

Regional Economic Report
July – September 2023

BANCO DE MÉXICO®

Outline

I. Regional Economic Report

II. Results July – September 2023

A. Economic activity

B. Inflation

C. Economic outlook

(based on data collected between September 25 and October 19, 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 Q3-2023 and the prospects of business agents surveyed between September 25 and October 19, 2023 on regional economic activity and prices over the following twelve months are analyzed herein.

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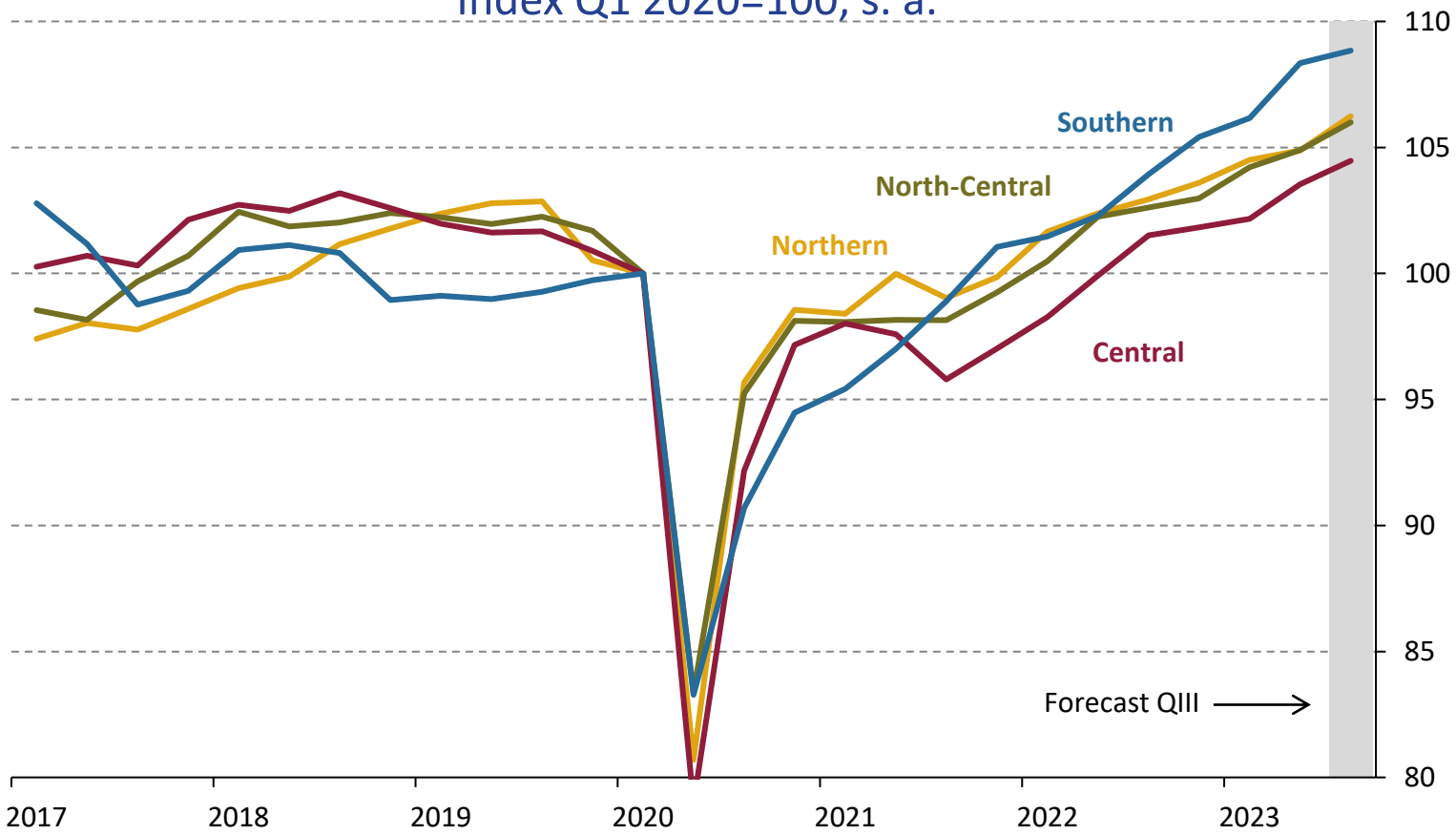
(based on data collected between September 25 and October 19, 2023)

III. Final remarks

Economic activity is estimated to have continued expanding in all Mexican regions in Q3-2023.

Quarterly Indicator of Regional Economic Activity

Index Q1 2020=100, s. a.



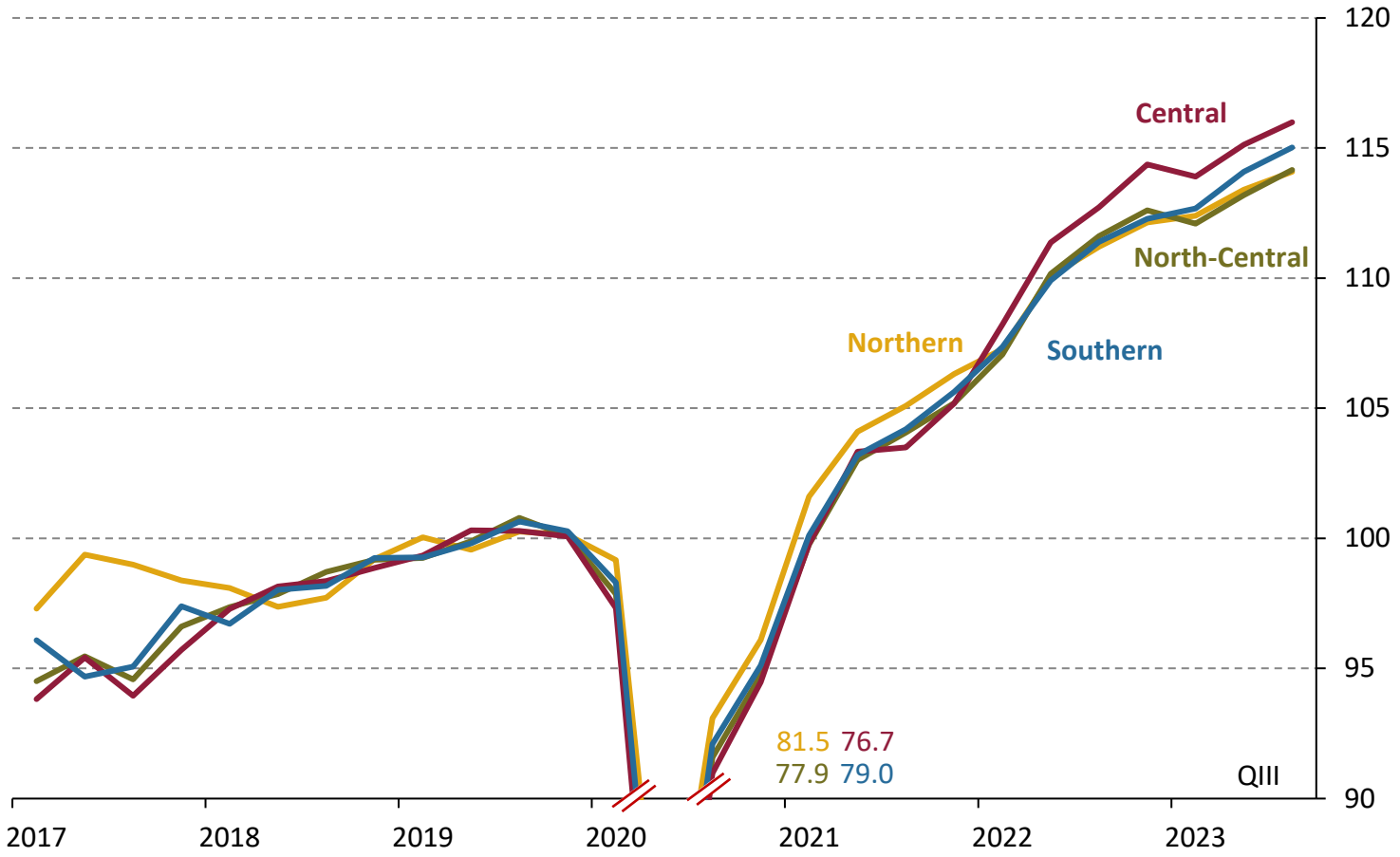
s. a. / Seasonally adjusted data.

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

Commercial activity continued expanding in all regions in Q3-2023.

Regional Commercial Activity Indicator

Index 2019=100, s. a.



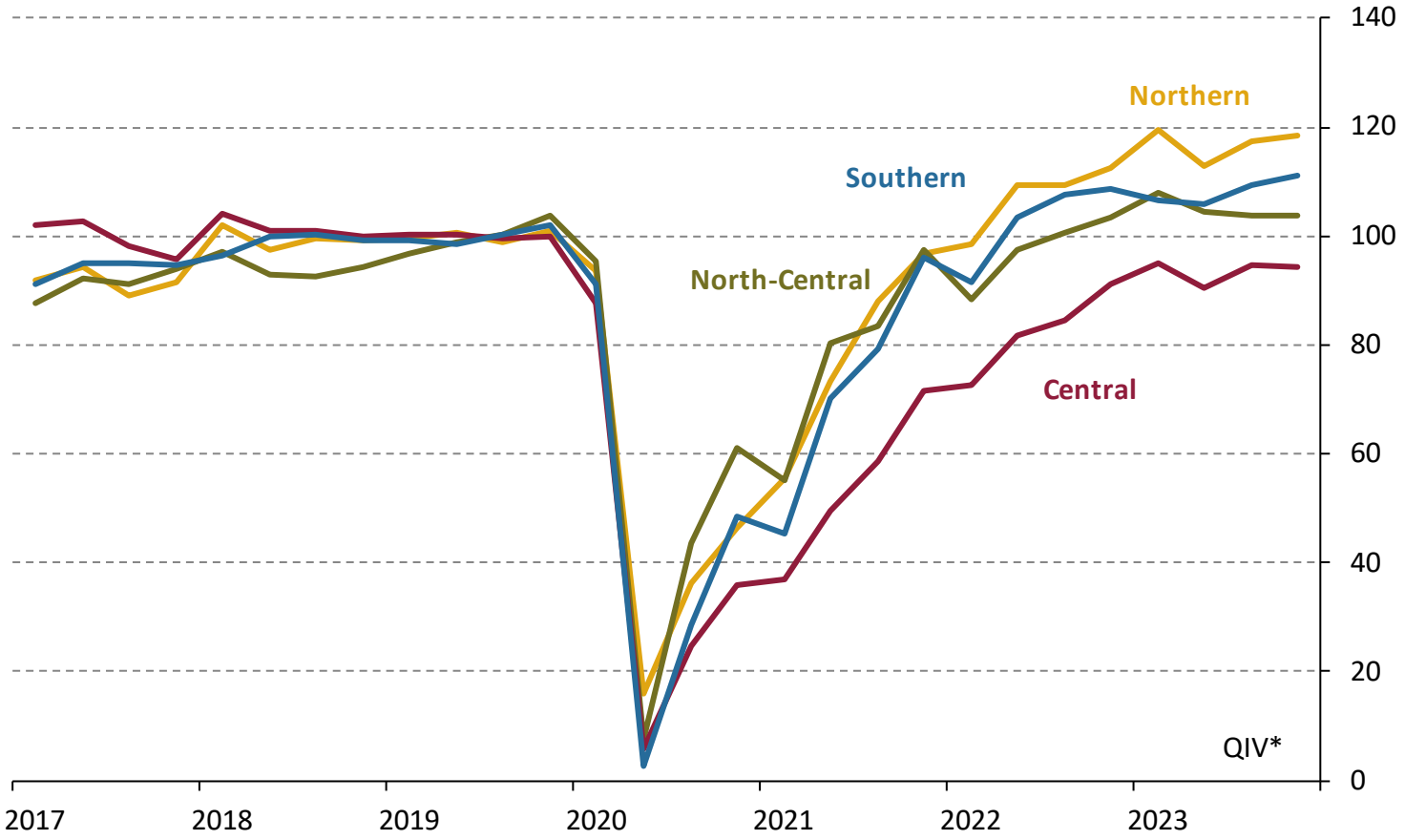
s. a. / Seasonally adjusted data.

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.

Following the contraction in Q2-2023, tourism activity, measured by indicators of hotel occupancy, expanded in all regions, except for the North-Central one, in Q3-2023.

Regional Indicator of Hotel Occupancy

Index 2019=100, s. a.

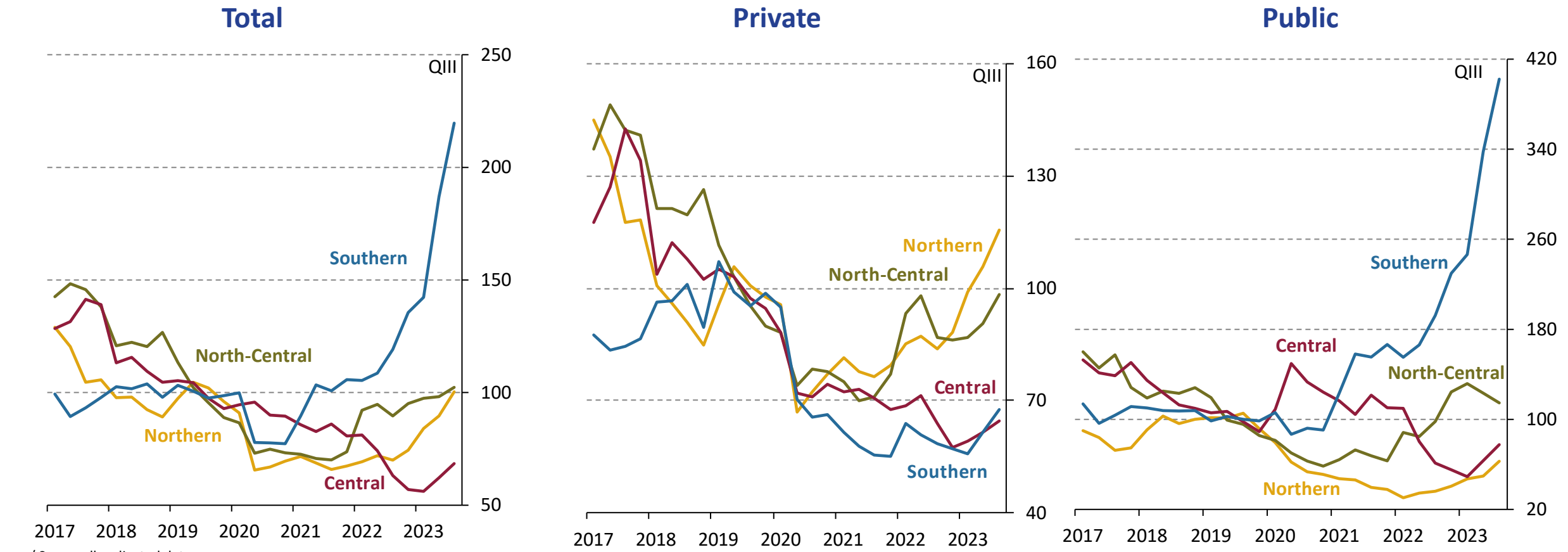


s. a. / Seasonally adjusted data.
*/ Data as of October 2023.
Source: Prepared and seasonally adjusted by Banco de México with data from the Mexican Ministry of Tourism.

During Q3-2023, spending on construction increased in all regions. The growth of private construction in the Northern region and even more so public infrastructure projects in the Southern region stand out.

Real value of production in the construction industry by region

Index 2019=100, s. a.



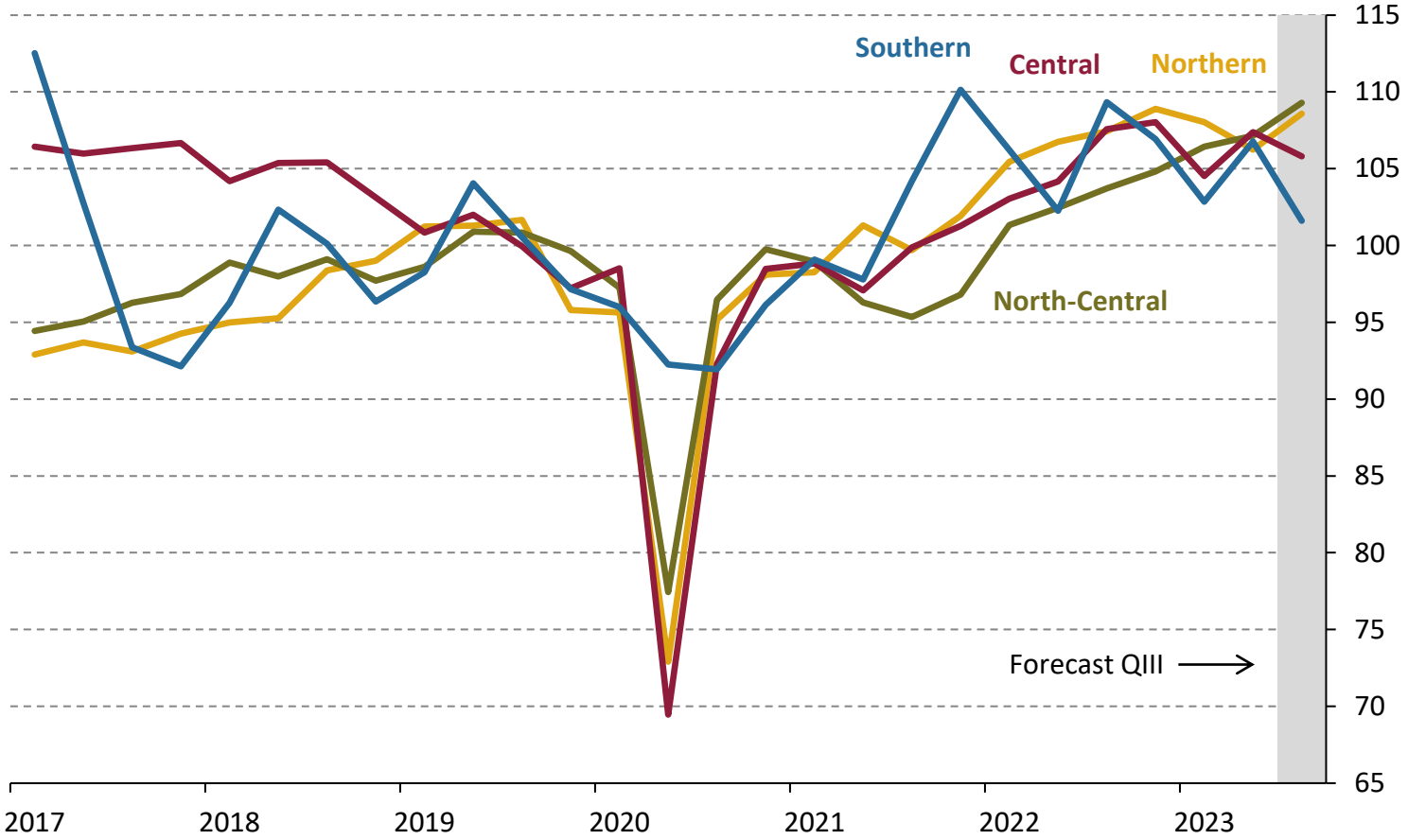
s. a. / Seasonally adjusted data.

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

The Northern, Central and Southern regions exhibited a certain lack of dynamism in manufacturing production. It is estimated that the North-Central region would maintain its positive trajectory in Q3-2023.

Regional Manufacturing Indicator

Index 2019=100, s. a.



s. a. / Seasonally adjusted data.

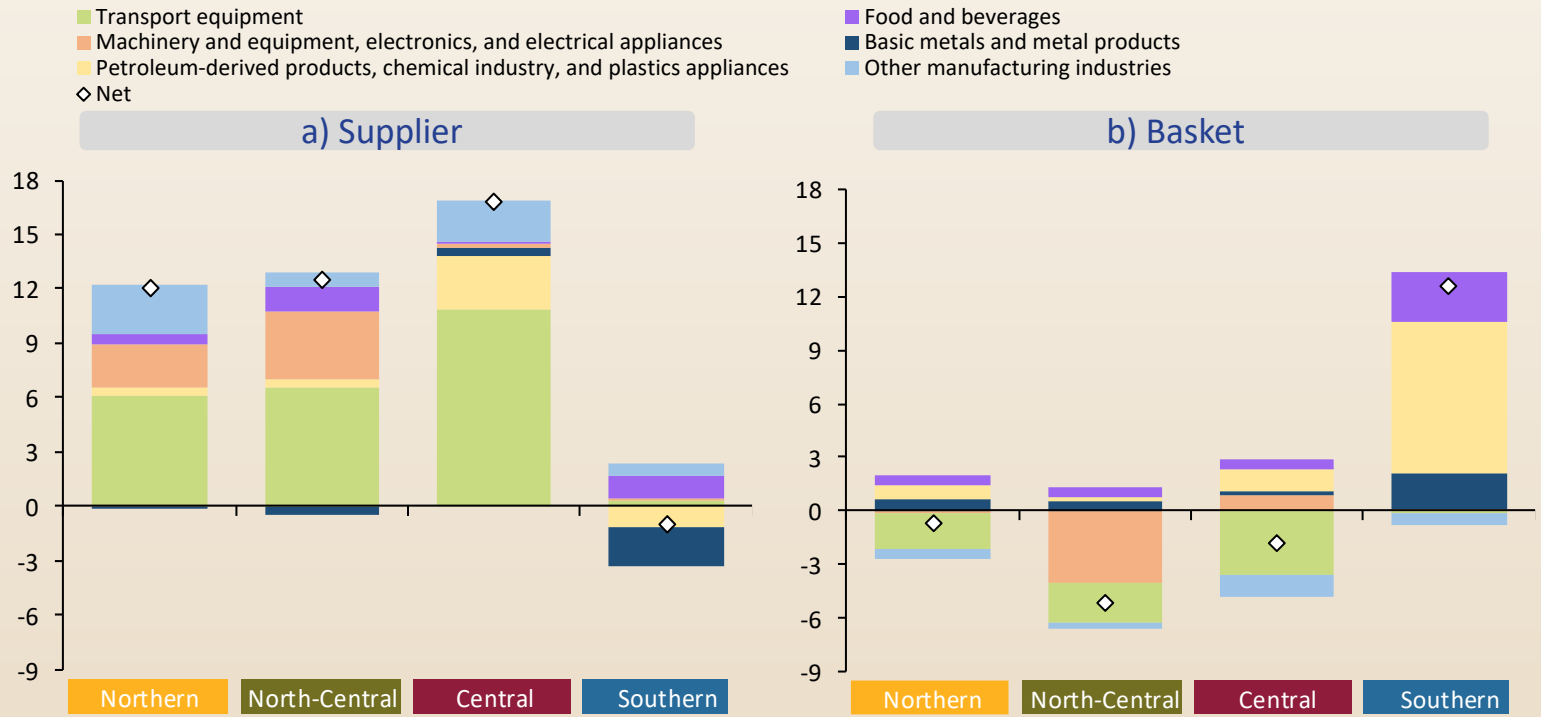
Source: Estimated by Banco de México with seasonally adjusted series of the Monthly Indicator of Manufacturing Activity by State from INEGI.

Regional impact of Mexico's increased participation in US manufacturing imports

- Changes in Mexico's importance as a supplier of goods to the United States (supplier effect) and in the sectoral composition of US demand (basket effect) influence regional exports heterogeneously. This may have enhanced regional value added directly and through trade linkages between industries and states.

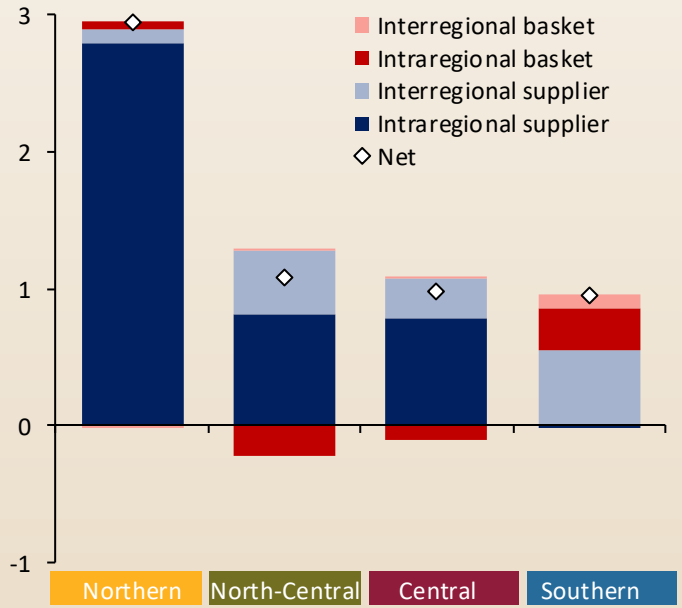
Sectoral composition of estimated changes in regional manufacturing exports between 2017 and January-September 2023 due to supplier and basket effects

Percent



Contribution of supplier and consumption basket effects to the change in regional value added between 2017 and January-September 2023

Percent

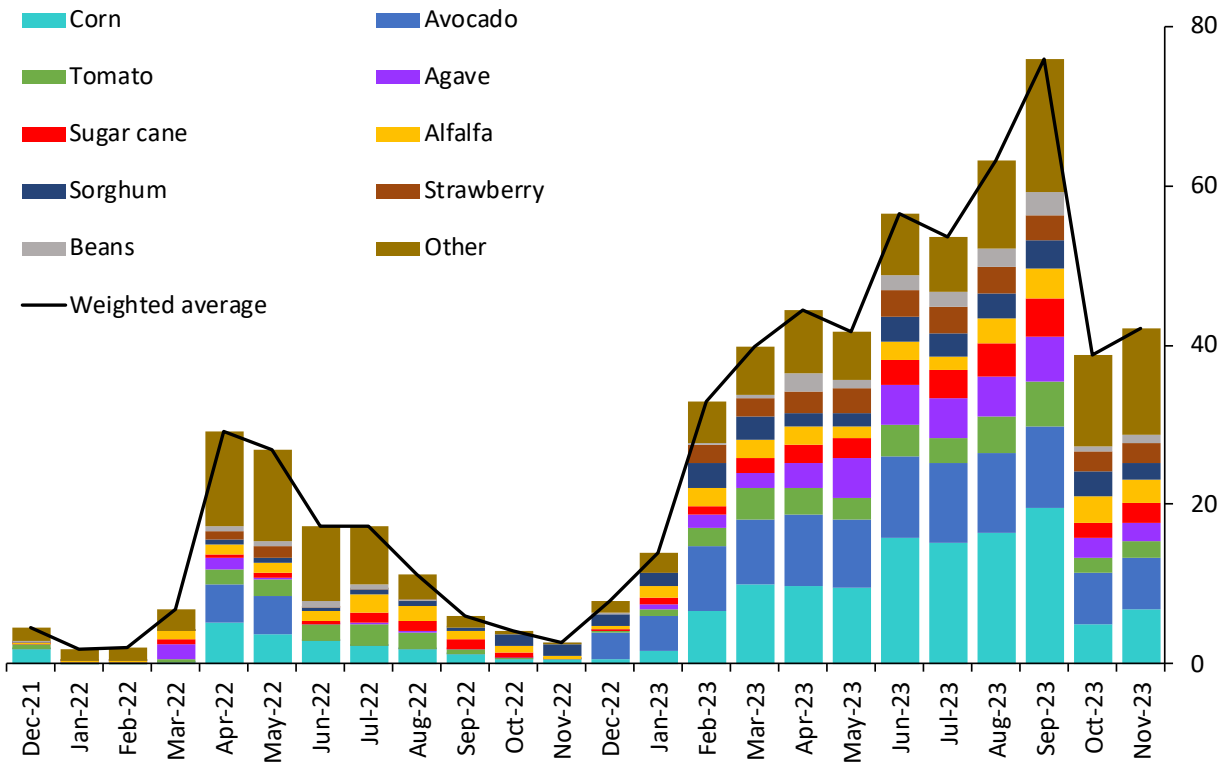


Source: Prepared by Banco de México with data from the US Department of Commerce, INEGI, and Banco de México.

During the period January - September 2023, the indicator of drought exposure trended upwards. However, for October and November 2023, it decreased for most crops.

Indicator of drought exposure

Data in percent

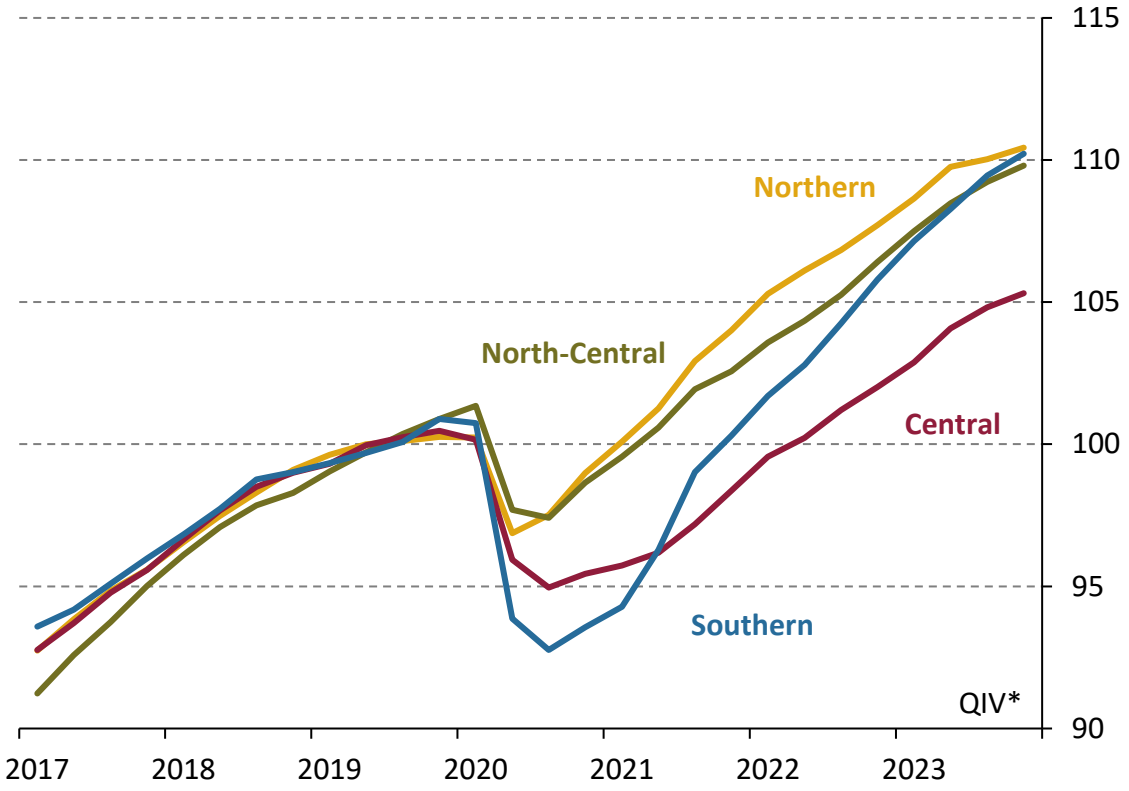


Note: The indicator shown in this chart is a weighted average of the indicator of drought exposure for each of the 16 main agricultural products in terms of production value, which are weighted using their share in the total national IPAR (*Indicador de Producción Agropecuaria Regional*).
Source: Prepared by Banco de México with data from SIAP (*Servicio de Información Agroalimentaria y Pesquera*) and CONAGUA (*Comisión Nacional del Agua*).

The labor market remained strong in all regions during Q3-2023.

Number of IMSS-insured workers

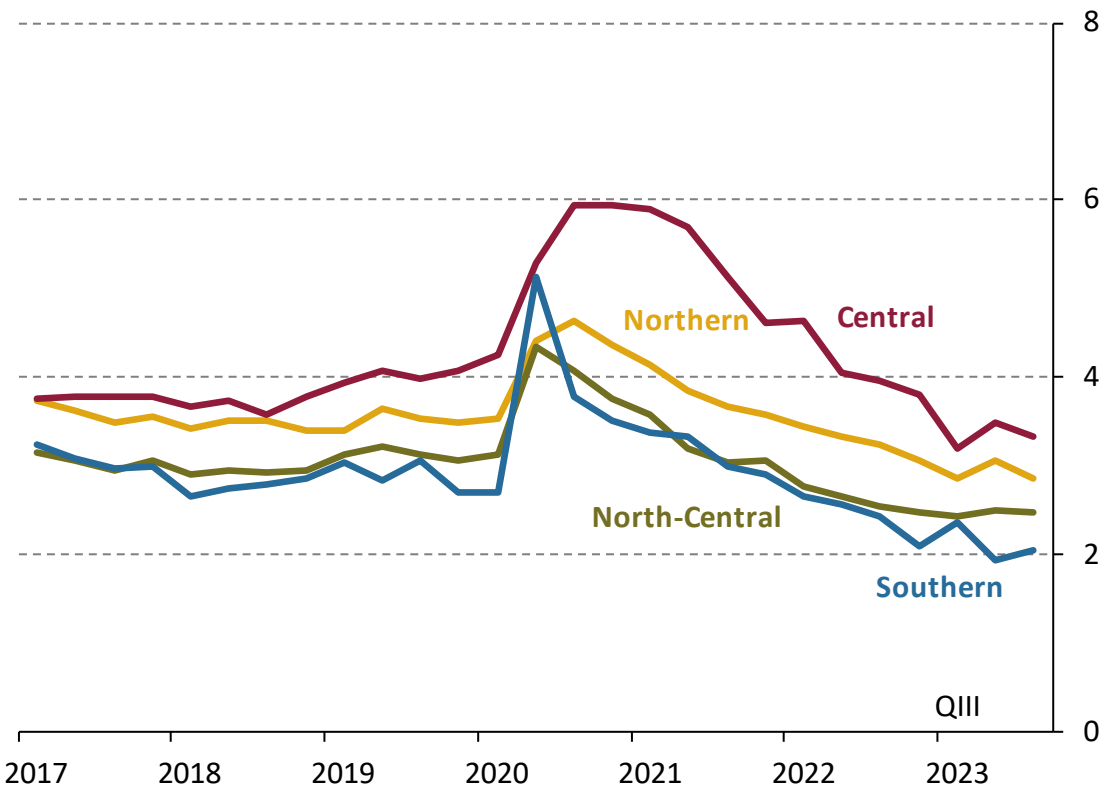
Index 2019=100, s. a. 1/



s. a. / Seasonally adjusted data.
*/ Figures as of November 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.

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B. **Inflation**

C. Economic outlook

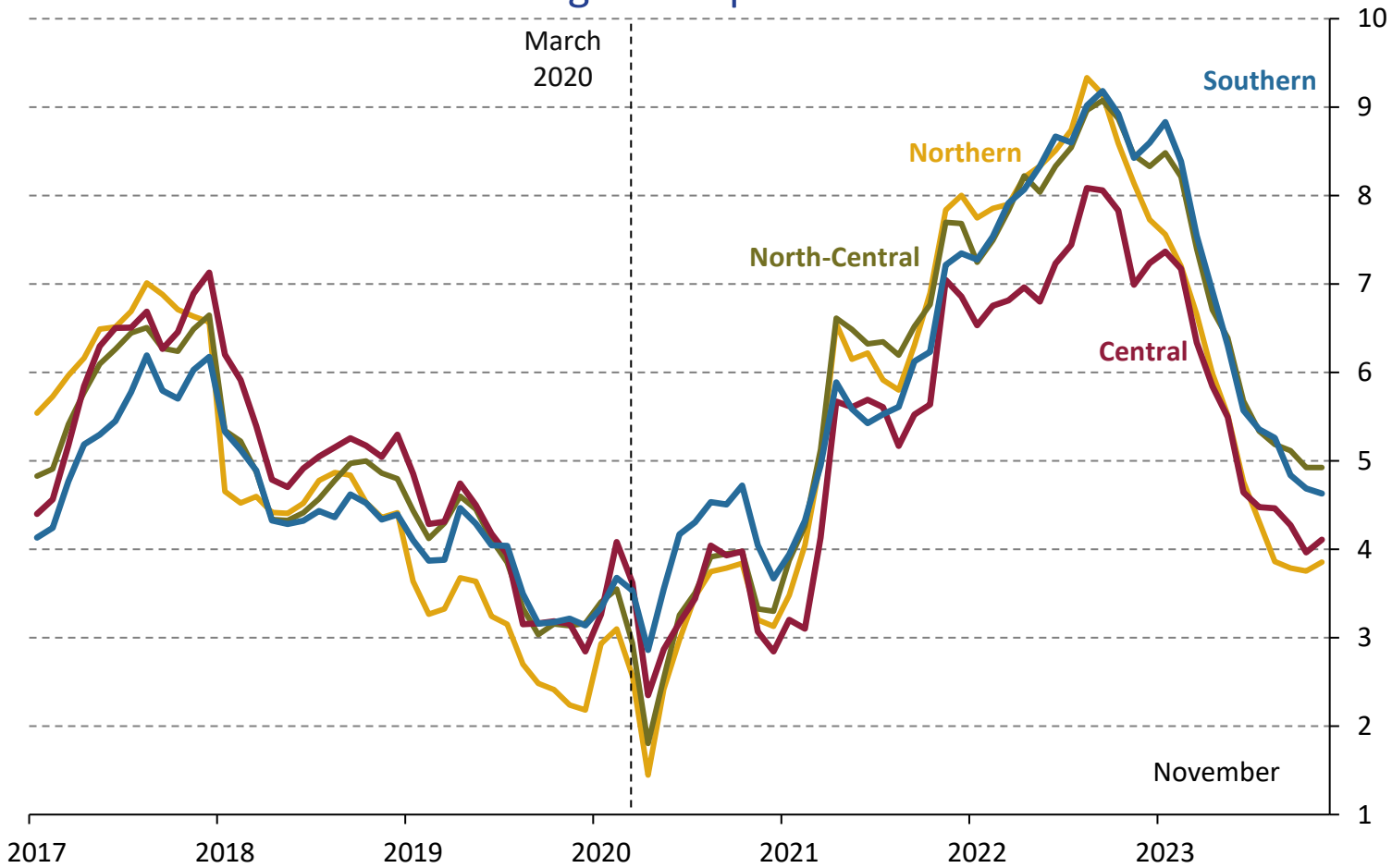
(based on data collected between September 25 and October 19, 2023)

III. Final remarks

Annual headline inflation decreased in all regions between Q2-2023 and Q3-2023. This behavior was associated, to a greater extent, with the decline in annual core inflation, although non-core inflation also decreased between quarters.

Annual headline inflation by region

Figures in percent

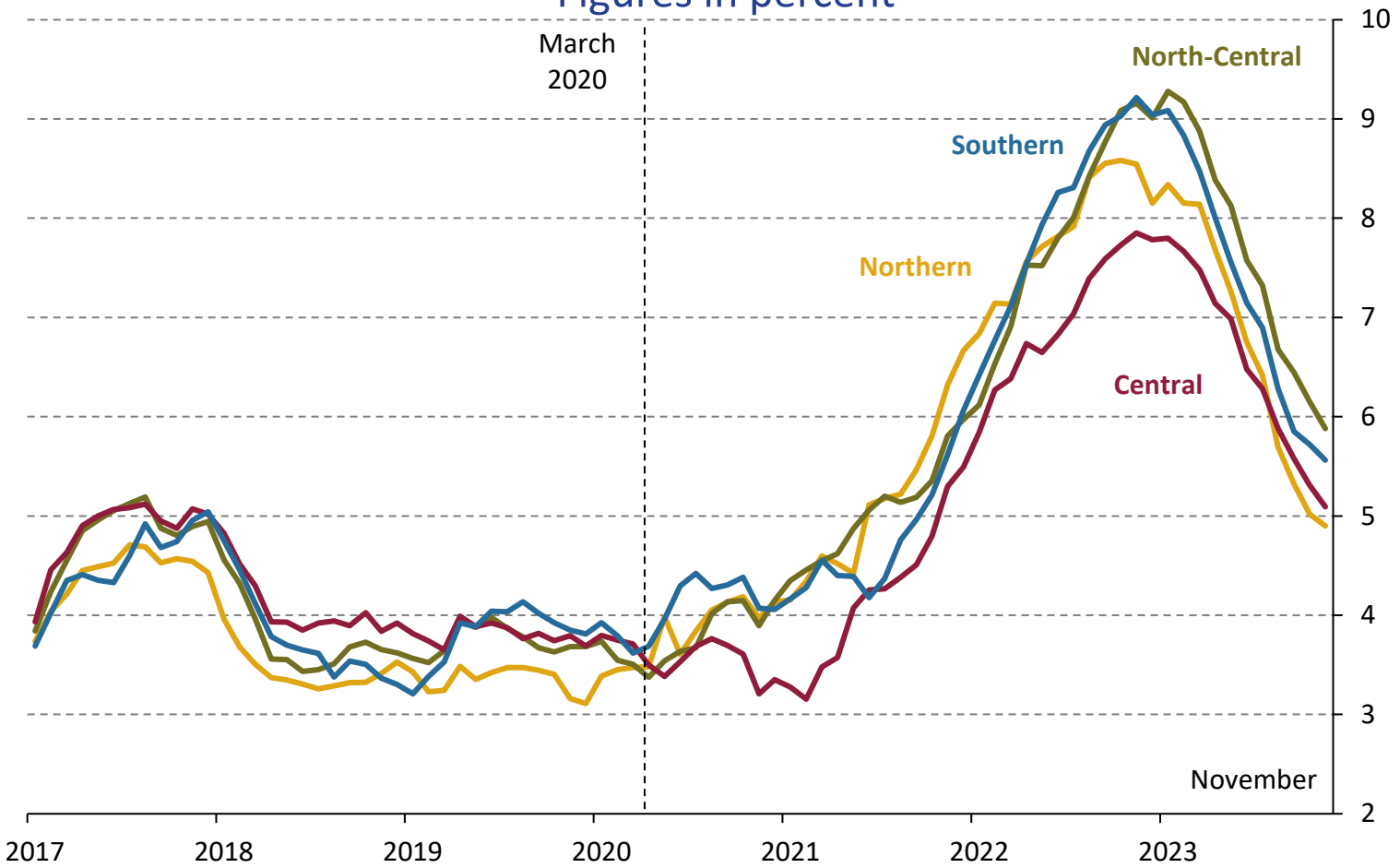


Source: Prepared by Banco de México with INEGI data.

The decline in annual core inflation between Q2-2023 and Q3-2023 in all regions reflected the downward trend that merchandise prices continued to exhibit. In contrast, services inflation in all regions still does not show a clear downward inflection point.

Annual core inflation by region

Figures in percent

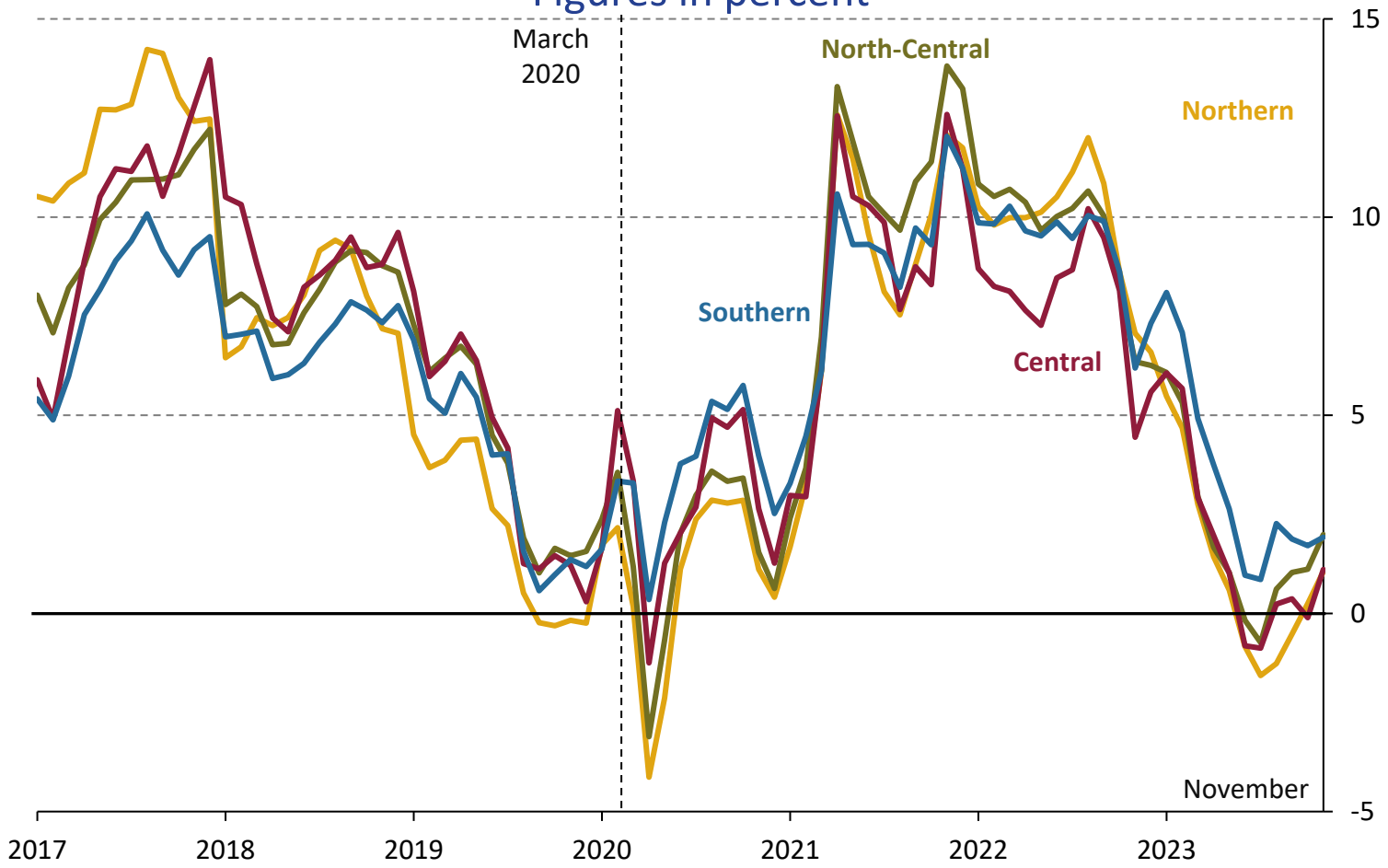


Source: Prepared by Banco de México with INEGI data.

Annual non-core inflation was at atypically low levels in all regions in Q3-2023 and so far in Q4-2023, despite the increase it has registered since July of this year.

Annual non-core inflation by region

Figures in percent



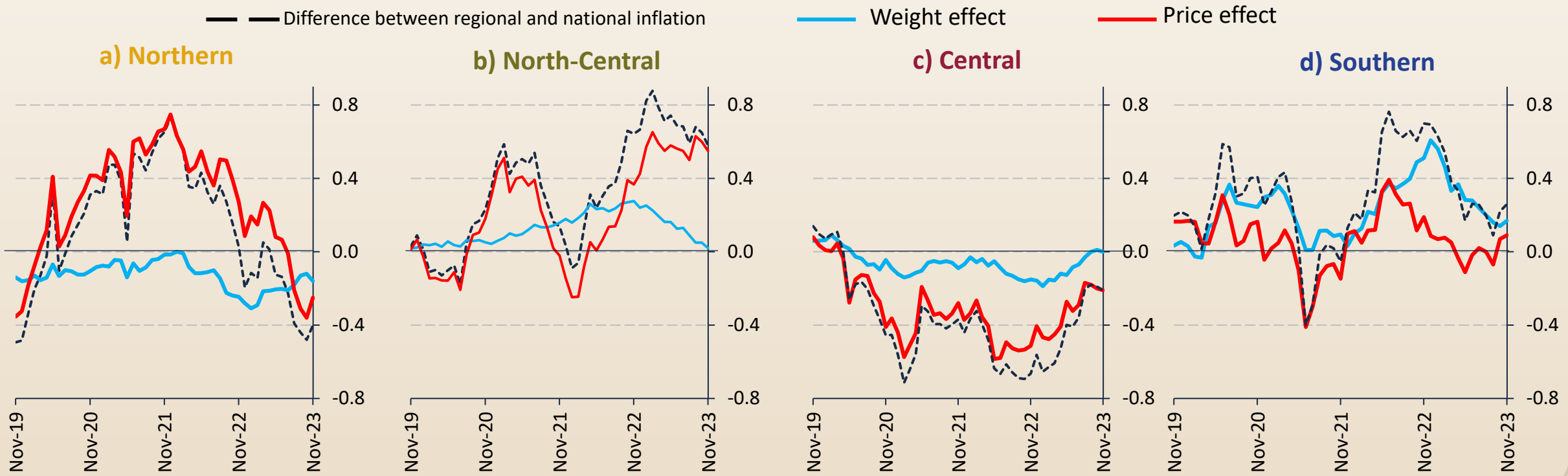
Source: Prepared by Banco de México with INEGI data.

Contributions by component of the weight and price effects to core inflation by region

$$Difference\ between\ regional\ and\ national\ inflation = \underbrace{Weight\ effect}_{\text{It shows how the composition of the consumption basket influences the level of inflation}} + \underbrace{Price\ effect}_{\text{It Illustrates the differentiated evolution of prices among regions, maintainining fixed weights}}$$

Regional core inflation relative to national core inflation and weight and price effects

Figures in percentage points



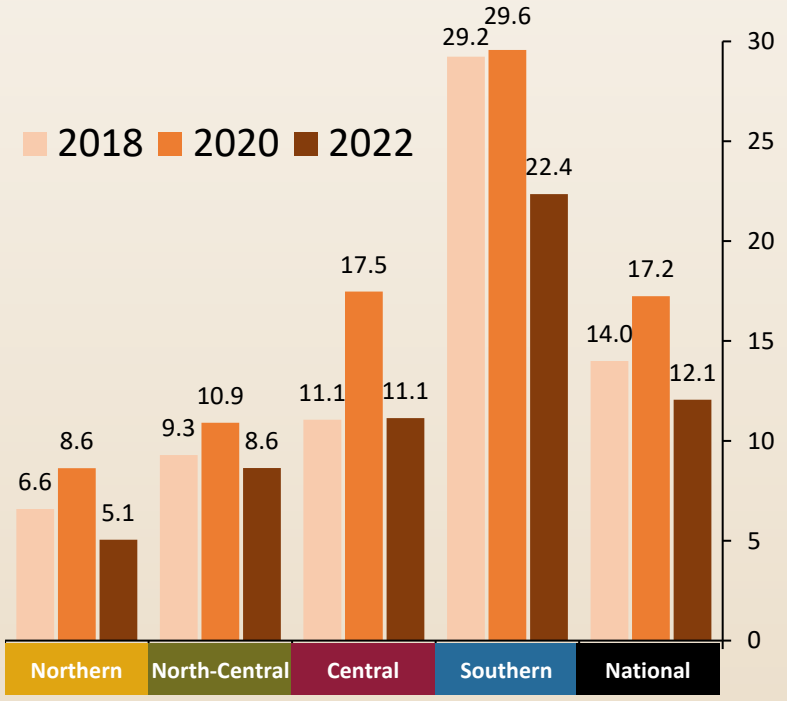
Source: Prepared by Banco de México with INEGI data.

Regional evolution of extreme poverty by income in a context of high food prices: 2018-2022

- Despite the significant increase in food prices, during the 2018-2022 period, most of the country's regions experienced a reduction in the percentage of people with an income below the line of extreme poverty by income.

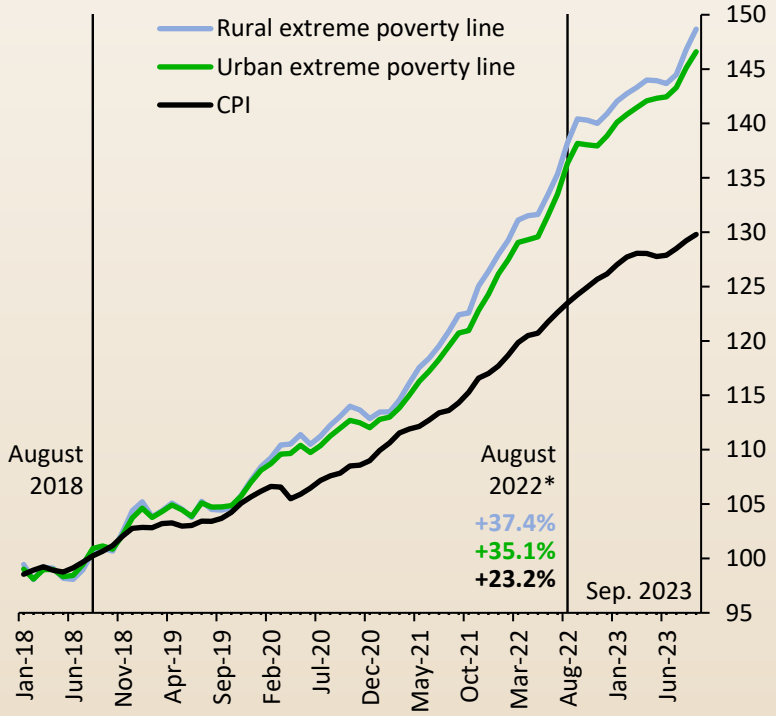
People living in extreme poverty by income

Percentage of population



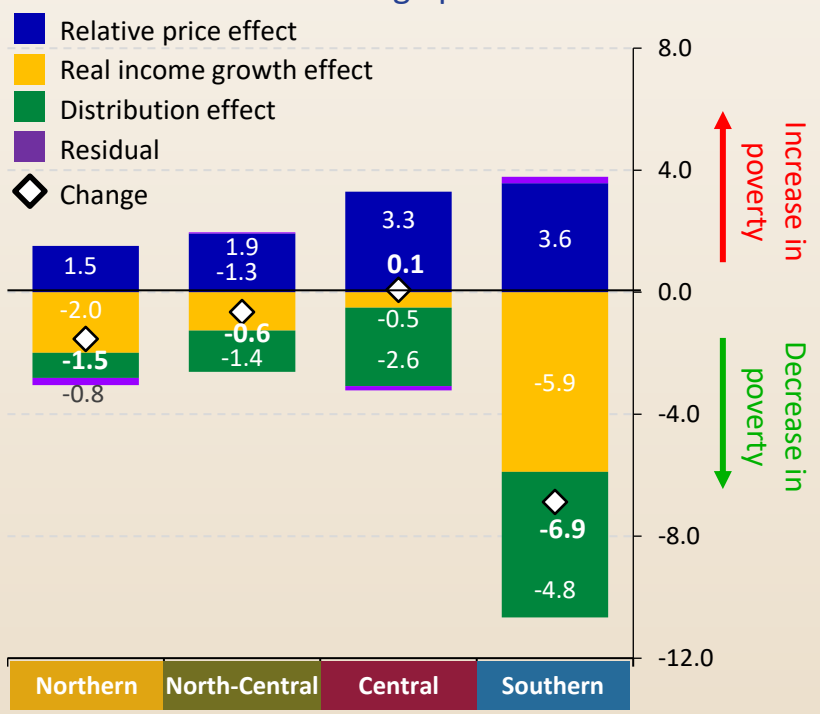
Line of extreme poverty by income (food consumption basket) and CPI

Index 2018=100



Change in the percentage of population with income below the line of extreme poverty by income, 2018-2022

Percentage points



*/ The figures correspond to the percentage change in each poverty line and in the CPI between August 2018 and August 2022.
Source: Prepared by Banco de México with data from CONEVAL and INEGI.

Spatial integration between Mexican and US markets

- This Box assesses whether markets in several cities in Mexico and the United States are spatially integrated.
- The results suggest that there is market integration among the cities of both countries, at least to some extent, in the categories of tradable goods.

Example of cities in the United States and Mexico



Note: The diagram shows an example of cities in the United States and Mexico. A total of 21 cities in the United States and 53 cities in Mexico are used in the Box.
Source: Prepared by Banco de México.

Example of pairwise approach

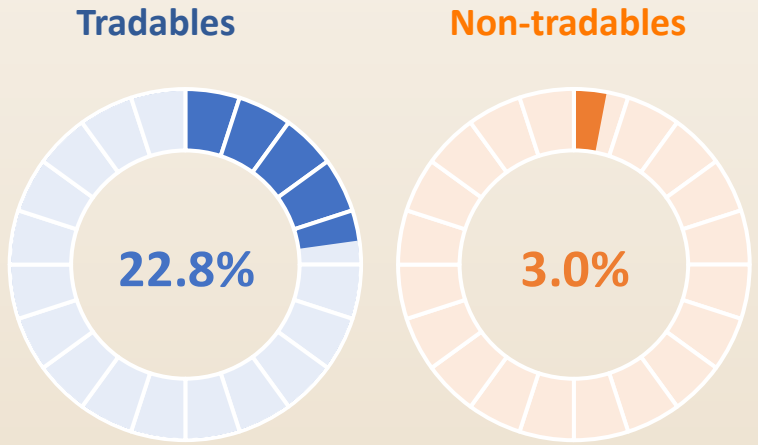


¿Do relative prices in Mexican pesos stabilize over time between city pairs?

Note: With some of the cities in the chart on the left, this diagram shows an example of how pairwise between US and Mexican cities works. For the box, the sum of all combinations considered gives a total sample of 1,113 pairs.
Source: Prepared by Banco de México.

Share of stationary pairs with a city in Mexico and a city in the U.S.

Percent



Note: The percentage of each ring in the charts results from dividing the number of price differentials that stabilize over time by the total number of pairs in each category.
Source: Prepared by Banco de México with results from Pesaran's (2007) pairwise approach.

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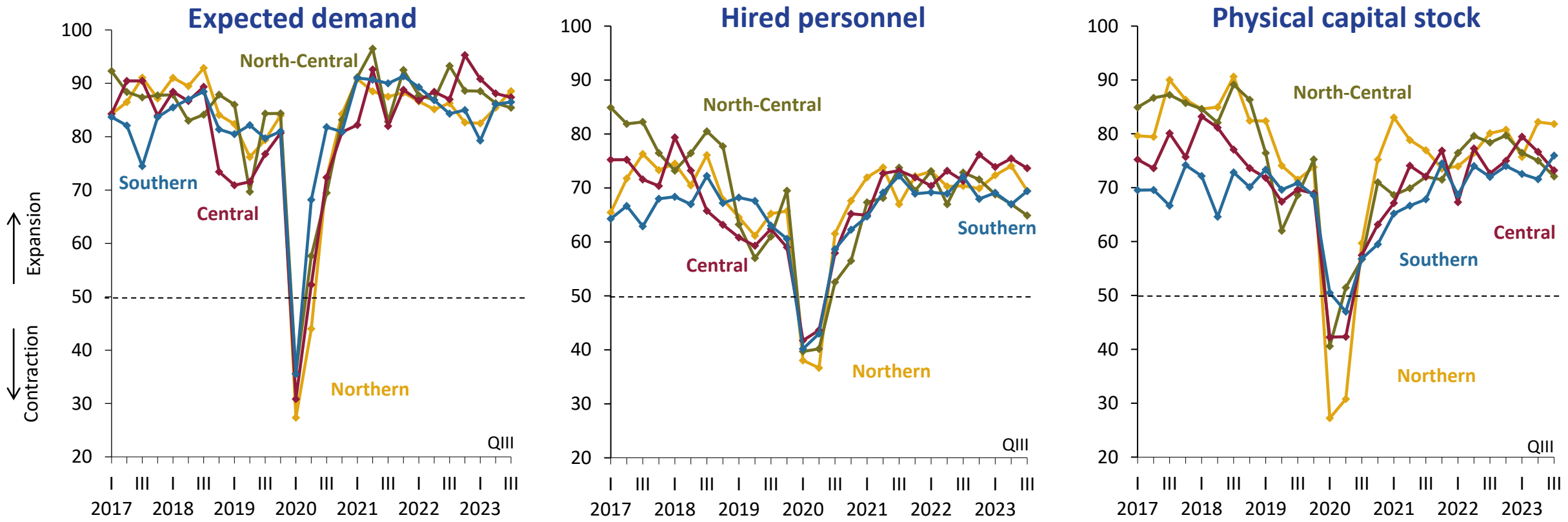
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The diffusion indices of expectations on demand, number of workers hired, and firms' fixed-asset investment for the next 12 months remained in the expansion zone in all regions during Q3-2023.

Business agents' expectations: demand, hired personnel and physical capital stock, next 12 months [1/]

Diffusion indices

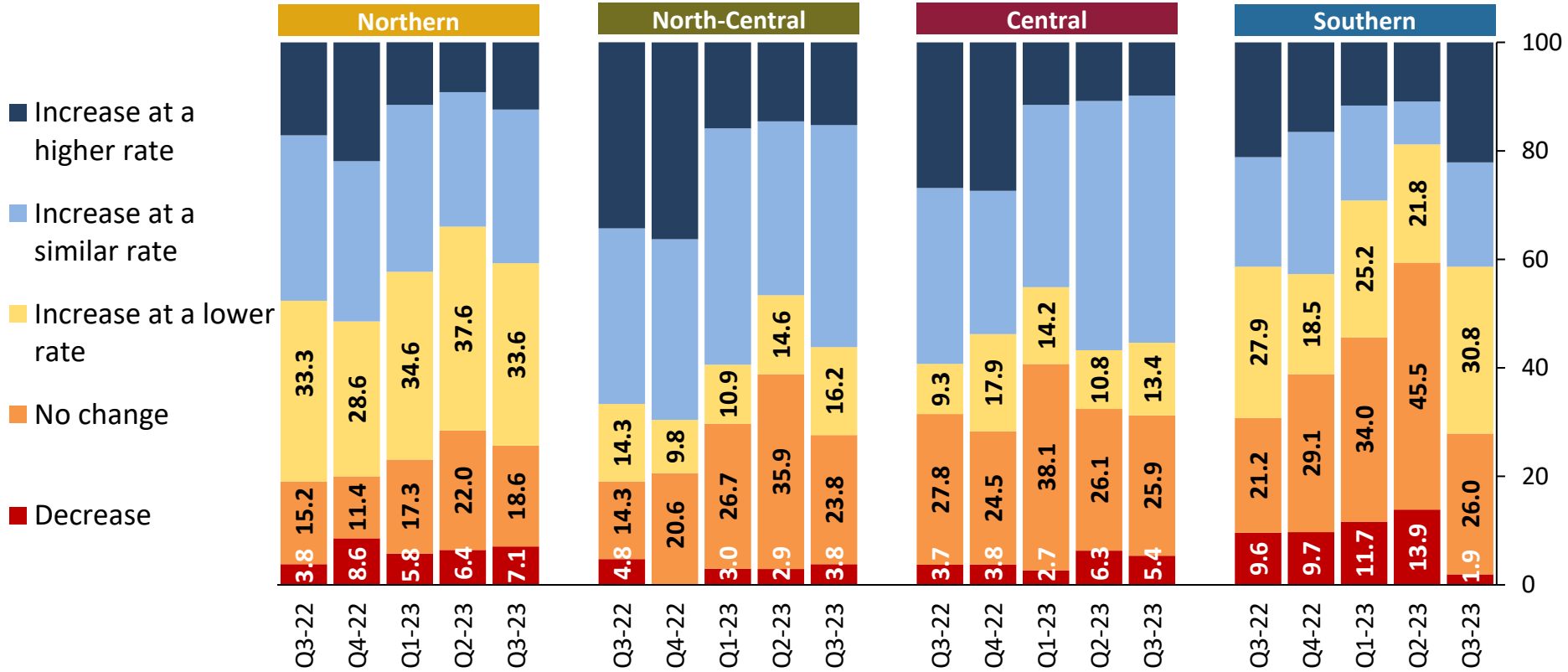


1/ Results obtained from the questions: "With respect to the previous 12 months, how do you expect your sales volume to change over the next 12 months, how do you expect the total number of workers in your company to change over the next 12 months?" and "With respect to the investment in fixed assets 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 third quarter of 2023, they were obtained between September 25 and October 19, 2023.

In all regions, except for the Central one, a lower percentage of business agents anticipate their goods and services' sales prices to increase at a slower rate, remain unchanged, or decrease.

Business agents' expectations: annual variation of sales prices; next 12 months with respect to last 12 months [1/]

Percentage of responses

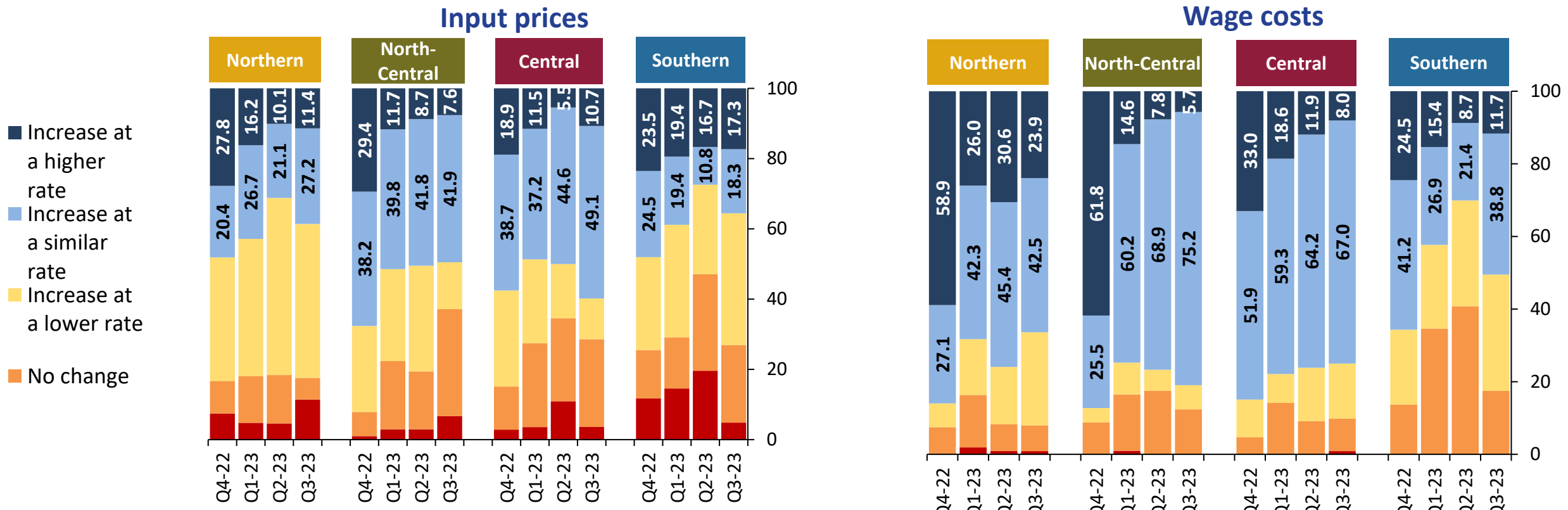


1/ Results obtained from the questions: "With respect to the previous 12 months, how do you anticipate sales prices in your sector to change over the next 12 months?", included in the interviews conducted by Banco de México. Expectations corresponding to each Report were generally collected during the four weeks following the end of the reported quarter. In the case of the third quarter of 2023, they were obtained between September 25 and October 19, 2023.

The share of business agents who anticipate that their input prices will rise at a higher or similar rate increased in all regions except for the North-Central region. For wage-related costs, most business contacts expect them to increase at a higher or similar rate over the next twelve months.

Business agents' expectations: annual variation of input prices and wage costs; next 12 months with respect to last 12 months [1/]

Percentage of responses



1/ 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 third quarter of 2023, they were obtained between September 25 and October 19, 2023.

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

Percentage of responses

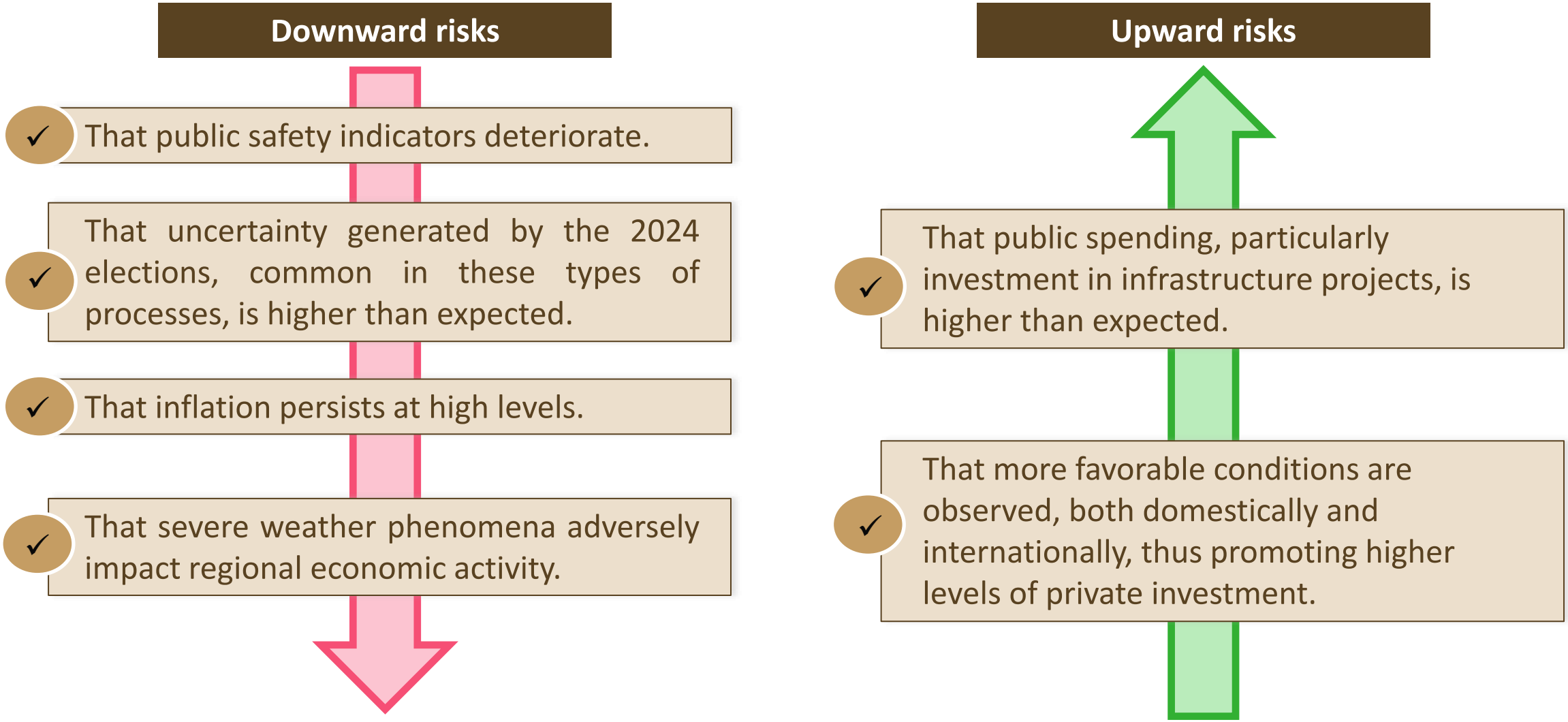
Based on data collected between September 1 and 29, 2023[1/]

Northern		North-Central		Central		Southern	
Factor	Percentage of responses	Factor	Percentage of responses	Factor	Percentage of responses	Factor	Percentage of responses
Inflation	**31.0%**	Inflation	**28.7%**	Governance	**28.1%**	Inflation	**35.0%**
External conditions	**19.8%**	Governance	**26.8%**	Inflation	**26.7%**	Governance	**27.1%**
Governance	**19.3%**	Domestic economic conditions	**17.4%**	Domestic economic conditions	**18.6%**	Domestic economic conditions	**17.2%**

1/ 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 September 2023 were obtained based on information collected between September 1 and 29, 2023.

Source: Banco de México.

Business agents' opinion on risks to regional economic activity (based on data collected between September 25 and October 19, 2023) 1/



1/ 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 September 25 and October 19, 2023.

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Final remarks

- **Looking ahead, regional economies are anticipated to continue expanding, despite facing a complex and uncertain environment that poses significant challenges to their growth.** Among these are:
  - The likelihood of a decline in external demand due to a possible economic slowdown in the United States. This could particularly impact states in the Northern and Central regions that are largely export-oriented, as well as those states that receive significant flows of remittances or tourists from the United States.
  - The occurrence of adverse weather events that may affect the economy of those states that are most vulnerable to such phenomena, as recently evidenced by the impact of Hurricane Otis on Acapulco, Guerrero.

Final remarks

- **In order to address these challenges, it is crucial to generate favorable conditions for investment and strengthen the factors that influence domestic growth.** To achieve this, it is necessary to:
  - **Continue strengthening the rule of law** in order to provide greater certainty to firms, facilitate their operations, and lower their costs.
  - **Advance in the construction of infrastructure for transportation, water and energy** to foster investment, not only in regions that have historically accumulated a greater stock of physical capital, but also in the Southern region.
  - **Continue supporting human capital formation** to satisfy firms' needs and improve workers' income.
  - **Implement climate change mitigation and adaptation policies**, particularly in the most vulnerable zones.
- **These actions would support regions to successfully face current challenges. They would also make it possible to benefit from the opportunities associated with the global reorganization of production processes and address the structural factors that affect regional growth potential, thus boosting economic development and the well-being of the population.**

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BANCO DE MÉXICO®

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December 2023

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