WP/21/221

IMF Working Paper

Fintech and Financial Inclusion in Latin America and the Caribbean

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INTERNATIONAL MONETARY FUND

 WP/21/221

IMF Working Paper

Western Hemisphere Department

Fintech and Financial Inclusion in Latin America and the Caribbean

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August 2021

Abstract

Despite some improvement since 2011, Latin America and the Caribbean continue to lag behind other regions in terms of financial inclusion. There is no clear evidence that fintech developments have supported greater financial inclusion in LAC, contrary to what has been observed elsewhere in the world. Case studies by national policy experts suggest that barriers to entry in the financial sector, along with a constraining regulatory environment, may have hindered a faster adoption of fintech. However, fintech development seems to have accelerated in the wake of the COVID-19 pandemic and with the support of recent policy initiatives.

JEL Classification Numbers: G28, G51, O54

Keywords: Financial inclusion, digital financial services, fintech, Latin America.

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[1] The authors would like to thank Pelin Berkmen, for initiating the work on this topic, Patricia Alonso-Gamo for her guidance and support, and Alejandro Werner, Amina Lahreche, Kim Beaton, Purva Khera, Soledad Martínez Pería, Sumiko Ogawa, and Dmitry Vasilyev, for useful discussions and comments. The authors are also very grateful to policy experts in Argentina, Brazil, Chile, Colombia, the Dominican Republic, Honduras, Mexico, and Panama. Katherine Koh provided excellent research assistance in the early months of the project.

I. Introduction

Challenges to financial inclusion in Latin America and the Caribbean (LAC) as well as policy prescriptions to enhance financial inclusion in region have become a focus of inquiry in recent years.[2] The literature finds that even though the degree of financial inclusion in LAC is mostly in line with fundamentals, there remain important gaps and cross-country variations, especially with respect to financial inclusion of households (Dabla-Norris *et. al.* 2015a and Martínez Pería 2014). Insufficient financial inclusion is generally attributed to institutional weaknesses, low levels of bank competition resulting in high cost of financial services, inadequate infrastructure, and an excessively restrictive regulatory environment (Dabla-Norris *et. al.* 2015b, Fishbane 2014, and Rojas-Suárez 2016).

The rapid expansion of fintech activities is widely viewed as having the potential to alleviate financial frictions and improve financial inclusion.[3] This may happen by lowering the cost barrier for accessing financial services—especially severe in remote rural locations and for marginalized groups such as the urban poor—and by alleviating information asymmetries between service providers and consumers, especially acute for those unbanked (IMF 2019 and Berkmen *et. al.* 2019).[4] For example, "mobile money and mobile banking have emerged as powerful enablers of financial inclusion" in Asia-Pacific (Loukoianova and Yang 2018) and in Africa (IMF 2019). Focusing on LAC, Cantú and Ulloa (2020) argue that fintech has a clear potential to make a difference, but—owing to the relatively small footprint and lack of data—observing its impact on financial inclusion may be a challenge.

The opportunities created by fintech also come with new challenges to financial inclusion. Certain groups may be excluded due to a lack of access to smartphones and a lack of affordable internet data-plans, and due to discrimination stemming from "arms-length" analytical decision-making tools (IMF 2019).[5] More generally, Frost (2020) notes that while fintech has the potential to improve financial inclusion, especially in the developing countries, "fintech activities will remain subject to the same well-known market failures present in other areas of finance, including information asymmetries and adverse selection in lending; liquidity mismatches with deposits; systemic importance and moral hazard with large intermediaries; and various forms of interconnectedness in the financial system." This implies that the potential benefits from fintech may not materialize at the same pace and to

[2] In general, financial inclusion is taken to mean that "individuals and businesses have access to useful and affordable financial products and services that meet their needs—transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way." (World Bank, no date). For the purpose of our analysis we define financial inclusion as "the access to and use of formal financial services by households and firms." (Sahay *et. al.*, 2015). This paper focuses on financial inclusion of households.

[3] Fintech is defined as a wave of technological innovation in the financial sector that "leverages the explosion of big data on individuals and firms, advances in artificial intelligence, computing power, cryptography, and the reach of the internet" (He et. al., 2017).

[4] Jagtiani and Lemieux (2017) report similar results for the United States based on the data from LendingClub, a peer-to-peer lender.

[5] Bazarbash (2019) and Philippon (2019) argue that although machine learning can enhance financial inclusion by leveraging nontraditional data sources, it remains vulnerable to the problems of discrimination and information asymmetry.

the same extent in all parts of the world and may not fully circumvent the constraints that limit traditional finance.

Inspired by these observations, this paper analyzes whether fintech can help minimize financial inclusion gaps in LAC and how governments can leverage fintech development to foster financial inclusion. To this end, the paper documents the changes in financial inclusion in LAC since 2014, including new forms of financial inclusion driven by the development of fintech (Section II), investigates whether the emergence of fintech has implied changes in the determinants of financial inclusion (Section III), and, uses case studies to investigate the role of the regulatory environment in leveraging fintech for financial inclusion (Section IV). Throughout the analysis, the paper also considers the effects of the COVID-19 pandemic on financial inclusion directly but also indirectly on the potential development of fintech applications that could in turn support financial inclusion.[6]

II. STYLIZED FACTS

This section examines the progress of financial inclusion across LAC since 2014. It argues that composite financial inclusion indices, even when updated to account for the rise of digital payments services, do not allow for a detailed analysis of recent trends, and fail to capture inequalities across demographic categories (e.g, poor, uneducated, and young households). Looking at a wide range of financial inclusion indicators, it documents a persistent lag in financial inclusion in LAC compared to the rest of the world, along with significant within-region and within-country heterogeneity. It also finds mixed evidence of a positive effect of fintech on financial inclusion in the region.

A. Financial inclusion of households has stalled in LAC since 2014

There are numerous indicators of financial inclusion and part of the empirical literature has aimed at developing multi-dimensional indices to aggregate the various facets of financial inclusion (see for instance, Amidžić, Massara and Mialou, 2014; Camara and Tuesta, 2014; Dabla-Norris *et al.* 2015a; Sahay *et al.* 2020). In a paper focusing on Latin America, Dabla-Norris *et al.* (2015a) compute three sub-indices capturing three dimensions of financial inclusion: (i) usage of financial services by households; (ii) usage of financial services by SMEs; and (iii) access to financial institutions. The first sub-index aggregates variables from the World Bank Global Findex Database; the second one is based on answers to the World Bank Enterprise Survey, while the third one uses data from the IMF Financial Access Survey (FAS). In the absence of new Enterprise Survey data, this paper focuses on the first and third

[6] CCAF, World Bank and World Economic Forum (2020) notes that "FinTech markets in EMDEs and in jurisdictions with more stringent COVID-19 lockdown measures appear to be growing more in comparison with those in AEs and lower stringency jurisdictions", but cautions that performance has been highly heterogenous and that many fintech firms would benefit from additional government assistance and regulatory support.

sub-indices and updates them using the latest Findex and FAS vintages.[7] The two sub-indices are then averaged to produce a single financial inclusion index.[8] This index and the sub-index for use of financial services by households are represented in the left and right graphs respectively of Figure 1.

According to the above-defined index, financial inclusion of households has stalled since 2014 in Latin America. After strong progress between 2011 and 2014, the use of financial services by households plateaued out in 2017 in the region but improved in the rest of the world. This, combined with a reduction in financial access due to a reduction in the number of banking branches, led to a small drop in the overall financial inclusion index with LAC countries falling on average behind Middle Eastern and Central Asian countries in 2017.

However, those indices do not account for the growing role of digital payment services in financial inclusion and may therefore miss fintech-driven improvements. A recent paper by Sahay *et al.* (2020) proposes to complement "traditional" financial inclusion indices with a "digital" financial inclusion index which aims to measure the use of digital payment services through mobile money, mobile phone, and the internet. This index is computed for a sample of 52 emerging markets and low-income countries over 2014-2017, including 13 Latin-American and Caribbean countries.[9] The results show that an improvement in financial inclusion in LAC between 2014 and 2017 was in part driven by an increase in the fintech-driven financial inclusion index (Figure 2). However, progress in fintech-driven financial inclusion was generally more limited in LAC countries than in other countries in the sample. The ranking of fintech-driven financial inclusion actually declined in 2017 compared to 2014 in all except one of the 13 LAC countries in the sample. Two LAC countries saw an increase in fintech-driven financial inclusion accompanied by a decline in traditional financial inclusion as measured by the levels of the respective indices. Thus, the evidence of a positive impact of fintech on financial inclusion in the region is mixed.

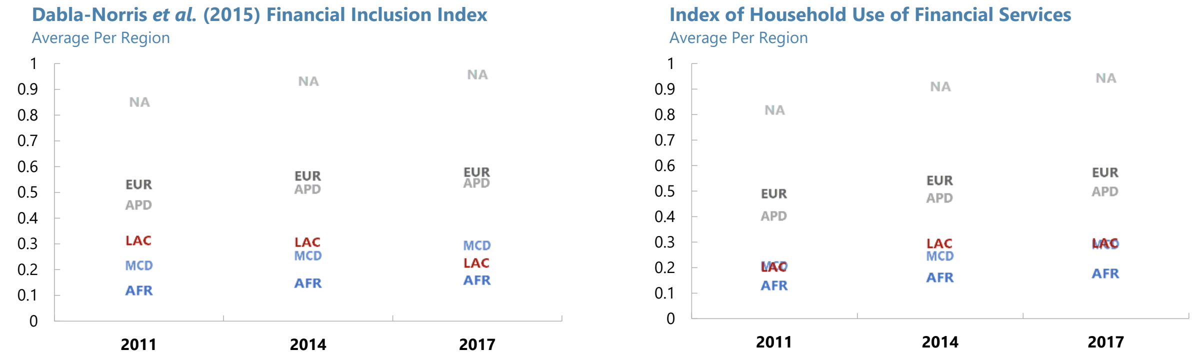
[7] The sub-index measuring the use of financial services by households includes the percentage of adults older than 15 having an account at a financial institution, the percentage of adults older than 15 who report having a debit card, the percentage of adults older than 15 who report having a credit card, the percentage of adults older than 15 who borrowed from a financial institution in the past 12 months, and the percentage of adults older than 15 who saved at a financial institution in the past 12 months. The percentage of adults older than 15 with a financial account for which an ATM is the main mode of money withdrawal is not available for year 2017, so we dropped it from the sub-index. Access to financial institutions includes the number of ATMs per 1,000 square km and 100,000 adults, and the number of branches of financial institutions by 1,000 square km and 100,000 adults.

[8] Dabla-Norris *et al.* (2015a) report exploring different aggregation methods, including weights derived from a principal component analysis before settling for a simple arithmetic average.

[9] The index is composed of four subindices with different weights: 1) index of traditional access (25 percent weight): number of ATMs and branches per 100,000 adults; 2) index of traditional usage (25 percent weight): percentage of adults with an account, percentage of adults who saved at a financial institution in the past year, percentage of adults who own a debit card, percentage of adults who receive wages through a financial institution account, percentage of adults who use a financial institution account to make utility payments; 3) index of fintech access (37.5 percent weight): mobile subscriptions per 100 people, percentage of population with internet access, number of registered mobile money agents per 100,000 adults; 4) index of fintech usage (12.5 percent weight): percentage of adults with a mobile account, percentage of adults who use internet to make payments, percentage of adults who use a mobile phone to receive salary or wages, percentage of adults who use a mobile phone to make utility payments.

Note that the indices from Dabla-Norris *et al.* (2015a) and Sahay *et al.* 2020 are not directly comparable because they combine different variables, but also because the sample of countries covered is not the same.

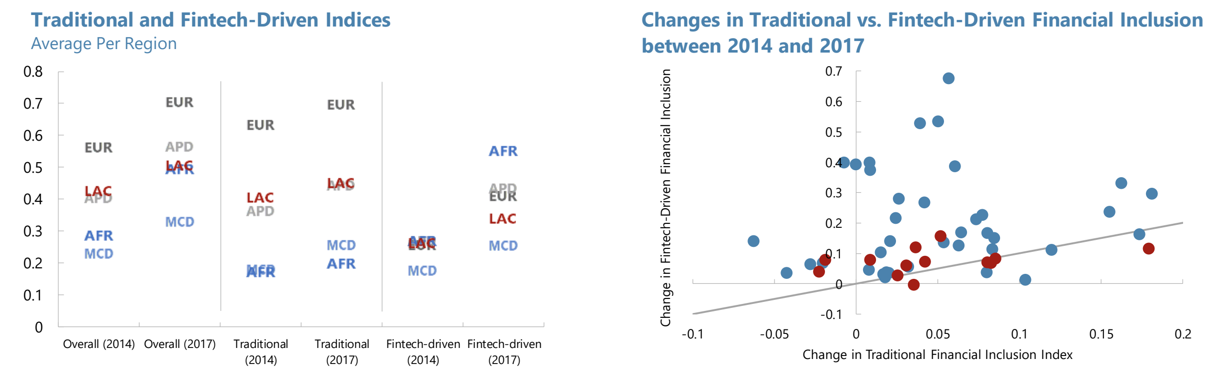
Figure 1. Household Financial Inclusion Since 2011



Note: AFR=Sub-Saharan Africa, APD= Asia and Pacific, EUR=Europe, LAC=Latin America and Caribbean, MCD= Middle East and Central Asia, NA=North America. Country samples do not change over time.

Sources: Global Findex Database; Financial Access Survey; and authors' calculations.

Figure 2. Traditional and Fintech-Driven Financial Inclusion



Note: AFR=Sub-Saharan Africa, APD= Asia and Pacific, EUR=Europe, LAC=Latin America and Caribbean, MCD= Middle East and Central Asia, NA=North America.

Source: Sahay et al. (2020).

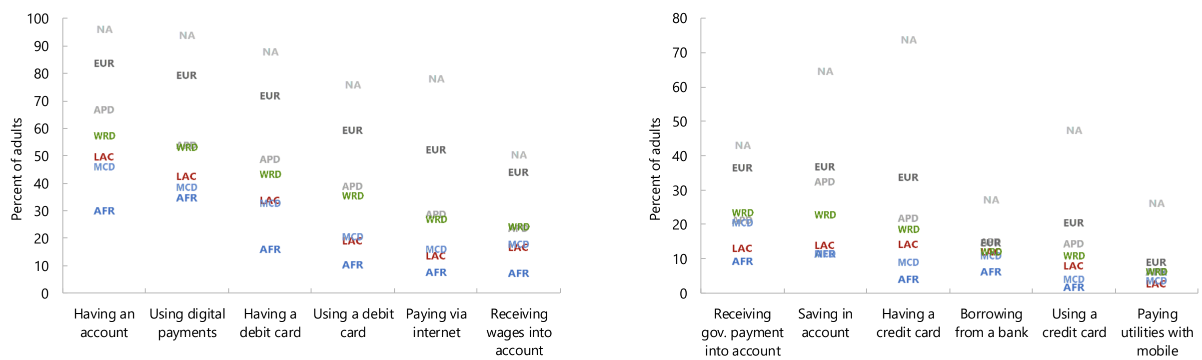
Note: LAC countries are represented by a red dot.

Aggregate indices aim at summarizing multiple dimensions of financial inclusion into a single number. The values of those indices are however very sensitive to the movement of the underlying variables, the sample of countries considered, and to the aggregation method. To overcome these shortcomings, the analysis of this paper instead relies on 12 indicators of financial inclusion (from the Global Findex Database) that capture both traditional aspects of financial inclusion and fintech-related measures. We focus on the shares of adults (defined as individuals older than 15 years) having an account with a financial institution, saving or borrowing from a financial institution, holding a debit or a credit card, having used that debit or credit card in the past 12 months, having made or received a digital payment in the past 12 months, receiving wages or government payments on an account with a financial institution or a card, having used the internet to make a payment over the past 12 months, or having paid a utility bill with a mobile phone over the past 12 months. One should note that the last four variables only capture the digital payment dimension of fintech while leaving out other fintech activities such as crowdfunding, lending platforms, or the use of artificial intelligence and machine learning for financial activities. Moreover, the data do not distinguish among

users those who have access only to digital financial services, financial institutions, or to both, which limits the analysis of the potential benefits of fintech-driven financial inclusion.

For all measures considered, the average for LAC countries lies below the world average in 2017 and is sometimes very close to the average for the least advanced region. Thus, the share of adults paying their utility bills with their mobile phones is lower in LAC than in any other region of the world (Figure 3). Progress since 2014 has been on average smaller in the LAC region than in other regions and unequal across measures (Figure 4). While the share of adults having a credit card has increased more in LAC than in other regions except North America, usage of both debit and credit cards—as well as the internet—to make payments, has declined between 2014 and 2017.

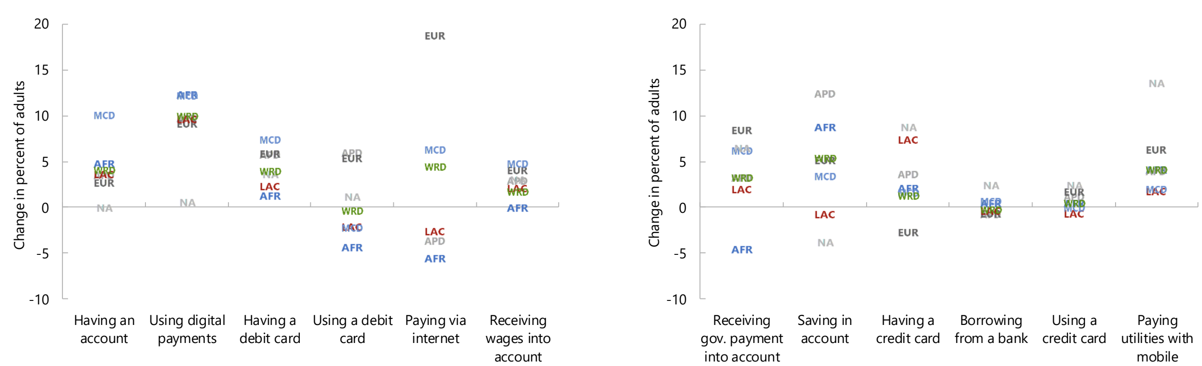
Figure 3. Measures of Financial Inclusion in 2017



Note: AFR=Sub-Saharan Africa, APD= Asia and Pacific, EUR=Europe, LAC=Latin America and Caribbean, MCD= Middle East and Central Asia, NA=North America, WRD=World.

Source: Findex Global Database; Authors' calculations.

Figure 4. Changes in Measures of Financial Inclusion between 2014 and 2017



Note: AFR=Sub-Saharan Africa, APD= Asia and Pacific, EUR=Europe, LAC=Latin America and Caribbean, MCD= Middle East and Central Asia, NA=North America, WRD=World.

Source: Findex Global Database; Authors' calculations.

B. There is substantial heterogeneity within the LAC region

The average for LAC countries masks significant country heterogeneity within the region. Figure 5 distinguishes between the Caribbean region, Central America, and South America, and shows the relative position of each country within each sub-region for all financial inclusion measures.[10] Each sub-region includes countries where financial inclusion is relatively high and countries where it is still very low.

In the Caribbean, Trinidad and Tobago is the country with the highest level of financial inclusion across all but one measure, while Haiti is the country where financial inclusion is the lowest. The fraction of people borrowing from a financial institution is the highest in the Dominican Republic and may reflect regulatory efforts to promote microcredit (see Appendix 2). In Central America, financial inclusion is much higher in Costa Rica than in any other country in that sub-region. In South America, Chile, Uruguay, and Venezuela are the three countries most frequently at the top of the list (although the indicators for Venezuela may have changed significantly since 2017), with Brazil having the largest share of adults receiving government payments into a financial account or a card. The latter likely reflects the success of Brazil's cash transfer program *Bolsa Familia,* channeling monthly allowances to some 13.8 million families through debit cards in 2020. Uruguay is ahead in the share of adults having and using a credit card, a result that may be attributed to the incentive in the form of VAT reduction provided by the government for credit card payments.

Countries that perform well according to traditional measures of financial inclusion tend to also be ahead in terms of fintech-related financial inclusion. This observation challenges the idea that fintech services could substitute for traditional financial services and allow countries to catch up with more advanced peers in terms of financial inclusion. Paraguay is the only country in the entire LAC region where the share of fintech users (measured by the proportion of adults making/receiving digital payments) exceeds the proportion of traditional account holders.

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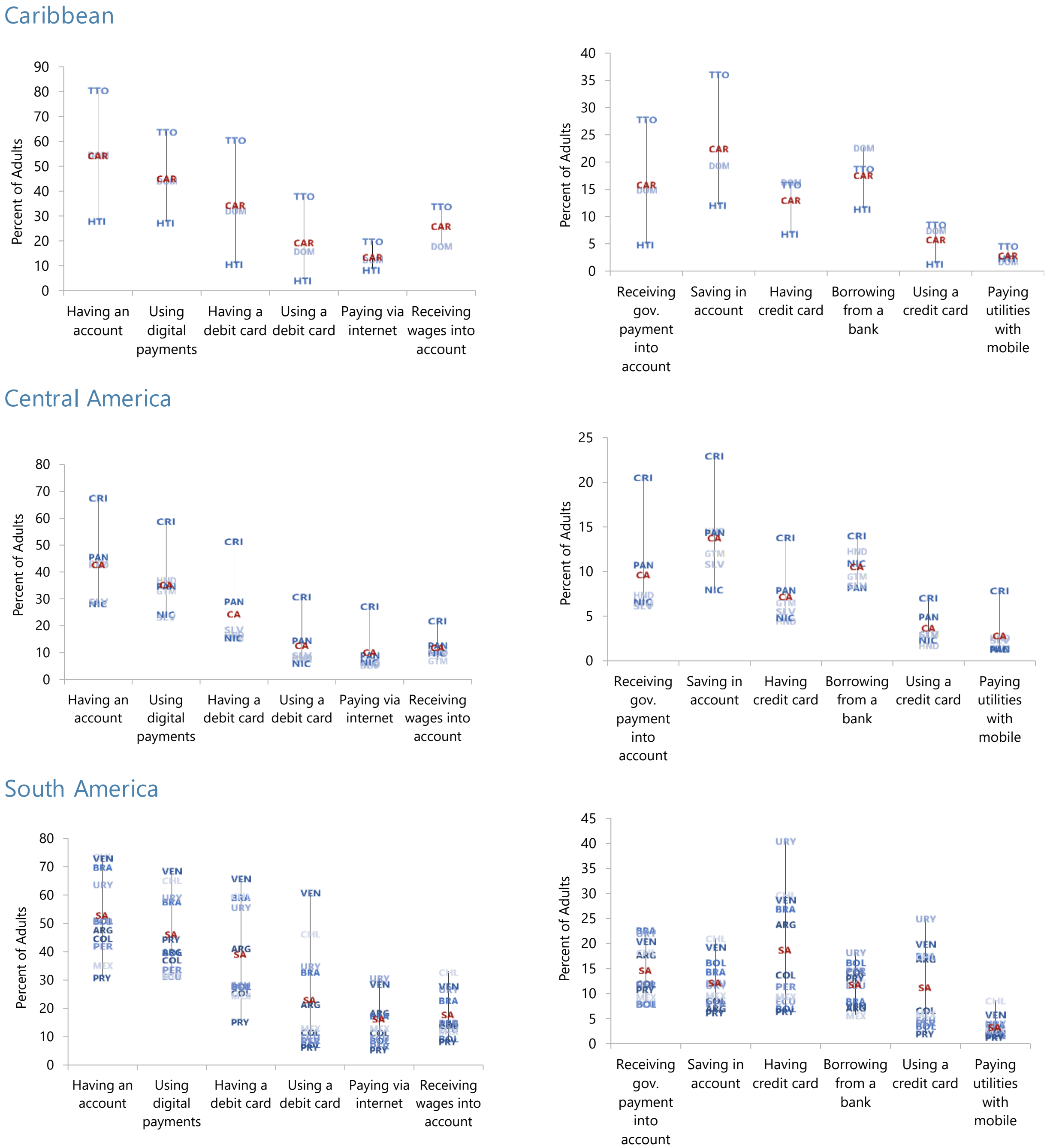
[10] Mexico is included in the South America region, since its economy shares more characteristics with large South American countries than with the relatively small Central American countries.

Figure 5. Cross-Country Heterogeneity within the LAC Region in 2017



Note: ARG=Argentina, BRA=Brazil, BOL=Bolivia, CA= Central America, CAR=Caribbean, CHL=Chile, COL=Colombia, CRI=Costa Rica, DOM= Dominican Republic, ECU=Ecuador, GTM=Guatemala, HND=Honduras, HTI=Haiti, MEX=Mexico, NIC=Nicaragua, PAN=Panama, PER=Peru, PRY=Paraguay, SA=South America, SLV= El Salvador, TTO=Trinidad and Tobago, URY=Uruguay, VEN=Venezuela.

Source: Findex Global Database; Authors' calculations.

C. Poor, young, and uneducated adults are more likely to be financially excluded

Looking at specific measures of financial inclusion, instead of aggregate indices, allows to analyze the dispersion across various population groups, depending on the age, the gender, the education level, the income level, or the location (rural or urban) of the respondents. Figure 6 shows how the proportion of adults with an account at a financial institution and who made or received digital payments in the past 12 months varies according to the characteristics of the respondents.

In general, the proportion of adults with an account at a financial institution or using digital payments is smaller for poor, young and less educated adults in all regions of the world. However, the gap between poor adults and the overall population is larger in LAC than in other regions,[11] suggesting a greater role of income as a determinant of financial inclusion in the region. Similarly, young households are less likely to have an account or use digital payments in all LAC countries, except Chile and Costa Rica.

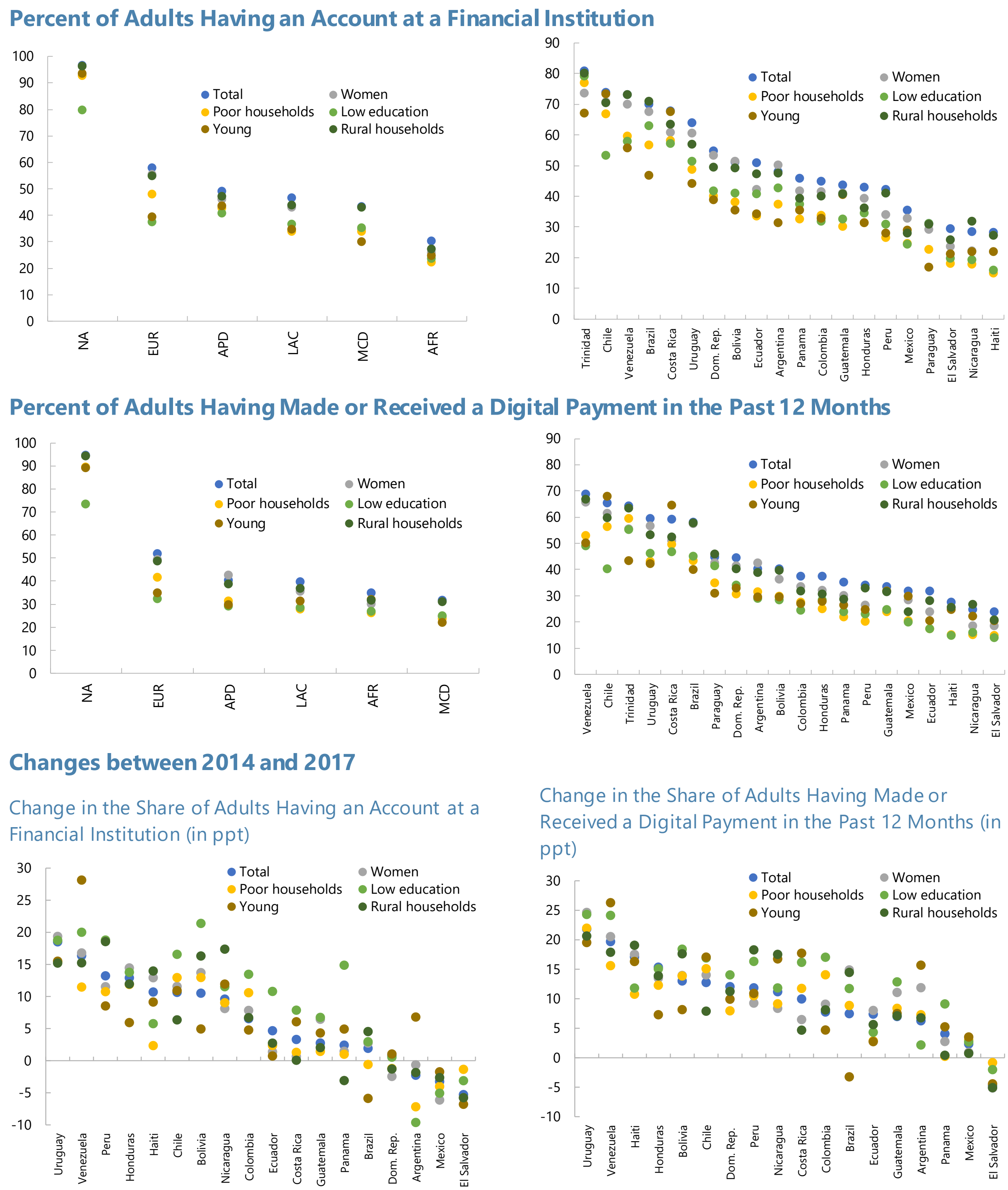
The link between education and financial inclusion in LAC is not unambiguous. On the one hand, in LAC—like in most other regions—the gap between the less educated adults[12] and the overall population is larger for the use of digital payments than for the ownership of an account. That is an intuitive result, because the use of fintech requires minimal tech literacy in addition to some financial literacy. On the other hand, in most LAC countries adults with low education are the demographic group that experienced the largest increase in financial inclusion between 2014 and 2017 (Figure 6, bottom graphs).

While both women and rural adults tend to have lower levels of financial inclusion than the average population, the gap is relatively small. In Argentina, women are actually more likely to have an account or use digital payments than men, while the proportions of men and women having an account are the same in Bolivia. The gap between rural and urban households is on average larger for the use of digital payments than for access to an account at a financial institution, suggesting that access to technology is likely as relevant an obstacle to financial inclusion as is physical distance from bank branches or other financial institutions. Argentina, Brazil, Colombia, Peru, and Mexico, the five largest countries by land area in the region, all record a larger urban-rural gap for fintech-related measures of financial inclusion than for traditional ones which could be a reflection of the critical role of government-owned banks in rural areas in these countries.

[11] The gap for account holding between poor adults and the overall population amounts to 12.5 percentage points in LAC, versus 9.9 in Europe and 9.4 in the Middle East and Central Asia. For the use of digital payments, the gap is of 11.7 percentage points in LAC, 10.4 in Europe, 8.9 in Asia, and 8 in the Middle East and Central Asia.

[12] Defined as adults having completed primary education only.

Figure 6. Heterogeneity Across Specific Groups of the Population in 2017



Note: AFR=Sub-Saharan Africa, APD= Asia and Pacific, EUR=Europe, LAC=Latin America and Caribbean, MCD= Middle East and Central Asia, NA=North America (excluding Mexico).
Source: Findex Global Database; Authors' calculations.

Box 1. Regional and Gender Differences in Financial Inclusion in Mexico

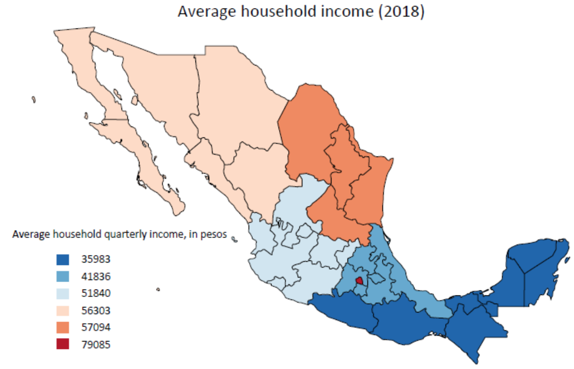
This box documents significant regional differences in the use of financial services in Mexico using the results of the 2018 National Inclusion Survey (INEGI, 2018). It illustrates the strong correlation between income and financial inclusion at the micro-level as well as gender differences in financial inclusion depending on the size of urban areas.

Microdata from Mexico's National Inclusion Survey (ENIF) allow to compare financial inclusion measures across 6 regions. The share of households using at least one type of financial product (savings account, credit, insurance, or retirement account) varies from 60 percent in the south to 82 percent in the north of the country. The picture is similar for each type of financial product. This north-south financial inclusion divide closely mimics the income gap, with higher income on average in the northern states and lower income in the south (see maps below).

Population with at least one financial product

Sources: INEGI, ENIF 2018; authors' calculations.

Average household income (2018)



Sources: INEGI, ENIGH 2018; authors' calculations.

ENIF data also allow to compare large urban areas to smaller ones. They show that financial inclusion is on average higher in larger urban areas, although the results differ depending on gender. Women are indeed more likely than men to have at least one financial product in smaller cities, while the opposite is true in larger cities.

Among the adults having at least one financial product, women are more likely than men to hold a savings account, while a larger share of men uses credit, insurance, or a retirement account, the latter reflecting the larger share of formal employment among men.

Use of Financial Services by Gender and Size of Urban Area in Mexico

	Total	Women	Men
Share of adults aged 18-70 with at least one financial product			
Total	68.3	65.2	71.8
Cities with fewer than 15,000 inhabitants	57.1	58.0	56.1
Cities with at least 15,000 inhabitants	74.4	69.0	80.3
Among those who hold at least one financial product:			
Share of people having a savings account	68.9	70.4	67.5
Share of people borrowing from a financial institution	45.6	44.8	46.4
Share of people having an insurance product	37.2	35.5	38.9
Share of people having a retirement account	57.9	47.6	68.2

Source: INEGI, Encuesta Nacional de Inclusión Financiera (ENIF) 2018.

III. DETERMINANTS OF FINANCIAL INCLUSION

We now turn to the question of the determinants of financial inclusion and whether those have changed with the development of fintech. We find evidence of a significant negative fixed effect for LAC countries across all financial inclusion measures, traditional and fintech-related, even after controlling for the usual drivers of financial inclusion. The magnitude of this fixed effect has not substantially changed between 2014 and 2017.

A. In terms of drivers of financial inclusion, LAC does not differ substantially from the world average

The usual determinants of financial inclusion considered in the literature (e.g., Martínez Pería, 2014; Dabla-Noris *et al.* 2015a; Rojas-Suárez, 2016) include:

Income per capita and income inequality. Richer countries tend to have higher levels of financial inclusion. First, because they typically have better financial and telecommunication infrastructures. But, more importantly, because high income also increases the demand for financial products, including by relaxing credit constraints. Surveys investigating the reasons for the lack of use of financial services by households often highlight that low income and self-exclusion play a larger role than supply-side considerations, such as high fees and stringent documentation requirements (Martínez Pería, 2014). While the lack of financial inclusion is often considered an important driver of persistent economic inequality, Claessens and Perotti (2007) argue that inequality affects financial access, "because unequal access to resources affects *de facto* political power" and "especially in a weak institutional framework (…), inequality makes it easy for established interests to influence access to finance by direct control or regulatory capture of the financial system." At the same time, more financial inclusion and access to credit may positively affect both per capita income and inequality by providing financing for investment by individual entrepreneurs and helping households insure against adverse income shocks, so the relationship between financial inclusion and income goes both ways.

Education. Better education accompanied by greater financial literacy can obviously affect the use of financial services directly, and indirectly through its impact on future income. In the regressions that follow, the level of education is proxied by the enrollment rate.

Structure of the financial sector and costs of financial services. Supply-side barriers to financial inclusion can be monetary (fees, high lending rates) or non-monetary (such as the distance from financial institutions, documentation requirements to open an account or to apply for credit). The structure of the financial sector, and in particular measures of the concentration of the banking sector, are often used as proxy for monetary barriers. The ratio of overhead costs to assets captures the efficiency of the banking sector and its ability to reduce the cost of financial services. However, there is the possibility that more efficient banks are also less willing to cater to harder-to-reach or riskier customers, implying a negative relationship between banking sector efficiency and financial inclusion.

Availability of financial services. Non-monetary barriers are captured by the number of ATMs per 100,000 adults. The more ATMs, the more useful a debit card would be for cash withdrawal. The complementarity between ATMs and debit cards however also suggests the

possibility of a reverse relationship, in which greater financial inclusion would lead to the installation of more ATMs.

Access to internet and cellular network coverage. With the development of fintech and digital accounts, access to internet and cellular network coverage are more likely to affect people's ability to access and use financial services.

Rule of law. The quality of institutions and the ability to enforce contracts are commonly considered as important determinants of financial development. Strong institutions and contract enforcement rules contribute to public trust and may encourage depositors to entrust their savings to financial institutions and banks to lend to more people against collateral.

Annex 1 provides a detailed description of the variables used and the data sources.

For all the variables considered, LAC countries do not differ much from the world average, with the exception of the Gini index and the bank overhead cost-to-total assets ratio, both of which are higher in LAC than in all other regions (Figure 7).

Figure 7. Drivers of Financial Inclusion

Note: AFR=Sub-Saharan Africa, APD= Asia and Pacific, EUR=Europe, LAC=Latin America and Caribbean, MCD= Middle East and Central Asia, NA=North America, WRD=World average. For comparison purposes, the variables were normalized so that the country with the highest value=100 and the country with the lowest value=0.
Source: WDI; UNESCO; FinStats; ITU; WGI; FAS Database; Authors' calculations.

B. Econometric analysis

We regress the various measures of financial inclusion (discussed in Section II) on the above drivers of financial inclusion. In addition, we include regional dummy variables. The preceding discussion underscored the possibility of reverse causality and the potential endogeneity of some regressors. To alleviate endogeneity concerns, the relevant explanatory variables are lagged by three years (corresponding to the period between two Findex surveys). Nevertheless, the results below should be interpreted with caution.

Most coefficients have the expected sign (Table 1, next page). Per capita income is positively and significantly associated with most financial inclusion measures, while the relationship between financial inclusion and income inequality measured by the Gini coefficient is negative. This negative coefficient may not bode well for financial inclusion in the near future, if we assume the COVID-19 pandemic will magnify income inequalities, as is commonly thought. School enrollment is positively associated with most measures of financial inclusion, as are the number of ATMs per 100,000 adults and the rule of law, confirming results already reported in the literature. The results for the structure of the banking sector and the cost of financial services are less clear and less intuitive, with the coefficient on bank concentration sometimes positive and significant. Interestingly, the variable used to measure internet access has a positive and significant effect both on fintech-related measures of financial inclusion[13] and on the more traditional measure of the share of people having a financial account. Mobile coverage does not seem to influence any measure of financial inclusion.

Separate regressions for the years 2014 and 2017 (results not reported) yield broadly similar results. This suggests that the determinants of financial inclusion identified here have not changed between those two years.

Additional regressions show a strong correlation between traditional financial inclusion measures and some fintech-related measures such as the proportion of users of digital payments (Table 2). Although this result could reflect that both traditional and fintech financial inclusion measures are simultaneously driven by common (unidentified) external indicators (such as trust in institutions), we believe it can also be interpreted as evidence of a strong complementarity between traditional and fintech-related forms of financial inclusion, which potentially questions the idea that fintech may bring more financial inclusion outside traditional financial channels. Instead, fintech may simply allow banks to provide more services to their existing customers.

Table 2. Relationship between Traditional Financial Inclusion and Fintech-Related Measures

	(1) Buy/Pay using internet	(2) Used digital payments	(3) Paid utilities with mobile
Have an account	**0.210****	**0.772*****	**0.036**
Log per capita income (lagged)	0.046*	0.019	0.004
Gini coefficient (lagged)	-0.006***	-0.002**	-0.001*
Enrollment rate	-0.000	-0.001*	-0.000
Number of ATMs (lagged)	-0.001*	0.000	0.000
Bank concentration	0.001	0.000	0.000
Bank overhead cost	0.001	0.008**	0.001
Internet users	0.003***	0.002***	0.001***
Coverage mobile	-0.003	-0.000	-0.000
Rule of law	0.063***	0.019*	0.001
MCD	-0.142***	-0.126***	-0.059***
NA (excl. Mexico)	0.099	-0.115**	0.005
LAC	-0.105**	-0.123***	-0.055***
APD	-0.070	-0.156***	-0.033**
EUR	-0.063	-0.103***	-0.076***
Constant	0.173	0.037	0.046
Observations	156	156	154
R^2	0.793	0.884	0.307

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[13] Such as the share of adults making transactions over the internet and the fraction of people using digital payments and receiving wages or government payments on a financial account or a debit card.

Table 1. Determinants of Financial Inclusion

	(1) Have an account	(2) Save in account	(3) Borrowed from bank	(4) Have debit card	(5) Have credit card	(6) Used debit card	(7) Used credit card	(8) Buy/Pay using internet	(9) Used digital payments	(10) Paid utilities with mobile	(11) Wages into account	(12) Gov payment into account
Log per capita income (lagged)	0.076***	0.086***	0.009	0.093***	0.089***	0.076***	0.063***	0.062***	0.064***	0.008	0.055***	0.049***
Gini coefficient (lagged)	0.001	-0.002	-0.001	-0.003*	-0.005***	-0.007***	-0.003***	-0.006***	-0.001	-0.001	-0.004***	-0.003
Enrollment rate	0.002**	0.001	0.001**	0.002**	0.000	0.002**	-0.000	0.000	0.000	-0.000	0.001	0.002***
Number of ATMs (lagged)	0.001***	-0.000	0.000	0.001***	0.001***	0.000	0.001***	-0.000	0.001***	0.000	0.000	-0.000
Bank concentration	0.001***	0.001	0.000	0.001**	-0.000	0.001**	-0.000	0.001	0.001**	0.000	0.001***	0.002***
Bank overhead cost	-0.005	-0.005	0.001	-0.004	0.005	-0.008	0.003	0.001	0.007	0.001	0.001	-0.000
Internet users	0.002***	-0.001	0.000	0.002*	-0.001	0.002	-0.001	0.003***	0.004***	0.001***	0.002***	0.002***
Coverage mobile	-0.000	-0.002	0.001	-0.003	-0.001	-0.001	-0.001	-0.003	-0.000	-0.000	-0.002	-0.001
Rule of law	0.010	0.079***	0.011	0.038*	0.048***	0.085***	0.036***	0.069***	0.040**	0.002	0.020	-0.026
MCD	-0.103***	-0.140***	0.023	-0.130***	-0.100**	-0.290***	-0.072***	-0.159***	-0.207***	-0.063***	-0.091***	-0.105**
NA (excl. Mexico)	0.028	0.102	0.098**	0.006	0.143*	-0.074	0.083	0.106	-0.106	0.054	0.026	0.089
LAC	**-0.076****	**-0.089****	**0.031***	**-0.072***	**-0.040**	**-0.118*****	**-0.027**	**-0.115****	**-0.188*****	**-0.058*****	**-0.063****	**-0.106*****
APD	0.174***	0.051	0.031	0.021	-0.071*	-0.148***	-0.036	-0.031	-0.053	-0.026	-0.024	-0.009
EUR	0.105**	-0.056	0.001	0.045	-0.095**	-0.076	-0.068**	-0.039	-0.030	-0.073***	0.031	-0.027
Constant	-0.531***	-0.245	-0.114	-0.379*	-0.311	-0.233	-0.206	0.056	-0.279	0.023	-0.163	-0.436**
Observations	156	156	156	156	156	138	156	156	156	154	154	140
R^2	0.832	0.743	0.381	0.832	0.726	0.810	0.704	0.786	0.835	0.305	0.816	0.676

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

In all regressions, the consistently negative and significant coefficient on the LAC dummy is striking. It captures the low level of financial inclusion in the region even after controlling for the usual drivers. We conjecture this negative LAC fixed effect may be due to either institutional features of the financial sector in the region that are not captured by the simple bank concentration variable included in the regression, or the role played by regulation and financial policies. This in turn may also be part of the reason of why fintech activities have not been more widely adopted in the region. This occurs because for example, a few large players in the financial industry in LAC countries, whose cost of capital is lower than for new entrants, are able to purchase fintech firms and prevent the emergence of fintech services that could serve unbanked customers outside the traditional financial sector. Alternatively, the strict financial regulations that were put in place in many LAC countries following banking and financial crises in the 1990s and early 2000s may hinder the adoption of fintech tools to promote financial inclusion. We investigate these hypotheses in the next section by way of case studies.

IV. Financial inclusion and fintech strategies- Case studies

This section summarizes the main lessons from six case studies conducted with the help of regulators, central banks, and other policy experts involved in financial inclusion and fintech in Argentina, Brazil, Chile, Colombia, the Dominican Republic, Honduras, and Mexico. Panama's Superintendency of Banks also provided helpful inputs about regulatory initiatives in Panama. Appendix 2 includes the full case studies as provided by country experts.

While there has been a lot of discussion about financial inclusion in the past decade, formal financial inclusion strategies are still fairly recent. Except for Brazil which adopted its financial inclusion strategy as early as 2011, other countries adopted theirs later: Honduras in 2015, Colombia and Mexico in 2016, and the Dominican Republic in 2018. Chile set up a Financial Inclusion Unit in 2011 but adopted its first Financial Education Strategy only in 2016. Argentina approved a new strategy of financial inclusion in 2020.

Fintech strategies are, understandably, even more recent when they exist at all. Again, Brazil was a forerunner, adopting a law on payment institutions including electronic money issuers in 2013. Mexico passed a fintech law in 2018 to regulate financial technology institutions (crowdfunding and e-money institutions). Other countries have stepped up their efforts in recent years. In Colombia, a Fintech subcommittee follows fintech-related issues as part of the implementation of the 2016 National Financial Inclusion Strategy, and the Financial Superintendency has put in place a regulatory sandbox to allow fintech firms to test new products and services with a limited number of customers (an approach also followed by Brazil and Mexico). In general, the authorities are working on progressively regulating the various activities of fintech firms (digital deposits and digital payments, crowdfunding, peer-to-peer credit, robo-advisory), trying to facilitate the development of fintech firms while safeguarding financial stability (see Cantú and Ulloa, 2020, for a more detailed analysis of fintech regulatory frameworks in LAC).

All countries explicitly recognize the large potential role that fintech innovations can play to boost financial inclusion, and most have taken measures to facilitate or encourage the use of fintech products. Specific initiatives aimed at improving financial inclusion include the relaxation of the requirements for opening a financial account, including a digital one, under

specific thresholds for deposits or transactions (Colombia, Panama) or for certain categories of people (e.g., accounts for minors in Mexico). In Colombia, SEDPEs (*Sociedades Especializadas en Depósitos y Pagos Electrónico*) created by a 2014 law, are exempted from some KYC requirements, such as verifying customers' economic activity and income. In Chile, the state-owned bank, Banco del Estado, created the debit card *CuentaRut* in 2006, which requires only a valid government ID for opening, and prefigured the implementation of simplified bank accounts. In 2014, Brazil created "payment accounts", which do not require physical branch service, cannot be used to get a loan, but can offer cards and be used to make or receive transfers, and are usually free. Account balances must be invested by the account provider into federal bonds or central bank reserves. Legislations on open banking, aimed at facilitating information sharing among financial institutions, have been implemented or are currently under discussion in Brazil, Chile, Colombia, and Honduras, and are expected to reduce transaction costs.

Policy experts are also keen to highlight countries' initiatives to modernize payment systems and facilitate mobile payments. At end-2019, the Bank of Mexico set up the CoDi (*Cobro Digital*) platform to facilitate electronic payments and transfers. In Colombia, the real-time transfer system TransfiYa, which allows to send or receive money with a mobile phone number, emerged from a private arrangement between fintech firms Minka and ACH Colombia, and has been expanding rapidly since the beginning of the COVID-19 pandemic. The Superintendency of Banks in Panama is developing a new legal framework to regulate the payment system and to facilitate the operations of fintech firms through clear licensing and payment compensation rules, while safeguarding the integrity and transparency of the system.

A few measures have also been taken to increase access to credit. Several countries have modernized their legislation on secured transactions (Dominican Republic, Colombia) to expand the range of acceptable collateral and increase access to credit. In 2018, Brazil passed legislation to allow the issuance of digital invoices that can be used as collateral by firms to get a loan, and in 2020, created "segregated rural properties," which can be easily transferred to creditors in case of default and are expected to support rural producers' access to credit. Colombia raised the thresholds for low-value consumer loans, which are targeted at households with no previous access to formal financing, to up to four times the minimum wage, and allowed for transactions to be conducted electronically. The use of credit registries has also been expanded, with Brazil shifting from an "opt-in" to an "opt-out" regime where borrowers must explicitly refuse the recording of their loan or credit information in the registry. On the supply side, several countries have introduced regulations on crowdfunding (Colombia, Mexico) and peer-to-peer lending (Brazil).

Several countries used their response to the Covid-19 pandemic to promote fintech solutions with the goal to increase financial inclusion. Among those, Colombia implemented *Ingreso Solidario,* a new cash transfer program targeted at vulnerable households not previously covered by the social safety net and deployed through digital accounts and mobile wallets. Honduras distributed electronic cash vouchers to more than 70,000 households via mobile phones. Brazil allowed direct credit companies (SCD) to issue credit cards and on-lend resources from the Brazilian National Development Bank (BNDES). Mexico and Argentina preferred to rely on the traditional banking sector to ensure the safe distribution of cash transfers. Nevertheless, most policy experts acknowledge the pandemic provided an

opportunity to promote electronic payments and reduce the use of cash, and some reported an increase in fintech activity, especially for providers of digital transfers.

While financial inclusion has improved, it is difficult to ascribe the gains to specific policy actions. As suggested in Section II.B, one can attribute the high share of people receiving government transfers on a financial account or a debit card in Brazil to the success of its *Bolsa Familia* program. However, other incentives such as tax refunds for payments by debit or credit card, which were put in place in 2011 in Honduras, do not seem to have translated into a higher use of either debit or credit cards. Many initiatives are also too recent to have their effects reflected in the latest Findex data.

Policy experts highlight several remaining obstacles to financial inclusion in their respective countries. The small market size and limited possibilities for economies of scale can reduce incentives for innovation and fintech development (Chile, Dominican Republic). Low levels of financial literacy and limitations in digital skills, and insufficient mobile and internet coverage are other commonly cited hurdles, which authorities are addressing by developing financial education programs (Colombia, Dominican Republic, Honduras, Mexico) and by investing in improving mobile and internet access (e.g., the creation of " digital zones" with free internet access in Colombia). In Chile, the case study highlighted the existence of entry costs created by a concentrated incumbent sector, and the difficulty for fintech firms to access capital financing. The issue may be magnified by a restrictive legal and regulatory framework imposing barriers to innovation and competition in the financial sector (Honduras).

Country authorities are addressing regulatory rigidities and burdensome supervisory processes by setting up regulatory sandboxes and creating specific units to guide fintech firms through the regulatory and supervisory framework. This is notably the case in Colombia with the implementation of the eHub and Regtech initiatives by the Financial Superintendency. The Central Bank of Argentina set up a "financial innovation roundtable" to foster innovation and provide a discussion forum between the regulator and players in the financial ecosystem. Regulators are also authorizing new types of actors to compete with traditional banks, under strict rules to limit any financial stability risk. For instance, Brazil created Direct Credit Companies (SCD) in 2018, which can provide loans through electronic platforms using their own capital (they cannot raise deposits), and Simple Credit Enterprises (ESC) in 2019, which can grant loans and purchase receivables from micro and small enterprises also with their own capital only. These examples therefore provide support to both hypotheses outlined in the previous section about the reasons for the significant lag of financial inclusion in LAC countries compared with the rest of the world and illustrate how country authorities are working to address them.

The main risks from fintech identified by the case studies are related to cybersecurity, AML/CFT, and privacy. Interestingly, none of the case studies emphasized financial stability concerns as a risk. While potentially a sign of confidence of regulators in the strength of their regulatory frameworks (the regulatory sandbox approach being a way to identify potential risks before innovations are rolled out at a large scale), this calls for cautious monitoring of future fintech developments and their possible effects on the financial sector.

Box 2. The Plan for the Financial Inclusion of Women in Honduras

Background. Honduras faces the highest level of economic inequality in Latin America and one of the most unequal distributions of income and resources in the world, for men and women alike. Global indicators show that gender gaps in Honduras are the narrowest in health and education, substantial in economic life, and the widest in political life (WAGE, 2019). The literacy rate is almost identical for women and men, but the female share of graduates in science, mathematics, engineering, manufacturing, and construction at the tertiary level is at a mere 8.6 percent. Women in Honduras are more likely to have informal jobs than men (77.3 percent vs. 71.1 percent) and more likely to be financially excluded. 41 percent of women over the age of 15 hold an account at financial institutions or with mobile money-service providers, compared to 50 percent of men, below the average for LAC countries (45 percent).

Recognizing that facilitating women's access to financial products and services would allow them to expand their professional, personal and family development thus contributing to the productive capacity of the economy, the Honduran government devised a strategy to close the gender gap in its financial system by strengthening and reorienting the functions of financial supervision, surveillance, and analysis to include a gender perspective[14].

In February 2019, the National Banking and Insurance Commission (CNBS) of Honduras began implementing the *Plan for the Financial Inclusion of Women*, coordinated by a special Committee with technical assistance of a Canadian consulting company. The Plan aims to enhance the regulatory supervisory capacities of the CNBS to effectively improve the financial inclusion of Honduran women.

The plan has three stages:

1. Collection and reporting of quality information to identify gender gaps in deposits, credits and insurance, and in access to SME loans by women entrepreneurs.
2. Analysis of the collected information to quantify the impact of the financial inclusion of women on financial stability and market integrity, identify losses to national productivity resulting from limited access to financing by women, and identify missed business opportunities resulting from women's limited access to financial products.
3. Use of this information for the design of policy interventions, the evaluation of the impact of policies and regulatory interventions on women's access to and use of financial services, and an analysis of the quality of women's financial inclusion – including factors such as affordability, financial literacy, convenience and product choice.

In 2020, the Committee reported that the greatest challenge for the implementation of the Plan was the collection of data disaggregated by sex requested from the supervised entities (banks, the insurance and cooperatives sectors) and requested that gender data be collected by the statistical information systems of the supervised entities of CNBS. However, public awareness of the legal framework appears to be low, representing a likely challenge at the policy intervention stage.

In the context of the pandemic, the government is analyzing the impact of the COVID-19 shock on the activities of small entrepreneurs, disaggregated by gender, to assist the targeting mechanisms of the social support schemes. In 2021, regulatory intervention pilot programs are scheduled to take place and the amended National Financial Inclusion Strategy is expected to be launched based on the Committee's recommendations, along with specific targets for financial education and capacity development.

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[14] This initiative builds on earlier efforts to enhance the financial inclusion of Honduran women, such as the 2015 *Law on the National Solidarity Credit Program for Rural Women*, which established credit programs that guarantee low interest rates, favorable repayment periods, and other conditions that facilitate women's access to credit; put in place technical assistance programs that improve women's business management skills and knowledge of new technologies; established a support and research network to strengthen a culture of entrepreneurship and innovation amongst women; and improved coordination mechanisms with other government agencies, NGOs, and private institutions to support these efforts.

V. CONCLUSION

Despite some improvement since 2011, the degree of financial inclusion in Latin America and the Caribbean remains lower than in other regions. Countries in the region have not yet benefited from fintech developments to boost financial inclusion, and both traditional and fintech-driven measures of financial inclusion show room for improvement.

There is a large heterogeneity among LAC countries, with a few countries faring much better than the regional and the world averages. However, poor, young, and uneducated adults are everywhere more likely to be financially excluded, compared with other population groups.

Income levels, inequality, education, the concentration and effectiveness of the banking sector, internet and mobile access, and the rule of law cannot account for the lower level of financial inclusion in LAC compared with other countries. But case studies suggest that high barriers to entry in the financial and fintech sectors and a constraining regulatory environment may constitute significant obstacles to greater fintech development and in turn to financial inclusion.

Recent regulatory reforms, supported by the adoption in most countries of financial inclusion strategies and discussions of new fintech strategies, should underpin the growth of the fintech sector in LAC and help boost financial inclusion. The COVID-19 pandemic led to an increase in the use of digital payments, in several cases helped by new government cash transfer programs distributed through digital wallets or mobile phones. These improvements, along with the positive effects of the latest governments' efforts, should be reflected in the 2021 Findex survey.

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APPENDIX 1 – DATA SOURCES

Percentage of adults who have a financial institution account Percentage of adults who saved at a financial institution in the past 12 months Percentage of adults who borrowed from a financial institution in the past 12 months Percentage of adults who report having a debit card Percentage of adults who report having a credit card Percentage of adults who report using a debit card in the past 12 months Percentage of adults who report using a credit card in the past 12 months Percentage of adults who used the internet to pay bills or to buy something online in the past year Percentage of adults who made or received digital payments in the past year Percentage of adults who used a mobile phone to pay utility bills in past 12 months Percentage of adults who received wages into a financial institution account in past 12 months Percentage of adults who received government payments into a financial institution account or into a card in the past 12 months	Findex database (World Bank)
GNI per capita (PPP) Gini coefficient	World Development Indicators (World Bank)
Enrollment rate: students enrolled as a share of the school age population	UNESCO
Number of automated teller machines (ATMs) per 100,000 adults	Financial Access Survey (IMF)
3-bank asset concentration: total assets of the three largest banks as a share of assets of all commercial banks Overhead costs/total assets. Overhead costs=personal expenses + other operating expenses	FinStats (World Bank)
Internet users (percent of population) Percentage of the population covered by a mobile-cellular network	ITU
Rule of law	World Governance Indicators

APPENDIX 2 – DETAILED CASE STUDIES

Argentina[15]

<table>
<tr><th colspan="2">Financial Inclusion Strategy</th></tr>
<tr><td>Announced/ Enacted</td><td>The Council of Financial Inclusion Coordination—which coordinates the work of different government departments on public policies on the matter— approved the new 2020-2023 National Financial Inclusion Strategy in December 2020.</td></tr>
<tr><td>Key objectives</td><td>The 2020-2023 National Financial Inclusion Strategy has set the following goals:
1. Expand and improve access to financial services such as savings accounts, credit, electronic means of payment, and insurance.
2. Promote the use of electronic means of payment, savings accounts, credit and other services, taking into account the banking sector and microfinance institutions.
3. Improve financial literacy and consumer protection.
4. Promote interoperability between the traditional financial system and new payment platforms.
5. By improving financial services, contribute to reducing social gaps, expanding geographical coverage, and incorporating a gender perspective.</td></tr>
<tr><td>Implemented measures</td><td>The Central Bank of Argentina (BCRA) has issued regulations to strengthen financial inclusion:
1. <u>Consumer protection</u>
Regulations for payment service providers (PSPs) (2020):
• PSPs are required to be registered in the “Registry of Payment Service Providers that provide payment accounts” and to report to the BCRA.
• The funds of PSP clients credited to payment accounts must be deposited in sight deposit accounts denominated in pesos with a financial institution in Argentina, and must be available at all times upon demand; and
• Clients may allocate the balance of payment accounts to money pools, and PSPs must report the funds so they are invested separately from the rest.
Non-Financial Credit Providers (2020): “Other non-financial credit providers” (ONFCP)[16] will have to comply with the provisions of the Law on Financial Institutions regarding financial consumer protection. They will also have to comply with regulations on disclosure and transparency with respect to interest rates, communication through electronic means, and reporting systems for complaints.
2. <u>Financial literacy</u>
Digital Campaign of Financial Education for Households: within the framework of the program “We Keep on Educating”, the BCRA along with the Ministry of Education has led a digital campaign on financial education, which includes tutorials to promote the use of debit cards; the management of security codes for ATMs and for non-bank cash withdrawal points; the use of online banking and digital wallets for the payment of services; cybersecurity; and protection of financial consumers. Since May 2020, this campaign was broadcast on public television.
Virtual financial education in schools: the BCRA, in alliance with state governments and ministries of education, offers financial education activities destined to teachers and high school students. The Program "Financial Education in the classroom" ("La Educación Financiera en el aula") aims to encourage high school teachers to include financial education into their curriculum.</td></tr>
</table>

[15] Prepared by staff members of the following BCRA units: Financial Inclusion Senior Management, Financial Development Management, Financial Education Management, Financial Innovation Deputy Management, and Analysis and Research on Financial Inclusion Deputy Management.

[16] ONFCP are companies other than financial institutions that regularly grant financing to natural or legal persons, as a core or subsidiary activity, for purchases of goods and/or services, or for other unspecified purposes.

3. **Infrastructure (physical and digital)**

Banking agents: Financial institutions are allowed to delegate the offer of financial services to natural and legal persons that have a non-financial purpose. They are required to be authorized in advance by the BCRA.

ATMs: these machines should be equipped with fingerprint readers so that users have the option of validating their identity using biometric data. By mid-2022, all ATMs in Argentina will be equipped with biometric readers.

ATMs' operation and geographical distribution: In March 2021, the BCRA approved a policy aimed at achieving multiple financial inclusion objectives, one of which is to improve the ATMs' operation and geographical distribution. One measure focuses on improving the operation of ATMs to reduce downtime and extending the network to reach cities and towns where there is no such service today. As an incentive, the portion of non-remunerated minimum reserve requirements is lowered as long as financial institutions meet the provisions laid down in the new regulation.

Digital identification: The RENAPER (the national registry of individuals) has developed the Digital Identity System that links the IDs with biometric information. This public policy enables a digital legal identity that acts as a pillar to promote financial inclusion policies, allowing for instance the remote opening of bank and non-bank accounts for natural and legal persons.

4. **Simplified accounts**

Cuenta Gratuita Universal (CGU, universal free account): This bank account may be opened only with the national identity document (DNI) and used with a limited balance and transactions (due to simplified due diligence procedures for its opening). Banks cannot charge any opening or maintenance fees and must open an account upon request from an unbanked individual, remotely or in person.

5. **Payment system**

Electronic money transfers are instant and free of charge.

Creation of a Uniform Virtual Key: CVU is a way to identify customer accounts in Payment Services Providers (virtual accounts). It improves the traceability of transfers between customer bank accounts and payment services provider accounts.

Payment by Transfer Program: the BCRA approved the Payment by Transfer Program with a view to further boosting electronic payments. The program was launched in December 2020 and will be completed by November 2021. This scheme seeks to expand the reach of instant transfers and is based on an open-payment ecosystem that is interoperable (bank and non-bank accounts), immediate (automatic crediting of funds for merchants) and flexible (cards, QR codes, biometrics).

Interchange Fee/Multi-brand acquiring: the BCRA has set a schedule with the maximum interchange fee that financial institutions can apply to merchants for card-based payment transactions (debit, credit and purchase cards). This maximum fee allows a fraction of the fee to be allocated to the acquiring industry, which ensures that participating merchants receive card payments.

Period for merchants to get paid after debit or credit card sales: financial institutions agreed with the BCRA on shortening to 1 business day the period for merchants to get paid after a debit card sale is made. Also, they agreed on shortening to 8 business days the period for micro and small businesses to get paid after a credit card sale is made.

Electronic means of payment: As part of the policy approved in March 2021 (see above), the BCRA encourages financial institutions to (i) support the use of electronic means of payment associated with sight deposit accounts in pesos held by natural persons; and (ii) boost the use of electronic checks (ECHEQ) and electronic credit invoices.

6. **Credit**

Credit information sharing: the Credit Registry operated by the BCRA (*Central de Deudores del Sistema Financiero*, CENDEU,), captures all credit reporting information supplied by regulated financial institutions from individuals and firms. Since 2017 the CENDEU also discloses positive information which must include the person's credit history over the past 24

	months. This allows for better information sharing between the financial and commercial markets, in order to increase transparency in the financial system. **Credit to new borrowers:** As part of the policy approved in March 2021, the BCRA provides incentives to financial institutions to expand credit for natural persons and MSMEs with no outstanding loans.
Regulatory framework	The Charter of the BCRA establishes (section 3) that the purpose of the Central Bank is to promote –within the framework of its powers and the policies set by the National Government– monetary and financial stability, employment, and economic development with social equality. On the other hand, the Productive Financing Law established that the National Government must develop a National Strategy for Financial Inclusion with the aim of promoting financial inclusion (Act 27.440, section 208).
Measures of success/ Quantitative targets	See State of Financial Inclusion and Financial Inclusion Report
Fintech Strategy	
Announced/Enacted	There is no explicit fintech strategy. However, the BCRA, recognizing the opportunities and challenges of the application of technology in financial services, has been adapting and establishing regulations to build a more inclusive and efficient financial system. Among them, Payment Service Providers (PSP) and Other Non-Financial Credit Providers (a group that includes digital lending companies), were regulated by the BCRA in 2020.
Key objectives	The BCRA has been working on the development of the financial sector, through different regulations regarding innovation in financial services. Public sector initiatives that promote financial innovation could be divided into four groups: 1. The provision of public goods, in the economic sense (that is, services that are non-rival and non-excludable), and their regulation. 2. Taking advantage of externalities and network effects in the payment sector, reducing the use of cash with the introduction of different electronic means of payment. 3. Changes in the industrial organization of the payment sector to improve competition and reduce the costs of financial services. 4. Regulation to enhance financial consumer protection.
Activities covered	Payments and credits are the main activities covered by the Central Bank. There are 69 Payment Service Providers and 366 Other Non-Financial Credit Providers, of which 43 are fintech companies, registered with the BCRA. There are also 3 digital banks. In the case of investments, equity crowdfunding activity is under the supervision of the Securities and Exchange Commission (CNV). The different activities available within the local fintech ecosystem also comprise, among others, P2P lending and cryptocurrencies.
Implemented measures	Different regulations have been adopted regarding technological tools to improve financial services. In particular, the BCRA has paved the way through the following regulations: **Provision of public goods and legal framework** ● The BCRA has supported the use of biometrical tools (namely, face recognition to open a bank account) in the provision of financial services. Since 2016, the BCRA has allowed banks to open accounts remotely (Com. A 6059). This new regulation involved the development of new technical tools by the National Registry of Individuals. The system supports the validation of fingerprints and the National Identity Document. ● Digital documents related to financial services were admitted. For example, contracts, personal files, electronic invoice, electronic check, promissory note and, in the foreseeable future, time deposit certificate, can be provided electronically. ● Allowing the consent manifestation through electronic means: electronic signature and digital signature are both legally recognized and used in digital financial services to accept terms and conditions of use and to hire services (digital lending).

- The BCRA has issued a regulation that created the e-check. Hence since 2019 firms and people can generate e-checks with electronic signatures (Com. A 6071, A 6578, A 6728). Other examples are promissory notes and bills of exchange.
- The BCRA has allowed banks to operate with cloud-computing services. It is an important regulation to facilitate the appearance of neobanks or digital banks (Com. A 6354).
- The BCRA has created a database containing the credit history of persons and firms (CENDEU). It isn't a scoring system, but it provides information about the debtor behavior during the last 12 months and the balance due. Both banks and fintech companies can access the database in order to evaluate new clients.
- Another key point is the emission of electronic invoices, approved by the Federal Taxation Authority - Public Income Federal Administration (AFIP). These invoices can be traded in secondary markets authorized by the CNV or by using computing systems that facilitate factoring operations.

Taking advantage of externalities and network effects in the payment sector, reducing the use of cash with the introduction of different electronic means of payments.

- Electronic transfers of funds are available online free of charge by BCRA regulation (Com. A 5194).
- Fintech companies operating in payments, or those that are known as Payment Services Providers or PSPs, have grown in the last years, providing electronic wallets, prepaid cards and service of cash in and cash out. In order to connect traditional and fintech payment services, while improving the user experience, the BCRA established that payment accounts in PSPs are interoperable with bank accounts. Each account in a PSP is identified with a Uniform Virtual Key (CVU, which consists of 22 digits), just like a bank account is identified with a Uniform Bank Key (CBU). The identification allows the transfer of funds between different types of accounts (Com A 6510).
- Also, clients can choose an Alias-CVU and/or Alias-CBU, a pseudonym that allows identifying non-bank accounts or bank accounts instead of the numeric CBU/CVU (Com A 6044 and 6510).
- BCRA established a QR (quick response) standard code to charge clients with the aim that any electronic wallet or mobile banking application should be able to read a QR code generated by the acquiring party (Com. A 6425).
- DEBIN (immediate debit) is a pull electronic transfers method, which allows bank customers to accept or reject debit orders issued by third parties. The debit and the credit of funds are electronic transfers methods, which allow bank customers to accept or reject debit orders issued by third parties. The debit and the credit of funds are immediate (Com. A 6099).

Changes in the industrial organization of the payment sector to improve competition and reduce the costs of financial services.

- Argentina implemented a policy to improve competition in the acquiring market, that is the activity through which the acquirers affiliate businesses or retailers to the electronic payment system.
- At the same time, BCRA established a progressive annual schedule to reduce the interchange fee, for payments with debit and credit cards, and increase retailers' acceptance of electronic means of payments.
- In order to compete with the debit and credit cards market, the BCRA created the Mobile Payment Platform, which compelled banks to offer alternative channels to charge or pay. These are:
    - a) Electronic wallets: a cellphone application that allows the loading of bank accounts in order to make transfers to other accounts;
    - b) Payment button, which allows buyers to debit their sight deposit accounts at virtual points of sale.
    - c) Mobile POS, which allows to receive transfers from debit cards through safety devices (dongles) that are connected to the cell phone and used in order to validate transactions.
- One of the most relevant steps taken last year within the local payment system is Transfers 3.0, aiming at boosting digital payments and fostering financial inclusion. This measure has the purpose of expanding the scope of immediate transfers, with the objective of building an open digital payment ecosystem that may effectively and safely achieve a cashless payment system.

	● Broadening the range of complementary activities where banks may have a stake: banks are allowed to have a stake in fintech (Com. A 6277). **Regulation to enhance financial consumer protection.** ● The main focus of the fintech regulation issued by the Central Bank regards the Payment Service Providers (PSP) and Non-Financial Credit Providers (NFCP), namely the supervision and transparency of products and services offered to the consumer. PSPs and NFCPs are required to register with BCRA and comply with the respective information regimes. ● Recently, the BCRA jointly with the CNV have issued a warning concerning the use of cryptocurrencies in order to advise the users on the intrinsic risks associated with this type of digital assets. The main aspects covered in this warning are the definition and characterization for crypto-assets (no legal tender, high volatility, operational disruptions, cyber risks, lack of warranties, fraud, asymmetrical information / lack of transparency, AML/CFT risks, cross-border nature). ● In terms of cybersecurity, the BCRA through the Communication A 7266 has established a guideline for proper response and recovery from cyber-incidents (following FSB information on this subject), in order to limit the risks to financial stability and boost cyber-resilience for the entire financial ecosystem. This guideline contemplates the following aspects: governance, planification and preparation, analysis, mitigation, restoration and recovery, coordination and communication, and continuous improvement. Another important regulation concerning the fintech sector is the Entrepreneur Capital Act (N° 27.349), enacted in 2017, which focuses on the equity crowdfunding scheme aiming at fostering the financing of the entrepreneur capital industry through the securities market. This regulatory perimeter falls under the National Securities and Exchange Commission (CNV). Also, the Productive Financing Act (N° 27.440) allows the CNV to regulate any other kind of collective financing scheme, besides equity crowdfunding, like crowdlending.
Regulatory framework	The mandate of the Central Bank (Act N° 24.144) and the financial institutions law (Act N° 21.526) constitute the main regulatory framework within which the financial authority is competent to regulate the financial system. In this sense, the principle through which the Central Bank's scope is determined is financial intermediation (receiving deposits from the public and granting loans to third parties). The financial institutions law article 3° allows the extension of the Central Bank regulatory authority (taking into consideration the volume of operations and credit and monetary policies, in conjunction with the article 4 G) to cover financial activities. Concerning the improvement of financial services through technology, a Financial Innovation Unit was created within the BCRA. Recently, the unit incorporated a Financial Inclusion section and together with a Financial Literacy division was placed under the umbrella of the Financial Inclusion Unit.
Measures of success/ Quantitative targets	The BCRA is working on the project of 'faster payments' or payments with electronic money transfer. The goal is to achieve interoperability between bank accounts and PSP accounts, whereby each electronic wallet could make a QR payment generated by the other party.

State of Financial Inclusion

Access points

In Argentina, access points consist of bank branches, ATMs, self-service terminals, mobile branches, and supplementary agencies of financial services or ACSFs (commonly referred to as bank agents). There were 44,456 access points in the financial system as of December 2020. In 2020, the total number of access points rose by 45%, largely exceeding past years' growth rate, which ranged from 5% to 9% year-on-year since 2017. ACSFs emerged by the end of 2018 and reached a peak in 2020, when financial institutions delegated bank transactions to more than 12,000 points.

At a provincial level, 48% of access points were concentrated in Buenos Aires City and the province of Buenos Aires, which demonstrates substantial differences in geographical distribution. These differences are associated, for example, with the distribution of the population, given that areas with a higher number of adults tend to have a higher number of access points.

As of December 2020, Argentina had 12.9 access points per 10,000 adults, Buenos Aires City showing the best performance (27.2). All the provinces in Patagonia reported figures above the national average, whereas the provinces in the northeastern region (NEA) and northwestern region (NOA) regions reported figures below such average. Figures improved in all the provinces compared to December 2019. The marked differences found in the distribution of access points among provinces also replicate within each of them (at district level).

As regards coverage through access points, 48.3% of municipalities had at least one access point as of December 2020, which is an improvement compared to 41.2% in December 2019. Although the percentage of covered municipalities may appear to be low, it is worth considering the number of inhabitants to determine the percentage of the population with one access point in the municipality where they live. Indeed, 92.1% of the adult population was living in a municipality with at least one access point as of December 2020, whereas the rest of the population was living in rural areas or in municipalities with no access point available.

Regarding internet connection by municipality, as of December 2020, in 20% of municipalities—in which 3% of the population lives—no internet connection was reported (fixed or mobile). All municipalities of 100,000 or more inhabitants had both connections while in municipalities of less than 2,000 people only 40% had both types.

Account ownership

The penetration rate of bank accounts was 91% of the adult population as of December 2020, which means that more than 31 million people had at least one account of this type. This rate proved to be comparable to that of developed economies. The record high opening of more than 5 million bank accounts in the second quarter of 2020 explains the 9 percentage-point rise observed between March and June 2020 (slightly above 3 million people). Most of the accounts were opened for the income transfers made by the National Government to mitigate the effects of the pandemic and to use financial services during the social distancing stage.

Breaking down information by type of account, 90% of the adult population had at least one deposit account by the end of 2020, whereas current account holding stood at 21%, remaining unchanged in the past two years. It should be noted that deposit accounts grouped those used for the collection of income—wages, retirement pay, pensions and social security benefits—and traditional savings accounts, including the universal free account (CGU).

Non-bank account ownership (accounts offered by Payment Service Providers) climbed from 3% of the adult population in March 2019 to 24% in December 2020 (more than 8 million people). As with bank accounts, the health crisis caused an acceleration in new account openings in the first and second quarters of 2020 (51% and 55%, i.e. 1.2 and 2 million new holders, respectively), but openings also grew in all the quarters.

The joint holding of at least one bank account and a non-bank account has changed on par with non-bank account holding, which shows that banked people are mostly those using this type of account. Barely 2% of the adult population—around 800,000 people—had non-bank accounts only at the end of 2020, 60% of which were between 15 and 24 years old. Therefore, non-bank accounts have not boosted access by people with no accounts, as it happened in other countries. Instead, they played a complementary role in the access to and usage of certain financial and payment services.

Gender. At the end of 2020, there was no gender gap in the holding of bank accounts, mainly as a result of the behavior of deposit account holders. In particular, the rate of female account holders was historically high because accounts related to retirement pay, pensions and social security benefits are mostly held by women.

As for non-bank accounts and current accounts, the proportion of male holders exceeds that of female holders (3 p.p. gap in each case at the end of 2020). These differences may be explained by the fact that informality and unemployment are higher among women, whose wage is, on average, lower than men's and are over-represented in the decile of lowest income. The ownership of non-bank accounts and current accounts, which are not opened for collecting a specific income, clearly reflects the social and economic situation of women in Argentina, which is consistent with the gender gap observed at a global level.

Age group. A different age profile is observed among bank and non-bank account holders. There is a positive relation between age and bank account access. As age increases, account ownership approaches full coverage. This could be explained, once again, by bank accounts used for collecting a specific income—wages, retirement pay, pensions and social security benefits—which cover a significant portion of people of all ages.

Non-bank account holders, on the other hand, mostly belong to younger segments. Non-bank account ownership in the 15-29 age group reached a peak (32%) in December 2020, whereas barely 4% of older people (over 65) had a non-bank account. This might be explained by the need to have technological devices—usually on a mobile phone— and skills to use these accounts, both of which are more prevalent among young people.

Geography. As of December 2020, the five regions of Argentina had more than 85% of their adult population covered with at least one bank account. There was a 7 percentage-point gap between the region with the highest coverage (northeastern region (NEA) and that with the lowest coverage (Cuyo). It should be highlighted that there is no correlation between households' income gap by region in Argentina and the share of adults with a bank account. Nonetheless, this correlation is found among countries. This may be due to different reasons, such as free savings accounts, payment of wages through bank accounts, and payment of social security benefits, retirement pay and pensions through bank accounts. On the contrary, in the case of non-bank accounts, the household income level by region is associated with the number of non-bank accounts held by the adult population and there are more significant gaps among them (Center: 26.6% vs. NOA: 16.9% at the end of 2020).

Transactions through Electronic Means of Payment (MPE) and Cash Withdrawals

Electronic means of payment, except for credit cards, have steadily grown for several years. The number of transactions per adult rose to two-digit annual rates in 2018 and 2019, being higher for prepaid cards (75%), and electronic transfers (33%) than debit cards (18%). Average transaction amounts also increased, though at lower rates.

In 2020, the health crisis and the social distancing measures boosted the use of electronic channels and means of payment, which in turn caused changes to people's habits related to payment and cash withdrawals. The Argentine population used MPEs to a larger extent—in particular, remote payments—and reduced the number of cash withdrawals for the first time in the past few years.

The volume of electronic transfers per adult rose 90% in 2020, as more transactions were channeled through online banking and mobile banking, whereas remote payments with debit cards grew 227% in the same period, increasing their share in total payments with that instrument by 15 p.p. The payment of bills and e-commerce[17] are the main explanatory factors for the improvement of remote payments[18].

In 2020, for every 100 cash withdrawals per adult more than twice as many transactions were made through MPEs (222, up 19% against 2019, which can be broken down as follows: 110 transactions on debit cards, 77 on credit cards, 7 on prepaid cards, and 28 electronic transfers).

Credit

As of October 2020, 47.2% of the adult population had at least one credit product in the broad financial system, which includes financial institutions and non-financial credit providers (PNFC). In 2020, the share of adults with at least one credit product extended the falling trend that had started in 2019.

Private banks finance a considerably larger portion of the adult population than public banks (27.5% of the adult population had at least one credit product with private banks vs 11.3% for public banks). PNFC provide financing to a smaller share of the population, with non-bank credit card issuers (ETCNB) reaching 15% of the adult population and other non financial credit providers (OPNFC) reaching 7.3%. Regarding debtors' balances, public banks' stock per debtor is consistently higher than that of private banks and finance companies: public banks debtors had average balances of 10 times the minimum wage (SMVM), while those of private banks were 5.8 times the SMVM.

Bank credit cards were the most commonly used form of debt instrument among adults, used by 37.3% of the adult population. Personal loans stood in second place with 21.3% of the adults, while mortgage loans reached a significantly lower share of the adult population (0.6%).

Region. As physical infrastructure, access to credit shows better performance in Patagonia and the Center Region, with 50% and 49% of their respective populations having at least one credit product while Cuyo, the Northwestern and the Northeastern regions have a lower performance (43%, 42% and 40% respectively).

Gender. As of October 2020, 44.4% of women and 49.9% of men had at least one credit product in the broad financial system. These values show a 5.5 p.p. gender gap in access to financing. By disaggregating this indicator, the gender gap is mainly explained by the financing provided by financial institutions, reaching a 3.8 p.p. gender gap for this subset. Within the PNFC subset, the gap is significantly smaller, 0.1 p.p. for ETCNBs, and 0.7 p.p. for OPNFCs.

Age group. Access to credit is the lowest among people 15 and 34 years old, with 27% of the population of that age group having at least one credit product from the broad financial system. For the elderly (65 years old and more), the percentage of the population rises to 59%, while for adults between 35 and 64 the share of people with access to credit reaches 62%.

For more details and historical series of indicators, see Financial Inclusion Report and Financial Inclusion Indicators.

Challenges to financial inclusion in Argentina:

- **Cash usage**. The high number of bank account holdings contrasted with the limited use of means of payments and electronic channels.
- **Connectivity**. Internet connection and access to devices such as cell phones and computers have improved, but there are divergences in the interior of the country (79.7% and 91.8% of households have respectively computer and internet access in Buenos Aires City vs 56.9%and 79.7% in NEA) and across age groups and educational levels[19].

[17] In 2020, e-commerce billing grew by 124%, purchase orders by 84% and the number of purchasers increased by 1 million against 2019. Source: yearly research on e-commerce by Cámara Argentina de Comercio Electrónico (Argentine Chamber of Electronic Trade) Statistics and Summary.

[18] The term "remote payments" comprises digital (not face-to-face) payments on cards and electronic transfers.

[19] INDEC. Access and use of IT and communication technologies. Permanent Household Survey (EPH). Fourth quarter 2019.

- **Physical infrastructure**. The vastness of the Argentinean territory and the dispersion of its population still remain a challenge when it comes to coverage by physical infrastructure, especially among the smaller municipalities. As of December 2020, 71% of municipalities with less than 2 thousand adult inhabitants had no access point to financial services; and, 15% had only one type of access point. On the contrary, 100% of municipalities with 100,000 or more inhabitants had 4 or more types of access points.
- **Credit and saving**. Raising the percentage of people that save and borrow from the financial system is also a financial inclusion challenge.
- **Consumer protection and financial literacy.** The challenge is twofold: (i) providing financial service users with the necessary tools and information to make informed decisions and to avoid cyber-frauds and scam schemes; and (ii) expanding digital financial literacy among households across the country and, in particular, among the most vulnerable sectors.

State of Fintech

In 2016-2019, the Central Bank implemented the "Financial Innovation Roundtable" (or "Financial Innovation Hub") to foster innovation in the financial system. This was a place for discussion and cooperation that aimed to boost financial innovation and find common ground between the regulator and the players of the financial ecosystem (banks, fintech companies, and ATM networks, among others). Also, the Central Bank promoted a program similar to an accelerator called "Financial Innovation Hackathon". This was done in collaboration with other public-sector agencies in the context of the "Financial Innovation Program" launched at the federal level.

Nowadays, the local fintech ecosystem is one of the more developed in Latin America, with 272 enterprises offering mainly payment and credit services. According to the BCRA, 40% of the fintech firms are active in the payments segment.

In 2018, the entire fintech ecosystem consisted of only 133 companies, which means that in just two years the number of actors more than doubled. The types of fintech activity expanded, with the prevailing type of fintech activity in 2018 being lending, followed by digital payments and B2B services. In contrast, by 2020 the main fintech sector was digital payments, with the loan sector shifting to second place.

Concerning digital payments, during the fourth quarter of 2020 the amount of CVU accounts (Unify Virtual Key) reached 10.7 million people, meaning a 300% increase from the same period of 2019. This remarkable increase in the sector has a direct connection to the COVID-19 pandemic, where the expansion of digital means of payment was the direct response to the social distancing measures. "Cuenta DNI" (ID Account) from Banco Provincia de Buenos Aires, a public bank, has been a successful product that facilitated the financial inclusion of low-income households through the opening of financial accounts.

On the other hand, throughout 2020 fintech credit grew about 80% from 2019, mainly concentrated in only one firm. Two types of fintech credit companies are operating in Argentina: those which use their own capital (balance sheet lending) to provide consumer financing or working capital financing, and those that offer platforms to connect people who are looking for financing with others looking for investment options (crowdlending).

Initially, fintech companies provided small-sized and short-term consumer loans, but as they gained experience they have been increasing loan sizes and lengthening the terms. Moreover, the cost of financing varies and tends to be higher for consumer loans, with effective annual rates above those for credit card financing or for personal loans within the banking sector.

The BCRA publishes a biannual report on the performance of Non-Financial Credit Providers in the industry, which analyzes the financial indicators, of fintech companies, such as outstanding debt, delinquency rate, interest rates, number of loans, etc. Although more information is needed, an initial assessment indicates that delinquency rates are higher in fintech companies than in the banking system.

The local experience in the credit sector of the fintech ecosystem has led the Central Bank to level the field in terms of regulation and client assurances. Due to last year's regulation, most of the fintech credit companies fall under the regulatory perimeter of the financial authority which brings more protection to the consumer and ensures the good functioning of the credit market as a whole (in terms of transparency, costs, rates, governance, consumer rights).

Fintech has not been used to make government cash transfers to households during the pandemic, but the use of electronic wallets and digital financial services (P2P electronic money transfers, e-commerce transactions) grew significantly.

Interactions between Financial Inclusion and Fintech Strategies

The financial innovation regulation has produced a significant change in the banks' process to onboard new clients, and broadened the spectrum of means of payments, with new players emerging in the market. These new factors increase the competition and enable banks to enlarge their portfolio of financial services.

In the case of lending, the assessment is a bit more complex, because banks and fintech companies have different funding costs and client profiles. On the one hand banks can grant credit lines to Non-Financial Credit Providers which, in turn,

can lend while deepening financial inclusion. On the other hand, it is important to enhance the scope of consumer protection to the users of Non-Financial Credit Providers and, for example, help avoid over-indebtedness.
Results
In an attempt to mitigate the economic impact of the pandemic, the BCRA designed a set of low-cost financing tools for MSMEs. The latest available data showed a large heterogeneity among firms in terms of access to financing depending on their size: In 2018, only 53% of micro companies were granted financing whereas 96% of big companies accessed credit lines[20]. Then the BCRA promoted credit lines to support MSMEs and adjusted credit regulation by reducing legal banking reserves. **Credit to independent workers** Zero-interest credit lines allowed self-employed workers to request a 0% interest rate loan (up to AR$150,000), deposited into workers' credit cards. In line with this measure, the BCRA established that financial institutions must grant financing in pesos at zero interest rate to all customers requesting it and who are on the list of beneficiaries published by the Federal Public Revenue Administration (AFIP). Financial institutions may deduct a part of the granted amount of this credit line from their minimum reserve requirements. As of October 2020, more than 570,000 interest-free loans were allocated to independent workers (including individuals in the cultural sector) and the total amount reached more than AR$67 million. **Credit to MSMEs** • Special lines of credit to MSMEs at a maximum annual nominal interest rate of 24% for a total amount allocated from March to October 2020 of AR$544 million. Until August 2020, this program had reached 105,536 companies. • Establishment of the MSMEs Plus line for MSMEs not included in the Credit Registry, but which have access to a public guarantee fund (e.g., Fondo de Garantías Argentina and FOGAR). Until October 2020, 5,927 companies had used this type of financing, up to a total of AR$2,905,057 thousand. • Introduction of the Financing Line for Productive Investment of MSMEs, pushing banks to grant loans to MSMEs for an amount equal to 7.5% of their deposits. Under this scheme, two credit lines were set up for (i) MSMEs purchasing capital goods and constructing productive/commercial facilities (30% interest rate) and (ii) MSMEs seeking working capital financing (35% interest rate). As of December 2020, 53,737 companies had received financing under the line for productive investment of MSMEs, with a total amount of AR$141,129,350 thousand for objective (i) and 25,761,113 for objective (ii). • As regards the BCRA measures implemented in March 2021 about the reserve requirements incentives to foster financial inclusion through credit promotion and greater use of electronic means of payments and to improve ATM operation and geographical distribution, it is too early to assess their impact since more time is required to receive the appropriate information from financial institutions.
Ways Forward
The digitalization of financial services played a key role in the widespread use of financial services. However, digital financial services pose problems on account of: i. the unequal access to digital infrastructure, both in terms of devices and internet connection. This gap may be amplified if the information generated in the digital environment is subsequently used to access other financial services, such as credit or savings products; ii. uneven levels of digital skills and financial knowledge to operate in the digital environment; iii. cybercrime: digital fraud and scams, which have a negative impact on the use of digital financial services.

[20] Financial Inclusion Report (second semester of 2019).

Brazil[21]

Financial Inclusion Strategy	
Announced/ Enacted	The financial inclusion strategy has been in place since 2011; in 2018, it transitioned into a strategy to facilitate financial citizenship[22].
Key objectives	Agenda BC#, with five dimensions: (i) inclusion, (ii) competitiveness, (iii) transparency, (iv) education, (v) sustainability. To promote these objectives, Agenda BC# focuses on the reduction of cost of credit, the enhancement of the banking regulation and the efficiency of the national financial system. The concept of "financial citizenship" is defined as "the exercise of rights and duties that allows a citizen to manage well his or her financial resources, in a context structured for the wellbeing of individuals and the financial stability of the country." Details are available in the Report on Financial Citizenship. Financial citizenship is a broad concept that encompasses financial inclusion, financial education, protection of financial services for the consumer, and participation in the dialogue about the financial system. The concept has been in use since 2013. In 2018, the Central Bank of Brazil (BCB) introduced an Index for Financial Citizenship (ICF), which combines nine variables that aggregate into the Financial Inclusion Index and four variables that aggregate into the Financial Education Index.
Implemented measures	Congress has enacted a series of law[23]. Law no. 12,414, of 2011 set the guidelines for the **creation of a positive credit database** in Brazil, but participation in this database was low due to an "opt-in" system. Later, with the enactment of Complementary Law no. 166, of 2019, an "opt-out" system was adopted.[24] This piece of legislation has the potential to increase available data for financial institutions, so that they can better assess customers' credit risk, thus allowing more individuals, especially from poorer areas, and SMEs to receive loans. The Brazilian General **Data Protection Law** was introduced in 2018 (Law no. 13709). The law attempts to strike the right balance between the possibility to use customers' data in order to facilitate economic development and the protection of privacy. It provides for the processing of personal data, including via digital means, by individuals or legal entities whether public or private, while protecting fundamental rights to freedom and privacy. The approval of this law laid the ground for the initiative of National Monetary Council (CMN) [25] and BCB to approve a comprehensive open banking framework (see below) that has the potential to further increase financial inclusion in Brazil.

[21] Prepared by Antonio Marcos Fonte Guimaraes, (Head of Division at Financial System Regulation Department – Denor at Central Bank of Brazil – BCB); Matheus Rauber Coradin (Coordinator at Denor at BCB); Luís Fernando Brands Barbosa (Analyst at Denor at BCB); Arnaldo Francisco Vitaliano Filho (Head of Division at Department for Promotion of Financial Citizenship – Depef at BCB); Lucas Iten Teixeira (Coordinator at Depef at BCB) and Natalia Nogueira Lima Falcão (Analyst at Depef at BCB).

[22] Financial citizenship is the exercise of rights and duties that allows a citizen to manage his or her financial resources, in a context structured for the wellbeing of individuals and the financial stability of the country. The development of financial citizenship occurs by means of financial inclusion, financial education, protection for the consumer of financial services, and participation in the dialog about the financial system.

[23] Law no. 12,414, of 2011, modified by Complementary Law no. 166, of 2019; Law no. 13,636, of 2018, modified by Law no. 13.999, of 2020; Law no. 13,709, of 2018; Law no. 13,775, of 2018; and Law no. 13,986, of 2020.

[24] Under an "opt-in" system, consumers need to give an explicit consent to be included in the database. In contrast, under an "opt-out" system, consumers are included automatically, but they have the right to opt out, should they so choose.

[25] The CMN is in charge of formulating monetary and credit policies, with the objective to preserve monetary stability and to promote economic and social development of the country. It holds meetings at least once a month and is chaired by the Minister of Economy, with the BCB serving as the permanent secretariat. See https://www.bcb.gov.br/en/about/cmnen.

	The BCB/CMN Joint Resolution no. 1 and BCB Circular 4015, of 2020, have set the initial regulatory framework for the **open banking** ecosystem in Brazil. This regulatory framework promotes the standardization of processes that must be observed by financial institutions and other institutions licensed by the Central Bank of Brazil in order to share service channels and product data, as well as consumers' registration and transactional data, either natural persons or legal entities, and also the services of initiating payment transactions and forwarding loan proposals. These processes must occur in a secure, prompt, accurate and convenient manner — at the customers' discretion, in the case of data and services that identifies him/her. Law no. 13775, of 2018 provides for **digital invoicing**. Firms with no access to the credit market will be able to use this new instrument as collateral, in order to finally receive a loan. Digital invoices will also help firms with access to the credit market get better conditions on their loans. Related to this, new regulation of BCB on credit card receivables (CMN Resolution no. 4734 of 2019) will also increase the amount of collateral available to firms, hence helping them to have access to broader and better loan operations. Law no. 13,986, of 2020, was essential for agribusiness in relation to financing and **rural credit**. It made possible the creation of a segregated rural property,[26] which has the potential to be used as collateral for the issuance of Rural Credit Notes (CPR), consequently helping rural producers to have more access to credit, including SMEs. This law also gave legal assurance to the persons or entities that can be issuers of a CPR. Regarding the national strategy for fostering micro-enterprises, Law no. 13636, of 2018 provides for the National Program for Productive and Guided Micro-credit (PNMPO). This program has the objective of supporting and financing the productive activities of entrepreneurs, mainly through the provision of resources to productive and guided micro-credit, thereby reducing the cost of credit.
Measures of success/ Quantitative targets	Owing to the relative novelty of the concept of financial citizenship and the lack of time series data, no quantitative targets have been specified yet.
Fintech Strategy	
Announced/Enacted	Laws and regulations enacted from 2013 onward, as outlined below.
Key objectives	The strategy focuses on payments and on credit provision (to boost financial inclusion and foster access for small and medium enterprises), with the additional objectives of reducing costs and minimizing the risks to financial stability.
Activities covered	The fintech strategy covers payment and credit provision services, broadly defined. The authorities are not regulating cryptocurrencies. Fintech firms operating in Brazil offer such services as payments and remittances, enterprise and personal financial management, lending, crowdfunding and wealth management, insurance, trading and capital markets, digital banking, and enterprise technologies for financial institutions. It is worth noting that not all of these fintech segments are regulated by official authorities. The Securities and Exchange Commission of Brazil (CVM) regulates crowdfunding and other aspects related to trading and capital markets; the Superintendence of Private Insurance (Susep) regulates the insurtechs (fintech firms providing services related to insurance); and the BCB regulates fitnech companies operating in the credit and payment sectors.
Implemented measures	Law no. 13,999, of 2020, allowed the institutions carrying out microcredit operations within PNMPO to provide the required counselling to credit takers by means of electronic platforms thereby reducing their operational costs and making these platforms more attractive to fintech firms. In the payments area, Law no. 12,865 (enacted in 2013) set the ground rules for payment schemes and institutions.[27] The BCB then introduced relevant regulations based on the law.

[26] The term "segregated rural property" denotes a class of assets that, once used as collateral, cannot be claimed by any other creditor.

[27] The original three types of payment institutions were: (i) electronic money issuer; (ii) post-paid payment instrument (credit card) issuer; and (iii) acquirer. Recently, as a part of the Open Banking Initiative (OBI) the BCB introduced a fourth

<table>
<tr><td></td><td>Regarding the credit market, the CMN approved CMN Resolution no. 4656 in 2018. The resolution created two new types of financial institutions: direct credit company (SCD) and peer-to-peer loan company (SEP).[28]

The Information Integration Platform for Regulators, introduced in 2018, is a blockchain platform for exchanging information between financial regulators, such as CVM and Susep.</td></tr>
<tr><th colspan="2">State of Financial Inclusion</th></tr>
<tr><td colspan="2">Brazil stands out as one of the countries in LAC where the proportion of adults with an account at a financial institution is the highest, and it ranks first in South America for the proportion of adults receiving government payments on an account or a card. However, Brazil is also the country where the gap between the young and the rest of the population is the largest and where financial inclusion of the young has declined between 2014 and 2017.

Traditionally, people have accessed the national financial system via a local service point (bank branch, ATM, banking correspondent, etc.), but the number of physical service point has declined over time (from about 278 thousand in 2015 to 257.6 thousand in 2017). Meanwhile, the use of remote channels (transactions via smartphones and other mobile devices) has risen by 19% over the same period and accounts for about 35% of total financial transactions. About 86.5% of Brazilian adults hold some type of financial account, and 45% of adults use credit operations. However, credit penetration varies by income: only 11% of low-wage earners (up to one minimum wage) and 8.6% of micro-entrepreneurs used credit operations in 2017 (2018 Financial Citizenship Report).

The principal obstacles to financial inclusion (and also to the development of fintech) are income inequality and regional disparities. The country is large and diverse, and the transition from physical to digital financial infrastructure has been uneven. In particular, lack of widespread internet access hampers both financial inclusion and fintech development.</td></tr>
<tr><th colspan="2">State of Fintech</th></tr>
<tr><td colspan="2">Brazil has one of the largest fintech ecosystems in Latin America (along with Mexico, Colombia and Argentina). The appetite for fintech-enabled financial services is spurred by a traditional banking system which lacks in some aspects a consumer-oriented culture and has high borrowing costs, along with high smartphone penetration and widespread internet access and a relatively young population.

Hundreds of fintech startups began operating in Brazil in the last decade (mainly in São Paulo), while at the same time, traditional Brazilian banks have been launching their own digital franchises, online lending platforms and fintech accelerators to stay competitive, or partnering with fintech firms. As of 2018, 70% of fintech startups in Brazil claimed to be operating only in Brazil, with 30% confirming cross-border operations, with the majority (58%) of startups being small operations (between 1 and 10 employees). The technologies used by these startups were mainly Big Data and Analytics, APIs and open platforms, and mobile applications.

Key impediments to fintech development were listed in 2018 as:
• Lack of a regulatory framework or inadequacy thereof;
• Competing with large banks that control the financial market;
• Consumers' concerns about fraud and data mishandling (cybercrimes).

COVID-19. To mitigate the economic impact of COVID-19, CMN Resolution no. 4792 (adopted in 2020) expanded upon CMN Resolution 4656 by allowing the direct credit companies (SCDs) to (i) issue post-paid payment instruments (credit cards); (ii) obtain financial resources to provide credit, according to its corporate purpose, via on-lending and lending operations from the Brazilian Development Bank (BNDES); and (iii) sell or assign credits to investment funds in general, not only to the receivable instrument fund (FIDC). It also allowed investment funds in general (not only FIDCs) to act as creditors in operations intermediated by peer-to-peer loan companies (SEPs). Additionally, it permitted investment funds to perform corporate control of SCDs and SEPs, only indirectly, through a legal person headquartered in Brazil.</td></tr>
</table>

type: the payment transaction initiator. The OBI allows the sharing of data and services among financial institutions, payment institutions and other institutions licensed by the BCB — through the opening and integration of systems, in a safe, swift and convenient environment. More details on OBI are available at https://www.bcb.gov.br/en/pressdetail/2330/nota.

[28] The SCD is the financial institution responsible for carrying out operations of loan, financing, and acquisition of credit rights. It operates with its own capital. In contrast, the SEP is the financial institution responsible for carrying out financial intermediation operations (the peer-to-peer loan and financing operations) in which funds collected from creditors are directed to debtors, after negotiation on an electronic platform.

Interactions between Financial Inclusion and Fintech Strategies
The Findex survey indicated that 58% of Brazilians without a financial account indicate high fees or lack of financial resources as their main impediment. At the same time, 60% of Brazilians indicated having access to both cell phone services and the internet (with 70% of Brazilians having mobile bank accounts), pointing to much higher connectivity than the global average of 25%. Digital solutions are believed to have the potential to serve the underbanked segments of the population by offering more competitive financing costs than the traditional banking channel. The BCB aims to achieve the objectives of its financial inclusion strategy (Agenda BC#) through the fostering of technological innovation. Accordingly, the financial inclusion and the fintech strategies are closely linked. The BCB has realized that financial technology is probably the most effective way to reach the Brazilian population and help them not only to get access to financial services, but also to do so in a sustainable manner.
Results
Since the relevant regulations have been implemented, there has been an increase in the number of institutions providing payment services, which led to an intensification of competition in this sector. The same happened in the acquirers' sector. The key results of stronger competition were an improvement in the quality of services, especially in terms of user experience; a reduction in charges and fees; and greater access to these products and services. There has been an increase in payment accounts provided by electronic money issuers, which facilitated the access to digital services of a larger share of the population. In line with CMN Resolution 4656, new credit companies can operate independently and with legal certainty, without the need of working as banking correspondents of financial institutions. These companies bring new technologies to the credit market, especially operating in the onboarding of clients and innovative credit risk assessment models. This new business model allows them to serve different customers, such as small and medium enterprises (SME), which had some difficulties having access to loans from incumbent institutions. The authorities have detected a rise in the number of SCDs and SEPs authorized by the BCB. This benefit SMEs both directly (through easier access to credit, because the fintech companies specialize in SME credit) and indirectly (through additional competition that encourages other financial institutions to provide credit to SMEs).
Ways Forward
The risks associated to greater financial inclusion through the fintech sector are not different from the ones that are already being taken into account with incumbent institutions, because most of the fintech companies are regulated by the BCB.[29] Nonetheless, it is important to mention that cybersecurity risk is getting more and more attention, but it affects all of the financial and payment institutions (which are increasingly carrying out online operations), not just the fintech companies. CMN and BCB have issued a regulation obliging the institutions licensed by the BCB to implement and maintain a cybersecurity policy formulated according to principles and guidelines that seek to ensure the confidentiality, integrity, and availability of data. The BCB has launched its regulatory sandbox. The first cycle will begin in the second half of 2021, with a duration period of one year, extendable for the same period, limited to 10 to 15 participants. The main goal of this initiative is to foster innovation and improve competition in the financial system, but there are complementary goals as well. The BCB has included in the regulatory sandbox's rules some of its strategic priorities for the first cycle, which means that projects aiming at solving some of the priority issues will receive a better score in case there is a need for prioritization, which will happen if more than 15 interested entities apply to the regulatory sandbox. Among the strategic priorities are "fostering credit provision to micro and small entrepreneurs" and "financial and payment solutions with potential effects on fostering financial inclusion".

[29] Considering fintech companies operating within the regulatory scope of the National Monetary Council (CMN) or the BCB.

Chile[30]

Financial Inclusion Strategy	
Announced/Enacted	There is no national financial inclusion strategy in place. A Financial Inclusion Unit was created by the Ministry of Planning in 2011. A Financial Inclusion Advisory Committee was created in 2014. A National Financial Education Strategy was published in October 2016.
Implemented measures	The authorities have enacted several initiatives to promote financial inclusion. The most relevant one in terms of volume is a long-standing program implemented by Banco Estado (a state-owned commercial bank) that provides basic payment accounts to large segments of the population, requiring only a valid government ID. Additionally, the same institution has deployed a dense network of bank correspondents throughout the country.[31] Use of non-card-based electronic funds transfers is steadily growing, and regulators have taken or announced measures in this field. In 2008, the banking regulator forced banks to make instant interbank electronic funds transfers available to their customers. This measure was taken with the specific objective of improving the service provided to bank customers and has enabled different time-sensitive retail digital transfers or payments to be conducted outside of the card system. Chile also has long-standing public credit guarantee schemes that aim at increasing the availability of formal credit to local SMEs (FOGAPE and FOGAIN).
Measures of success/ Quantitative targets	The program providing basic payment accounts by Banco Estado has been highly successful. Currently, there are more than 12 million active accounts, and by September 2020 almost 70% of the debit cards in Chile were issued by Banco Estado (while the assets of Banco Estado comprise only about 15% of the total banking system). Also, the public credit guarantee schemes in Chile have been effective at increasing credit to SMEs.[32]
Fintech Strategy	
Announced/Enacted	There is currently no national fintech strategy in place.
Activities covered	Fintech companies operating in the country are involved in: Electronic transfers, digital payments, credit issuance, crowdfunding/alternative trading platforms, robo-advisory, and virtual asset custodial services, amongst others.
Implemented measures	To promote competition in the payment markets and encourage innovation, the Ministry of Finance has announced a bill that will regulate different fintech activities. This bill reflects rising concerns of regulators about the risks that fintech companies that have long functioned in an unregulated manner in areas such as crowdfunding/alternative trading platforms, robo-advisory, or companies that will be enabled by Open Banking (in addition to the already-regulated fintech firms related to card payments) can generate, especially as related to AML/CFT, cybersecurity, regulatory arbitrage, or prudential risks. However, another stated objective of the proposed regulation is to enable the activity of these fintech companies and create frameworks that provide them with legal assurances. These frameworks typically include modifications to existing sectoral regulations aimed at making them easier to comply with for fintech companies. The proposed frameworks do not introduce changes to the basis of Chile's legal framework, such as contractual law, the civil code or insolvency laws. Specifically, with the objective of promoting the safe development of the crowdfunding environment in Chile, the government has announced a bill that will regulate crowdfunding

[30] Prepared by Manuel Galilea, Economist, Central Bank of Chile, with inputs from Gabriel Aparici, and Pablo Furche.

[31] An evaluation of these programs by Banco Estado is available at: https://huellasocialbancoestado.cl/sites/default/files/banco_estado_documentos/The_Case_for_Financial_Inclusion_The%20Experience_of_Chile_December%202017_2%200_tab.pdf

[32] See for example Cowan et al (2015) or de La Torre et al (2016).

	platforms and related services.[33] The law will be more comprehensive than existing regulations and will cover activities like robo-advisory, credit scoring, and alternative trading platforms, amongst others. That bill is also supposed to include modifications to existing securities laws in order to create a more proportional framework.[34] The same initiative should contain dispositions to regulate payment-oriented or information-enabled fintech companies that are currently not regulated and provide them with new ways of doing business; specifically, the bill is supposed to introduce a framework for Open Banking in Chile.[35] One can expect that the needs of businesses and consumers for efficient digital payments and alternative sources of credit will only increase in the future. Against this backdrop, authorities at the Central Bank of Chile have undertaken internal reorganizations in order to be ready to understand and enable–where necessary–new participants. The Central Bank has updated and issued new regulations regarding the operation and administration of low value payments systems and low value payment service providers. The general objectives of these modifications are to promote interoperability, develop new business models and ensure the safety of these payments.[36] Finally, it is important to note that the deployment of the different fintech and financial inclusion initiatives in Chile is usually done in a coordinated way, with the different relevant regulatory bodies providing inputs to the draft laws and the proposed regulations.
Regulatory framework	Fintech companies that provide or facilitate credit provision are typically not regulated. The same is true for platforms that provide transaction or custodial services for financial instruments or crypto assets that are not deemed as regulated securities ("valores") by the local legal system. In contrast, fintech companies that provide payment services and hold third-party funds are regulated by the Central Bank. Fintech entities involved in cross-border remittances are not specifically regulated, but they have to comply with AML/CTF dispositions and, when applicable, exchange regulations.
State of Financial Inclusion	
Expanding financial inclusion in Chile is a relevant issue, although basic payment account needs are well covered by traditional financial entities. According to Findex data (2017), 74% of adults in Chile hold at least one payment account. While this compares well with other Latin American countries (54%), it is about what is expected from a country with the same GDP per capita as Chile. Financial inclusion in more complex products is more nuanced, for example access to credit products is more limited with approximately 47% of adults holding at least one credit product - mainly credit cards.[37]	
State of Fintech	
According to the latest IDB-Finnovista Fintech Radar in Chile, the fintech ecosystem has consistently grown in the last years, and the most important segment for local fintech companies is "payments and remittances" followed by "lending."	

[33] https://www.hacienda.cl/noticias-y-eventos/noticias/ministerio-de-hacienda-agiliza-desarrollo-de-marco-regulatorio-para-fintech-y

[34] For more details on the proposal, please refer to the White Paper for the crowdfunding regulation in Chile (in Spanish): https://www.cmfchile.cl/portal/principal/605/w3-article-25860.html

[35] Open Banking (or open bank data) refers to a financial architecture that allows institutions to share registration and transaction data between banks and nonbank financial institutions through the use of application programming interfaces (APIs).

[36] For more details on these initiatives please refer to Box V.1 of the Financial Stability Report of the first semester of 2021. https://www.bcentral.cl/documents/33528/2967220/recV1_nuevos_desarrollos.pdf/8cd37307-0c4f-a149-d85b-b66c6b86dfff?t=1620184196480 (available only in Spanish).

[37] Other relevant figures for financial inclusion in Chile can be found in: Informe de Inclusión Financiera 2019 – SBIF, available in Spanish: http://www.cmfchile.cl/portal/publicaciones/610/articles-38692_doc_pdf.pdf

In the "payments" segment, one can highlight platforms that allow customers to make payments with electronic fund transfers in a similar way to payment initiation services.[38] In 2017, the authorities enacted regulatory changes that allowed nonbank entities to function as sub-acquirers.[39] This measure has incentivized several fintech entrants in the sub-acquiring space, principally serving businesses that previously did not accept digital payments and therefore contributing to an increase in the use of electronic means of payment. Regarding business credit, fintech institutions in Chile have focused on the provision of invoice-backed finance. This has been partly supported by the introduction of electronic invoicing and the creation of a centralized database managed by the tax authority that registers electronic invoice transfers, therefore reducing administrative costs of invoice finance solutions.[40]
Interactions between Financial Inclusion and Fintech Strategies
Background. With the objective of further improving access to payment accounts for unbanked adults, especially through payment accounts issued by providers other than the Banco Estado, Congress enacted a law that allowed nonbank entities to issue prepaid cards, which prompted other regulatory agencies to introduce major changes to payment regulations in 2016. While the emergence of nonbank e-money institutions has been slower than expected, that trend has reversed in the last two years with the entry of fintech companies that provide financial accounts, as well as incumbents private banks, possibly responding to increased levels of competition. These companies are starting to offer basic or digital accounts that were previously not widely available, therefore expanding the range of alternatives for basic payment accounts. The participation of these fintech entities in the credit card market does not raise major financial stability concerns since those entities are subject to similar prudential regulation as their more traditional competitors. **Financial inclusion during the COVID-19 pandemic.** The COVID-19 pandemic has also brought changes to the payments market in the country: on the one hand, mobility restrictions have increased online transactions, especially for electronic fund transfers[41]. On the other hand, the greater need for accepting digital payments among businesses has fueled the activity of sub-acquirers or payment initiation services that specialize in these transfers. Like in other countries, the government has introduced various cash transfers to the population, including large-scale withdrawals from pension funds, which were approved by Congress. However, these cash transfers have usually been undertaken through traditional financial institutions rather than through fintech firms. Possible reasons for this can be (i) the relatively low levels of development of fintech firms that provided digital wallets in Chile when the pandemic hit and, as mentioned earlier, (ii) the dominance of payment accounts from Banco Estado (a traditional financial institution) or (iii) lack of direct access to certain financial infrastructure.
Results
The results of fintech industries entering the local market can be multilayered. In Chile, the authorities have evaluated the impact of new regulations by the number of companies involved and the volume of operations performed through these new providers. It is important to note that, depending on the regulatory measure, not all new providers are fintech institutions. Since Chile does not have a formal fintech or financial inclusion strategy, this section focuses on assessing how different regulatory measures may have impacted the emergence of fintech firms.

[38] Payment initiation service providers are companies that, with the consent of their customers, initiate Fund Transfer Orders from the customer's account in a bank or another financial institution to another account. These providers are typically regulated by Open Banking Frameworks, that among other things, regulate the interconnection between the banking system and these providers. These frameworks also typically require that banks and other account providers have access points available for regulated payment initiation service providers. Unregulated payment initiation services can also function using screen scrapping techniques.

[39] Sub-acquirers, similarly to acquirers, are institutions that transfer funds from card transactions to merchants. However, instead of participating in a four-party or three-party model, the sub acquirers enter into a contract with an established acquirer, so the payment flow goes from the issuer to the acquirer, then from the acquirer to the sub-acquirer and finally from the sub-acquirer to the merchant. Sub-acquirers typically argue that they serve merchants that are not "reachable" by acquirers.

[40] For a description and results of these policies please refer to: Fernando Barraza – *Influencia de la facturación electrónica en el desarrollo del factoring,* available in Spanish: https://www.ciat.org/Biblioteca/Estudios/2018_FE/cap2-4_Chile.pdf

[41] For recent statistics on the use of retail payments in Chile please refer to the chapter 6 of the *Financial Stability Report* for the Second Half of 2020, available in Spanish: https://www.bcentral.cl/web/banco-central/contenido/-/detalle/informe-de-estabilidad-financiera-segundo-semestre-2020

In the payments sector, the emergence of new fintech sub-acquirers and electronic money issuers can be partially attributed to the regulatory changes described above (there is no granular information on the volume of transactions performed by these fintech providers relative to the more traditional providers).

On the other hand, following regulatory changes that allowed nonbank entities to offer payment accounts, fintech providers started issuing basic digital payment accounts (with incumbent banks doing the same). However, the volume of these payment accounts is currently very low compared to the payment accounts issued by Banco Estado.

Regarding loans processed by or through fintech companies, the authorities are aware that there are high volumes of invoice-backed finance transactions performed through crowdfunding platforms.[42] However, the only public policy that may have enabled this is the invoice transfer system put in place by the tax authority, because these platforms are currently unregulated.

Ways Forward

The upcoming Fintech bill will likely frame the regulatory discussions for the fintech sector in the near term.

The Central Bank sees the digital payments area as very promising, since they remain an area for improvement in different aspects of financial inclusion. Therefore, it has announced that digital payments will be one of the focus areas for the Central Bank this year.

Impediments to fintech development. The fintech sector in Chile is currently very dynamic,[43] but this does not mean that there are no impediments to further development of the sector.[44]

- A major impediment identified by the participants in the fintech market is their difficulties with access to capital, or with attracting local or international talent.
- The relatively small size of the local economy may affect firms' scaling up or incentivize their move to other countries.
- Another major point mentioned by market participants is the lack of a clear regulatory framework. Additional regulatory developments can promote the security of fintech platforms operations. That in turn can attract prospective clients to use these platforms or new investors.
- It is probable that the highly concentrated operation model of the payment card market in Chile has created entry barriers for new payment service providers or hampered innovation in that market. This is expected to change in the near future following the changes that are taking place in that market.[45]

Challenges and regulatory solutions. Notwithstanding the advances in payment accounts, the authorities have identified many remaining areas for improvement:

Although card ownership in Chile can be seen as adequate when compared to other countries, the usage of these cards is not very high when compared to advanced economies. While there are different possible explanations for this, a major idiosyncratic factor in the card market in Chile was until recently that the acquiring sector was concentrated in a big player that was at the same time vertically integrated with several banks and did not operate independently from the card-issuers. This structure was monitored by antitrust authorities and they concluded that it created entry costs that may have disincentivized participants on both the issuing and the acquiring side. Particularly, entry costs on the acquiring side may have caused the card acceptance infrastructure to be relatively low when compared to advanced countries.

Against this, the authorities (including the Central Bank of Chile) took measures to change the operating model of the acquirer. These measures initiated a transition from a three-party model—where banks participate mainly under joint ventures—to a four party model—where banks participate independently coordinated by an international brand like Visa or Mastercard.[46] While in the medium term this new (four-party) operating model should reduce the problems inherent to

[42] For data on crowdfunding volume please refer to: https://www.jbs.cam.ac.uk/wp-content/uploads/2020/08/2018-business-access-to-alternative-finance.pdf; or https://ideas.repec.org/p/chb/bcchwp/815.html

[43] According to the Fintech Radar prepared by Finnovista, the ecosystem grew by 49% from 2018 to the second semester of 2019: https://www.finnovista.com/radar/el-ecosistema-fintech-en-chile-crece-un-49-en-los-ultimos-18-meses/

[44] The fintech study done by EY containing a survey of fintech participants in Chile and identifies different areas of improvement: https://americas.ey-vx.com/935/16626/landing-pages/formulario-descarga-fintech.asp?sid=6eef8db6-e186-49c4-8a6d-07a6a5eeb4cf

[45] The Box VI.2 of the Financial Stability Report of the Second Half of 2018 refers to these effects. Available at https://www.bcentral.cl/documents/33528/0/fsr_2018_2.pdf/8f165c8b-90e0-0325-106c-3cf783c91522?t=1588200995897

[46] A three-party model is one where *Transbank,* a joint venture among main banks, operated as their joint service provider and as the acquirer of the transaction representing the issuer. This model implied that every entrant in the issuing side of the market had to operate with *Transbank*, which severely restricted the entrance of new acquirers; a four-party model is one

the current (three-party) model, the transition itself has proven to be difficult since many conflicting interests are at stake. With the partial objective of easing that transition, the government has recently issued a bill to regulate interchange fees, while the antitrust authorities are likely to enact additional measures.

The Central Bank plans to further increase the security of instant interbank electronic fund transfers by regulating the underlying compensation and liquidation processes of electronic funds transfers—processes that are currently partly executed in an unregulated way. The issuing regulation process is going to be flexible with the dual objective of not disrupting what is working well, while permitting new providers to enter the market and provide a basis for new solutions.

Going forward, the authorities expect the enactment of different regulatory measures that will impact the entry of fintech companies into the market:

- Enactment of a fintech law that will regulate crowdfunding and Open Banking;
- Transition to a four-party model in payment cards;
- A new regulation proposed by the Central Bank for the operation of low-value payment clearing infrastructure, using proportionality principles, that should promote interoperability and facilitate the entry of new platforms.

where the card acquirer and the card issuer both sign a contract with a card brand (like MasterCard or Visa) and operate as independent entities.

Colombia[47]

Financial Inclusion Strategy	
Announced/Enacted	The National Financial Inclusion Strategy was launched in 2016. The National Economic and Financial Literacy Strategy was introduced in 2017. A Financial Literacy and Inclusion Policy was put forward in 2020[48]. This policy integrates the key guidelines and expands upon the principles of the 2016 and 2017 National Strategies.
Key objectives	CONPES Document No. 4005 aims at integrating financial services into the daily activities of citizens and of micro, small and medium-sized enterprises, meeting their needs and generating economic opportunities to contribute to the growth and financial inclusion of the country. To this end, it proposes an action plan to improve the provision of relevant financial services to the general public, with four goals, namely: 1. Expanding and increasing the relevance of financial products and services. 2. Creating stronger financial capacities and knowledge, as well as confidence in the financial system. 3. Strengthening financial and digital infrastructures for greater access and use of formal financial services. 4. Developing an institutional governance that allows for greater coordination in the implementation of financial education and inclusion strategies. The policy will be implemented over a 5-year horizon, with an approximate investment of US$3.7 million, by the Ministries of Finance, Education, Agriculture and Rural Development, Commerce, Industry and Tourism, among others.
Implemented measures	**1. Access to credit** **National Guarantee Fund (*Fondo Nacional de Garantías*)** The *Fondo Nacional de Garantías* is a mixed capital institution founded in 1982 to improve access to credit of small and medium-sized firms. It uses a model of credit guarantees to provide third-party credit risk mitigation through the absorption of a lender's partial losses on loans made to defaulting businesses. This is done in return for a fee. The *Fondo Nacional de Garantías* supports loans intended to finance working capital, housing, education, among others. **Bancoldex** Bancoldex is a government-owned development bank created to stimulate business growth. Rather than providing loans directly to businesses, Bancoldex uses its resources to lend to financial intermediaries, which in turn grant loans to final beneficiaries. Bancoldex also have an extensive portfolio of non-financial services, namely training and advising. **FINAGRO** The *Fondo para la Financiación del Sector Agropecuario* (FINAGRO) is a public mixed-capital credit institution under a special regime of the Ministry of Agriculture and Rural Development. It promotes the development of the Colombian rural sector by providing financing tool to stimulate investment. FINAGRO channels resources through financial intermediaries, so that they can, in turn, grant loans to agricultural producers. ***Banco Agrario de Colombia*** The Banco Agrario is a public financial institution founded in 1999 to provide banking services to the rural sector and to finance agricultural, livestock, forestry and agro-industrial activities. It was created to advance access to credit in remote areas of the country, where private financial institutions may lack incentives to operate. It is also part of the Ministry of Agriculture and Rural Development.

[47] Prepared by Freddy Castro, Director, and Michael Bryan, Senior Professional, Banca de las Oportunidades.

[48] The 2020 Financial Literacy and Inclusion Policy (CONPES No. 4005) was designed by the National Planning Department and approved by the Council for Economic and Social Policy (CONPES), the highest national planning authority which serves as an advisory body to the Government on the country's economic and social development issues. CONPES coordinates and provides guidelines to the Government agencies in charge of the economic and social agenda.

2. Financial Infrastructure

Banking agents
The banking agency model was created in 2006. It allows retailers, supermarkets, drug stores, among others, to provide financial services on behalf of financial institutions. They can process a variety of transactions, such as bill payments, deposits, withdrawals, and transfers. Banking agents' lower set-up and operating costs create opportunities to expand financial coverage in municipalities with limited access to commercial banks' branches.

Digital and mobile agency
In an effort to reconcile current trends in the digitalization of financial services and the traditional agency model, a 2020 regulation initiative allowed the agent model to be conducted digitally or through mobile means, in addition to physical locations. As a result, non-financial third parties are now able to provide financial services through mobile apps or digital platforms in remote or rural areas and, thus, help build trust in the digital payments ecosystem.

3. Payment ecosystem

Modernization of the low-value payments system
A modern payment system facilitates financial inclusion by reducing cash use, while promoting the use of financial products and generating transactional information that can be used to expand the population's access to more sophisticated financial services. Making a more robust low-value payment system means adapting to new market realities, updating operating standards, facilitating access for new players and ensuring an adequate flow of information between the system participants.
In 2020, the National Government established a new regulatory framework, with the goal of increasing the share of adults who make electronic payments or purchases online from 20 to 50 percent by 2025.

Simplified and digital deposits products
In order to facilitate the access and use of financial products, three types of simplified and digital deposit products have been created between 2007 and 2011: electronic deposits, simplified savings accounts and electronic savings accounts.
Those are on-demand deposit accounts, similar to savings accounts, and feature the following characteristics[49]:

- They can be opened through special simplified procedures, provided that pre-established limits on transactions, balances and number of accounts per user are met. The simplified procedure entails the provision of basic information such as the user's full name, valid ID number, phone number, and date of birth.
- They are exempt from taxation on financial transactions if total monthly withdrawals are less than 65 Tax Value Units (UVT), roughly three times the minimum wage.

They are particularly useful to create a financial history based on transactions, which may, in turn, help individuals transition to a more comprehensive portfolio of financial services.

TransfiYa
TransfiYa is a transactions platform, operated by ACH-Colombia, an automated clearing house owned by private banks. Through TransfiYa, users can send, receive, or request money quickly and safely, using only their mobile number. This system essentially constitutes an interoperable ecosystem, currently free of charge and working across twelve financial institutions. This number is expected to grow over the next year.

[49] In Colombia, anyone who carries out commercial activities must undergo a commercial registration. This registration can be made in the form of a natural or a legal person. The former applies to an individual applicant, who acquires the quality of a merchant to engage in a professional commercial activity. The latter implies the creation of an entity distinct from the individuals that make it up. Only natural persons can open electronic deposits, simplified savings accounts and electronic savings accounts.
Using data from the centralized commercial registry (*Registro Único Empresarial y Social*) operated by Confecámaras, the chambers of commerce association, Valderrama *et al.* (2021) estimate that 71.2 percent of total registrations correspond to natural persons and 28.7 percent to legal persons. This suggests that simplified and digital accounts may be facilitating the emergence of niche P2B ecosystems.

	4. Financial inclusion governance **Banca de las Oportunidades** Banca de las Oportunidades, is a National Government program aimed at promoting access to credit and other financial services among low-income households, micro, small and medium-sized businesses, and entrepreneurs. Banca de las Oportunidades also produces official financial inclusion data and conducts research on topics such as financial infrastructure, inclusive insurance, determinants of access to credit, amongst others. The program was created by Decree 3078 of 2006, subsequently incorporated into Decree 2555 of 2010, and is currently under the administration of Bancóldex. **National financial inclusion and literacy institutional framework**[50] Decree 2338 of 2015 created the Intersectoral Committee for Financial Inclusion as a policy orientation and coordination instance among institutions relevant to the promotion of financial inclusion. Additionally, Decree 457 of 2014 created the National Administrative System for Economic and Financial Education and the Intersectoral Committee for Economic and Financial Education. Its main function is to design guidelines aimed at providing quality economic and financial education to the population.
Regulatory framework	**1. Main regulatory framework** Decree 2555, issued by the Ministry of Finance in 2010, defines the main regulatory framework through which the Colombian financial, insurance and securities markets operate. It integrates all previous regulations pertaining to the functioning of the financial system, by repealing or reinstating over 160 decrees and resolutions that existed before 2010. **2. Financial inclusion** Specific regulations aimed at fostering financial inclusion include: **Agency model framework** Adopted in 2006 with Decree 2233, the agency model framework allows contracts between financial institutions and non-financial third parties, such as supermarkets and drugstores, to provide financial services.[51] **Simplified and digital deposit products** As detailed in the previous section, relative to traditional deposit products, these accounts have fewer opening requirements and a lower tax burden, facilitating their adoption. In terms of their regulatory framework, **simplified savings accounts** were established in 2009 by Superfinanciera's External Circular Letter 053 (additional specifications were included in External Circular Letter of 2013). On the other hand, **electronic savings accounts** were created in 2007 with Law 1151, whose Article 70 was regulated through Decree 4590 in 2008. Their main purpose is to facilitate cash transfers from different government social programs. Finally, **electronic deposits** were created in 2011 with Decree 4687 and are the core financial product that companies specialized in electronic payments offer (see below). **Infrastructure for movable asset-based lending: Secured Transactions Law** In emerging countries, such as Colombia, SMEs are unable to meet their financing needs because of their inability to adequately back their obligations as many do not own real estate, traditionally considered suitable as collateral for loans. In contrast, according to World Bank estimates, more

[50] CONPES 4005 will unify the Intersectoral Committee for Financial Inclusion and Intersectoral Committee for Economic and Financial Education into a single body.

[51] The regulation of banking agents was incorporated into Decree 2555. Initially, users could use banking agents to make payments, transfers, deposits, withdrawals, disbursements of credits, and balance inquiries. Over time, the number of services that banking agents could offer has expanded. For instance, in 2009, Decree 1121 authorized them to open savings accounts, and in 2015, Decree 1491 allowed them to open electronic deposit accounts through simplified procedures on behalf of financial institutions.

	than the majority of SMEs assets are movable property, such as inventory, machinery and accounts receivable. Within this context, Colombia coordinated and implemented an ambitious agenda to reform its institutional framework that made it easier to use movable property as collateral for loans, particularly among businesses. Law 1676 on security interests over movable assets came into effect in 2013. The Law aimed at increasing access to finance of medium and small-sized enterprises. In particular, the law expanded the types of assets that may be subject to a security interest, and created a new centralized collateral registry, currently operated by Confecámaras, as well as new mechanisms to enforce security interests against debtors.[52] **Companies specialized in electronic payments (SEDPEs)** SEDPEs were created by Law 1735 of 2014 .in order to leverage the impact of simplified and digital deposit products. Decree 1491 of 2015 provided additional regulatory specifications. SEDPEs provide transactional services such as payments, transfers, and collections through electronic deposits. However, unlike other credit institutions, they are not authorized directly to grant loans or other types of financing. SEDPEs must comply with all regulations on money laundering and terrorism financing prevention. However, they are expressly exempted from complying with some traditional KYC procedures, such as verifying clients' economic activity, income and expenses. **Digital agency model** Incorporated into the Decree 2555 (see below), Decree 222 of 2020 allows the banking agent model to be conducted digitally or through mobile means, in addition to physical locations. It also incorporates other changes: • It unifies the regulation and definition of electronic deposits, simplified savings accounts, and electronic savings accounts (see previous section). • It modernizes the rules governing low-value consumer loans (*créditos de consumo de bajo monto*, CCBM) [53] as a tool to mitigate informal financing. **Promotion of factoring as an alternative tool for financing businesses** Decree 358 of 2020 creates a centralized registry for electronic billing purposes. This constitutes an important step in the consolidation of the factoring market in the country. **Low-value payments system** The Ministry of Finance issued Decree 1692 on December of 2020. It modifies Decree 2555 of 2010 by introducing the following key innovations to the country's low-value payment system: • Allowing the participation of new players in the merchant-acquiring activity; • Stronger corporate governance requirements of the entities in charge of the administration payment systems; • Greater transparency in access rules for potential new participants in the system;

[52] In addition to traditional judicial enforcement mechanisms, the Secured Transactions Law creates two additional systems to facilitate the enforcement of security interests over movable property, namely: (i) Direct payment, which allows the lender to sell the collateral following a default. This was not possible before the Law was enacted, and it is considered an innovation in the Colombian civil law tradition. This mechanism is only possible when the parties had agreed so or when the secured lender is in possession of the collateral; and (ii) Special enforcement, where the parties are free to establish their own rules for the disposition of the movable property in their contract. Only public notaries and chambers of commerce are authorized to carry out the special enforcement procedure. It is important to note that neither of these entities are judicial bodies.

[53] CCBMs are consumer loans with the following characteristics:

- CCBMs are extended to individuals who have not previously held any credit product in the financial system;
- The maximum loan amount is four times the monthly minimum wage (regardless of income). The Financial Superintendence of Colombia may increase this amount to up to eight minimum wages;
- CCBMs may be a revolving line of credit and cannot be provided through credit card systems;
- CCBMs' loan loss provision regime is that of consumer loans, but with an independent interest rate certification process (i.e., the maximum interest rate that can be charged is different from that of consumer loans);
- Financial institutions that offer CCBMs may establish origination processes that differ from traditional methodologies.

	• Segmentation and definition of the different activities that encompass the payments ecosystem; • The definition of the purpose and irrevocability of the payment. **Information and monitoring** External Circular Letter 025 of 2007 made mandatory the report of data at the municipal level on banking agents, loan disbursements and deposit products. Further specifications on the frequency and characteristics of the reports were introduced in External Circular Letter 039 of 2008 and 007 of 2013. **3. Consumer protection and financial literacy** In recent years, public and private efforts have been made to create a robust institutional framework aimed at protecting financial consumers. Two initiatives stand out: • Law 1328 of 2009 created a financial consumer protection regime. Specifically, financial literacy was incorporated as a consumer right, along with the obligation for financial entities to offer educational tools and programs to their clients. • Law 1748 of 2014 made mandatory the provision of timely and clear information to consumers on financial products and services.
Measures of success/ Quantitative targets	National Development Plans (PND) are four-year formal and legally binding instruments detailing strategic guidelines for public policies, along with the financing requirements for their execution. The 2018-2022 PND has three goals related to financial inclusion:[54] • 85% of Colombian adults can access a deposit or credit product (in September 2020 the indicator reached 87.1%); • 68% of Colombians living in rural areas can access the financial system (in September 2020 the indicator reached 63%); • 77% of all adults in the country have active products in the financial system (in September 2020 the indicator reached 73%).
Fintech Strategy	
Announced/Enacted	The development of the country's fintech ecosystem is part of the 2020 Financial Literacy and Inclusion Policy, as well as the regulatory agenda of the Financial Regulation Unit of the Ministry of Finance. Currently, Columbia has no separate fintech strategy.
Implemented measures	Colombia has adopted progressive regulation to facilitate the use of technology to provide new channels, products, and services for those traditionally excluded from the formal financial system. It also recognizes that this process must be guided by pertinent financial consumer protection standards and balanced operating conditions for both incumbents and new players with innovative business models. Under this vision, the Intersectoral Committee for Financial Inclusion, which oversees the implementation of the 2016 National Financial Inclusion Strategy, has encouraged a constant public-private discussion through its Fintech Subcommittee on issues such as digital identity, crowdfunding, digital payments and regtech. In general, as described in the next section, Colombia's legislation on fintech issues has been based on an incremental approach that seeks to define the operations, participants and regulatory standards with which the industry's development should be guided, without losing the flexibility to incorporate changes or new activities, as market dynamics so warrant.
Regulatory framework	Colombia is the third country in the region with the highest number of fintech firms, marked by an acceleration of innovation by incumbent financial institutions. The Colombian government has promoted a regulatory environment that takes advantage of the benefits of the technological upheaval, while maintaining financial stability and integrity, and proper consumer protection. To

[54] The National Government collects two types of data on access and usage of financial services. The first one comes from reports made directly by supervised financial institutions, either to credit bureaus or the Financial Superintendence. As a result, they correspond to actual market figures. The second type arises from surveys conducted among individuals under a randomized setting. As opposed to the first category, they represent perceptions.
The indicators reported in this section are constructed using data from the financial obligations registry of TransUnion, one of the two credit bureaus operating in Colombia.

	this end, an agenda has been implemented to build standards and principles to encourage competition and innovation. The following are some of its main elements: **SEDPEs as fintech innovations** The commitment to the regulation of innovative financial activities was redoubled with the creation of SEDPEs as a means to foster digital payments, electronic transactions, and to generate complementary financial information records that would facilitate access of underserved groups to a wider range of financial products, such as credit. SEDPEs essentially provide digital services under a technologically-driven operation scheme and, thus, effectively integrate the fintech ecosystem. **Investment crowdfunding** In order to increase small and medium-sized enterprises' financing alternatives, the Financial Regulation Unit began to analyze the regulatory requirements to enable crowdfunding operations in Colombia in 2017. As a result, in 2018 the government issued Decree 1357, which regulates collaborative financing under simplified standards. **Investment of credit institutions, financial services companies, and asset managers in the capital of innovation companies and financial technology** In 2018, an important step was taken in the promotion of alliances between traditional financial institutions and fintech companies. Through Decree 2443, financial institutions were authorized to make equity investments in fintech companies. It is expected that this innovation will foster more customer-centric financial solutions. **Regulatory Sandbox** As part of its innovaSFC strategy, the Financial Superintendence has implemented initiatives to test and understand new technologies and innovations, so as to properly assess risks and opportunities associated with fintech. As such, it launched a regulatory sandbox to encourage innovation in the financial sector, where firms and startups can test their products and services with targeted regulatory assistance and under a controlled environment. Examples of the most promising projects include data analytics, artificial intelligence, and payment systems. **A more inclusive the low-value payments system** The use of technology and financial innovation have generated profound changes in the payments industry, allowing transactions to be carried out digitally and immediately, in increasingly competitive and interoperable conditions. As previously indicated, the Financial Regulation Unit published a technical document on the low-value payment systems to collect industry feedback, including key participants from the fintech ecosystem. In 2019, the Unit conducted several workshops with different fintech industry leaders in order to identify elements for promoting the digital payments in the country. Based on these results, the Unit issued Decree 1692 of 2020, which facilitates the participation of fintech companies in the value chain of the low-value payments system (e.g. merchant-acquiring activities). **Open banking and account portability**[55] Open banking models entail a radical shift from a traditional model where financial institutions control customers data, to a more transparent model, where financial consumers have greater autonomy over their data and products, which may enhance competition, efficiency and innovation in the financial system. In addition, open data structures and the growing penetration of technology for the provision of financial services can help spur other innovations, such as account portability. Specifically, it refers to the ability of financial consumers to retain their accounts' information, regardless of service providers. As a result, consumers may able to transfer their financial products from one institution to another without penalty, as they will not be required to repeat due diligence procedures, fill out forms, or re-specify payment instructions regarding preferences to their new

[55] Open banking refers to an open financial architecture: a model where consumers authorize their financial and transactional information (resting within financial institutions) to be consulted and used by third parties in order to facilitate the development of new services. In Colombia, the Financial Regulation Unit (URF) will seek to adopt a voluntary open banking scheme, with a public-private discussion agenda to be implemented in 2021. The objective is to generate inputs for the definition of the regulatory framework required for sharing financial information securely. As a starting point, the URF has circulated a technical document containing guidelines for this debate, aiming to solicit comments and proposals from the industry and the general public.

	service provider. This new form of interaction may improve consumers' overall experience and foster competition. The Financial Regulation Unit will establish a regulatory agenda for 2021 aimed at advancing open voluntary open banking and account portability in Colombia. To this end, the Finan cial Regulation Unit will conduct an analysis of different portability models around the world, taking into account their benefits and risks, as well as the regulatory and supervisory challenges they entail. **Fintech innovation in the securities market** Finally, Decree No. 661 of 2018 further encouraged the use of new technology-based tools within the securities market.

State of Financial Inclusion

Colombia in the global financial inclusion landscape

The following comparison uses the information provided by the Global Findex database[56]. The data are collected in partnership with Gallup, Inc., through nationally representative surveys, which in the case of Colombia, covers roughly 1.000 individuals. These are some of the key findings:

- The percentage of respondents who report having an account at a bank or another type of financial institution or report personally using a mobile money service in the past 12 months is 45.8%. This indicator grew by 6.8 percentage points between 2014 and 2017 (but is 8.6 percentage points below the Latin American average).
- This indicator also varies significantly by demographic group, which compare unfavorably to Latin American and upper middle-income countries, as show in the table below:

Account, by individual characteristics (% age 15+)			
Segment	**Colombia**	**Latin America and the Caribbean**	**Upper middle income countries**
Women	42.5	51.3	69.3
Adults belonging to the poorest 40%	35	41.9	62.4
Adults out of the labor force	30.8	43.3	61.6
Adults living in rural areas	41.2	52.6	72.9

- The percentage of respondents who report saving or setting aside any money for any reason and using any mode of saving in the past 12 months is 8.7%—a decrease of 3.6 percentage points, as compared to 2014. This indicator is also 3.5 and 18.2 percentage points below the regional and upper middle-income countries average.
- The percentage of respondents who report borrowing any money (by themselves or jointly with someone else) for any reason and from any source in the past 12 months is 21.2%, a 0.5 percentage points decrease over three years. This indicator, however, is 0.4 percentage points above the Latin American average, but 1.2 below the upper middle-income countries average.

Financial infrastructure and coverage at the regional level

Colombia's results from the Financial Access Survey[57] show a lower number of ATMs per 100,000 adults than in other countries in the region. This figure stood at 42.35 in Colombia (49.69 in Chile; 58.82 in Mexico; and 112.65 in Peru). In contrast, Colombia had the highest number of commercial bank branches. For every 100,000 people in Colombia, there were 14.86 branches (in Mexico, 14.49; in Chile, 13.9; and in Peru, 7.23).

[56] Note that the Global Findex database is fed by surveys. Its data cannot be compared with data from reports that financial institutions make to credit bureaus or the Financial Superintendence, which is used throughout the document to specifically describe the Colombian financial inclusion state. The Global Findex database, however, is a robust comparison tool across countries.

[57] In 2019, the IMF published the results of the tenth Financial Access Survey, with data from 2018. The survey covers 189 countries and collects annual time series data on access to and use of basic financial services around the world.

Financial inclusion during the COVID-19 pandemic

According to the Global Microscope publication, Colombia kept the first place in terms of financial inclusion-enabling environment in 2020[58], for the third time in a row. The top places this year were also occupied by Latin American countries: Peru (2nd place), Uruguay (3rd place) and Argentina (4th place).

According to The Economist Intelligence Unit (EIU), the response of Colombia's financial authorities to the COVID-19 crisis was more effective than that of the other 54 countries included in the analysis. Particularly, the EIU highlights the cash transfers program 'Ingreso Solidario' (IS) (more details below), designed to reach an additional layer of the low-income households, by remotely opening digital accounts through mobile phones. By July 2020, IS had benefited 1.2 million previously unbanked households.

Geographical, gender, and demographic distribution

As of September 2020, 85% of the adult population had access to at least one deposit product and 35.2% to credit products. This implies that 87.1% of adults, 31.6 million, had access to the formal financial system.

However, there were differences in terms of demographics. For instance, access to the formal financial system was the lowest in the youngest group (under 25 years old): 94.5% of adults between 41 and 65 years old had access to deposits or credit, against 78.7% adults between 18 and 25 years old, 85% for the population aged 26 to 40 years old, and 80.7% for adults over 65 years of age.

There is also a gender gap in the access to financial products. By September 2020, 88.8% of adult men in Colombia had access to at least one financial product, while only 83% of women did. These results represent a 5.8 percentage points gap, which increased by 0.5 percentage points relative to 2019.

Additionally, access to financial services is lower in rural areas: the share of adults with access to accounts or loans ranged from 95.5% for urban areas to 57.8% for dispersed rural municipalities. This result closely correlates with Colombia's financial coverage, which still has deficiencies in the rural sector, despite recent progress.

State of Fintech

According to the 2020 Latin American Fintech Report[59], carried out by Finnovista and the IDB, the number of fintech companies in Colombia grew by 26% over the last year, reaching 200. This places Colombia as one of the main fintech markets in Latin America, behind only Mexico and Brazil.

There are 48 companies specializing in lending, representing almost 25% of the market. They are followed by the 43 fintechs offering payments and remittance services (22% of the market) ant the 28 firms that provide business technologies to financial institutions (14% of the ecosystem). Also noteworthy are the 25 firms focused on enterprise finance management services (13% of the ecosystem). Other fintech activities include scoring, identity and fraud, personal financial management, crowdfunding, insurance, trading, wealth management and digital banking.

Besides the increase in the number of fintech firms, it is worth mentioning recent trends in terms of penetration of simplified and digital deposit and transactional products. These products generate cost and time efficiencies and are seen as financial inclusion enablers. In fact, they registered important enrollment growth rates over the last year.

By the end of 2019, there were 6.7 million electronic deposits—a 36.9% increase compared to 2018—and four new financial institutions started offering this product, for a total of ten. Despite only 38.3% of accounts being active, electronic deposit accounts have been an important gender inclusion tool, with about 60% of the deposits owned by women.

Simplified savings accounts increased by 83.3% compared to 2018. By the end of 2019, there were about 4.2 million simplified savings accounts in Colombia, offered by seven financial institutions. As with electronic deposits, more women (65%) held simplified savings accounts than men. About 60% of the simplified savings accounts were active, making them the most used deposit product.

Furthermore, there were approximately 4.2 million electronic savings accounts, mainly offered by public banks. Out of these, 52.3% were active. Similarly, a higher percentage of women (84.5%) had this type of account than men (15.5%), which may reflect the fact that government cash transfers are often made via these accounts.

[58] The Global Microscope assesses the enabling environment for financial inclusion across five categories in 55 (primarily) emerging countries. Particularly, it assesses the enabling environment for financial inclusion in terms of (i) Government and policy support, (ii) Stability and integrity of regulation, (iii) Products and outlets regulation, (iv) Consumer protection, and (v) Infrastructure. The most recent report focuses on the role that financial inclusion has played in the COVID-19 crisis response, and on the policies that have made financial systems more resilient and inclusive.

[59] The 2020 Latin American Fintech Report is one of the most recent documents containing data pertaining the evolution of fintech ecosystem at a regional level.

Technology and finance for the COVID-19 pandemic: The 'Ingreso Solidario' initiative.
In response to the pandemic, the authorities developed 'Ingreso Solidario' (IS), a new cash transfer program of roughly \$45 per month to poor households, which were not part of any preexisting government cash transfer program, such as: *Familias en Acción*, *Colombia Mayor*, *Jóvenes en Acción* or the VAT relief scheme. One of the main innovations of IS is its digital deployment through digital accounts and mobile wallets, leveraging recent regulatory modernization towards non-bank payment services. Specifically, simplified savings accounts and electronic deposits were used to operate the program. It also integrates remote customer enrollment and data-sharing protocols. Potential users must provide their ID number (including the city and date of issuance), full name of accountholder, and place and date of birth. A regulatory change included in the Decree 518 of 2020 allowed for the exchange of information between telecommunication companies, financial institutions, credit bureaus[60], and the government, in order to facilitate implementation. The program therefore helps to address both immediate consumption needs and financial inclusion, while minimizing in-person contacts and risks to public health. There were three implementation stages. The first one was straightforward: Throughout April 2020, 1.4 million households, which had an active deposit account in one of 22 financial financial institutions, received their first transfer. Subsequently, between April and May 2020, several national and local government agencies and a group of financial institutions devised a coordinated strategy to enroll unbanked individuals through digital accounts. Finally, between May and June 2020, households that hadn't received a transfer were assigned a single financial institution, according to their municipality of residence. Disbursements were carried out through authorized bank branches or agents. These actions had clear impact on financial inclusion. More than 650 thousand beneficiaries ended up reactivating or opening a financial product. In addition, more than 759 thousand did so for a deposit product.
Interactions between Financial Inclusion and Fintech Strategies
The National Development Plan has set a goal to reach an access indicator[61] of 85%—with 77% of adults effectively using their products—by 2022. Continued efforts must be made to design innovative financial products and services through the use of technology, meeting the specific needs of different population segments, along with ensuring adequate consumer protection, and expanding financial coverage—especially in rural areas. Growth of the digital payments ecosystem is expected to permeate a wider number of economic activities across the entire value chain. To this end, the 2020 National Financial Literacy and Inclusion Policy has set to strengthen institutional governance and improve overall coordination in policy decision-making. Specifically, a permanent high-level Intersectoral Committee will be created to provide guidelines on the achievement of the strategic objectives of the Policy and seek support from international organizations and private partners.
Results
Colombia has made significant progress in financial inclusion recently. As previously indicated, by September 2020, 87.1% of the adult population had access to at least one financial product. Twelve years ago, this indicator stood at only 55.5%, implying that more than 13 million Colombians have recently entered the financial system. Important milestones were achieved in terms of financial infrastructure, particularly through the banking agent model. Since 2015, there is at least one physical agent in 100% of the municipalities, including rural ones. Finally, throughout the years innovation has become one of the financial system's leading transformative trends. This is demonstrated by the recent growth dynamics of simplified and digital deposit products, the operational launch of several companies specialized in electronic payments (SEDPEs), the implementation of a2censo—the first investment crowdfunding platform from Colombia's Stock Exchange, and the participation of several pilots and projects in the Regulatory Sandbox at the InnovaSFC Hub—the Financial Superintendence's technological and financial innovation strategy.
Ways Forward
Moving forward, fostering financial inclusion poses significant challenges, such as closing access gaps for the rural population, young people and women. It also entails improving the use of transactional products across all demographics. To this end, Colombia must continue working on developing payment systems, applying technological innovations on a larger scale, removing connectivity barriers in remote areas, promoting the use of digital financial tools and continuing to explore the behavioral traits behind the demand for financial services.

[60] There are currently two credit bureaus operating in Colombia: DataCrédito Experian and TransUnion.

[61] Number of adults with at least one credit or deposit product as a share of the adult population, obtained from the financial obligations registry of TransUnion.

It is also important to recognize the relevance of inclusive finance as a way to address a variety of socioeconomic challenges. Some of the key issues include empowering immigrants financially, stabilizing rural areas through economic reactivation, and protecting the informal population whose income sources are vulnerable. Finally, in light of the challenges associated with the COVID-19 health emergency, efforts must be implemented to financially include and monitor the population receiving various government transfers and subsidies.

To realize the vision in tandem with the fintech sector momentum, Colombia must continue to:

- **Expand internet connectivity**: In terms of internet penetration, in 2019 there were 13.8 landline internet subscriptions and 58.7 mobile Internet subscriptions per 100 people, according to the International Telecommunications Union. Both figures were below the OECD average. In addition, internet access varied by geographical location and income. In 2019, 61.6% of households located in municipal seats had internet access, whereas this indicator was only 20.7% among households in rural settlements. Moreover, 88.9% of high-income households and just 20.9% on low-income households had landline or mobile internet.
- **Consolidate the recent trends towards an inclusive regulatory framework**: fintech development is closely tied to an inclusive regulatory framework that facilitates innovation and competition. To that end, recognizing that a growing and dynamic fintech industry may pose additional challenges to financial stability and bring about new risks, Colombia must sustain current efforts towards the adoption of a progressive and proportional regulatory framework.
- **Spur financial literacy initiatives:** efforts must be redoubled to strengthen financial consumer sophistication in order to make effective use of innovative products, protect their finances and have a greater awareness on fraud practices in an increasingly digital environment, among others.

  The 2020 Digital Adoption study from the *Centro Nacional de Consultoría* provides additional insights. It reveals that the number of people that do not actively engage with the internet went from 42% to 20% between 2016 and 2020. That is, four out of five Colombians have entered the digital age—an additional adult over these four years. However, half the population still uses the internet for basic purposes. In 2020, 47% of Colombians used the tool for entertainment, chats and emails alone. This represents a significant step forward, given that, four years ago, this figure was only 32%.

  Nevertheless, the growth in the number of people engaged in more sophisticated activities has not been that fast. On one hand, 27% also use the internet to educate themselves and interact on social platforms—a five percentage points increase relative to 2016. On the other hand, 6% are at an advanced level and also make transactions online—a 3 percentage points increase over four years.

The following are some the actions taken to address these three challenges:

Internet connectivity:

- One of the goals set out for the 2018-2022 administration and entrusted to the Ministry of Information Technologies and Communications is to reach underserved regions with quality internet connectivity in order to close the digital gaps. Under this agenda, Law 1978 of 2019 was enacted to modernize the institutional framework and facilitate the transition to the new technological and market reality, specifically through the creation of a new Communications Regulation Commission (CRC), as the sole independent regulator. Moreover, this Law created the Fund for Information and Communication Technologies, aimed at investing in projects that benefit poor, vulnerable and remote populations.
- In 2019, a spectrum auction for improved mobile internet coverage was held in the 700, 1,900 and 2,500 MHz bands. With this initiative, around a million Colombians will have access to mobile internet for the first time, over the next five years. Also, mobile communication networks in municipalities with less than 100,000 inhabitants will be upgraded from 2G and 3G to 4G technologies, over a period of four years.
- In 2019 the National Government launched the Rural Connectivity Plan to address the urban-rural telecommunications and digital gap. This plan will help improve the quality of life of rural Colombians by deploying the necessary Internet access infrastructure in municipal seats and the conditions to access public connectivity solutions in rural settlements of more than 100 inhabitants affected by the armed conflict, poverty, illicit economies or institutional frailty.
- By mid-2020, 1,000 digital zones with free internet access were installed in the rural areas of 381 municipalities, benefiting 577,718 inhabitants. In addition, 757 digital zones were installed in the 705 urban areas.

Regulatory framework and management of fintech risks:

Despite not having a specific fintech regulatory framework, fintech regulation in Colombia has been adopted based on activity type, seeking to define the scope of operations, institutions and standards with which the industry should develop. This means that particular considerations on fintech risk management, such as fraud, money laundering, consumer protection and stability, are incorporated into each individual regulation pertaining to various fintech activities (e.g., crowdfunding, digital and simplified accounts, capital investment in fintech companies, among others).

In addition, a highlight of the fintech ecosystem regulatory development agenda is the role of Superfinanciera through its innovaSFC strategy, which has the following core components:

- A regulatory sandbox (*la Arenera*) that offers fintech companies and financial institutions the possibility to test new products and services, for a limited time and with a restricted number of clients, in a controlled environment set by Superfinanciera. The regulatory sandbox has a twofold role in promoting fintech development: (i) it may facilitate the creation of new business models driven by innovation and technology, and (ii) offer valuable lessons on how new sectors operate and help identify areas in which regulation could evolve to improve the benefits of innovation, as well as of potential sources of risk.
- InnovaSFC, which includes the elHub initiative. It's the Superfinanciera's point of contact with stakeholders in the fintech ecosystem, aimed at creating resources to help organizations understand and navigate the regulatory and supervisory frameworks.
- There is also the Regtech initiative, which seeks to take advantage of technological developments to leverage innovation within Superfinanciera, optimizing internal processes and reducing operational burdens for the industry.

Financial literacy strategies:

The Colombian authorities, through programs such as *Banca de las Oportunidades*, are developing strategies and initiatives to promote digital financial education, including special projects for vulnerable groups.

Dominican Republic[62]

Financial Inclusion Strategy	
Announced	March 2018 by the Central Bank (BCRD) The Financial Inclusion Strategy comprises a set of laws and regulations that interact with each other to promote the inclusiveness of the Financial System. It identifies critical areas for the coherent development of financial inclusion, including though microcredit provision and facilitation of electronic and mobile payments, access to simplified products and microinsurance, the creation of an ecosystem of credit guarantees, as well as financial education and the reduction of financial exclusion factors, consistent with the cultural, social and economic context of the Dominican Republic.
Key objectives	• Simplified and costless access to formal payment and deposit services • Guarantee schemes for entrepreneurs • Financial user protection and literacy • Secondary objectives include: Access to portable payroll accounts; Inclusive insurance; Promotion of savings and credit cooperatives; Access for small and medium firms to capital markets; Prevention of over-indebtedness; Competition in the provision of financial services
Implemented measures	• Introducing microcredit regulations: The *Microcredit Regulation* was amended to redefine the concept of microcredit and refinancing, provide a greater scope for SME credit by lowering the cost of financing, increasing the term of admissible loan, and adapting new documentation requirements. • Expanding the admissible collateral (mobile guarantees and reciprocal guarantees) for credit operations of SMEs.[63] • Promoting an active financial literacy outreach: The Financial Education Board, working alongside the Ministry of Education, initiated the revision of the education curriculum to introduce financial literacy content in schools. Courses were taught to schoolteachers to provide the necessary toolkit for the new financial literacy curriculum. • Promoting electronic and mobile payment instruments and encouraging the adoption of fintech: The key aspect of the new *Payment Systems Regulation* is the introduction of a new electronic payment account provided by payment service providers. [64] Fintech entities can obtain a license as payment service providers. • Consolidating the environment for the protection of the users of financial services, with key focus on vulnerable segments and cyber risks. The *Cyber Security and Information Regulation*[65], requires financial entities and third-party financial support providers to comply with a cybersecurity program that ensures proper safeguarding of financial data and processes.
Adopted regulations	• Law of Secured Transactions • Law of Reciprocal Guarantees (in the process of congressional approval) • Modification of the Microcredit Regulations • Modification to the Payment Systems Regulation (pending final approval) • Cyber Security and Information Regulation • Restriction of bank fees for inactivity and cash withdrawals
Regulations underway	• Draft Factoring Law[66] • Preliminary draft of the Leasing Law • Regulation of Simplified Accounts • Regulation of Payroll Accounts and Bank Portability

[62] Prepared by Ángel Antonio González Tejeda, Yilmary Dorali Rosario Fernández and Carlos Alberto Delgado Urbáez.

[63] The *Law for Secured Transactions* was approved by Congress and promulgated by the President. The Law will enter into force at the end of 2020 and will become fully operational with the *Secured Transactions Registry*. Also, the *Law of Reciprocal Guarantees* was approved by the Monetary Board and awaits congressional approval.

[64] A recent overhaul of these regulations was approved by the Monetary Board on January 25th, 2021.

[65] Approved by the Monetary Board.

[66] Factoring is otherwise known as Receivables Factoring. Factoring is the financial transaction in which receivables (invoices) are bought by a third party at a discount price. This provides liquidity to the invoice holder and a form of return to the invoice buyer. The Factoring Law is the legal body through which this transaction would be regulated to establish the proper tax treatment, the validity of invoices, and their inscription in the Secured Transactions Registry.

	• Rules for the Establishment of Banking Commissions • Modification to the Banking Subagent Regulation • Guarantee Funds for Micro, Small and Medium Enterprises • Modification to the Regulation for the Protection of the User of Financial Services
Measures of success / Quantitative targets	• Growth in credit provision and number of bank accounts • In 2020, the Central Bank carried out the first Financial Inclusion Survey, determining the metrics that are useful for assessing financial inclusion. [67] • The impact further of the Financial Inclusion Strategy would be measured in subsequent surveys.
Fintech Strategy	
Announced/Enacted	Under development since 2018; and revised by the Central Bank in 2020 with technical assistance from the IDB and embedded within the broader framework of the Financial Inclusion Strategy
Key objectives	• Financial system stability; • Payment system efficiency and security; • Business model and product innovation; • Financial inclusion and inclusive growth
Activities covered	Digital payments, insurance, financing, financial management, FX trading
Regulatory framework	The amendment of the Payment Systems Regulation in 2019 proposes a framework to regulate fintech companies operating in digital payments
Measures of success / Quantitative targets	More diverse pool of payment providers, lower transaction fees, and broader access to the payment infrastructure
State of Financial Inclusion	
According to the 2018 FINDEX survey, 56.2 percent of adults in the Dominican Republic have an account, compared to 54.4 percent on average in Latin America and the Caribbean[68]. The share of adult population with an account in a financial institution (54.8 percent) is only marginally higher than in the region as a whole (53.5 percent), while the share of adult population with a mobile money account (3.9 percent) is below the regional average (5.3 percent).	
State of Fintech	
The fintech industry in the Dominican Republic can be traced back to 2007, with the approval of the *Payment Systems Regulation* and the implementation of the RTGS system by the Central Bank. This catalyzed the emergence of key private fintech initiatives such as *tPago*.[69] Measures to invigorate fintech activity have been actively studied by the Central Bank with assistance from the IDB, leading to the incorporation in the Financial Inclusion Strategy of an array of actions for the promotion of a rich and innovative fintech industry in the Dominican Republic. The regulatory framework specific to fintech is concentrated in payments activities and cyber risks regulations, informed by one-on-one meetings with industry participants, to study the proper delivery of future regulatory enhancements. In 2019, the Dominican Association of Fintech Companies (ADOFINTECH) was created to encourage and promote all types of activities related to technology and computer systems applied to the provision of financial services, insurance	

[67] Specifically, these metrics are: percentage of adults with a financial product; percentage of adults with a savings account; share of population using financial products; share of population for potential inclusion in financial services; share of fragile financial services users (those that are close to cancelling their financial services). Growth in credit provision and number of bank accounts are not part of the formally adopted metrics but are also considered to gauge the impact of the Financial Inclusion Strategy.

[68] https://globalfindex.worldbank.org/sites/globalfindex/files/countrybook/Dominican%20Republic.pdf

[69] *tPago* is a mobile payments platform, managed by GCS Systems, which integrates 10 financial intermediation entities, 7 telecommunications companies, 19 service companies (utilities, education, insurance, etc.) and 2 acquisition companies. It currently has more than 1 million users. This platform, enabled via cell phone, uses the USSD channel, which does not consume minutes or internet, and for which the customer or user must only have a device with GSM technology. Through this payment solution users can transfer funds, make payments at points of sale, pay bills, make donations and withdrawals, 365 days a year, 24 hours a day. It is available to clients of financial intermediation entities affiliated with the tPago mobile payment system, linking it to bank accounts or credit cards. It is important to highlight that the transactions made through tPago are performed in real time, since the credit is immediate in the beneficiary's account, once the operation is accepted by GCS Systems, as a result of an agreement that exists between the latter with the banking agents. The clearing is carried out once a day, the net results of which are settled in the accounts of said entities in the *Real Time Gross Settlement System* of the Central Bank.

and other financial services. The Association currently consists of 35 members, of which 7 operate in digital payments, 4 in insurance, 10 in financing, 9 in financial management, 2 are fintech accelerators, 2 are technology providers to financial institutions and 1 operates in FX trading. Also, financial intermediaries have started to operationalize the provision and functioning of new products that incorporate technological inputs, resulting in novel applications (such as a mobile app for online banking, enhanced ATM functions, and the use of the *Real Time Gross Settlement System* (RTGS) for quick payments).

As of end-2019, 55 companies were identified as fintech operators in the Dominican Republic, of which fewer than half were members of ADOFINTECH – 22 of these companies were surveyed to better understand their business model and draw conclusions for regulatory purposes. Recommendations derived from the survey included enhanced customer education/engagement, creating a forum for information exchange, cross-border cooperation with fintech regulators, evaluating fiscal implications, and unifying the norms for digital banking.

Key obstacles to fintech firm development identified by ADOFINTECH include: (i) the relatively small size of the Dominican market (fintech firms often rely on small margins but a large client pool); (ii) the Dominican Financial Intermediation legislation regulates small-scale intermediation which means that intermediation-focused fintech firms must bear the regulatory cost; (iii) the current regulatory norms which call for the "same-operation-same-regulation"; (iv) lack of agreement on how contracts should be enforced in unregulated credit markets, subject to the general consumer protection rules.

Interactions between Financial Inclusion and Fintech Strategies

While financial inclusion is one of the objectives of the developing fintech strategy in the Dominican Republic, it is not the central one. The policy motivation for fintech development is strongly associated with the promotion of financial inclusion, but it is also understood that fintech expansion could have a positive impact on financial stability, and, critically, can enhance payment system efficiency and innovation. Regulatory actions aimed at enhancing financial inclusion have been taken by the authorities since 2006, as documented in the Financial Stability Report, including protections of financial service clients, and reforms of the microcredit and financial intermediation sectors and the promotion of basic financial activity through bank subagents[70].

Short-term strategic actions associated with the fintech industry are aimed, for the most part, at payment products. In this sense, support for financial inclusion would materialize through greater competition in the digital payments market.[71] As the industry continues to mature from credit payments, it is expected that innovation can reduce information asymmetries and lower interest rates in the credit market.

To this end, the Central Bank is implementing actions that will allow non-bank payment service providers, including fintech companies, to have a clear and legally secure regulatory framework, which will promote greater competition and availability of payment products and services. This, in turn, will contribute to the reduction in service fees and greater financial inclusion in sectors that are currently poorly integrated in the financial sphere (including the agricultural and small-scale trading sectors of the economy, low income households,[72] and persons with low educational attainment).

As such, the Central Bank established as part of its Strategic Institutional Plan 2018-2021, the evaluation and possible regulation of fintech companies. To comply with this strategy, it has carried out the following actions:
a) Incorporation of the Central Bank to the IDB Regional Fintech Ecosystem project;
b) Initial diagnosis by the IDB, which recommended a survey;
c) Survey of existing fintech companies in the country by the Central Bank;
d) Public consultations on the subject of modifying the *Payment Systems Regulation*, which includes the following:

- Inclusion in the regulatory scope of nonbank payment service providers;
- Strengthening client protection for payment system users, as well as other payment services;
- Creation of electronic payment entities, subject to authorization by the Monetary Board and fulfillment of certain operational requirements, through which fintech payment companies provide their services in a regulated manner;

[70] The Dominican authorities support a financial inclusion strategy that permeates the entire financial ecosystem. As a first step, *Banking Subagents Regulation* was adopted by the Monetary Board to allow subagents to perform basic operations under the auspices of a regulated financial institution. That regulation cannot reach other financial-sector agent because the regulatory scope of the Monetary Board is limited to financial intermediaries, and not because the authorities limit their model of financial inclusion to banks alone.

[71] In the short term, the approval of the *Payment Systems Regulation* would be the key regulatory enhancement for the fintech ecosystem. The expectation is that a solid legal foundation would promote fintech activity in the payment field. In turn, a higher number of fintech participants in the payments services industry, alongside the incumbent financial institutions, should spur competition in this segment, particularly in the form of digital payments, leading to lower costs and more consumer-oriented products. All this should promote the adoption of financial products and increased financial welfare, resulting in higher financial inclusion.

[72] Those are the households living on monthly wages equivalent to or below the minimum wage.

- Enabling a payment instrument called *electronic payment account*, to use via technological platforms, which can be managed by financial intermediation and fintech entities;
- Creation of the *electronic payment agent* who can enable, fund, and manage electronic payment accounts. Pharmacies, hotels, supermarkets, bank subagents, among others, may act in this capacity.

The proposed modification of the *Payment Systems Regulation* prepared by the Central Bank has been reviewed and commented on by the Superintendency of Banks and the Dominican Institute of Telecommunications (INDOTEL), as well as by other interested parties. Comments were solicited from payment processing companies CMP, S.A. (VisaNet Dominicana) and Servicios Digitales Popular, S.A.; the international card brands Visa International Dominicana, S.R.L. and Mastercard República Dominicana, S.R.L. As a result of this review process, the authorities have a consensual document that awaits presentation to the Monetary Board for its final approval and entry into force.

Results (any measurable impact of policies on outcomes)

The formal Financial Inclusion Strategy is very recent. The results below therefore reflect the impact of regulatory initiatives aimed at financial inclusion but implemented prior to the drafting of the Financial Inclusion Strategy.

The number of loans issued nearly doubled as a share of population from 25% in 2010 to 47% in 2019. The use of personal savings accounts also increased over time: access to them rose from 76% of the population in 2015 (earliest available) to 82% in 2019, while their use remained stable, with around 78% being actively used in a given year. Bank subagents became more geographically dispersed since 2015, but many rural areas, especially the low-population provinces, remain financially underserved, requiring more efficient and cost-effective payment and credit solutions.

Ways Forward

Potential obstacles to the development of the fintech sector in the Dominican Republic have been identified by financial sector participants as:
- The relatively small size of the Dominican financial market and limited possibilities of generating economies of scale;
- Aspects of the current regulatory framework and burdensome supervisory processes could slow down technological innovation;
- Tax obligations on fintech transactions, and high transaction fees;
- Low levels of financial education;
- Limitations in the digital skill levels of end users.

Strategies to remove these obstacles include:
- The approval and adoption of the *Secured Transactions Law* will reduce the risk profile for SME credit transactions, in turn allowing credit fintech firms to reduce their risk exposure and expand business opportunities to generate economies of scale;
- The proposed modification of the *Payment Systems Regulation* will address the regulatory obstacles for fintech firms specialized in payments;
- The financial literacy initiative will eventually enhance user understanding of digital financial platforms;
- As regulation promotes competition, fees and commission rates are expected to drop;
- The General Directorate of Internal Taxation is studying the fiscal aspect of fintech activity.

Strategy to combat the **cybersecurity** threat:
- In 2013, the Dominican Republic became the first country in Latin America to join the Budapest Convention on Cybercrime, ratifying its provisions into domestic substantive and procedural law. More recently, the Central Bank developed an *Information and Cybersecurity Regulation* (ICR) for the financial sector, which defined a common legal basis for all entities connected to the national payment system, aimed at ensuring the implementation of best practices for information security and cybersecurity risk management across relevant entities (financial institutions, payment system participants, and all services and institutions connected to these).
- In November 2018, the BCRD Monetary Board approved a *Cybersecurity Strategic Plan 2018-2021* aimed at: (i) addressing the deficiencies in technological infrastructure (creation of threat management and prevention capabilities); (ii) capacity building (including the establishment of cybersecurity culture at BCRD); and (iii) governance. It is intended to centralize the country's cyber defense policy and define a common set of norms and rules to effectively respond to digital threats.
- The *Cybersecurity Incidents Response Center*, equipped with a forensic laboratory and a threat-intelligence unit, is being created to prevent, detect, and respond to cyberattacks. The Center will cover not only the central bank but also all financial institutions, which would particularly benefit small local banks that lack cyber defense capacity of their own, and the institutions connected to these (e.g. Superintendency of Banks).
- The Dominican authorities have also been broadening cybersecurity measures beyond the financial sector to better protect all digitally connected infrastructure and business processes (e.g. retail, energy delivery, nonfinancial services) as well as personal privacy and safety. The Dominican Telecommunications Institute's *Healthy Internet* initiative intends to promote social awareness of cybersecurity threats.

Honduras[73]

Financial Inclusion Strategy	
Announced/Enacted	Published in July 2015 by the National Commission of Banks and Insurance (CNBS)
Key objectives	The main goal is poverty reduction. To this end, the strategy is to ensure that financially underserved people have access to a wide range of financial services provided under fair conditions and appropriate for their needs, as well as promoting financial education and technical skills needed for access and use of financial services. Secondary goals include product innovation, access to services, increased competition and reduced barriers to entry, lower financing costs, access to finance for SMEs, rural population, the poor and women.
Implemented measures	The CNBS has carried out the following actions to promote financial inclusion: - Signed technical cooperation agreements with international organizations (Sparkassen Foundation) to promote financial inclusion; - Prepared and published reports on financial inclusion indicators; - Amended the regulatory framework to promote financial inclusion; - Trained over 300 financial education facilitators to expand financial literacy of the population. **Regulatory changes:** There is no regulation that limits the charges for services in the payment system, instead these are market-determined. The Central Bank of Honduras (BCH) maintains a low-cost policy in its Real Time Gross Settlement System (LBTR)[74]. The only incentive established to date is the refund of 8% of the amount of tax paid for purchases with debit or credit cards, established in Article 3 of the Law of Efficiency in Revenues and Public Expenditure, Legislative Decree No.113-2011. The rest of the incentives are granted by credit card companies or electronic wallet issuers, including by granting points or cash refunds in some stores. Basic accounts have been regulated: limits are established on the amounts traded and balances allowed in mobile and electronic wallets. Specifically, in April 2020, the CNBS required financial institutions and Private Financial Development Organizations[75] to design and implement new channels through which financial users can make use of the resources deposited in this type of account, whether through debit cards, electronic wallets or other similar services.
Regulatory framework	Complementary Norms for Strengthening Transparency, Financial Culture and Treatment of the Financial User by the Financial and Insurance System; Regulations on the Authorization and Operation of Correspondent Agents; Regulation for the Authorization and Operation of Non-Bank Institutions that Provide Payment Services Using Electronic Money" (INDEL), under revision within the Financial Innovation Board; Law on Payment Systems and Securities Settlements.

[73] Prepared by the Financial Innovation and Technology Committee of CBH coordinated by Silvia Irina López Bardales and Angel Alberto Arita Orellana; and the Fintech and Innovation Technologies Committee which is coordinated by Dustin Uriel Santos Barahona at Comisión Nacional de Bancos y Seguros (CNBS).

[74] The Real Time Gross Settlement System (LBTR) is the system implemented by the Central Bank of Honduras for the settlement of high value payments, that is, interbank operations and transfers of funds on behalf of third parties greater than US$20,000 or its equivalent in national currency; government securities market operations, as well as the settlement of operations that are processed and cleared in other payment systems such as the Electronic Check Clearing House and the ACH. This system is administered by the Central Bank of Honduras (BCH). The low-cost policy in the LBTR system implies that the charges for services do not cover all the costs associated with its operation and maintenance.

[75] Private Financial Development Organizations (OPDFs) are dedicated to financing micro and small businesses, in order to guarantee the legality, transparency and security of their operations and strengthen their viability and sustainability. To date, only five OPDFs operate in the country with 1,089 service points, which registered US$182.6 million in assets at the end of 2020.

Measures of success/ Quantitative targets	Access indicators: i) service points[76] for every 10,000 adults; ii) ATMs for every 10,000 inhabitants; iii) correspondent agents for every 10,000 adults; iv) service points per 1,000km; v) ATMs for every 1,000km; vi) correspondent agents for every 1,000km vii) number of payable agents of remittance companies. Usage indicators: i) percent of adults with some type of deposit; ii) percent of adults with some type of credit; iii) debit cards for every 1,000 adults; iv) electronic money wallets per 1,000 adults; v) number of active members of public pension funds; vi) number of retirees affiliated with public pension funds; vii) number of active members of private pension funds; viii) number of members retired from private pension funds; ix) share of the insured population.
Fintech Strategy	
Announced/Enacted	A country-level strategy has not been defined, but both the Central Bank of Honduras and the National Commission of Banks and Insurance have created their own committees to study the Fintech sector. In order to have a collaborative environment between public and private sectors, in October 2019 the Financial Innovation Board (MIF) was created. The MIF was promoted by these institutions with the support of Inter-American Development Bank (IDB). It has the objective of contributing to financial innovation through the adoption and use of financial technology that will help with financial inclusion.
Key objectives	The MIF, applying the best international practices, is governed by the principles of promoting competition, innovation and financial inclusion; technological neutrality and proportionality of risk-based rules; user protection and financial stability; and the prevention of illicit operations. The specific objectives of the MIF are: Draft regulations of the provision of financial products and services through financial technology based on principles that favor competition and innovation; Protect the user of financial products and services with a focus on technological innovation; Encourage innovation and knowledge-sharing related to the provision of products and services using financial technology; Facilitate the expansion of technological infrastructure to promote the adoption and use of financial technology; Promote financial education and use of technology in the public sector and the general population; Ensure proper risk management related to innovation in the provision of financial products and services.
Activities covered	Digital banking, marketplace and P2P lending, and payments. At the moment, the MIF has two working groups: one that focuses on payments and transfers, and another on transversal technologies (including digital onboarding, Open Banking, the use of APIs, etc.) and alternative financing. **Fintech startups** have initially focused on the payments and transfers sector. Some initiatives cover credit activities funded by their own capital and crowdfunding, without carrying out intermediation activities and financing with return on investment. Others include business and personal finance management and support financial institutions. Also, prototype ventures have been identified in the crowd-lending, microinsurance and personal finance management spheres. There are foreign companies that participate in the market, which are associated with financial institutions already established in the country, such as KIVA.

[76] Service points of various financial entities include their main offices, branches, agencies, windows, ATMs, correspondent agents as well as autobanks, authorized distributors and other customer service offices.

	Financial institutions that have also developed their own solutions or have partnered with third parties to provide fintech services, which are so far focused on digital banking and payments.
Implemented measures	To date, there is differentiated regulation for non-bank electronic money issuers[77], which is under review by the BCH within the Financial Innovation Board framework, with the aim to expand regulatory coverage to other payment services and regulate the sector proportionally to the risks stemming from it to the national payment systems. The goal is not to create new regulations for fintech products, but to update existing regulations so that there are no obstacles to fintech development. Existing regulations, which support fintech startups, also cover established financial institutions (allowing 100% digital operations)[78]. With regard to measures that support the creation and development of fintech ventures, it should be noted that there are public, academic and privately-funded centers (within universities and companies) that function as incubators and accelerators, including for techno-financial companies. But these do not exist exclusively for fintech startups. Supported by the IDB, CNBS and BCH are creating a *Financial Innovation Hub* which will be used to guide and support the fintech sector.
Regulatory framework	Currently, no significant risks stemming from fintech companies have been detected that could affect financial stability because their business model and transaction volumes do not represent systemic risks. However, this could change in the future as the scale of fintech operations grows and existing regulatory framework will need to be expanded. To date, no updates have been made to national legislature, however, depending on the growth of fintech ecosystem in Honduras, it may be necessary to update. In 2021 the CNBS and BCH are expected to issue new provisions on electronic payment services that will replace the INDEL regulation, as well as a White Paper on crowdfunding, among others. Members of the BCH and CNBS committees continually participate in international events and courses related to fintech promotion and regulation. The CNBS are part of the *Alliance for Financial Inclusion*, and one of its working groups related to Digital Financial Services. The BCH participates in the CEMLA Fintech Forum and other working groups in the framework of regional integration promoted by SICA and the Central American Monetary Council. The BCH recently began to focus on payments system innovations. Regulatory reforms are expected to allow the entry of new players in the market. Within the BCH and the CNBS, multidisciplinary committees were created, with the aim of studying these new business models, while being vigilant of AML/CFT and cybersecurity risks inherent in these activities. Reforms to the Law on Payment Systems and Securities Settlement have been discussed in the context of fintech, but they have not been ratified yet.
Measures of success/ Quantitative targets	Success will be measured by improvements in alternative financing schemes and open credit scoring systems. The most important limiting factors for the development of a more robust, efficient and participatory fintech ecosystem are: the need to generate interoperability within the payment system, better incentives for the use of electronic means of payment instead of cash or checks, and improvements in technology to carry out secure digital onboarding (enrollment) of new customers. The identification of companies that make up the fintech ecosystem in Honduras, as well as the creation of the *Fintech Association of Honduras* and the regulatory initiatives described above, measure the success already achieved by the MIF. Future achievements, such as the new regulation of payment service providers, the creation of *a Financial Innovation Hub* and general guidelines for the promotion of alternative financing (White Paper) will complement these achievements. Periodically, there is monitoring of **access indicators and data on the use of conventional financial services**, which are presented in the Financial Inclusion Report of the CNBS and in the Financial Stability Reports and the BCH Work Reports. In the former, services cataloged as

[77] https://www.bch.hn/snp_2010/acuerdo_02_2016.pdf

[78] https://www.cnbs.gob.hn/blog/circulars/circular-cnbs-no-014-2020/

	"Innovative Payment Means" are reported, which include the number and amount of operations carried out in electronic wallets[79].

State of Financial Inclusion

Data as of 2019:
• 174 electronic wallets for every 1,000 adults;
• 50.3% of adults over 18 years of age have some type of deposit;
• 15.7% of adults over 18 have some type of credit;
• 815 debit cards for every 1,000 adults;
• 3 points of service for every 10,000 adults;
• 8 correspondent agents for every 10,000 adults;
• 15 ATMs per 1,000 km;
• 36.5% of the total credits granted by the Financial System were granted to women.
• 43.4% of the total deposit accounts were held by women.

In addition, in 2019 the CNBS launched the **Financial Inclusion Plan for Women in Honduras**[80] with a three-year timeline. Its main objective has been to improve and strengthen the supervisory and regulatory capacities of the CNBS to contribute effectively to the financial inclusion of women. The plan is drawn up in three stages, including (i) information management; (ii) institutional alignment (see Box 1) and; (iii) policy design and regulatory interventions, and is aligned with the goals of financial stability and deepening, and its impact on economic growth and social welfare.

Specifically, by end-2021, the Plan is expected to meet its strategic objectives:
• Design and execute gender policies that ensure equity in all the activities of the CNBS;
• Collect, analyze and apply information related to the financial inclusion of women in Honduras;
• Design effective communication strategies with key stakeholders to promote the objectives of the Plan;
• Issue evidence-based regulation to improve the financial inclusion of women in Honduras;
• Improve supervisory practices that support both financial stability and the financial inclusion of women.

Obstacles to greater financial inclusion:

Given the structure of economic activity, where the informal sector and micro-enterprises dominate, there is low profitability and high credit risk in these sectors. This implies high product financing costs;

A legal and regulatory framework that imposes some barriers to innovation and competition in the financial services market, and consequently limits the entry of new actors that facilitate inclusion;

Little data disaggregated by sex and by other characteristics needed to identify the demand for financial inclusion;

Limited knowledge of the modalities to best serve the excluded population segments;

Restrictive access requirements to financial products and services;

Traditional financial institutions are making digital transformation efforts to facilitate access to the provision of their services, but they still do so individually and not in collaboration with the fintech companies. This generates more "islands" that make it difficult to provide financial services in a flexible, interoperable and efficient way;

Lack of financial education in different social strata, especially the poorest segments;

Limited coverage of the technological infrastructure and affordability that facilitates the fintech ecosystem;

Little supervision to protect the financial user;

No medium and long-term public policy for financial inclusion that involves different government entities.

Policy challenges:

It is difficult to evaluate the impact of financial inclusion policies on the target population due to lack of critical information that links greater access to financial products and use of these financial products by different segments of the population, this being the greatest difficulty and the greatest weakness of financial inclusion initiatives, since their impact and effectiveness cannot be meaningfully measured.

Strategies to overcome policy challenges:

The CNBS signed new commitments to locally promote policies aimed at improving financial inclusion, following the initiative of the Alliance for Financial Inclusion (AFI) Maya Declaration, which are the following for the period 2020-2022:

1. Develop the *National Strategy for Financial Education* to promote financial education in Honduras;

[79] https://publicaciones.cnbs.gob.hn/boletines/Boletines%20de%20Inclusin%20Financiera/Reporte%20de%20Inclusi%C3%B3n%20Financiera%202020.pdf

[80] https://www.cnbs.gob.hn/inclusion-financiera-mujeres/

2. Create *Data Capture Disaggregated by Sex* and other variables, to generate statistics to measure the progress on financial inclusion, as well as generate new statistical indicators with a gender focus; 3. Review existing regulations related to Inclusion and Financial Education and expand the regulatory framework in line with developments in the digital financial services market; 4. Generate a prudential and non-prudential regulatory framework to develop fintech initiatives in a reliable and innovation-friendly technological ecosystem.
State of Fintech
To date, there are no clear obstacles to the development of financial technology in Honduras (except some restrictions imposed by the INDEL regulation that is currently under review) aligned with the Cambridge survey (indicating that the ability to perform digital onboarding may be limited). Fintech activity is regulated by: - *The Office of Management and Public Innovation*, created through Executive Decree PCM-076-2020, reporting to the Presidency of the Republic, which among its various functions will govern policies and standards related to Information Technology and cybersecurity; - *Digital Government of Honduras*, which is a division of the Secretary of State, whose vision is to be a regulator of digital services in Honduras, creating a digital culture supported by information technology. **COVID-19 and the use of fintech:** In the face of the health crisis, fintech companies have shown their importance by facilitating many financial transactions without physical presence and at lower costs for users and institutions. To mitigate the impact of the COVID-19 pandemic, the government delivered a voucher of L4,000 to more than 70 thousand households, carried out electronically through a cell phone text message. It is important to mention that the pandemic increased the frequency of changes in the transaction monitoring systems, expedited the adjustment to digital channels, increased the use of the digital platforms and enhanced the follow-up process by Compliance Officers (who monitor compliance with what is stipulated by law). **Advantages of fintech**: User-centered business model; Low cost; Expedient service; Convenience for the beneficiary; Tracking the destination of monetary transfers. **Disadvantages of fintech:** Access to an electronic medium (which is limited in some population segments); Interruption in the telephone signal coverage in certain rural areas; Internet access (which is not uniform across the country). **Risks:** Most of the risks are related to cybersecurity. In order to generate greater confidence in using the services offered by fintech companies, it is important to ensure the protection of personal data, transaction confidentiality, and security of technological platforms, among others. However, supervised financial institutions must comply with the corresponding approved regulations on the management of information and communication technologies as well as those products or services that use electronic networks. As for fintech ventures outside the scope of traditional supervision, the regulator should establish general guidelines on the security of electronic platforms. **Policy challenges:** Due to the culture of innovation and intrinsic flexibility of fintech companies, as well as their low need for capital in physical investments, they can focus their business strategies and resources on solving the problems of those who demand financial services (and are thus consumer-centric). Despite this, among traditional banking entities, fintech companies are not always seen as strategic complementary partners for their activities, creating a dichotomy in the market. **Policy objectives:** The Financial Innovation and Technology Committee of the BCH has set the following objectives: - Promote an environment of collaboration and cooperation with the public and private sector through the Financial Innovation Board (MIF), and where appropriate, draft strategy proposals; - Review and adapt the regulatory framework that facilitates the provision of payment and transfer services, in line with the principles of international best practices;

- Promote cooperation with national and international organizations supporting the development of fintech ecosystems and financial innovation;
- Promote training and participation in national and international events of the government agencies that are members of the Committee as well as for public entities on the topics of innovation and financial technology;
- Promote a comprehensive digital transformation strategy within the BCH.

Measures to achieve these objectives:

Both the Fintech Committee of the CNBS and the Financial Innovation and Technology Committee of the BCH continuously lead various initiatives related to the identification of new fintech ventures and monitor the regulations applied to the fintech ecosystem, crowdfunding and innovation hub, jointly evaluating prevailing or emerging fintech business models in the country that may have an impact on the stability and depth of the financial system. Both entities continue to coordinate and promote the objectives of the MIF and are creating new strategic alliances to demonstrate the institutional will to meet the strategic objectives.

Interactions between Financial Inclusion and Fintech Strategies

It is expected that fintech startups of mobile wallets, crypto assets, etc., will foster the creation of the necessary infrastructure to enhance transfers of funds and credit issuance, leading to greater financial inclusion.

Coordination. The missions of the aforementioned committees are aligned with the strategic objectives of their respective institutions (CNBS and BCH). Both committees share information and coordinate their activities, which are in line with the tasks assigned to the technical teams of the BCH and the Financial Innovation Board (MIF), since coordination at the institutional level is key for the achievement of strategic objectives. Continuous communication and coordination between the public and private sectors facilitate the development of the fintech ecosystem in the country. In addition, the involvement of international organizations such as the IDB and USAID has been useful.

Since 2019, the Fintech Committee of the CNBS established as its primary objectives both financial deepening and protection of the financial end-user, where the link to financial inclusion is obvious. In the case of the BCH, it focuses on fintech companies delivering payments and transfers, and is working to establish a regulatory framework that facilitates the provision of these services to the unbanked population.

Currently, the Honduran market is experiencing growth in fintech ventures, whose business model and value added to the services already provided by the conventional financial system BCH and CNBS seek to analyze. However, their regulatory purview is limited since at the country level there is no Fintech Law or other such regulation. The regulators recognize that fintech companies emerged to fill a specific gap, such as improving the coverage of nonbank financial services at an affordable price of the financially underserved population, in addition to other factors such as efficiency, ease of use and transaction speed.

Results

These are reported in the Financial Inclusion Report 2020.[81] From 2015 onward, there have been important advances in the relevant indicators. In particular, the number of service locations (*Puntos de Servicio*) more than doubled, from 3,316 in 2015 to 8,029 in 2019; the percentage of adults with a deposit account rose from 43.0 in 2017 to 50.3 in 2019; the number of debit cards per 1,000 adults rose from 595 in 2015 to 815 in 2019; percentage of adults with any kind of credit rose from 14.8 percent in 2015 to 15.7 percent in 2019; the number of electronic wallets per 1,000 adults increased from 144 in 2017 to 174 in 2019; the number of people receiving credit from OPDF (institutions that work with the SMEs) rose from just over 60 thousand in 2015 to 104 thousand in 2019, while the size of the loan portfolio more than doubled. However, causality between the adopted measures and the results is hard to establish econometrically.

Ways Forward

It is necessary to define a fintech strategy at the government level that outlines major national objectives for fostering technological innovation linked to financial inclusion, that is aligned with the country's development goals to expedite the integration of the poor into the economic life of the country.

The BCH plans to expand training on fintech products and services. It also proposes an effective and broad regulatory and supervisory approach that adequately addresses the advantages and risks posed by fintech, while determining the channels for better monitoring and timelier data collection.

Regarding AML/CFT, the BCH and CNBS are working on the necessary changes to improve their monitoring systems, which entails analysis of monitoring alerts, statistical studies of customer behavior, approvals of the changes by the highest authorities, etc. However, few of the fintech companies have implemented systems or ways to monitor their clients to reduce money laundering risks. Going forward, it will be necessary to determine how to mitigate these risks in the fintech sector since it is a sector with high growth and with possible vulnerabilities, by mandating adequate information management of fintech clients.

[81] https://publicaciones.cnbs.gob.hn/boletines/Paginas/Inclusi%C3%B3n-Financiera.aspx

To date, through the MIF, the BCH and the CNBS, initiatives have been created and promoted to identify new players in the fintech ecosystem, learn about their business models, and collect basic statistics to monitor their systemic importance. Going forward, current regulations will be modified as necessary, to limit the identified risks in a systematic and proportional manner.

Mexico[82]

Financial Inclusion Strategy	
Announced/ Enacted	In 2016, Mexico's National Financial Inclusion Council, composed of representatives of Mexican financial authorities,[83] launched a *National Policy for Financial Inclusion* (NFPI), which had the overarching goal of ensuring that all Mexicans have access to financial services through coordinated strategies between different stakeholders, while maintaining stability in the financial system. In 2019 and early 2020, the Council revised the 2016 NPFI based on the following criteria: ▪ Medium- and long-term goals needed to be set in order to ensure a sound policy monitoring and evaluation. The policy proposal was reinforced with diverse accountability and monitoring mechanisms, e.g., setting long-term financial inclusion goals and elaborating annual workplans. ▪ The use of new data and information on the status of financial inclusion in Mexico (*e.g. National Survey on Financial Inclusion* 2018 *and National Survey on Financing for Enterprises,* 2018-2019). ▪ The need to enhance the involvement of the private sector, academics, and international organizations in the design and implementation of the policy. ▪ The need to integrate new international best practices to promote financial inclusion (mainly with regards to the recently issued Law to Regulate Financial Technology Institutions). ▪ The need to include actions aimed at developing basic infrastructure for the provision of financial services, e.g., identification and authentication systems. Staff from the Council members incorporated inputs from representatives from several financial providers' associations, non-financial public institutions, international organizations, researchers, and other stakeholders in the design of the new NPFI. An updated version of the NPFI was issued on March 11th, 2020.[84]
Key objectives	The updated NPFI has six specific objectives and one cross-cutting strategy. **Objectives:** • Facilitating access to financial products and services for individuals and SMEs; • Increasing the use of digital payments among population, retail points of sale, firms, and the three levels of government (federal, state, and local); • Strengthening infrastructure to facilitate access to and provision of financial products and services and to reduce information asymmetries; • Increasing the financial literacy of the population; • Strengthening access to information and to mechanisms of financial consumer protection; • Promoting the financial inclusion of vulnerable groups, such as women, migrants, older adults, indigenous people, and the rural population. Within these 6 objectives, the policy contemplates 21 strategies and 88 lines of action. The NPFI also incoporates the *National Strategy for Financial Literacy*. **Cross-cutting strategy**: Generating information, and research to identify barriers and areas of opportunity for financial inclusion.
Implemented and ongoing measures	The financial authorities have been working on the 2020-2021 *Workplan of the National Policy of Financial Inclusion*. This plan established priority lines of action, with progress in many of them, including:

[82] Prepared by Unidad de Banca, Valores y Ahorro (SHCP), Comisión Nacional Bancaria y de Valores, and Banco de México.

[83] The Council members are: The Minister of Finance, the Deputy-Minister of Finance, the President of the National Commission to Protect the Users of Financial Services, the President of the National Banking and Securities Commission, the President of the National Retirement Savings System Commission, the Executive Secretary of the Institute to protect Banking Savings, the Governor of Bank of Mexico and one of his/her Deputy Governors, whom the Governor designs.

[84] See https://www.gob.mx/cms/uploads/attachment/file/557108/PNIF_2020.pdf (Spanish) and https://www.gob.mx/cms/uploads/attachment/file/545791/Brochure__PNIF_MEX_ENG.pdf (English)

	1. **Consumer protection:** the National Commission for the Protection and Defense of the Consumer of Financial Services (CONDUSEF) has established an electronic tool for submitting claims and their follow-up; the Commission operates a conciliation mechanism by telephone to reduce costs for the consumer and is in the process of reviewing the evaluation and supervision system to strengthen the monitoring mechanism to ensure regulatory compliance and the quality of the service for consumers. 2. **Transparency:** the Bank of Mexico implemented a mechanism to share information that it gathers on the costs and characteristics of credit products offered by financial entities with third parties, through an API. In addition, the Bank of Mexico collaborated with staff from the Ministry of Finance, CONDUSEF, and the World Bank Group to identify suitable terms for transactional accounts fees and associated services, which will serve as an input for a transactional account comparison tool that it is developing. 3. **Infrastructure:** the National Banking and Securities Commission (CNBV) is updating the regulation of banking agents, and amendments are expected to be issued in the second quarter of 2021. On June 4, 2020, the CNBV issued open finance rules that regulate the exchange of information among financial entities and other regulated entities, such as money transmitters, credit information societies, payment clearing houses and sandbox participants through Application Programming Interfaces (APIs) regarding ATMs, including information on services offered and access points. The regulation establishes security systems to access, send and obtain data and establishes clear protocols to follow in case of any cybersecurity incident. The CNBV is still developing technical standards for the exchange of transactional data, which are expected to be published in 2021. The Bank of Mexico issued corresponding open finance regulation for clearinghouses and credit bureaus. 4. **Onboarding:** On October 12, 2020, the CNBV updated the rules for clients' remote identification. These rules strengthen the security of the process for identity verification by requiring the capture of images of clients' identification documents, a proof of liveness, and biometric validation against official databases administered by the Mexican authorities. They also allow legal persons (firms) to open bank accounts and obtain credits remotely through their legal representatives, using the firm's electronic signature. The rules also grant greater flexibility to banks by allowing them to implement their remote onboarding process through a video recording performed by the client himself in the corresponding banking application (before this amendment, the only possibility was an online interview in real time with the potential client). 5. **Fintech:** the CNBV supported actively the first FinTech Innovation contest (known as the Sandbox Challenge) sponsored by the UK Government in Mexico, through the Financial Services Programme of the Prosperity Fund to foster innovation. The CNBV participated in the review and selection of innovative projects, provided advice and counseling to winners for the launch of their project under the sandbox scheme. 6. **Incentives to use a bank account or pay via electronic means:** (i) The Administration enacted law changes that allow the young (15-18) to independently open a bank deposit account to receive government transfers, salaries, or wages; the Bank of Mexico issued regulations on the opening requirements and characteristics of such accounts, following a proportional approach. (ii) the Bank of Mexico is fostering the use of its Cobro Digital (CoDi) platform to charge and receive payments using a QR code. 7. **Measurement**: the Bank of Mexico conducted surveys on individuals' financial competencies and on users' satisfaction with the quality of financial services. The NPFI annual workplan was issued in July 2020. Currently, 20 policy measures are already in place; 27 are to be implemented during the second half of 2020 and the first quarter of 2021. **Financial Literacy.** The Ministry of Finance as the Executive Secretary of the National Committee on Financial Education (CEF), monitors all initiatives on Financial Literacy and is responsible for the implementation of the National Strategy of Financial Literacy, of which the following measures have been implemented: • A curriculum on financial literacy and skills for K-12 was developed. • Training courses on financial education for teachers in vulnerable municipalities are being implemented. Currently, 7,000 teachers have received training. • A collaboration agreement was signed between NAFIN (Nacional Financiera, the development bank in charge of promoting financing to productive units and SMEs and also in charge of enhancing financial literacy of entrepreneurs) and the Ministry of Labor, to provide financial literacy training to beneficiaries of social programs, especially young adults.
Regulatory framework	There are many items in the regulatory framework that could contribute to foster financial inclusion, for example: a) Remote onboarding: banks can open accounts and grant commercial and consumer

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loans by electronic devices. b) Open Banking: Application Programming Interfaces (APIs) will help in the creation of an ecosystem in which third parties may offer financial services on behalf of financial institutions. This will facilitate access to the financial system of people who do not hold any financial instrument yet. c) Fintech Law: it brings financial services closer to the sectors traditionally not well served by the traditional financial system. The Law promotes the use of new technologies to offer more and better financial products (see below).

Financial Inclusion and Financial Literacy

All national efforts on financial inclusion and financial literacy are coordinated under the National Policy on Financial Inclusion (NPFI) and the National Strategy on Financial Literacy (NSFL). Both policies are implemented by the CONAIF (National Council for Financial Inclusion) and the CEF.

Fintech

The Law to Regulate Financial Technology Institutions (LRITF), sometimes referred to as the Fintech Law, is based on the following principles: financial inclusion, financial innovation, promotion of competition, consumer protection, financial stability, preventing illicit operations, and technology neutrality.

The LRITF established two new kinds of financial entities, known as Financial Technology Institutions (FTI): Collective financing institutions and electronic payment funds institutions. The Law establishes the obligation for financial providers to establish APIs that allow connectivity and access of other interfaces developed by financial providers or third parties; the Law mandates the development of APIs to exchange open data, aggregate data, and transactional data. The Law also established a regulatory sandbox, provided for the temporary authorization of innovative business models to operate. Such business models are those that use tools or technologies that are different from those existing in the market at the moment of authorization. In addition, the Law considered the creation of a Financial Innovation Group.[85] The entities created and the tools provided by the LRITF may contribute to greater financial inclusion because of the Law's potential to (i) increase competition among financial service providers, and (iii) allowing innovative financial intermediaries to provide products and services to segments of the population that traditional financial providers may not serve due to higher operating costs..
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<td>Measures of success/ Quantitative targets</td>
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The NPFI has been in place for about a year, which makes it difficult to track and quantify its success. The table below compares the goals of the NPFI (set for 2024) against the 2018 baseline. A website will be developed to monitor these indicators.

<table>
<tr><th>Goal</th><th>Indicator</th><th>Baseline (2018)</th><th>Projected Goal</th></tr>
<tr><td rowspan="4">Objective 1: Facilitate access to financial products and services for individuals and SMEs.</td><td>Percentage of adult population holding at least one financial product</td><td>68.3%</td><td>77.2%</td></tr>
<tr><td>Percentage of SMEs which have had access to financing since they started operating</td><td>45.9%</td><td>63.5%</td></tr>
<tr><td>Percentage of adult population with at least one account</td><td>47.1%</td><td>64.5%</td></tr>
<tr><td>Number of accounts for every 10 thousand adults</td><td>12,969.5</td><td>16,680.5</td></tr>
<tr><td>Objective 2: Increase digital payments within general</td><td>Number of transactions and electronic transfers per capita per year</td><td>36.7%</td><td>60.4%</td></tr>
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[85]The Law to Regulate Financial Technology Institutions sets the basis for the creation of an innovation hub called "Financial Innovation Group", which aims to establish a space for the exchange of opinions, ideas, and knowledge between the public and the private sectors to learn about innovations in financial technology and plan their development and orderly regulation. The financial authorities that participate in this group are the Ministry of Finance (SHCP), the Bank of Mexico (BANXICO), the National Commission for the Protection and Defense of Users of Financial Services (CONDUSEF), as well as other supervisory commissions responsible for oversight of the banking and securities (CNBV), pension funds (CONSAR), and insurance and sureties (CNSF) sectors. The SHCP chairs the Group and selects and invites representatives of fintech firms and other financial entities from the private sector. The Financial Innovation Group must meet at least once a year, and extraordinary meetings may be called as required; however, fintech firms can approach financial authorities at any point to propose ideas and communicate their concerns.

population, businesses and the three levels of government.	Percentage of adults who use their bank account for payments	63.8%	85.3%
Objective 3: Strengthen infrastructure to facilitate access to and provision of financial products and services and to reduce information asymmetries.	Percentage of residents living in localities within 4km from a financial access point	87.3%	90.0%
	Percentage of municipalities with at least one financial access point	76.6%	89.6%
	Percentage of adults that utilized a financial access point	69.5%	79.8%
Objective 4: Increase the economic and financial literacy of the population.	Score of Financial Literacy Index	58.2%	60.5%
Objective 5: Strengthen access to information and to mechanisms of financial protection.	Percentage of adult population who compared financial products and services before acquiring them	28.9%	35.0%
	Number of annual online visits to the financial authorities' comparison tool by every 10 thousand adults	47.0%	93.8%
Objective 6: Promote financial inclusion for vulnerable groups, such as women, migrants, older adults, indigenous people and rural population.	Average of the urban/rural gap of financial product holding	15.1 pp	7.5 pp
	Average of the gender gap of financial product holding	7.4 pp	0.0 pp
	Gender divide (number) in account holding	1.3 pp	0.0 pp

Accounts for minors

As part of the Program to Promote the Financial Sector, a reform was announced to deepen financial inclusion and to allow the population between the ages of 15 and 18 to open bank accounts without the intervention of their parents or guardians.[86] This reform will allow young people to access the financial system, increasing financial inclusion and their wellbeing, subject to AML/CFT regulations. The accounts can only be used to receive electronic transfers from governmental programs, salaries, or wages.

Law to Regulate Financial Technology Institutions

Due to the fast development of technological innovation in financial services in the recent years, financial authorities have decided to regulate their provision in order to reduce risks to the financial system of providing these services through technological platforms. For this reason, the Ministry of Finance and Public Credit worked closely with the participants of the financial system to create a regulatory framework to accommodate the new financial technologies. Specifically, the Law to Regulate Financial Technology Institutions draft was sent to the Congress in 2017, where it was discussed and finally issued and published in the Official Gazette of the Federation on March 9, 2018, and entered into force on March 10, 2018.

[86] The Federal Executive presented this initiative on January 16, 2019 before the Permanent Commission of the Congress of the Union. As a result of the legislative process, the Decree that amended the Credit Institutions Law and the Federal Civil Code, by which adolescents between the age of 15 and 18 may open bank accounts and make use of the funds deposited in these accounts, without the intervention of their parents or guardians, under certain requirements regarding the prevention of money laundering and terrorist financing (client identification and origin of the resources), was published on March 27, 2020. On June 9, 2020, two Resolutions were published in the Official Gazette. The first one issued by the Ministry of Finance and Public Credit amended article 115 of the Credit Institutions Law. The second issued by the National Banking and Securities Commission (CNBV) modified the general provisions applicable to credit institutions. Both regulate the implementation of the legal reform that allows the opening of deposit accounts by adolescents aged 15 years and above in their own right.

	Financial inclusion of women In 2019, a decree[87] established that all development banking institutions and public trusts established by the Federal Government for economic promotion that carry out financial activities must seek and prioritize the supply of financial products and services, programs and projects that address women's needs for savings, investment, credit and customer protection tools. **AML/CFT** In March and June 2019, AML/CFT General Rules (applicable to ten sectors that comprise the Mexican financial system) were amended in order to establish, among others: • Digital onboarding (identification data and documentation); • Electronic record keeping to promote financial inclusion without neglecting compliance measures with AML/CFT regulations However, few financial institutions had implemented the new digital regime by the time the COVID-19 health emergency was declared, given the technology compliance costs (videoconference online streaming). On June 9th, 2020, the AML/CFT regulatory framework applicable to credit institutions was amended in order to regulate the opening of accounts for minors (15-17 years old), establishing the identification data of their parents or guardians accounts. Also, on November 19th and 24th, 2020, the AML/CFT regulatory framework applicable to popular finance companies and cooperative savings and loans companies was amended in order to raise the threshold (i.e. maximum balance over the course of a calendar month) for the opening of simplified identification accounts (low risk).
Fintech Strategy	
Announced/ Enacted	There is no national fintech strategy currently in place. The Law to Regulate Financial Technology Institutions (LRITF), and that law's associated secondary regulatory provisions have been enacted over the past few years (certain regulatory provisions are to be issued in the near future). The LRITF was passed on March 9, 2018. It provides the basic aspects of establishing, organizing, and operating two types of fintech providers, and describes the powers of the authorities (including on sanctions). Secondary regulation determines the operational aspects, additional requirements and features of fintech operations.[88]

[87] The decree reforming the first paragraph of Article 40 and adding a second paragraph to Article 44 Bis 4 of the Credit Institutions Law was published in the Official Gazette of the Federation on June 4, 2019.

[88] These include: (1) "Disposiciones de Carácter General a que se refiere el artículo 58 de la Ley para regular las Instituciones de Tecnología Financiera" (10 September, 2018); (2) "Disposiciones de carácter general aplicables a modelos novedosos a que hace referencia la Ley para Regular las Instituciones de Tecnología Financiera" (11 March, 2019); (3)"Disposiciones de Carácter General aplicables a las Instituciones de Tecnología Financiera" (10 September, 2018); (4) "Disposiciones de Carácter General relativas a las sociedades autorizadas para operar Modelos Novedosos a que hace referencia la Ley para Regular las Instituciones de Tecnología Financiera" (19 March, 2019); (5)"Disposiciones de Carácter General relativas a las interfaces de programación de aplicaciones informáticas estandarizadas a que hace referencia la Ley para regular las Instituciones de Tecnología Financiera" (4 June, 2020); (6)"Circular 12/2018 dirigida a las Instituciones de Fondos de Pago Electrónico, relativa a las disposiciones de carácter general aplicables a las operaciones de las Instituciones de Fondos de Pago Electrónico" (10 September, 2018); (7) "Circular 4/2019 dirigida a las Instituciones de Crédito e Instituciones de Tecnología Financiera relativa a las Disposiciones de carácter general aplicables a las Instituciones de Crédito e Instituciones de Tecnología Financiera en las Operaciones que realicen con Activos Virtuales" (8 March, 2019); (8) "Circular 5/2019 dirigida a las Personas Morales constituidas de conformidad con la Legislación Mercantil Mexicana, distintas a las Instituciones de Tecnología Financiera, a las Entidades Financieras y a otros sujetos supervisados por alguna Comisión Supervisora o por el Banco de México, interesadas en obtener autorización por parte del Banco de México para, mediante modelos novedosos, llevar a cabo los servicios de ruteo, compensación o liquidación, o cualquier combinación de tales servicios, relativa a las Disposiciones de carácter general en materia de modelos novedosos" (8 March, 2019); (9) "Circular 6/2019 dirigida a las Instituciones de Financiamiento Colectivo relativa a las disposiciones de carácter general aplicables a las Instituciones de Financiamiento Colectivo en las operaciones que realicen en moneda extranjera y los reportes de información al Banco de México" (8 March, 2019); (10) "Circular 2/2020 dirigida a las Sociedades de Información Crediticia y Cámaras de Compensación, relativa a las disposiciones de carácter general a que se refiere el artículo 76 de la Ley para Regular las Instituciones de Tecnología Financiera, aplicables a las sociedades de información

	AML/CFT The AML/CFT General Rules applicable to financial technology institutions (electronic payments and crowdfunding entities) were published in the Official Gazette of the Federation on September 10, 2018, in order to include, among others: (i) the implementation of a methodology to assess the ML/FT risks to which Fintech institutions are exposed to in their daily operations, in order to prevent ML/FT and to design a prevention policy; (ii) minimum requirements to integrate the client's identification file (Customer Due Diligence); (iii) an AML/CFT manual which clearly describes the measures and procedures to comply with the AML/CFT General Rules; and (iv) information sharing between Fintech institutions and other national and foreign financial institutions with the aim to strengthen the AML/CFT measures.
Key objectives	The types of institutions regulated by the LRITF, namely, collective financing institutions and electronic payment funds institutions, remain relatively small and continue developing. However, there are financial institutions that provide other types of services that may be considered as Fintech, without the need to be constituted under the aforementioned regulated forms (e.g., internet securities exchanges, automatized financial advisors). Hence, the set of firms that fall under the LRITF, called Financial Technology Institutions, is only a subset of all Fintech providers. Recently, this wider set, which encompasses Financial Technology Institutions, has expanded, plausibly due to a growing demand for financial products and services through digital means, induced by the physical distancing measures implemented as a result of COVID-19. **Most promising areas** include digital lending, digital banking, digital savings and deposits, digital payments and remittances; and perhaps, InsurTech. However, due to the COVID-19 pandemic priorities may change. As mentioned above, the LRITF creates and regulates two new kinds of financial entities, known as Financial Technology Institutions (FTI): 1) **Collective financing institutions,[89],** whose purpose is to facilitate contact between applicants and investors so that the latter can provide resources to the former through mobile applications, interfaces, websites, or any other means of electronic or digital communications. The Law regulates the following types of collective financing: • Debt collective financing (personal and business lending), and real estate crowdfunding • Equity/Capital collective financing • Joint ownership and royalties collective financing 2) **Electronic payment funds institutions**,[90] whose purpose is the issuance, administration, redemption and transmission of electronic payments through mobile applications, interfaces, websites or any other means of electronic or digital communications. The Law provides that these institutions perform the following activities: • Open accounts of electronic payment funds for each client • Make transfers of electronic payment funds among their clients • Transfer money in Mexican Pesos, or—subject to previous authorization from the central bank (Banco de México) in foreign currency or virtual assets—between its

crediticia y cámaras de compensación en materia de interfaces de programación de aplicaciones informáticas estandarizadas" (10 March, 2020); (11) "Acuerdo por el que se reforman, adicionan y derogan diversas Disposiciones de Carácter General de la CONDUSEF" (11 December, 2018); (12) "Disposiciones de Carácter General de la CONDUSEF en materia de transparencia y sanas prácticas aplicables a las Instituciones de Tecnología Financiera" (9 July, 2019); (13) "Disposiciones de carácter general relativas a las sociedades autorizadas para operar modelos novedosos a que hace referencia la Ley para Regular las Instituciones de Tecnología Financiera" (CONSAR) (8 March, 2019); (14) "Circular Modificatoria 5/19 de la Única de Seguros y Fianzas" (26 March, 2019).); "Disposiciones aplicables a las instituciones de fondos de pago electrónico a que se refieren los artículos 48, segundo párrafo; 54, primer párrafo, y 56, primer y segundo párrafos de la Ley para Regular las Instituciones de Tecnología Financiera" (28 January, 2021).

[89] On March 16, 2021, the first crowdfunding institution authorization was granted to "Fundary, S.A.P.I. de C.V., Institución de Financiamiento Colectivo".

[90] On January 22, 2020, the first E-money institution authorization was granted to "NVIO Pagos México, S.A.P.I. de C.V., Institución de Fondos de Pago Electrónico". On March 18, 2021, two more E-money institutions were authorized: "Trafalgar Digital, S.A. de C.V., Institución de Fondos de Pago Electrónico" and "BRX Payments, S.A. de C.V., Institución de Fondos de Pago Electrónico"

	clients and those of another e-money institution, as well as account holders or users of other financial entities or foreign entities that perform similar operations • Deliver money or virtual assets equivalent to the same amount of electronic payment funds in an electronic payment funds account. • Maintain the updated accounts register. Institutions have to go through an authorization process to operate under the form of collective financing institution, electronic payment funds institution, or innovative model. The authorization process of all applicant firms is advancing. The AML/CFT General Rules applicable to financial technology institutions (electronic payments and crowdfunding entities) were issued with the aim to establish the AML/CFT legal framework for fintech firms and other entities, which recognizes: (i) the provision of financial services through technology-based innovations, and (ii) the importance of identifying the ML/FT risks to which fintech institutions are subject, in line with technology-based innovations. In light of the above, the fintech sector is expected to support all NPFI targets by 2024, especially the following ones: • Percentage of SMEs which have had access to financing since they started operating • Percentage of adult population with at least one account • Number of transactions and electronic transfers per capita per year • Percentage of adults using bank accounts for payments Fintech development will also help to achieve several goals of the National Program to Finance Development (PRONAFIDE,) such as: • Enhance access to credit for SMEs, entrepreneurs, women, and the rural population • Foster the usage of digital financial services and electronic means of payment
Activities covered	As mentioned above, the LRITF established two new kinds of financial entities, known as Financial Technology Institutions (FTI): **Collective financing institutions** and **electronic payment funds institutions** (details above). The Law also established the **regulatory sandbox**, which can be used both by companies and regulated financial entities. A regulatory sandbox can be seen as a space for experimentation, allowing companies (regulated and non-regulated) to provide financial services to a limited number of clients, using innovative technological means or tools, in order to test them before offering them to the general public. In addition to the FTI and the regulatory sandbox, the Law provides for other aspects related to the use of technology applied to financial services, such as Application Programming Interfaces (APIs). The Law establishes the obligation for financial providers to establish Application Programming Interfaces (API) that allow connectivity and access of other interfaces developed by financial providers or third parties; the Law mandates the development of APIs to exchange open data, aggregate data, and transactional data. The Law also considers Virtual Assets. • For the purpose of the LRITF, a **virtual asset** is "the representation of value registered electronically and used by the public as a means of payment for all types of legal acts and whose transfer can only be carried out through electronic means". The central bank (Banco de México) will determine which digital units will be considered as virtual assets in secondary regulation. The Law provides that FTI and credit institutions will require an authorization granted by Banco de México to operate with virtual assets. • Since fintech activity is not limited to areas regulated by the LRITF, there are several activities that fall under the scope of other financial laws and regulations or under the supervision of different authorities, for example digital banking (CNBV). • As a result of the publication of the LRITF which regulates electronic payments and crowdfunding entities, as well as virtual assets and regulatory sandbox (*"Modelos Novedosos")*, the regulator issued the AML/CFT General Rules applicable to the aforementioned financial technology institutions, in order to establish the minimum AML/CFT policies and procedures allowing fintech institutions to grow within the Mexican financial system and internationally, in accordance with the FATF recommendations.
Implemented measures	As mentioned above, the LRITF is based on the principles of financial inclusion, financial innovation, promotion of competition, consumer protection, financial stability, preventing illicit operations, and technology neutrality.

	The Fintech Law allows fintech companies to do business in Mexico under the regulation applicable to the two kinds of financial entities established in the Law: Crowdfunding institutions and E-money Institutions, or under the framework of the regulatory sandbox, and complying with the requirements set forth in the Law and in the secondary regulation. Financial Technology Institutions (electronic payments and crowdfunding entities) must also comply with AML/CFT policies and procedures in line with the FATF recommendations.
Regulatory framework	The fintech sector is developing with many companies in the authorization process. The CNBV has issued secondary regulations on cybersecurity, minimum capital requirements, continuity plan for operational contingencies, financing and investment limits for crowdfunding, accounting, and financial information, use of electronic devices, and regulatory reporting. Different fintech products (crowdfunding, e-money payments, robo-advisors, InsurTech, APIs, among others) are by their nature very different, so their regulation must also be tailored and differentiated. Moreover, in the same asset class, such as crowdfunding, there is also differentiated regulation, given that different types of crowdfunding (Debt, Capital, Co-ownership and Royalties) are recognized by the Fintech Law. In the debt category there are also crowdfunding variants, regulated according to their particularities and risks: Debt crowdfunding includes P2P, P2B, Real estate financing, enterprise factoring, and leasing. Different financial services are regulated by different supervisory authorities (CNBV - Banking & Securities Regulator, CNSF - Insurance Regulator, CONSAR - Pension funds regulator), so under the Fintech Law's umbrella, each authority is entitled to rule on the relevant matters of their competency for each new product or technology in the financial industry. In addition to the regulation of Financial Technology Institutions (FTI), the Fintech Law provides for other aspects related to the use of technology applied to financial services and regulatory schemes that can be considered cutting-edge: (i) Regulatory Sandbox; (ii) Virtual Assets; (iii) Application Programming Interfaces (APIs). According to the Fintech Law, any company interested in carrying out an activity related to a crowdfunding or an e-money institution, has the obligation to request authorization. However, the Law granted a grace period to those companies that were performing crowdfunding or e-money activities before its issuance to request authorization to operate as a Financial Technology Institution. This grace period expired in September 2019. **Risks.** These new technologies entail risks that could impact in the financial stability, such as: (i) Financial risks (leverage and business risks); (ii) Operational risks (cyber and legal risks); (iii) Macrofinancial risks. **Risk mitigation.** Because of these risks, the Fintech Law and its secondary regulations provide measures to reduce these risks: • The Law mandates the full disclosure of risks and adequate safeguards regarding consumer's rights, privacy rules and data protection; • Secondary regulations address risks (such as financial, operational, market), corporate governance, and minimum capital, among others; • A strong AML/CFT regulatory regime is adopted following international principles. In the context of the constant evolution of the fintech sector, the legal framework aims to provide adequate flexibility to the financial authorities. Finally, there are some future changes envisaged for fintech regulation. **AML/CFT** The CNBV has launched a comprehensive SupTech project to automate the supervision of Financial Technology Institutions and to support the oversight of AML/CFT regulatory provisions over all financial entities under its responsibility. Even though technology-based innovations have improved the access and delivery of financial services and products to individuals, businesses, and communities (customers/occasional customers) that had been excluded from the current financial system, thereby promoting financial inclusion, they also pose risks (new tools and vehicles) for ML and FT offenses. In Mexico's National Risk Assessment 2020 (compliant with FATF Recommendation 1), a section on Financial Technology Institutions was included, which identified that virtual assets providers represented an emerging risk with high probability and impact characteristics, due to the nature and novelty of their activity.

	With respect to Fintech developments and AML/CFT, current regulations are in line with the FATF recommendations, specifically with the recommendation 15 "New Technologies" and the Guidance on Digital ID. Current regulations recognize (i) the provision of financial services through technology-based innovations, and (ii) the importance of identifying the ML/FT risks which fintech institutions are subject to, in line with technology-based innovations. • For cryptocurrencies (virtual assets and virtual assets service providers), the Fintech Law establishes, among other issues, the legal framework for Financial Technology Institutions (electronic payments and crowdfunding entities) and banks (Financial Institutions), to carry out transactions with Virtual Assets (VAs) with a prior authorization of the Central Bank of Mexico (Banxico). It also enables: (i) the Ministry of Finance and Public Credit (SHCP) to oversee the AML/CTF regime and (ii) the National Banking and Securities Commission (CNBV) to supervise it. • The AML/CTF regime for Financial Institutions that operate with VAs approved by Banxico[91] establishes, in general terms, the following: - The customer´s due diligence policy (including identifying politically exposed persons); - The implementation of a risk-based approach; - The reporting of purchases and sales of VAs convertible into legal tender and of suspicious transactions; - The obligation to keep the information for a period of 10 years. Mexico, as member of the FATF, recognizes the importance of financial innovation in the domestic and international financial systems, as well as the challenges that may arise in enforcing the AML/CFT regime (among others). In this regard, the authorities are actively following any modifications to the FATF recommendations or new guidance by the FATF, with the aim to: • Have a common language that accurately reflects the transactions and services offered by each fintech firm, which must evolve as the technology changes; • Promote a good understanding between the parties involved in fintech transactions, as well as how they can be used for ML/FT purposes; • Promote discussions on the implementation of the AML/CFT regulation with a risk-based approach. Fintech services involve different parties that are in various jurisdictions that may not have adequate AML/CFT regulations and controls, for which it is important to promote international cooperation to exchange information, financial intelligence and evidence, which allow legal action against criminals and their assets, through: • Information exchange (the Financial Intelligence Units must cooperate and exchange information related to Suspicious Transaction Reports with their counterparts, especially when dealing with cross-border transactions); • Creation of bilateral groups to detect ML/FT crimes, including via fintech; • Memoranda of understanding, among others. The regulator has issued AML/CFT regime for fintech firms who must observe the following: • Have an adequate KYC policy; • Submit to the SHCP, through the CNBV, their Currency and Suspicious Transactions Reports; • Have internal structures that function as compliance areas; - Establish how the information obtained in the KYC process should be safeguarded and guaranteed; - Provide AML/CFT training within the firm/sector; - Keep the KYC information and reports of their customers for at least 10 years; - Immediately suspend transactions and services of customers who are on blocked persons lists; - Have an AML/CFT manual which clearly describes the measures and procedures to comply with the law.

[91] However, Banxico has not authorized any VA yet due to their inherent risk for the Mexican financial system. On the other hand, the Federal Law for the Prevention and Identification of Transactions with Resources of Illicit Origin (AML Law) establishes the possibility for Service Providers related to Virtual Assets (VASPs) to sell and purchase VAs as intermediaries that can operate without authorization from Banxico, being considered as Designated Non-Financial Businesses and Professions (DNFBPs) in terms of the AML Law and the FATF Recommendations. The importance of this separation lies in the fact that it is determined that in the case of VASPs, since they are not financial entities, their registration, operation, and supervision rules are under the purview of the Tax Administration Service (SAT).

Measures of success/ Quantitative targets	As mentioned, the Fintech Law has already been enacted, and no new regulatory initiatives have been announced/enacted for the fintech sector in Mexico in 2021, and there are no formal success measures or targets. However, one success measure is that 81 firms submitted their application for the 2020 Sandbox Challenge, even though only 36 of them were subject to a technical evaluation, and only 6 reached the final stage of the contest.

State of Financial Inclusion

The degree of financial inclusion is related to socio-demographic characteristics such as location and age; 74% of the urban population holds at least one financial product, and so does 75% of persons between 30 and 39 years of age. Also, education level and employment status relate to financial product use, since 88% of those with college or a higher level of education owns a financial product as do 96% of those with a formal job.

According to Global Findex data (2017), Mexico lags other countries in financial inclusion:

- Only 37% of adults hold a bank account; 18 ppts less than the Latin America region average, which is 55%. Countries with similar economies surpass Mexico: in Chile the rate is 74%, and in Brazil - 70%.
- Among the youth (age 15-24), the differences are also high. In Mexico, only 33% hold an account, while 75% hold one in Chile and 47% in Brazil.
- When it comes to the use of cash, Mexico has a long way to go; 91% of adults still use cash for transactions under $500 MXN.
    - 47% of Mexicans pay for utility bills in cash, while the Latin American average is 41%.
    - Only 32% of Mexican adults received or made a digital payment, while in Chile and in Brazil 65% and 58% did, respectively.

According to the data from the National Survey of Financial Inclusion (ENIF 2018):

- 1 of every 3 Mexicans does not hold any type of financial service or product;
- 1 out of every 3 holds a credit product;
- 1 out of every 4 holds an insurance product;
- Less than half of the adult population holds a retirement savings account;
- 87% of the adult population either made unplanned purchases or did not follow a monthly budget;
- 8% of adults have had some kind of financial training.

The drivers of financial inclusion in the past years included:

- The financial reform of 2014, which was a key driver for financial inclusion, as the National Council of Financial Inclusion and the National Committee of Financial Education, was included in the law, thus elevating the status and visibility of financial inclusion initiatives;
- The introduction of the simplified accounts regime;
- The channeling of government transfers through bank accounts, which has been a fundamental enabler of financial inclusion within vulnerable population segments, especially in rural areas.
- The sustained expansion of banking agents, which provide an alternative to traditional access points such as branches and ATMs.
- The expansion of payment aggregators, which have complemented traditional points of sale.

Urban gender divide:

- 80.3% of men living in urban areas hold at least one financial product whereas women register 69%;
- 53.9% of men hold a payroll account or card at a bank or financial institution; while only 43.4% of women hold one of those accounts or cards;
- 8.4% of women hold an account or card where they receive government money transfers, while only 2.5 % of men say they have a similar account or card;
- 55.0% of men and 48.2% of women hold a savings account;
- 44.2% of men hold a debit card, while 37.7% of women have access to this financial product;
- 33.2% of men have access to mobile banking (through cell phone) in contrast to 28.1% of women;
- 38.5% of men hold a credit account with a financial institution, while 33.2% of women do;
- 33.4% of men have insurance, while only 25.7% of women do;
- 56.7% of men hold a retirement savings account, while only 39.1% of women reported holding one.

Rural gender divide:

- 57.9% of women have at least one financial product, in contrast to 56.1% of men;
- 31.2% of men hold an account or payroll card with a bank or financial institution, in contrast to 20.0% of women;
- 27% of women hold an account or a card for government transfers; in contrast to 7.4% of men;
- 41.6% of women hold a savings account, versus 36.2% of men;
- 21.9% of men hold a debit card, in contrast to 19.6% of women;

- 16.1% of men hold a mobile banking account (via cell phone) in contrast to 10.6% of women;
- 33.5% of men hold a credit card, in contrast to 21.5% of women;
- 18.2% of women have insurance, in contrast to 17.9% of men;
- 34.6% of men have access to a retirement savings account, while only 15.9% of women do.

Obstacles to financial inclusion. In the process of renewing the NPFI, an overview of the state of financial inclusion revealed the following:

With respect to physical access points, there are relatively few in rural areas; moreover, time and transportation expenditures to such points are relevant costs faced by people.

With respect to holding and usage of products and services, there are gaps rural/urban areas and between men and women; there is wide use of cash among the population, and there are low levels of financing and other financial services among MSMEs.

There are few "financial inclusion" financial products. In addition, work status and reception of social transfers are linked to holding of financial products. Knowledge of consumer protection mechanisms is limited and few users compare across financial providers. Individuals hold low numeracy skills in financial contexts and few express a preference for saving for the future. There is limited planning/budgeting.

With respect to infrastructure to provide financial services, there are opportunities to improve upon identification and authentication processes. There are regional gaps in access to information and communication technologies, payment market competition can be enhanced, as well as the development of infrastructure to gather and exchange information about potential and current users.

These findings were summarized in the following 6 challenges related to financial exclusion:

(i) Low levels of holding and usage of financial products and services

(ii) Low levels of usage of digital payments

(iii) A deficient infrastructure that inhibits the access and provision of digital financial products and services

(iv) Low levels of financial literacy

(v) Insufficient information tools and financial protection mechanisms

(vi) Limited financial inclusion of vulnerable groups

In order to make progress on these challenges, the NPFI establishes an equal number of objectives. Each objective considers an array of strategies and associated action lines to overcome the challenges.

(i) Low levels of ownership and usage of financial products and services will be addressed through further actions from development banks, promoting regulatory changes and other policy actions, and easing requirements for opening and using accounts, and enhancing regulatory actions to reduce barriers to mobility in financial services.

(ii) Overall digital payments usage will be increased by promoting digital payments between governmental entities, firms, and the population.

(iii) Insufficient infrastructure that inhibits the access and provision of financial products and services will be targeted with the expansion of the network of physical and digital access points and higher connectivity coverage in rural areas. The National Policy on Financial Inclusion incorporates strategies to reinforce identity validation systems and digital security, and strengthen the information systems that underpin the provision of financial services.

(iv) Financial literacy levels will be increased through the provision of financial education in schools and financial education programs for the general population to enhance people's knowledge, skills, and attitudes toward financial issues.

(v) Insufficient information tools and financial protection mechanisms will be dealt with by promoting the use and understanding of financial services via transparency tools aimed at increasing disclosure of financial products' conditions, costs and benefits, to facilitate financial decision-making and increase confidence in the financial system. In addition, actions to strengthen financial consumer protection and financial products and services' security protocols are envisaged.

(vi) Limited financial inclusion of vulnerable groups will be addressed by promoting increased accessibility to the financial system, leveraging the delivery of social programs to provide financial products to vulnerable populations and encouraging the use of financial infrastructure for sending / receiving remittances.

The Policy also considers a cross-cutting strategy aimed at generating information and research to identify barriers and areas of opportunity in financial inclusion.

State of Fintech
Financial technology has been evolving at a very fast pace and the Mexican Government has been making efforts to adjust to this evolution. Mexico has state-of-the-art technological financial services, being a leader in the Latin America region. From 2016 to 2017, the number of fintech enterprises increased by 50%. By 2018, 69% of fintech firms were less than 3 years old. These data showed that trends towards digitalization of financial services were arising and it became necessary to harness their potential benefits for financial inclusion. As a first step, Mexican authorities issued the Fintech Law in 2018.

Nevertheless, as stated above, the law only regulates two types of fintech enterprises. There are other enterprises that use technology while providing financial services and are part of the fintech ecosystem. Moreover, banks and other financial intermediaries are targeting digital business models. These trends signal a diverse supply of financial products and services that can transform the financial system in Mexico into a more inclusive one.

Obstacles to fintech development. Given that the fintech sector is quite new and is still developing, there are structural challenges that could interfere with its expansion such as:

- Insufficient infrastructure: (i) Physical financial infrastructure; (ii) Digital communications: According to the Federal Institute of Telecommunications (IFT), in 2020, there were still 414 (16.8%) municipalities without ANY mobile service coverage; (iii) Lack of mobile coverage: At the locality level (the smallest of geographic levels, smaller than municipalities), 51.3% of people do not have access to either 3G or 4G mobile services.
- Low levels of financial literacy: Only 1 in 3 adults keep a budget and 27% of adults do not hold a bank account because they do not trust financial institutions.
- Low levels of digital and financial skills: Only 16% of internet users utilize their connectivity for online banking operations, compared to 91% of users who apply it for entertaining purposes. (INEGI, 2019).

COVID-19 social support. The current Administration has chosen to secure the benefits of social programs through the traditional banking sector to make sure that these resources get to the final beneficiaries in a safe manner. Beneficiaries represent vulnerable sectors of the population and should not experience any delay in their financial support. However, the Administration remains open to the possibility of eventually including fintech entities to channel government transfers, since fintech firms' business models have proven to be attractive at modernizing financial services and creating new platforms conducive to social distancing. The pandemic has forced fintech participants to strengthen their digital strategies, to encourage the use of new technologies to offer more and better financial products, as well as to increase the use of non-cash alternatives.

The pandemic provided a window of opportunity to increase financial education and to promote electronic payments, reduce the use of cash, foster financial inclusion, and make a smoother transition to a digital economy.

Interactions between Financial Inclusion and Fintech Strategies

As mentioned previously, Mexico has not established a national fintech strategy. The enactment of the Fintech Law in March 2018 was the result of research and analysis made by financial authorities in response to new participants in the financial sector (fintech firms), to protect customers' funds and maintain financial stability. As a result, Mexican financial authorities have issued secondary regulations that provide a comprehensive, unified regulatory framework for fintech activities.

Fintech has the potential to deepen Mexico's financial system and promote financial inclusion by offering broader and better financial products, strengthen their digital strategies, and promote competition. For example, **collective financing institutions** may improve access to credit for the population while it provides investment projects to retail investors. On the other hand, **electronic payment institutions** can increase financial access by providing e-money accounts for the currently excluded by the financial system.

From a financial inclusion standpoint, the interactions between financial inclusion and fintech strategies have as objective the use of fintech models by financial institutions, including banks and microfinance deposit-taking institutions, and fintech entities. This will increase competition in the financial sector, lower costs (interest rates and commissions), and deepen financial inclusion by introducing innovative technologies for access to accounts, credits, insurance, and digital payments.

The National Policy for Financial Inclusion contains specific actions on fostering fintech entities and regulatory sandboxes, thus recognizing that fintech entities have the potential to deepen financial inclusion. Furthermore, in recognition of these interactions, the Mexican Fintech strategy, although not made explicit in a document, started with the establishment of banking agents, mobile banking, and digital onboarding in 2017. The enactment of the Fintech Law in 2018 and its secondary regulations further strengthened the basis to develop the fintech sector.

Results

As stated before, the NPFI was issued in 2020, so that it may be too soon to measure its impact. With respect to fintech, the authorities are still in the process of reviewing applications submitted by firms to operate as regulated entities (collective financing institutions or electronic payment funds institutions). Official data (regulatory reports) to document the evolution of financial technology institutions and their relation to financial inclusion will become available once all firms' applications are processed.

The next National Financial Inclusion Survey will be implemented this year (2021). Questions on the usage of fintech financial services were included. The survey results will provide an additional data source to document the uptake and usage of fintech products and services.

From the first survey on Financial Inclusion in 2012 to that of 2018, progress can be seen both in the ownership and use of financial products due to changes in the regulatory framework.

	2012 (% adults)	2018 (% adults)	Change (percentage points)
Account ownership	36%	47%	11
Credit	27%	31%	4
Insurance	22%	25%	3
Retirement savings accounts	28%	40%	12
Debit and credit cards usage	56%	74%	18

Source: CNBV-INEGI

There have been changes in the regulatory framework aiming to improve financial inclusion in Mexico. A regulatory modification in 2008 allowed retail businesses to act as agents of financial institutions so that they could carry out some operations, such as balance inquiries, accounts opening, cash withdrawals, and utility, credit, and tax payments.

In 2010, another regulatory modification was made to open simplified low-risk accounts; these accounts have limits on the amount of deposits, balances, and operation types. As of 2020, these accounts can be opened by young people (15 to 17 years old).

Although there is no fully developed payment ecosystem in Mexico, digital payments have evolved over the past few years as the points of access through digital channels increased. From the second quarter of 2016 to 2020, the number of Point of sales (POS) terminals increased by 57%, and the number of retail businesses with this kind of device grew by 14%. Meanwhile, the volume of transactions through them increased by 56% from the fourth quarter of 2016 to 2019. Accounts linked to a mobile phone are essential to reach more population, primarily in remote areas; these have increased by 410% from the second quarter 2016 to 2020.

Ways Forward

Digitizing financial inclusion involves the utilization of cost-saving digital means to reach currently financially excluded populations with a range of formal financial services suited to their needs. In this regard, the digital transformation of banks, multiple-purpose financial entities (SOFOMES) and popular financial entities (SOFIPOS) is seen as the next step.

An important issue to keep in mind is the need for an appropriate balance of promoting financial innovation while countering potential risks, such as money laundering and cyber-fraud. Topics that merit attention include for example mitigating cyber risks and managing operational risks from third-party service providers, which are becoming more prominent and critical, especially in the areas of data services.

Impediments to fintech development. Barriers to fintech sector development are present both on the supply and demand side. More fintech entities need to be established on the supply side, and banks and microfinance deposit taking entities must offer a broader range of digital products and services. To this end, the regulatory framework and the market must continue developing in order for the market to introduce products under better conditions, leveraging new technology and customer-centric products. On the demand side, the use of fintech models is slowed down by insufficient financial competencies, security concerns of customers, and the need to strengthen the financial consumer protection framework.

Regarding consumer protection, confidence in the financial sector is very important in the uptake of financial products and services. According to data from the 2018 National Survey on Financial Inclusion, one out of five adults did not sign up for mobile banking and 12% do not use their debit cards due to lack of trust. Debit cards remain a fundamental tool in the use of digital and fintech products.

Another factor is that digital and fintech products represent a risk for data and privacy protection. In Mexico, according to data from the 2018 National Survey on Financial Inclusion, 7% of the adult population had a problem with identity theft, credit card cloning, or were victims of fraud.

Next steps. Developing financial competencies is key because international organizations have found that the higher the level of these competencies, the higher the number of individuals with accounts who make payments through digital means. In Mexico's case, it scored 58 points in the Index of Financial Literacy, two percentage points lower than the G20 average. However, its financial behavior score is relatively low, 11.8 points below the G20 country average. Among the elements that are included in “financial behavior” is the ability to compare financial products and services before their use.

The Mexican fintech sector is still in early stages of development. Currently, only four Financial Technology Institutions have been authorized. However, more than 90 fintech firms have submitted an authorization request to become a regulated fintech institution in Mexico. Therefore, Mexican authorities should continue working on reviewing these applications without further delay.