



# Financial Stability Report – First Semester 2021

June 16, 2021



# Introduction

- As a result of the COVID-19 pandemic, **since the beginning of 2020, the Mexican economy has been exposed to a series of shocks** that have affected the conditions under which the domestic financial system operates.
- **The financial system has continued to show resilience and a robust position overall**, with capital and liquidity levels above regulatory requirements.
- However, **certain risks and vulnerabilities increased due to the health contingency and remain** at levels above those observed previously.
- The Financial Stability Report describes:
  - ✓ The **current state of the financial system**.
  - ✓ The **evolution of the most important risks and vulnerabilities**.
  - ✓ The **measures that have been adopted** to promote an orderly behavior of financial markets, strengthen credit channels and the provision of liquidity.

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## **1** Macro-financial conditions

## **2** Measures implemented

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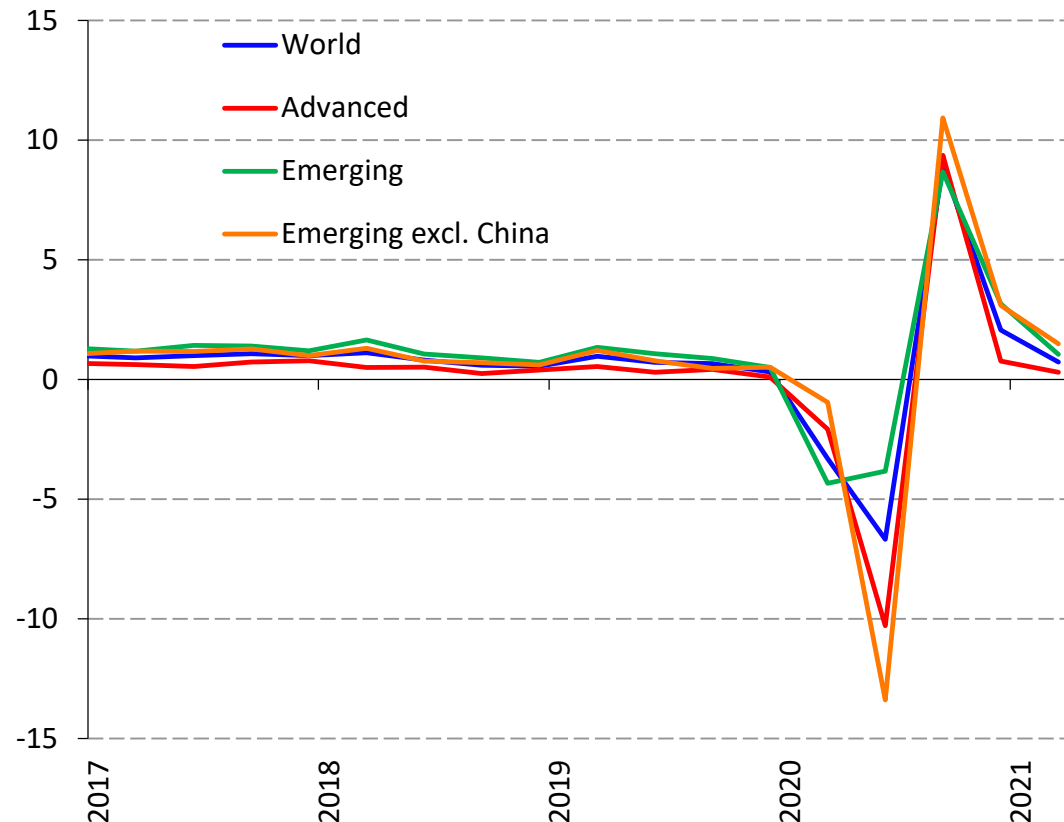
## **4** Stress tests

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# 1 Global economic growth

Global economic activity continued to recover during Q4 2020 and Q1 2021, although heterogeneously among countries and sectors, and at a more moderate pace. Global growth forecasts for 2021 and 2022 have been revised upwards.

**GDP growth**  
Quarterly % change, s. a.



Data as of Q1 2021. Source: Banco de México with data from Haver Analytics, J.P. Morgan, Goldman Sachs and IMF.  
s. a. / Seasonally adjusted data.

**Global GDP growth forecasts**  
%

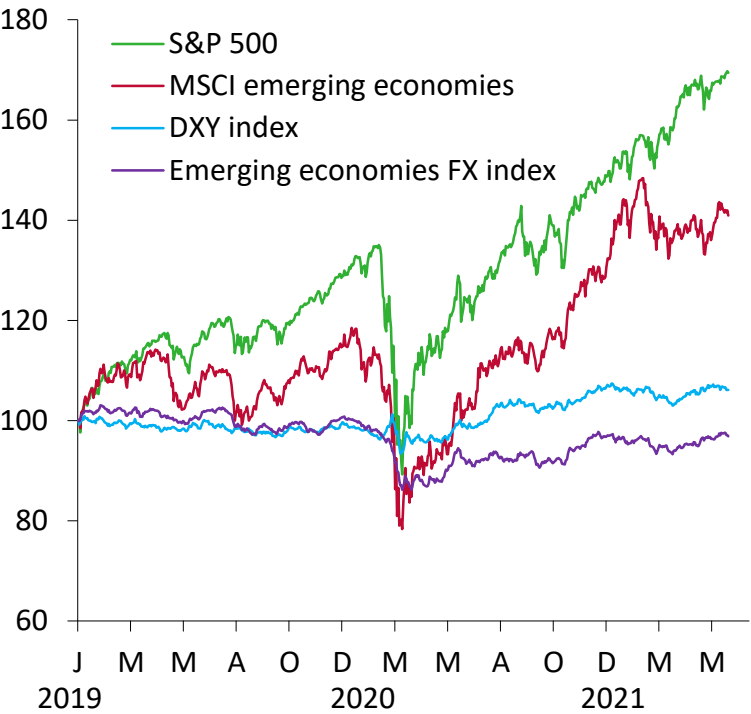
		WEO		Change from	
		April 2021		January 2021	
	2020	2021	2022	2021	2022
<b>World</b>	<b>-3.3</b>	<b>6.0</b>	<b>4.4</b>	<b>0.5</b>	<b>0.2</b>
<b>Advanced</b>	<b>-4.7</b>	<b>5.1</b>	<b>3.6</b>	<b>0.8</b>	<b>0.5</b>
United States	-3.5	6.4	3.5	1.3	1.0
Euro area	-6.6	4.4	3.8	0.2	0.2
Japan	-4.8	3.3	2.5	0.2	0.1
United Kingdom	-9.9	5.3	5.1	0.8	0.1
<b>Emerging</b>	<b>-2.2</b>	<b>6.7</b>	<b>5.0</b>	<b>0.4</b>	<b>0.0</b>
Excl. China	-4.3	5.9	4.7	0.4	0.0
<b>Mexico</b>	<b>-8.2</b>	<b>5.0</b>	<b>3.0</b>	<b>0.7</b>	<b>0.5</b>
China	2.3	8.4	5.6	0.3	0.0
India	-8.0	12.5	6.9	1.0	0.1
Brazil	-4.1	3.7	2.6	0.1	0.0

Data as of April 2021.  
Source: IMF, World Economic Outlook, January and April 2021.

## 2 International financial markets

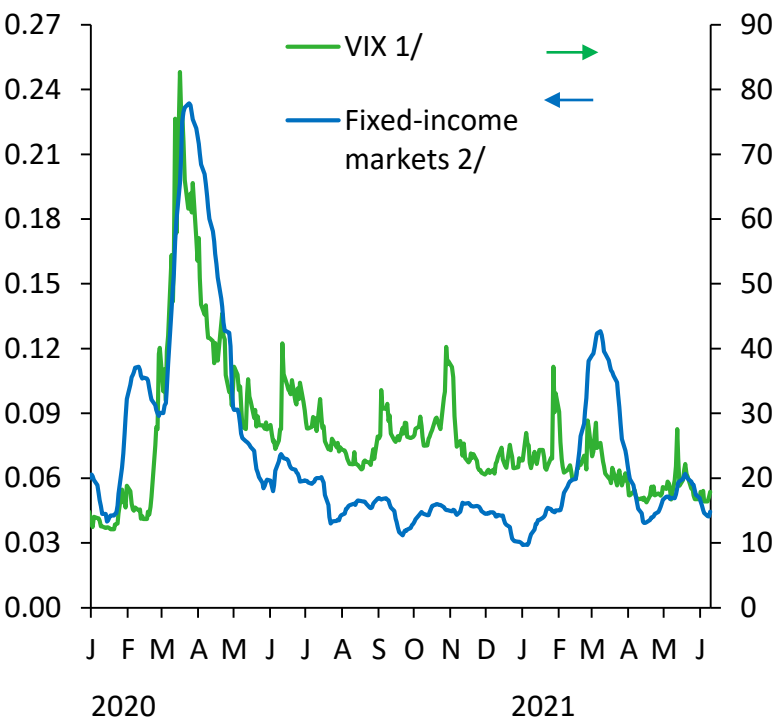
Overall, financial markets have performed favorably so far in 2021. However, episodes of volatility were observed from mid-February to mid-March, in connection with increases in medium- and long-term interest rates due to the significant fiscal stimuli in the United States.

Stock market and FX indices' performance<sup>1/</sup>  
Index Jan-2019 = 100



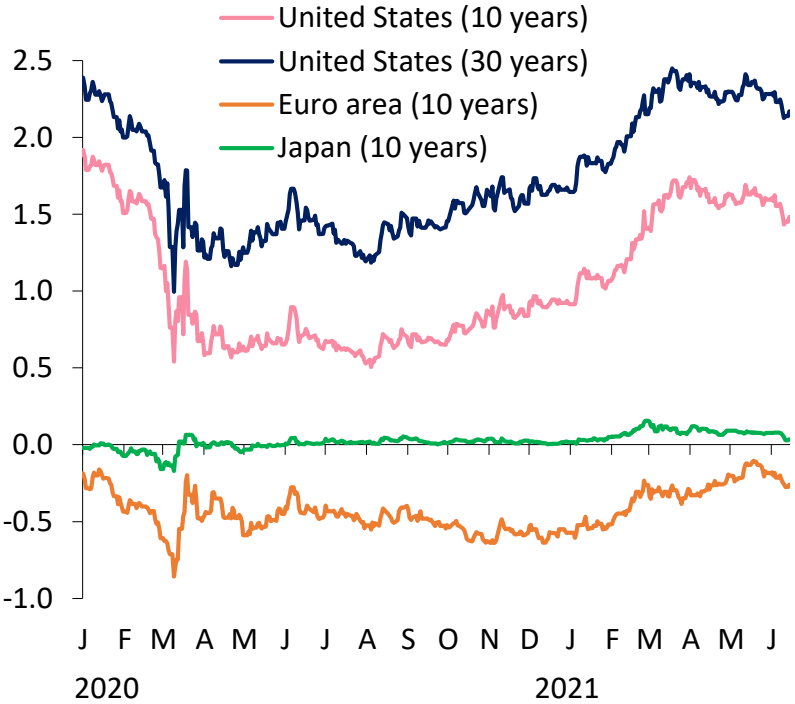
Data as of June 2021.  
Source: Banco de México with data from Bloomberg.  
1/ The emerging economies FX index includes the following countries: Peru, the Philippines, Poland, Hungary, South Africa, Russia, Brazil, Colombia, Chile, Malaysia, India and Mexico.

Volatility in financial markets  
%



Data as of June 2021. Source: Bloomberg.  
1/ The VIX index is a weighted indicator that measures implied volatility in the options market for S&P 500.  
2/ Shows the average of the 30-day standard deviations of the 10-year interest rates of the selected country groups. The countries considered are: Germany, Canada, the United States, France, Italy, the United Kingdom, and Japan.

Government bonds' interest rates  
%

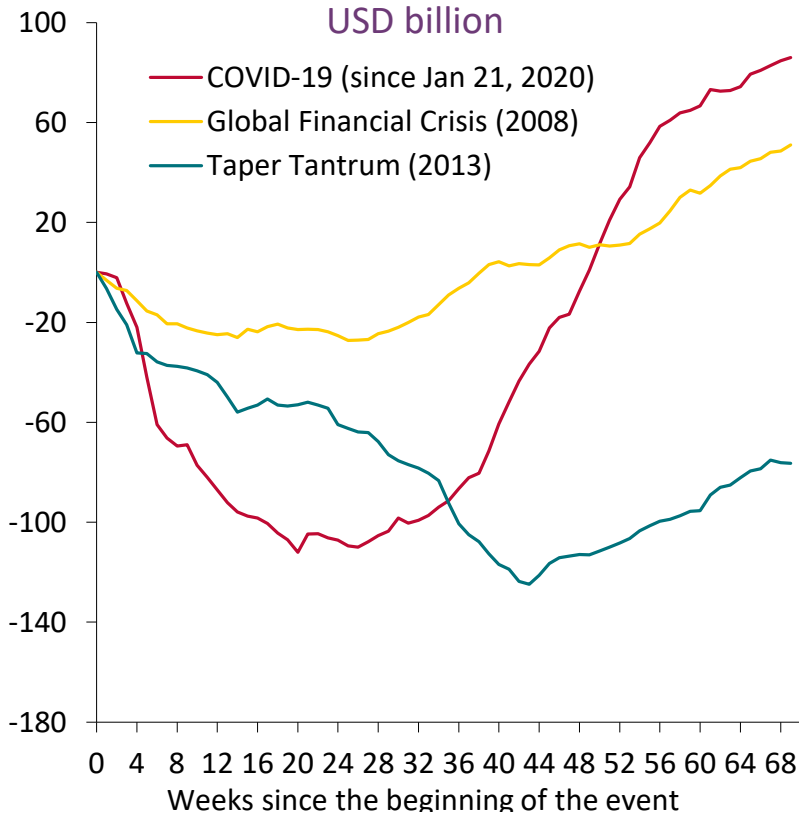


Data as of June 2021.  
Source: Bloomberg.

### 3 Financial markets: emerging market economies

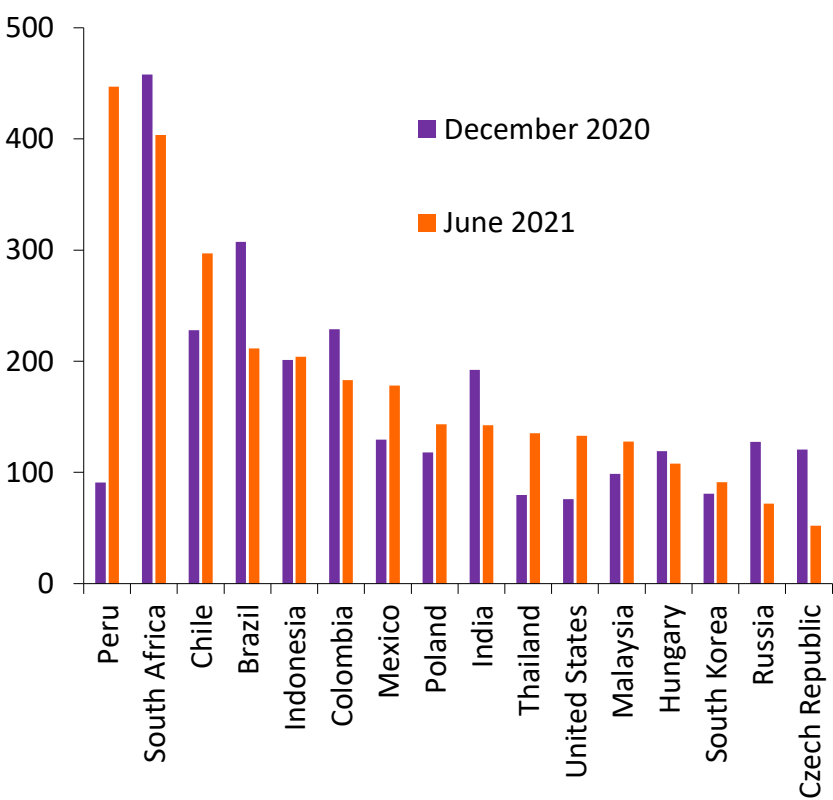
Portfolio investment flows to emerging economies have recovered, although two thirds have been channeled to China. Medium- and long-term interest rates were subject to pressures, and foreign exchange rates have displayed volatility and a mixed behavior.

Cumulative flow of funds to emerging market economies after selected events (fixed income and equity)  
USD billion



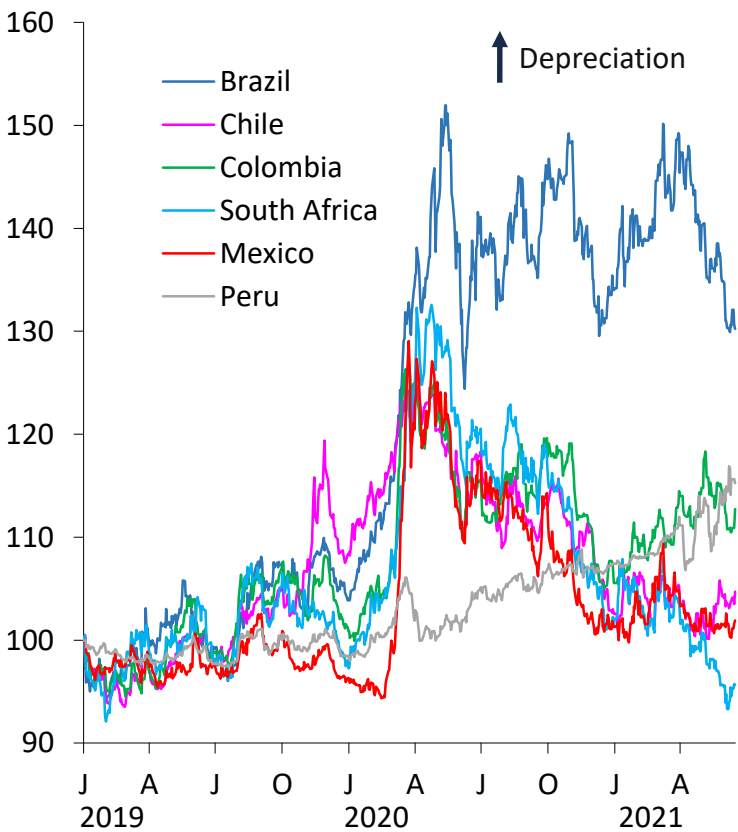
Data as of June 2021.  
Source: Banco de México with data from EPFR.

Spreads between 2- and 10-year yields for selected emerging market economies  
Basis points



Data as of June 2021.  
Source: Banco de México with data from Bloomberg.

Nominal exchange rates against the USD  
Index 01-Jan-2019=100



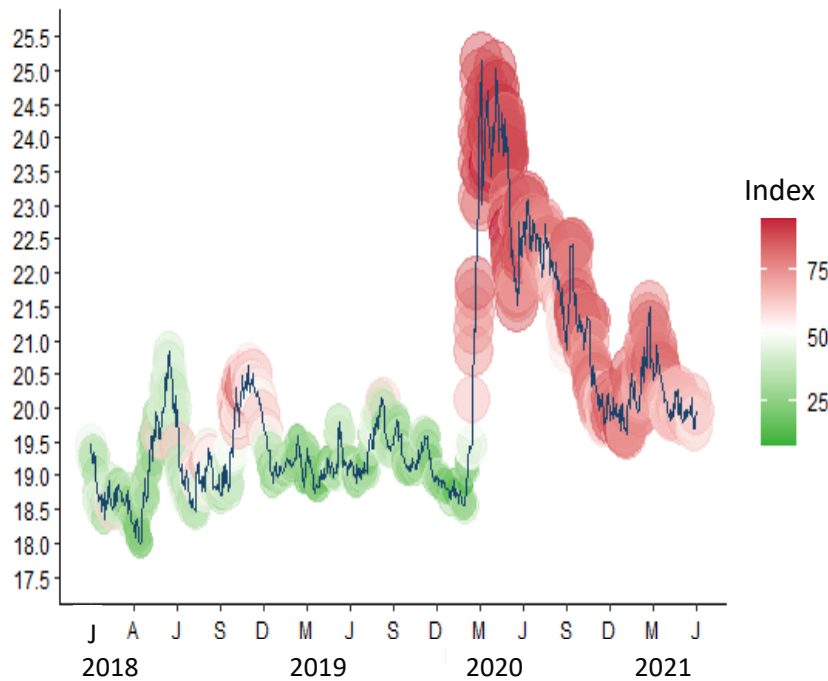
Data as of June 2021.  
Source: Bloomberg.

## 4 Mexican financial markets

Overall, domestic financial markets have performed favorably during S1 2021, although with some volatility from mid-February to mid-March, in line with global financial conditions.

### Exchange rate and operating conditions of the Mexican peso<sup>1/</sup>

Mexican pesos per US dollar; index



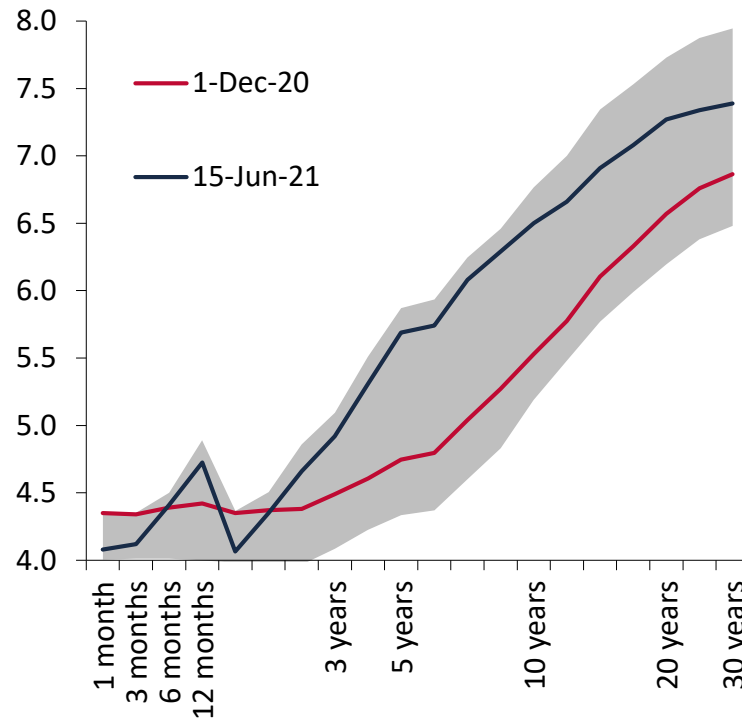
Data as of June 2021.

Source: Banco de México with data from Bloomberg and Refinitiv.

1/ The index is estimated as the average of the percentiles calculated since 2018 of the implicit volatility and skewness at one month, and of the observed volume and spread, where the red (green) color indicates a greater (less) deterioration in the operating conditions of the exchange market.

### Government bond nominal yield curve<sup>1/</sup>

%



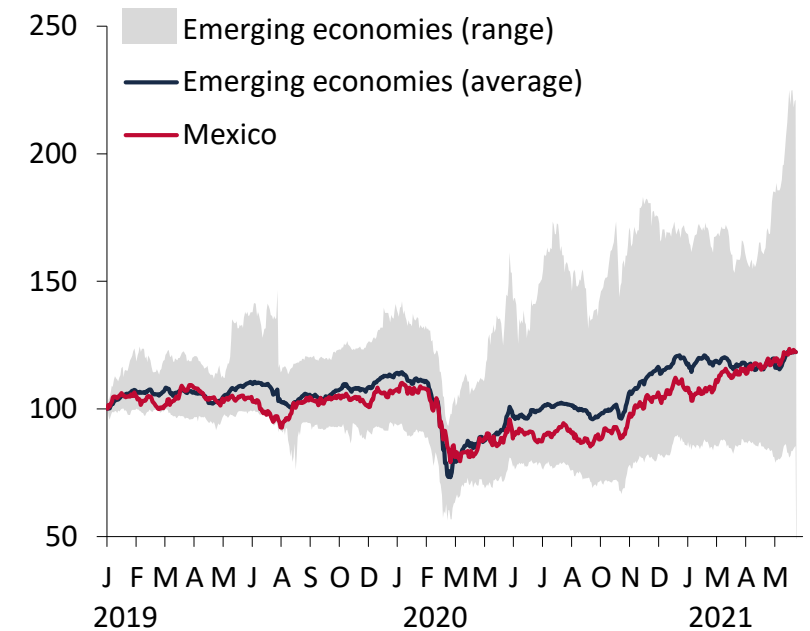
Data as of June 2021.

Source: Banco de México with data from PIP.

1/ The gray area refers to the range of daily yield data since December 2020.

### Cumulative performance of stock market indexes in emerging economies<sup>1/</sup>

Index (Jan 02 2019 = 100)



Data as of June 2021.

Source: Banco de México with data from Bloomberg.

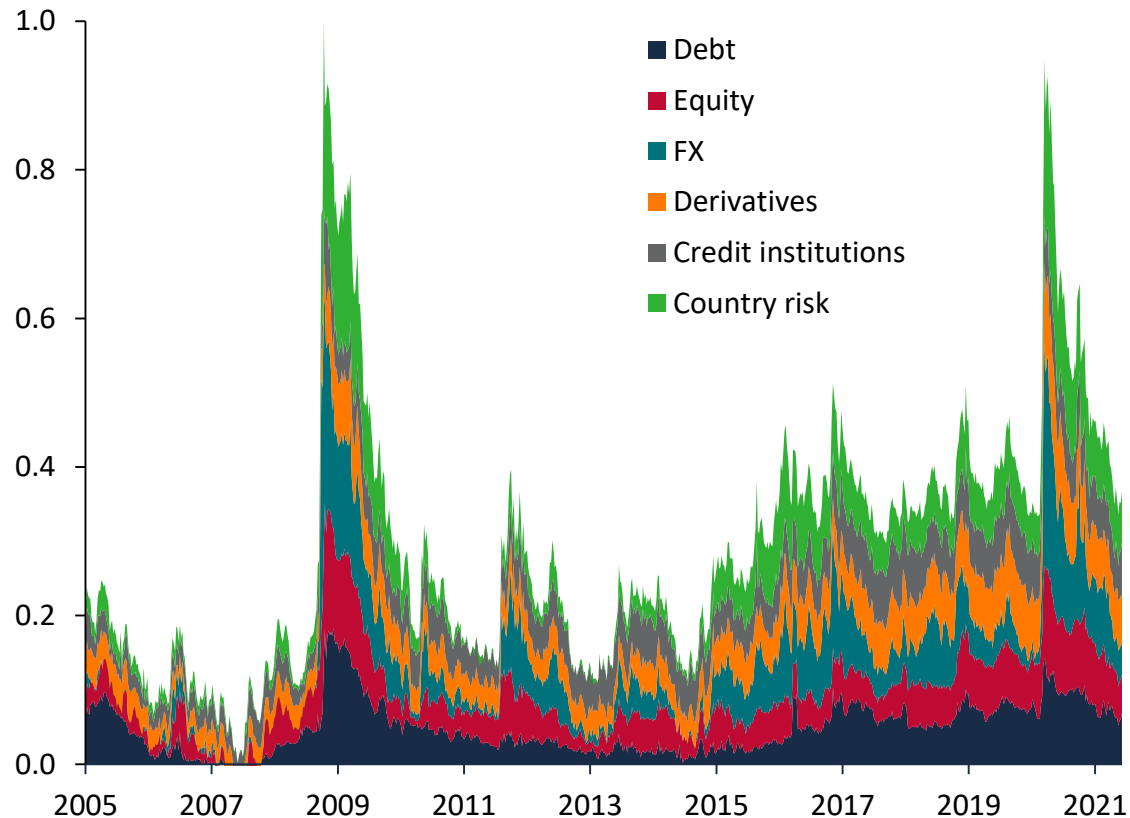
1/ The emerging market economies included in the sample are: Argentina, Peru, Turkey, the Philippines, Poland, Hungary, Indonesia, Russia, Colombia, Chile, Malaysia, India, Brazil and South Africa. The range shows the interval between minimum and maximum values.



## 4 Mexican financial markets

The Mexican financial markets stress index, as well as the domestic financial conditions index continued to ease during S1 2021, nearing pre-pandemic levels.

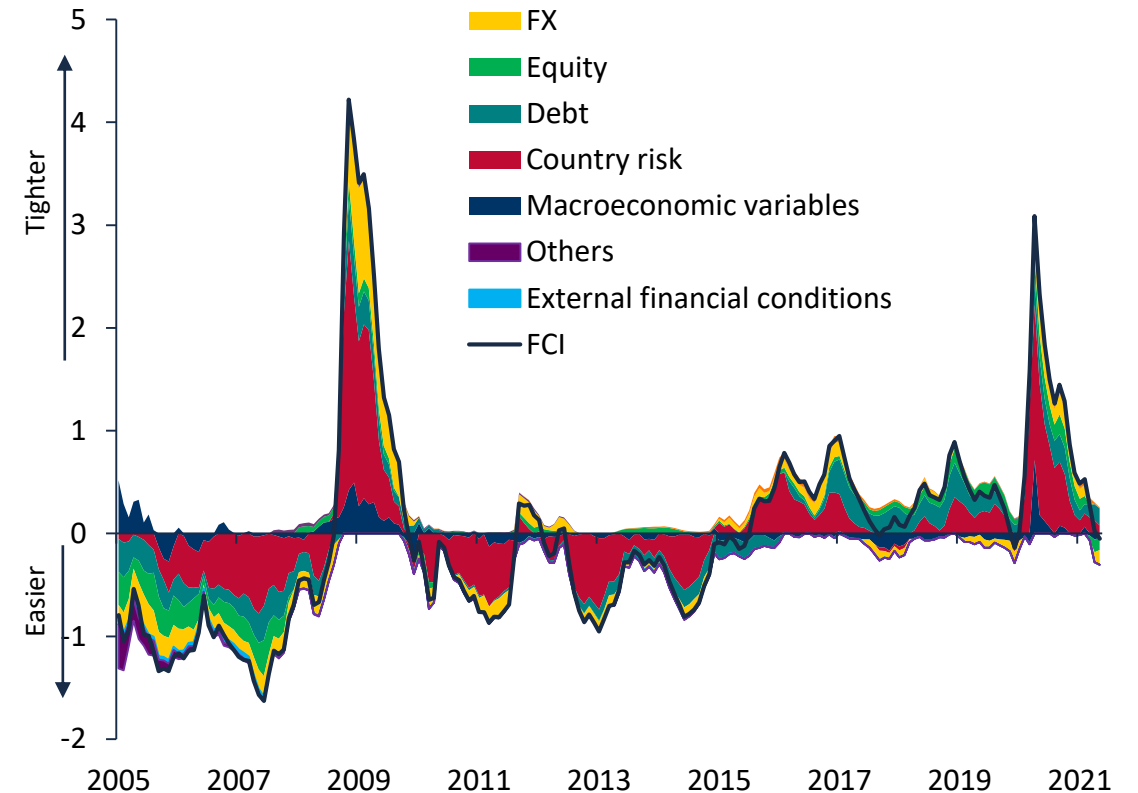
**Mexican Financial Market Stress Index <sup>1/</sup>**  
Stress level scaled to the [0,1] interval



Data as of June 2021.

Source: Banco de México 1/ The index was estimated using a principal component analysis on 36 standard variables of Mexican financial markets grouped into 6 categories (debt market, securities market, FX market, derivatives market, credit institutions, and sovereign risk).

**Mexican Financial Conditions Index <sup>1,2/</sup>**  
Standard deviations



Preliminary data as of May 2021. Preliminary data for the Global Indicator of Economic Activity (IGAE, for its acronym in Spanish) were used for April and May.

Source: Banco de México 1/ For a description of the methodology see Box 2: Financial Conditions and Growth at Risk, Financial Stability Report December 2019. 2/ The contributions of each variable to the FCI are estimated using a Kalman filter..



## 5 Macro-financial risks

- Over a year after the onset of the COVID-19 pandemic, the Mexican financial system continues to show resilience and a sound position overall, which will allow it to contribute to the economic recovery.
  - ✓ In particular, the capital and liquidity levels of commercial banks are above applicable regulatory requirements.
- However, risks that may affect the financial system's functioning persist.
- These risks include:
  - 1 **More restrictive and volatile global financial conditions** due to a higher-than-expected increase in interest rates and inflation in some advanced economies.
  - 2 **A recovery of the global economy with greater heterogeneity** across sectors and countries in the medium term.
  - 3 **Weakness of domestic demand.**
  - 4 **A downgrade of sovereign and Pemex's credit ratings.**

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## Measures implemented during S1 2021

- As the effects of the COVID-19 pandemic have diminished, Mexican financial markets have exhibited a more orderly behavior overall.
- However, risks that may negatively affect the Mexican economy and financial system persist.
- Banco de México, along with other financial authorities, have extended and adjusted **the policy measures implemented in 2020, with a gradual reduction over time.**
- These measures can be classified as:
  - I. Measures to provide liquidity.
  - II. Measures to foster an orderly behavior of financial markets.
  - III. Measures to strengthen credit provision.

# Use of measures to foster an orderly behavior of financial markets, strengthen credit provision, and supply liquidity for the well-functioning of the financial system

	Number of contracts signed with banks	Size of programs			Usage		Memo:	
		04/30/2021	05/31/2021		Amount outstanding <sup>5/</sup>		Total amount allocated <sup>7/</sup>	
		(Billion MXN)	(Billion MXN)	(Billion USD)	(Billion MXN)	(Billion USD)	(Billion MXN)	(Billion USD)
I. Measures to provide liquidity								
Reduction of Monetary Regulation Deposits (DRMs, for its acronym in Spanish)	d.n.a.	50	50		50		50	
Ordinary Additional Liquidity Facility (FLAO, for its acronym in Spanish) <sup>2/6/</sup>	30	d.n.a.	d.n.a.		0		0	
Increasing liquidity during trading hours <sup>1/3/</sup>	d.n.a.	d.n.a.	d.n.a.		d.n.a.		d.n.a.	
Government securities term repurchase window <sup>2/</sup>	39	150	65		100		400	
Temporary securities swap window <sup>2/</sup>	5	50	30		6.54		44.08	
Corporate securities repurchase facility (FRTC, for its acronym in Spanish) <sup>2/</sup>	30	100	65		7.63		37.80	
II. Measures to foster and orderly behavior of financial markets								
Swaps of government securities <sup>3/</sup>	d.n.a.	100	100		14.98		14.98	
Foreign exchange hedge program (billion USD) <sup>3/ 4/</sup>	25			30		7.49		7.49
Financing in USD via credit swap line with the US Federal Reserve (billion USD)	21			60		0.25		15.10
III. Measures to strengthen credit provision								
Financing to micro, small- and medium-size enterprises and individuals, via liberating DRM or term repos <sup>2/ 7/</sup>	4	250	250		10.39		13.96	
Collateralized financing facility for commercial banks with corporate loans, to finance micro, small- and medium-size enterprises <sup>2/</sup>	6	100	100		30.41		31.40	
Total measures implemented in MXN (billion MXN)		800	660		219.95		592.2	
Total measures implemented in USD (billion USD)				90		7.74		22.59

Data as of May 31, 2021. Source: Banco de México. d.n.a.: Does not apply. 1/ Excess intraday liquidity that is sterilized at the close of the interbank market through open market operations. 2/ On February 25, 2021, the extension of this measure to September 30, 2021, and if applicable, the gradual withdrawal strategy, was announced. 3/ On February 25, 2021, it was announced that this measure remains an available instrument. 4/ The additional amount used since announcing the increase in the program from 20 to 30 billion USD on March 9, 2020 is 1,991 billion USD. 5/ The outstanding amount to May 31 of the government securities term repurchase window is 100 billion MXN due to the amount allocated before the gradual reduction of the program was announced. As operations mature, the current amount will be adjusted to the size of the current program. 6/ The facility is activated at the request of the bank. 7/ Includes maturities and refinancing.

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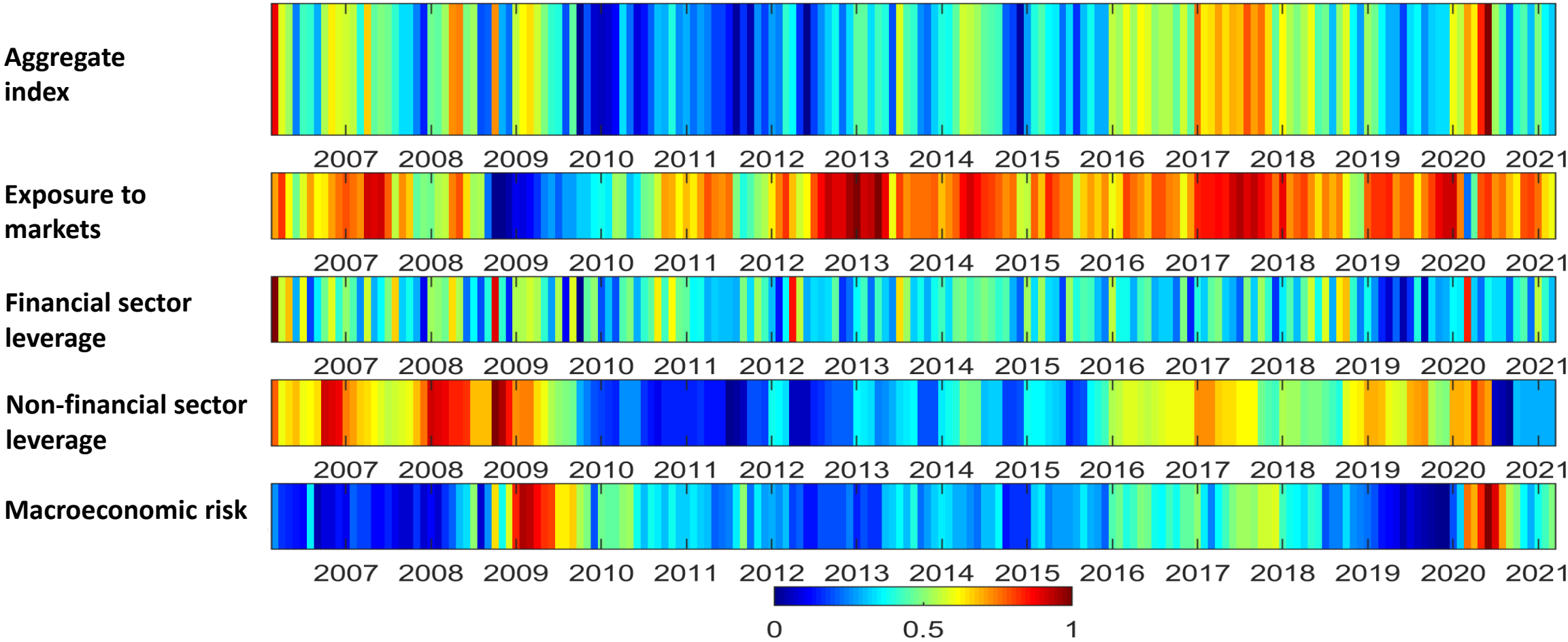
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# 1 Heat map of Mexican financial system risks

The heat map of risks of the financial system improved as compared to that of the previous Report.

Heat map of Mexican financial system risks



Data as of March 2021.  
Source: Banco de México.

## 2 Results of *Survey on Systemic Risk Perception* among financial institutions

Risk perception of some financial institutions (Mexican retirement funds-Afores, insurance companies, commercial banks, development banks, brokerage firms, and investment funds) for the following six months continued decreasing in almost all categories.

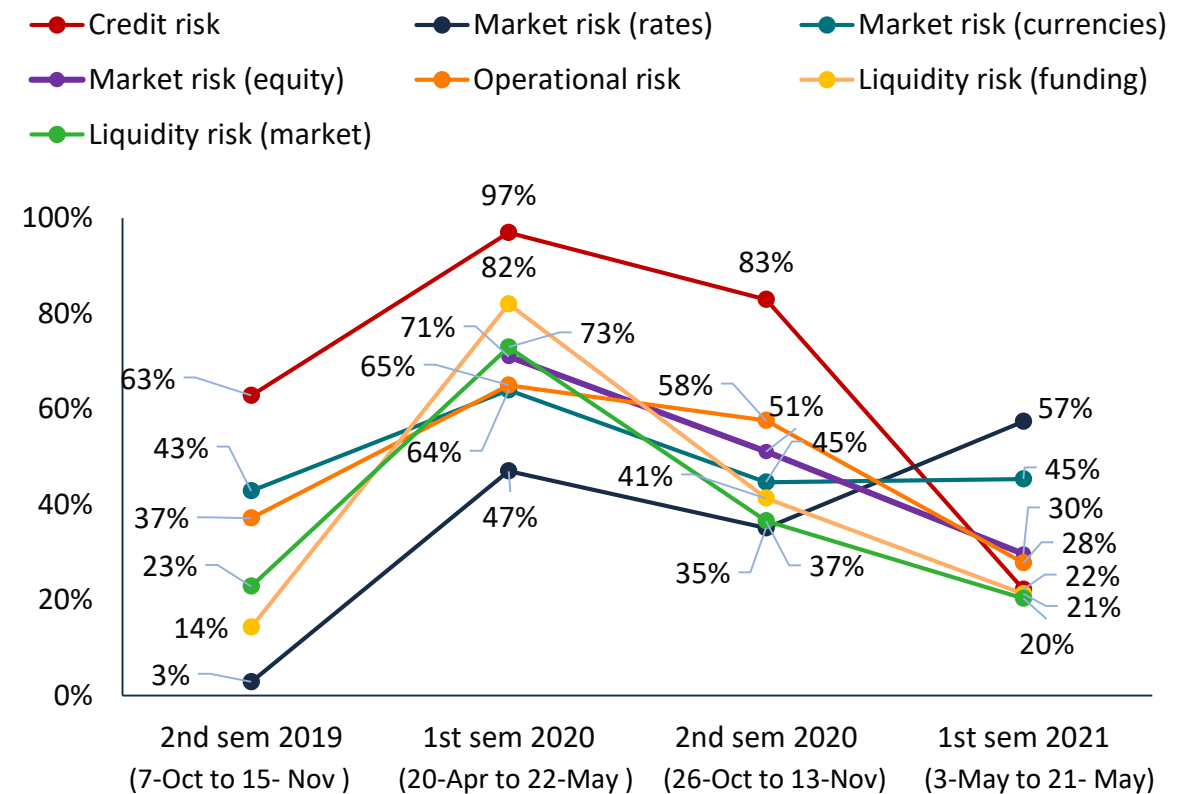
### Main sources of financial system risks <sup>1/</sup> % of total institutions

	May 2021	November 2020 <sup>1/</sup>
<b>External Financial Risks</b>		
Deterioration of foreign market conditions*	72	73
Protectionist policies and deterioration of commercial agreements	70	63
Disorderly changes in foreign interest rates	67	56
Deterioration of global economic growth outlook	62	78
Volatility in commodity prices	53	57
<b>Internal Financial Risks</b>		
Deterioration of the domestic economic growth outlook	65	68
Deterioration of public finances	64	56
Deterioration of sovereign credit rating	60	70
Deterioration of domestic risk appetite	56	34
Fiscal, financial and economic policies	54	52
<b>Non-financial Risks</b>		
Political, geopolitical and social risks	87	76
COVID-19 (third wave, immunization deficiency, lockdown)	81	76
Cybersecurity and IT risks	81	78
Deterioration of the rule of law and impunity	60	52
Violence and insecurity	56	56

<sup>1/</sup>The survey was sent in May 2021 to 142 financial institutions, of which 108 answered; 94 institutions participated in the previous survey.

\* Foreign exchange volatility, depreciation and lack of liquidity.

### Expectations regarding the evolution of risks in the following six months %



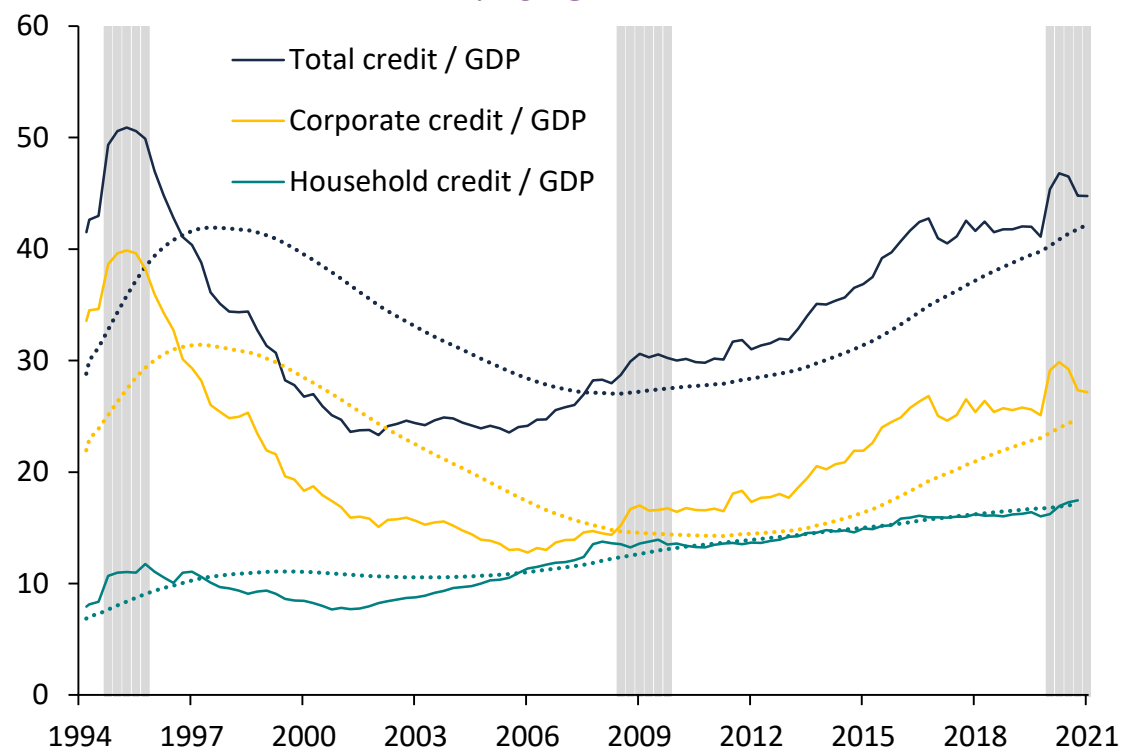
Source: Banco de México.



### 3 Total financing to the non-financial private sector

The financing-to-GDP ratio continued to decrease and is at levels close to those of its long-term trend. Despite the shocks originated by the COVID-19 pandemic on households' and firms' income, delinquency rates have remained at low levels, as compared to those of other adverse economic episodes.

**Credit to the non-financial private sector <sup>1/, 2/</sup>**  
**% of GDP**

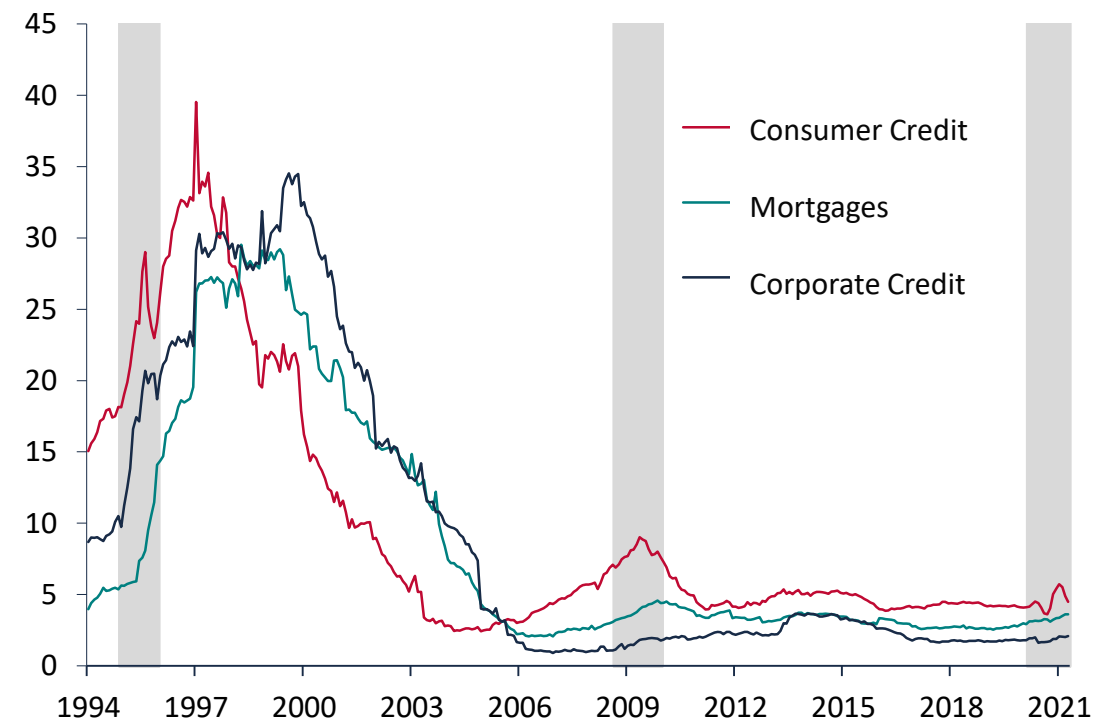


Data as of March 2021.  
 Source: Banco de México.

1/ The 1994-1995 crisis is considered to have started in December 1994; the beginning of the 2008-2009 financial crisis considers the bankruptcy of Lehman Brothers in September 2008 as the onset of the episode; for the current episode, the declaration of the pandemic by the WHO in March is considered as the beginning.

2/ The dotted lines correspond to the long-term trend.

**Delinquency rates <sup>1/, 2/</sup>**  
**%**



Data as of March 2021.

Source: Banco de México.

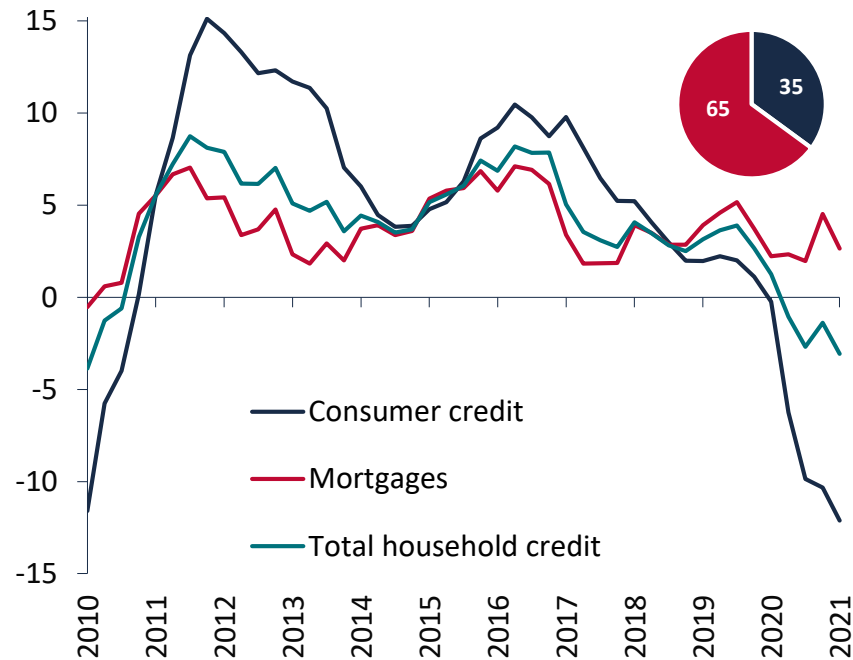
1/ Since 2016, it includes Sofomes ER that are subsidiaries of banks and financial groups. The information was reviewed to exclude data from Banco Ahorro Famsa.

2/ The 1994-1995 crisis is considered to have started in December 1994; the beginning of the 2008-2009 financial crisis considers the bankruptcy of Lehman Brothers in September 2008 as the onset of the episode; for the current episode, the declaration of the pandemic by the WHO in March is considered as the beginning.

## 4 Households' financial position

Total financing to households contracted in real annual terms, mainly due to consumer loans, while mortgages continued to expand. Consumer loans granted by banks for all types of credit continued to decrease, particularly personal loans and credit cards.

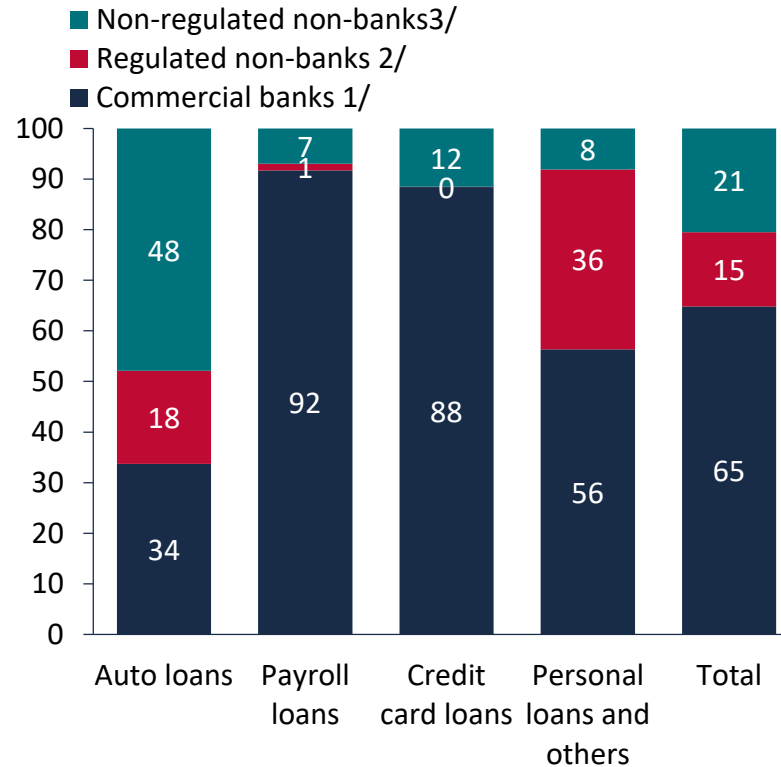
**Household credit growth <sup>1/</sup>**  
Real annual % change



Data as of March 2021. Source: Banco de México, BMV and Condusef.

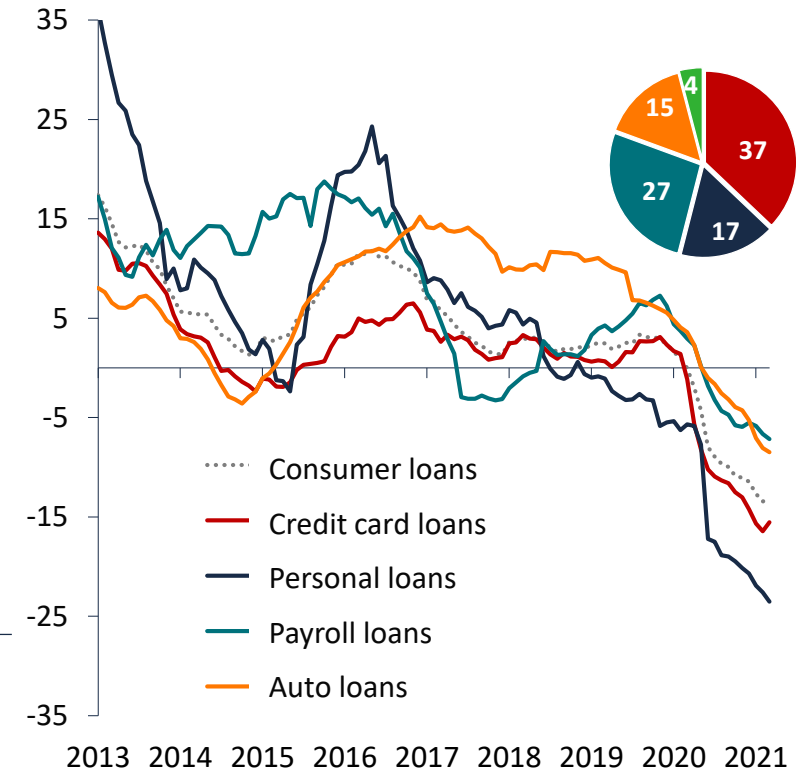
1/ Considers credit granted by the country's banks, regulated Sofomes with links with banks, Socaps, Sofipos and credit unions as well as financial entities that legally disappeared such as Sofoles, leasing companies and factoring companies. For mortgages it also includes those granted by Infonavit and Fovissste. Consumer credit data includes credit granted by the Institute of the National Fund for Workers' Consumption (Infonacot, for its acronym in Spanish). It also includes financing granted by non-regulated entities, such as non-regulated Sofomes and that granted by financial companies specializing in credit or leasing, which issue debt but are not financial entities under the Mexican Law. The growth series are adjusted to consider the beginning of availability of the data on financing by non-regulated entities and regulated Sofomes that issue debt in the period in which they appear in the sample (2015-2016).

**Consumer credit by source**  
%



Data as of March 2021. Sources: Banco de México, CNBV and Condusef. 1/ Includes credit portfolios of regulated Sofomes with links with banks. 2/ Includes portfolio of Infonacot in the segment of personal loans and others. 3/ Includes portfolio of non-regulated Sofomes, credit cards issued by department stores that report to the Mexican Stock Exchange (BMV for its acronym in Spanish) as well as financial companies that grant credit predominantly as part of their business line, such as financial leasing or some financial areas of automotive companies.

**Commercial banks' consumer loan portfolio**  
Real annual % change

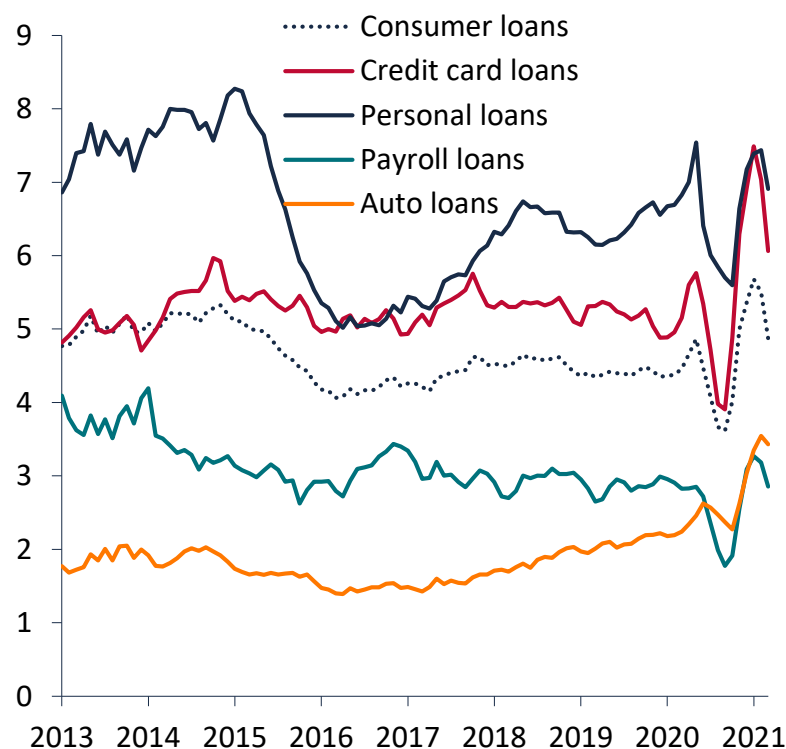


Data as of March 2021.  
Source: CNBV.

## 4 Households' financial position

During Q4 2020 and beginning of 2021, the delinquency rates of consumer loan portfolio have somewhat increased. The adjusted delinquency rate rose in the last months, due mainly to personal loans. The delinquency rates of non-banking financial intermediaries exhibited a mixed behavior.

**Delinquency rate of banks' consumer loan portfolio <sup>1/</sup>**  
%

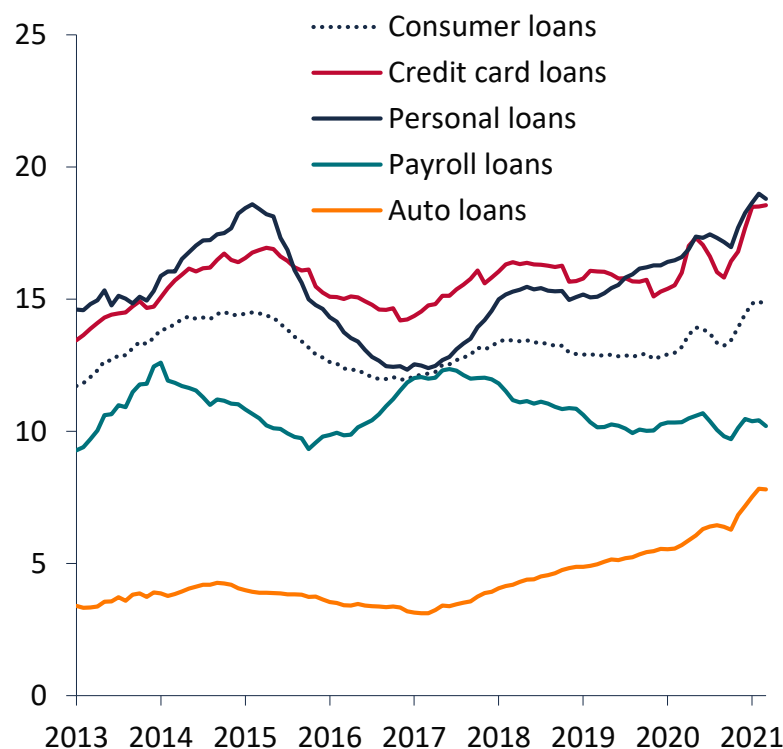


Data as of March 2021.

Source: CNBV.

1/ Considers credit granted by the country's banks, regulated Sofomes with links with banks.

**Adjusted delinquency rate of banks' consumer loan portfolio <sup>1/</sup>**  
%

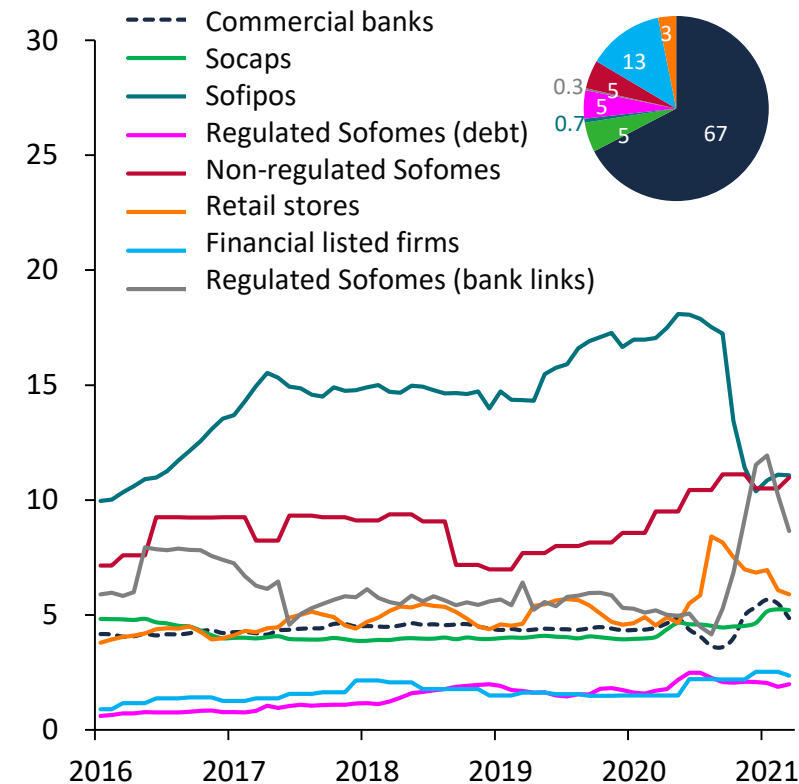


Data as of March 2021.

Source: CNBV.

1/ Considers credit granted by the country's banks, regulated Sofomes with links with bank.

**Delinquency rate of non banking financial intermediaries' consumer loan portfolio**  
%

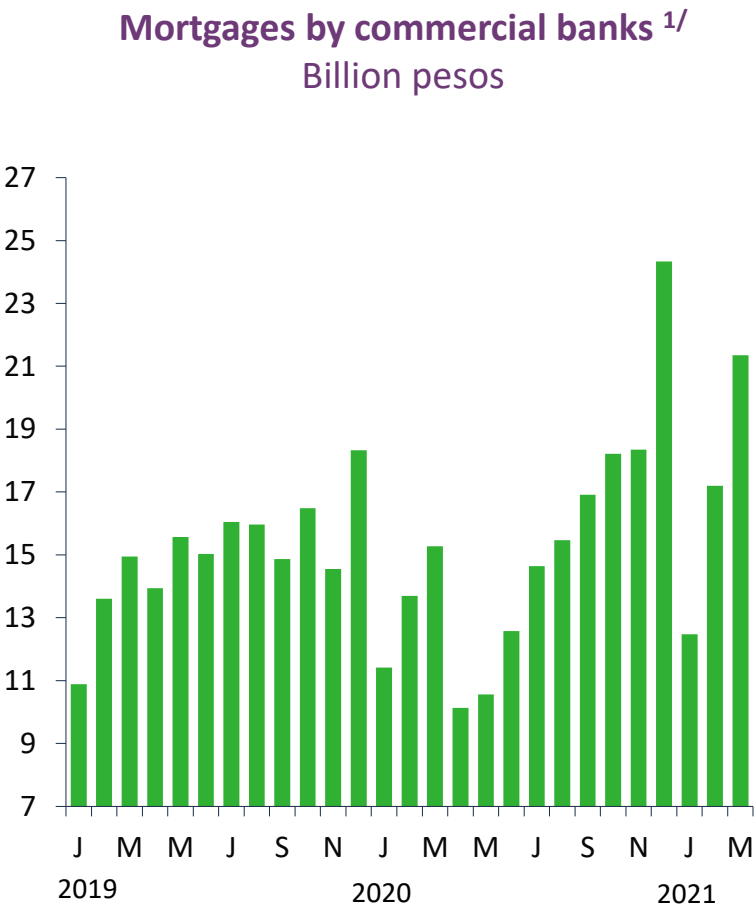


Data as of March 2021.

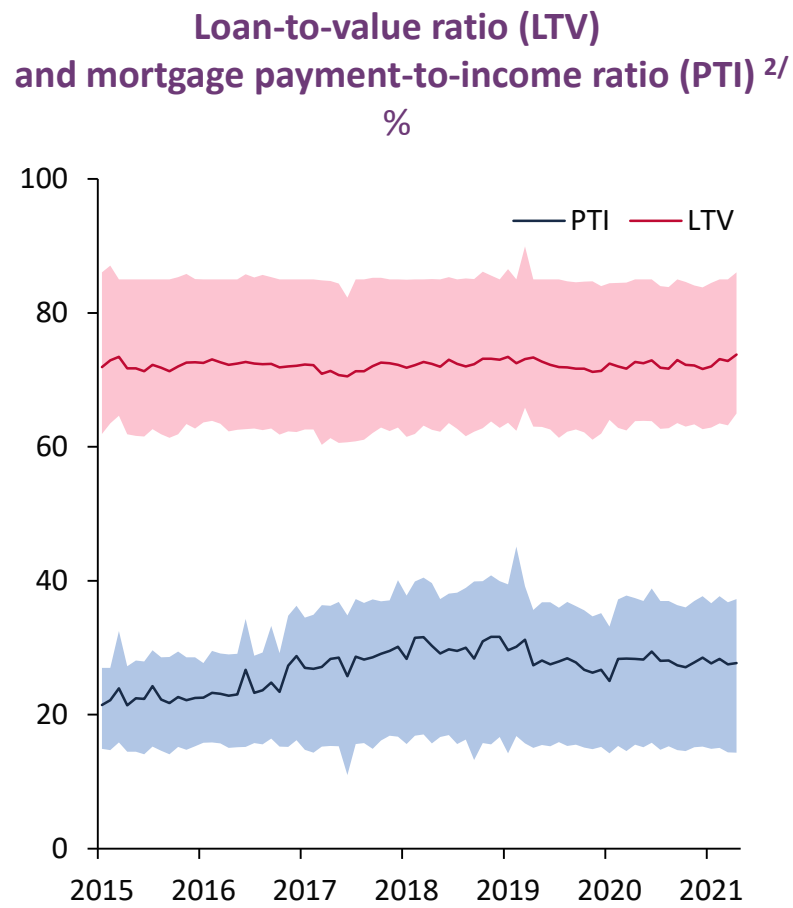
Source: Banco de México), BMV, Condusef and Credit Bureau.

## 4 Households' financial position

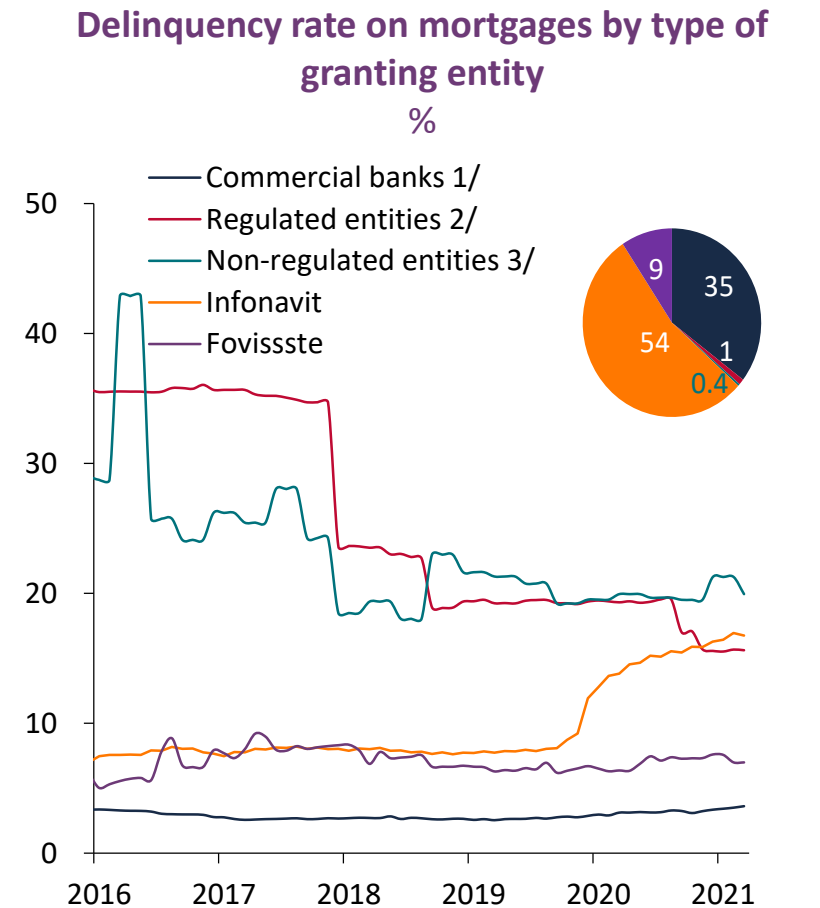
Mortgages continued expanding during Q4 2020 and in early 2021, although at a lower rate in the last quarter. Delinquency rates in the sector have increased slightly.



Data as of March 2021.  
Source: CNBV.  
1/ Includes commercial and development banks.



Data as of March 2021.  
Source: CNBV.  
1/ Credit for housing acquisition granted by commercial banks.

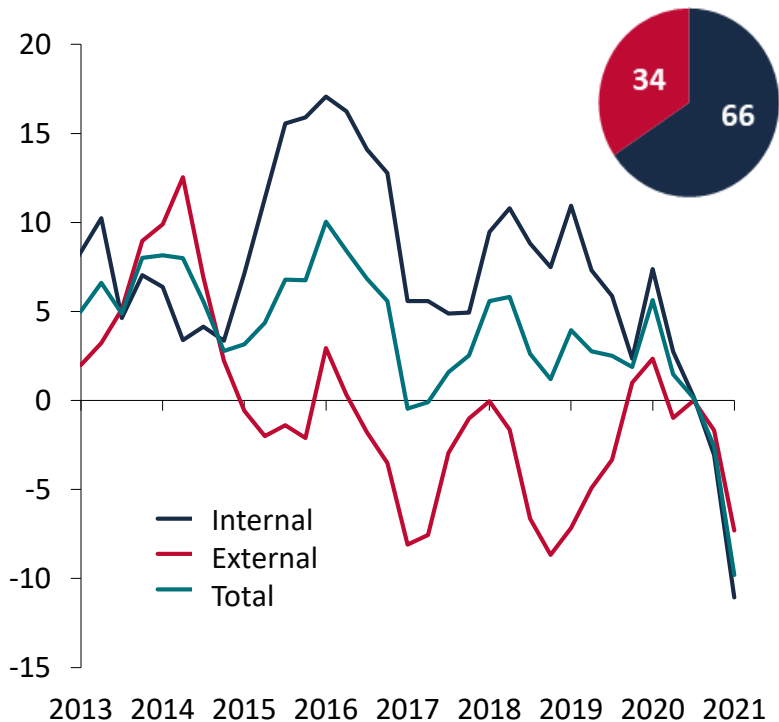


Data as of March 2021  
1/ Includes credit portfolio of regulated Sofomes with links with banks. 2/ Includes credit portfolio of development banks and regulated non-bank financial entities, such as Socaps, Sofipos, and regulated Sofomes issuing debt. 3/ Includes non-regulated Sofomes.

## 5 Private non-financial firms' financial position

Total financing to Mexican private non-financial firms contracted in real annual terms during Q1 2021. Among internal sources, bank financing was the one that decreased the most, and more markedly in the case of smaller companies.

**Total financing to private non-financial firms <sup>1/</sup>**  
Real annual % change

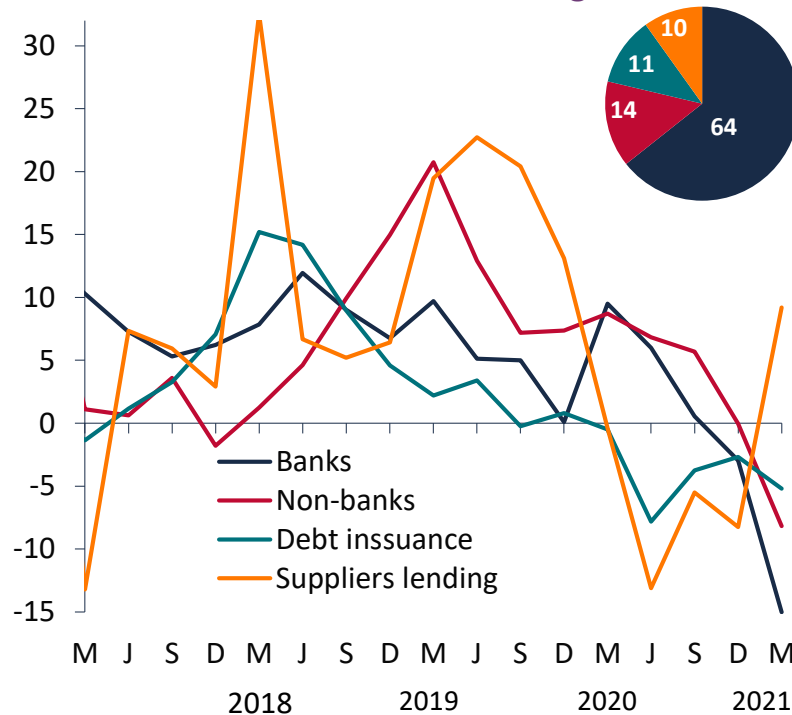


Data as of March 2021.

Sources: Banco de México, BMV and SHCP.

1/ Percentages consider figures of non-regulated entities that provide credit.

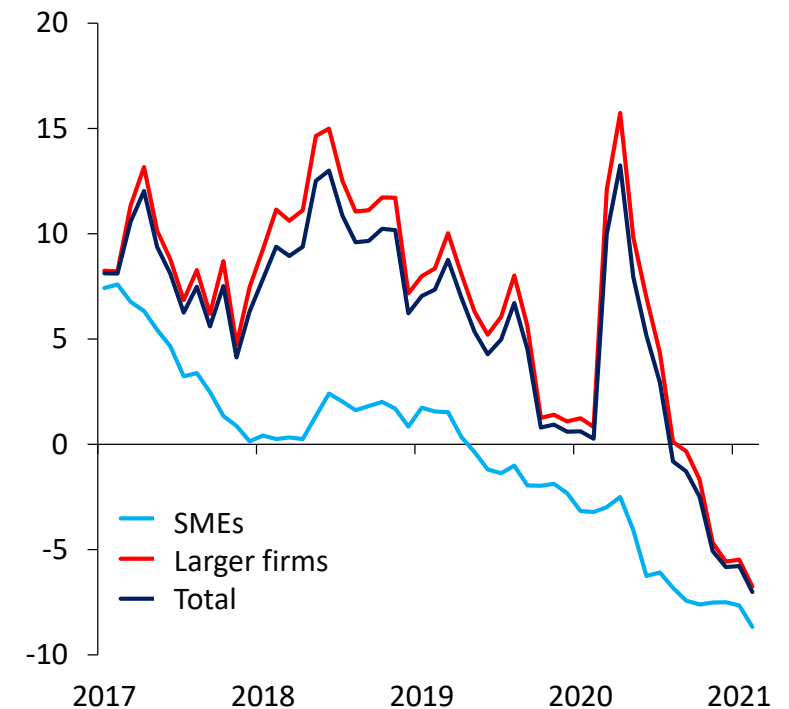
**Domestic sources of financing to private non-financial firms**  
Real annual % change



Data as of March 2021. Sources: Banco de México, BMV and Condusef.

1/ Includes financing from suppliers, both domestic and external, to firms listed in Mexico's stock exchange. It also includes financing to firms by non-regulated entities. The growth series is adjusted to the beginning of available data of financing to non-regulated entities and regulated sofomes for issuing debt in the period in which they appear in the sample (2015-2016).

**Banking loans to private non-financial firms**  
Real annual % change

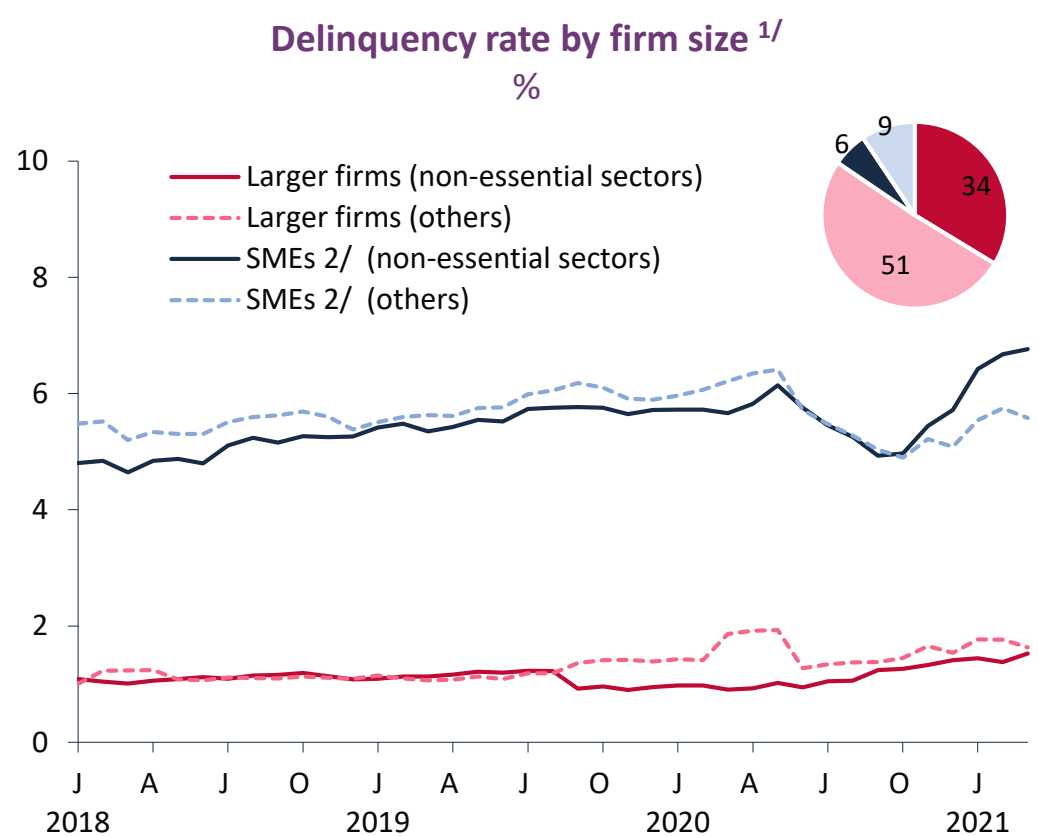


Data as of March 2021.

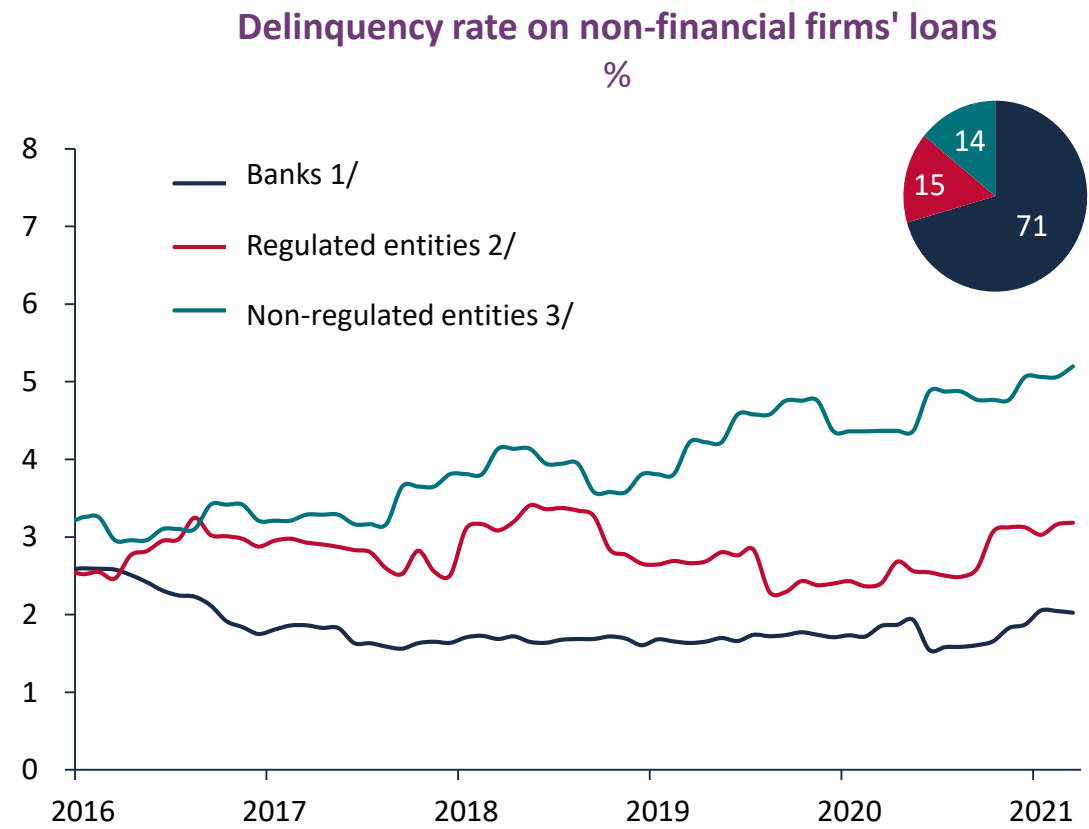
Sources: Banco de México.

# 5 Private non-financial firms' financial position

Delinquency rates on banks' loans to SMEs have increased during Q4 2020 and early 2021, particularly those for non-essential sectors. The delinquency rates on non-bank financial intermediaries' loans rose slightly.



Data as of March 2021.  
Source: CNBV.  
1/ The pie chart shows the total percentage of portfolio for each segment.  
2/ Non-financial private firms and firms not listed in the Mexican Stock Exchange, with historical maximum credits lower than 100 milion Mexican pesos.

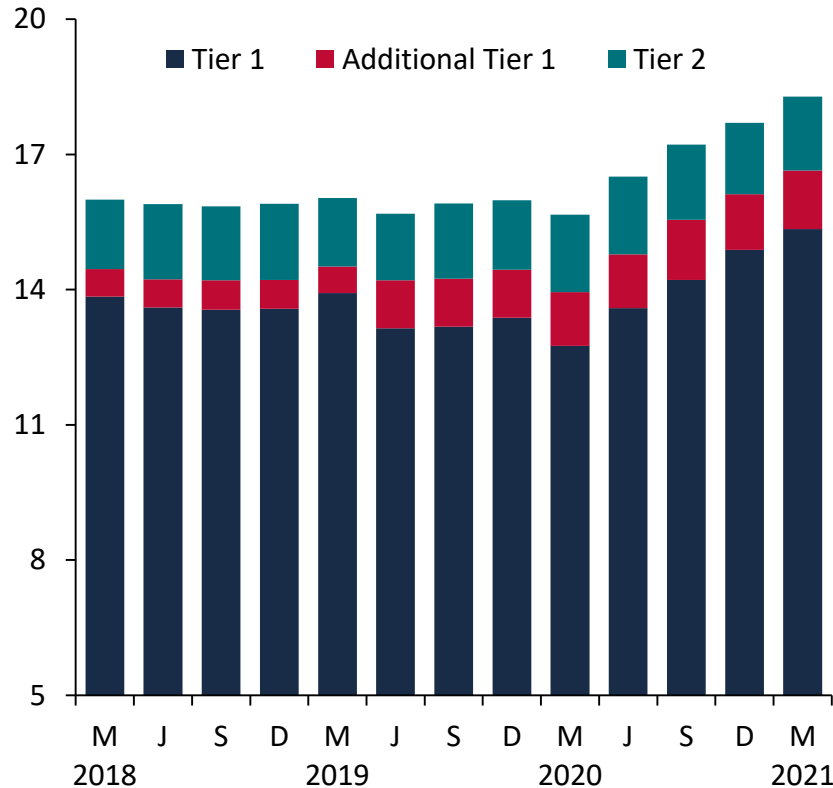


Data as of March 2021 (preliminary). Source: Banco de México, MEXICAN STOCK EXCHANGE AND Condusef.  
1/ Includes credit portfolio of regulated Sofomes with links with banks, whether or not their subsidiaries.  
2/ Includes credit portfolio of development banks and non-bank financial regulated entities. 3/ Includes the portfolio of non-regulated Sofomes and of financial firms that predominantly grant credit as part of their line of business, such as financial leasing companies or some financial divisions of automotive companies.

## 6 Institutions: commercial banks

Commercial banks' capitalization levels increased from September 2020 to March 2021. These levels provide a buffer to absorb unexpected losses derived from their portfolios' credit risk; however, its evolution needs to be monitored continually.

**Structure of banks' Capital Adequacy Ratio (CAR) <sup>1/</sup>**  
%

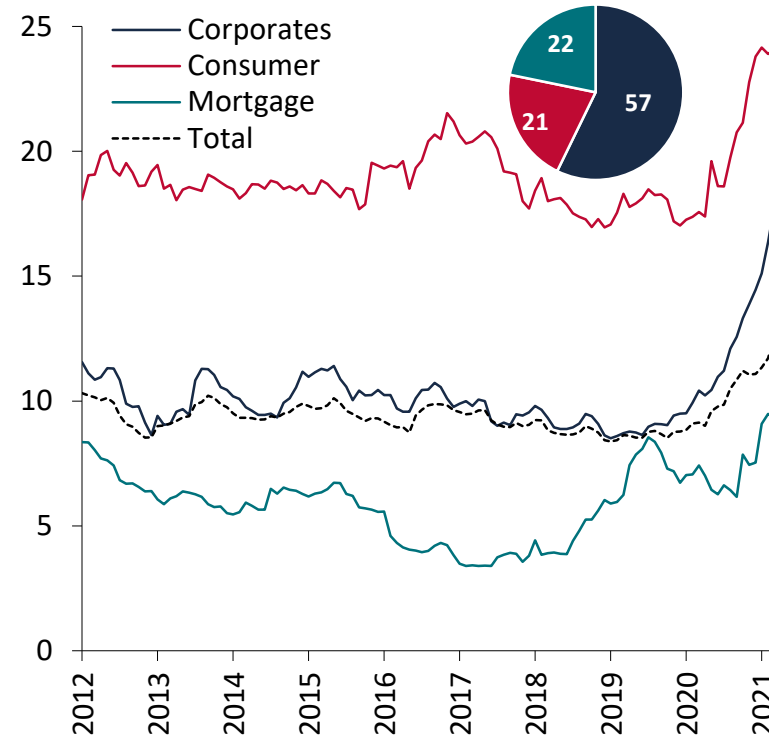


Data as of March 2021.

Source: Banco de México.

<sup>1/</sup> The capital adequacy ratio (CAR) is calculated by dividing the net capital by the risk-weighted assets. The net capital is the regulatory capital that includes the Tier 1, Additional Tier 1, and the Tier 2 capital.

**Conditional value at risk (CvAR) of credit by type of portfolio <sup>1/</sup>**  
% of portfolio

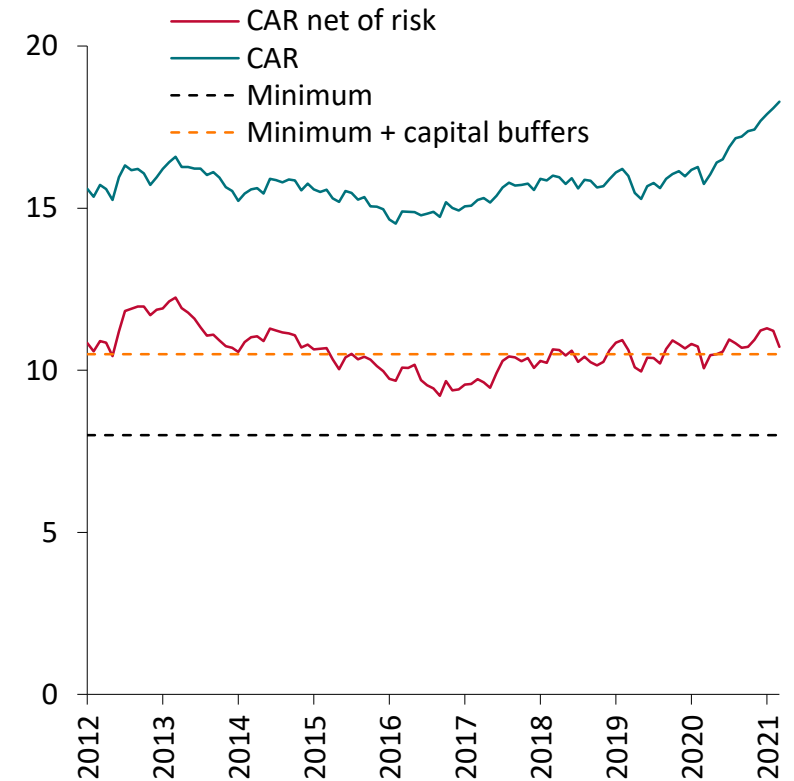


Data as of March 2021.

Source: Banco de México, CNBV and Credit Bureau.

<sup>1/</sup> Using the time horizon of a year, and the 99.9% confidence level. The pie chart shows the percentage of the total performing balance for each segment of portfolio.

**CAR net of risk <sup>1/</sup>**  
%



Data as of March 2021.

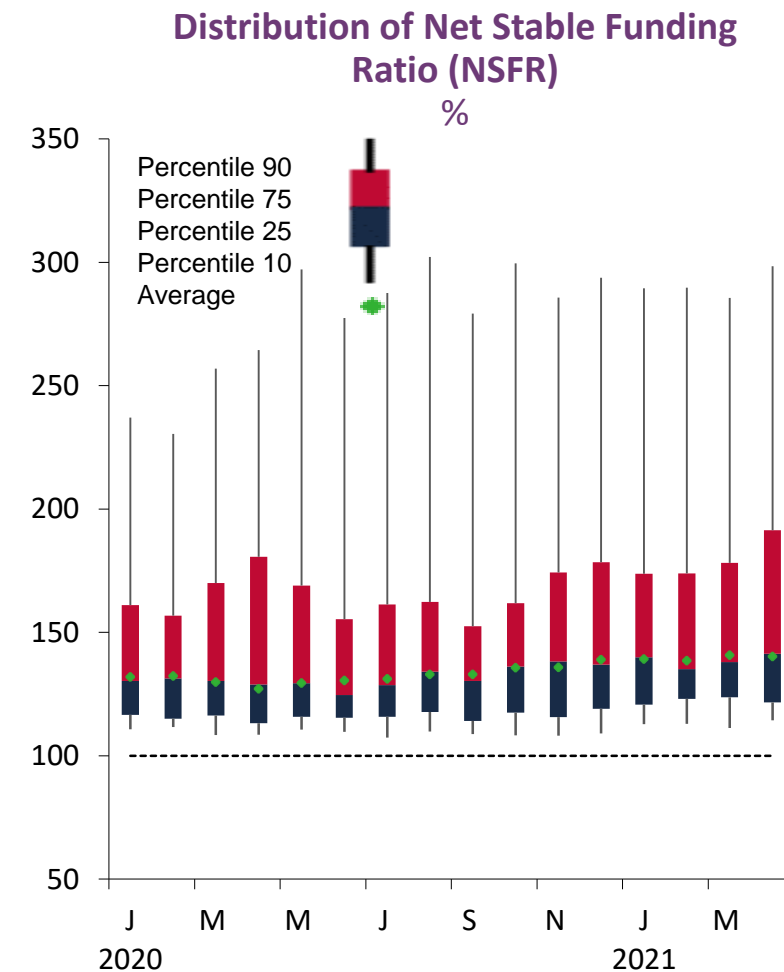
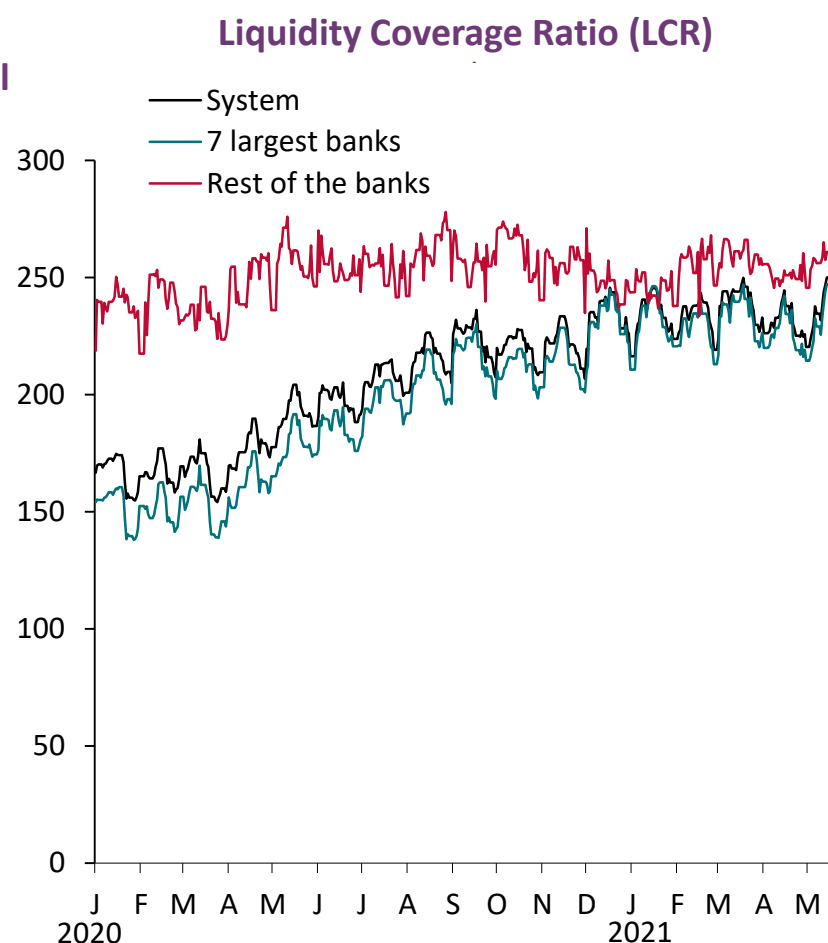
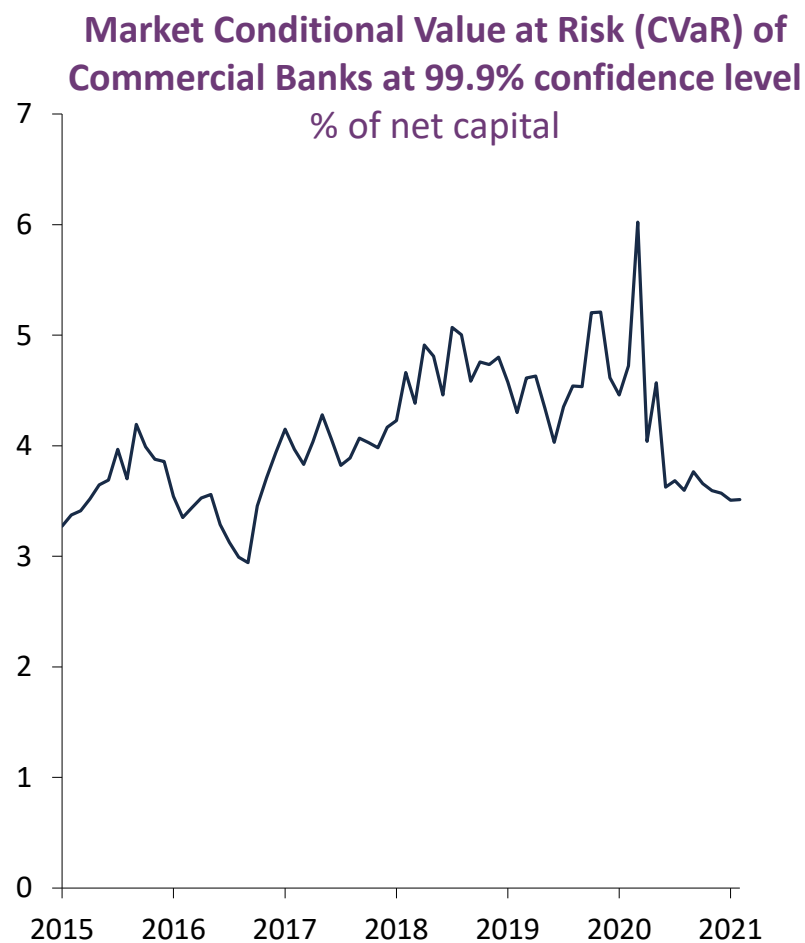
Source: Banco de México, CNBV and Credit Bureau.

<sup>1/</sup> Estimated as the capitalization ratio that results from reducing the CvAR at a 99.9% confidence level, both of the net capital and risk-weighted assets.



## 6 Institutions: commercial banks

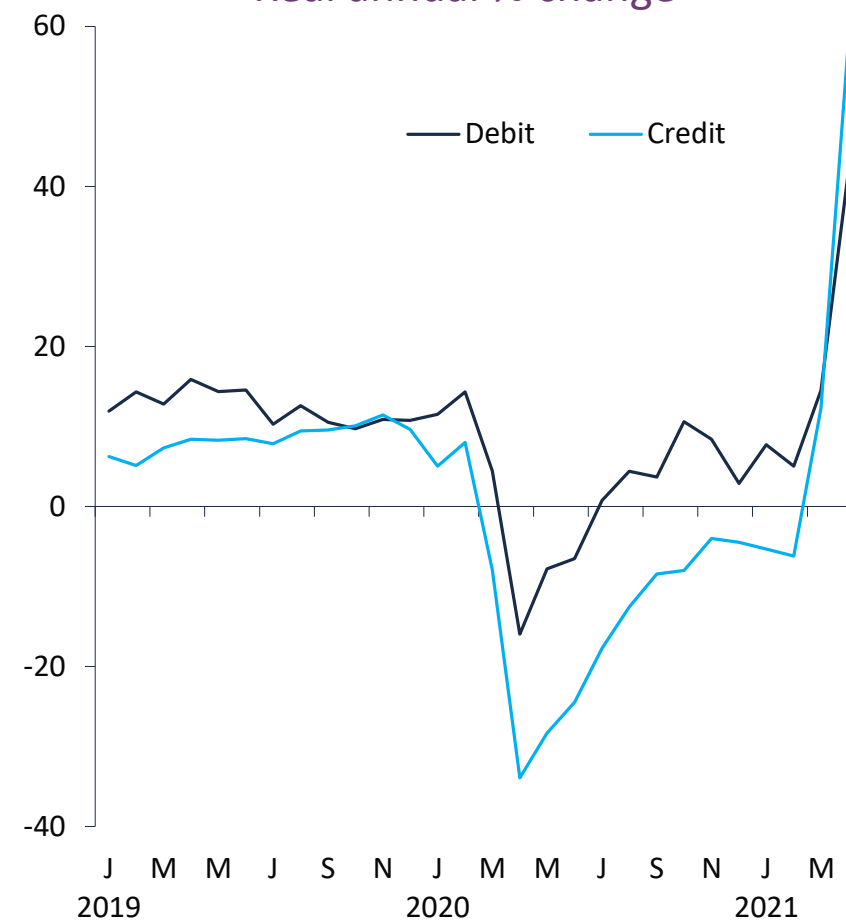
Commercial banks' market risk decreased between December 2020 and April 2021. Liquidity risk diminished as well, and most banking institutions maintain broad liquidity buffers.



## 7 Other risks: cyber risks and operational continuity risks

- The reopening of bank branches and ATMs (by the end of March, 96.5% of branches and 97.7% of ATMs were operating).
- Recovery of credit and debit card transactions.
- High levels of availability in financial markets and payment systems' infrastructure.
- The authorities' supervision has been complemented by cyber resilience exercises and cyber attack simulations (detection, containment and response).

Balance of credit and debit cards transactions  
Real annual % change



Data as of April 2021.

Source: Banco de México.

## 7 Other risks: environmental risks and investments sustainability

- Given that the economic and financial impacts related to climate change can cause significant future losses for financial institutions, and that they pose risks for the financial system in general, this Report **includes more extensive information on Banco de México's analysis on environmental risks and sustainable financial assets.**
  - ✓ In particular, the Report analyzes in more detail banks' exposure to both transition and physical risks.
- In its March meeting, the **Green Finance Committee** approved the agenda of its four working groups.<sup>1/</sup>
- This Report includes information regarding the **relevance, evolution and challenges of the ratings of Environmental, Social and Governance standards (ESG)**, considering that said criteria in financial markets have gained more relevance in recent years and that any related challenges that might arise from them will need to be addressed.

<sup>1/</sup>The working groups are: 1) Sustainable taxonomy, 2) Better use coming from capital mobilization opportunities, 3) ESG risks measurement and 4) Information dissemination and implementation of ESG standards.

# Contents

**1** Macro-financial conditions

**2** Measures implemented

**3** Financial system risks

**4** Stress tests

**5** Final remarks

## Stress tests to commercial banks

- The stress tests carried out by Banco de México are a simulation that allows **to assess the resilience of the Mexican banking system** under extreme economic scenarios.
- The scenarios considered **should not be taken as a forecast** of the expected performance of the economy, nor should they be associated with a probability of occurrence.
- The goal of the **credit stress tests** is to assess if, in the presence of extreme economic scenarios, the banking system could continue functioning as a financial intermediary, maintaining **capital adequacy levels** above regulatory standards.
- **Liquidity stress testing** is aimed at assessing whether banks have **sufficient liquid assets** to face stress scenarios, for example to determine the number of days during which the bank can meet its wholesale obligations using only available liquid assets.

# Credit stress tests

## Scenarios

## Assumptions on macro-financial variables

## Additional assumptions:

A

US economic recovery translating into higher long-term interest rates and higher inflationary pressures

- Deceleration of Mexican economic activity as a result of the weakening of aggregate demand.
- Exchange rate pressures.
- Higher risk premia and short-term and long-term interest rates.
- High volatility in financial markets.

B

Lower dynamism of domestic demand affecting the recovery rate

- Low investment and consumption levels that affect GDP growth and employment.
- Interest rates remain stable in the short term.
- Inflation converges to its target in the medium term.
- The global economy continues recovering.

C

Portfolio recomposition and downward adjustments to sovereign debt credit ratings

- Uncertainty and high volatility.
- Aggregate demand contraction and a higher unemployment rate.
- Exchange rate depreciation and higher risk premia.
- Upward pressures on interest rates.

D

Historic scenarios

- The dynamics of the main variables is used:
  - The 1995 crisis (H1).
  - The 2008 global financial crisis (H2).
  - The volatility episode of May 2013 (H3).

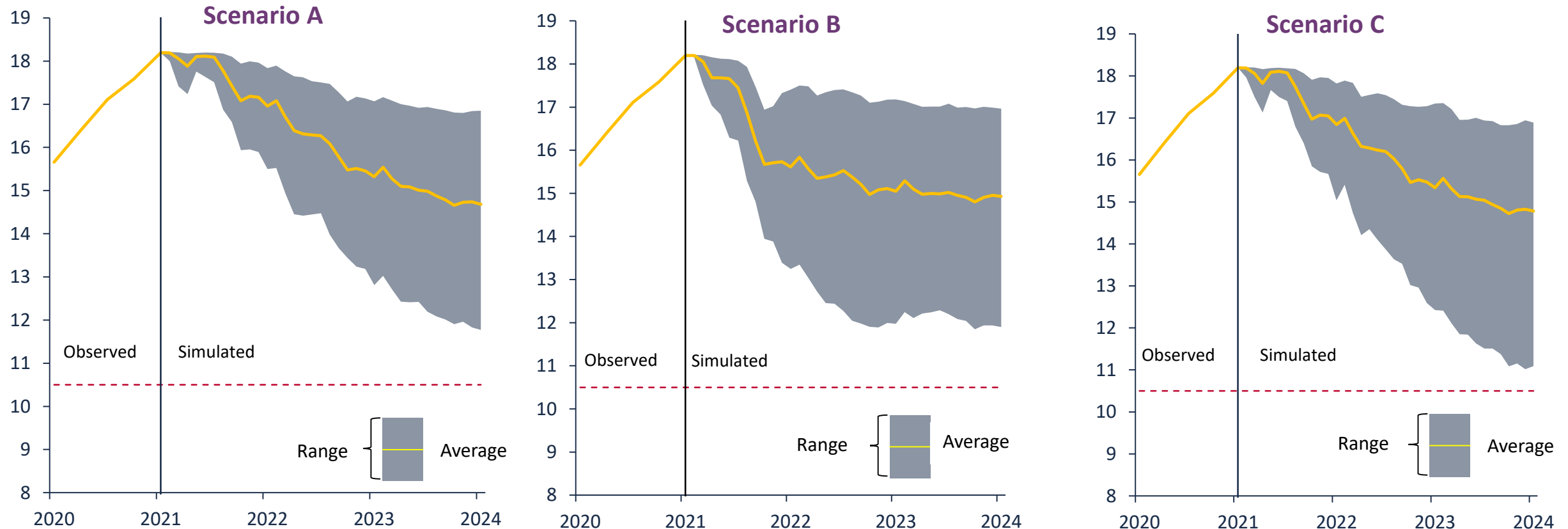
- 1 The exercise is common to all institutions and does not consider idiosyncratic problems related to credit origination.
- 2 It does not consider possible mitigation measures that could be implemented by the institutions in the exercise (counterfactual exercise of partial equilibrium, and not general equilibrium).

The variables modeled in the scenarios are constructed considering the initial shocks previously described, and stem from a set of simultaneous shocks previously described. Specifically, in a set of scenarios A, shocks fluctuate for all variables between - 1.4 and 3.84 standard deviations. In a set of scenarios B, shocks fluctuate between -1.33 and 2.19 standard deviations with respect to historic values, highlighting a shock of 2.19 standard deviations in unemployment, a shock of 2.18 standard deviation sin the exchange rate and a shock of -1.33 in the annual growth of IGAE. Finally, in a set of scenarios C, shocks fluctuate between -1.32 and 3.56 standard deviations, highlighting a shock of 2.37 standard deviations in unemployment, a shock of 3.56 standard deviations in the exchange rate and a shock of -1.31 in the annual growth of IGAE.

# Credit stress tests

Stress test results suggest that the Mexican banking system has sufficient capital levels to face the simulated stress scenarios.

**Financial system Capital Adequacy Ratio (CAR) <sup>1/2/3/</sup>**  
%



Data as of March 2021 and 3-year simulations starting from that date. Source: Banco de México.

1/ The horizontal line corresponds to minimum CAR plus capital buffers.

2/ These results should in no way be interpreted as a forecast for the 3 years analyzed.

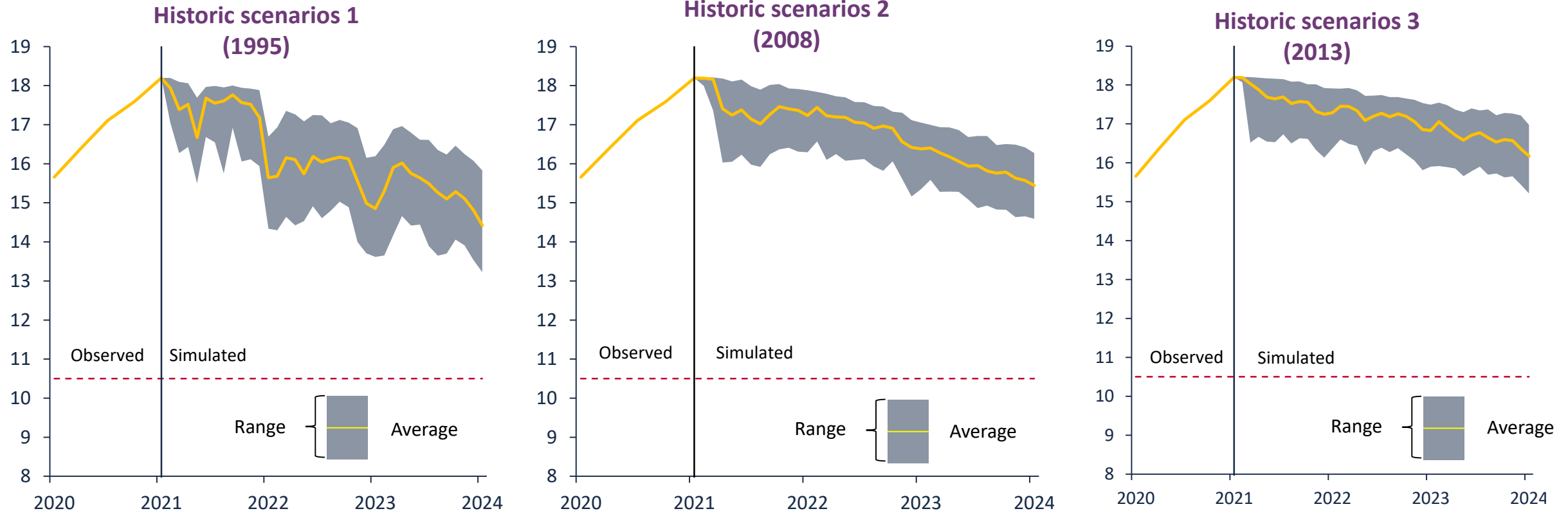
3/ Yellow lines represent the mean CAR of each scenario of the system. The grey areas define the range of capitalization indexes observed in all trajectories of 2000 simulations.



# Credit stress tests

In the analyzed set of historic scenarios, the banking system would end the stress horizon at levels above the regulatory minimum.

## Financial system Capital Adequacy Ratio (car) <sup>1/2/3/</sup> %



Data as of March 2021 and 3-year simulations starting from that date. Source: Banco de México.

1/ The horizontal line corresponds to minimum CAR plus capital buffers.

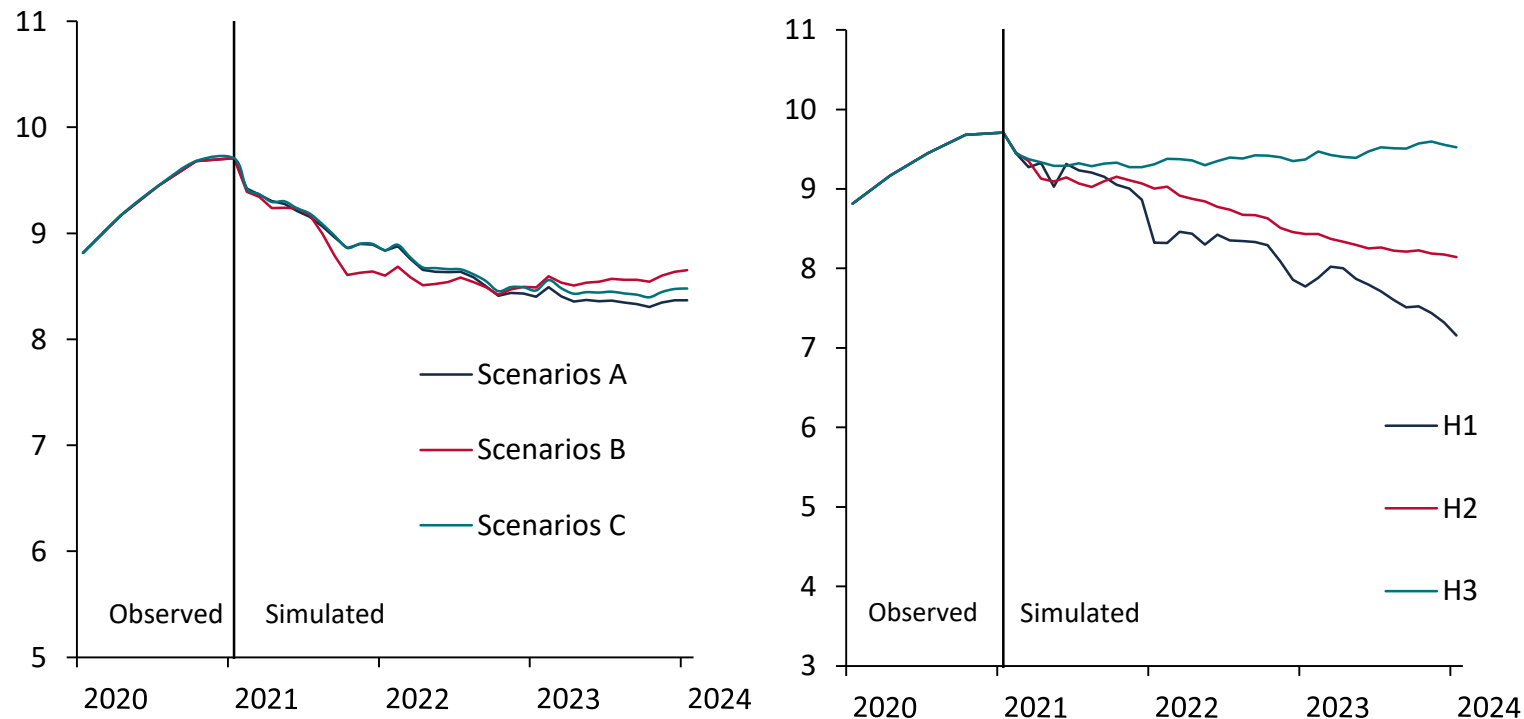
2/ These results should in no way be interpreted as a forecast for the 3 years analyzed.

3/ Yellow lines represent the mean CAR of each scenario of the system. The grey areas define the range of capitalization indexes observed in all trajectories of 2000 simulations.

# Credit stress tests

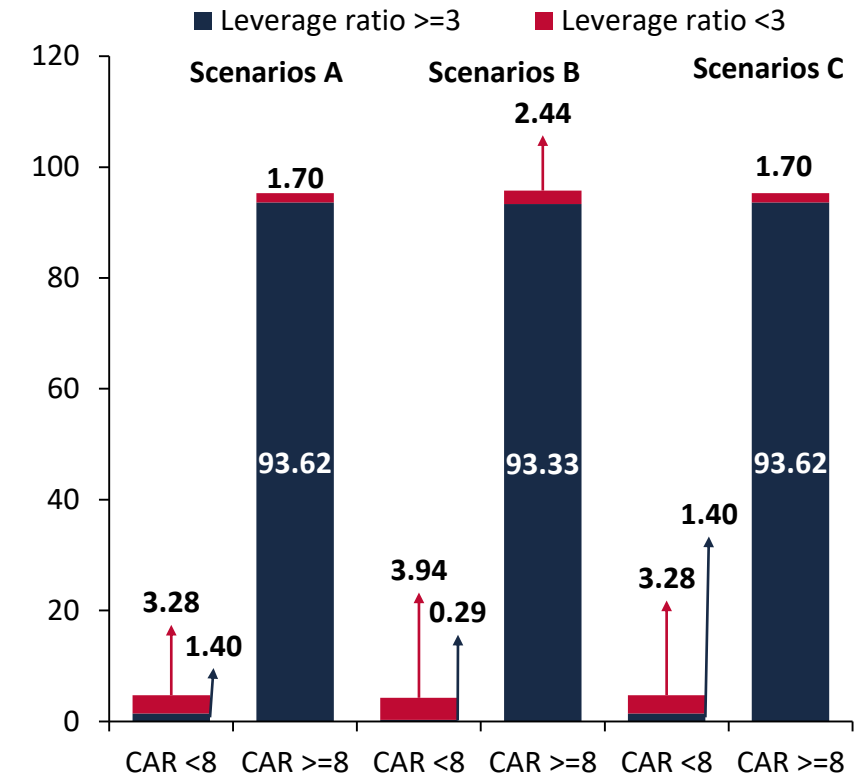
Regarding the banking institutions' leverage ratio, in all scenarios the system is, on average, above the 3% regulatory minimum.

**Financial system's financial leverage ratio**  
%



Data as of March 2021 and 3-year simulations starting from that date.  
Source: Banco de México.

**Average Capital Adequacy Ratio (CAR) and leverage ratio in stress scenarios**  
% of assets in the banking system



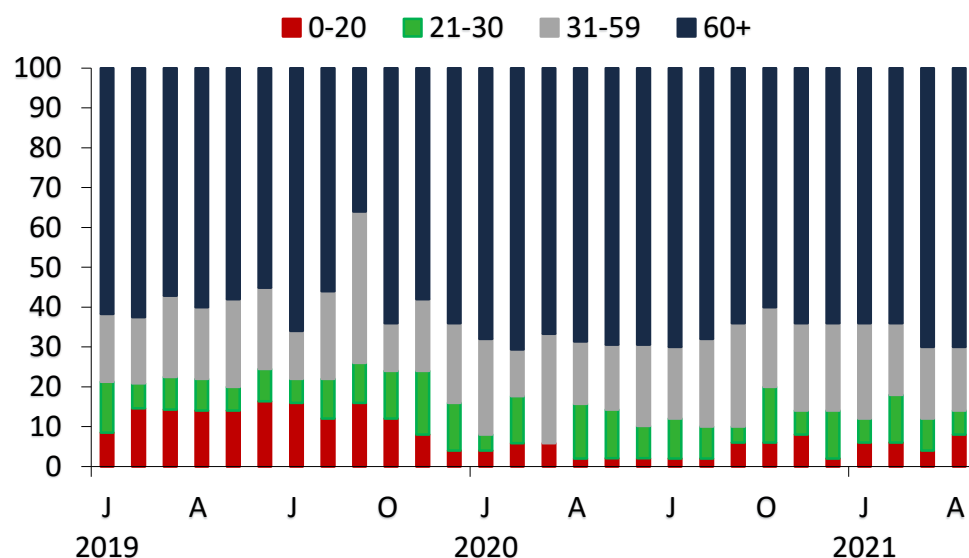
Data as of March 2021 and 3-year simulations starting from that date.  
Source: Banco de México.

# Liquidity stress tests

Regarding commercial banks' liquidity, stress tests suggest that institutions that account for 96% of total assets of the system have sufficient liquid resources to address their liquidity needs for at least 30 days under stress conditions.

## Percentage of banks that could cover their liabilities under a severe stress scenario for different time horizons <sup>1/2/</sup>

% of banks by terms in days



Data as of April 2021. Source: Banco de México.

1/ For each month, banks are added by term, in accordance with the monthly average for each bank, estimated based on daily observations of the number of days they would meet their obligations in a more severe stress scenario than that proposed by LCR.

2/ The most relevant assumptions made are that banks' debt issuance and issued debt securities are not renewed, and that a percentage of demand and term deposits are withdrawn homogeneously during the first 30 days.

## Banks' assets by LCR estimated with the expected loss of deposits <sup>1/ 2/</sup>

Group	Criterion	Percentage of banks' assets
1	$LCR \leq 65$	3.2%
2	$65 < LCR \leq 100$	1.0%
3	$LCR > 100$	95.8%

Data as of end of April 2021.

Source: Banco de México.

1/ For each bank and type of deposit, an expected outflow is estimated, using a 95% conditional VaR of the observed distribution of the monthly changes in the seasonally adjusted deposit amounts.

2/ The data on total assets for commercial banks correspond to those published by the CNBV at the end of April 2021.

# Commercial banks' stress tests

- The results of stress tests suggest the following:
  - 1 The banking system as a total has capital and liquidity levels that would allow it, at an aggregate level, to maintain levels above the regulatory minimums in simulation horizons of 36 months.
  - 2 As for leverage ratio levels, the system's levels would remain above the regulatory minimum of 3%.
  - 3 Most institutions have sufficient liquid resources to face severe stress periods for at least 30 days.
  - 4 In certain extreme simulated scenarios, some banking institutions (representing around 4.7% of total assets of the system) could have difficulties to maintain minimum regulatory capitalization levels.

# Contents

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## Final remarks

- 1 The financial system has continued **showing resilience** and an overall solid position, with capital and liquidity levels above regulatory minimums.
- 2 **The outlook remains uncertain**, due to both the evolution of the pandemic and the performance of global financial markets.
- 2 **Risks**, which have increased at the beginning of the pandemic, **remain at levels above those previously observed**, partly associated with the following:
  - ✓ Adverse effects on the economy's general credit repayment capacity
  - ✓ A high degree of heterogeneity in the impact across sectors and creditors.
  - ✓ Uncertainty as to longer-term effects in the most affected activities.
- 4 **Banco de México** will continue monitoring the evolution of domestic financial markets and will continuously assess its operational conditions.
- 5 Looking ahead, the challenge will be to maintain **the strength of the financial system** so that it continues to perform its intermediation function and support the economic recovery.

## Boxes

- 1 Recovery with and without credit
- 2 Capital flows and the World Government Bond Index (*WGBI*)
- 3 FSB and IMF considerations on the extension, modification and withdrawal of measures implemented to contain COVID-19, and strategies in different countries
- 4 Empirical evidence of the functioning of the Liquidity Coverage Ratio (LCR) to contain the pandemic
- 5 Relation between the systemic risk of contagion and competition in the banking sector in Mexico
- 6 Thematic bond issuance by development banks and support entities
- 7 Relevance, evolution and challenges in Environmental, Social and Governance standards (ESG)

## Annexes

- 1 Disaggregated heat map of the Mexican financial system





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