

# Regional Economic Report

## January – March 2023



BANCO DE MÉXICO®

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# Outline

## I. Regional Economic Report

## II. Results January – March 2023

### A. Economic activity

### B. Inflation

### C. Economic outlook

(based on data collected between March 27 and April 27, 2023)

## III. Final remarks

# Regional Economic Report

- The Regional Economic Report is a quarterly publication that includes Banco de México's indicators and analysis on the trends in economic activity, inflation and business agents' perspectives in Mexico's regions.
- The information presented herein is taken into account by Banco de México's Governing Board as part of the information used to evaluate the economic situation and the forecast for the national economy.
- The economic performance and inflation in the regions during Q1-2023 and the prospects of business agents surveyed between March 27 and April 27, 2023 on regional economic activity and prices over the following twelve months are analyzed herein.

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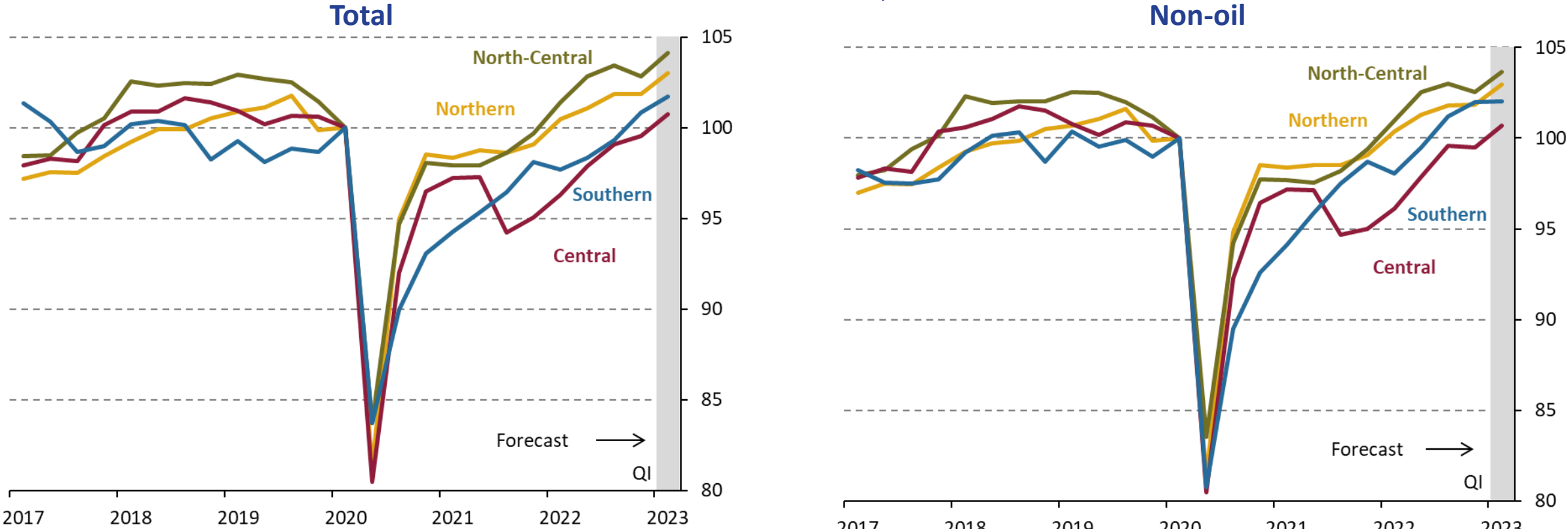
(based on data collected between March 27 and April 27, 2023)

## III. Final remarks

Economic activity is estimated to have expanded in all regions during Q1-2023. For the first time since the onset of the pandemic, all of them would remain above the levels observed during Q1-2020.

### Quarterly Indicator of Regional Economic Activity

Index Q1 2020=100, s. a.



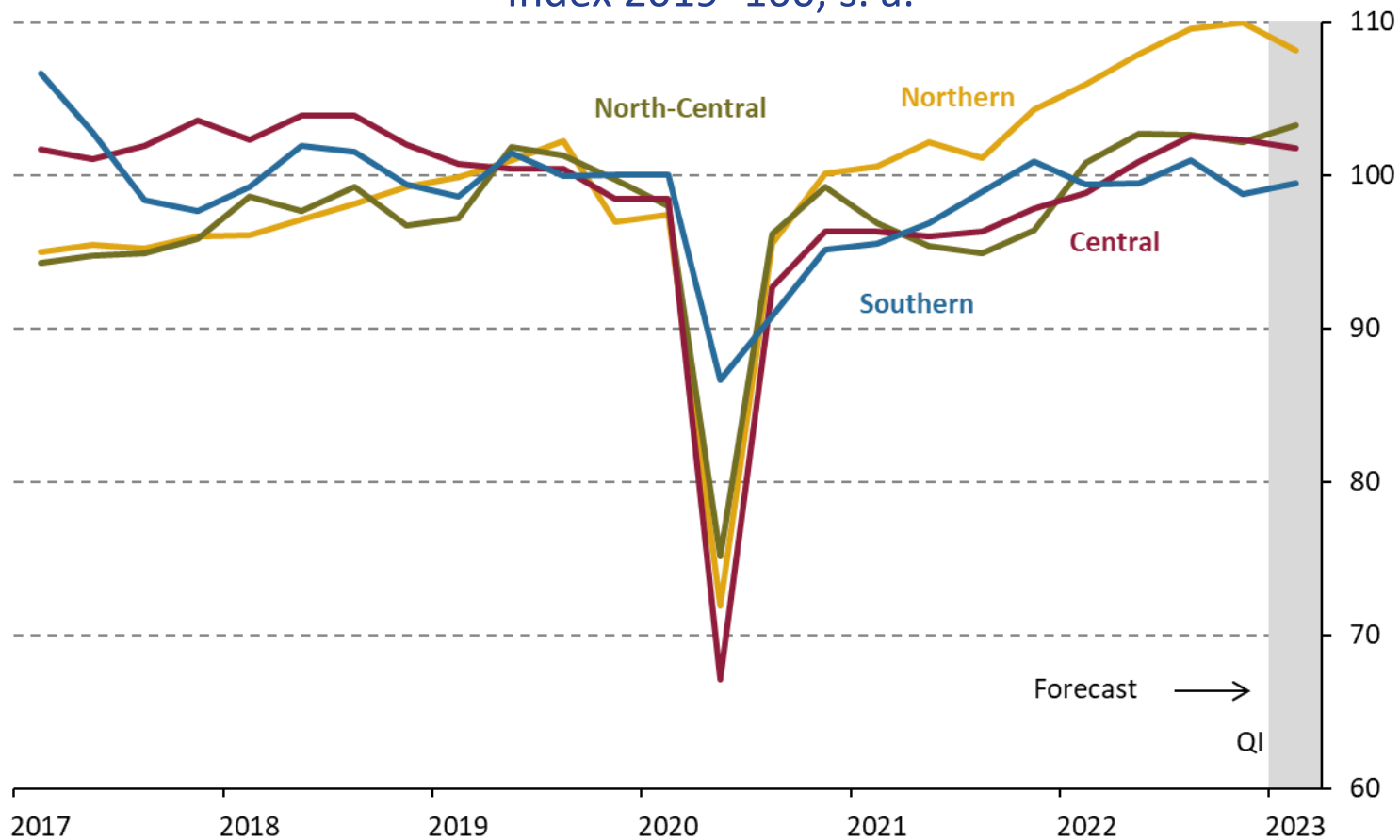
s. a. / Seasonally adjusted data.

Source: Estimated by Banco de México with seasonally adjusted series of the Quarterly Indicator of State Economic Activity from INEGI.

For Q1-2023, manufacturing activity in the Northern and Central regions is anticipated to have contracted, while in the North-Central and Southern regions it is estimated to have expanded.

### Regional Manufacturing Indicator

Index 2019=100, s. a.



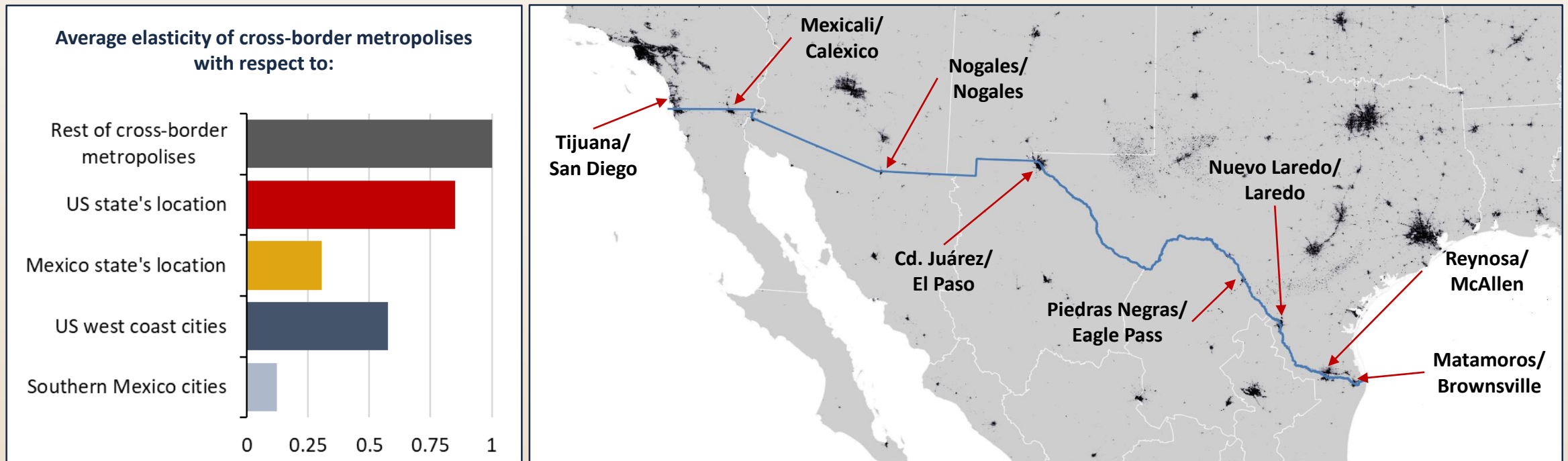
s. a. / Seasonally adjusted data.

Source: Estimated by Banco de México with seasonally adjusted series of the Monthly Indicator of Manufacturing Activity by State from INEGI.

# Economic integration of Mexican and US border cities

- The box presents statistical evidence of economic integration of Mexican and US border cities. It highlights the stronger economic links between cross-border metropolises and regions to the north of the border than with the rest of Mexico.

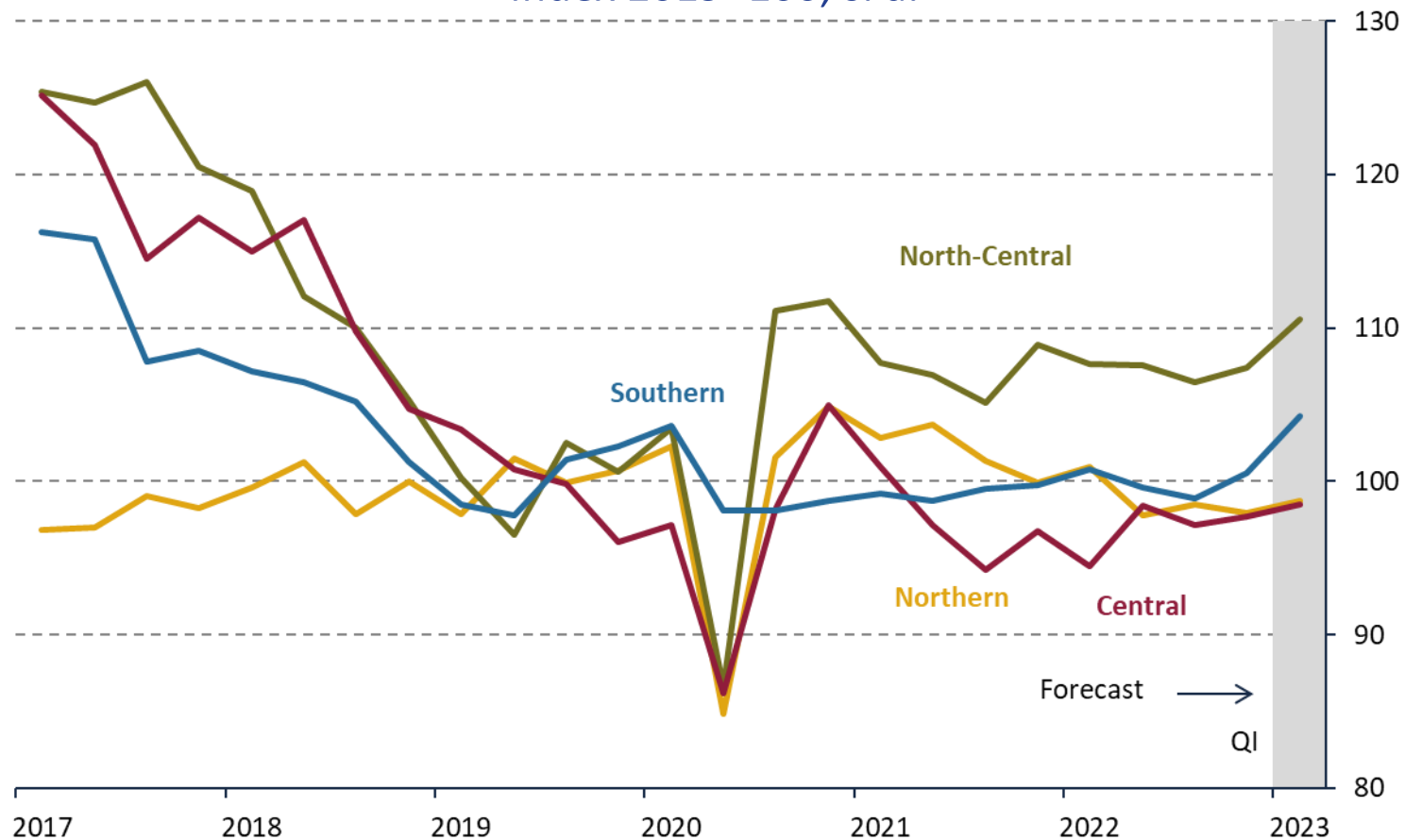
## Elasticity of monthly luminosity of cross-border cities and other regions From January 2014 to November 2022



Note: The average elasticity was calculated by averaging the elasticities obtained for each of the cross-border metropolises. Blue line: U.S.-Mexico border; white lines: federal states. The black spots correspond to nightlight activity.  
Source: Banco de México based on INEGI data, National Geostatistical Framework (2021), EOG-Payne institute, and U.S. Census Bureau.

Mining activity is estimated to have grown at a higher rate in all regions in Q1-2023, particularly in the Southern one.

## Regional Indicator of Mining, Quarrying, and Oil and Gas Extraction Index 2019=100, s. a.



s. a. / Seasonally adjusted data.

Source: Prepared and seasonally adjusted by Banco de México based on series of the Monthly Mining Activity Indicator by State from INEGI.

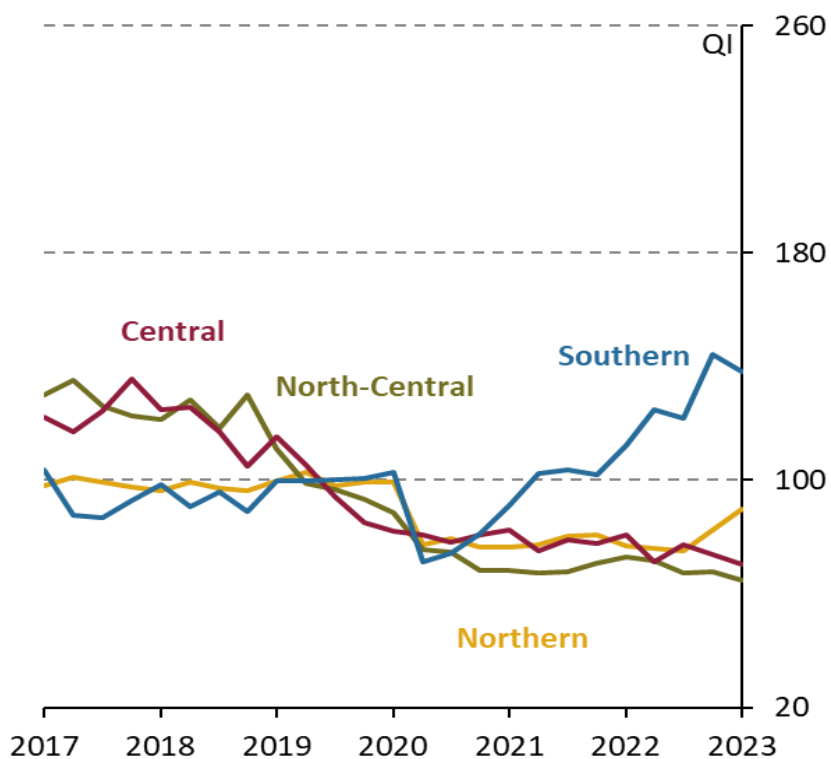


Spending on construction contracted during Q1-2023: in the North-Central region, as a result of a fall in private construction; in the Central region, due to a drop in public and private construction; and in the Southern region, as a result of fall in public construction. In the Northern region, however, it expanded, supported by the dynamism of its two components.

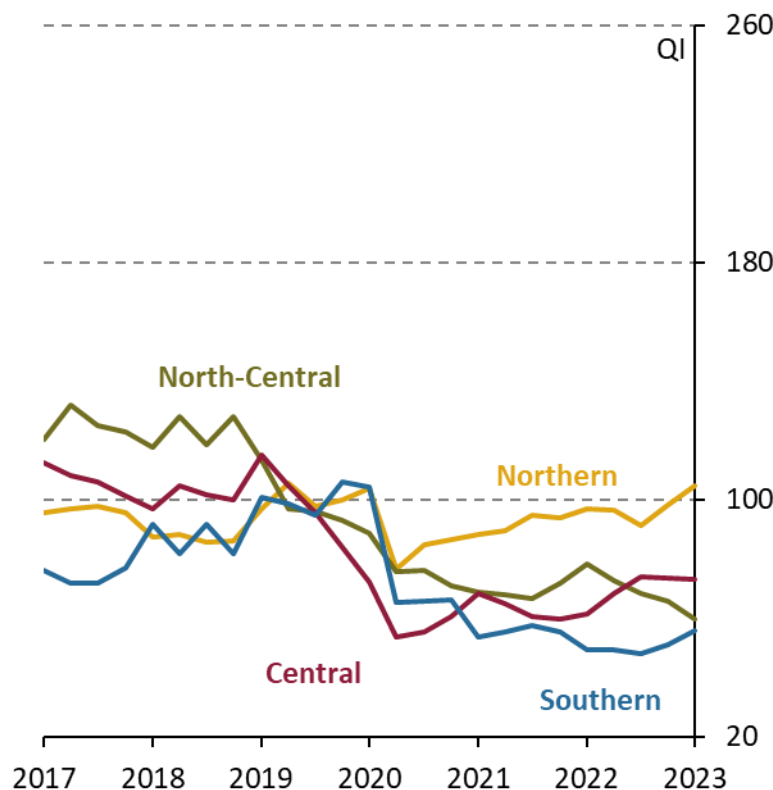
### Real Value of production in the construction industry by region

Index 2019=100, s. a.

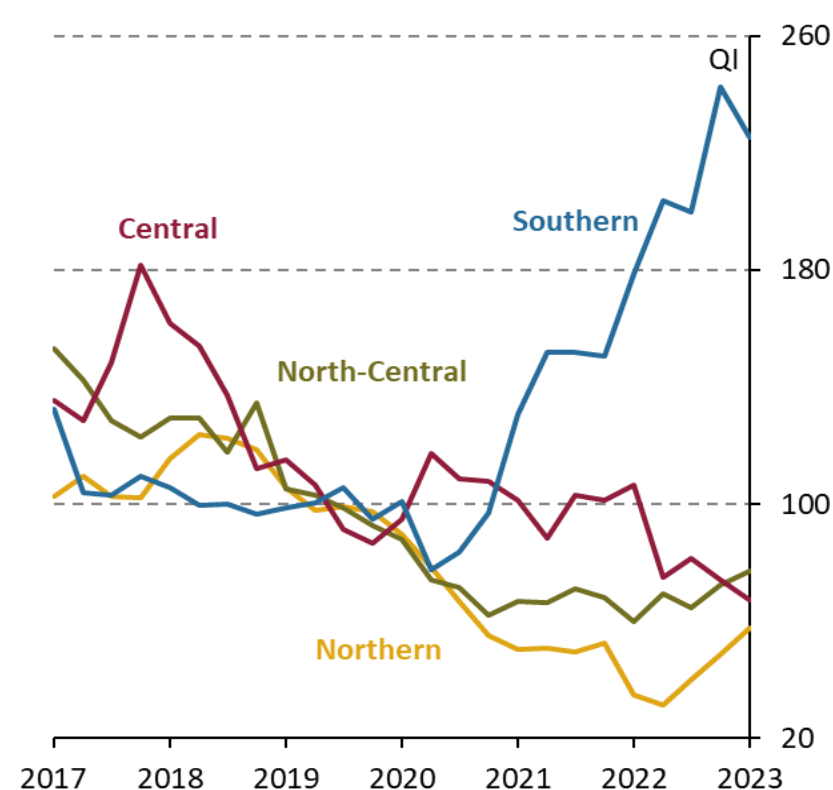
**Total**



**Private**



**Public**

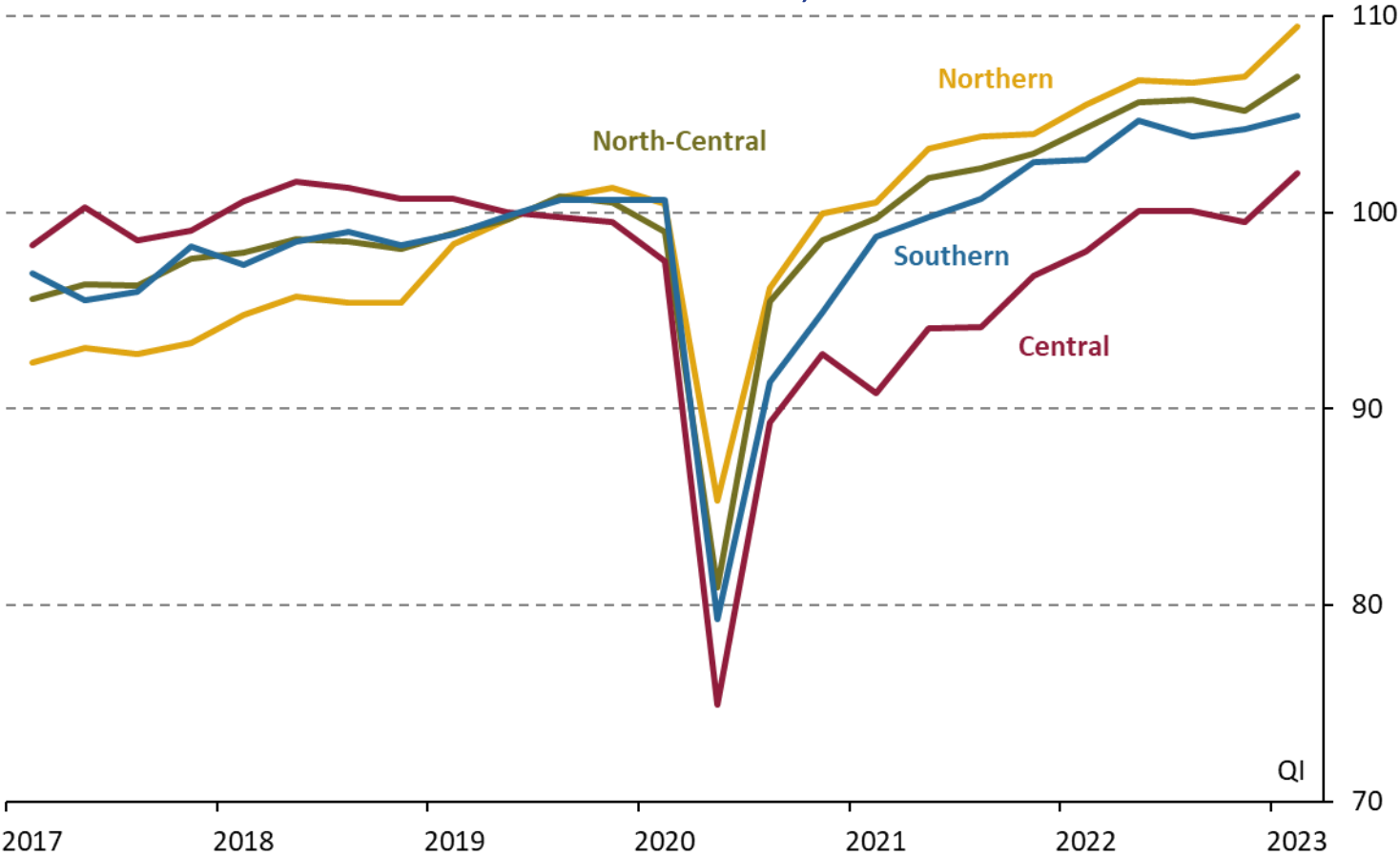


s. a. / Seasonally adjusted data.

Source: Prepared and seasonally adjusted by Banco de México with data from the National Survey of Construction Companies by INEGI.

During Q1-2023, commercial activity expanded in all regions, at a rate even higher than in Q4-2022.

### Regional Commercial Activity Indicator Index 2019=100, s. a.

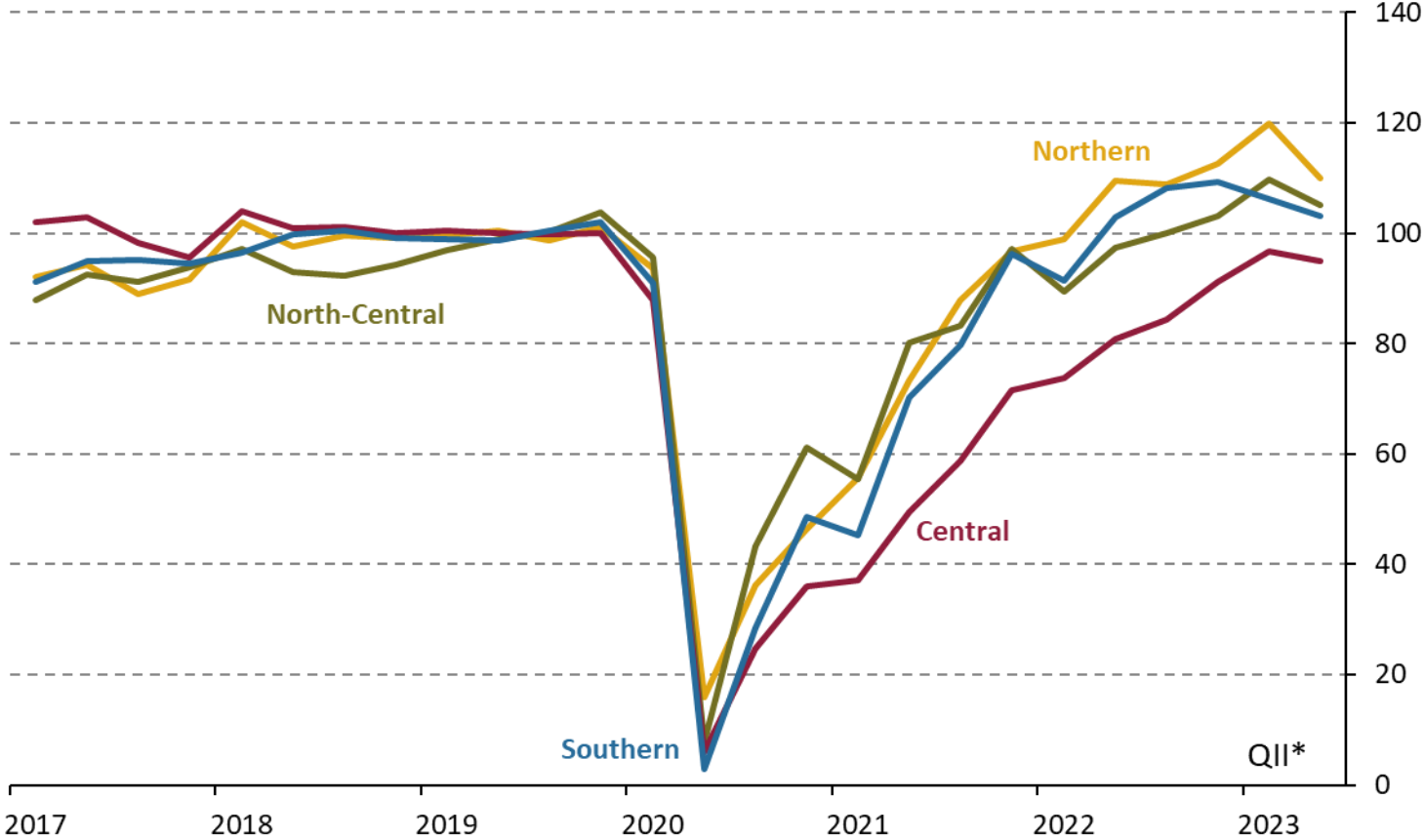


s. a. / Seasonally adjusted data.

Source: Prepared and seasonally adjusted by Banco de México with the series of Revenues of Retailers' Supply of Goods and Services by State from INEGI.

Tourism activity, measured by indicators of hotel occupancy, continued growing in all regions in Q1-2023, except for the Southern one.

**Regional Indicator of Hotel Occupancy**  
Index 2019=100, s. a.



s. a. / Seasonally adjusted data.

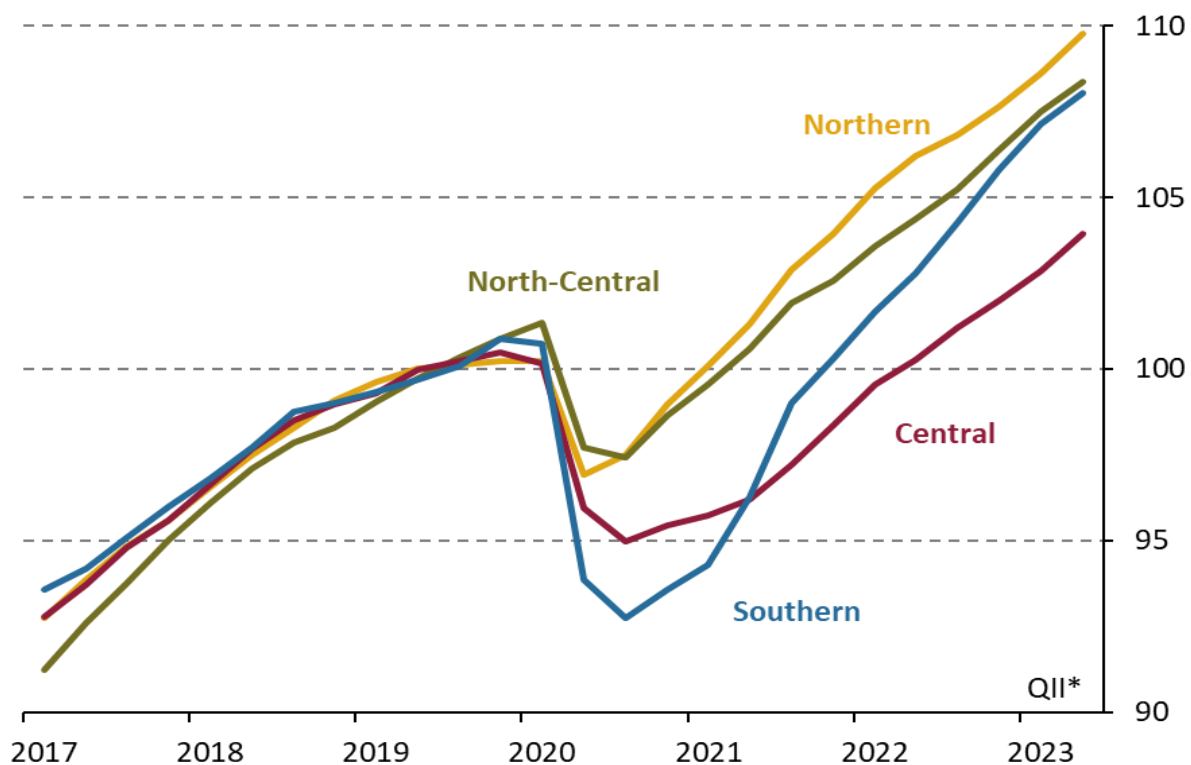
\*/ Figures as of April 2023.

Source: Prepared and seasonally adjusted by Banco de México with data from the Mexican Ministry of Tourism.

## The labor market remained strong during Q1-2023.

### Number of IMSS-insured workers

Index 2019=100, s. a. <sup>1/</sup>



s. a./ Seasonally adjusted data.

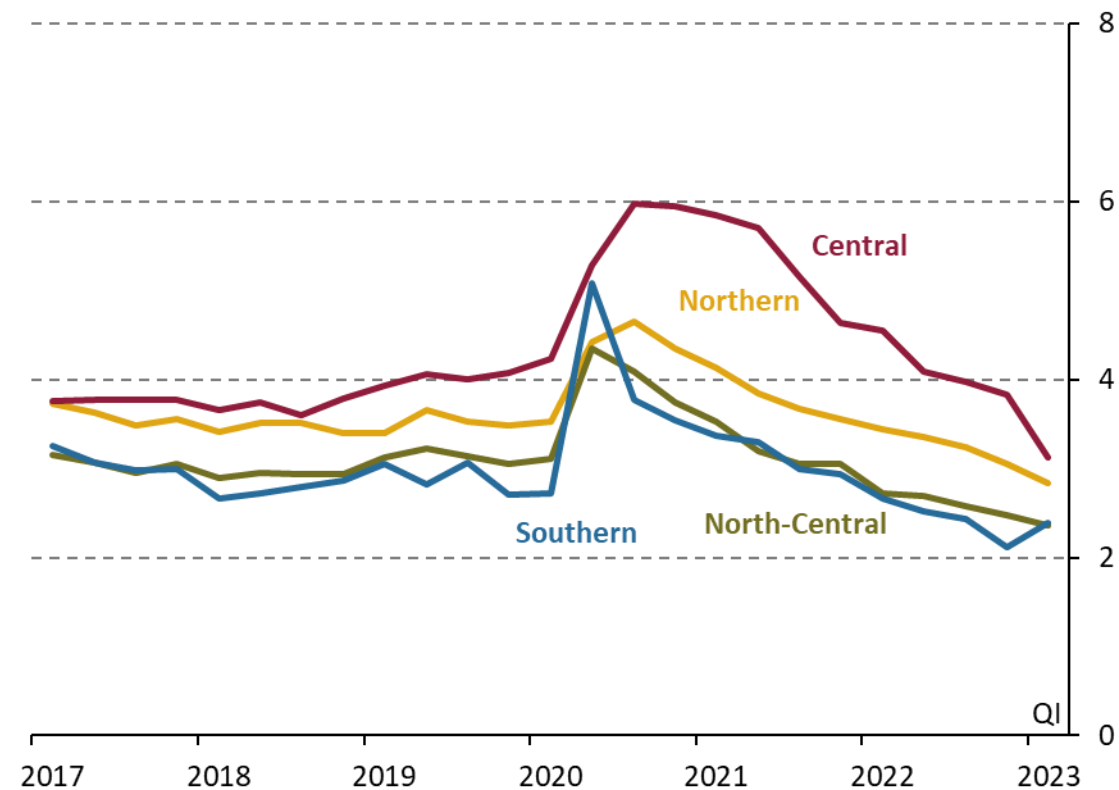
\*/ Figures as of May 2023.

1/ Permanent and temporary jobs in urban areas.

Source: Prepared and seasonally adjusted by Banco de México with data from IMSS.

### Unemployment rate

Percent, s. a.



s. a./ Seasonally adjusted data.

Source: Prepared and seasonally adjusted by Banco de México with data from INEGI. Data of Q2-2020 corresponds to labor indicators for Mexican states with an estimate using INEGI statistical models and, starting from Q3-2020, corresponds to the New Telephone Survey on Occupation and Employment (ENOEN).

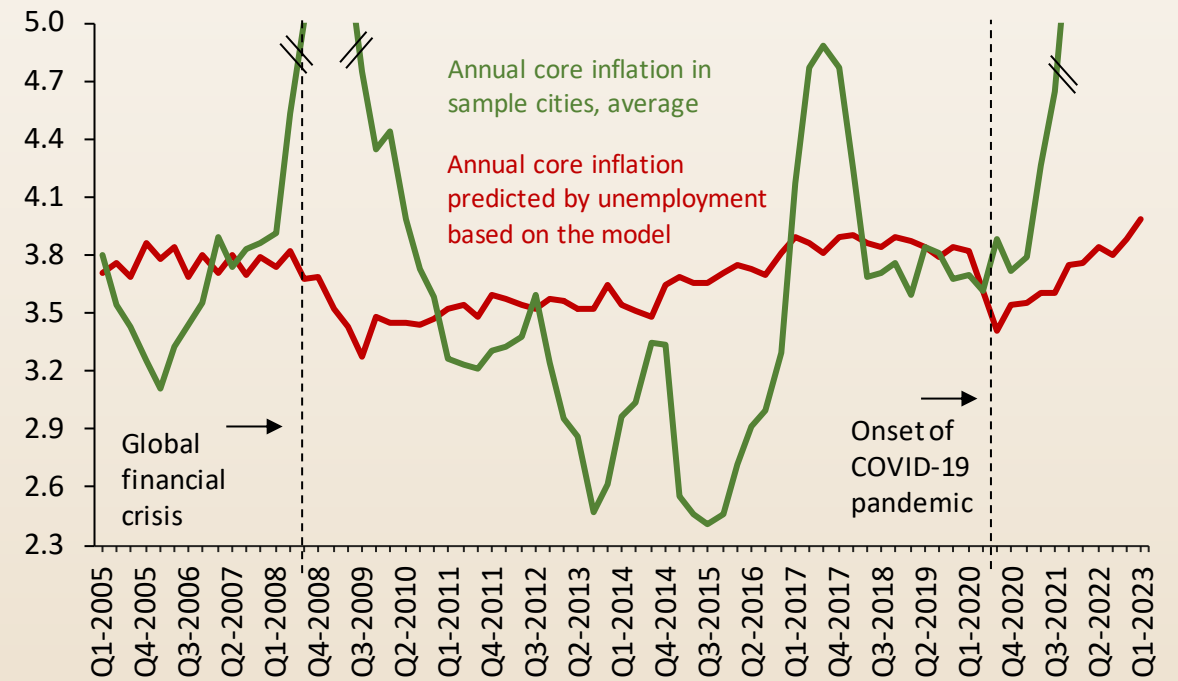
# Phillips curve estimation using city-level panel data

Unemployment and annual core inflation  
Percent



Note: Figures are shown for the period from Q1-2005 to Q1-2020.  
Source: Estimates based on equation 1 of the box, using data from INEGI.

Core inflation predicted by unemployment vs  
observed average in sample cities  
Percent



Note: The green line shows the average annual core inflation in sample cities, weighted by the working age population in each city. The red line is the inflation rate predicted by the estimated model, for which the only time-varying variable is the unemployment rate and the others are fixed at their average levels.  
Source: Estimates based on equation 1 of the box, using data from INEGI.

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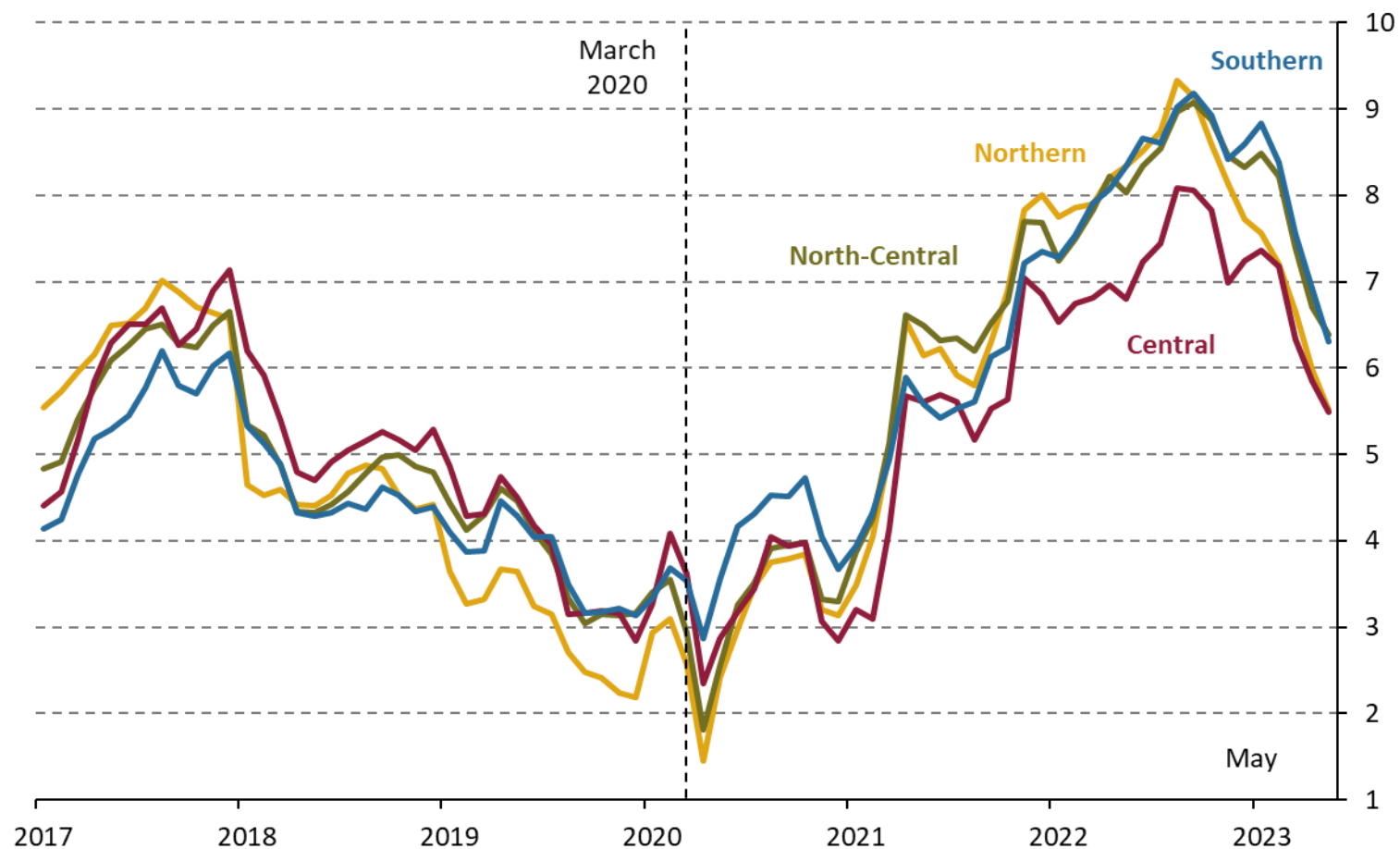
### C. Economic outlook

(based on data collected between March 27 and April 27, 2023)

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In all regions, annual headline inflation declined between Q4-2022 and Q1-2023 and continued trending downwards in Q2-2023. This was mainly the result of decreases in non-core inflation, although core inflation also declined, albeit more gradually.

### Annual headline inflation by region Figures in percent

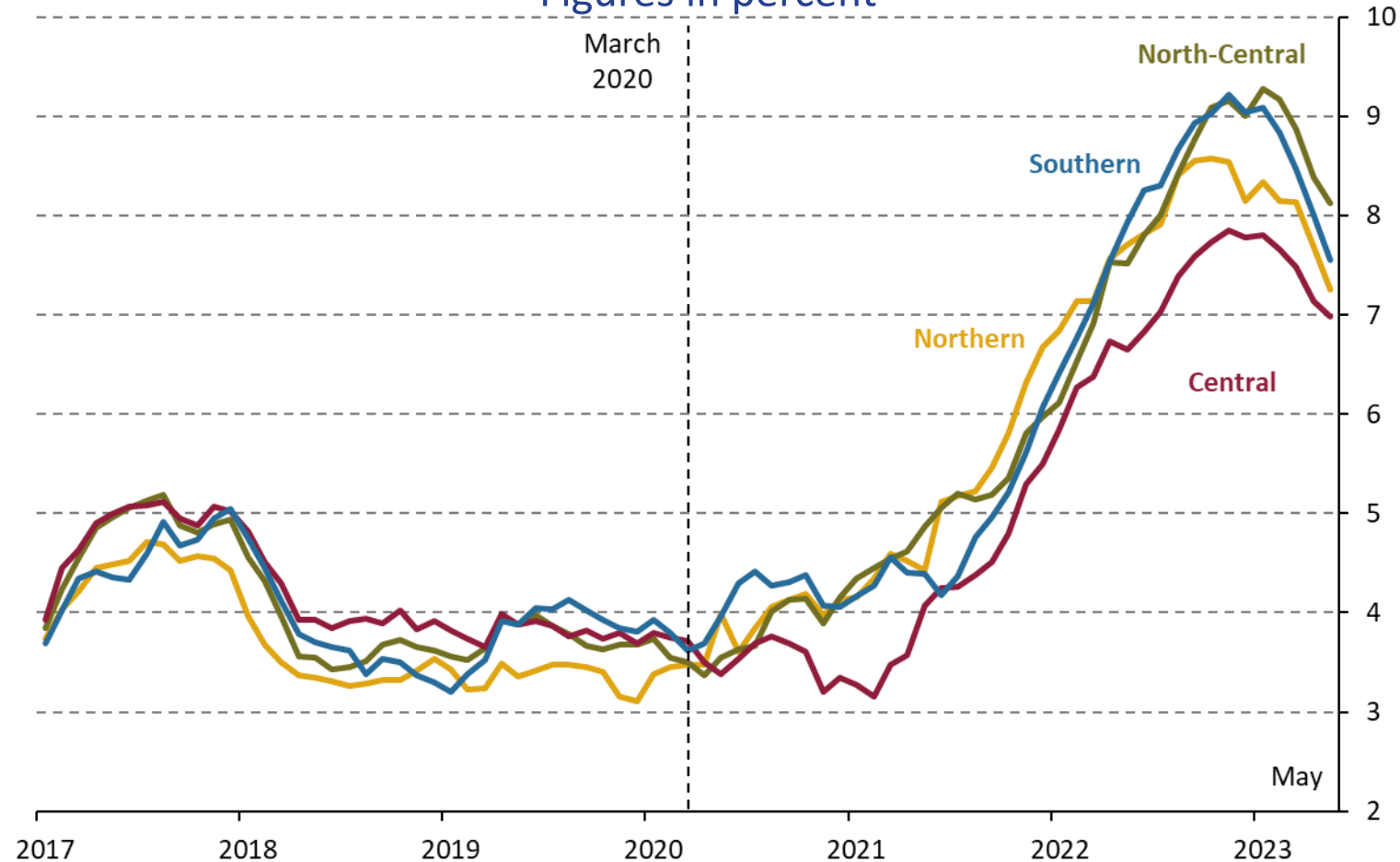


Source: Prepared by Banco de México with INEGI data.

In all regions, core inflation decreased gradually between Q4-2022 and Q1-2023 and continued trending downwards in Q2-2023. Nevertheless, it remains at high levels and continues facing considerable pressures associated with pandemic-related shocks and the military conflict in Ukraine.

### Annual core inflation by region

Figures in percent



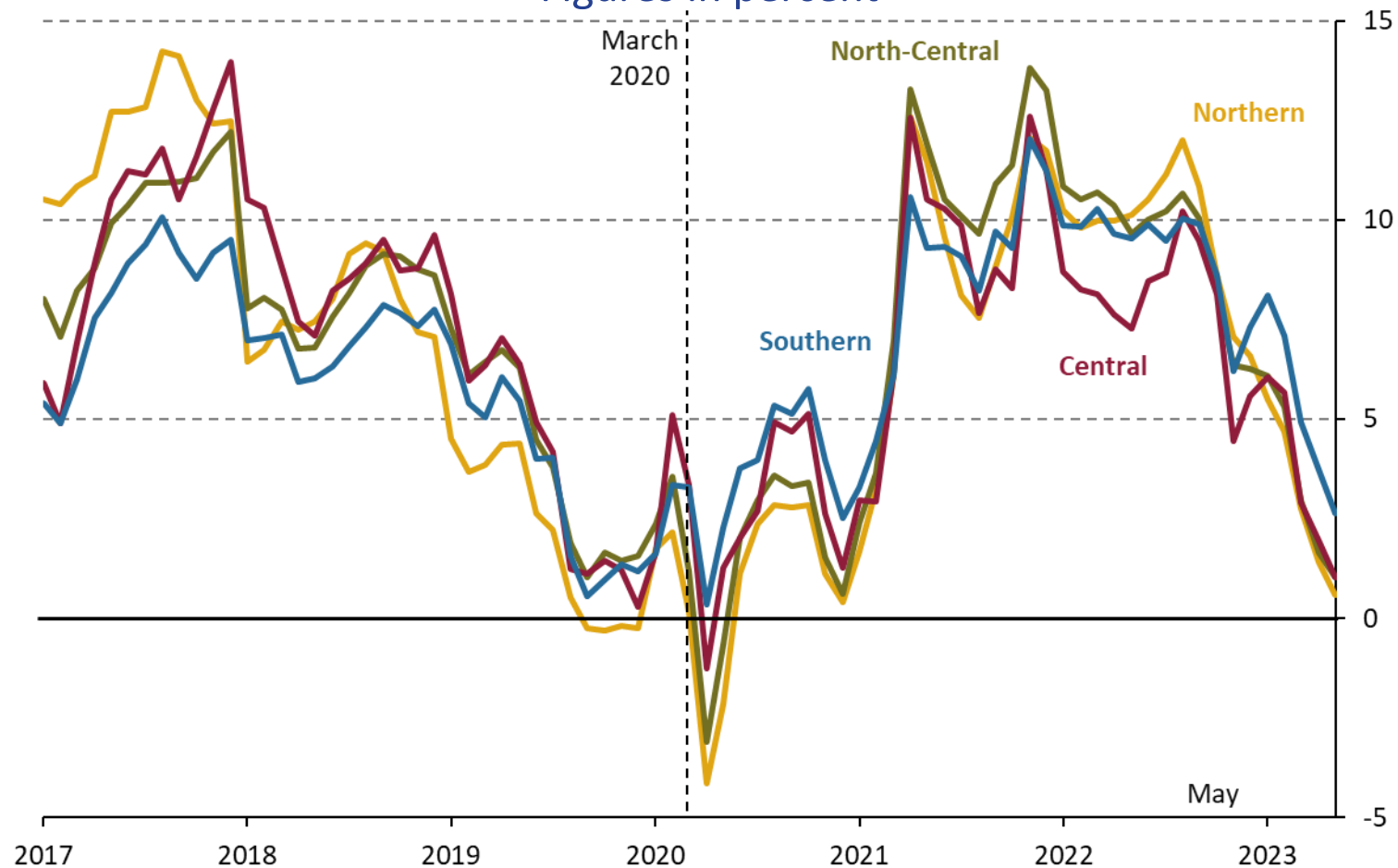
Source: Prepared by Banco de México with INEGI data.



In all regions, annual non-core inflation decreased between Q4-2022 and Q1-2023 and continued trending downwards in Q2-2023. This was driven by lower levels of inflation in agricultural and livestock products and in energy prices.

### Annual non-core inflation by region

Figures in percent

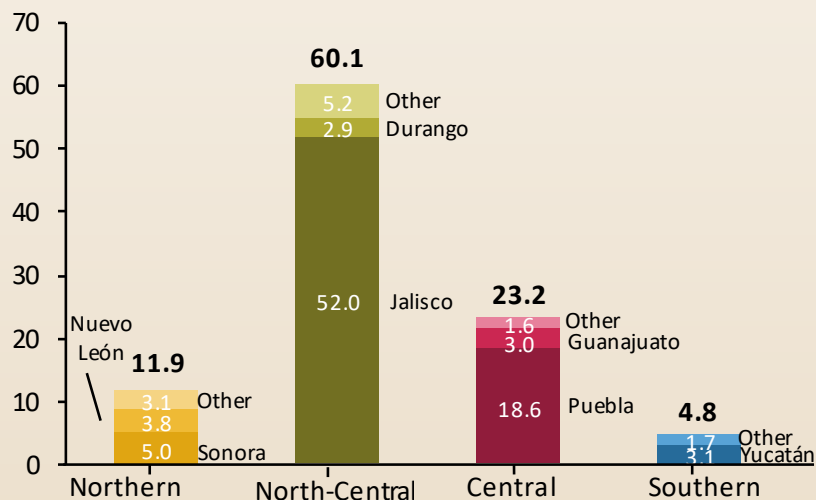


Source: Prepared by Banco de México with INEGI data.

# The effect of avian influenza outbreaks on egg prices

- **Avian influenza outbreaks can create upward pressures on egg prices** because their control generally implies a **reduction of the supply** of this product on the market.
- **The impact of avian influenza outbreaks on prices has been greater in the Central and North-Central regions**, given their stronger dependence on the supply of the main producers.

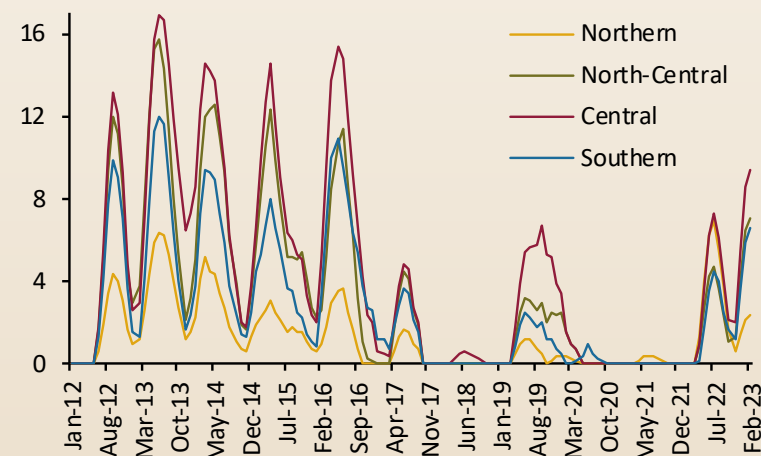
**Average distribution of egg production in Mexico, 2006-2022**  
Percentage of the national total



Note: The graph shows the average annual share of each region and each state in the national egg production during the period 2006-2022.

Source: Banco de México calculations based on data from SIAP.

**Estimated increase in egg prices caused by avian influenza outbreaks**  
Percent

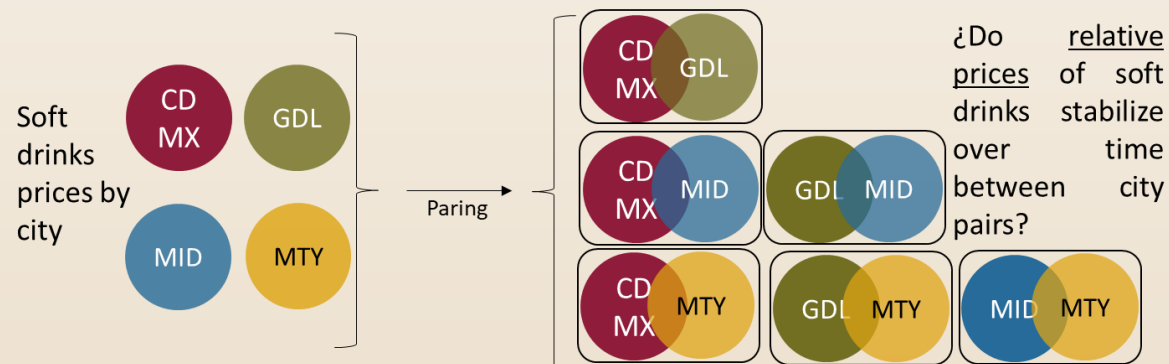


Source: Banco de México estimations using monthly city-level panel data of the egg price index and avian influenza outbreaks in egg-producing areas for the period from January 2001 to February 2023.

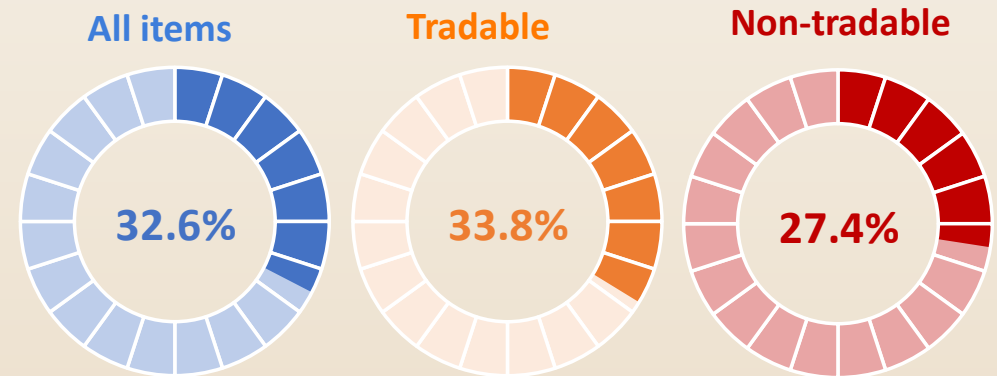
# Spatial integration of CPI items' markets in Mexico

- This box analyzes whether the percentage difference in price indices (or relative prices) of CPI goods and services between pairs of cities in Mexico stabilizes over time. This helps to understand whether the country's markets are integrated.
- The results show that 32.6% of the approximately 268,000 pairs stabilize over time, supporting evidence of the country's market integration.

## Example of Spatial Integration by Pairs of Cities in the Soft Drink Market



## Proportion of Relative Prices that Stabilize Over Time



Note: Similar to the example in the chart on the left, this box includes the price indices for 46 cities, which are combined to form unique pairs and are multiplied by 259 CPI items. This combination yields a total sample of 267,975 city-item pairs. The percentage of each loop in the chart on the right is obtained by dividing the number of integrated pairs by the total number of pairs. The category of tradables includes merchandise, agricultural and energy products, and that of non-tradables includes government-authorized tariffs and services.

Source: Prepared by Banco de México.

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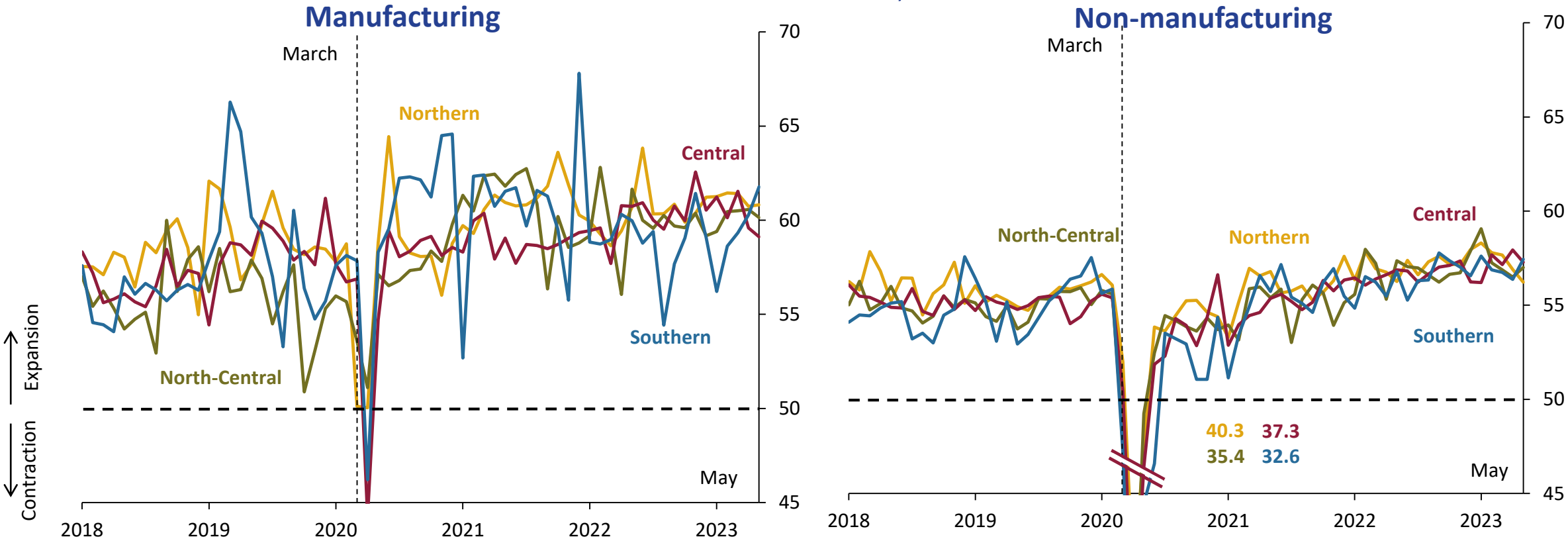
(based on data collected between March 27 and April 27, 2023)

## III. Final remarks

Regional manufacturing and non-manufacturing orders' indexes remain in the expansion zone.

**Regional Manufacturing and Non-manufacturing Orders' Index:**  
**activity outlook for the next 3 months**

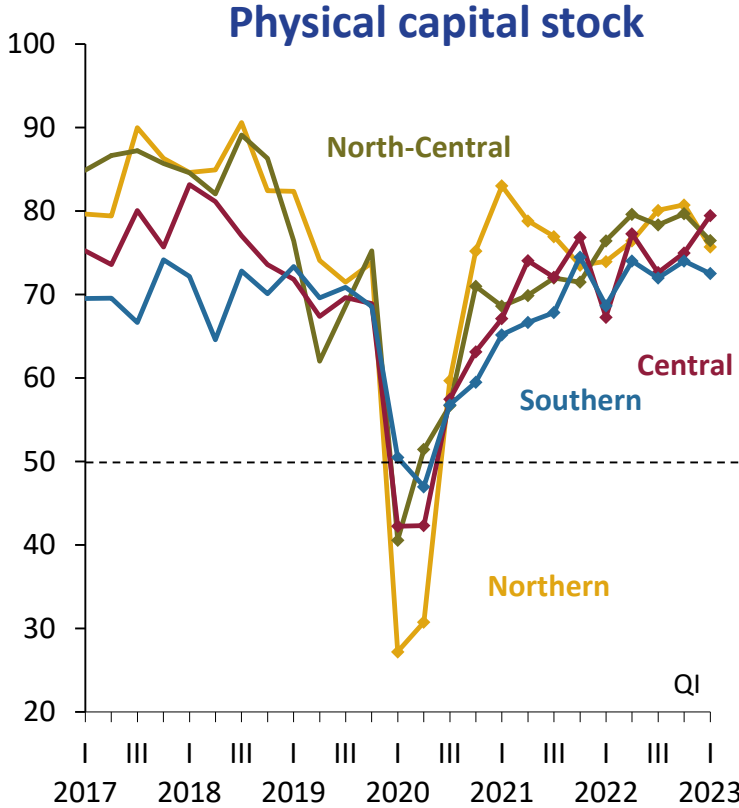
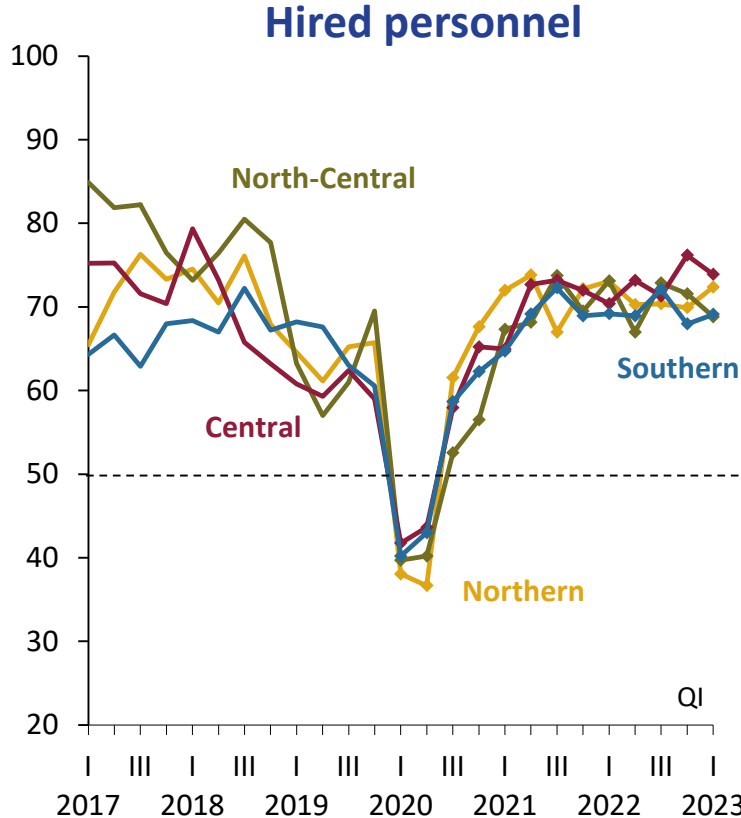
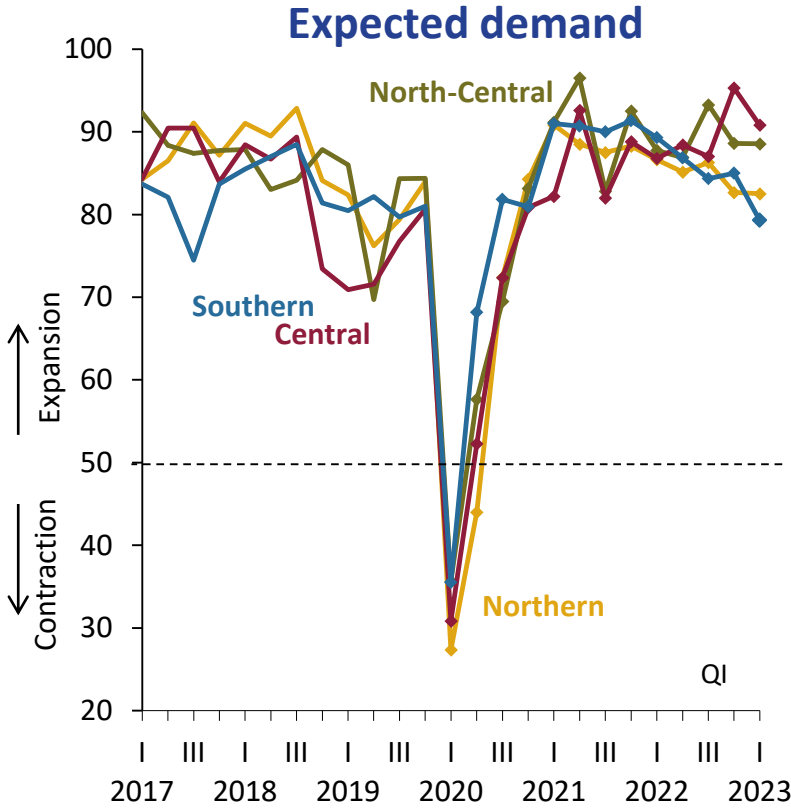
Diffusion indexes, s. a.



s. a./ Seasonally adjusted figures.  
 Source: Banco de México.

The diffusion indexes of expectations on demand, number of workers hired, and firms' fixed-asset investment for the next 12 months remained in the expansion zone in all regions during Q1-2023.

**Business agents' expectations: demand, hired personnel and physical capital stock, next 12 months <sup>1/</sup>**  
 Diffusion indices

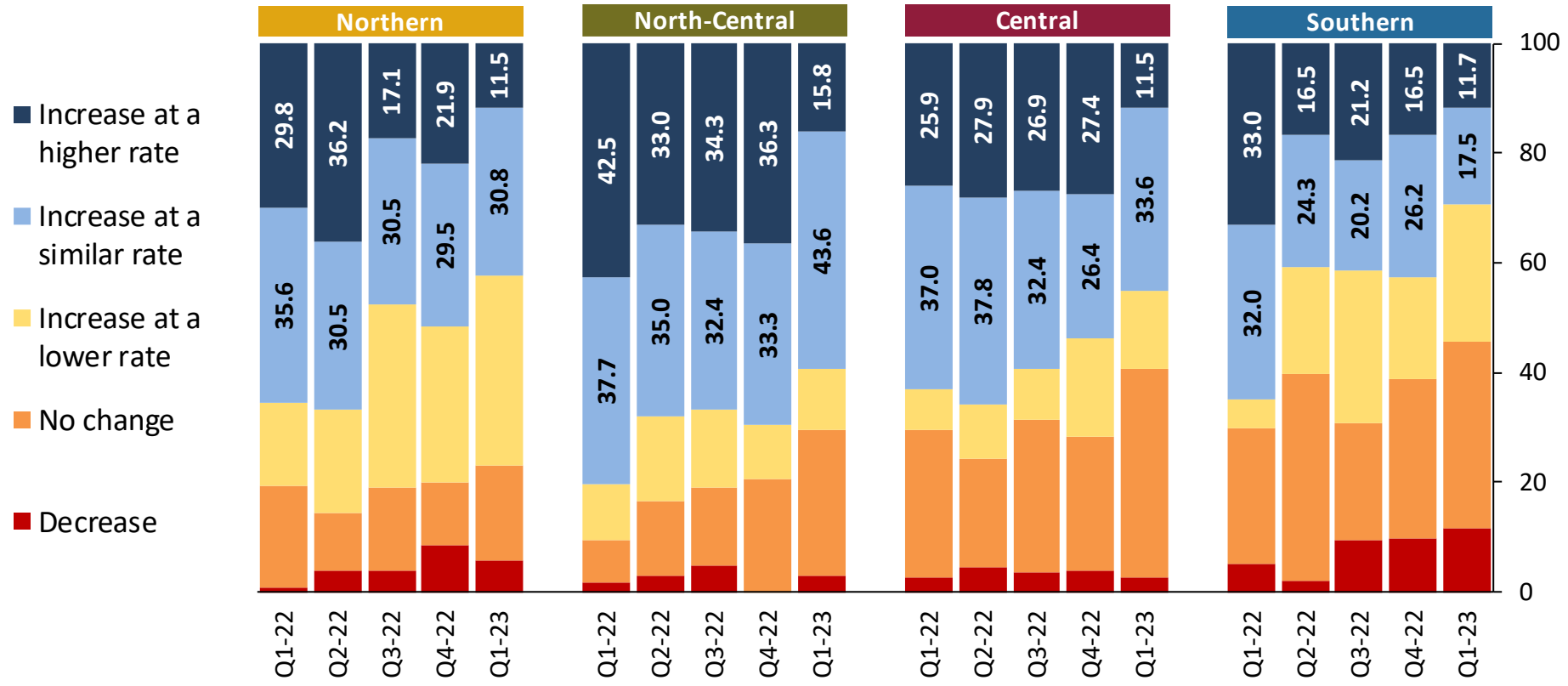


<sup>1/</sup> Results obtained from the questions: "With respect to the previous 12 months, how do you expect your sales volume to change over the next 12 months, how do you expect the total number of workers in your company to change over the next 12 Months?" and "With respect to the investment in fixed assets made by your company during the previous 12 months, how do you expect the level of investment to change over the next 12 months?", included in the interviews conducted by Banco de México. Expectations corresponding to each Report were generally collected during the four weeks following the end of the reported quarter. In the case of the first quarter of 2023, they were obtained between March 27 and April 27, 2023.

In all regions, the percentage of business agents who anticipate their goods and services' sales prices to increase over the next 12 months at a rate higher or similar to that observed during the previous 12 months, decreased.

**Business agents' expectations: annual variation of sales prices; next 12 months with respect to last 12 months <sup>1/</sup>**

Percentage of responses

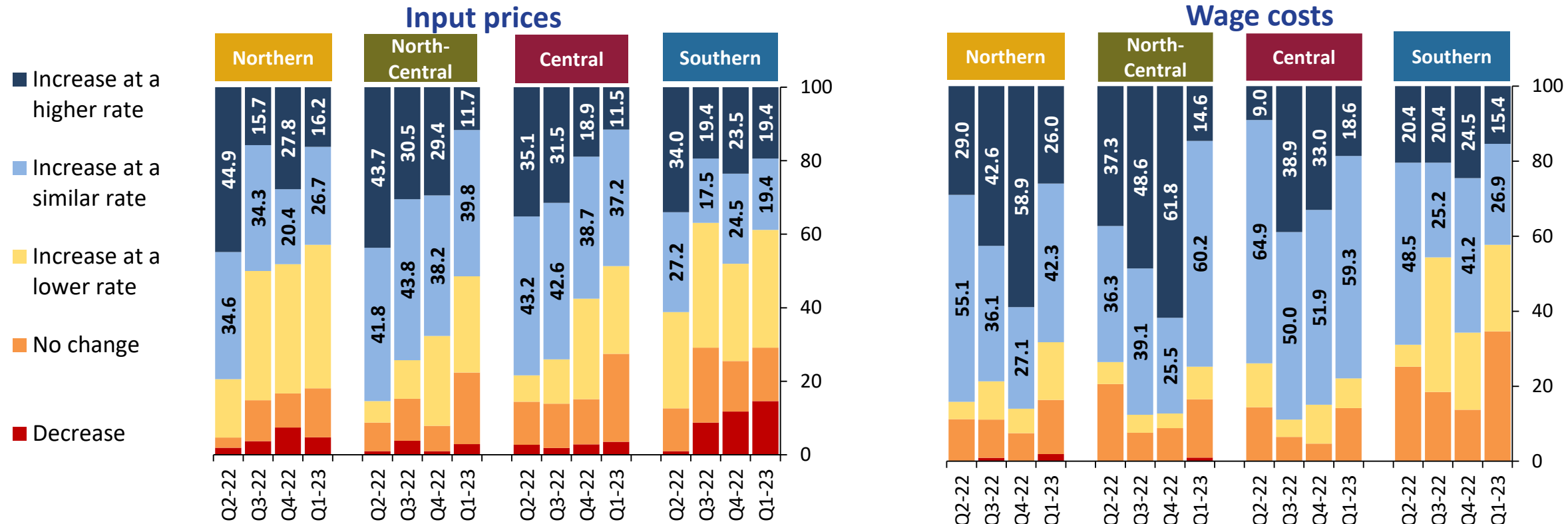


<sup>1/</sup> Results obtained from the questions: "With respect to the previous 12 months, how do you anticipate sales prices in your sector to change over the next 12 months?", included in the interviews conducted by Banco de México. Expectations corresponding to each Report were generally collected during the four weeks following the end of the reported quarter. In the case of the first quarter of 2023, they were obtained between March 27 and April 27, 2023.

In all regions, the percentage of business agents that expect the prices of their inputs and wage costs to increase over the next 12 months at a rate higher or similar to that observed during the previous 12 months, decreased.

### Business agents' expectations: annual variation of input prices and wage costs; next 12 months with respect to last 12 months <sup>1/</sup>

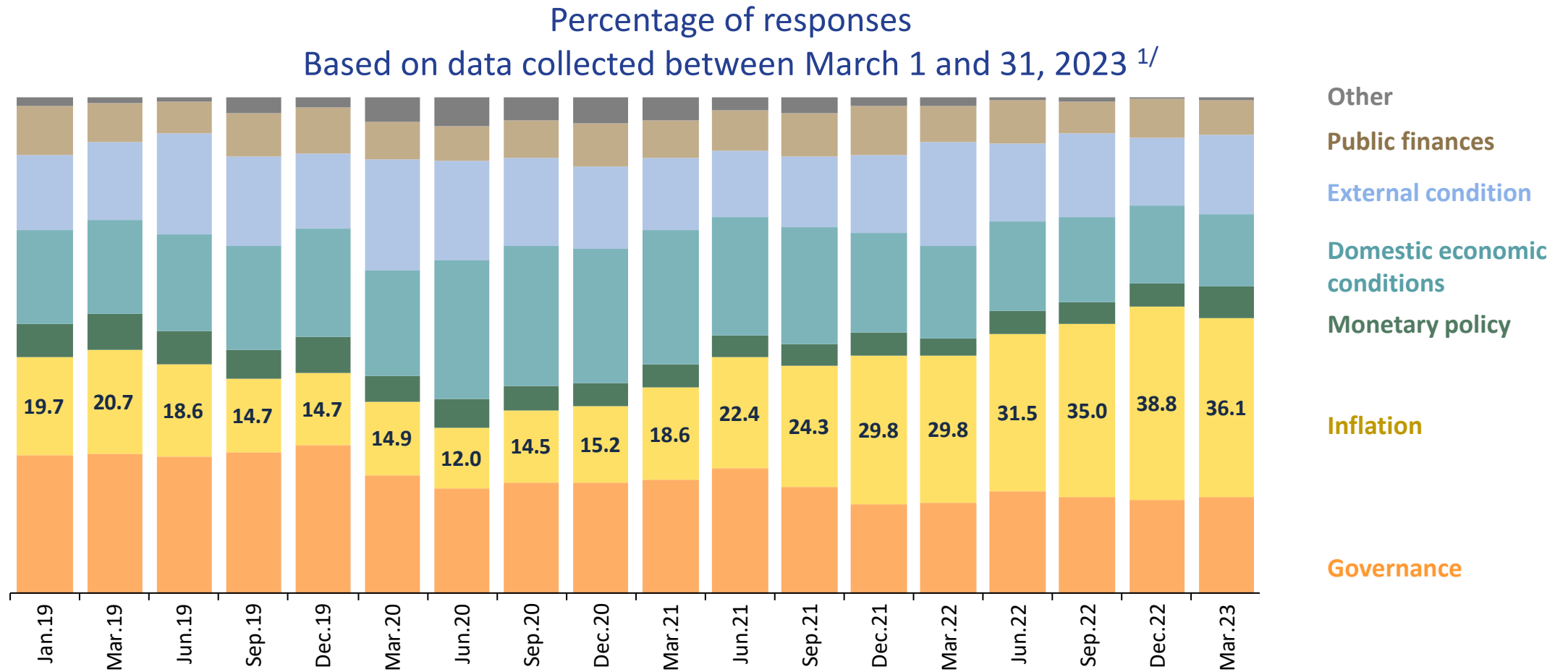
Percentage of responses



<sup>1/</sup> Results obtained from the questions: "With respect to the previous 12 months, how do you anticipate the prices of inputs (goods and services) used in your sector to change over the next 12 months? and How do you anticipate wages and salaries of workers in your sector to change over the next 12 months?", included in the interviews conducted by Banco de México. Expectations corresponding to each Report were generally collected during the four weeks following the end of the reported quarter. In the case of the first quarter of 2023, they were obtained between March 27 and April 27, 2023.



## Business agents' response distribution when asked about the top three factors that could hinder growth of economic activity in their entities in the next six months



- Other
- Public finances
- External condition
- Domestic economic conditions
- Monetary policy
- Inflation
- Governance

<sup>1/</sup> Question: What do you consider to be the three main factors limiting the growth of economic activity in your state over the next six months? This question is similar to the one included in the questionnaire of the Survey on Expectations of Private Sector Economic Specialists. Figures for March 2023 were obtained based on information collected between March 1 and March 31, 2023.

Source: Banco de México.

## Main responses of business agents when asked about the top three factors that could hinder growth of economic activity in their entities in the next six months

Based on information collected between March 1 and 31, 2023 <sup>1/</sup>

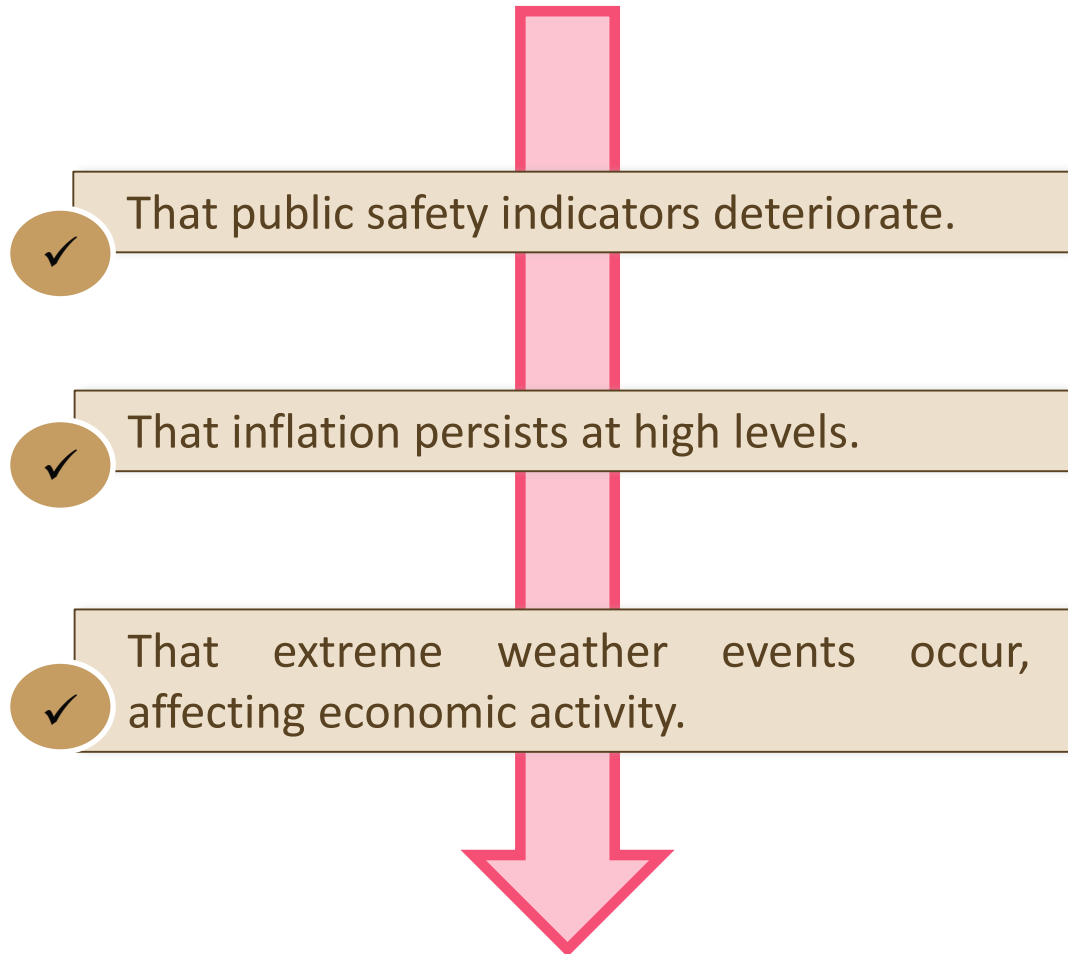
	Northern		North-Central		Central		Southern	
	Factor	Percentage of responses	Factor	Percentage of responses	Factor	Percentage of responses	Factor	Percentage of responses
1	Inflation	35.3%	Inflation	36.7%	Inflation	35.5%	Inflation	39.2%
2	External conditions	21.8%	Governance	20.1%	Governance	21.1%	Governance	20.1%
3	Governance	16.2%	Domestic economic conditions	15.9%	Domestic economic conditions	15.3%	Domestic economic conditions	14.9%

<sup>1/</sup> Question: What do you consider to be the three main factors limiting the growth of economic activity in your state over the next six months? This question is similar to the one included in the questionnaire of the Survey on Expectations of Private Sector Economic Specialists. Figures for March 2023 were obtained based on information collected between March 1 and March 31, 2023.

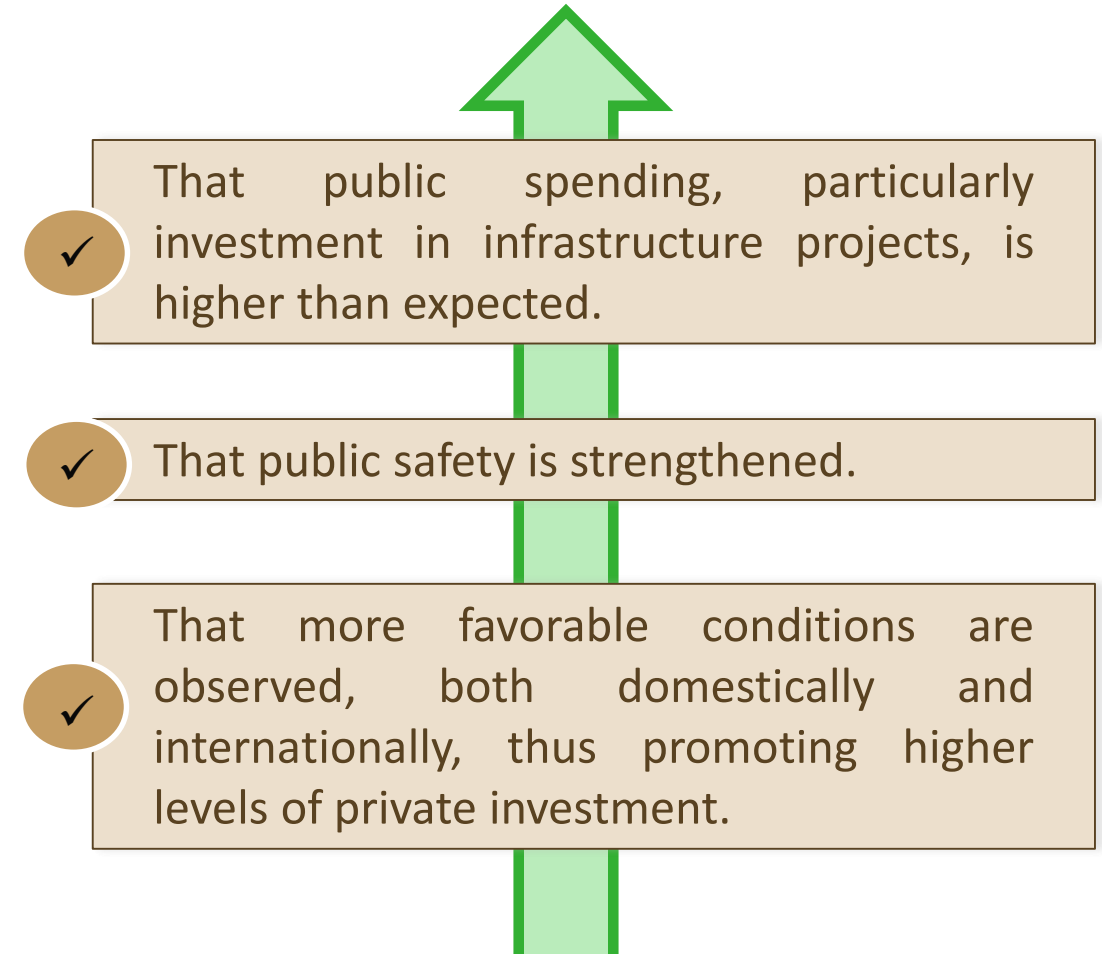
Source: Banco de México.

## Business agents' opinion on risks to regional economic activity (based on data collected between March 27 and April 27, 2023) <sup>1/</sup>

### Downward risks



### Upward risks



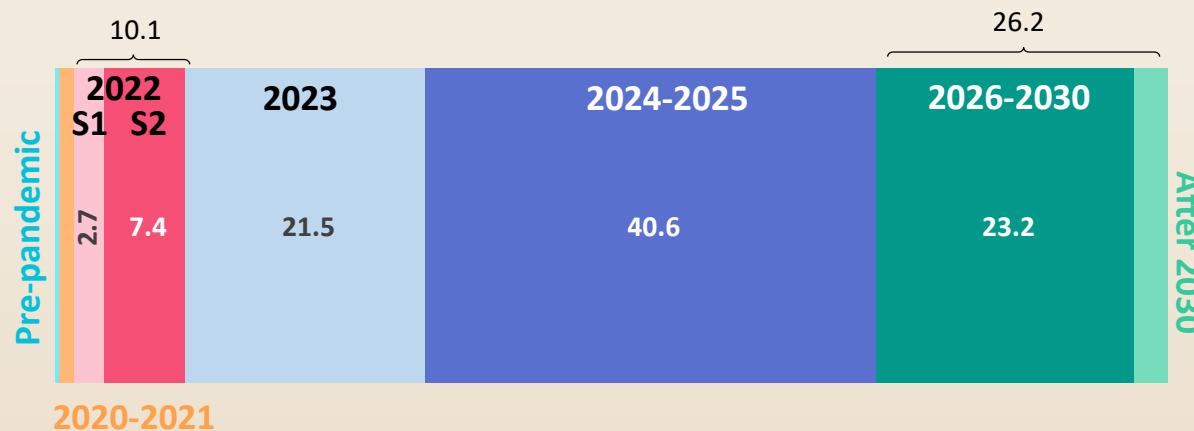
<sup>1/</sup> Results obtained from the questions: "What are the 2 main events/situations/facts that if they were to occur would boost economic development in your state over the next 12 months?" and "What are the 2 main events/situations/facts that if they were to occur would limit economic development in your state over the next 12 months?", included in the interviews conducted by Banco de México between March 27 and April 27, 2023.

# Business perception of the benefits of nearshoring for Mexico and the horizon in which they could materialize

Business opinion reveals that the process of **nearshoring** has continued to **benefit** firms in Mexico, but that its impact will unfold **gradually**.

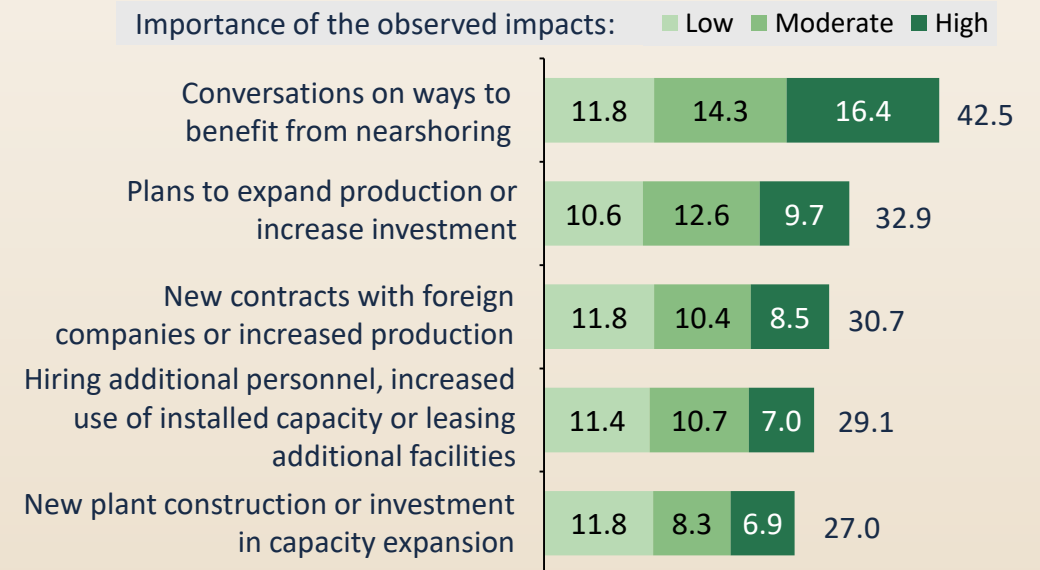
## Period in which the greatest impact of nearshoring on companies was observed or is expected to be observed

Companies that responded to each category as a percentage of those that have observed or expect to observe any impact



## Type of impact of nearshoring on companies

Percentage of companies that responded to each category



Source: Prepared by Banco de México with data from the Interview Program to Business Agents. Information obtained from the questions: "If you have observed or expect to observe any impact of nearshoring on your company, what specific facts have you perceived so far and how significant do you believe the impacts to have been?" and "If you have observed or expect to observe any impact of nearshoring on your company, in what period did you observe or expect to observe the greatest impact of nearshoring on your company?"

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In order to address the challenges to achieve greater growth, it is necessary to create adequate conditions for investment and reinforce the factors that influence domestic sources of growth. Indeed, within the T-MEC framework and in the context of a global geopolitical rearrangement, it is possible to attract greater investment flows derived from the global reconfiguration of production processes. To achieve it, the following is necessary:

- **The continued strengthening of the rule of law and fighting insecurity and corruption** could provide greater certainty to firms, thereby boosting investment flows not only to the regions that traditionally receive most of these, but also to the Southern region.
- **Continue constructing infrastructure projects**, particularly those that improve regional interconnectivity with other markets, both within and outside of Mexico, that have the potential to attract more visitors to tourist destinations, or that facilitate access to energy sources in an efficient and less polluting manner.
- **Continue supporting human capital formation** to generate the labor supply that satisfies the hiring needs of firms and allows higher wages for workers.

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al día**

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