the industry, international organizations, and academic research. Consequently, the term Fintech will not be used in the restricted sense suggested in the context of the LRITF, which will only encompass the two financial institutions regulated by that law.

Scope of the study

The objective of this study is to analyze the impact of DFS on competition and free market access processes and to identify possible risks and obstacles to these processes. This study identifies structural, behavioral, or regulatory obstacles that limit the entry and expansion of DFS companies vis-à-vis traditional providers. The purpose is to propose regulatory modifications or public policy actions to the authorities to promote

8. OECD (2018, p. 10).
9. Basel Committee on Banking Supervision (2018, p. 8).
10. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. vi).
11. This is consistent with the National Commission on Markets and Competition (2018, p. 5), which does not call the digital services offered by traditional banking Fintech.

more competition in the markets. With greater competition, more people would have access to quality financial services, at lower prices and better tailored to their needs.

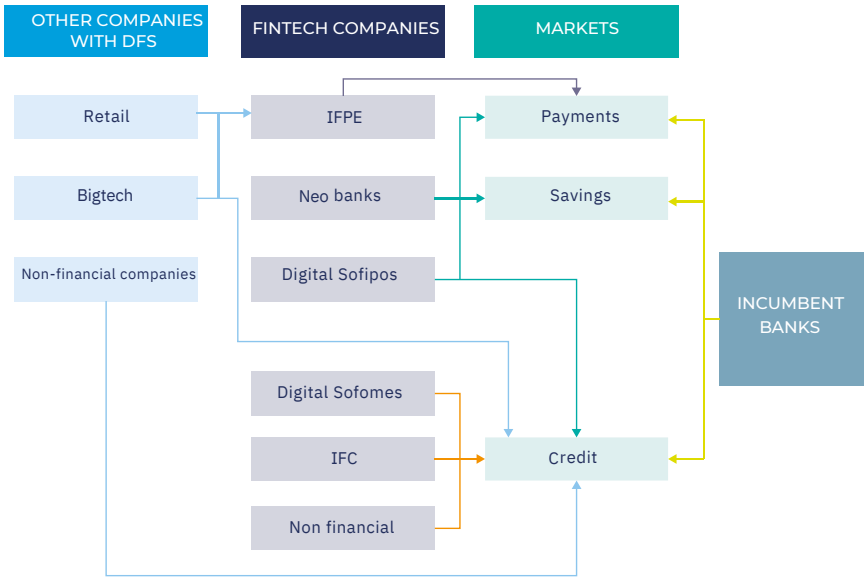
In DFS, there are several institutions that combine DFS with traditional financial services or non-financial businesses:

1. Traditional financial institutions, which have incorporated DFS into their offerings or offer digital versions from the same institution;
2. Fintech startups, which offer DFS without links to traditional financial institutions or other sectors;
3. Technology giants or platforms (big tech), which may include e-commerce platforms, telecommunications companies, internet search engines, social networks, audiovisual content platforms and personnel transport platforms and home delivery platforms. The accumulation of information about their customers and their analytical capabilities makes it easier for them to enter into the provision of DFS.12
4. Retail chains, which take advantage of their physical points of contact with customers to offer DFS, and
5. Foreign Fintech companies, which have entered the domestic market and offer DFS previously developed in their home countries.

In Mexico, Fintech companies have entered the market through the creation of financial institutions; the purchase of companies already authorized to operate as banks, *Sofipo* and IFPE, or as non-financial companies that provide credit with their own resources.13 This study analyzes the impact on the conditions of competition in the savings, credit and low-value payment markets caused by the development of DFS and the irruption of Fintech companies (Diagram 1).

12. Feyen, Frost, Gambacorta, Natarajan, & Saal, 2021 (pp. vi and 15).
13. For example, Covalto acquired Banco *Finterra*, NU acquired *Sofipo* Akala and Stori acquired *Sofipo* MasCaja.

Diagram 1. Scope of the study



Source: Federal Economic Competition Commission [Cofece].

The selection of these markets is because their proper functioning is important for the welfare of the population, as well as because many of the new business models and the most recognized Fintech companies have ventured into one or more of these three markets. This study does not consider Fintechs that carry out other financial activities such as investments and purchase and sale of securities, insurance, financial planning and advisory, cybersecurity, cryptocurrencies, and business finance, among others.14

The working hypothesis of this study is that, although DFS have benefited consumers, structural, behavioral, and regulatory barriers to entry and expansion persist that prevent more people from benefiting from the new wave of technological innovation.

14. Sectors with active Fintechs according to OECD (2018, p. 14) and NTT Data (2023, p. 21).

Fintech financial intermediaries

Fintechs have entered the market through different types of financial and non-financial institutions provided for in Mexican legislation (Table 1).

Table 1. Types of companies offering DFS

Institutions	Activities	Applicable Laws
Multiple banking	Collection of funds from the public, from which they grant credit, among other investments. They perform a wide range of financial activities: time deposits, payments, among others.	LIC, LTOSF, LTFCCG, LSP, LFPIORPI
Sofipo	They raise funds and grant credit, under certain restrictions, but without the regulatory burden of a bank.	LACP, LTOSF, LTFCCG, LFPIORPI
Sofom	They grant credit, among other types of financing.	LIC, LGOAAC, LTOSF, LTFCCG, LFPIORPI
IFPE	They receive funds from the public and in return they issue electronic payment funds with which electronic payments can be made and disposed of in cash.	LRITF, LTOSF, LFPIORPI
CFI	Platforms that connect investors and borrowers.	LRITF, LTOSF, LFPIORPI
Non-financial corporations	Any non-financial institution that grants credit with its own resources or provides payment services. These companies are not authorized to raise funds.	LTOSF

Source: National Banking and Securities Commission [CNBV] (2024a), Cofece (2014, pp. 80, 81, 125 and 126), National Commission for the Protection and Defense of Users of Financial Services [Condusef] (2018a) and Condusef (2018b).

In this study, companies that emerged in the Fintech ecosystem and are authorized to operate as multiple banking institutions are referred to as "neobanks". The figure of *Sofipo* was created in the LACP, which dates to 2001, with the aim of promoting the financial inclusion of the population that could hardly access traditional banking. This law authorizes *Sofipo* to offer services like those of a bank (deposit accounts, time deposit accounts, loans) with certain restrictions and with less regulatory burden than banks. In this study, a digital *Sofipo* is defined as a Fintech com- pany that acquired a traditional *Sofipo* or that applied for a *Sofipo* license but operates predominantly through digital channels. In the same way, Fintech entrants with this legal figure are called "digital Sofom". These concepts are only used to facilitate analysis, if they do not conflict with legal terms.

The LRITF, which was enacted in 2018, introduced IFPEs and CFIs as new financial entities. IFPEs offer electronic payment fund accounts which are a "debit-type" prepaid financial instrument issued by an IFPE against the receipt of funds to facilitate payment transactions.15 Electronic pay- ment funds are stored on a physical device or in software. IFPEs, there- fore, offer the services of opening these accounts, transferring electronic payment funds between customer accounts, sending and receiving money or ritual assets to and from accounts in other IFPEs or financial institutions and delivering the amount of electronic payment funds cor- responding to account charges.16

IFPEs can operate with local currency, foreign exchange and virtual assets regulated under the LRITF,17 as well as receive or deliver cash with prior authorization from the CNBV.18 In addition, IFPEs are prohibited from granting credit and paying interest to their clients for maintaining balances in their accounts.19 Some IFPEs issue cards for withdrawals at ATMs and for making purchases through TPV and the Internet.20 Money received by IFPEs must be transferred to demand deposit accounts in financial institutions or used in repurchase transactions21 in govern- ment-issued securities with overnight credit institutions.22 Funds on behalf of the IFPEs do not have deposit insurance or government back- ing.23

CFIs are financial companies that operate as platforms that put financing providers and borrowers in contact with each other. Investors provide financing through three mechanisms:24

1. **Debt.** Loans in exchange for interest payments.

15. Ehrentraud, García Ocampo, Garzoni, & Piccolo (2020, p. 22) Although it is common to call IFPE accounts wallets, this study does not use this term since there is no agreed-upon definition that is fully distinguishable definition from other definitions such as electronic wallet, digital wallet or mobile wallet.
16. Article 22 of the LRITF.
17. Article 23 of the LRITF.
18. Article 45 of the LRITF.
19. Article 29 of the LRITF.
20. Article 25, section I of the LRITF.
21. Repurchase transactions are those under which the repurchasee acquires, for a sum of money, the ownership of debt securities and is obligated to transfer the ownership of other securities of the same kind to the repurchasee within the agreed term and against the reimbursement of the same price, plus a premium or profit. (Banxico, (2014)). In this case, the IFPE can acquire ownership of debt securities issued by the government, for the total or partial amount of the money received, which will be reimbursed the next day.
22. Article 46 of the LRITF.
23. Article 29 of the LRITF mentions that the "[t]he resources received by electronic payment fund institutions for the issuance of electronic payment funds shall in no case be considered bank deposits of money..."
24. Article 16 of the LRITF.

2. **Equity.** Financing in exchange for participation in the capital of the company or project.
3. **Co-ownership or royalty.** Financing in exchange for associating the investors to the project, participation in a present or future asset, income, profits or royalties.

1. Potential impact on competition and financial inclusion

1.1. Entry of financial intermediaries

Some Fintech companies have entered the national market by buying banks and Sofipos. Of the 52 bank authorizations in force at the end of August 2024,25 three correspond to neobanks (*Ualá*, *Covalto* and *Bineo*), although there are several in the process of entry or authorization. Neobanks *Ualá* and *Covalto* acquired their licenses when they acquire the banks ABC Capital and Banco *Finterra*, respectively.26 The English neobank Revolut could soon enter the market.27 Authorizations to operate as a bank for NU (currently a *Sofipo*) and *Konfío* (currently a Sofom) are also in process.28 Likewise, *Finsus* (a *Sofipo*) will soon begin the process.29

Incumbents have opened fully digital banks. Neobank *Bineo* (part of Banorte's EIG) received authorization and began operations in January 2024. Two other entities, Hey Banco (of Banregio's EIG) and Openbank (of Santander's EIG) already have authorization, the first operating as part of Banregio since 2019 and the second not yet operating. DINN entered the market as the digital arm of *Actinver* and *Invex*'s Now Bank.

25. National Commission for the Protection and Defense of Users of Financial Services [Condusef] (2024). It is noted that the Board of Commissioners of Cofece agreed to the conclusion of the study in a session held on July 9, 2024. However, in order to have updated information on the markets, information was collected after that date.
26. Estrada (2023c) and Gutiérrez (2022).
27. Gutiérrez & Estrada (2024).
28. Leyva Reus (2024).
29. Marcos & Soto (2024).

At the end of August 2024, there were 37 authorized *Sofipo*. *Sofipo* may have up to four levels of operation (I to IV). In all these levels, *Sofipo* are authorized to grant personal loans; however, only level IV *Sofipo* can grant credit cards.30 To be able to grant credit cards without having operating level IV, they require authorization from the CNBV.31 Some companies that were already operating in the credit markets as unregulated companies have acquired a *Sofipo*, in order to increase their range of services, among them, capturing funds from the public (Table 2).

Table 2. *Sofipo* acquired by Fintech

Aquired *Sofipo*	Year	Buyer
Akala	2021	NU
Sefia	2023	Klar
Savvi / Más Caja	2023	Stori
Apoyo Múltiple	2023	Anchor
Ictineo	2023	Bradesco

Source: Bloomberg (2021), Gutiérrez (2023b), El Financiero (2023), Estrada (2023b) and Gutiérrez (2023a).

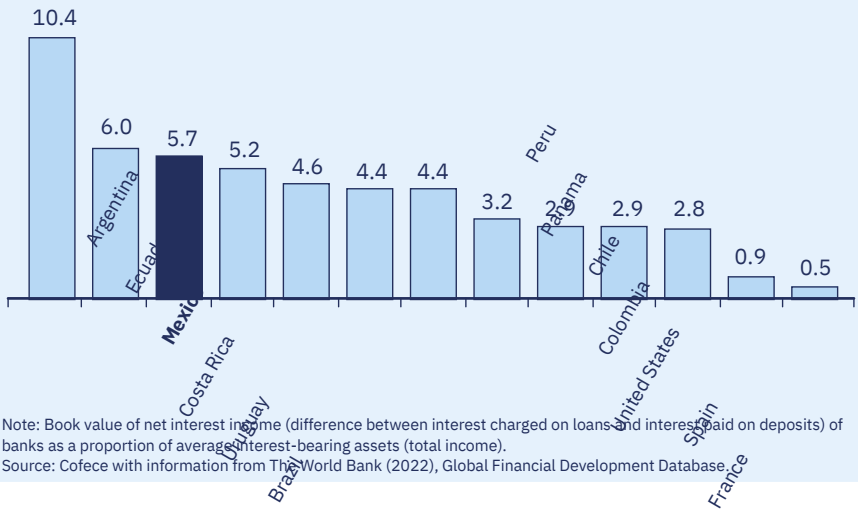
As for the Sofom ENR and non-financial companies, there has been a considerable entry of Fintech companies, due to the lower barriers to entry into this type of entities, as will be seen in chapter V Credit markets. Around 650 Fintech companies have assumed the figures of Sofom ENR or non-financial company.32

1.2. Benefits of DFS

Mexican banks generate more profits than those of other Latin American and developed countries, in terms of net interest margin on total assets, which considers only interest income and expense (Graph 1) and return on equity (Graph 2).

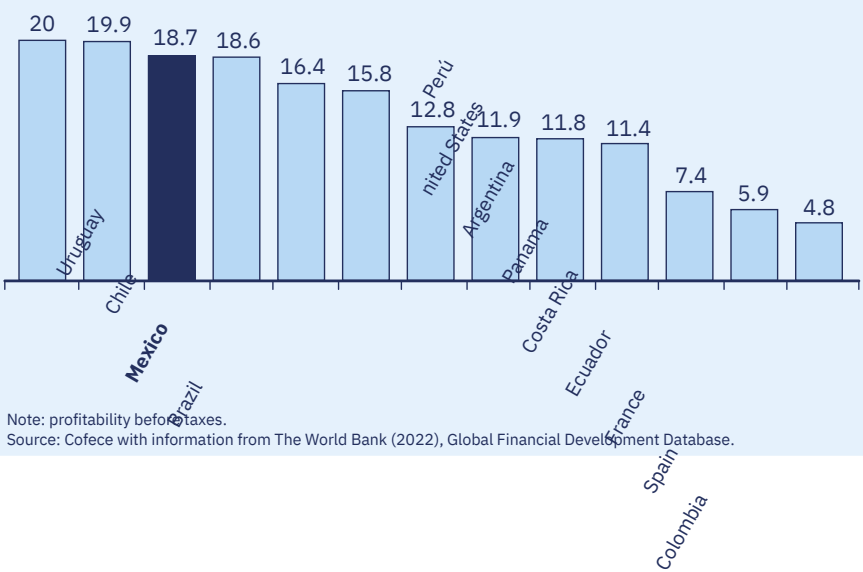
30. As of September 2023, only Libertad Servicios Financieros had that level of operations. National Banking and Secu-rities Commission [CNBV] (2024b).
31. Article 36 of the LACP.
32. Cofece's estimate according to Finnovista (2024) that accounts for a total of 773 Fintech companies in Mexico.

Graph 1. Net interest margin on total assets of banks in selected countries, 2021 (Percentage)



Note: Book value of net interest income (difference between interest charged on loans and interest paid on deposits) of banks as a proportion of average interest-bearing assets (total income).
Source: Cofece with information from The World Bank (2022), Global Financial Development Database.

Graph 2. Bank return on equity in selected countries, 2021 (Percentage)



Note: profitability before taxes.
Source: Cofece with information from The World Bank (2022), Global Financial Development Database.

In this context, the emergence of DFS companies has the potential to lower the margins and costs of incumbent banks, both through increased competition and efficiency gains. DFS lower the costs of providing finan- cial services, since they do not require branch and ATM networks to produce and consume services. In addition, they require fewer staff to operate and the necessary investment in technological infrastructure is reduced, since it can be contracted out to third parties.33 Under an appropriate regulatory framework, compliance costs can be reduced by automating the reporting of information by the financial institution and supervision by the regulator.34

Fintechs can intensively and systematically exploit the data generated by users through their activities in digital media, allowing them to create personalized products. With this, providers can lower prices to those who are more sensitive to it and offer more sophisticated services to those who are not, which in economics is known as price discrimination.35
The increased collection and analysis of user information improves risk assessment by providers, which leads to lower operating costs for monitoring borrowers and less need for collateral for debtors. The expected result is a greater supply and access to credit.36

For users, DFS reduce the cost of searching for products and providers; increase the speed of transactions, and improve the financial experience.37 More sophisticated users have become more demanding with respect to the quality of financial services. They now expect digital and real-time transactions, online services, higher speed, and more accessible and intuitive services.38 In addition, multihoming is encouraged, by lowering switching costs and facilitating the aggregation of products in a single application, which can favorably impact the intensity of competition.39

33. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 10). 34. OECD (2018, p. 20). 35. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 10). 36.Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 9). The National Commission on Markets and Competition (2018, pp. 4 and 5) presents a similar grouping of efficiency gains generated by Fintechs. 37. OECD (2018, p. 21). 38. OECD (2020, p. 11). 39. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 12 and 15) “By using different competitors’ apps, consumers can create their own bank and get more personalized services.”

Innovation in financial services has at least the potential to fulfill the two phases to be considered disruptive: in the first, the set of attributes of the new technologies are not sufficiently valued by consumers, and in the second, the increase in demand for the new services invades established markets and displaces incumbent providers that fail to modernize, in such a way that the pioneers of new technologies come to dominate the market.40 In this scenario, digital disruption would be an agent of change to intensify competition in financial services markets, which could translate into greater efficiency and financial inclusion.

1.3. Possible scenarios of the impact on competition

The impact of Fintechs on the conditions of competition is still unclear in Mexico and the world. DFS could transform the structure and efficiency of markets and the dynamics of competition. However, the outcome will depend on how the entry of Fintech startups and tech giants, and other companies is accommodated, as well as the response of incumbent financial institutions and the development of the regulatory framework to promote innovation and protect consumers.41

Innovation in DFS has two effects that go in opposite directions. On the one hand, it makes small providers that specialize in providing a single service profitable, due to their lower costs and ability to price discriminate; on the other hand, it favors large providers to consolidate by taking advantage of economies of scale, switching costs, and bundling financial services into a single company.42

On the one hand, incumbents could adopt three strategies:

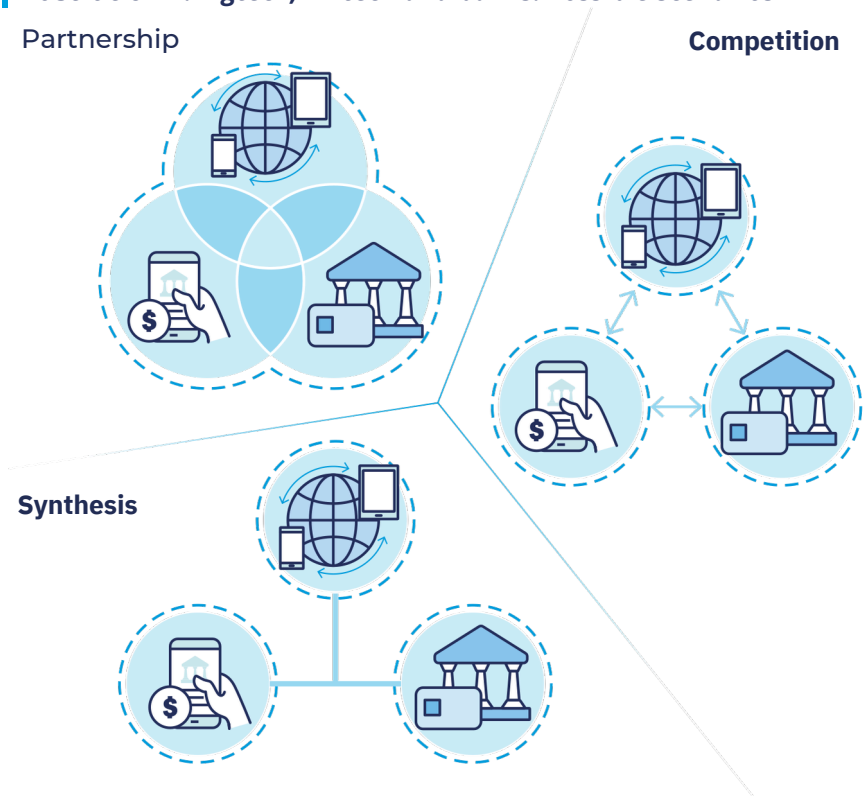
1. Accommodate the entry of Fintechs. This is in case the decrease in their revenue due to the loss of some end-users is compensated by what they would obtain by charging fees for their services to the new entrants.
2. Deny Fintechs access to the services and infrastructure they need to provide their services.
3. Compete directly with Fintechs, creating digital versions of their banks or modernizing their services.43

40. Features based on the pioneering work of Bower & Christensen (1995).
41. Autorité de la concurrence (2021, p. 3).
42. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. v)
43. OECD (2020, p. 22).

On the other hand, Fintech entrants could partner with banks, compete with them, or join a new DFS ecosystem in which they participate alongside banks and big techs.

The result of these interactions, together with the strategies adopted by big techs, could lead to any of three possible scenarios (Illustration 1), detailed in the following sections.

Illustration 1. ***Bigtech, Fintech and banks. Possible scenarios***



Note: The figures represent Fintechs, big techs, and banks.
Source: Cofece.

1.3.1. Partnership with banks

The OECD notes that Fintech companies initially sought to displace traditional banks as market leaders but found that consumers are not willing to easily abandon incumbents. On the one hand, switching costs and user inertia are high, and on the other, incumbents embraced the technological innovations of Fintech companies.44

As a result, many Fintechs have sought to partner with traditional banks, when they have struggled to increase their scale or their customer base. In these partnerships, Fintechs bring differential technological and operational capabilities to improve the customer experience, enter into new markets or increase efficiency, while traditional banks contribute with the banking license, financial strength and customer base.45 Partnership is essential for some Fintechs, as only then can they reach the scale necessary to amortize their costs.46 In this scenario, Fintechs compete with each other to partner with banks, which would explain why they consider other Fintechs as their main competitors, rather than incumbent banks.47

In this scenario, traditional banks would maintain their market shares, although sharing part of the profits with Fintechs.48 Improvements in market efficiency and consumer welfare would come from the adoption of technological solutions by the incumbents, rather than from the displacement of inefficient competitors generated by competition.

1.3.2. Competition

Fintechs have the advantage of specializing in the production or distribution of some DFS. Those that do not have legacy infrastructure and focus on few services can offer customized, faster and cheaper services. The most efficient, by consolidating, could compete with incumbents for users.

Banks, on the other hand, offer a wide range of products without necessarily specializing in any of them.49 For incumbents—who spread high fixed costs over a wide range of products and customers—it is diffi-

44. OECD (2020, p. 13). For example, BBVA refers to itself as the largest Fintech in Mexico. Noguez (2023)
45. NTT Data (2023, pp. 23, 67, 68 and 83) For example: Belvo with Citibanamex, Mercado Pago with GBM and Western Union, Rappi with Banorte.
46. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 22).
47. NTT Data (2023, p. 53).
48. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 20).
49. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 20).

cult to compete via costs with digital products that do not require a large physical infrastructure and operate with fewer employees.50 In particular, incumbents would face greater competition in those services that do not require face-to-face interaction with the customer. Payment services, transactional accounts, time deposits, personal loans or credit cards are some of the markets where no physical interaction between the provider and the demander is necessary and, therefore, are markets where Fin- tech companies are becoming more important.51

Under this scenario, Fintechs have the potential to take over a portion of the traditional banking market.52 To the extent that Fintechs take over the most profitable products, they would force traditional banks to stick with the most expensive and least profitable products.53 When Fintechs go beyond the scale needed to become profitable, without the need to partner, and choose to apply for bank licenses to provide a broader set of financial products, competitive pressure on banks will grow.

Incumbent banks could react by digitizing their operations or generating a digital version of the bank to compete with Fintechs. In fact, leading banks are rapidly closing digitization gaps in their internal processes and in their interaction with consumers.54 Some traditional banks have launched their digital spin-off to leverage a Fintech product offering with the reputation, financial strength and customer base of the traditional financial institution.55

The competitiveness of traditional banking could be enhanced, once it has been digitized, thanks to its experience of the regulatory and institutional environment, although this advantage could disappear with the application of new technologies to improve regulatory compliance, defined as RegTech.

50. For example, certain digital Sofipo have pointed out that they can offer higher rates of return than banks and, at the same time, lower fees, due to their cost savings. Estrada (2024a). 51. OECD (2018, p. 25). 52. OECD (2018, p. 26). 53. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 21). 54. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, pp. 1 and 21). 55. NTT Data (2023, p. 73) For example, Hey, Banco de Banregio, Bineo de Banorte, OpenBank de Santander, Now Bank de Invex, Dinn de Actinver.

In addition, several Fintechs need banks to provide their services, either to deposit funds collected from customers – such as IFPEs – to access the payment system, as specialized banking service providers or because a bank account is required to access DFS, which would put banking at an advantage over Fintech companies.56

Given this convergence, in which banking is becoming increasingly digital and Fintechs are subject to financial regulation, the outcome of competition between incumbents and Fintechs will depend on the degree to which users perceive the products of banks and Fintechs as substitutes and how easy it is to switch between providers, as well as on user's loyalty to traditional financial institutions.57

Under this scenario, there is the possibility of a change in the market structure in terms of participation or dominant players, once the most efficient companies consolidate as Fintechs converted into banks or traditional digitized banks, and those companies that could not adapt to the new technological environment leave the market or are acquired.

1.3.3. Synthesis

This scenario synthesizes the two previous ones. In the first instance, competitive collaboration would lead to the disappearance of the one-stop financial shop, typical of traditional banking. Instead, the financial services value chain would disintegrate vertically and horizontally, and providers would specialize in products in which they have comparative advantages. DFS providers would partner to perform certain functions or provide some services. The incumbents' business model would move from the integration of all activities to a model of specialized providers.58 It is plausible that some companies have advantages in customer interaction and others in the production of the financial service.

The next moment would be the integration of third-party financial and non-financial solutions in an increasingly open ecosystem provided by those companies with advantages in user interaction. The economies of scale, scope and network effects of new technologies favor a new type of product bundling.59 Thus, customers would have access to the services

56. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 21).
57. OECD (2018, p. 26).
58. OECD (2018, p. 27) and Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 14).
59. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. v)

of different providers via a single interface (super apps) to meet their financial needs in one place.60 This phenomenon is called “embedded finance”.61 Financial platforms would be differentiated according to their ability to integrate the different DFS.

For some frequent customers of technology platforms, it is attractive for the financial service to be integrated into the same platform.62 Therefore, non-financial technology giants (big tech) have greater potential to implement the integrated finance scheme. Hence, the OECD considers big tech to be potentially more disruptive than Fintech companies.63 In China, the emergence of the technology giants WeChat (part of Tencent, an internet giant with a focus on social networks and video games) and AliPay (part of Ant Group and the e-commerce platform Alibaba) in the provision of electronic money services at the beginning of this century put an end to the predominance of cash in the Chinese economy. Subsequently, these big techs were integrating DFS such as online lending, asset management, and insurance, which has changed the way people in China organize their day-to-day finances, improving financial inclusion and introducing competitive pressure on the traditional financial system.64

Big techs, such as e-commerce platforms, have some advantages over Fintechs: a large customer base, a huge volume of information about their customers’ purchasing decisions and the ability to analyze it, reputation, brand recognition, network effects, and low cost of capital.65 The use of the platform generates consumer data that, properly analyzed, allows big techs to offer better products, which attracts more consumers and generates more data, feeding back into a virtuous circle.66 The platform knows on which products and how much the consumer spent, as well as which ones they reviewed and did not buy, from which the platform can estimate each consumer’s willingness to pay.

60. NTT Data (2023, p. 83) A super application of these characteristics has not yet been observed in Mexico, although some bidders point their business model there, such as Belvo and Mercado Pago.
61. NTT Data (2023, p. 81) and Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 8).
62.Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 15) For example, the possibility of paying in Mercado Libre through Mercado Pago, without resorting to third-party financial services.
63. OECD (2020, p. 15).
64. Chorzempa (2022).
65. OECD (2020, p. 14) and Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 23).
66. OECD (2020, p. 22) and Carstens, Claessens, Restoy, & Shin (2021, p. 3).

There is a possibility for big techs to reintroduce cross-subsidies, which were common in traditional banking, by offering basic financial products at competitive prices subsidized by the other businesses on the platform, in order to retain consumers and increase data collection for the bene- fit of the rest of the businesses on the platform.67 Given this, consumers would have little incentive to leave the platform to migrate to a Fintech that lacks these attributes.

This could lead to a bottleneck in financial services, as big tech platforms would take over the interaction with consumers, controlling the distribution of financial products generated by both incumbent banks and Fintechs, which would compete with each other to sell their products through these platforms.68

In the long term, since network effects would limit the number of platforms that can coexist in the market, there would be a risk of monopolization by big techs or incumbents becoming platforms.69 Even if open banking—which is the practice of sharing banking information with third parties through secure, standardized interfaces at the custom- er's request—operated efficiently,70 it would be possible for big techs to monopolize the market, as they have better conditions to take advantage of the banking system's user data and would be willing to pay more for it than Fintechs.71 Network effects could reduce intermediation costs and expand financial inclusion; on the other hand, this could increase the market power of the platforms.72

In this scenario, in which big techs are placed at the center of the business, it will be crucial to evaluate the feasibility of implementing a data portability and/or interoperability model between platforms, so that switching costs are minimized, and the market remains competitive.73 The role of public infrastructure in terms of digital identity, payments and digital currency will also be decisive.74

67. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 23)
68. OECD (2020, p. 23) and Restoy (2021b, p. 16).
69. OECD (2020, pp. 27 and 28), Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. 21) and European Commission (2020, pp. 17 and 18).
70. OECD (2023c). The topic is discussed in detail below.
71. OECD (2020, p. 28).
72. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, p. vi).
73. OECD (2020, p. 38), Restoy (2021b, p. 19) and Croxson, Frost, Gambacorta, & Valletti (2022, p. 6).
74. Croxson, Frost, Gambacorta, & Valletti (2022, p. 3).

There are more optimistic views regarding the future of financial markets dominated by *big tech*. Feyen *et al*. (2021) consider that alongside the large multi-product platforms that dominate the market there will be a multitude of small niche providers, while the range of medium-sized companies would be left empty. This would generate a dumbbell-shaped market. According to this view, innovation would remain in the small sup- plier segment, resulting in continued entry and a contestable market, as long as switching costs remain low.75 Even a concentrated market would bring benefits to consumers.

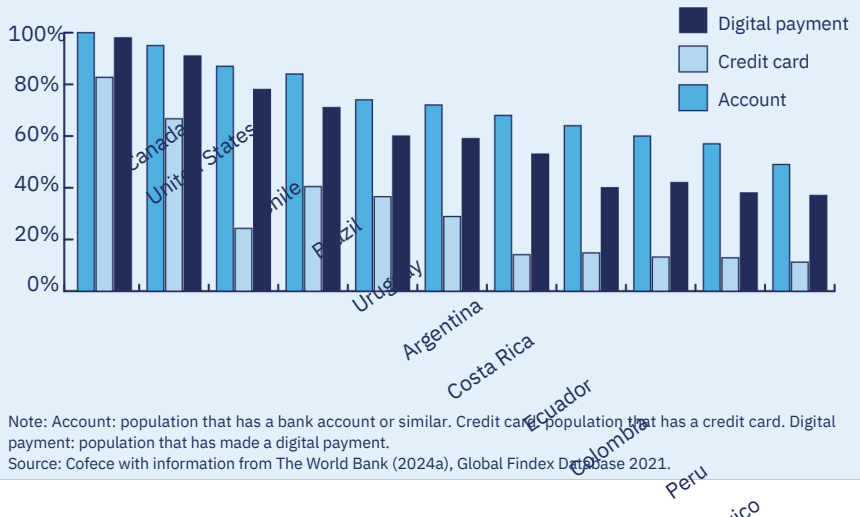
It should be noted that the three scenarios described apply to retail financial services. The scenarios could be different in previous links of the value chain. Technological sophistication and experience in providing certain upstream inputs could lead to high levels of concentration, especially in API and cloud computing services. The market power of the suppliers of these services could be shifted downstream to the product sold to the final consumer.76

1.4. Potential impact on financial inclusion

Despite public policies implemented to improve financial inclusion, exclusion prevails: half of the adult population does not have a bank account, a lower proportion than in other countries in the Americas; nine out of ten people do not have a credit card, and only a third of the population has paid digitally (Graph 3). The lag is also observed in other variables such as the number of branches, banking correspondents, ATMs, point-of-sale terminals, debit cards, access to financing, and card transactions.77

75. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, pp. 32 and 35).
76. Feyen, Frost, Gambacorta, Natarajan, & Saal (2021, pp. 33, 34, 36, and 38).
77. See CNBV (2023a, pp. 19, 24, 29, 34, 44, 48 and 74).

Graph 3. Population over 15 years old with some financial services in selected countries, 2021 (Percentage)



Note: Account: population that has a bank account or similar. Credit card: population that has a credit card. Digital payment: population that has made a digital payment.
Source: Cofece with information from The World Bank (2024a), Global Findex Database 2021.

Financial inclusion comprises three dimensions: availability of financial services, the intensity of their use and their appropriate use.78 For example, a bank account that is only used to withdraw money at an ATM has less impact on welfare than if that account gave a return on savings, or was used to pay.79 The situation in Mexico is worrisome due to both the low access to financial services and their scarce use.

The emergence of the DFS is an opportunity to improve financial inclusion. The offer of financial services at lower costs, without the need to travel to a branch or ATM, may encourage their adoption. However, it could also mean perpetuating exclusion if it does not incorporate population groups that do not have the connectivity, technical skills or knowledge to use the services, since DFS reduce the incentives for physical networks to continue to grow.80

78. Kessel & Giraldo Mora (2023, p. 2).
79. Banerjee & Duflo (2011, pp. 183-191).
80. OECD (2018, p. 21), Kessel & Giraldo Mora (2023, p. 2).

2. Economic barriers to entry and expansion

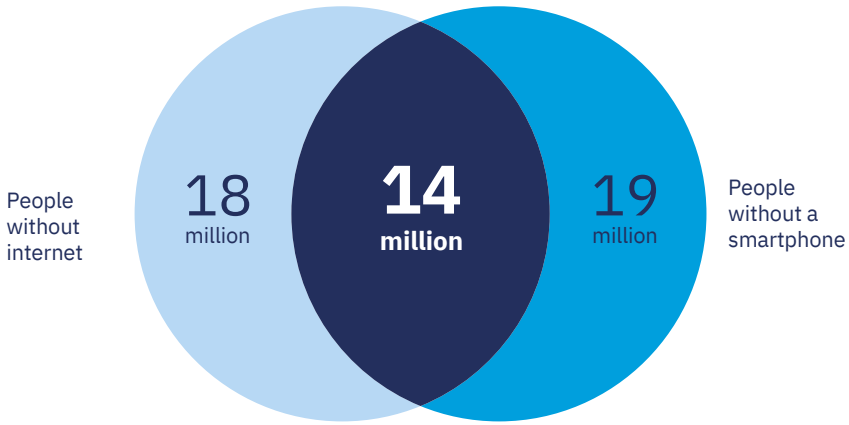
The expansion of DFS and Fintech companies is conditioned by:

1. The lack of internet connectivity; The preference
2. for the use of cash; The size of the informal
3. economy; The lack of financial education and
4. digital skills; Inertial behavior and loyalty to
5. incumbents, and High switching costs
6.

2.1. Lack of internet connectivity

In 2022, of the 92 million adults, 19% did not have access to the internet (either because they did not have a fixed connection in their home or because they lacked mobile data), 21% did not have a smartphone and 15% had neither (Diagram 2).

Diagram 2. People without access to digital media, 2022 (Millions of people aged 18 and over)



Source: Cofece with information from the National Institute of Statistics and Geography [INEGI] (2022), ENDUTIH 2022, questions 4.5, 8.1, 8.4 and 8.12.

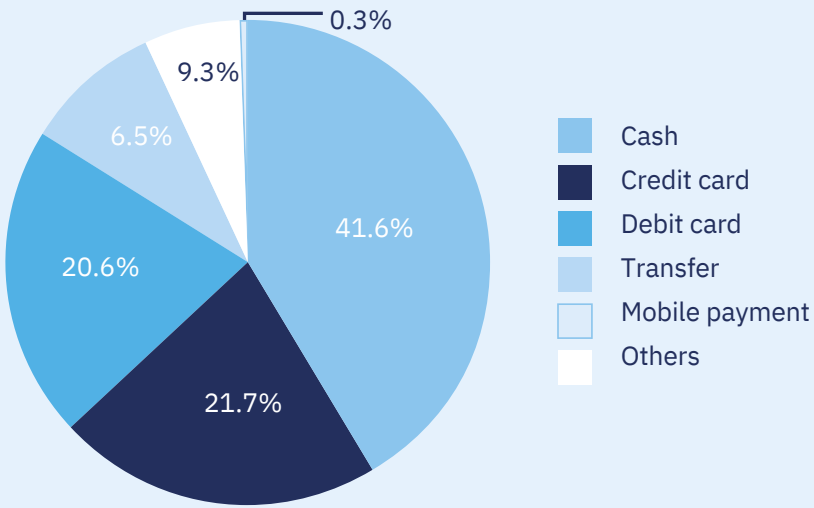
In addition, mobile internet coverage is insufficient: in 2019 there were 272 municipalities without coverage.81 In Chiapas, for example, 25% of the population does not have coverage.82 This partly explains why, by 2022, 13% of the population with a smartphone did not have mobile data.83 This is especially limiting for mobile payments, which need access to mobile networks to work efficiently.

Of the 14 million people without internet or smartphone access, 63% are unbanked (9 million). 84 The increasing substitution of traditional financial services for digital ones could perpetuate the financial exclusion of this group of people, if the problem of lack of internet connectivity is not addressed.85

81. Differentiated 3G and 4G coverage. Federal Telecommunications Institute [IFT] (2019, p. 29).
82. Differentiated 3G coverage from the largest mobile network operator. IFT (2022, p. 26).
83. National Institute of Statistics and Geography [INEGI] (2022) ENDUTIH 2022.
84. Calculations based on INEGI (2023a), ENIF 2021. Questions 5.4 and 6.2 were used to estimate the number of unbanked people, and questions 0.4.2 and 3.11 were used to estimate the number of people without access to the internet and smartphone.
85. OECD (2018, p. 21) and Kessel & Giraldo Mora (2023).

2.2. Preference for cash According to Banxico, in 2023, 90% of the population indicated that
they are used to using cash in their daily expenses, of which 43% use it because they consider it a practical, easy or quick means of payment; 19% because they only have that form of payment, and 11% because they consider it safer than other means of payment.86 Consequently, the use of cash predominates in transactions: 74.5% of
households pay everything with cash; 18.4% use cash and an additional means of payment, and only 2.1% make payments with more than three means of payment, including cash. However, even in this last group of households, cash spending is the most important (Graph 4).

Graph 4. Distribution of spending by households with three or more means of payment in addition to cash, according to means used, 2022 (Percentage)

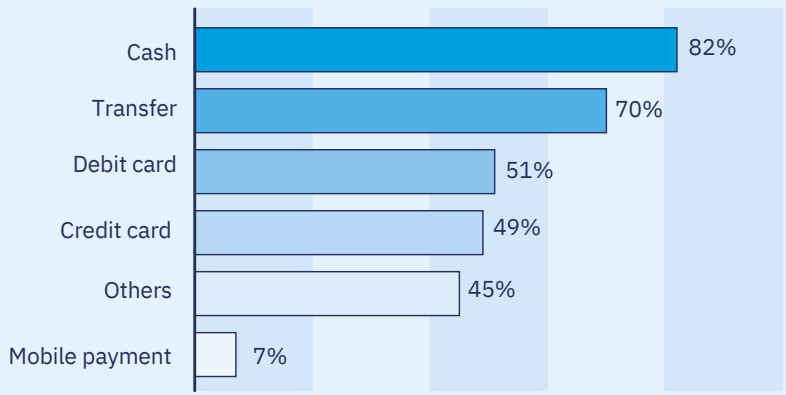


Note: "Other" includes checks, vouchers, direct debit, "on loan", and other means not specified.
Source: Cofece with information from INEGI (2023b), ENIGH 2022.

86. Banxico (2023a, p. 4) The population is made up of people between 18 and 79 years of age in towns with more than 50 thousand inhabitants.

This is due, in part, to the fact that only 51% and 49% of businesses in commerce and services accept debit and credit cards, respectively (Graph 5). In addition, 16% of commerce and services businesses do not have deposit or savings accounts with a financial institution, with the preference for cash being the main reason (53%).87 Using cash has the disadvantage of increasing the risks of fraud and theft, in addition to the cost of storing and transporting it.88

Graph 5. Commerce and services businesses by means of payment accepted, 2021 (Percentage of companies that accept each means)



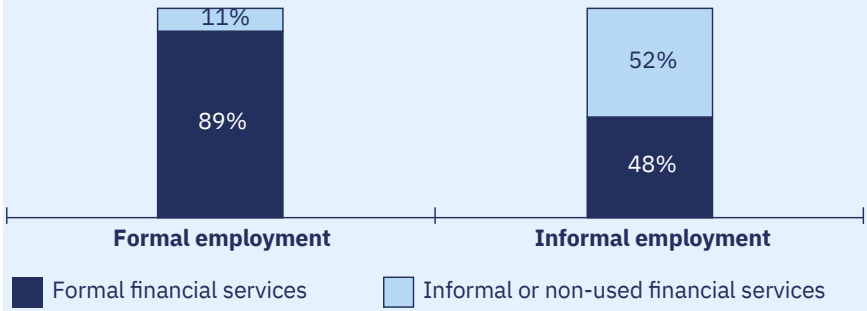
Note: (i) Considering companies hat may consist of one or more establishments, located in localities with more than 50 thousand inhabitants with six or more employed persons., (ii) "Others" includes checks and other unspecified means.
Source: Cofece with information from INEGI (2021), ENAFIN 2021, variable C_62.

Preference for cash imposes a constraint on the growth of Fintech companies and causes some individuals and companies to not consider it necessary to have a transactional account. Without a transactional account, these individuals can hardly access other financial services such as savings accounts, credit or electronic payments.

87. INEGI (2021), ENAFIN 2021.
88. Perez (2020).

2.3. The size of the informal economy The size of the informal sector imposes a limit on the use of formal financial services. This is because many workers in the formal sector join the financial system when their employers deposit their salary in a payroll account. This account is the gateway for workers to access other services, such as credit, savings accounts, and wire transfers. Informal companies usually do not open payroll accounts for their workers, thus closing off this access to formal financial services. As a result, 89% of formal workers use formal financial services, a percentage that drops to 48% among informal workers (Graph 6).

Graph 6. Use of financial services by employment status, 2021



Notes: (i) To determine formal and informal employment status, question 3.10 was used (On your job, are you entitled to medical services...? = 6 (No medical service)
Source: Cofece with information from INEGI (2023a), ENIF 2021.

In Mexico, the informal sector of the economy is large.89 In 2022, informal companies employed 55% of the economically active population,90 which generated 24% of GDP.91 Employers have incentives not to join the formal sector, as it has to pay costs that can be difficult for small businesses to afford. In 2018, 24% of companies hired their workers illegally, thus leading them to informality.92 However, there are also informal workers who

89. INEGI considers the informal economy as that made up of microbusinesses that do not have the basic legal registrations to operate (informal sector). In addition, it calls "other forms of informality" all varieties of work that, although linked to formal economic units, carry out their work without due legal protection. INEGI (2023c).
90. INEGI (2024), *ENOE*, fourth quarter of 2023.
91. INEGI (2023c, p. 1).
92.Levy & López-Clava (2023) Illegality comes from hiring workers without registering them with social security institutions. Therefore, workers hired illegally by formal companies meet the condition to be considered within the "other modalities of informality".

are not illegal, since labor law states that companies that partner with non-salaried workers are not obliged to contribute to social security (e.g. family businesses or self-employed workers).

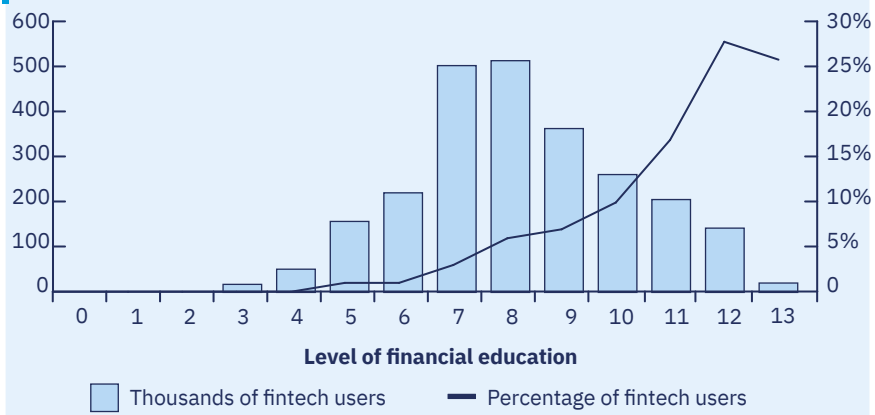
The number of payroll accounts has grown 2.1% at an average annual rate from 2016 to 2023, below the increase in total transactional accounts, 3.1%.93 The incentives for companies to operate informally cause the opening of payroll accounts to be slow and, as a result, more people are not joining the formal financial system in this way. However, Fintechs have made it easier to open digital accounts (presenting only identification and proof of address remotely) allowing more people to join the financial sector, even though their employment status continues to be in the informal sector.

2.4. Lack of financial education and digital skills

People with adequate financial education and digital skills are the ones who take the most advantage of DFS. There is a positive relationship between the level of financial education and the percentage of DFS users (Graph 7). Acevedo and Székely (2021) estimated that one more year of schooling increases bank account ownership and mobile banking use by 2% and 4%, respectively.94 They also find that those who understand basic financial concepts the most are the people who make the most digital payments.95

93. With data from the CNBV (2024b).
94. Acevedo & Székely (2021, p. 58).
95. Acevedo & Székely (2021, p. 76).

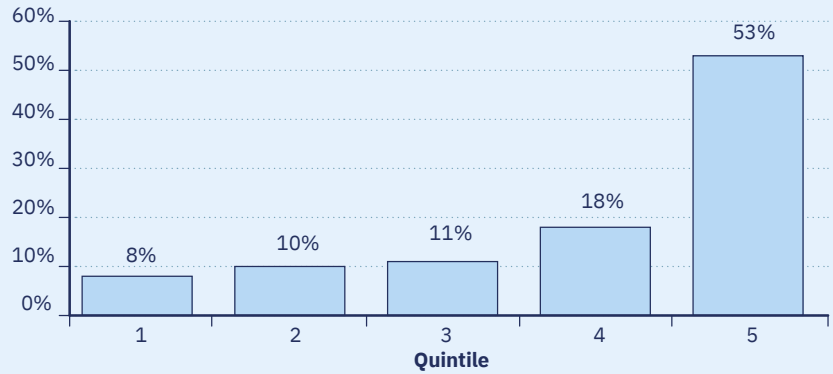
Graph 7. Population that uses DFS by level of financial education, 2021 (Thousands of people and percentage)



Note: The level of financial education is an ordinal variable and was constructed from 13 questions from the ENIF 2021, assigning 1 to the correct answer and 0 otherwise, and the results were summed. The questions considered were: 4.1, 4.5, 4.7.1, 4.7.2, 4.7.3, 5.11, 5.23, 5.24, 7.2, 13.1, 13.2, 13.3 and 13.4. Source: INEGI (2023a), ENIF 2021.

Income level also has an impact on Fintech adoption. In 2021, the majority of DFS users belonged to the highest income quintile of the popula- tion (a fact that should be taken with caution, because the survey may not have captured clients of some Fintechs integrated with commercial chains) (Graph 8).

Graph 8. DFS Users by Income Quintile, 2021 (Percentage of people aged 18 and over)



Note: Questions 3.8a and 3.8b, which indicate income and frequency of reporting, are missing data, which Cofece imputed using the hot deck method. SFD users correspond to those who answered affirmatively to questions 5.4.8 and 6.4.8. Source: Cofece with information from INEGI (2023a), ENIF 2021.

In sum, income, schooling, financial education, and digital skills have an impact on the population's adoption of DFS.

2.5. Inertial behavior and user loyalty

Users of financial services tend to develop loyalty to a provider. A person will generally open a savings or fixed-term deposit account with the same provider where they have their checking or payroll account, without comparing other options. In 2021, of the 39.5 million people with formal savings products in Mexico, 81% stated that they did not compare with other institutions or products when contracting their last savings product.96 On the other hand, 28% of people with a payroll account indicated that they did not know that they had the right to free payroll portability and, by 2018, only 5% of people with a payroll account had exercised the right to portability.97

Many users do not respond to the entry of new competitors with better prices and services, although the benefits of switching are considerable. Even more when they have a set of products linked to the same current account, for example, direct debit of payments for other financial services (consumer loans or insurance) or non-financial services (i.e. water, electricity, telephony, subscriptions). As a result, entrants must spend on advertising to attract either new customers or those of incumbent banks. Despite this expense, it can take considerable time before entrants achieve enough critical customer mass to recoup their costs and ensure their permanence in the market. Therefore, consumer inertial behavior is a barrier to entry or expansion,98 if consumer inertia, mistrust, and ignorance of Fintechs prevail.99

2.6. High switching costs

The ease with which users can switch financial services providers is critical for effective competition. On the one hand, new technologies have reduced switching costs, such as opening accounts completely digitally, and have also made it easier for different services to be provided by dif-

96. INEGI (2023a) Question 5.15 Before opening your last account, did you compare with other products, in other banks or in other financial institutions?
97. INEGI (2019), *ENIF 2018*.
98. Borgogno & Colangelo (2020, p. 1).
99. NTT Data (2023, p. 98).

ferent financial intermediaries. On the other hand, there are still some switching costs generated by the incumbents themselves, which could slow down migration to other companies.

For users who may be creditworthy, there is a cost of losing the good reputation they have built with one financial institution by switching to another. This is because financial institutions only share negative credit history and positive or transactional information is not shared, under the LRSIC.100

In addition, financial institutions can establish obstacles to the cancellation of financial services, which establishes a cost for users to switch providers. In 2022, Condusef reported 4,962 complaints to commercial banks for unattended cancellation requests for financial products or services, which represented 3.4% of the complaints, being the sixth causes with more complaints. Commercial banks accounted for 91% of the complaints for this reason in the financial system.101

Finally, when a person processes the portability of his or her payroll, only the payroll payment is transferred to the new bank, but the products associated with the initial account (i.e. direct debits or credit payments) remain linked to it and are not transferred to the new account.102 Users who wish to migrate their financial services to the new account have to assume high switching costs, mainly in terms of time, for canceling different banking products and they have to relink third-party payments to the new bank account.

Authorities in other countries have taken steps to reduce the costs of switching banks. For example, the United Kingdom implemented the Current Account Switching Service to secure the expeditious opening and closing of transactional accounts between banks.103 Through this service, a user can request a new bank to open an account and transfer the balance, salaries, and direct debits linked to the previous account to it, once this is done, the original account is closed. Accounts switching process is guaranteed and is free, including both personal and business accounts.104

100. LRSIC, articles 2, section I, and 36.
101. Condusef (2023).
102. LTOSF, Article 18 and Circular 3/2012, Articles 75 to 81.
103. See https://www.currentaccountswitch.co.uk/
104. The service has restrictions: the change takes seven days, does not include savings accounts and does not imply the portability of the account number, so the user must inform their depositors of the change.

3.Savings markets

3.1. Overview Collection accounts are used for deposits. There is currently no recon-
ciled official classification, however, this study proposes the following:105

1. Demand deposit accounts:
    a. Current, demand or transactional deposit accounts. This type of account offers immediate liquidity, does not necessarily grant yields and yields are at a modifiable rate. Resources may be drawn on by check or debit card.106 Two special types of these accounts are:
        i. Payroll accounts. A financial product that banks authorized to capture funds from the public are obliged to offer to workers without charging a commission for some basic services.107
        ii. Accounts for receiving government support.
    b. Savings account. This type of account offers immediate liquidity, must necessarily grant yields and are at a modifiable rate. These accounts do not have a checkbook or debit card as a means of withdrawal or transaction; therefore, to withdraw

105. In accordance with LIC, Articles 46, 48 Bis and 59; Circular 3/2021, Articles 7, 11, 13 and 23; and CUB, Article 51 Bis.
106. CNBV (2016).
107. Zavala (2013).

funds, the balance must first be transferred to the main transactional account. This definition includes deposits that can be withdrawn on pre-established days and with prior notice.108

2. Time deposit accounts. This type of account offers liquidity according to the term, yield established at a fixed rate. They have no means of disposition. They include promissory notes with yields payable at maturity, and certificates of deposit, among others.109

In addition, there are electronic payment fund accounts that, although they are not deposit accounts, could have a similar functionality to these.

Characteristics of the demand

In Mexico, 49% of the population aged 15 years and over has a deposit account, a percentage lower than in other American countries (Graph 3). The deposit account could be the first step towards broader financial inclusion, because once people have the basic service to save money, sending and receiving payments, opens the door to a greater variety of financial services, such as savings, credit, and insurance.110 63% of the deposit accounts are open-market transactional accounts and 34% are payroll accounts. (Table 3)

Table 3. Commercial banking deposit accounts by account type, 2019-2023 (Percentage and thousands of accounts)

Account Type	2019 (%)	2020 (%)	2021 (%)	2022 (%)	2023 (%)
Savings	0	1	0	1	1
Time Deposit	2	3	3	2	2
Payroll	37	34	34	34	34
Transactional	61	63	63	63	63
Total	**97,808**	**99,863**	**100,370**	**106,180**	**112,643**

Note: Data as of June of each year.
Source: Cofece with information from CNBV (2024b), report 040_4a_R30

108. CNBV (2016). 109. CNBV (2016). 110. CNBV (2022a, p. 18).

According to the ENIF 2021, among the main reasons people stated for never having had a deposit account (35%) are: lack of sufficient income; do not need it; do not meet the requirements; do not trust financial institutions, or don't know how to use it. In this sense, financial exclusion can be explained, in part, by voluntary exclusion; as well as by the requirements requested by financial institutions, and the lack of awareness about the benefits of having these financial services.111

In 2021, 50% of adults had a collection account or similar, of which 47.4% were women and 52.6% were men.112 According to ENIF 2021, around 60%
of the adult population has some form of savings, of which only 21% save using formal instruments and 54% have informal savings instruments; although these are not mutually exclusive (15% of the adult population uses both types of instruments).113

The formal savings instruments where the population saves the most are: savings and checking accounts (12% of the adult population), followed by payroll accounts (10%). In terms of functionality, investment accounts or time deposits are for savings purposes; contrary to payroll accounts, where 10% of the surveyed population reports saving. One percent of the adult population saves using an "electronic wallet," which wasn't mentioned in surveys in previous years.114

The most common means of informal savings are: keeping money at home and participating in *tandas* and savings banks. As a result, the savings of this population do not generate returns and lack the protection provided by financial institutions. *Characteristics of the supply* Commercial banks, development banks and EACPs raise funds from the public through transactions, payroll, savings, and time deposit accounts.115

Some digital *Sofipo* and neobanks offer transaction and savings accounts in which their clients can immediately transfer funds between the two.116 Others offer accounts where customers can save and transact.117 In

111. CNBV (2022a, p. 21).
112. INEGI (2023a).
113. CNBV (2022a, p. 22). In addition to the deposit accounts, the source consulted accounts for retirement savings accounts as part of formal savings.
114. CNBV (2022a, p. 23).
115. Articles 46 and 59 of the LIC.
116. For example, NU.
117. For example, Klar and Kubo.

response to this strategy, some banks offer accounts with immediate liquidity that provide yields. Therefore, it is convenient to consider transactional and savings accounts in a single category. Commercial banks have a high share of these types of accounts (Table 4).

Table 4. Transactional and Savings Accounts and Electronic Payment Funds, by Type of Financial Institution, 2023

Institution	Number of accounts (millions)	Participation (%)	Balance (millions of pesos)	Participation (%)
Commercial banks	109.4	59.5	5,192.2	95.0
IFPE	27.5	15.0	22.6	0.4
Development Banking	22.2	12.1	114.9	2.1
Socap	15.2	8.3	108.1	2.0
Sofipo	9.5	5.2	25.5	0.5
Total	**183.8**	**100.0**	**5,463.3**	**100.0**

Notes: i) The electronic payment fund accounts of the IFPE are included only for comparison with the rest of the finan- cial institutions, and not because they are considered collection accounts; (ii) The balance of the MFIs is accounted for twice in the total, due to the obligation for the MFIs to deposit the resources in banks; iii) The data of the IFPE are our estimates. Source: Cofece with information from CNBV (2024b), reports 040_4a_R30, 040_4a_R31 and 037-S-2421B, historical series from *Sofipo* and *Socap*; CNBV (2024c), Financial Inclusion Database, December 2023 and IFPE Financial Statements.

As for time deposits, commercial banks also hold a significant market share, although it is lower than other accounts (Table 5).

Table 5. Time Deposit Accounts by Financial Institution Type, 2023

Institution	Number of accounts (millions)	Participation (%)	Balance (millions of pesos)	Participation (%)
Commercial banks	2.8	48.7	2,273.5	68.9
Development Banking	0.8	14.2	908.5	27.5
Sofipo	1.1	19.1	27.3	0.8
Socap	1.0	18.1	89.9	2.7
Total	**5.8**	**100.0**	**3,299.2**	**100.0**

Source: Cofece with information from CNBV (2024b), reports 040_4a_R30, 040_4a_R31 and 037-S-2421B, historical series from *Sofipo* and *Socap*; CNBV (2024c), Financial Inclusion Database, December 2023.

Bank, *Sofipo* and IFPE accounts differ in the protection offered to the depositor. Bank accounts have deposit insurance for up to 400 thousand UDIs, through the IPAB; on the other hand, *Sofipo* accounts are only pro- tected for up to 25 thousand UDIs, through the Fund for the Protection of Popular Financial Institutions and Protection of their Savers. In addition to the protected amount, the IPAB has mechanisms to fund a bankrupt institution and thus guarantee its operation; which does not happen with the funds of *Sofipo*.118 The IFPE's transactional accounts are not insured against the bankruptcy of the IFPE or against the bankruptcy of the bank holding its clients' deposit resources.119 65% of people with a formal finan- cial product to save do not know about insurance.120 Therefore, the dif- ference between the insured amounts may not affect the competition process.

3.2. Regulation should facilitate entry into the MFS

To enter some financial markets, some Fintech companies acquired tra- ditional *Sofipo*, transforming them into what this study has called digital *Sofipo*. Thanks to this, some Fintechs have been able to operate and raise funds without the regulatory burden of a bank. Digital *Sofipo* provide ser- vices in a different way than traditional ones, although both are subject to the same financial regulation. The digital ones base their appeal upon

118. https://www.fondodeproteccion.mx/#top
119. Elbittar & Mariscal (2023) and Goldman Sachs (2023, p. 12).
120. INEGI (2023a), *ENIF 2021*, questions 5.4 (Do you have...?), 5.23 (Banks or financial institutions like all companies can close or fail, do you know if in that case savings would be protected?) and 6.1 (Do you have...?).

the ease of opening a digital account and the returns they offer, while the strategy of traditional companies is to bring financial services closer to those segments of the population underserved by banks.

Digital *Sofipo* usually offer basic financial services with some advantages over traditional banking, which people with lower incomes valued:

1. They can open low-risk transactional accounts completely digitally, which is associated with another account for savings and time deposits.121 In contrast, in some traditional banks, it is necessary to go to a branch.
2. They allow term investments in lower amounts. The minimum investment amount in bank promissory notes is usually two thousand pesos in traditional banking and 100 pesos in time deposits in digital *Sofipo*.
3. They offer accounts with yield and liquidity which facilitates the decision to save for low-income people, who prioritize liquidity.
4. They offer higher interest rates than other financial institutions (Table 6).

Table 6. Interest rates and minimum investment amounts in time deposits or bank promissory notes by institution, April 2024 (Annual Interest Rate Before Taxes)

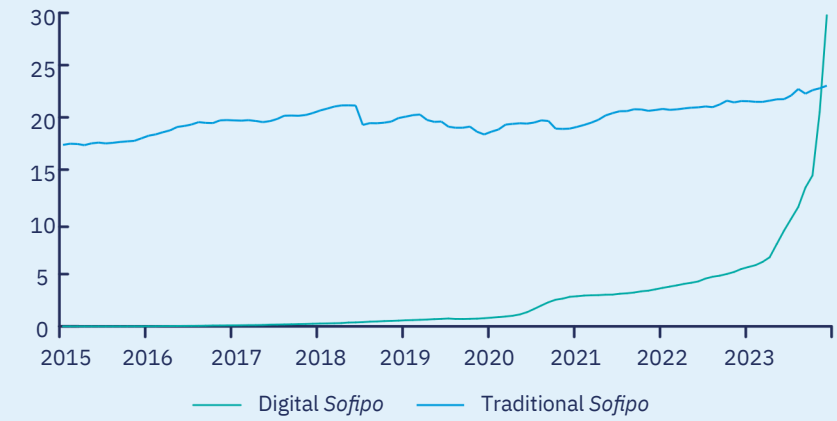
Term	CETES direct	Multiple banking	Digital *Sofipo*
1 day / On view	10.10	0.01 a 1.55	2.00 a 15.00
28 days	10.92	2.20 a 4.42	10.05 a 15.00
91 days	11.09	2.37 a 5.06	10.80 a 12.09
181 days	11.19	5.26 a 6.63	10.75 a 12.60
365 days	11.03	2.40 a 8.29	10.50 a 14.09

Notes: i) Interest rates are those applicable to the minimum amount for time deposits or bank promissory notes; ii) multiple banking offers a greater range of investment products, some with higher rates of return or greater liquidity, but with higher minimum amounts or are investment instruments different from those analyzed; iii) Fees as of April 10, 2024.
Source: Cofece with information from file REC-005-2022, folio 3535. Information from a non-random sample of banks and *Sofipo* was gathered from their websites.

During 2023, digital *Sofipo* deposits grew exponentially and already exceeded the number of traditional deposits (Graph 9). However, the total fund gathering of *Sofipo*'s barely represents 0.8% of the banking sector (Graph 10).

121. The low-risk *Sofipo* account can be opened in person or digitally through simplified identification procedures (validating identity – except address – in the National Population Registry and validating the cell phone number provided). The operation of these accounts is limited to monthly payments of 3 thousand UDIs (DCGA124LACP, provisions 7 and 15).

Graph 9. Funding by type of *Sofipo*, 2015 – 2023 (Billions of pesos)



Graph 10. Funding of *Sofipo*, 2015 – 2023 (Billions of pesos and percentage)

Note: Seven *Sofipo* that offer savings, credit, and payment services completely digital were considered as digital *Sofipo*.
Source: Cofece with information from CNBV (2024b), 040_4a_R31 report, and historical series *Sofipo*.

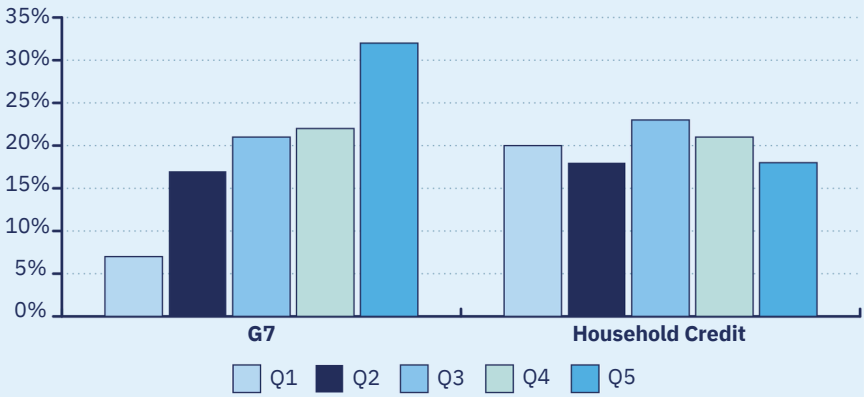
Although digital *Sofipo* offer easy-to-contract services (no minimum deposit, few requirements, no account management costs), compared to the traditional services offered by banks, it is possible that they are attracting mainly higher-income consumers, who are usually commercial banking customers, a strategy departing from the original objective of the *Sofipo* model.122 At the end of 2023, the average balance of demand deposit accounts of traditional *Sofipo* was 861 pesos, while the average balance in digital *Sofipo* was 4,872 pesos.123 This shows that digital *Sofipo* attend a higher income segment of the demand. This could be due to the way digital *Sofipo* operate, through the internet and mobile devices, which are not yet commonly used by low-income population.

Despite the digital model that some *Sofipo* are trying to develop, the preference for cash imposes the need to complement this model with contact points where people can either deposit or withdraw in accounts of the digital *Sofipo*. While access to these points of contact is flawed (see section IV.4), this could be a limitation for the unbanked population to use the services offered by digital *Sofipo*.

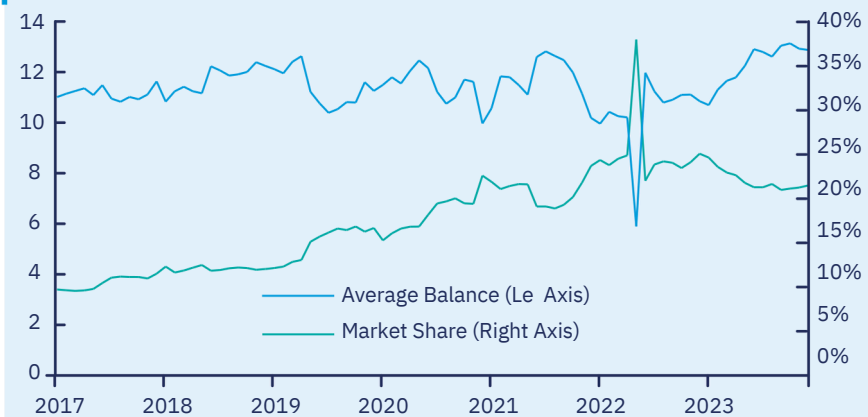
In turn, some banks are seeking to serve unbanked customers or those with lower incomes than those usually served by incumbent banks by offering transactional accounts that are easy to open through the internet (digital accounts) in which no commissions are charged, which has increased the market share of these banks (Graph 11 and Graph 12). Thus, a more competitive environment has been created in which, on the one hand, digital *Sofipo* compete for traditional bank customers and, on the other, banks compete for traditional *Sofipo* customers.

122. Gabriela Zapata, exhibition "War vs financial exclusion" during *Fintech Mexico Forum 2024*, February 29, 2024.
123. CNBV (2024b), *Sofipo* and CNBV historical series (2024c), *Financial Inclusion Database, December 2023*.

Graph 11. Distribution of users of large banks and credit to households by income quintile, 2021 (Percentage)



Graph 12. Average balance and share of household credit banks in number of accounts, 2017 –2023 (Thousands of pesos and percentage)



Note: The G7 banks included in the graph are BBVA, Citibanamex, HSBC, Banorte, and Santander. Household credit banks included are Banco Azteca and Bancoppel. Definitions follow the CNBV.
Source: Cofece with information from INEGI (2023a), ENIF 2021, question 5.18 and CNBV (2024b), 040_4a_R31 report and historical series *Sofipo*.

From the standpoint of free market access, it is beneficial that new players have found a way to enter the MFS, by acquiring traditional *Sofipo*, and that they exert competitive pressure on incumbents in different mar- kets. However, traditional *Sofipo* were not conceived as an initial stage to enter the MFS and compete for the same consumers of traditional banks but to serve an unbanked sector. For this reason, a debate has arisen as to whether digital *Sofipo* operate for a purpose other than the one this figure was conceived.124

In 2024, a reform to the CUB that restructures banking licenses was published.125 Previously, a *Sofipo* license allowed one to perform more activities than the cheapest banking license (niche banking with a minimum capital of 36 million UDIs). If an entrant sought to perform the typical activities of a bank, it could opt for either the *Sofipo* license or the next banking license (54 million UDIs). *Sofipo* license is more accessible (as licenses range from 100 thousand to 22.5 million UDIs), making them more attractive for entrants to financial markets, including Fintechs.

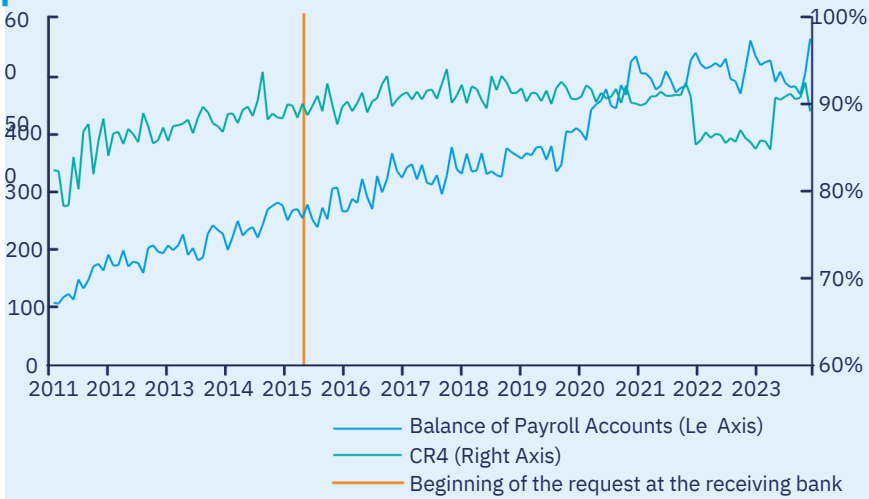
In this regard, this study suggests the CNBV to evaluate, in the medium term, the result of this reform to the CUB to determine whether it effectively managed to generate a more adequate scale for the growth of financial institutions, eliminate regulatory loopholes, and facilitate the entry of new competitors. If these objectives have not been met, consider the possibility of modifying the regulation again to meet these objectives.

3.3. Reducing consumer's switching costs

Payroll accounts are the main collection instrument used by the adult population (28% of the adult population has a payroll account), followed by savings and checking accounts (18%).126 Payroll accounts are the most contracted product because people use them to receive their salaries. Multiple banks, *Sofipo* and *Socap* can receive payroll payments. As for IFPEs, there is no provision prohibiting this.127 At the end of 2023, four banks accounted for 89% of payroll account balances (Graph 13).

124. Estrada (2023a).
125. Amendment to Article 2 of the CUB. Published in the DOF on February 9, 2024 (See https://dof.gob.mx/nota_detalle.php?codigo=5716514&fecha=09/02/2024#gsc.tab=0)
126. INEGI (2023a), *ENIF 2021,* question 5.4.
127. Operating level II *Sofipo* and above may "offer the payment and payroll account service" (Article 23, section II, subsection f of the DCGAEACP). The same is the case for Socaps (Article 9, section II, subsection d of the LRASCAP). IFPEs are not expressly prohibited from receiving this type of payment.

Graph 13. Payroll and CR4 account balance, 2012 – 2023 (Billions of constant pesos and percentage)



Note: January 2018 base = 100.
Source: Cofece with information from CNBV (2024b), report 040_4a_R31.

Payroll portability consists in, at the worker's request, multiple banking and development institutions systematically transfer his or her salary, which the employer deposits in an account, to another account designated by the worker, without generating costs for the worker.128

Currently, the payroll portability process involves transferring resources: the employer deposits the worker's salary in a bank account, then the bank transfers the resources to the account of the bank that the worker has designated. Therefore, the original account is not canceled.129

Payroll portability is only carried out between commercial banking and development institutions.130 In 2015, the scheme was modified to be able to request portability at the receiving bank, thus streamlining the procedure.131 However, market concentration did not change, possibly because of consumer loyalty and ignorance of the mechanism.

128. Article 18 of the LTOSF and Articles 75 to 81 of Circular 3/2012.
129. See, for example, https://www.bbva.mx/personas/productos/nomina/portabilidad-de-nomina.html#soy-cliente where it is specified that the worker must not cancel the original account where the payroll was deposited.
130. Article 48 bis 2 of the SCI and Article 18 of the LTOSF.
131. Juárez (2017).

Sofipo, *Socap*, and IFPE do not participate in the payroll portability scheme. This puts digital *Sofipo* and IFPEs at a disadvantage, which, although they can open accounts completely digitally, workers cannot designate them as payroll recipients.

Sofipo and IFPE accounts that can be opened digitally are those considered low risk. These accounts can receive payroll if the deposit does not exceed three thousand UDIs per month, even if their balance is unlimited.132 The income of 93% of household recipients is below that threshold.133 Thus, a payroll account does not necessarily have to be level 4 (complete file or traditional account). 12% of the bank's 38.9 million payroll accounts were level 2 as of December 2023.134

As long as portability remains restricted to banks, the current portability scheme is unlikely to change the concentrated structure of the market. Including *Sofipo* and IFPE within payroll portability would increase competition among financial institutions making it easier for workers to receive their paychecks in the account of their choice, regardless of the type of financial institution.135 Payroll crediting opens the door for the institution to offer the worker more financial products. This is especially relevant for *Sofipo* because, unlike IFPEs, they can offer a wider range of financial products. Without access to payroll portability, *Sofipo* have fewer opportunities to offer and place attractive payment, credit, or investment products. Portability would trigger competition in fundraising and, with it, more opportunities to compete for the placement of other financial products.

If the payroll portability restriction is eliminated, those workers who value the services offered by digital *Sofipo* or the IFPE could migrate to these institutions. This, in turn, would boost competition in other financial services. In the case of digital *Sofipo*, it would trigger their offer of products as credit cards and time deposits, increasing competition in other financial products.

132. As of April 10, 2024, 3 thousand UDIs corresponded to 24,391 pesos. The characteristics of the low-risk *Sofipo* accounts were exposed in the note 121. As for the low-risk accounts of the IFPEs, these are level 1 or 2 (Circular 12/2018, provision 9). To contract a level 2 account – which is the most common – a simplified identification process plus email and address can be carried out, which can be carried out completely digitally (DCGA58LRITF, article 12).
133. INEGI (2023b), *ENIGH 2022*.
134. CNBV (2024b), *report 040_4a_R30*.
135. Although Socaps can receive payroll payments and therefore could be beneficiaries of portability, they are excluded from the analysis as the objective is to generate portability to digital accounts, and Socaps do not offer this type of account.

For all the above reasons, this study recommends modifying the laws and circulars necessary for *Sofipo* and IFPE to be included in payroll portability when the monthly salary does not exceed the limit imposed for level 2 or low-risk accounts, which are those authorized to be opened completely digitally and restructuring the scope of portability so that credits and direct debits are also transferred to the new account.

To intensify competition, it is desirable to minimize the costs to users of switching financial institutions. This would be achieved if portability is extended to any transactional account, along with the credit and direct debits linked to such accounts, if consumers choose to do so. Other jurisdictions have already implemented such measures. For example, in the United Kingdom, there is a mechanism (Current Account Switching Service) to move balances, payroll, credits and direct debits from a previous account to a new one in another institution, without the need to maintain the previous account. The procedure is mainly carried out by the financial institution where the new account is located and is mandatory, so financial institutions cannot refuse to make the change. This mechanism makes it easier for users to migrate from one institution to another according to their preferences, which generates the potential for greater competition to attract and retain users, based on the merit of the products.

Therefore, it is recommended to establish a system that facilitates the transfer of current accounts, and the associated products from one financial institution to another, efficiently and expeditiously, following international best practices.

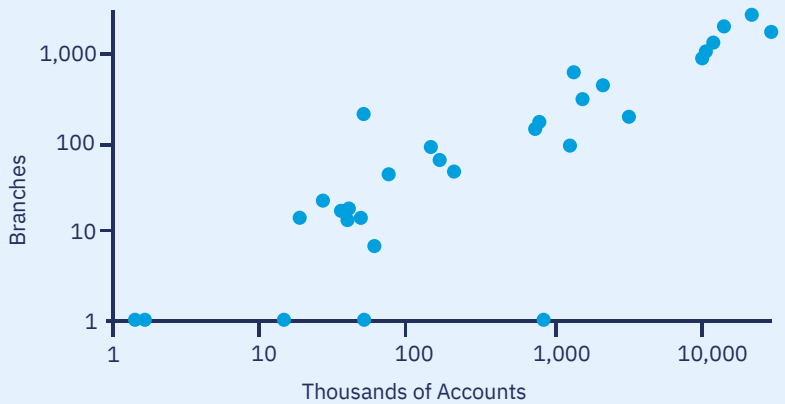
Finally, for account portability to work efficiently, and, in general, for greater competitive pressure in the system, users must be able to cancel the financial products that they no longer want quickly and at the lowest possible cost. For this reason, it is recommended to standardize the procedures for cancelling financial products, especially checking accounts and credit cards, so that cancellation is quick and simple.

3.4. Facilitating access to correspondents

Although financial institutions can offer services digitally, customers continue to value the possibility of going to a point of contact where they can make transactions (payments, withdrawals, or deposits). For example, in 2023, 58% of the population went at least once a month to an ATM

to withdraw cash and 15% went to a teller window for that purpose.136 There is also a positive relationship between the number of accounts and the points of contact that financial institutions have, measured by branches (Graph 14).

Graph 14. Relationship between the number of accounts and bank branches (Branches and thousands of accounts)



Note: i) the axes are in logarithmic scale; ii) banks with less than 1,000 accounts are not shown in the graph, iii) includes multiple and development banking.
Source: Cofece with information from CNBV (2024b), *Financial Inclusion Database, December 2023*.

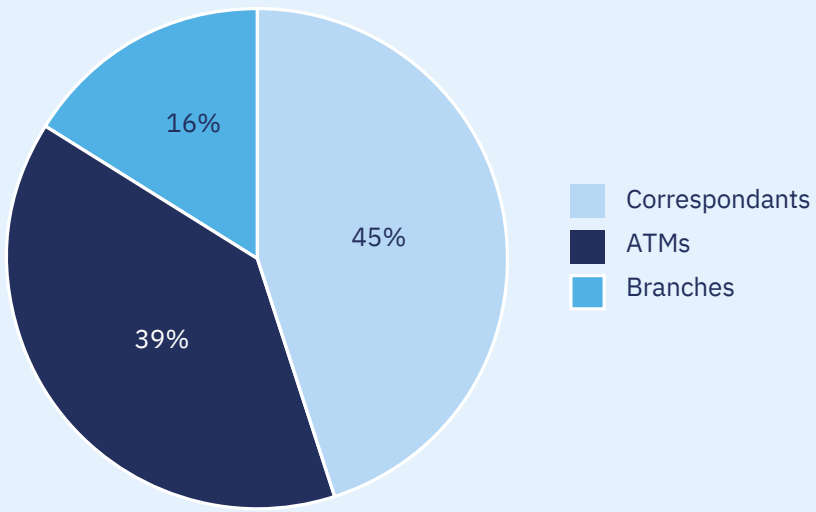
This indicates that, at least for now, points of contact are relevant for the success of a financial institution. Therefore, even though most Fintech have digital business models, they require points of contact with users.

Banks, Sofipos, and IFPE may sign agreements with third parties to carry out financial operations in their behalf and account, called "correspondents" for banks and Sofipos and "commission agents" in the case of IFPEs.137 In this study, the term "correspondents" will refer to both. These establishments can carry out, among other operations, deposits or withdrawals, which depend upon agreements with financial institutions. A correspondent may sign one or more contracts with different banks or be exclusive with one.138 Most correspondents are businesses (convenience and department stores, pharmacies, post offices, and restaurants).

136. Banxico (2023a, p. 6).
137. Article 46 Bis 1 of the LIC, Article 36 Bis 3 of the LACP, and Article 54 of the LRITF.
138. Article 324 of the CUB.

Correspondents facilitate access to financial services, expanding ser- vice delivery points and reducing transaction and transportation costs for demanders and suppliers. In September 2023, only 37% of municipal- ities had at least one bank branch, while 76% had correspondents.139 In addition, banking correspondents are located in 43% of the municipal- ities with very high social backwardness, higher than the coverage of bank branches in these municipalities.140 Correspondents are the second channel of access to the financial system most used by the population uses the most after ATMs.141 They are also the channel with more points of contact (Graph 15).

Graph 15. Points of contact with the financial system (Percentage)



Note: Some ATMs share a location, so only one ATM per location was counted. Some ATMs and branches have the same location.
Source: Cofece with information from CNBV (2024b), *report 040-R443*.

139. CNBV (2024c).
140. Coverage of branches in municipalities with very high social lags is 30%. CNBV (2023a).
141. INEGI (2023a), *ENIF 2021*.

The average travel time to a banking correspondent is the lowest among the various financial channels, both in towns with less than 15,000 inhabitants and in larger towns (Table 7).

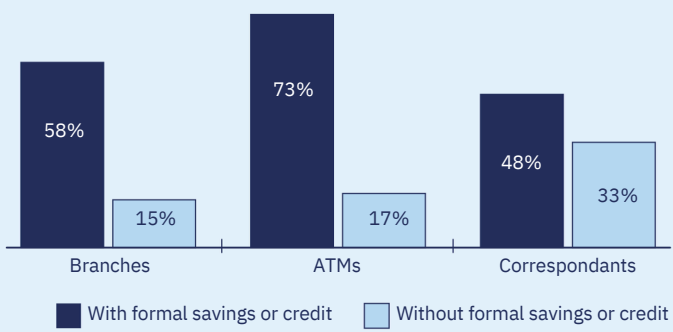
Table 7. Average travel time of the population that used financial channels, 2021 (Minutes)

Type of locality	Branch	ATMs	Correspondent
Less than 15 thousand habitants	38.8	33.2	23.4
15 thousand or more habitants	15.6	14.7	8.6

Source: INEGI (2023a), ENIF 2021, Table 10.3.

For people without formal savings or credit, correspondents serve as the primary point of contact with MFS. Among the financially excluded population, 33% utilize this channel (see Graph 16).).

Graph 16. Use of financial channels according to individual financial inclusion, 2021 (Percentage of adult population)

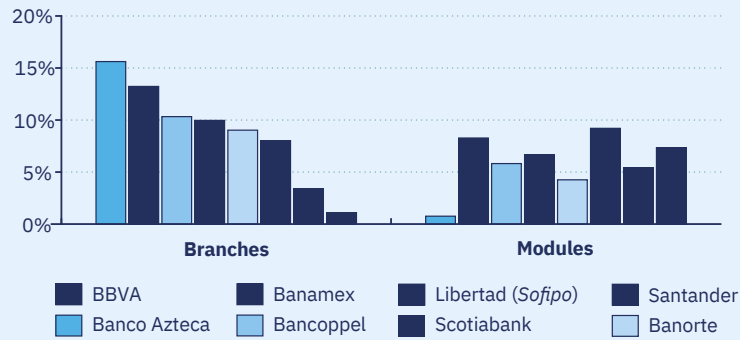


Source: Cofece with information from INEGI (2023a), ENIF 2021, questions 10.1, 10.4 and 10.7

The network of correspondents tends to level out the concentration that exists in branches (Graph 17).

Correspondent branches therefore have the potential to intensify competition, since they allow the services of different financial institutions to compete in the same establishment.142

Graph 17. Bank and Sofipos Market Shares Selected by Branches and Correspondent Modules, 2023 (Percentage)

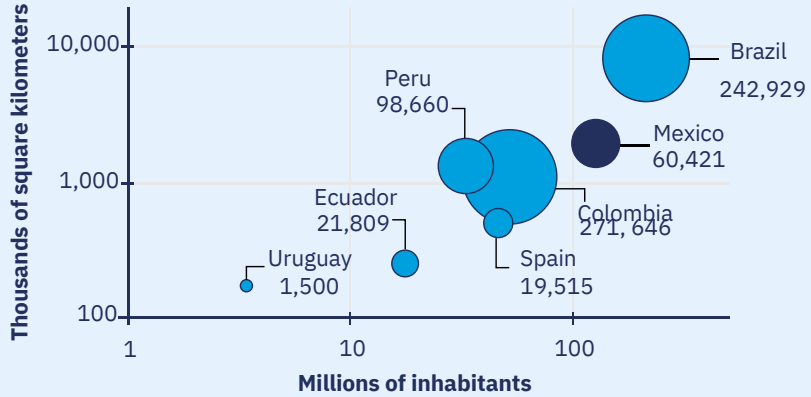


Note: (i) a module is each bank-correspondent establishment pair, so the same establishment gives rise to several modules depending on how many institutions the correspondent offers to, (ii) the shares are calculated on the total number of branches and modules of the multiple banking and *Sofipo* together.
Source: Cofece with information from CNBV (2024b), reports 040_1b_R1, 040_r26_r8, 027_r26_r9 and CNBV (2024c), Financial Inclusion Database, December 2023.

By 2021, there were 1.2 bank branches and 5 correspondents per 10 thousand inhabitants, in total 60,421 points of access to the financial system. This level of points of contact is lower than that observed in countries in the region. As a country becomes larger and more populated, the trend is that there should be more points of contact with the financial system; however, Mexico has a lower number of points of contact (bubble size) than expected given its population and size (Graph 18).

142. *Oxxo* is the network of correspondents to which the most financial institutions provide correspondent services, with 20. CNBV (2023a, p. 130).

Graph 18. Commercial banking branches and correspondents by population and territory, selected countries, 2021 (Number of branches plus number of correspondents)

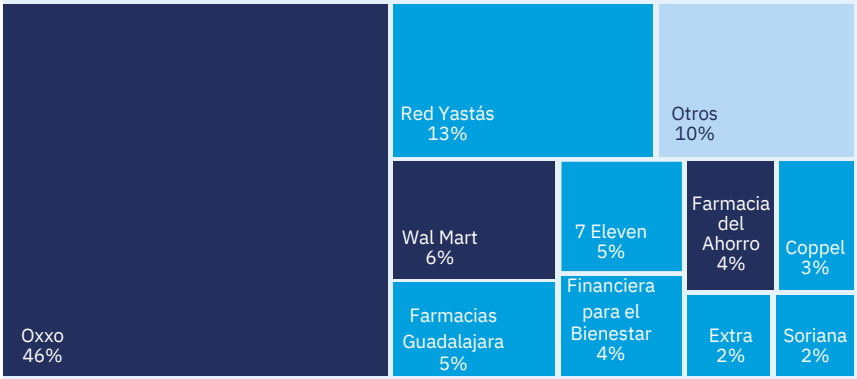


Source: Cofece with information from the International Monetary Fund (2024), Financial Access Survey, The World Bank (2024b), Population, total and CIA (2024) The World Factbook.

The applicant for correspondent must prove that: i) it has the infrastructure and personnel capable of operating the electronic media made available by the financial institution; (ii) it is a businessperson with a permanent establishment, and (iii) it has a satisfactory credit and business history. The network of correspondents is concentrated in three economic agents: *Oxxo*, Walmart, and Farmacias Guadalajara, in addition to the Red Yastás.143 (Graph 19).

143. *Red Yastás* is a group of affiliated businesses that act as correspondents (https://yastas.com).

Graph 19. Correspondents' Market Share (Percentage according to number of establishments)



Note: in blue are three economic agents whose EIG has an IFPE.
Source: CNBV (2023a), Annual Overview of Financial Inclusion with data at the end of 2022.

As of June 2024, only 20 of 52 commercial banks have correspondents, which shows the difficulties for financial institutions to access this channel. Only six of the 37 *Sofipo* have correspondents and only one is digital.144 Chain correspondents have little incentive to be *Sofipo* correspon- dents, as it is unprofitable.145

Some EIGs with non-financial businesses integrated their IFPE into their operations (such as Mercado Libre with Mercado Pago), so they can leverage their core business to leverage the growth of their IFPE. In addition, the integration between retail chains that act as correspondents and IFPE is observed, generating the incentive to leverage IFPE with the correspondent service. For example, *Oxxo* went from being a correspondent for other IFPEs, to a correspondent for its own IFPE: *Compropago*, which manages the Spin account by *Oxxo*.146 Two other vertically integrated IFPEs with retail chains are also correspondent, so similar incentives are presented.147

144. *Libertad Servicios Financieros* concentrates 66% of the modules of the *Sofipo* as of June 2024. Its only correspondent is *Oxxo*. CNBV (2024b), *report 040_r26_r8.*
145. According to what was collected in the interviews carried out.
146. File REC-005-2022. Folio 1065.
147. Cashi (Walmart, https://cashi.com.mx/), Spin by *Oxxo* (*Oxxo*, https://www.oxxo.com/) and TuDi (*Farmacias del Ahorro*).

The regulation establishes more onerous requirements for IFPEs to operate through correspondents than for banks and *Sofipo*.148 IFPEs must per- form, before the start of their operation and at least every two months, vulnerability scanning tests of all the components of their own technological infrastructure, or that of third parties and commission agents hired.149 On the other hand, commercial banks and *Sofipo* must execute similar processes every three months and once a year, respectively.150 IFPEs integrated with convenience or self-service stores have similar systems, so scanning and analysis tests are more homogenous. IFPEs with individual commission agents require testing of different systems, which increases costs and complexity. Thus, IFPEs vertically integrated into a trade are in a better position than the others.

The integration of an IFPE with a correspondent with a broad presence in the market could generate incentives for companies to engage in business strategies that could displace other IFPEs from the market, such as discriminatory treatment, refusal to deal, exclusivities, or tied sales.151 These strategies are not anti-competitive per se, but a correspondent scheme in which competition among financial institutions takes place in the correspondent and not for exclusive access to it is preferable.

For all the above, this study recommends: i) Simplifying and standardizing the requirements for commercial companies to function as correspondents of the banks, *Sofipo* and IFPE contained in Annex 57 of the CUB, Annex 7 of the DAIFPE and Annex R of the DCGAEACP, and ii) Generat- ing incentives for correspondents to offer the service on non-discrimina- tory terms. The purpose of this is to increase the number of bidders and points of contact, facilitate access for financial institutions, and trigger greater competition in correspondent services.

148. The requirements for correspondents are in Annex 57 of the CUB for banks, in Annex R of the DCGAEACP for *Sofipo*, and in Annex 7 of the DCGAIFPE for IFPEs.
149. Article 21 of the DAIFPE.
150. Article 168 Bis 12, section III of the CUB and 265 Bis 28 of the DCGAEACP.
151. File REC-005-2022, folio 2677.

4.Credit markets

4.1. Overview *4.1.1. Characteristics of the demand*

50% of the adult population has some type of financing, formal or informal; of these, 52.3% are women and 47.7% are men, so there is no significant gap between the two sexes.152 The most widely used formal credit products are departmental credit cards (20%) and bank credit cards (11%). The penetration of personal, group, payroll, or automotive credits is lower, although it reports progress compared to 2018.153 Due to high interest rates, 23% of people with formal credit stopped having it.154

Regarding access to financing, 16% of the population reports having applied for credit and having been rejected at some point; of this figure, 46% are women, and 54% are men.155 The most cited reason for rejection
is problems with credit history, either because of problems with their credit scores (36%) or because they lack a credit history (19%).156

The participation of companies in the credit market is still limited. Access to financing allows companies to increase their operations, diversify their risks, and increase their capacity to innovate. According to the ENAFIN 2021, only 47% of companies have requested financing on at least one occasion; although there are differences by company size: 49% of small

152. INEGI (2023a), *ENIF 2021*, questions 6.1 (From July 2020 to date, did you borrow...) and 6.2 (Do you have...).
153. CNBV (2022a, p. 25). CNBV (2022a, p. 27). INEGI (2023a), *ENIF 2021*, questions 2.4 (Gender) and 6.17
154. (Have you ever been rejected for a credit
155. application?).
156. CNBV (2022a, p. 28).

companies have requested financing, 71% of medium-sized companies, and 57% of large companies.157 Regarding sources of financing, 66% of companies turn to commercial banks to request credit for the first time, and only 5% to non-bank financial intermediaries. Another common source of financing is the companies' suppliers (19%).158

The proportion of companies rejected when applying for financing is low: 8% of the loans requested in 2020 were not approved, which is similar among the different sizes of companies. According to the perception of the rejected companies, 19% reported not having received an explanation for the rejection.159 In the case of micro and small companies, the reasons for being rejected were related to their inability to prove income and their lack of credit history or collateral. In contrast, for medium and large companies, the main reasons were high levels of debt or low payment capacity.160 In general, companies cite high interest rates, requirements and procedures, and payment conditions as barriers to accessing financing.

Competition conditions in business credit markets have the potential to intensify with the entry of Fintech companies. However, their impact will be limited by structural factors, such as the tendency of companies not to finance themselves or to do so through informal or supplier credit.

4.1.2. Characteristics of the supply

This study focuses on three types of credit: credit cards and personal and business credit aimed at SMEs. Commercial banks, development banks, *Sofipo*, *Socap*, Sofom, and non-financial companies are the traditional providers in these markets. Fintech have adopted some of these legal fig-ures to grant credits (Table 8).

157. CNBV (2022b, p. 27).
158. CNBV (2022b, p. 28).
159. CNBV (2022b, p. 31).
160. CNBV (2022b, p. 32).

Table 8. Traditional and Fintech supply of the different types of credit

Credit	Fintech offer	Traditional offer
Personal	Neobanks, digital Sofipo, digital Sofom, CFI and Fintech non-financial companies	In all three cases: Commercial and development banks, traditional *Sofipo*, *Socap*, traditional sofom, Credit unions, non-financial companies.
Credit cards	Neobanks, digital Sofipo, digital Sofom and Fintech non-financial companies	
SME Business	Neobanks, digital Sofipo and CFI	

Source: Cofece

The LTOSF and LGTOC allow any company to grant personal loans and issue credit cards, if they use their own resources rather than public ones.161 Therefore, these companies do not require authorization from the CNBV, nor are they regulated or supervised by it. Consequently, they do not report information to the regulator, which makes it difficult to quan- tify the number of competitors and the magnitude of Fintech credit.

Credit markets are characterized by information asymmetries. The financial institution has little information in the financial situation and behavior of users. This generates what in economics is known as the problem of adverse selection, prior to granting credit, and of moral hazard granting, which leads to credit being scarcer and more expensive than with perfect information.162

Fintech companies have changed the conditions under which personal loans and credit cards are offered. The use of machine learning algorithms to assess risks, rate credit, and design tailored products, as well as new business models (such as financing for credit purchases without a card), have reduced information asymmetries and the costs of placing credit. Fintechs have also implemented innovative models that combine features of revolving credit and personal loans and potentially represent a new competitive pressure in both markets.163 Some *Sofipo*

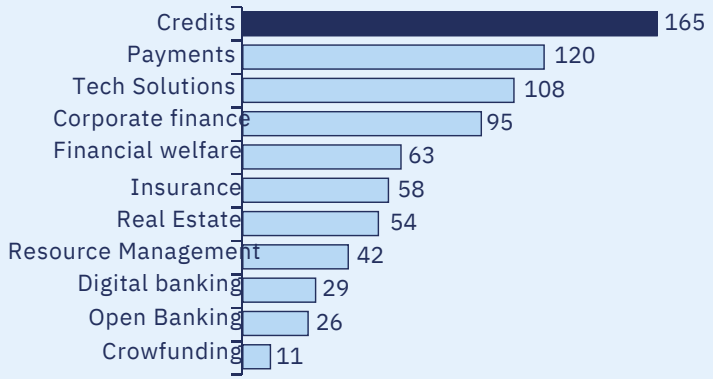
161. Articles 3, 11 and 12 of the LTSOF and 432 of the LGTOC.
162. Stiglitz & Weiss (1981, p. 393) and Crawford, Pavianini, & Schivardi (2018, p. 1659). Adverse selection occurs when one of the agents in a contract has more information than the other; in such a case, the agent with more information will want to carry out the transaction if he obtains an advantage over the uninformed agent. Foreseeing this, the least informed agent will be reluctant to carry out the transaction. Moral hazard occurs when an agent in a transaction performs actions that the counterparty cannot observe, affecting the benefits that the counterparty receives from the transaction. Bernheim & Whinston (2008, pp. 21-2 and 21-32).
163. As is the case of KueskiPay, Mercado Crédito, Aplazo and recently Kubo.pagaplazos and Plata.

and non-financial companies offer personal loans and credit cards that do not require proof of a minimum income or credit experience, allowing unbanked users to generate a credit history. In credit cards, the initial credit line is equivalent to the amount that the customer offers as collateral, which in some products generates returns, with the possibility of increasing the credit line without the need to increase the collateral.164 The basic credit cards of digital Sofipos and non-financial companies do not charge annuity, with the possibility of using the credit line through mobile applications before receiving the physical card.

As a result, credit markets are one of the most impacted by technological innovations worldwide. For example, in the U.S., in 2019, almost a third of SMEs seeking financing did so through a Fintech or online lending.165 China had already reached 3% in that category in 2017.166

In Mexico, the credit segment is one with the most Fintech ventures and, probably, one with the most providers (Graph 20). However, the portfolio originated by Fintech companies represented 1% of the total at the beginning of 2023, although with a high dynamism.167 In Brazil, this percentage was 6% at the beginning of 2023.168

Graph 20. Number of Fintech ventures by market, 2023



Source: Finnovista (2024)

164. For example, Stori Guaranteed (Discover the 3 benefits of the Stori Guaranteed Card - Stori Card), Nu Guaranteed Card (Guaranteed Card (nu.com.mx)) and Klar (Meet the credit card that gives you an instant response (klar.mx)). 165. Vives & Ye (2022, p. 2). 166. OECD (2020, p. 13). 167. Goldman Sachs (2023, p. 2). 168. Goldman Sachs (2023, p. 2).

4.1.2. Market structure

Commercial banks grant 87.5% of consumer credits (personal credit and credit card) and 77.7% of the balance (Table 9).

Table 9. Consumer credit by type of financial institution, 2023

Institution	Number of credits (millions)	Share (%)	Balance (billions of pesos)	Share (%)
Commercial banking	58.2	87.5	1,294.4	77.7
Sofipo	4.7	7.0	260.3	15.6
Socap	2.8	4.2	102.9	6.2
Development Banking	0.8	1.2	3.9	0.2
CFI	0.0	0.1	4.6	0.3
Total	**66.6**	**100.0**	**1,666.1**	**100.0**

Notes: i) For Sofipo and Socap, the balance information reported by CNBV presents personal loans and credit cards aggregated under the heading of consumer credit; ii) for consistency, for multiple and development banking, the sum of credit cards, personal credit, payroll credit, and ABCD credit was considered, which together are the consumer credit of the banks; (iii) CFI data consider cumulative amounts financed, not balances. Source: CNBV (2024b), Historical series of multiple banking and development banking and Statistical Bulletin. Socap, 2023, CNBV (2024c), Financial Inclusion Database, December 2023 and CFI Annex 17, obtained from its websites Yotepresto (2024), Doopla (2024), Prestadero (2024) and Red girasol (2024).

Likewise, commercial banks issue 79% of credit cards and maintain 97% of the balance (Table 10).

Table 10. Credit Cards by Type of Financial Institution, 2023

Institution	Credit card number (thousands)	Share (%)	Balance (billions of pesos)	Share (%)
Commercial banking	34,603.6	80.1	528.5	97.3
Non-financial	5,132.8	11.9	>2.7	>0.5
Sofipo	3,427.1	7.9	>11.6	>2.1
Development Banking	20.6	0.05	0.3	0.05
Socap	13.5	0.03	ND	ND
Total	**43,897.5**	**100.0**	**543.0**	**100.0**

Note: i) The balance of Sofipos and Socaps reported by the CNBV is aggregated with other consumer loans, so only the information on balances of the Sofipo from which information was requested is considered; ii) the information on non-financial companies corresponds to Mercado Libre, Klar, Plata and Mi Stori, the last two as of April 2024.
Source: CNBV (2024b), Historical series of multiple banking and development banking, CNBV (2024c), Financial inclusion database, December 2023, Mota (2024), Estrada (2024c) and File REC-005-2022, folios 3050, 3438 and 3498.

Despite the entry of new providers, there is still a high concentration in the regulated supply. The seven banks with the highest share concentrate 80% of the consumer loan portfolio of commercial banks (87% of credit cards and 52% of personal loans at the end of 2023).169 Some Fintech providers have significantly increased their share of credit cards issued and credits granted in a short period. At least four Fintech providers exceed one million credit cards, with a share that amounts to 23% of the regulated supply (Table 11).

169.CNBV (2024b), *Historical Series of Multiple Banking*.

Table 11. Credit Cards Issued by Major Institutions, 2023 (Number of cards)

Company	Type of institution	Number of cards (millions)	Share with respect to regulated entities (%)
BBVA	Commercial banking	8.7	23
Banamex	Commercial banking	5.8	15
Bancoppel	Commercial banking	4.7	12
Santander	Commercial banking	4.0	10
NU	*Sofipo*	3.4	9
Banorte-Ixe	Commercial banking	2.4	6
MiStori	Unregulated	2.3	6
HSBC	Commercial banking	2.2	6
Klar	Unregulated	1.0	3
Mercado Pago	Unregulated	1.0	3
Regulated entities (BM+BD+EACP)		**38.0**	**100**

Note: (i) Data from Stori and Mercado Pago are from April 2024. Klar's figure is an approximation, considering that public sources indicate that in 2023 it had around 2 million users, and half of them had BDD, Iupana (2023). (ii) Even though Stori and Klar have the Sofipo license, as of December 2023 the credit card was issued by a EIG company that is not a financial institution.
Source: Cofece with information from CNBV (2024b), report 040-12D-R1, CNBV (2024c), Financial Inclusion Database, December 2023, Estrada (2024c), Iupana (2023) and Mercado Pago (2024).

In terms of the number and amount of transactions, commercial banks account for the largest share. However, in these areas, it is possible to measure the importance of non-regulated entities (Sofom ENR and non-financial corporations), which together account for 14% of the total number of credit card transactions, which represents around 8% of the

amount. While some Fintechs are resorting to these figures to enter the market and grow, the share of these types of entities is expected to increase.

Table 12. Credit card transactions by type of institution, 2023

Institution	Number of operations (millions)	Share (%)	Number of operations (billions of pesos)	Share (%)
Commercial banking	1,901.7	85.1	1,817.2	91.5
Sofom ENR	246.2	11.0	112.2	5.7
Non-financial	56.5	2.5	41.7	2.1
Sofipo	25.1	1.1	10.0	0.5
Brokerage House	2.9	0.1	2.7	0.1
Socap	1.2	0.1	1.3	0.1
Development Banking	1.0	0.0	0.9	0.0
Total	**2,2354.6**	**100.0**	**1,986.0**	**100.0**

Source: File REC-005-2022, folio 3299 bis.

The regulated supply of personal loans is less concentrated. Two Fintech providers have managed to position themselves at the top of the market share ranking, at least in terms of the number of loans granted (Table 13).

Table 13. Personal credits issued by the main institutions, 2023 (Number of credits and portfolio balance)

Company	Type of institution	Number (thousands)	Share (%)	Balance (millions of pesos)	Share (%)
Banco Azteca	Commercial banking	9,617	57.8	64,122.7	16.4
BBVA México	Commercial banking	609	3.7	58,058.5	14.9
Banjército	Development Banking	781	4.7	37,371.3	9.6
Santander	Commercial banking	95	0.6	15,563.3	4.0
Banamex	Commercial banking	156	0.9	15,728.3	4.0

Table 13. Personal credits issued by the main institutions, 2023 (Number of credits and portfolio balance)

Company	Type of institution	Number (thousands)	Share (%)	Balance (millions of pesos)	Share (%)
Consubanco	Commercial banking	308	1.9	14,792.6	3.8
HSBC	Commercial banking	118	0.7	12,161.8	3.1
Bancoppel	Commercial banking	768	4.6	8,300.5	2.1
Libertad	Sofipo	201	1.2	6,129.5	1.6
Caja Popular Mexicana	Socap	1,016	6.1	1,640.2	0.4
Ku-Bo Financiero	Sofipo	49	0.3	1,649.2	0.4
Monte de Piedad	Sofipo	58	0.4	1,285.2	0.3
Klar	Sofipo	335	2.0	793.5	0.2
Regulated entities (BM+BD+EACP)		**16,637**	**100.0**	**390,848.1**	**100.0**
Didi Préstamos	Unregulated	5,000	30.1	ND	ND
Kueski	Sofom ENR	12,000	72.1	35,000	9.0

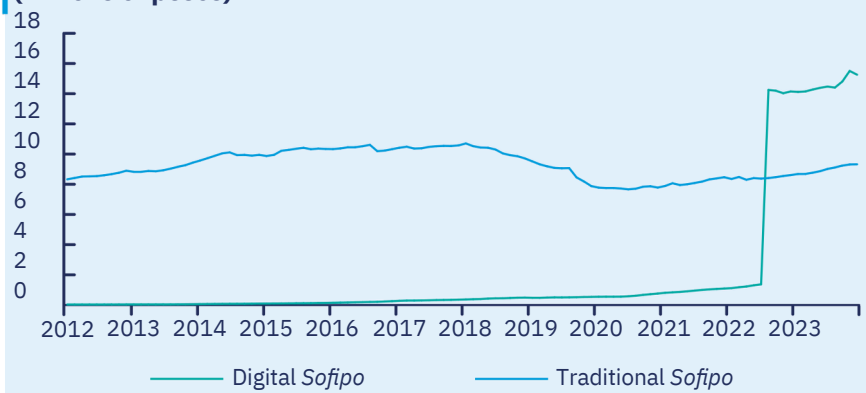
Note: (i) About Sofipo and Socap, the aggregate information is presented as consumer loans, it is not possible to distinguish the number of credits and the balance of personal loans; however, the products reported by the institutions included are personal loans; (iii) Didi's figures correspond to total loans since October 2021, while Kueski's are loans accumulated from 2013 to September 2023, and not to current loans, so they are not comparable with the rest of the institutions, (vi) Didi Préstamos and Kueski are not included in the total number of regulated entities, so their percentages are for comparison purposes only. Source: Cofece with information from CNBV (2024b) Reports 040_33a_R1, 040_33a_R2 and Historical Series of Sofipos and Socaps, CNBV (2024c), Financial Inclusion Database, December 2023, Rodríguez, (2023) and Didi (2023).

New entrants have a greater share of personal loans, because there are fewer barriers to entry. There is no need for a finance company license, association with credit card brand owners, or linkage to clearing houses. Fintech companies have further reduced these barriers by creating automated processes for credit approval.

Digital Sofipos have boosted consumer credit (Graph 21). The possibility of obtaining a credit card or a personal credit completely digitally, the absence of an annuity or other commissions, and few contracting requirements have encouraged the adoption of these products. However, digital Sofipo face stricter regulation for funding than commercial banks;

for example, they cannot fund themselves via Sofom.170 Therefore, some Sofipo complement their operations through non-financial entities171 or they have requested authorization to operate as commercial banks.172

Graph 21. Consumer credit balance by type of Sofipo, 2015 - 2023 (Billions of pesos)



Note: the jump in the December 2022 figures of the digital Sofipo was caused by the transfer of the credit portfolio of NU's subsidiary which was a non-financial corporation in favor of the NU Sofipo NU (2022).
Source: CNBV (2024b), Sofipo Historical Series.

Sofom is the most limited financial license, but it has the fewest requirements, making it the regulated entity with the most providers (Table 14).173

Table 14. Credit providers (Number of institutions)

Institution	Total	Traditional	Fintech
Commercial banking	52	47	5
Development Banking	6	6	0
Sofipo	37	30	7
Socap	152	152	0
Credit unions	71	71	0
Sofom ENR	1,969	<1,969	46
CFI	25	0	25
Non-financial	Unknown	Unknown	93

Note: All authorized entities are counted, although some are not yet operating. Figures are accurate as of August 2024.
Source: Condusef (2024), Financial Services Provider Registration System.

170. File REC-005-2022, folio 1116.
171. For example, at least until December 2023, credit cards under the Stori brand were issued by Mi Stori, which is an unregulated company. Source: File REC-005-2022, folio 2638.
172. See: https://blog.nu.com.mx/nu-mexico-solicita-licencia-bancaria-ante-la-cnbv/.
173. Goldman Sachs (2023).

However, Sofoms have some disadvantages that hinder their ability to grant credit compared to what the banks can do. They can only receive private funding (family and friends) and have less than 100 investors because otherwise, it would already count as fundraising, for which they are not authorized. In view of this, some financial conglomerates resort to the figure of Sofom as it allows them to obtain tax benefits, rather than because of its usefulness in granting credit.

4.2. Improving information to consumers about societies that offer credit

Several Fintech ventures entered the credit markets through non-financial corporations to avoid regulation, which in the literature is known as shadow banking.174 For example, NU entered Mexico as a non-financial company issuing credit cards; subsequently, it bought a Sofipo to raise funds and, finally, requested authorization to operate as a bank. This strategy is a two-sided coin: entrants use legal entities that have fewer regulatory obstacles, but it can degenerate into a situation where providers engage in regulatory arbitrage on a regular basis to operate without the restrictions that regulated entities face. The European Commission has expressed its concern about this situation, due to the micro prudential and macroprudential risks it entails.175

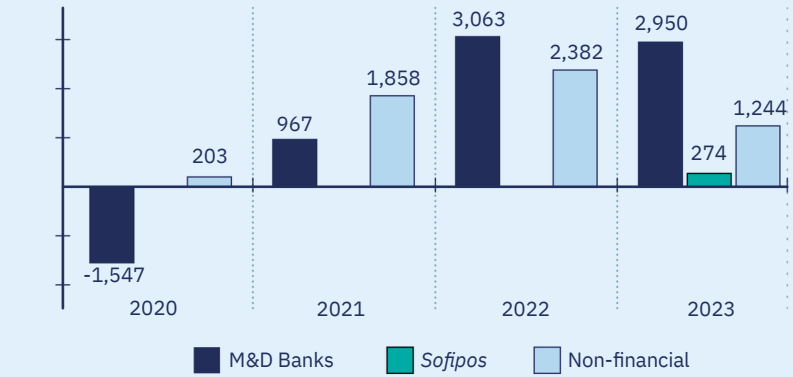
The supply of non-financial companies is composed of companies without other financial businesses (e.g., Plata, Aplazo), entities related to regulated financial institutions (e.g., Stori or Klar),176 or companies that operate digital platforms of other lines of business and leverage their network effects on their original business to benefit the financial business (i.e. Didi). A considerable part of the growth in the supply of credit cards and personal loans is concentrated in these companies, registering high growth rates.177 This implies an increase in competition and free market access with the incumbent bank, to the extent that the products they offer have similar characteristics to those of banks.

174. According to Article 87-B of the LGOAAC, any person may grant credit in a regular and professional manner without the need for authorization from the federal government to do so.
175. European Commission (2020, pp. 18-19).
176.At least as of December 2023, these two brands granted credit through non-financial companies linked to the Sofipo that operate under the same brands.
177. Goldman Sachs (2023, p. 2).

Easy-access products allow unbanked users, even without a credit history, to access credit lines. Issuers like Stori claim to have a 99% credit approval rate.178

In 2022, credit card issuance by non-financial companies approached those issued by banks, while in 2021 non-financial companies issued more (Graph 22). During 2023, commercial banks granted 2.9 million new credit cards. One Fintech (NU) alone was the biggest issuer of credit cards in the MFS with 3.4 million in its four years of operation in Mexico (first as a non-financial company and later as Sofipo). Two of the main non-financial institutions issuing credit cards together granted 1.3 million cards in less than a year (Mercado Libre and Stori), representing 41% of the cards issued by multiple banks.

Graph 22. Net issuance of credit cards by type of entity, 2020-2023 (Thousands of cards)

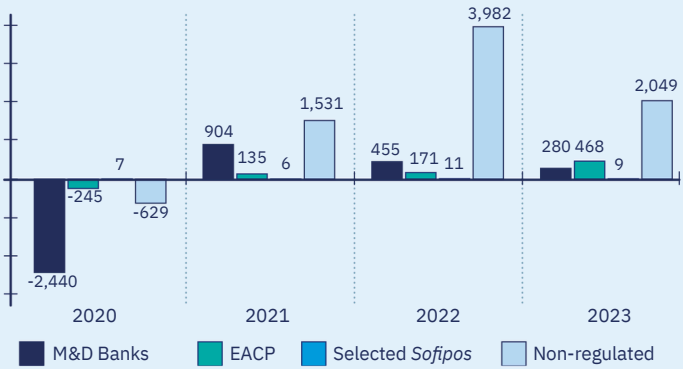


Notes: "M&D Banking" includes multi-banking and development banking. Socaps are omitted since they emit almost no credit card. Sofipos only includes UN, unregulated includes Nu in 2021-2022, Klar in 2020-2023, and ML in 2023.
Source: CNBV (2024c) and File REC-005-2022 folios 2261, 3438 and 3498.

The range of personal credit products is wide. As a result, Fintechs may have increased competition for users from traditional providers or cater to previously excluded segments of demand. Non-bank and non-financial companies are among the largest issuers of personal credits (Graph 23).

178. Zamarrón (2023).

Graph 23. Personal credits by type of entity, 2020-2023 (Thousands of credits)



Notes: (i) "M&D Banking" includes multiple and development banking. (ii) EACP includes Sofipo and Socap. (iii) The official public sources do not disaggregate the consumer credit of the Sofipo and Socap, so information corresponding to the personal credit of some Sofipo to which a request was made ("selected Sofipo") is added. (iv) "Unregulated" includes Sofom ENR and non-financial institutions to which information requests were made.
Source: CNBV (2024c) and File REC-005-2022, folios 1260, 2148, 2261, 2771 and 3498.

The requirements for taking out personal credits between traditional and Fintech providers do not differ significantly. In addition, there are intersections between interest rate ranges and the amounts to be loaned. Non-financial institutions have both higher rates (exceeding 400% annual interest) and lower rates are observed than in banks.

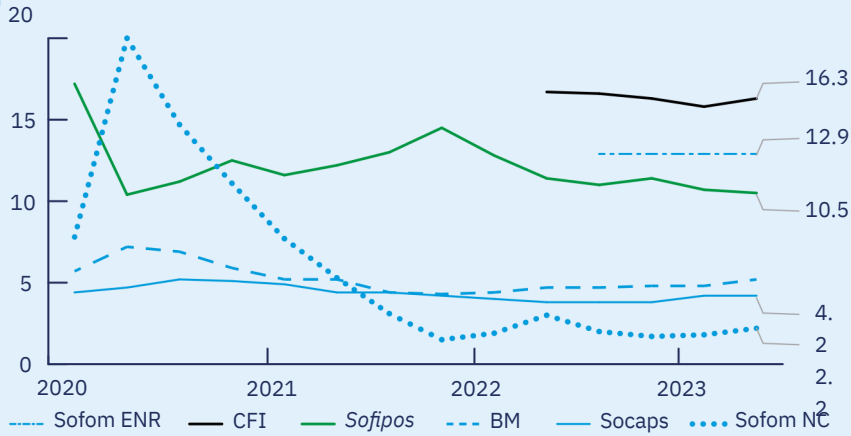
Credit grantors are obliged to consult a credit information company, but they offer the possibility of granting loans without the applicant's credit history.179 This is due, in part, to the fact that providers have developed their own credit risk and credit score methodologies, based on technological tools that allow them to predict the probability of non-payment and, thus, grant credit to users who would not be credit subjects under traditional methodologies. Several Fintechs are requesting guarantees so as not to absorb all the risk.180

The expansion of consumer credit generated by Sofipo, Sofom, and non-financial companies has an impact on financial inclusion, but could have adverse consequences on the financial health of the population and systemic risk. Fintech have higher default rates which may be due to the fact

179. For example, *Prestadero* offers the PrestaPal Personal Credit product, which is a loan without checking the credit bureau, which can be funded through friends and family of the applicant. Kubo has a product in which 1% of its customers have no credit history.
180. NU, Stori, and Klar have secured credit cards.

that they target users more prone to default and the prevalence of high interest rates. In the case of CFIs, although the average interest rate they charge for personal loans is lower than that of banks, their default rate is higher (Graph 24).

Graph 24. Quarterly arrearage rate by type of institution, 2020-2023 (Percentage)



Notes: Sofom NC: Sofom not consolidated with multiple banking; BM: multiple banking; Sofom ENR: Non-regulated Sofom. Source: Cofece with information from the historical series of multiple banks, Sofipo, Socap and Sofom of the CNBV and Annex 17, reported by the CFI on its websites Yotepresto (2024), Doopla (2024), Prestadero (2024) and Red girasol (2024).

Given this situation, financial inclusion should seek financial health and not just access to financial services.181 Financial inclusion has been approached in three ways:182

1. Consumer protection, which implies imposing measures to guarantee responsible business models, ethical products, and dispute resolution mechanisms.
2. Promotion of financial education.
3. Policies that encourage the healthy use of financial services.

181. Cantú, Frost, Goel, & Prenio (2024, p. 3).
182. Cantú, Frost, Goel, & Prenio (2024, pp. 4 and 5).

In terms of systemic risk, the fact that some Fintechs apply for a commercial banking license is a symptom of the fact that regulatory arbitrage cannot be exploited indefinitely and that, when certain fundraising and lending thresholds are exceeded, it is preferable to take advantage of a legal figure that allows companies to offer more services in exchange for having a stricter regulatory perimeter.

Regarding non-regulated entities operating under the figure o f S ofom ENR or non-financial companies, in order to evaluate in a timely manner that their activities do not represent a source of systemic risk, it is recommended that they have minimum transparency obligations and make them known to users so that they have more information about non-regulated financial service providers.

Firstly, it is recommended that the list of financial institutions supervised by the CNBV and the Condusef Financial Services Provider Registration System be made more widely available, so that financial service users have means of verifying the identity of the provider.

Secondly, it is recommended to generate incentives for more companies to register in the aforementioned registries and report to the CNBV their basic operating information (number of loans granted, and default rate, among others). In particular, non-financial companies that grant credit should register and report their information, and Sofom ENRs (which are already on the lists) should also report their information.

As RegTech solutions develop, the cost of implementing these measures will decrease. Having more information about credit providers will intensify competition, as consumers will not rule out certain companies given the distrust generated by the fact that they do not appear in the public registers of credit providers.

Regarding the role of bigtech in credit markets, their impact on financial stability is still ambiguous:183

1. When a platform places credits originated by a third party, the platform business are the fees charged to the lender for the use of the platform. Therefore, the platform's business depends on the volume of credit issued and not on the probability of non-payment, which is the problem of third party credit issuer. Thus, big tech trans-

183. OECD (2020, p. 34).

fers the risk since it allows the quality of the debtors to decrease, knowing that the non-performing portfolio will be assumed by the third party.

2. To address this problem, in China, internet companies (including big tech) were obliged to have certain percentage of the debt issued directly by them, in order to discourage them from issuing loans to debtors of increasingly lower quality.184
3. It may also happen that the platform expands credit to a risky level to incentivize purchases within the platform's non-financial businesses.

In the face of this, regulation by entity to contain the potential risks of big tech is seen as the best solution. A solution such as the one implemented in China could also be evaluated.

The issues of possession of personal data and consumer inertia will be relevant for users who are already on a platform, which has the necessary information to know their willingness to pay, their financial situation, and transactional habits; in addition, a platform user will be more likely to accept a credit that the platform has already pre-approved rather than apply for a loan from the beginning with another financial institution. Given this, the possible future regulation by entities for big techs must impose rules on how the platform feeds back its credit business with its non-financial business.

4.3. Implement an additional indicator to compare short-term credits

For financial education to be effective, it is also necessary that the information provided to users is adequate to make good financial decisions. Among others, the TAC is a key variable for comparing credits as it has the advantage that it standardizes the measurement of the cost of credit and includes all charges other than interest, providing a comparable and complete measure of how much the credit seeker will pay. 38% of people with credit, and 63% of people with a Fintech credit indicated having used the TAC as a variable to decide which loan to acquire.185 Thus, it is a more relevant variable for Fintech users.

184. Restoy (2021b, p. 18).
185. INEGI (2023a), *ENIF 2021,* questions 6.5 (Regarding the (last) loan you contracted, did you use the Total Annual Cost (TAC) information to make your decision?) and 6.1 (From July 2020 to date, did you borrow...)

The TAC measures the additional percentage that the credit user would pay concerning the amount of the credit as a result of interest, commissions, and other charges, assuming the credit term is one year and is settled in a single payment at the end of the term.186 Assuming that the only cost of credit is the interest generated (i.e., no fees, insurance, etc.), the TAC depends only on two elements: the interest rate and the capitalization period, while the term of the credit and the amount do not affect the calculation.

The TAC does not always provide the credit user with an accurate measure of the cost he/she will incur, since annualizing the cost of credit generates a distortion of the true cost incurred by the user. This has a particular impact on new business models that offer short-term credit, since the distortion increases as the loan term gets further away from the year. Accordingly, the perception of the cost of credit is distorted. The distortion is magnified when the loan term and the capitalization period are short. See the following example (Table 15).

Table 15. TAC calculation scenarios

Amount	Term	Annualized interest rate	Payment frequency	Compounding period	Cost of credit	TAC	Distortion
10,000	3 years	100%	Monthly	Monthly	217.8%	161.3%	-0.26
10,000	2 years	100%	Monthly	Monthly	134.3%	161.3%	0.20
10,000	1 year	100%	Monthly	Monthly	61.9%	161.3%	1.60
10,000	1 year	100%	In the end	Monthly	161.3%	161.3%	0.00
10,000	28 days	100%	Weekly	Daily	4.9%	171.5%	34.00

Note: Distortion is calculated as the TAC times the cost of credit, subtracting 1 from the result.
Source: Cofece.

In the example, a 28-day loan with weekly payments, whose interest capitalizes daily the user would end up paying 5% additional to the credit for interest at maturity; however, the TAC associated with credit amounts to 171.5%, which could distort consumption decisions.

186. However, formally the TAC is defined as the internal rate of return on credit (the rate that makes the net present value of the credit and other charges, minus payments made, equal to zero). Banxico (2009) and Circular 21/2009.

To improve the information on which credit seekers base their consumption decisions, this study recommends Banxico to evaluate the convenience of establishing a specific and simple indicator for short-term loans, besides the TAC, to facilitate consumer comparison.

4.4. Facilitating digital credit for SMEs

Business credits to SMEs are offered by traditional financial institutions, which have been joined by neobanks, digital Sofipo, digital Sofoms, Fintech non-financial corporations, and CFIs in the form of debt co-financing and, probably, equity co-financing. In this study, the analysis of the latter is omitted, which remains an area to be explored in future works.

Table 16. SME business credit by type of financial institution, September 2023

Institution	Number of credits	Share (%)	Balance (millions of pesos)	Share (%)	Average balance (thousands of pesos)
Multiple banking	472,091	31.1	446,533.2	83.3	945.9
Credit unions	ND	ND	~~45,639.0~~	8.5	ND
Socap	387,660	25.6	~~27,136.1~~	5.1	70.0
Sofipo	655,778	43.2	~~14,943.8~~	2.8	22.8
Development Banking	126	0.01	1,158.6	0.2	9.2
CFI	1,141	0.1	~~769.8~~	0.1	674.7
Total	**1,516,796**	**100.0**	**~~536,180.4~~**	**100.0**	**353.5**

Notes: i) For Sofipo and Socap, trade credit was considered; ii) for multiple banking, only business credit to MSMEs 2023 was considered; iii) three CFIs that provide debt financing to companies are included: Likideo MX, Fundary, Capital Funding, the figures correspond to all financing granted to legal entities, assuming that they fall into the category of SMEs; (iv) credit unions include secured and unsecured credit.
Source: CNBV (2024b), report 040-11L-IFRS9, CNBV (2024c), Financial Inclusion Database and Annex 17 of the CFI, obtained from their websites.

Few Fintech ventures offer credit to small businesses. Of the 165 ventures reported by Finnovista, only 65 specialize in business credit.187 In general, the most relevant Fintech do not supply it.

187. Cofece estimates based on *Finnovista* (2024).

Table 17 Business credit offer in the main credit *Fintech*, 2023

Company	Business Credit	Company	Business Credit
Mercado Libre	Yes (PFAE)	Kubo	Yes (PFAE)
NU PayJoy	No	Yave	No
Konfío Covalto	No	Kueski	No
Felling *Finsus*	Yes (PM and PFAE)	Yo te presto	Yes (PFAE)
Stori Crediclub	Yes (PM and PFAE)	*Ualá*	No
	No	Doopla	No
	Yes (PM and PFAE)	Prestadero	No
	No	Klar	No
	Yes (PM and PFAE)		

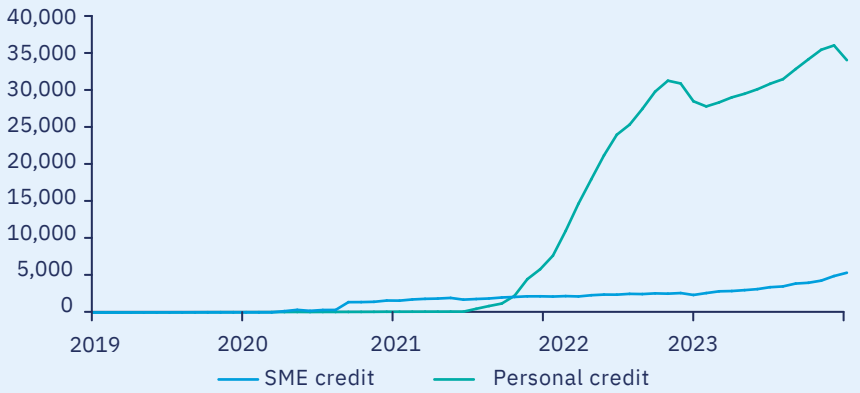
Source: Goldman Sachs (2023) and company websites.

Business loans are less standardizable than personal loans. The line of business, financing needs, cash flow, and project profitability, among other variables, determine the credit conditions of a company. Established banks are aware of these conditions through traditional methods, which are more difficult to adapt to the digital environment. Therefore, the ease of digitally applying for a personal loan has not been replicated with the same success in business credit.

Moreover, the exploitation of network effects is not conducive to business lending. At the close of 2023, 1.6 million SME business loans were active in the MFS (Table 16). On the contrary, some banks and Fintech alone issue more personal loans or credit cards than all business loans to SME in the MFS. The lower number of business loans granted, and the greater heterogeneity of borrowers, make it difficult to implement machine learning methods to assess risk.

The Fintech business loans segment has not performed similarly to personal loans or credit cards. Although the pandemic caused an increase in the demand for Fintech credit, growth slowed down once the health emergency was lifted. Personal loans behaved the opposite way. (Graph 25).

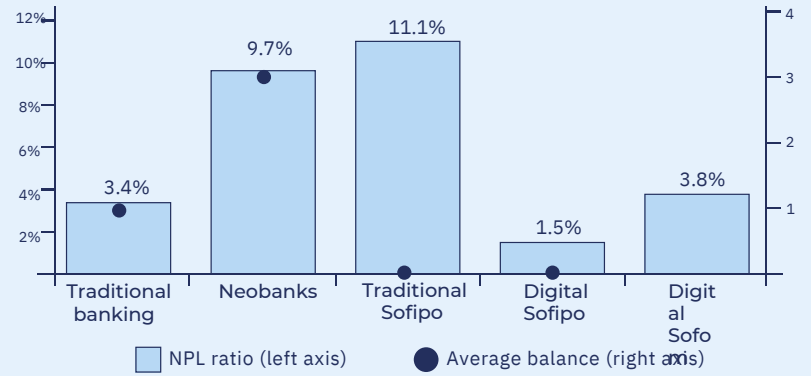
Graph 25. Active personal and business loans granted by the selected Fintech, 2019-2023 (Index January 2019 = 100)



Source: File REC-005-2022, folios 1260, 2148, 2261, 2884, 3175 and 3366.

The performance of Fintech SME lenders is heterogeneous. On the one hand, the average balance of Fintech business leans to SMEs is substantially higher than in the traditional sector (banking and Sofipo) (Graph 26). This indicates that Fintech business loans are not yet reaching the base of the pyramide. On the other hand, the non-bank default rate is much lower than that of neobanks.

Graph 26. Business loan default rate and average loan amount, 2023 (Percentage and millions of pesos)



Notes: i) Neobanks only includes the only neobank in operations that as of December 2023 offered business credit; ii) Sofipo digital includes only the two digital Sofipo that offered business credit on that date; iii) For digital Sofom, only the only one for which information was available is counted. Source: CNBV (2024b), 040_11L_IFRS9 report, CNBV (2024c), Financial Inclusion Database, December 2023, Goldman Sachs (2023).

The available information does not allow us to reach a conclusion on the relationship between the evaluation process of credit applicants that institutions carry out and the default rate. As the market develops, it will be important to look at the risk exposure that financial institutions face. If the preliminary result is maintained – digital Sofipo have a lower default rate than traditional banks – it could indicate that they may have improved their customer selection methods and implemented more effective collection mechanisms.

In addition, other elements have been identified that could hinder the granting of business credit. For example, it is not possible to completely digitally onboard legal persons. At the moment, no digital mechanisms have been implemented to replace the verification of the company's personality through the review of its articles of incorporation, although some mechanisms could be implemented, such as the electronic signature of the SAT.

Therefore, it is recommended that the requirements for granting digital business credits be made more flexible, so that the user identification process and the collection of information can be digitized to a greater extent. If the costs of user information collection and regulatory compliance are not reduced, the scale needed to make this segment profitable will be unattainable for most Fintech.

4.5. Reducing the cost of regulatory compliance to CFI

Crowdfunding is a mechanism for raising money to finance projects, businesses or provide personal loans. It is a non-bank financing model whereby private applicants set the amount of capital they need and the reward to the investor. Companies that offer crowdfunding services operate through an Internet platform. Collective funding is a financial alternative that can be accessed by users (investors and applicants). In Mexico, the LRITF recognizes and regulates these services through the figure of Collective Financing Institution.

CFIs can be classified by the type of projects they finance:

1. Specialized financing. Investors finance business projects in specific sectors such as: solar panels, financial factoring, start-ups, environmental projects, and real estate; the latter is the most frequent (*Likidéo, Arkangeles, FinSphera, M2Crowd*).

2. Non-specialized financing. Financing – with investor resources – is similar to credit from the perspective of the applicants, who may be individuals or legal entities (*Fundary, Play Business, Prestadero*).

CFIs are prohibited from guaranteeing returns on investments. They may receive or deliver cash to their clients for funding activities, subject to prior authorization from the CNBV.188

From a demand perspective, debt CFIs could also be considered a source of personal financing with credit-like characteristics. Debt CFIs require clients to have a bank account and a good credit history, so their poten- tial for financial inclusion is practically nil. However, for users who are already within the financial system, they represent a new option to bank credit, depending on the circumstances.

Among all providers of personal, CFIs have the lowest and shortest range of interest rates (Table 18) By generally having lower interest rates than the rest of the providers and being able to request financing for amounts similar to those offered by the incumbents, the CFIs have the potential to exert competitive pressure on the rest of the entities of the MFS.

Table 18. Interest rates and amounts of personal credits by type of institution, 2023

	Interest Rate (%)		Amounts ($)	
Company	Minimum	Maxim	Minimum	Maxim
Commercial banking	28.3	76.0	2,000	1,000,000
Sofipo	16.5	81.4	5,000	150,000
Socap	12.2	45.0	1,000	80,000
Sofom	203.0	438.0	500	10,000
Non-financial	47.8	167.8	5,000	70,000
CFI				
Doopla	12.0	34.	10,00	300,000
Yo te presto	8.9	0	0	375,000
Prestadero	8.9	38.	10,00	300,000
Red Girasol	14.9	9 28. 9 23. 4	0 10,00 0 10,00 0	350,000

Source: Cofece with information from the websites of selected companies. File REC-005-2022, folio 3535.

188. Article 45 of the LRITF.

However, some factors hinder the positioning of debt CFIs as a substitute for bank credit and other financial institutions, some related to the nature of the business, others to the regulatory framework. Regarding those that originated in the business model, the most important factor is the time it takes to grant financing, since the speed of obtaining it depends on the response of investors, contrary to what happens with credit institutions.189 Regarding the regulatory framework, CFIs cannot charge additional fees for the recovery of delinquent loans, which reduces their incentives to reduce delinquency levels, which may, in turn, discourage users from investing in the platform.190

Finally, there are obligations that, although they have not generated a negative effect on the performance of CFIs, are not observed in other types of financial institutions, placing CFIs at a potential disadvantage from the outset: i) low cash limits, and ii) obligation to publish financial statements and operational information.

For all the above, in addition to other factors, the adoption of CFI debt financing remains limited and the delinquency rate exceeds the banking average and even that of other Fintech. (Table 19).

Table 19. Personal Financing Issued by Debt CFIs, December 2023

Empresa	Amount of financing (Millions of pesos)	Number of Financing	Average balance	Non-performing loan ratio
Yo te presto	2,995	30,438	98,385	8.4

Note: i) CFI data are credits accumulated from the beginning of operation until the third quarter of 2023; ii) for banks, the balance of the loans is shown.
Source: Cofece with information from CNBV, (2024c) Financial inclusion database, December 2023 and annex 17 of the CFIs, obtained from their websites Yotepresto (2024), Doopla (2024), Prestadero (2024) and Red girasol (2024).

189. File REC-005-2022, folio 0020.
190. File REC-005-2022, folio 0017.

Table 19. Personal Financing Issued by Debt CFIs, December 2023				
Prestadero	910	9,203	98,905	32.5
Doopla	574	3,018	190,056	31.2
Red Girasol	87	537	161,361	20.1
Total	**4,565**	**43,196**	**105,684**	**16.3**
Banking	**259,148**	**13,361,600**	**19,395**	**5.2**

Note: i) CFI data are credits accumulated from the beginning of operation until the third quarter of 2023; ii) for banks, the balance of the loans is shown.
Source: Cofece with information from CNBV, (2024c) Financial inclusion database, December 2023 and annex 17 of the CFIs, obtained from their websites Yotepresto (2024), Doopla (2024), Prestadero (2024) and Red girasol (2024).

Therefore, it is recommended that the CNBV i) make supervisory procedures more transparent, and ii) review CFI's regulatory compliance procedures (e.g., reduce the frequency of audits) in order to reduce costs for economic agents. This would be temporary while the business model consolidates itself as a competitive alternative to the financing offered by other financial companies. This lesser supervision should increase as the size, and therefore, the importance of the financial stability of CFIs increases.

5.Payment markets

5.1. Overview *5.1.1. Characteristics of the demand*

Ownership of a financial product is a necessary but not sufficient condition for a person to benefit from participation in the financial system. The active use of financial products and the access channels to the system are determining factors for people to materialize the benefits of having a formal financial product, so financial inclusion should consider not only the possession of products, but also the existence of the necessary conditions and infrastructure for their adequate use.

According to the ENIF 2021, people connect to the financial system through traditional physical channels (branches, ATMs, and correspondents) and through mobile applications, and the Internet.191 Regarding physical channels, 52% of the adult population (90.4 million in 2021), used ATMs. According to their possession of financial products, 68% of the population with these products used ATMs, while only 14% of the population without financial products used this channel.192 In addition, 44% of the population uses banking correspondents – points of service located in shops – being the channel most used by people without a financial product (30% use it). This suggests that these channels bring financial services closer to the population not included in the financial system.

191. CNBV (2022a, p. 37).
192. CNBV (2022a, pp. 38 and 39).

Among the population that already has a financial product, digital tools are playing an increasingly important role. More than half of the population with a deposit product uses the mobile application to check their balance and make transactions. This percentage (52%) is higher than the percentage of the population that uses an ATM or a branch for this purpose (38%). In addition, the ENIF 2018 suggests that the use of digital channels continues to increase: In 2012, 1.2 million adults had contracted mobile banking service, in 2018 it increased almost six times more than in 2012, reaching 7.4 million adults.193

In relation to means of payment, the use of cash predominates, even though 54% of the adult population has debit or credit cards. This is due to the lack of acceptance of card payments by some businesses and the lack of knowledge of other means of payment such as real-time settlement systems.

In Mexico, mobile payment systems have been implemented, which allow the use of other means of payment (in addition to physical or vir- tual cards) that could be a cheaper option compared to physical card payment services; however, their growth has been limited compared to systems in other countries.

5.1.2. Characteristics of the supply

Payments or transactions can be person-to-person (P2P), person-to-business (P2B), business-to-person (B2P), or business-to-business (B2B), and are classified into checks, wire transfers (including mobile payments), direct debits, and debit and credit cards transactions (both physical POS and e-commerce).194

Mobile payments have a favorable impact on economic performance.195 Based on information from 27 countries over the period 1995-2009, the European Central Bank found a strong relationship between switching from cash to electronic payments and economic performance, particularly for card payments.196 From 1987 to 1999, the estimated savings of the European Union countries from switching from cash to electronic

193. CNBV and INEGI (2018, p. 6) 194. Banxico (2024d). 195. Hasan, De Renzis, & Schmiedel (2013). 196. Hasan, De Renzis, & Schmiedel (2013).

payments represented 0.38% of their aggregate GDP. The savings would be equivalent to 1% of GDP if, in addition, the number of bank branches decreased.197

In Asian countries, 60% of the population prefers mobile payments or digital wallets, since they are considered more secure and efficient, and are now more common than cash or physical cards. The use of these means of payment was boosted with the entry of big tech companies into the financial market.198

In Mexico, after cash, the POS card is the most widely used means of payment, followed by electronic transfers. The latter is the means of payment with the largest number of transactions, because payments from financial institutions and the treasuries of large companies are made in this way (Table 20).

Table 20. ATM withdrawals, POS transactions and transfers, **2023**

Payment method	Number of operations (Thousands of operations)	Share (%)	Amount of operations (Millions of pesos)	Share (%)
POS	4,625,512	47.2	2,920,528	1.5
Transfers	2,140,524	21.8	187,735,461	93.8
Teller	1,696,060	17.3	4,046,324	2.0
E-commerce	1,061,728	10.8	802,747	0.4
Checks	101,631	1.0	3,844,498	1.9
Direct debits	176,544	1.8	783,776	0.4
CoDi	4,017	0.0	3,992	0.0
Total	**9,806,016**	**100**	**200,137,326**	**100**

Source: Cofece with information from Banco de México [Banxico] (2024b), tables CF258, CF262, CF268, CF621, CF282, CF286, CF884 and CF885.

197. Hasan, De Renzis, & Schmiedel (2013, p. 7).
198. Visa (2022).

Regarding POS transactions with debit and credit cards, commercial banks have the highest share (Table 21), as well as in transfers (Picture 22). The case of the IFPEs stands out, which have become the second entity with the highest number of POS operations.

Table 21. Number and amount of card transactions by type of entity, 2023

Institution	Number of transactions (millions)	Share (%)	Amount (Billions of pesos)	Share (%)
Commercial banking	7,256.3	88.6	4,500.2	91.3
IFPE	400.6	4.9	144.4	2.9
Sofom ENR	261.9	3.2	116.8	2.4
Non-financial	166.0	2.0	97.7	2.0
Development Banking	62.5	0.8	49.5	1.0
Sofipo	33.1	0.4	13.4	0.3
Socap	3.8	0.0	3.0	0.1
Brokerage House	2.9	0.0	2.7	0.1
Sofom ER	1.0	0.0	0.0	0.0
Total	**8,188.0**	**100**	**4,927.6**	**100**

Source: File REC-005-2022, folio 3299 bis.

Table 22. Number and amount of SPEI transactions by type of entity, 2023

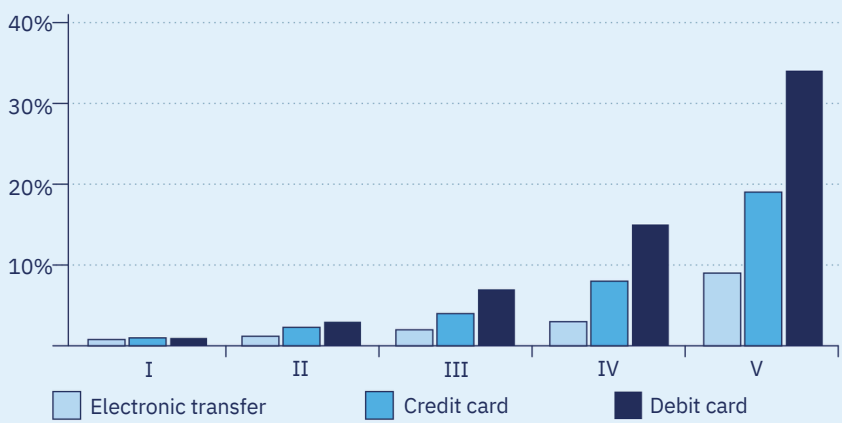
Institution	Number of transactions (millions)	Share (%)	Amount (Billions of pesos)	Share (%)
Multiple banking	3,257.7	90.1	146,815.5	95.7
IFPE	270.4	7.5	2,382.0	1.6
Sofipo	37.3	1.0	313.1	0.2
Development Banking	22.7	0.6	935.2	0.6
Brokerage House	14.7	0.4	2,245.7	1.5
Non-financial	4.4	0.1	519.3	0.3
Socap	2.6	0.1	27.6	0.0
Investment funds	2.4	0.1	155.7	0.1
Afore	1.5	0.0	55.6	0.0
Total	**3,613.6**	**100**	**153,449.7**	**100**

Note: IFPEs include STP (a Sofipo), through which other financial institutions are indirectly connected to the SPEI.
Source: File REC-005-2022, folio 3299 bis.

For payments to be efficient, they must be secure, fast, and low-cost, regardless of the technology used to make them. Fintech companies are playing a relevant role in innovating business models and technologies to align payment solutions with the needs of consumers.199 They are also accelerating the speed with which payments can be made, eliminating the need for clearing houses.200

There has been progress in the reception of electronic money and its use by the population, but the preference for converting electronic money into cash still persists.201 The use of non-cash means of payment increases with income level (Graph 27). This reinforces what has already been mentioned about the concentration of the benefits brought by the Fintech, at the top of the income pyramid. Hence the need to implement public policies so that lower-income households adopt the Fintech solutions, learn how to use them, and improve their financial health.

Graph 27. Use of main means of payment other than cash by quintile, 2022 (Percentage of households)



Source: Cofece with INEGI information (2023b), National Income and Expenditure Survey 2022.

199. Weichert (2017, p.14).
200. Rosenbaum, et al. (2017).
201. NTT Data (2023, p. 28).

5.2. Encourage the use of alternative means of payment Within the means of payment for everyday transactions (P2P and face-to-face P2B) there are three that meet similar needs: card payments (debit and credit cards) present at the POS; mobile payments with card not present through digital wallets; and mobile payments without card, but with associated savings or payroll account. The first two means of payment go through card payment clearing houses (CPCHs), while the last is a real-time processing and settlement system. The presence of different means of payment options for businesses and consumers is important to influence the fees that may be charged by the suppliers of some of these services.

In 2019, Banxico launched its QR payment system called CoDi, as an alternative means of payment. The use of CoDi has benefits, such as the speed of transfers, no costs or chargebacks for users, and immediate availability for the recipient. Commercial banking institutions are obliged to offer CoDi free of charge to their clients; in addition, third-party developers can develop applications that allow charging. 202 However, this means of payment has not been consolidated among financial services users and represents less than 1% of daily transactions. The number of transactions accumulated since its implementation and up to the first quarter of 2024 is 11.9 million,203 less than half of the annual expectation, and until 2024 it has been used at least once by only 1.6% of the population.204

There are some particularities of CoDi that could explain its low penetration, in contrast to the case of Pix in Brazil, which in 2021 was equivalent to 80% of credit and debit card transactions.205 On the one hand, CoDi uses national standards, instead of internationally recognized standards, which limits interoperability.206 On the other hand, commercial banking institutions and third-party developers have little incentive to promote its use, since the regulation does not allow charging for this service.207

202. Banxico (2023b, p. 2).
203. Banxico (2024b), *Table CF884*.
204. Banxico (2024c).
205. Data from Béjar (2022, p. 15).
206. According to Boar, Claessens, Kosse, Leckow, & Rice (2021), interoperability means that users can make payments to others using a different payment provider, without the need to participate in multiple systems. That is, that the systems use technologies, language and rules that are compatible with each other.
207. Credit or electronic payment fund institutions that maintain at least three thousand demand deposit or electronic payment fund accounts are required to participate in CoDi.

In the case of Pix, payment service providers can set fees for purchases and transfers; however, payments through Pix are cheaper for merchants than card payments, with average costs of 0.22% and 2.2% respectively.208

In order to promote competition among means of payment, Banxico should promote the use of non-traditional means of payment. For example, by disseminating its benefits to consumers and businesses. One of the ways to promote alternative means of payment is for them to be adopted not only by small businesses but also by companies that currently have high transaction and cash usage. In addition, the different levels of the government should accept electronic means of payment as an alternative to cash payment.

In the case of CoDi, a platform could be built around which companies provide additional financial services to users. For example, allowing third-party developers to use users' transactional data to offer, directly or indirectly, financial products to merchants, such as investment accounts, credit, or insurance.209 It is essential that the design of these products goes hand in hand with payment providers, as well as considers the needs of the population, so that the dissemination of the service is beneficial for the system's participants and users.

Therefore, it is recommended that Banxico encourage the adoption of alternative means of payment to cash and card payment, in order to provide users of financial services with the possibility of choosing the payment that best meets their needs.

5.3. Implementing the Digital Correspondent Scheme

Digital correspondent or Fintech as a Service (Faas) is a financial technology service that offers a combination of software and licenses allowing companies to integrate financial capabilities into their products, services, and applications or, to provide financial services directly.

The financial institution linked to the digital correspondent operates under a white label and offers a variety of services to other non-finan- cial companies, such as payment acceptance, e-wallets, personal loans,

208. Duarte, Frost, Gambacorta, Koo, & Song (2022).
209. On July 2, 2024, the National Tortilla Council and *Finsus* presented an application aimed at tortilla shops to facilitate financial inclusion and the digitization of businesses. Among the functionalities offered to merchants are the opening of digital accounts, and investment accounts, allowing merchants to accept digital payments with cards, CoDi, and DiMo; in addition, businesses will be able to offer their customers the option of making payments for services. https://finsus.mx/wp-content/uploads/2024/07/Comunicado-Finsus-CNT.pdf and Estrada (2024b).

peer-to-peer loans, credit/debit card issuance, and insurance. These companies, in turn, market these services under their own name and brand, offering their users new services and better products. Faas allows any company, even those unrelated to financial services, to offer its customers multiple services and payment options. In addition, consumers can access to a greater number of products in the same application.210

This product also allows Fintech companies to use these schemes to expand their offer of financial products and services and achieve greater market penetration. Additionally, these companies consider the possibility that third parties being able to use, under their own name, the services they offer does not entail any type of risk for the public, since they are services that were authorized by regulators, considering them technologically sufficient and in compliance with the regulatory framework.

In Mexico, this activity was not regulated. The figure of commission agent applied only to physical establishments. However, on July 11, 2024, the "Resolution that modifies the General Provisions applicable to credit institutions" was published, which regulates the figure of digital commission agents and allows credit institutions to hire commission agents so they can offer, on behalf of them, some banking services, and products through digital access channels.211 However, this resolution is applicable to commercial and development banks, leaving out the rest of the financial institutions.

The purpose of this resolution is to mitigate the difficulties presented by face-to-face channels, such as the risk and cost of using cash, and the cost for users to travel to the establishments. Likewise, in order to mitigate the theft of information from users, it establishes various responsibilities for credit institutions for authenticating customer transactions, as well as the establishment of a secure channel of communication between them.

In addition to the advantages of the existence of digital correspondents and the regulatory landscape in other countries, which point to the need for regulation on the subject, the CNBV recognizes that the network of

210. One company that offers these services is the British Fintech Rapyd, which specializes in enbaling companies such as Uber, Google Play, Rappi or Kadmos to make collections and payments with a variety of payment methods, issue cards or exchange currencies in different markets around the world. (https://www.rapyd.net/es/)
211. Resolution amending the General Provisions applicable to credit institutions. Published in the DOF on July 11, 2024. Available at: https://www.dof.gob.mx/nota_detalle.php?codigo=5732991&fecha=11/07/2024#gsc.tab=0.

physical correspondents has allowed the expansion of the geographical coverage of the MFS to 75% of the country's municipalities. However, it also points out that the coverage of telecommunications networks is greater than the physical establishments of commission agents, so it is convenient for credit institutions, especially those that do not have physical infrastructure or internet applications, to integrate their services with the digital platforms of companies that offer limited financial ser- vices, taking advantage of their infrastructure and even the consolidated customer base of these financial firms.212

Colombia and Brazil have regulations for providing financial services through digital correspondents. Among the characteristics of the regulation, it is requested to explain to the consumers the features of the available operations, the registration conditions, and the security measures that must be adopted for their realization, as well as to have a physical unit specialized in user service. Correspondents must also have strong authentication mechanisms for monetary operations (cash withdrawals, fund transfers); non-monetary (checking balances, receiving money orders or refunds), or those authorized to be carried out through correspondents and that imply the consultation of confidential user information.213 In Colombia, financial institutions offering these services are required to publish on their websites a list of their digital correspondents with whom they have an agreement, so that consumers can verify their association.214

However, the aforementioned resolution that modifies the CUB covers only a part of the potential market of digital commission agents since other types of entities are excluded. For this reason, this study recommends generating a regulatory scheme that allows Sofipo and IFPE, as well as credit institutions, to offer their services through digital correspondents, in order to promote greater competition and offer new products in the financial services market.

In addition, it is necessary to reduce the barriers for any company to become a digital correspondent of a financial institution. In particular, it is observed that the LRITF does not authorize IFPEs to act as digital

212. CNBV (2024d).
213. Martínez, Mesa, Torres, & Prieto (2019).
214. (https://www.fundacionmicrofinanzasbbva.org/revistaprogreso/corresponsales-moviles-digitales/)

correspondents for other financial entities.215 This is a limitation for the development of this figure since some of them have the digital capabilities to exploit it and, thus achieve greater competition in financial services.

Therefore, it is recommended to modify the LRITF and the secondary provisions necessary to generate a regulatory scheme that allows IFPEs to offer their services as digital correspondents.

5.4. Reducing the cost to IFPEs of their business continuity plans

Electronic payment fund accounts were conceived as means of circulation and payment, not as a store of value, so regulatory burden affecting the efficient operation of IFPEs could have repercussions on competition among the different payment systems. One of these obligations, on which the Commission has already pronounced216 and several companies and associations in the sector have expressed their opinion, is the dual cloud requirement for IFPEs. The IFPE Provisions provide for a series of obligations that, among other things, require having a business continuity plan that must be implemented in case of any event that hinders or prevents its operations. As for the motivation for the measure, Article 50 of the Provisions refers to “prudential reasons”.

Fintech companies, including IFPEs, use outsourced computer services to reduce costs and be competitive. Among these services, cloud computing stands out.217 Cloud computing services include servers, storage, databases, networking, software, analytics, and intelligence over the Internet, which aim to offer faster innovation, flexible resources, and economies of scale.218

215. Article 25 of the LRITF sets out the activities that an IFPE is authorized to carry out. As long as the activity of digital commission agent is not stated, it is understood that it is prohibited.
216. Cofece (2022), *OPN-009-2022*.
217. The theory distinguishes three cloud computing services: software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS), with SaaS being the most widely used by financial applications. In SaaS models, the customer rents and has control over the complete software solution: applications, infrastructure (operating system, servers) and storage space granted by the provider. In PaaS models, the customer controls the applications, but not the infrastructure or storage spaces granted. In IaaS models, the customer does not control the cloud infrastructure but does control the applications and storage space granted by the provider.
218. Microsoft (2024).

Cloud services are considered a further step in the trend of the digital economy to behave like platforms and are characterized by being scalable, elastic, and shareable.219 The cost structure of these services has almost no fixed component, so everything corresponds to variable costs, so they are usually charged on a subscription or hourly basis.220

In Mexico, legislation defines them as the model of computing services provided by a third party, on demand and in shared, private, or hybrid infrastructure, regardless of the physical location of the third party's technological infrastructure. These services may consist of one or more of the aforementioned digital service schemes: infrastructure as a service, platform as a service or software as a service.221

Cloud services enable Fintech companies, such as IFPEs, to process data faster, innovate on a large scale, and streamline their business.222 They also help them reduce costs by reducing the initial capital investment required to have an IT architecture in place and allow them to better manage the computing capacity needed to meet their demand during peak periods.223

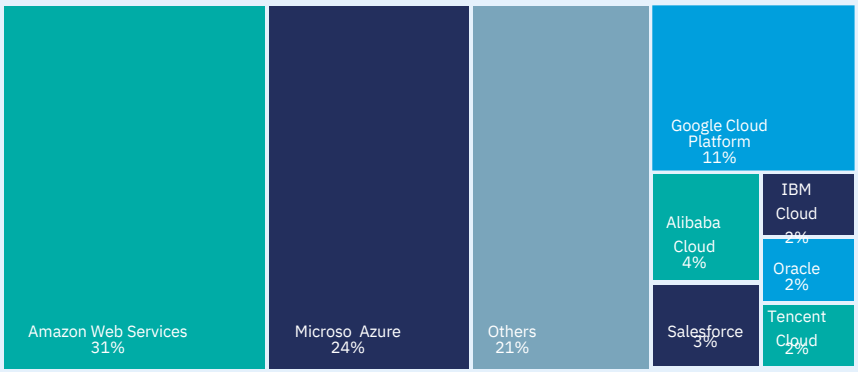
In terms of economic competition, the contracting of cloud services generates benefits such as: reduced entry costs, access to technologies that were only available to incumbents and companies with access to high levels of capital, and development of superior data analysis capabilities, which in turn allows for greater product differentiation and innovation.224

For prudential reasons, Mexican regulations establish that IFPEs contracting cloud computing services with a provider abroad or of foreign origin must have their own infrastructure or contract a second service provider located in a jurisdiction other than that of the primary provider.225 The option of having their own infrastructure eliminates some of the differentiating characteristics of the IFPE model, mentioned above, and for which they can compete against traditional banks via lower costs.

219. Scalable and elastic because they can be flexibly allocated by the provider to adapt to fluctuations in demand. Shareable because they are provided to multiple customers who share common access to the service, even though their data processing is separate. Biglaiser, Crémer, & Mantovani (2024).
220. PwC (2024).
221. DAIFPE, Chapter I General Provisions, Article 1.
222. PwC (2024).
223. Institute of International Finance (2018).
224. Biglaiser, Crémer, & Mantovani (2024).
225. Article 50 of the DAIFPE indicates that the motivation for prudential measures is that the contracted cloud computing services are likely to be interrupted, temporarily or permanently, due to some provision, order or equivalent act of a foreign authority, made to prevent, limit or prohibit the provision of the services by the provider.

The other possibility – having two providers from different jurisdictions – reduces the options for contracting suppliers, as the global market for cloud services is highly concentrated, not only in terms of agents but also in terms of countries. The three most important providers of these services hold 66% of the market and are American, while in Mexico there are no cloud providers that meet the requirements established in the regulation and the customizable services demanded by the IFPE (Graph 28).226

Graph 28. Global Cloud Infrastructure Services Market Shares, fourth quarter of 2023 (Percentages of profits)



Source: Biglaiser, Crémer, & Mantovani (2024) and Richter (2024).

Although an IFPE may contract with a second compliant provider, its duplication of operating costs or the costs of migrating and maintaining data in clouds of different architectures could affect its competitive position in the market.227 In addition, it is the practice of the cloud computing services industry for each provider to have data centers and servers in multiple jurisdictions. The intention of having replicas of data in vari- ous servers and physical locations is that there are always alternate ways to access the data in the event of any failure or loss. In industry, this is called cloud redundancy. Redundancy allows suppliers to guarantee the

226. REC-005-2022 (Responses from Nvio and MercadoPago) and Biglaiser, Crémer, & Mantovani (2024) show that the top three vendors, Amazon, Microsoft, and Google, combined for 50% market share in 2017; by 2022 it was already 65%.
227. Biglaiser, Crémer, & Mantovani (2024).

reliability of their clouds and thus the continuity of their customers' business.228 In this way, the requirements of the regulations would already be covered by the service providers themselves to the IFPEs.

The regulatory requirement to have a dual cloud is contrary to the nature of Fintechs, it creates a barrier to competition in the markets where IFPEs participate. Considering the effects pointed out by the OECD Competition Assessment Toolkit, this requirement:229

1. Significantly raises market entry or exit costs. According to the OECD (2019), in the digital economy, the presence of extra inspection requirements can discourage the entry of new participants. This is what happens in the Mexican case because they are prudential measures.
2. Restricts the geographic flow of goods, services, capital, and labor. Mexican regulations reduce the pool of secondary suppliers acceptable to IFPEs. Ultimately, this allows suppliers to exert market power by raising their prices. Raises the cost of some suppliers compared to
3. others. The OECD
notes that this can occur especially with the imposition of regulations designed for traditional suppliers on companies that use digital technology. This is what happens in the Mexican case, distorting competitive relations in favor of traditional banking.

Therefore, this study recommends that the CNBV and Banxico review Article 50 of the DAIFPE to rethink the requirements of the business operational continuity plans, to avoid the need to duplicate the contracted cloud computing service, considering the business model, the risk and the activities carried out by the IFPEs and, thus, facilitate the minimization of compliance costs. This measure will reduce the current entry costs for IFPE, which will potentially generate more financial inclusion in the market.

228. Institute of International Finance (2019) and Hewlett Packard Enterprise Development (2024).
229. OECD (2019, pp. 12, 13 and 16)

6. Cross-cutting regulatory barriers

6.1. Regulation by financial entity makes it difficult for regulation to be proportional to risk

Regulation of the financial system pursues different objectives: financial stability, operational resilience, consumer protection, prevention of money laundering and illicit operations, and economic competition. This regulation may be based on activities or entities. In the former, restrictions are imposed on the manner in which the entity carries out an activity, regardless of the type of entity. These restrictions may vary according to the systemic risk of the entity. In the second, restrictions are imposed on the activities that an entity can carry out.230 In the latter, the different licenses for entities determine the regulations they must comply with and the activities authorized.

Depending on the situation, entity-based or activity-based regulation is appropriate.231 Activity-based regulation is preferable when the regulated activity may entail a risk even if the entities performing it do not fail and if this activity can be regulated directly without having to regulate the entity beforehand (as with certain payment systems). On the contrary,

230. Borio, Claessens, & Tarashev (2022, pp. 1 and 4).
231. Borio, Claessens, & Tarashev (2022, p. 5).

when the risk comes not from a particular activity, but from the combination of activities within the same entity (e.g., lending and deposit-taking), entity-based regulation is preferred.232

Similarly, the regulator's scale of objectives determines which regulation to adopt. The common view is that financial stability takes precedence over competition in financial markets, which influences the regulatory model to be adopted.233 This could by design generate regulatory barriers or distortions that limit competition.

Both types of regulations are designed to promote the different objectives of financial regulation. Ideally, both types of regulation should be combined and not just one.234 However, one type of regulation may be more effective than the other depending on the objective pursued. While entity-based regulation is more suited to the objective of financial stability, activity-based regulation is more suited to the objectives of combating illicit operations and consumer protection. Operational resilience is best achieved through a combination of both types of regulation. In terms of economic competition, either one form of regulation or the other may be desirable depending on the context, or even a combination of both.235

A competitive environment with a level floor proportional to the risk of the activity is best achieved through activity-based regulation. This was the objective of European financial policy from which the principle of 'same activity, same risks, same rules' arises.236 However, in the presence of dominant agents that could exploit regulatory arbitrage and that could engage in substantial abuse of power of systemic scope, the preferred regulation would already be by the entity. In this type of regulation, the search for social welfare justifies treating certain agents differently, even if this means unbalancing their competitive position.

Mexican financial regulation, based on regulation by entity, distinguishes between financial intermediaries (commercial banking, *Sofipo*, *Socap*, Sofom, etc.) whose main differences lie in their authorized activities, capital requirements, and, in general, the regulatory burden. This implies that the provisions applicable to different entities and activities are scattered

232. Restoy (2021a).
233. Restoy (2021b, pp. 5 and 20).
234. Borio, Claessens, & Tarashev (2022, p. 6) and Restoy (2021b, p. 9).
235. Restoy (2021a) and Restoy (2021b, p. 7).
236. European Commission (2020, p. 5 and 18). Borio, Claessens, & Tarashev (2022, p. 8) question the validity of this principle. Discussing the issue falls outside the scope of this study.

in different laws, regulations, provisions, and circulars. In addition, consumers may be confused when confronted with various types of institutions that may offer similar financial services.

In Mexico, institutions with a banking license have the most permitted activities and, in general, are the most rigorous regulation. However, in some aspects, such as the operation with correspondents or contingency plans, banking regulation is less rigorous than that of Sofipo and IFPE, which are smaller entities and therefore generate less systemic risk. This violates the principle of regulation by entity that the greater the combination of activities, the stricter the regulation should be, and there is no justification in terms of systemic risk for this to occur. This could be because the regulation is not modified simultaneously between the types of entity, for example, to make it more flexible, which ends up generating discordance between the level of risk of the activity or entity and the applicable regulation.

Therefore, this study makes two recommendations. First, modifiy the regulatory framework of the MFS to move towards a scheme that effectively combines activity- or service-based regulation and entity-based regulation. If this is not feasible or while the process is ongoing, the various laws, regulations, provisions, and circulars that regulate the MFS should be adjusted to eliminate those provisions that impose unjustifiably higher requirements on certain activities or services in entities with lower systemic risk.

6.2. Priority to banks to adapt regulation to the digital environment

The relaxation of secondary regulation to adapt it to the digital environment is first for banks and, subsequently, for the rest of the financial institutions. This is because, historically, banks have been the most relevant entities in payment systems and financial intermediation:237 Consequently, banks' activities have greater systemic risk and impact on consumer welfare, which justifies the regulator to give them more attention. However, if the priority given to bank regulation is not justified in terms of systemic risk, banks may be at an advantage in adopting new technologies and reducing costs compared to other financial institutions that offer similar services.

237. Ehrentraud, Evans, Monteil, & Restoy (2022, p. 17).

Non-banks offering DFS are playing an increasingly important role in the provision of some financial services. Therefore, this study considers that the lower priority given to these financial institutions for regulatory flexibility should be rethought in terms of their growing market share.

The eventual relaxation of the regulation of non-bank entities should be done with caution. In other countries, stricter regulation of bigtech is being put in places to ensure that they do not engage in anti-competitive behavior.238 Currently, there is a debate about how to address a set of problems that may arise from the inclusion of bigtech in the provision of financial services —exploitation of network effects based on the intensive use of technology and consumer data in a variety of financial and non-financial services—whose risks may not be effectively addressed by current regulatory schemes.239

6.3. Sofipo regulation must adapt to digital operation

Sofipo must comply with some requirements on how they relate to their customers. These requirements were conceived for the operation of a traditional Sofipo, but they are incompatible with the digital business model:

1. Have a call center to unlock accounts.240 Generate a channel to
2. interact with users beyond digital channels.241 They cannot open
3. fully digital low-risk accounts for legal entities, although they can to individuals.242
4. Users cannot use their email to retrieve their authentication factor.243

Sofipo are subject to prudential and operational regulation. The former is proportional to their level of assets, the latter determines the activities and products that Sofipo can offer. The prudential regulation that a Sofipo must cover is updated when the value of its assets exceeds a certain threshold. Once this happens, Sofipo has six months to adjust its operation according to the new level of prudential regulation.244 The

238. Restoy (2021b, p. 17).
239. Ehrentraud, Evans, Monteil, & Restoy (2022, p. 3 and 4) discuss the advantages and disadvantages of big tech regulation according to restraint, segregation, and inclusion models.
240. DCGAEACP, Article 265 Bis 6.
241. DCGAEACP, Article 265 Bis 17.
242. DCGAA124LACP, provisions 7 and 15, and file REC-005-2022, folio 2259.
243. DCGAEACP, article 265 Bis 21, section II.
244. DCGAEACP, Articles 43, 64 and 99, and file REC-005-2022, folio 1111.

operating level, on the other hand,is not automatically updated with the value of its assets, but requires authorization from the CNBV.245 Thus, the operating regulation does not change when assets increase, but rather when a Sofipo requests authorization to offer a different set of products than the one it had been offering.

This may cause a growing Sofipo to face a greater regulatory burden, derived from the adjustment to prudential regulation levels, but the catalog of activities and products it can offer to customers remains unchanged, as this depends on the authorization of the CNBV.246 For example, six Sofipo have prudential regulation level IV, but of these, three have operating level I. In other words, they have high prudential regulatory requirements, but with few authorized activities. Among the limitations faced by Sofipo level I operations are not being able to grant loans for more than 60 months, not receiving payroll deposits, not acting as trustees, and not issuing credit cards without prior authorization from the CNBV.247

Regarding the contracting of third-party providers, for banks there are 17 types of services exempted from complying with the provisions of Chapter XI of the CUB. In contrast, for Sofipo, the DCGAEACP established only nine exceptions.248

The exceptions available to banks, but not to Sofipo, are the contracting of third parties to receive credit payments, referenced credit payments, telecommunications services, software licensing, billing statement stamping, settlement and clearing of card transactions, electronic signature certifiers, administration and consultation of biometric databases, and development and administration of APIs.

When the hiring of a third party is not contemplated within the exceptions, Sofipo must comply, among others, with the following: have the third party contracted unconditionally accept the performance of audits by the Sofipo or the CNBV, the corrective measures derived from the audits must be reported by the Sofipo to the CNBV, a procedure must be established to monitor the performance of the contracted third party; the Sofipo must audit the third party provider at least once every two

245. DCGAEACP, Article 22.
246. File REC-005-2022, folio 1110.
247. LACP, Article 36 and DCGAEACP, Article 23.
248. Article 265 Bis 34 of the DCGAEACP and file REC-005-2022, folios 2353 and 2676.

years and, when the third party performs financial commission agent or computer systems administrator services, the Sofipo must give notice to the CNBV 20 business days in advance.249

It is possible that the existence of certain more rigorous requirements for banks in other aspects allows for exceptions in the contracting of third parties; however, the regulation is not explicit in this regard. As a result, the study did not identify justifications for Sofipo to enjoy fewer exceptions. At the international level, the requirements for hiring third parties are stricter for banks, and there is a tendency to apply these standards also to entities with high market share, regardless of their financial figure, while in Mexico the opposite is true.250 In order to promote the efficient development of Sofipo, exceptions in the hiring of third parties should be fully explained and, if not, should be eliminated, so as not to impose unjustified barriers to performance.

Finally, in terms of funding, Sofipo are restricted to financing loans made mainly through funds raised. They cannot fund themselves through mechanisms that banks do have, such as venture capital funds or through Sofom.251 As a result, the costs of raising funds from the public by banks are lower than those of Sofipo.

Therefore, this study recommends proposing reforms to the LACP and modifying the DCGAEACP to adapt the regulation of the Sofipo, with the dual purpose of: i) Complying with the principle of “same activity, same risk, same rules” for those services substantially similar to those of banking, and ii) Allowing the Sofipo to operate in a completely digital way, if they opt for this technology, without unjustified barriers.

249. DCGAEACP, Articles 265 Bis 35, 265 Bis 38 and 265 Bis 43.
250. Restoy (2021b, p. 15).
251. File REC-005-2022, folio 2676.

7.Open Banking and Finance

7.1. Overview Open banking and open finance allow companies to share and access
information about financial or commercial transactions. This promotes the development and improvement of financial products and services and gives users greater control over their data.

Open banking includes government and industry initiatives that aim to give end customers access to more banking information and services, while preserving privacy and security. In addition, it allows banks to share and leverage customer data after obtaining their consent.252 The concept of open finance is broader than open banking, as it includes not only sharing information on financial transactions, but also on commercial transactions (purchase histories and amounts and locations of transactions). 253

To share users' financial or business information, user's permission is required. Information can be shared through web services, file transfer protocols, and APIs.254 The specific type of APIs adopted in each country depends on the regulatory model and the way in which data flows.255

252. OECD (2023b, p. 5).
253. OECD (2023c, p. 6).
254. An API is a set of codes that allows access, communication, and connectivity between different applications through rules and protocols.
255. Plaitakis & Staschen (2020, p. 20); Bank for International Settlements (2020, pp. 4-7), and Bank for International Settlements (2022, pp. 13-15, 41-44).

Driving the implementation of open banking and finance leads to a greater diversity of financial services and customized solutions, which can reduce the cost of services. In addition, new services can be targeted to underserved sectors of the population, fostering financial inclusion. Consumers can choose financial services based on more information, which reduces their switching costs between different services. Open finance empowers users, as they have greater control over what data to provide and to whom.256

The OECD, as well as several authorities in various countries (e.g., Brazil's central bank, the CMA, and the European Commission), consider that open finance generates benefits for society, such as boosting the development of the financial system and the economy.257

White *et al.* (2021) estimated for several countries the impact on GDP of adopting open data ecosystems in 2030. In the case of the United States, the United Kingdom, and the European Union, the benefits would correspond to 1.5% of GDP, while in the case of India they would be between 4 and 5%.258 Their estimate considered variables such as cost savings, value of time saved, capital gains, fraud reduction, and higher labor productivity.

7.1.1. International experience on open banking and finance

Implementation of open banking and finance models. International experience shows that the implementation of open finance has been different in each jurisdiction.

In the United Kingdom, in 2016 the CMA published a report as a result of a competition investigation into the retail banking market, from which various remedies were derived to mitigate adverse effects on competition. One of the remedies was that the nine largest banks in the UK (CMA9) should incorporate open banking standards to allow third-party financial service providers to access customer account information from retail banking services.259 To implement these remedies, the CMA ordered the creation of the *Open Banking Implementation Entity* (OBIE), a private entity made up of the CMA9.260

256. OECD (2023e, p. 9).
257. OECD (2023c, p. 8), OECD (2023a) and OECD (2023c, p. 8)
258. White, et al. (2021, p. 10).
259. Competition & Markets Authority [CMA] (2016).
260. OBL (n.d.).

The CMA determined that open banking was a tool that could boost competition because it makes it easier for users to compare prices and quality of services between providers, create new services, and allow users to make better decisions in the choice of suppliers. The OBIE was empowered to design the mechanisms for CMA9 members to share their client's financial information with third parties easily and securely.261

In Hong Kong, in 2018 the Hong Kong Monetary Authority issued the open API rules for the banking sector.262 Prior to issuing these rules, the author-
ity held roundtables with retail banks and conducted a public consultation. The document establishes the general rules for design, and technical standards on architecture, security, and data, giving flexibility in the implementation of the open finance initiative.

The public policy objectives pursued in Hong Kong were to ensure competitiveness in the sector, to provide a safe and controlled environment that would allow the development of innovative financial services in favor of consumers, and to keep up with international developments regarding digital financial services.263

In Brazil, in 2020 the Central Bank of Brazil informed the key requirements for the implementation of open banking,264 through a progressive approach where the obligation to participate was established for institutions that are part of the prudential regulation in a first stage, and later the obligation would be established for other institutions. The open banking initiative would eventually reach financial institutions, payment institutions, and other institutions licensed by the Central Bank of Brazil.265

The implementation of open banking and finance in Brazil aims at promoting competition by reducing information asymmetries, innovation in digital financial services, facilitating the implementation of new business models, seeking efficiency in digital financial services, and promoting a culture of financial education.266

Promotion of competition and innovation. Regulating open finance has enabled the entry of new financial companies and the development of new services. It is estimated that in the United Kingdom by 2024 more

261. CMA (2017). 262. Hong Kong Monetary Authority (2018). 263. Hong Kong Monetary Authority (2018). 264. Maldonado & Montes (2022). 265. Maldonado & Montes (2022). 266. Central Bank of Brazil (n.d.).

than nine million users will have benefited from open banking.267 In the European Union there are more than 400 non-bank providers with disruptive business models.268 In 2024, 367 regulated participants with open banking models were registered in the European Economic Area.269

The services that can use information acquired through the open finance scheme include:270

1. Personal financial management services, in particular, tools to manage personal finances in a sole place.
2. Improved financial advice, which allows for better risk management and optimization.
3. Personalized and on-demand insurance, which is tailored to the specific needs of consumers.
4. Pension management platforms, which allow customers to access, in one place, the data of all their pension s (occupational, work, personal and state).

Sharing data to develop financial services. In Australia and Hong Kong, established financial institutions share data, which has enabled them to create a variety of financial services. In Australia, the Consumer Data Right sets clear conditions for accessing transaction and product data, encouraging the creation of standardized APIs. In Hong Kong, based on the open API rules for the banking sector mentioned above, between 2018 and 2021 more than 20 banks developed approximately 800 APIs to provide financial services, ensuring interoperability and information security.271

In the United Kingdom, open access to data on available mortgage products has enabled startups to offer mortgage loans to their customers quickly and easily, without the need for traditional mortgage brokers who charge origination fees. These ventures use available data to suggest to consumers when to refinance their mortgages.272

267. OBL (n.d.).
268. OECD (2023c, p. 37).
269. Konsentus (2024).
270. European Commission (2022).
271. Hong Kong Monetary Authority (2021, p. 3).
272. White, et al. (2021, p. 6).

Financial inclusion and accessibility. Open finance initiatives can improve financial inclusion; for example, in India, account aggregators allow users to manage their financial information efficiently and securely. As for APIs, the regulation states that account aggregators cannot store users' financial information on their servers and, when they transfer it to other entities, they must encrypt it.273

The regulatory model and data flow associated with open banking and finance initiatives varies by country (Table 23).

Table 23. International Overview of Open Banking and Finance

Country	Public policies
Australia	Australia's Data Consumer Rights Act is aimed exclusively at banking and establishes conditions for accessing transactional data across a wide range of products and the development of standardized APIs. In 2020, a regulation was issued
Brazil	which established the obligation for banks to share information and the requirements they must comply with. This regulation established that it is up to the central bank to create an open banking ecosystem, through a governance structure that allows participants to agree on technological and security standards, operational procedures, and the implementation of APIs.
Europe	The revised European Payment Services Directive requires banks and e-money providers to share their transactional and payment data with third parties. Institutions may choose to develop APIs which, although not standardized, must be approved by the authorities.
Hong Kong	The regulatory framework makes it easier to develop and adopt APIs in the banking sector, as part of the "Smart Banking" initiative. It includes the security standard that APIs require, as well as entity authentication and a common standard for their functions.
India	It has two open finance figures: United Payment Interface, which allows users to make transfers through third parties using mobile devices, without the need to provide bank account information or login details such as password registered with financial institutions. Account aggregators are non-banking institutions regulated by the Central Bank of India, whose role is to manage users' consent to share their financial information. Aggregators provide users with interfaces where they consent to exchange their information.
Japan	In 2018, the Banking Law was amended, which now requires banks to develop APIs for electronic payment service providers by 2020. Under this regulation, companies developing APIs are obliged to meet a series of requirements, including having adequate financial and technological conditions to provide their service and providing users with information on how they operate.

Source: Corcoran (2020); Competition and Markets Authority (2023); Brodsky & Oakes (2017); Jetro, Australia (2020); DBS (n.d.); Banco Central do Brasil (n.d.); Maldonado & Montes (2022).

273. Maldonado & Montes (2022, p. 18).

Table 23. International Overview of Open Banking and Finance

Country	Public policies
Singapore	The open finance system works through a comprehensive regulatory and governance framework that is non-binding. The Monetary Authority of Singapore opened its data for APIs ahead of the industry, establishing scalable data practices and a payments infrastructure that drives innovation.274
United Kingdom	The CMA conducted market research and ordered the nine largest banks in the UK to share their consumer data through secure protocols. In 2017, this authority ordered the creation of the Open Banking Implementation Entity. In 2022, an Open Banking Regulatory Oversight Committee (JROC) was created composed of various authorities regulating the financial sector. In June 2023, this committee issued recommendations for the next phase of open finance.

Source: Corcoran (2020); Competition and Markets Authority (2023); Brodsky & Oakes (2017); Jetro, Australia (2020); DBS (n.d.); Banco Central do Brasil (n.d.); Maldonado & Montes (2022).

7.2. The implementation of open finance in Mexico There is limited exchange of financial information in Mexico. CISs collect data on the credit history of individuals and firms for reporting to banks and other financial intermediaries. They also create databases from the information provided by financial institutions, which are available for consultation by the financial institutions themselves.275 The CISs do not exchange credit information in a complete manner, they only exchange the negative data associated with the credits requested by clients. The LRSIC establishes that the data can only be used for the purposes indicated in the law, which generates uncertainty as to whether it is legal to use this data to develop non-conventional financial services, or whether it is possible to sell the (anonymous) data to other companies to carry out studies or other types of financial analysis.276 Mexico is a pioneer in Latin America in the regulation of open finance and information exchange. Article 76 of the LRITF establishes that various regulators must issue general provisions on several elements for exchanging data and information. These elements include, among others, the standards for APIs to be interoperable; the design, development, maintenance, and security mechanisms for APIs to access, send,

274. In the context of computational systems, these practices refer to maintaining the efficiency of a program or algorithm by increasing the size of the database it uses as an input. Agrawal, El Abbadi, Das, & Elmore (2011, p. 5).
275. Cofece (2014, p. 335).
276. In addition, the LRSIC does not specify whether the data ownership rights are held by the users or by the CISs. See Cofece (2014, pp. 367-369).

and obtain data and information; the critical information for applications that require APIs to function properly; and the mechanisms for obtaining the consent of customers.

The institutions that participate in the open finance model in Mexico are, among others, CFIs, IFPEs, credit institutions, Sofom and Sofipo. The LRITF establishes that information must be exchanged through APIs, so financial institutions are obliged to enable them to share open, aggregated, and transactional financial data.277

Table 24. Open, aggregated, and transactional data

Types of Data	Description
Open	Consists of information generated by the entities that does not contain confidential data and includes details on products and services offered to the public, as well as the location of offices, branches and ATMs.
Aggregated	Related to any type of statistical information of the transactions carried out by the participating institutions, and it includes information that does not allow the identification of individual transactions.
Transactional	Related to the use of products and services such as deposit accounts, credits and means of disposition and information of transactions that customers have made in the technological infrastructure of the participating institutions. These are the customer's personal data and can only be shared with prior express authorization.

Source: LRITF, Article 76.

In March 2020, Banxico issued a circular containing general provisions addressed to CISs and CPCHs for the use of APIs. These provisions establish, among other elements, the rules for exchanging open, aggregated, and transactional data through APIs, the authorization process, interoperability and security standards, and interconnection contracts.

In the same month, the CNBV issued the secondary regulation on open data APIs that allow information on the location of ATMs, offices, and branches. However, the CNBV has not issued regulations regarding aggregated and transactional data. On the other hand, the regulation established a 24-month term for the National Insurance and Bonding

277. LRITF, Article 76.

Commission (CNSF) and Consar to issue general provisions on open finance.278 This term expired in 2020 without the CNSF and Consar having issued these provisions.

7.3. Impact of lack of regulation

The lack of open finance regulation on aggregated and transactional data inhibits competition in the Mexican financial sector, as it generates the following negative effects:

Barriers to entry for new players. Without clear regulations that allow access to open data, new companies face barriers to market entry. The largest traditional banks have a competitive advantage, as they have exclusive access to their customers' transaction data. Lack of access to this information prevents new companies from offering competitive financial services, leaving consumers with less choice and the sector less dynamic.

Reduction of innovation. Fintech need data to create technological solutions that improve customer experience and optimize operational efficiency. Therefore, the lack of access to open data makes it more difficult for companies to develop new personalized financial products and services.

Failing to take advantage of open finance applications slows down financial product innovation. As a result, consumers do not benefit from new technologies that could improve their personal finances (automated financial management tools, personalized advice, and more efficient payment services).

Less competition among financial institutions. The lack of secondary regulation on open finance means that traditional banks have less incentive to improve their services, as new Fintech companies cannot exert sufficient competitive pressure. In addition, exclusive access to their customers' data strengthens their dominant position. As a result, the quality of financial services may decline, as established institutions feel no pressure to improve and retain their customers. This leads to higher service costs and lower quality of customer service.

278. Fifth transitory article of the LRITF

Financial inclusion is inhibited. Open finance has the potential to include unbanked populations by allowing Fintechs to develop solutions tailored to their needs. Without regulation that promotes access to open, aggregated and transactional financial data, it is difficult to develop ade- quate solutions, which compromises financial inclusion. If this situation persists, vulnerable and unbanked populations will not be able to access financial services tailored to their circumstances, perpetuating financial exclusion.

Lack of transparency and trust. The lack of clear and standardized regulation on aggregated and transactional data generates distrust between consumers and financial companies. Banks may impose unfair or disproportionate conditions for accessing their data, which inhibits the growth of these markets and diminishes the industry's ability to develop data-driven services that are secure and benefit users.

To foster a more dynamic, competitive, and accessible financial sector, it is crucial to implement an open finance regulation that promotes access to open, aggregated, and transactional financial data securely and efficiently. Therefore, this study recommends the CNBV, the CNSF, and the Consar to issue regulation on these data, considering the following principles:

1. **Promotion of innovation.** Regulation should be clear on the terms for accessing and using aggregated and transactional data.
2. **Competition.** Secondary regulation should contemplate fair, reasonable and non-discriminatory mechanisms for accessing information and paying the corresponding fees.
3. **Information security and privacy.** The necessary measures to mitigate the operational and cybersecurity risks associated with the use of APIs should be contemplated. In this way, the development of the financial system will be stimulated without compromising the integrity of user's information.
4. **User rights.** It must be ensured that the management of the information is such that it is used for the purposes and under the terms authorized by the users. To this end, users must give their explicit consent in this regard, as well as that they can revoke it or request the deletion of their profiles.

Additionally, the experience of countries such as Singapore demonstrates the value of adopting a collaborative approach to the design of open banking and finance initiatives. Thus, given the complexity and implications of the regulatory proposals on the matter, it is advisable to know the opinion of the different actors in the financial sector to strengthen the discussion on the subject. This could be achieved by holding dialogues or a consultation process with the different industry participants, as well as with Cofece regarding economic competition. This would help to define the meaning and elements that could be included in the regulation that has not yet been published.

8.Novel models and regulatory sandbox

8.1. Overview A regulatory sandbox is a controlled testing environment where ventures
can offer financial products and services under the supervision of financial regulators. By participating in a sandbox, companies are temporarily exempted from complying with certain provisions so that they can innovate and test financial services.279 In addition, they sometimes receive advice on the requirements for the authorization of their activities.

Financial regulators can detect regulatory obstacles that inhibit innovation or prevent the public from understanding the scope of new technologies and business models. In addition, regulators mitigate potential risks to consumers and the financial system. The sandbox is an alternative for companies that want to generate new financial services using innovative technology and, in addition, ensure that innovation occurs under an environment that the authority controls.

The first country to create a regulatory sandbox was the United Kingdom in 2014. Other countries have created sandboxes, generating benefits in the development of new services and the application of new technolo-

279. OECD (2023c, p. 8) and Cornelli, Doerr, Gambacorta, & Merrouche (2020, p. 2).

gies. In 2018, with the issuance of the LRTIF, Mexico adapted the concept of the regulatory sandbox through the figure of novel models. A year later, the CNBV published general provisions to regulate this scheme.280

Although several companies have made applications to operate under the figure of novel models, no company has obtained an authorization. As a result, there are no companies in Mexico that operate under the figure of novel models.

8.1.1. International experience in regulatory sandboxes

Several countries have implemented regulatory sandboxes targeting financial technology companies. Annex B: Countries with regulatory sandbox contains a detailed comparison of the experience of 11 countries in terms of regulatory sandboxes.

The extent of regulatory sandboxes depends on the way projects are evaluated. In some cases (Brazil, Thailand, and the United Kingdom) the authorities have the power to supervise these projects. In others (United Arab Emirates, Lithuania, Malaysia and Mozambique) projects must be translated into region-specific ventures. Other sandboxes (Colombia, the United Arab Emirates and Mozambique) contain extensive lists of requirements, which allow the authorities to obtain information to select the projects with the greatest feasibility and potential.

In general, for a technology project to operate under a regulatory sandbox scheme, it must meet the following criteria:

Genuine innovation. The project must use unusual technology, an ingenious application, a new product, service or business model aimed at the financial sector. The extent of regulatory sandboxes depends on how the term “innovative” is interpreted. In a narrow sense, innovation is associated with the state of the art, equating a sandbox to a patent system. Thus, for a proposal to be considered genuinely innovative, it must not have been used anywhere in the world. In a broad sense, a solution is innovative if it has not been applied in a specific financial sector, regardless of whether the proposal is original or has been applied before in another country.

280. General provisions applicable to novel models referred to in the Law to Regulate Financial Technology Institutions. Published in the DOF on March 11, 2019.

At the international level, although the interpretation of the "innovation" attribute is not clear in all cases, there are indications that suggest the approach taken by regulators in each jurisdiction. For example, in Malaysia the central bank has indicated that the objective of its regulatory sandbox is to promote innovation within the financial sector.281 In Colombia, the guidelines for its controlled testing space establish that proj- ects are innovative if they correspond to technological developments that have not been used in the country.282 In Brazil, sandbox operating guidelines define the concept of "innovative project" as an experimental product or service within the confines of its financial system or payment system.283 In Lithuania, the central bank states that all financial products or services that are new to the Lithuanian market may apply to the regu- latory sandbox.284

Consumer welfare. A project must generate clear benefits for users (lower prices, higher quality and better safety and include the necessary measures to guarantee their protection).

Impact on the financial sector. Projects should promote greater efficiency in financial markets, boost industry growth, or facilitate regulatory compliance and oversight.

Identification of regulatory barriers. Those interested in participating in the scheme should identify the regulatory issues that could hinder the development of their projects. This helps financial authorities identify regulatory barriers to innovation.

Readiness. This refers to the ability of participants to implement their projects in a short period of time. Authorities usually only consider applications for projects in advanced stages of development. The authorities have more elements at their disposal to assess the merits of a specific project and, from this, determine whether its potential benefits outweigh the possible risks.

Another point of coincidence in the regulatory sandboxes of other countries is how they define their objectives. The following three objectives are the most frequent:285

281. Irving Fisher Committee on Central Bank Statistics (2022, p. 3).
282. Superintendencia Financiera de Colombia (n.d., p. 8).
283. Central Bank of Brazil (2020, p. 2).
284. Lietuvos Bankas (2018).
285. Jeník & Duff (2020, p. 6).

1. To promote innovation and competition.
2. To make the authorities aware of market developments and the impact of technologies applied in the financial sector.
3. Analyze regulatory obstacles to innovation and assess their relevance.

Innovation and competition. Regulators drive competition indirectly and, through regulation, encourage the emergence of more financial products.

The four factors that enable digital financial services to grow in a sustainable and responsible manner are: (i) non-bank institutions issuing e-money accounts; (ii) using third-party infrastructure to expand dissemination channels; (iii) due diligence processes adapted to the types of accounts and transactions; and (iv) measures to protect consumers;286

Evolution and impact of technological innovation. Although regulatory sandboxes provide valuable information for assessing the impact of innovations with real data, they have two drawbacks: 1) they are costly to implement, and 2) they are less attractive to companies than innovation centers.287

Innovation centers and specialized offices are more effective than sandboxes in achieving agile communication between regulators and companies. Innovation centers are a first point of contact through which regulators can better understand the risks and benefits of new technologies and based on this, whether to create a regulatory sandbox.288 This suggests that, for regulatory sandboxes to be more effective, they should be complemented by mechanisms such as innovation centers, specialized offices, and periodic reviews of regulations. In the United Kingdom, controlled sandbox testing is complemented by
regulatory advisory programs (Fintech Challenge).289 In the Netherlands, the InnovationHub is an event in which several authorities provide regulatory and compliance advice to companies with financial product and service innovation projects.290

286. Staschen & Meagher (2018).
287. Appaya & Jeník (2019).
288. Jeník & Duff (2020, p. 8).
289. The 2022 edition focused on proposing solutions to financial problems caused by the Covid-19 pandemic. The proposals focused on improving access to financing for small businesses, financially supporting vulnerable customers, and detecting and preventing fraud. Financial Conduct Authority (2022).
290. De Nederlandsche Bank (n.d.).

Reduction of regulatory obstacles. One of the main advantages of sandboxes is that they reduce regulatory obstacles to innovation. To identify these obstacles, companies can resort to various mechanisms (innovation centers and specialized offices). Regulatory obstacles fall into the following three categories:291

1. **Compliance costs.** These may be monetary (capital requirements and permit fees) or other (complexity of a procedure and long waiting times). Sometimes, to remove these obstacles, it is sufficient to update regulations, simplify administrative procedures or guide companies to make it easier for them to comply with the requirements and expectations to obtain an authorization.
2. **Regulatory uncertainty.** This reduces market efficiency and investment incentives. In a controlled space such as a sandbox, it is easier for regulators to clarify entrepreneurs' doubts about the regulatory framework. This makes it easier for entrepreneurs to have more certainty about the scope of regulation.
3. **Excessive regulations.** One justification for certain prohibitions is that they seek to avoid harm to users; however, they may have the negative effect of preventing companies from offering new products and services to users. When the potential benefits of an innovation are significant, one option is to use a regulatory sandbox to evaluate, on a small scale, the benefits of the project.

Applying regulatory sandboxes generates clear benefits for innovation and the development of new financial products and services. According to Cornelli et al. (2020), by participating in a sandbox, companies are more likely to obtain financing. The authors argue that participating in a sandbox is a signal about the potential value of a project, which mitigates information asymmetry.292

Sandboxes not only have direct positive effects, but also indirect ones, such as externalities for the financial industry (greater startup entry and higher capital raising).

291. Jeník & Duff (2020, pp. 8-10).
292. Cornelli, Doerr, Gambacorta, & Merrouche (2020).

8.2. The figure of novel models in Mexico In March 2018, the LRITF was issued,293 which defined the figure of novel models. According to that law, a novel model is one that use tools or technological means in ways that do not exist in the market to perform regulated activities that require authorization.294

Regulated or reserved activities are those that can only be carried out by either financial institutions or subjects with special authorization or registration.295 This definition is applicable to other financial services regulated by laws other than the LRITF, as well as by sectoral authorities other than the CNBV.

In 2019, the CNBV published provisions on novel models, specifying the requirements to obtain authorization and the necessary reports once it is granted.296 For its part, Banxico, through its Circular 5/2019, issued provisions aimed at unregulated companies. Companies wishing to apply a novel model to provide a regulated activity must request temporary authorization from one of the financial authorities provided for in the LRITF.297 This authorization is available to economic agents already regulated in the financial sector and to legal persons whose activities are not supervised by the authorities referred to.298

The temporary authorization for non-financial entities lasts for two years and may be extended for another year, while for regulated entities it is valid for one year, with the possibility of extending it for another year. During the authorization period, companies may use a certain technology in a controlled environment. During the temporary authorization, the regulator establishes terms to mitigate the risks face by users of financial services with novel technologies. The objective of novel models is to facilitate that novel technologies for providing financial services can be tested under a controlled and cheaper environment.299 Although six years have passed since the LRITF was issued, no company has obtained authorization to operate a novel model.

293. The LRITF included part of the Cofece recommendations issued in OPN-007-2017.
294. Article 4, section XVII of the LRITF.
295. CNBV (2019a).
296. General Provisions relating to the companies authorized to operate Novel Models referred to in the LRITF, published in the DOF on March 19, 2019.
297. Article 86 of the LRITF.
298. Article 80 of the LRITF
299. CNBV (2019b).

Between January and December 2022, the CNBV received four requests for temporary authorization of non-regulated companies to develop projects under the novel models scheme.300 However, none of them received authorization: two did not comply with the requirements requested during the process, and the other two were rejected for not complying with the deadlines for meeting the requirements or for not continuing in the process.

Since 2022, no entrepreneurship and financial innovation contests (such as the Sandbox Challenge) have been organized to promote innovative models.301 The fact that the CNBV has not authorized any company as a novel model and the lack of promotion of this figure denotes that the regulation and its interpretation have areas of opportunity.

8.3. Factors that prevent the use of novel models

There are three reasons why the figure of novel models has not been taken advantage of: **The interpretation of novel technology is ambiguous.** One of the main disincentives to use the figure of novel models is that regulators could ambiguously interpret the scope of technological innovations to provide financial services. It is mandatory to use technological tools or means with modalities different from those existing in the market at the time the temporary authorization is granted.302 However, this concept could be interpreted in a restrictive or flexible manner. A restrictive interpretation would prevent authorizing novel models when the technology has already been used in other countries.303 In contrast, a flexible interpretation enables the innovative use of existing technology. This facilitates the introduction to Mexico of technologies that have been successful in other countries.304 However, if provisions are made to

300. Financial Market Commission (2024).
301. The *Sandbox Challenge,* sponsored by the Embassy of the United Kingdom in Mexico and in which the CNBV also participated, had a first edition in 2020-2021 and a second edition in 2021-2022. After that year, the project was concluded. FinDev Portal (2021).
302. Article 4, section XVII of the LRITF.
303. This generates greater uncertainty in the absence of a national or international public registry of technological advances in the financial sector that would allow us to know what technology has already been used and therefore could not be considered as innovative.
304. The fact that a project is successful in another jurisdiction does not automatically imply that this experience is transferable to other contexts. However, its implementation could have a favorable impact on competition within the Mexican market.

mitigate the potential risks of novel technologies, it is possible to interpret innovation in a flexible manner, fulfilling the objectives of the LRITF and encouraging the use of novel models.

This study recommends developing guidelines with the criteria that the regulators should consider in assessing whether a project is a novel model. Some of the elements that the guides may address are: i) the interpretation of the notion of a novel model; (ii) the criteria that the authority considers when evaluating a novel model, and (iii) the potential exceptions and benefits available during the temporary authorization.

The maximum response time is not specified. Neither the LRITF nor the secondary provisions indicate what is the maximum period for responding to requests to operate under the figure of a novel model. Provision 5a of Circular 5/2019 specifies that, after determining that a request complies with the established requirements, Banxico has 20 business days to respond.305 However, there is no maximum time is established for Banxico to determine whether an application is complete.

Authorization procedures could be extended indefinitely, discouraging companies from applying for authorization as a novel model. Therefore, this study recommends indicating in the provisions what deadlines the CNBV and Banxico will have to respond to the requests for authorizations to operate under the figure of the novel model.

The exceptions to the regulation in the trial stage are not clear. The LRITF obliges applicants to indicate the legal provisions that could hinder the development of their models, the maximum number of clients, the maximum amount of resources per client, and the total amount during the temporary authorization. Although the law provides that financial authorities may establish exceptions and conditions to compliance with the requirements and obligations established in the respective financial laws, neither the law nor the secondary provisions provide clear information on these temporary benefits.

Although the temporary benefits depend on the particular needs of each project, the lack of clarity on this issue may discourage the use of the figure of novel models. This lack of clarity affects companies differently. Companies already authorized to offer financial services could choose to

305. According to Circular 5/2019, a banking business day refers to the days on which credit institutions are not obliged to close their doors or suspend operations, in terms of the general provisions issued by the CNBV for this purpose.

introduce their new products directly to the market. However, due to the uncertain nature of such initiatives, there is a risk that these products or services will affect the public within a non-controlled testing space.

8.4. Differences with other international models that can be used in the Mexican context

In several countries, applying regulatory sandboxes has fostered innovation, improved competitiveness, and increased financial inclusion.306 In particular, sandboxes have promoted more flexible regulation and boosted financial inclusion.

Regulatory flexibility and support. Providing testing environments and financial innovation labs, such as those in Taiwan and Brazil, allows ventures to collaborate with incumbents and develop technologies before they are applied in the market. Creating test environments and financial innovation labs provides a safe space to develop and test financial products and services, ensuring they meet safety and efficacy standards before being launched to market.

In other countries, regulatory sandboxes are part of a comprehensive strategy to promote innovation. These regulatory proposals are complemented by initiatives such as innovation centers in offices specialized in providing technical advice. One of the best practices in terms of sandboxes is to develop informative guides for entrepreneurs.307 To reinforce the effectiveness of the novel model scheme, Mexican financial authorities could facilitate the entrepreneurs understanding of the regulatory environment and the requirements applicable to each activity. **Financial inclusion and access to services.** In Brazil, the United Arab Emirates, and Mozambique, sandboxes have been implemented for services such as interbank payments and digital wallets, which have allowed a larger part of the population to access financial services. Some of the mechanisms through which regulatory sandboxes can contribute to financial inclusion are:308 i) development of innovative products, services, and business models to meet the needs of the vulnerable population; (ii) creation of distribution channels that promote the dissemination of and

306. Herrera & Vadillo (2018).
307. Herrera & Vadillo (2018, p. 24).
308. Jeník & Lauer (2017, p. 5).

access to financial services; iii) cost savings that allow serving segments of the population that are not normally profitable, and iv) simplification of risk management and due diligence processes.

The lack of certainty about the regulator's evaluation criteria, as well as the lack of knowledge about the scope of the regulatory models have slowed down the development of this scheme. This has prevented companies from using novel models to provide financial services to traditionally underserved portions of the population. Consequently, disseminating the benefits of the regulatory sandbox and the criteria for approving novel models will provide greater certainty to potential participants, favoring financial inclusion, as it will give more people access to innovative and secure financial services.

This study recommends reforming the LRITF to move from the current figure of novel models to that of the regulatory sandbox, taking into consideration international best practices. This will allow adapting the rules of a novel model to the scale and complexity of the sector, facilitate inter- national collaboration, and provide flexibility and regulatory support.

9.Compendium of recommendations

The recommendations are addressed to the financial sector regulators: SHCP, CNBV, Banxico, CNSF, Consar, and Condusef so that they implement them within the scope of their respective competences. The legal reforms are also respectfully addressed to the Honorable Congress of the Union.

Ensure regulation proportional to risk

R1. Evaluate the advisability of modifying the MFS regulatory framework to move towards a regulation that effectively combines service- or activity-based regulation with entity-based regulation (Section 6.1).

R2. Adjust the laws, regulations, provisions, and circulars that regulate MFS to eliminate those provisions that impose unjustified higher requirements on certain activities or services in entities with lower systemic risk (Section 6.1).

R3. Evaluate in the medium term whether the restructuring of banking licenses succeeded in generating a more adequate scale for the growth of financial institutions, eliminating regulatory arbitrage, and facilitating the entry of new competitors. If not, consider the possibility of modifying the regulation again, to meet these objectives (Section 3.2).

R4. Reform the LACP and modify the DCGAEACP to adapt the regulation of Sofipo, with the dual purpose of: i) Complying with the principle of "same activity, same risk, same rules" for those services substantially similar to those of banking, and ii) Allow- ing Sofipo to operate in a completely digitally, if they opt for this technology, without unjustified barriers (Section 3.2).

R5. Review Article 50 of the DAIFPEs with the purpose of rethinking the requirements of the business continuity plans of the IFPEs, to avoid the need to duplicate the contracted cloud computing services and, thereby, facilitate the minimization of compliance costs for the IFPEs (Section).

R6. Relax regulatory requirements for granting digital business credits so that the user identification process and the collection of information can be done by digitally (Section 4.4).

R7. Transparency and review the procedures for supervision and regulatory compliance of CFIs, in order to reduce costs for economic agents. This should be done while the business model consolidates itself as a competitive alternative to the financing offered by other financial institutions (Section 4.5).

Decrease consumers' switching costs

R8. Establish a system that facilitates the transfer of current accounts and associated products from one financial institution to another efficiently and expeditiously, in accordance with international best practices (Section 3.3).

R9. Modify the necessary laws and circulars so that Sofipo and IFPE are included within payroll portability when the monthly salary does not exceed the limit imposed for level 2 or low-risk accounts and restructure their operation so that credits and direct debits are also transferred to the new account (Section 3.3).

R10. Standardize procedures for cancelling cancel financial products, especially current accounts and credit cards, to make it quick and easy (Section 3.3).

Promote correspondents and commission agents

R11. Simplify and standardize the requirements for commercial companies to act as correspondents for banks, Sofipo and IFPE contained in Annex 57 of the CUB, Annex 7 of the DAIFPE, and Annex R of the DCGAEACP and generate incentives for correspondents to offer the service on non-discriminatory terms. The purpose of this is to increase the number of providers and financial contact points, facilitate access for financial institutions and trigger greater competition in correspondent services (Section 3.4).

R12. Generate a regulatory scheme that allows IFPEs to offer their services as digital correspondents (Section 5.3).

R13. Generate a regulatory scheme that allows regulated Fintech companies, especially Sofipo and IFPE, to offer their financial services through digital correspondents, as well as credit institutions. This is to promote greater competition and offer new products (Section 5.3).

Informing consumers

R14. Evaluate the convenience of establishing a specific and simple indicator for short-term loans, in addition to the TAC, to facilitate their comparison for consumers (Section 4.3).

R15. Broaden the dissemination of the registry of financial institutions supervised by the CNBV and Condusef's Financial Service Providers Registry System, so that users of financial services have a means of verifying the identity of the provider (Section 4.2).

R16. Generate incentives for more companies to register in the aforementioned registries and report their basic operating information to the CNBV. In particular, non-financial companies that grant credit should register and report their information, and Sofom ENRs (which are already on the lists) should additionally report their information. This is to provide users with more information (Section 4.2).

Incentivizing alternative means of payment

R17. Encourage the adoption of alternative means of payment to cash and card payments, in order to give users of financial services the possibility of choosing the means of payment that best meets their needs (Section 5.2).

Moving towards an open finance regime

R18. The CNBV, the CNSF, and Consar must issue regulations on open, aggregated, and transactional data, as appropriate, considering the principles of competition and promotion of innovation (Sec-tion 7.2).

Change the scheme of novel models

R19. Reform the LRITF to move from the current figure of novel models to that of regulatory sandboxes, in line with international best practices (Section 8.3).

R20. Indicate in the provisions what deadlines the CNBV and Banxico will have to respond to requests for authorization to operate under the novel model (Section 8.2).

R21. Develop guides to communicate to potential applicants: i) the interpretation of the notion of novel model; (ii) the criteria that the authority considers when evaluating a novel model, and (iii) the potential exceptions and benefits available during the tem-porary authorization (Section 8.2).

10. Conclusions

This study considered that the emergence of Fintech has the potential to intensify competition in financial services, thereby generating a greater range of products at better prices, to the benefit of users. How- ever, several situations prevent these potential benefits from being fully exploited.

The study found structural elements of supply and demand that hinder the mass adoption of DFS. Among these, are the lack of internet connectivity, the preference for the use of cash, the size of the informal economy, the lack of financial education and digital skills, the inertial behavior of consumers by incumbents, and the high switching costs of changing financial service providers.

Regarding the three analyzed markets -savings, credit, and payments-, the study found situations particular to each of them that limit the expansion of Fintech companies and the dissemination of their benefits. These include the need to promote financial institutions' access to correspondents, implement the digital correspondent scheme, and reduce regulatory compliance costs for IFPEs and CFIs.

It was also found that the regulatory scheme presents some characteris-tics that hinder the expansion of Fintech. Among these, regulatory dispersion, the regulatory regime based on entities and not on services or activities, the priority given to banking regulation to adapt it to the digital environment and make it more flexible to adopt new business models before the same happens with the regulation of other financial figures, as well as some obstacles for Sofipo to operate in a fully digital manner.

In turn, the open banking and finance model that some countries have implemented to achieve greater competition in their financial systems has not been implemented due to the absence of secondary regulation in this regard.

Some issues require further reflection and will be left for future work. First, assess the need to move from an entity-based regulatory system to one based on services or activities; second, evaluate the outcome of the new provisions consolidating bank licenses implemented by the CNBV; third, determine the causes of the low volume of supply and demand for small business financing; and fourth, monitor the impact of the entry of big techs into the financial markets.

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Annex A. Methodology

To prepare the study, Cofece integrated file REC-005-2022, which contains various information that supports the analyses shown:

1. Various public information collected from the internet, a certified copy of which is included in the file.
    a. CNBV:
        i. Financial Inclusion Database
        ii. Historical series of multipurpose banking, Sofipo, Sofom, *Socap* and development banking
        iii. Statistical bulletins of multipurpose banking, Sofipo, Sofom, Socap and development banking
        iv. Regulatory reports of multipurpose banking, corresponding to personal loans, credit cards and business credit
    b. Banxico
        i. Economic Information System
            (1) Information corresponding to low-value payment systems: transfers, POS, e-commerce, ATMs, checks, direct debits and CoDi
    c. CFI Websites
        i. Annex 17
        ii. General and descriptive information of its products
    d. Websites of Sofipo, Sofom, IFPE, non-financial: general and descriptive information of products
2. Information requirements to 13 digital financial services companies:
    a. 5 Sofipo
    b. 5 IFPE
    c. 2 CFI
    d. 1 Sofom ENR
3. A request for information to Banxico: disaggregation of information corresponding to low-value payment systems.

Annex B: Countries with regulatory sandbox

Table 25. Countries with a regulatory sandbox in the digital financial sector

Country (Year of participation)	Participants	Accepted Activities	Eligibility Criteria
United Kingdom (2014)	166	Distributed accounting and blockchain technology, artificial intelligence, APIs for open banking, digital identification, data analytics, decentralized finance (DeFi), infrastructure innovation, environment-related processes, governance and society, robo advice, regulations and technology (RegTech), integrated finance and services aimed at facilitating access to finance.309	i) Regulatory scope; ii) innovation; iii) consumer benefits; iv) promptness, and v) need for participation.310
United Arab Emirates (2016)	32	Digital payments, cryptographic accounting, trusts and fi asset custody, cryptocurrencies, lending applications, blockchain-based settlement systems and financial ness product and service comparison platforms.311	i)Innovation; ii) impact on the financial sector; iii) promptness; iv) potential for deployment in the ADGM ancial center and in the United Arab Emirates; v) ade- quacy of resources; vi) technical qualification and busi- experience; vii) project monitoring and evaluation methodology; viii) reporting schedule; ix) risk management; x) exit plan, and xi) compliance with the requirements imposed by the FSRA.312
Thailanda/ (2016)	4	Crowdfunding, software development, and lending and investment advisory.313	i) Regulatory scope; ii) impact on the financial sector; iii) promptness; iv) risk management; and v) business plan, and vi) exit plan.314
Malaysiab/ (2016)	6	Insurance, money services, payments, bank-ing and lending.315	i) Need for participation; ii) innovation; iii) promptness; iv) business plan; v) adequacy of resources; vi) potential for deployment in Malaysia; vii) risk management; and viii) credibility and integrity.316
Colombia (2017)	17	Deposit and withdrawal products in the name of cryptocurrencies.317	i) Innovation; ii) the need for participation; iii) origin and amount of initial capital; iv) technical qualification and professional experience; v) business model projections; vi) business plan; vii) risk management; viii) organizational structure; ix) corporate governance; x) consumer protection; ix) IT infrastructure and continuity plans, and x) exit plan.318
Canadac/ (2017)	24	Investment fund managers, token and crypto-asset distributors.319	i)Innovation; ii) benefits to consumers, and iii) protection to consumers.320

309. Financial Conduct Authority (2022). 310. Financial Conduct Authority (2022). 311. Abu Dhabi Global Market (2018). 312. Financial Services Regulatory Authority (2016). 313. Bank of Thailand (2022). 314. Bank of Thailand (2024). 315. Bank Negara Malaysia (2022). 316. Bank Negara Malaysia (2024). 317. Superintendencia Financiera de Colombia (2022). 318. Superintendencia Financiera de Colombia (n.d.). 319. Canadian Securities Administrators (2022). 320. OSC (n.d.).

Table 25. Countries with a regulatory sandbox in the digital financial sector

Country (Year of participation)	Participants	Accepted Activities	Eligibility Criteria
Lithuaniad/ (2018)	1	Insurance platforms.321	i)Innovation; ii) benefits to consumers; iii) the need for participation; iv) promptness; and v) potential for deployment in Lithuania.322
Bahrain (2018)	19	Crypto payments, crowdfunding, digital advice, open banking, cross-border payments, financial product aggregators, investment portfolios, token distribution, fight against financial terrorism, and v) protection of personal data.323	i) Innovation; ii) benefits to consumers; iii) risk management; v) compliance with consumer protection regulations and the prevention of money laundering and the
Mozambique (2018)	5	Payment aggregation services between wallets, digital platforms.324	i) Legitimacy and integrity of the applicant, its partners and directors; ii) potential for deployment in Mozambique; iii) innovation; iv) benefits to consumers; v) impact on the financial system; vi) the need for participation; vii) business plan; viii) risk management; ix) technical qualification; x) security measures; xi) exit plan, and xii) area of application.326
Brazile/ (2020)	11	Interbank payments, crowdfunding, and token distribution.327 Payment solutions, payment transactions with credit granting, secondary trading platforms for fixed income securities and platforms for transfers between accounts.328	i) Innovation; ii) regulatory scope; iii) origin of resources; iv) legitimacy and integrity of its partners and directors; and v) exit plan.329
Spainf/ (2020)	16	"Distributed Ledger" technology,330 artificial intelligence, biometrics/digital identity and cloud computing.331	i) Innovation; ii) promptness; iii) added value; iv) impact on the financial sector; and v) legitimacy of its promoters.332

Notes:
a/ Thailand has three variants of regulatory sandboxes: i) Regulatory Sandbox, basic version of the regulatory sandbox; ii) Own Sandbox, supervision by the provider of the novel financial service; and iii) Enhanced Regulatory Sandbox, provides for more rigorous conditions regarding the Regulatory Sandbox in terms of the purpose of the business activity, the time frame of the tests and the target audience. Specifically, the eligibility criteria shown refer to the Regulatory Sandbox.
b/ Malaysia has a simplified procedure (Green Lane) applicable for companies with a proven track record of good risk management, governance and compliance.
c/ In Canada, registration to participate in the sandbox is done through local regulatory agencies. Therefore, the eligibility criteria shown are illustrative and correspond to the province of Ontario.
d/ Lithuania is developing a sandbox for blockchain (LBChain).
e/ The Brazilian Securities and Exchange Commission accepted four companies and the Central Bank of Brazil seven.
f/ The applications for the third edition of the sandbox in Spain are in the protocol negotiation stage, while the fourth edition is in the call for applications phase, so it is not yet possible to determine the number of companies participating in these editions.333
Source: Cofece with public information from regulators in each country.

321. LB (2020).
322. LB (2020).
323. Central Bank of Bahrain (2022).
324. CBB (n.d.).
325. Consultative Group to Assist the Poor (2020).
326. Bank of Mozambique (n.d.).
327. Ministério da Fazenda (2020).
328. Febraban Tech (2021).
329. Central Bank of Brazil (2020).
330. From the English Distributed Ledger Technology.
331. Ministry of Economy, Trade and Business (2022b, p. 6).
332. Law 7/2020, of 13 November, on the digital transformation of the financial system (2020).
333. Ministerio de Economía, Comercio y Empresa (2022a).

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