



Regional Economic Report  
July – September 2017



December 15, 2017

# Outline

- I. Regional Economic Report**
- II. Results July – September 2017**
  - A. Economic Activity**
  - B. Inflation**
  - C. Economic Outlook**
- III. Final Remarks**

# Regional Economic Report

- The Regional Economic Report is a quarterly publication on the recent trends in economic activity, inflation and business agents' expectations in the Mexican regions.<sup>1</sup>
- This information is taken into account by Banco de México's Board of Governors when evaluating the economic situation and the forecast for the Mexican economy.
- The economic performance of the regions in Q3 2017 and the prospects for regional economic activity and inflation over the following 12 months are analyzed herein.

<sup>1</sup> For the purposes of this Report, the states of Mexico are grouped into the following four regions. Northern: Baja California, Chihuahua, Coahuila, Nuevo León, Sonora and Tamaulipas. North-Central: Aguascalientes, Baja California Sur, Colima, Durango, Jalisco, Michoacán, Nayarit, San Luis Potosí, Sinaloa and Zacatecas. Central: Ciudad de México, Estado de México, Guanajuato, Hidalgo, Morelos, Puebla, Querétaro and Tlaxcala. Southern: Campeche, Chiapas, Guerrero, Oaxaca, Quintana Roo, Tabasco, Veracruz and Yucatán.

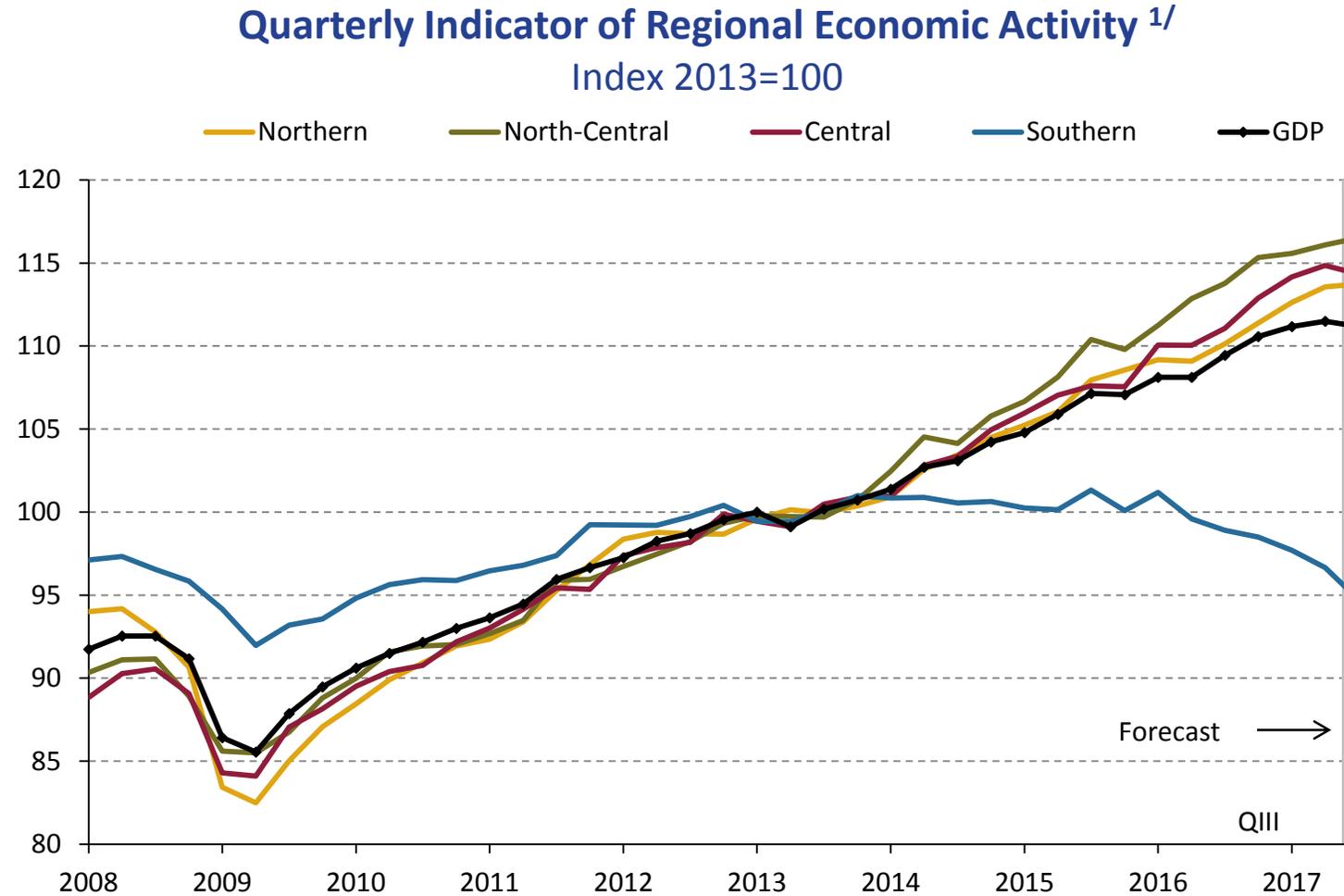
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# Economic Activity

- During Q3 2017, Mexican economy contracted. This performance reflects the fact that the slowdown that had been observed in a number of components of aggregate demand was complemented by adverse, although transitory, effects generated by the earthquakes and by the plunge in crude oil production in September.
  - ✓ Indeed, over the reported period, the weak performance of industrial activity that had been registered since mid-2014, became more pronounced, while the tertiary activities declined.
    - Within the industrial production, mining accentuated its unfavorable trend in Q3 2017, while the construction sector persisted weak. In contrast, the manufacturing activity maintained a positive trend.
- Consistent with the above, it is estimated that while in the Northern and North-Central regions the growth rate of economic activity somewhat decelerated, the regions affected by the referred temporary shocks contracted.

As the transitory shocks were concentrated in certain regions of Mexico, the performance of the regional economies turned out heterogeneous in the reported period. The Central and Southern regions contracted, while those regions that had not been directly affected by the earthquakes somewhat decelerated, while maintaining a positive trend in their activity levels.



<sup>1/</sup> The value of Gross Domestic Product (GDP) for Q3 2017 corresponds to the observed data.  
 Source: Estimated by Banco de México with seasonally adjusted data from INEGI.

## Economic Activity

- In the Northern region, growth is attributed to the good performance of the manufacturing sector and mining, which was, in part, offset by the negative evolution in construction and tourism, while trade somewhat stagnated.
- In the North-Central region, economic activity kept expanding in most sectors, except for tourism and agricultural production.
- Finally, in the Central and Southern regions, the tertiary activities were particularly affected by the earthquakes in September, while in the latter region crude oil mining accentuated its fall, as a consequence of a transitory decline in crude oil platform.

## Box:

### Impacts of Earthquakes in September on Regional Economic Activity

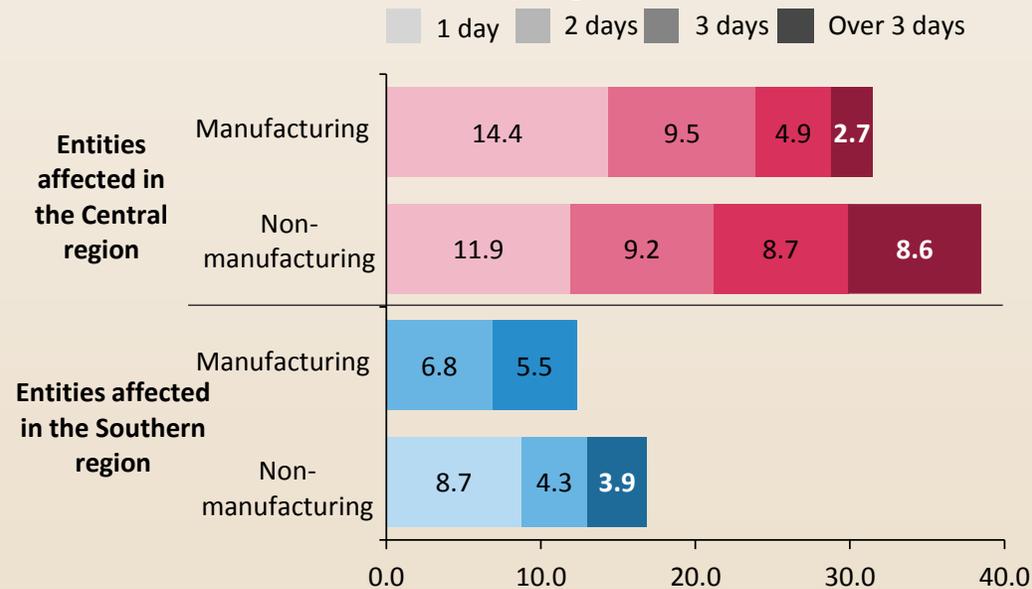
- The earthquakes that occurred on September 7 and 19 negatively affected Mexican economic activity in Q3 2017.
  - ✓ In particular, the impacts were perceived in the Southern and Central regions, while in the rest of the country no significant disruptions seemed to have presented.
- In this context, the goals of these Boxes are: i) identify the main impacts and difficulties faced by businesses as a result of the referred seismic shifts; and ii) estimate the impact of these events on the regional productive activity in Mexico in Q3 2017.

## Box:

### Impacts of Earthquakes in September on Regional Economic Activity

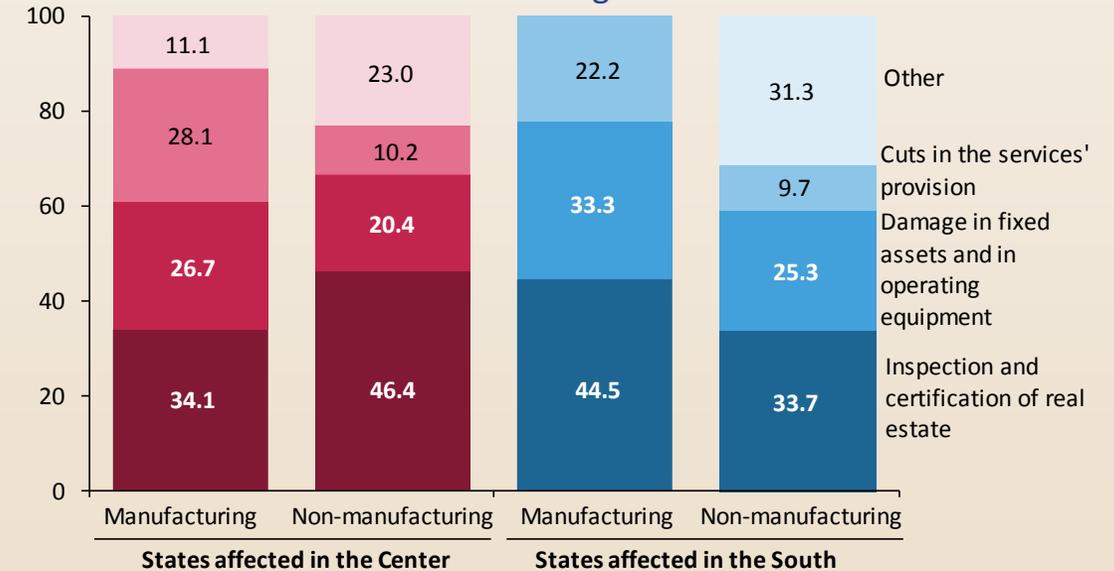
- In October 2017, Banco de México conducted a special survey among business agents in four affected entities with respect to the telluric movements in September, both in the manufacturing and non-manufacturing sectors. In particular, business contacts were asked if there was a partial or total shutdown in their activities and the number of the days it lasted.

Suspension of Activities in Firms from Affected Entities, by Duration  
Percentage



Source: Prepared by Banco de México with the results of the Special Survey among Businesses in the Entities Affected by September Earthquakes in the Central and Southern Regions.

Main Reasons for Suspension of Activities in Firms from Affected Entities  
Percentage



Source: Prepared by Banco de México with the results of the Special Survey among Businesses in the Entities Affected by September Earthquakes in the Central and Southern Regions.

## Box:

### Impacts of Earthquakes in September on Regional Economic Activity

- Based on these results, although most businesses of both manufacturing and non-manufacturing sectors specified that the damage was mild or absent, it stands out that with respect to the manufacturing sector the Central and Southern regions were affected in a higher degree.

**Main Damages Reported by Firms in Affected Entities**  
Percentage

Affected states, by region	Degree of impact	Manufacturing	Non-manufacturing	Total
<b>Real estate</b>				
Central	Mild or absent	98.6	93.6	<b>95.2</b>
	Moderate or severe	1.4	<b>6.4</b>	<b>4.8</b>
Southern	Mild or absent	91.8	90.0	<b>90.3</b>
	Moderate or severe	<b>8.2</b>	<b>10.0</b>	<b>9.7</b>
<b>Infrastructure for inputs or finished goods' transport</b>				
Central	Nulo o leve	97.6	97.7	<b>97.6</b>
	Moderado o severo	2.4	2.3	<b>2.4</b>
Southern	Nulo o leve	93.2	92.5	<b>92.6</b>
	Moderado o severo	<b>6.8</b>	<b>7.5</b>	<b>7.4</b>

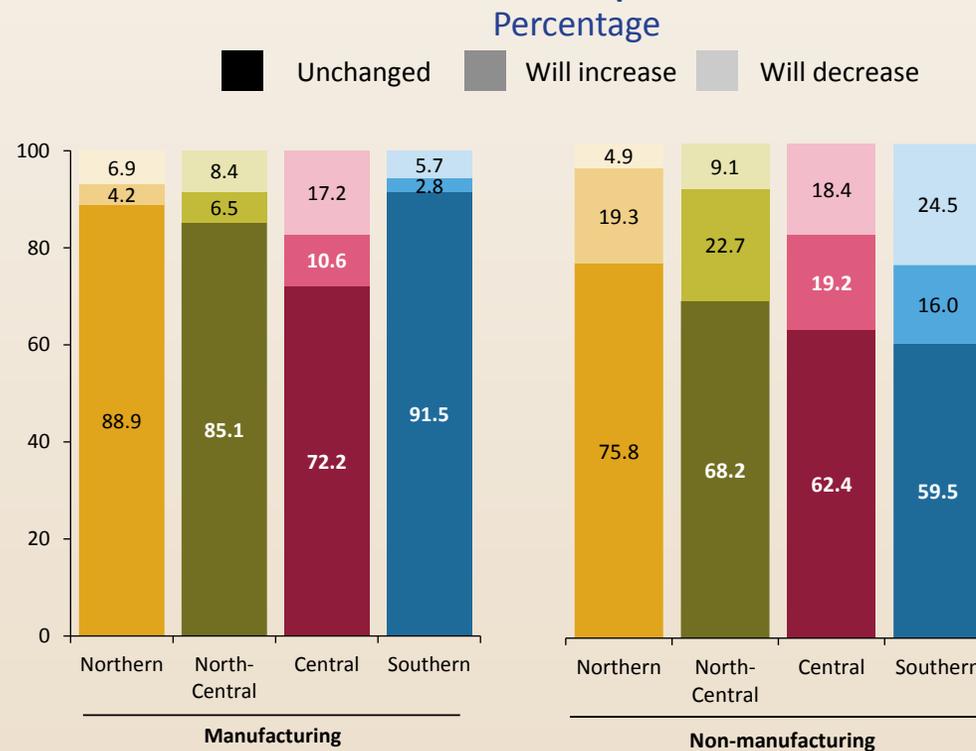
Source: Prepared by Banco de México with the results of the Special Survey among Businesses in the Entities Affected by September Earthquakes in the Central and Southern Regions.

## Box:

### Impacts of Earthquakes in September on Regional Economic Activity

- Below, we present business agents' expectations regarding the change in demand for own goods and services for the last quarter of the year, as a consequence of the September earthquakes.

Business Contacts' Expectations for Q4 2017 regarding the Change in Demand after Earthquakes



Source: Prepared by Banco de México with the results of the Special Survey among Businesses in the Entities Affected by September Earthquakes in the Central and Southern Regions.

## Box:

### Estimated Impacts of Earthquakes in September on Regional Economic Activity

- The goal of this Box is to estimate the impact of the September earthquakes on the regional productive activity in Mexico in Q3 2017.
- To do so, extensive information was gathered on the days after such events, for each sector and each entity of Mexico. The sources of information were: official press releases on the impacts presented by public and private institutions, as well as media reports and the results of the survey by INEGI on the impacts of the earthquakes.
- However, not all activities of a sector in an entity were completely suspended, so it was necessary to estimate the percentage of the sector that suspended its activities on each day following the earthquake.
- Based on this data, the loss due to the observed natural events was calculated as a fraction of GDP for each sector and entity.
- Finally, a participation matrix was prepared for each entity and productive sector of the Mexican GDP. In this way, a fraction of the lost GDP was estimated at both the national and regional level, as a weighted sum of the impact in each entity and sector.

## Box:

### Estimated Impacts of Earthquakes in September on Regional Economic Activity

#### Impact of Earthquakes on the Quarterly Growth Rate of GDP Q3 2017

Seasonally adjusted data, percentage points

Region	Manufacturing	Non-manufacturing	Total
Central	-0.12	-0.26	-0.24
Southern	-0.08	-0.44	-0.41
National	-0.05	-0.19	-0.17

Source: Prepared by Banco de México.

- At the regional level, it stands out that the magnitude of the impact generated by the earthquakes on the quarterly growth in the reference period was relatively greater in the Southern region as compared to the Central one.
  - ✓ No significant effects were found for the rest of regions.
- It can be observed that the impact on growth was greater in non-manufacturing activities with respect to the manufacturing ones, both in the Southern and Central regions.

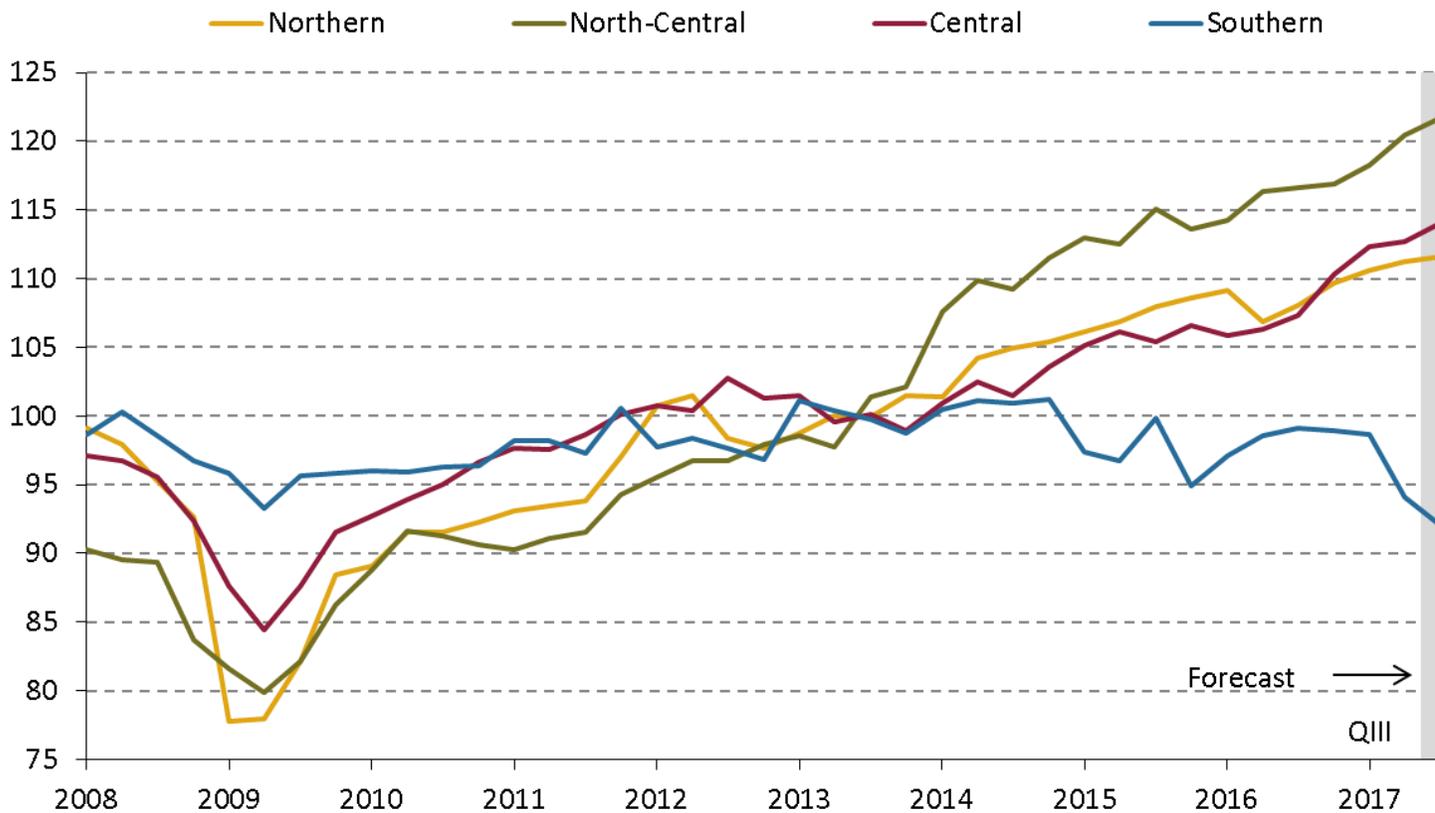
## Box:

### Estimated Impacts of Earthquakes in September on Regional Economic Activity

- The earthquakes occurred in September negatively affected regional economic activity in Q3 2017. In line with the estimated impact of such natural events, this mainly derived from disruptions in the tertiary activities in the Central and Southern regions of Mexico.
  - ✓ Seismic movements principally affected eight Mexican states, which caused damages in real estate and transport infrastructure, interrupted operational activities of businesses in the manufacturing, and especially non-manufacturing sectors, and slightly affected supply chains.
- Despite that, Mexican productive capacity does not seem to have been significantly compromised, reason why these impacts are estimated to have been transitory and for Q4 2017 the activity in the regions affected by such events will normalize.

During Q3 2017, manufacturing production at the national level maintained a positive trend. In the Northern and Central regions, manufacturing activity continued expanding, thus keeping an upward trajectory. In contrast, in the South production in this sector kept contracting.

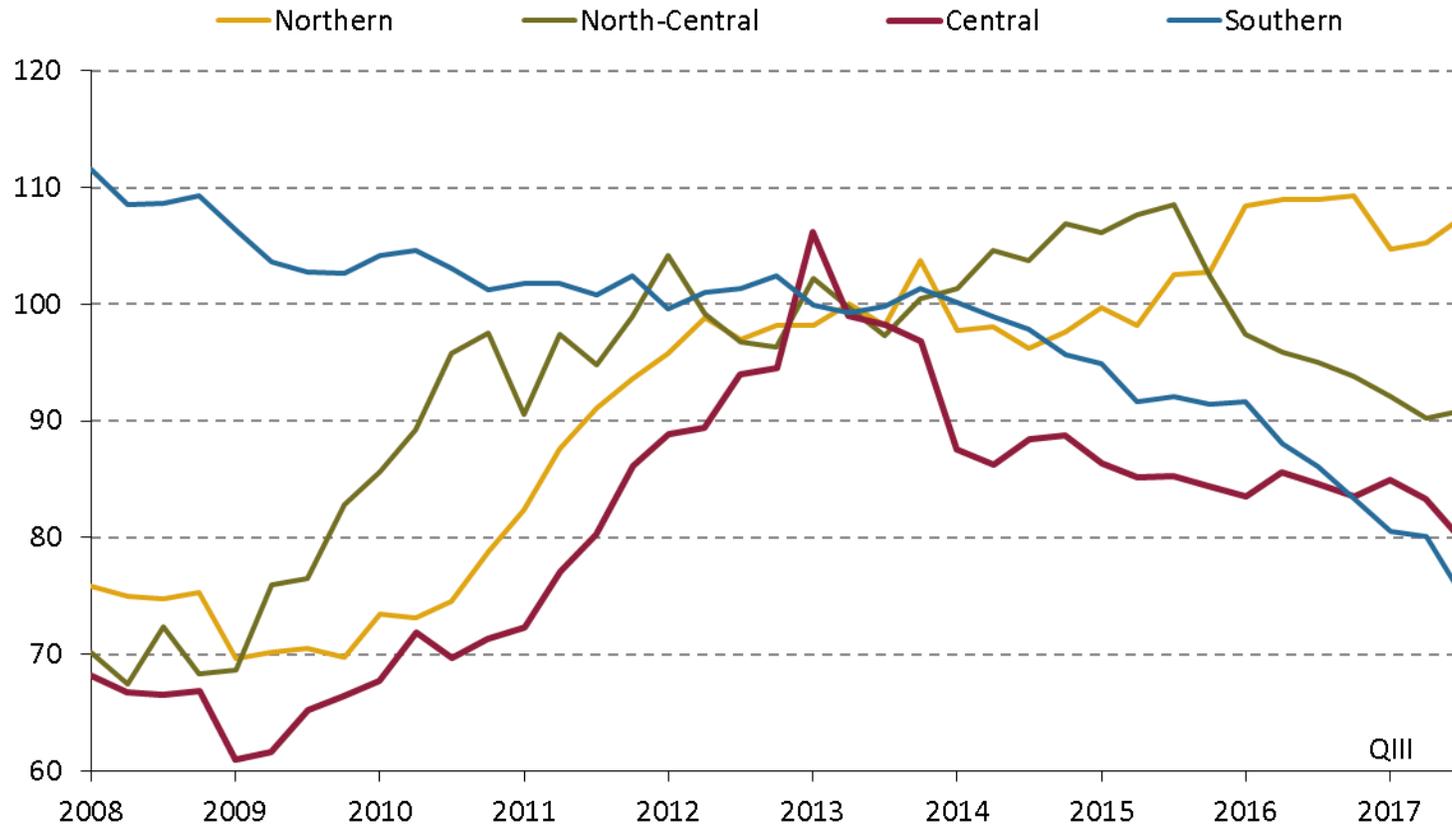
### Regional Manufacturing Indicator Index 2013=100, quarterly average



Source: Estimated by Banco de México with seasonally adjusted data from INEGI.

The national mining activity maintained a negative trajectory during Q3 2017, which aggravated in September due to the temporary decline in crude oil production platform in the said month. Thus, in the Central and Southern regions mining kept contracting. In contrast, in the Northern region this sector continued expanding, while in the North-Central one there was an incipient rebound.

### Regional Indicator of Mining Activity <sup>1/</sup> Index 2013=100, quarterly average



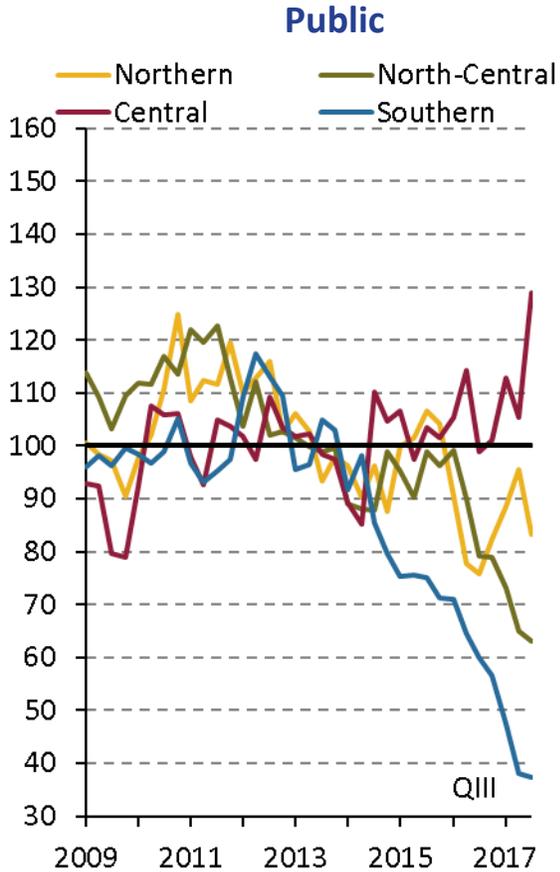
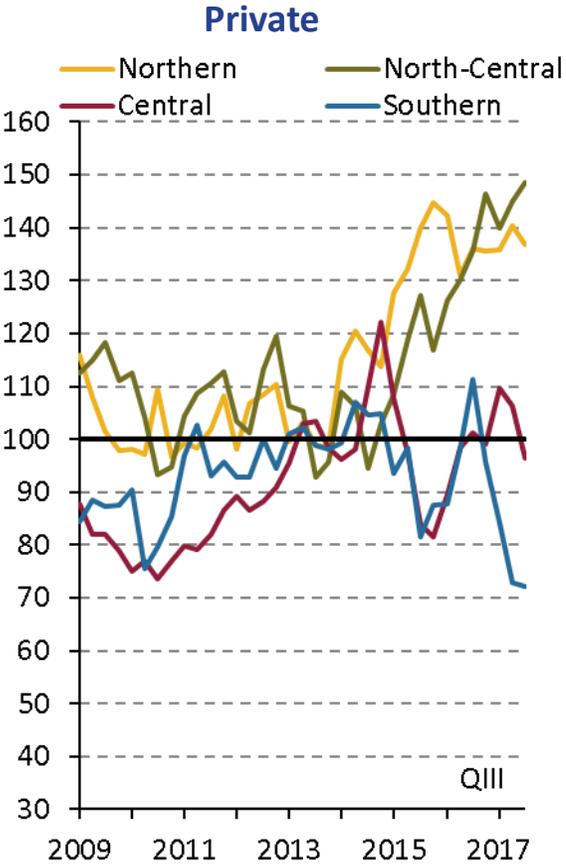
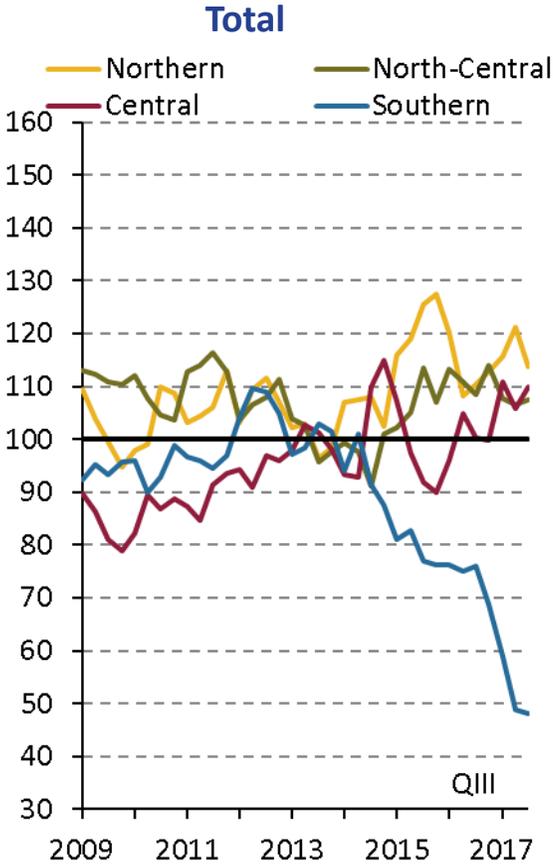
1/ Values in Q3 2017 are preliminary.

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

In Q3 2017, the construction industry remained weak, even though the performance of the sector was far from homogeneous among the different regions of Mexico. Indeed, the activity contracted in the North and maintained a downward trajectory in the South, due to the negative evolution of both the public and private components. In contrast, this industry somewhat reactivated in the Central regions, as a reflection of the favorable performance of private construction in the North-Central region and the construction works hired by the public sector in the Center.

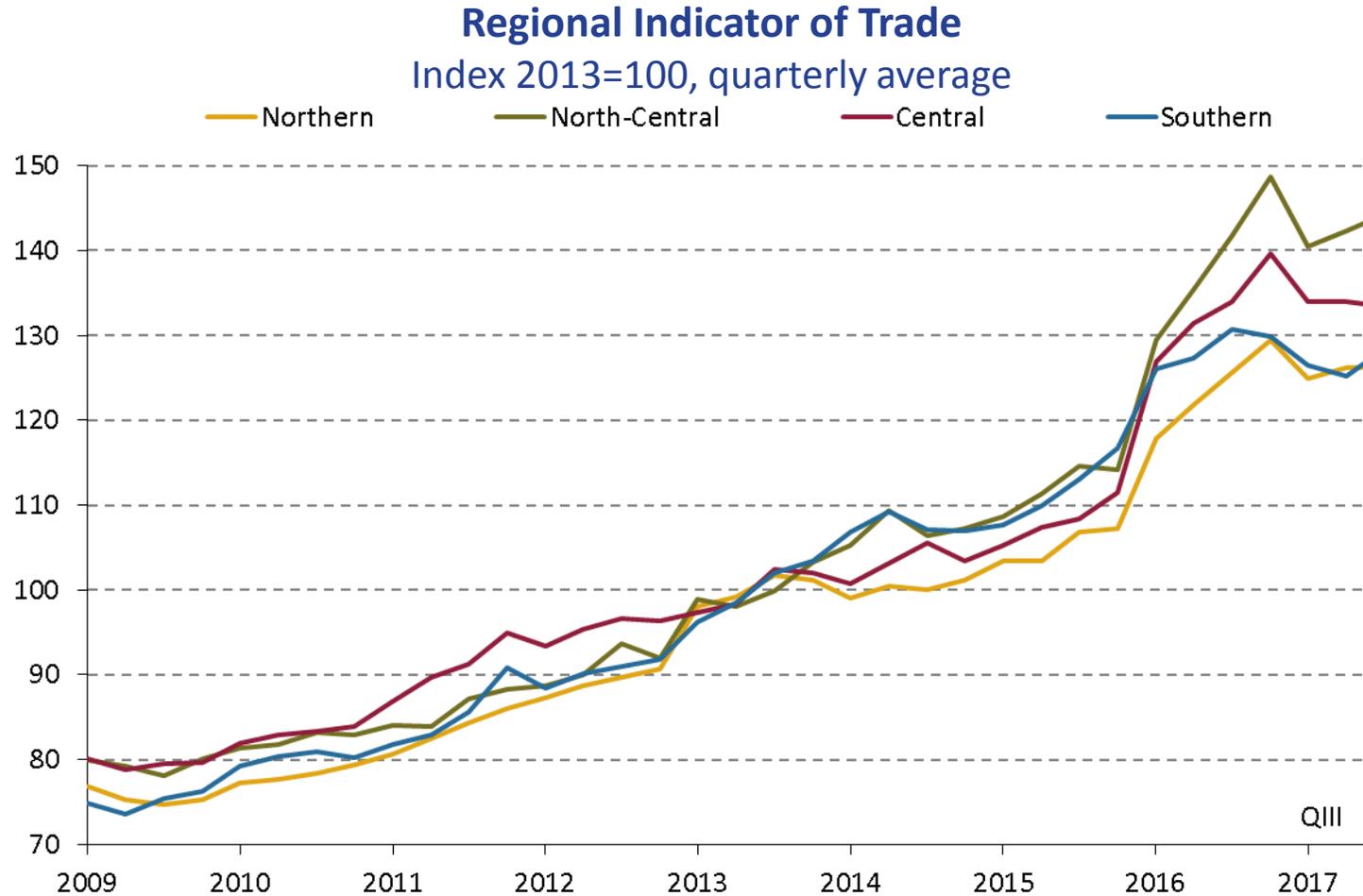
### Real Value of Production in the Construction Industry by Region

Index 2013=100, quarterly average



Source: Estimated by Banco de México with seasonally adjusted data from INEGI.

During Q3 2017, trade, measured with the index of revenues from the supply of goods and services by retail businesses, remained practically stagnant in the North, and somewhat contracted in the Center. In contrast, the sector maintained a positive trajectory in the North-Central region, and incipiently rebounded in the South, after declines observed in the latter region over the previous quarters.

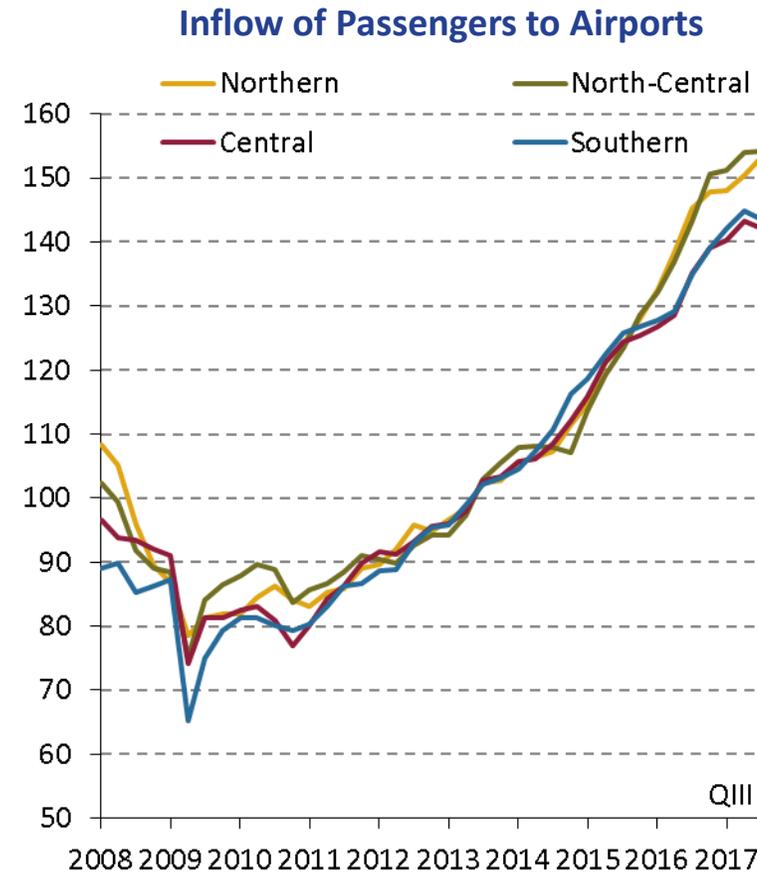
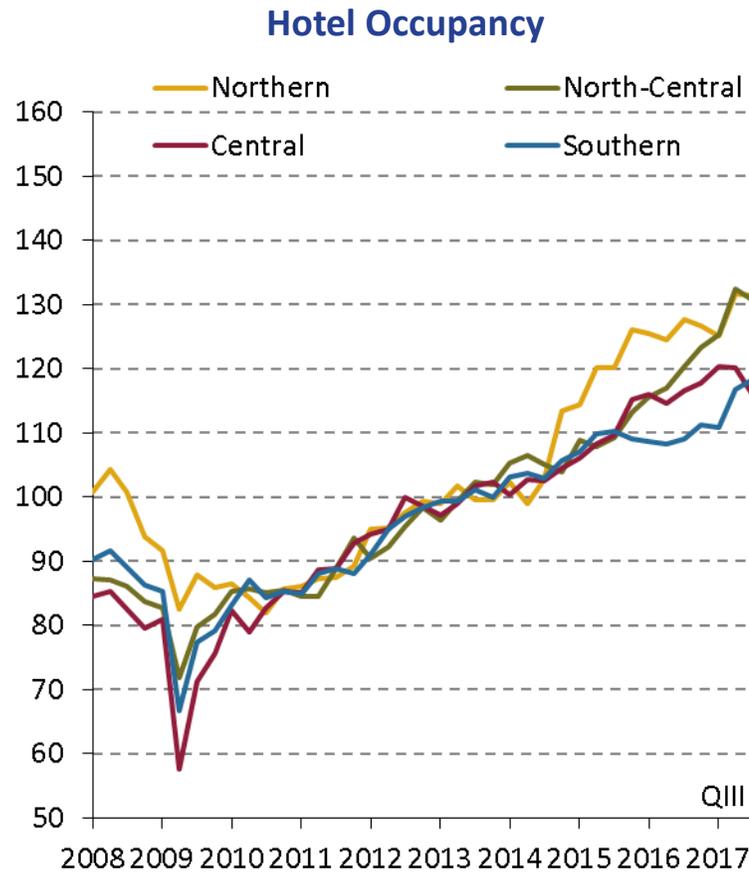


Source: Estimated by Banco de México with seasonally adjusted data from INEGI.

Tourism, measured with hosting services and the inflow of passengers to airports, seems to have somewhat interrupted the positive trend it had been exhibiting. In particular, hotel occupancy declined in the Northern and North-Central regions, kept contracting in the Central one and to a certain degree decelerated in the South. As regards the inflow of passengers, it stopped growing in the Central and Southern regions, slightly stagnated in the North-Central one, and kept expanding in the North.

### Regional Indicators of Activity in Tourism

Index 2013=100, quarterly average

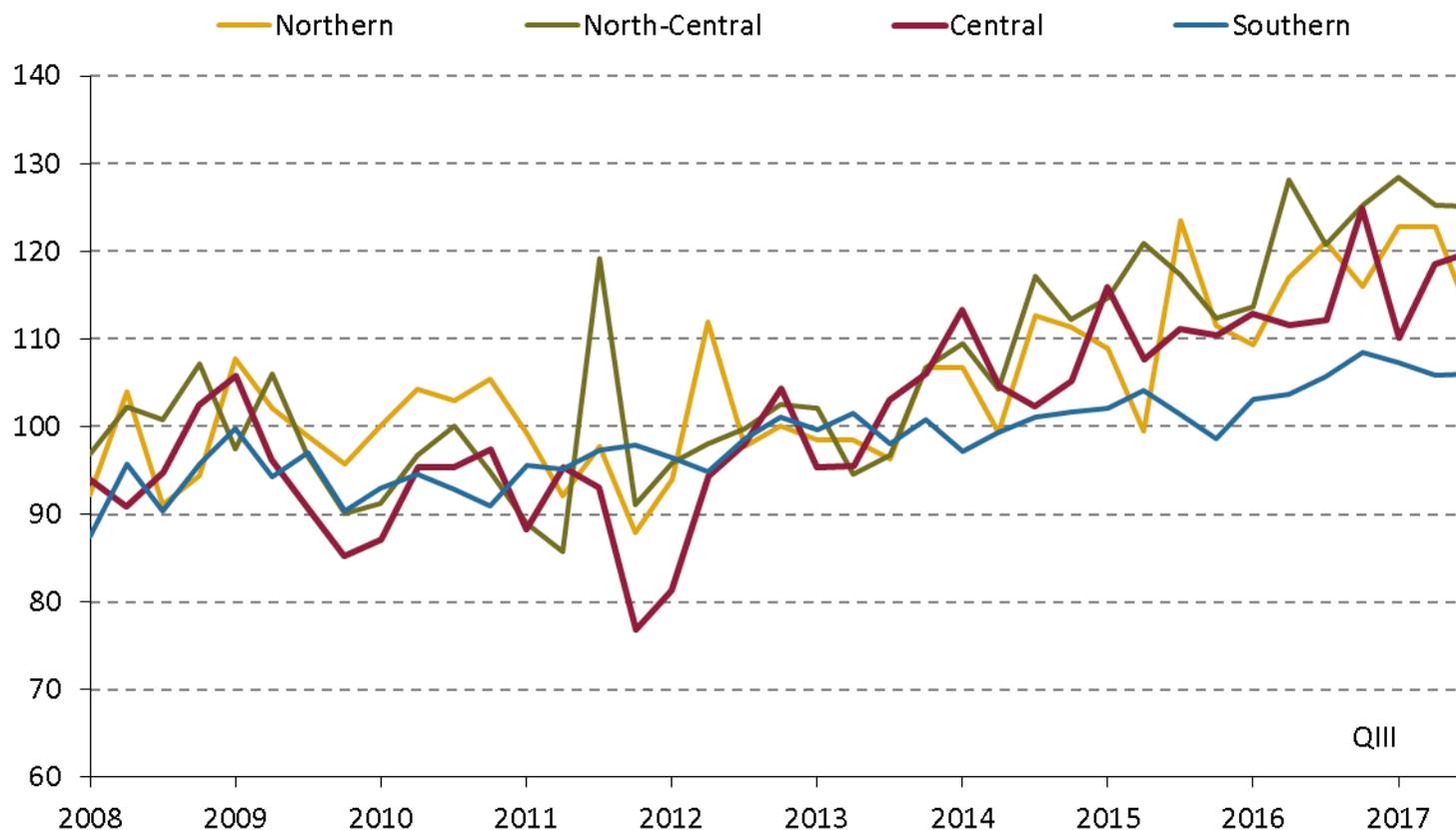


Source: Estimated and seasonally adjusted by Banco de México based on data from the Mexican Secretariat of Tourism and from Airport and Auxiliary Services (ASA).

In Q3 2017, agriculture and livestock production contracted, despite its heterogeneous performance at the regional level. In particular, in the North this sector's production continued declining, while in the North-Central and the Southern ones it persisted at levels similar to those observed in Q2 2017. In contrast, in the Central region the level of agricultural activity kept increasing during the reported quarter.

### Index of Regional Agriculture and Livestock Production

Index 2013=100, quarterly average

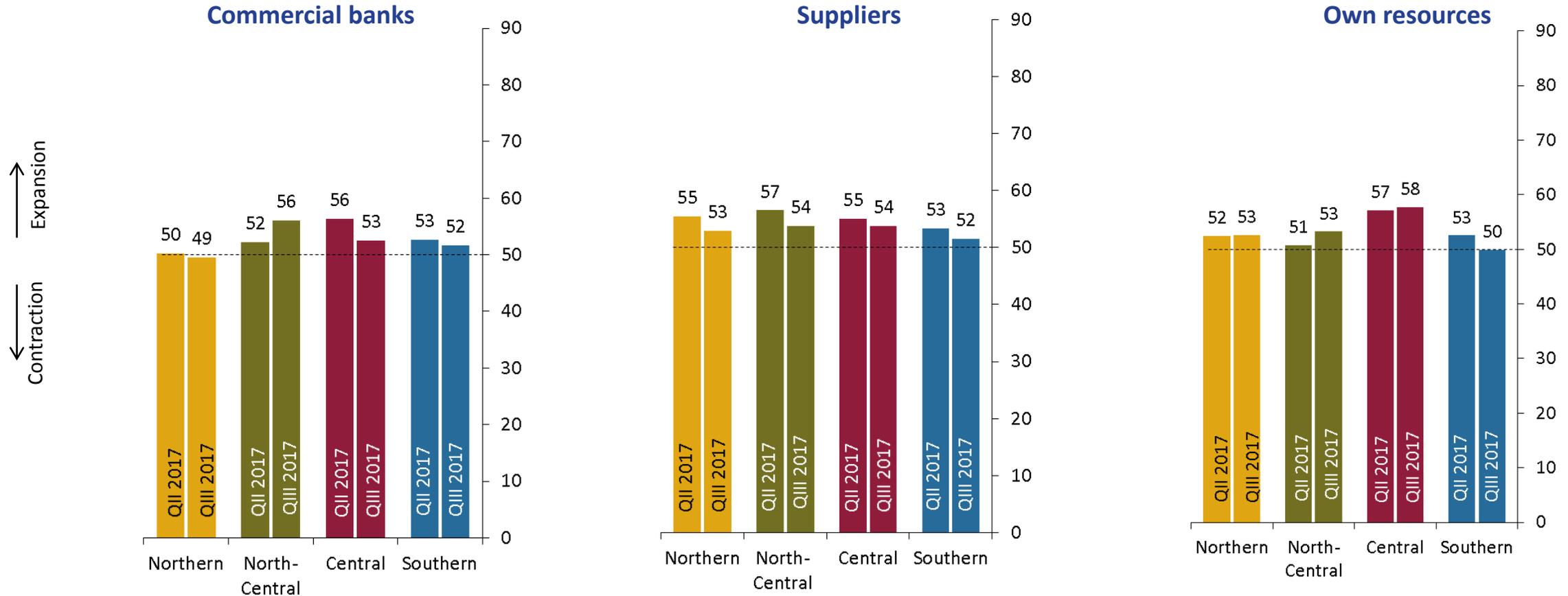


Source: Estimated and seasonally adjusted by Banco de México with data from SAGARPA. It should be noted that, unlike the GDP estimate, this indicator excludes information relative to the value generated by land cultivation and approximates a measurement of the gross production value, rather than that of value generated in the sector.

The sign of intensity in the use of bank credit and financing by suppliers weakened across all regions, except for the North-Central one in the former case, although in both cases it generally remained above its 50-point-threshold. In contrast, the signal of financing with own resources strengthened, at the margin, across all regions, with the exception of the Southern region.

## Change in the Use of the Main Sources of Financing

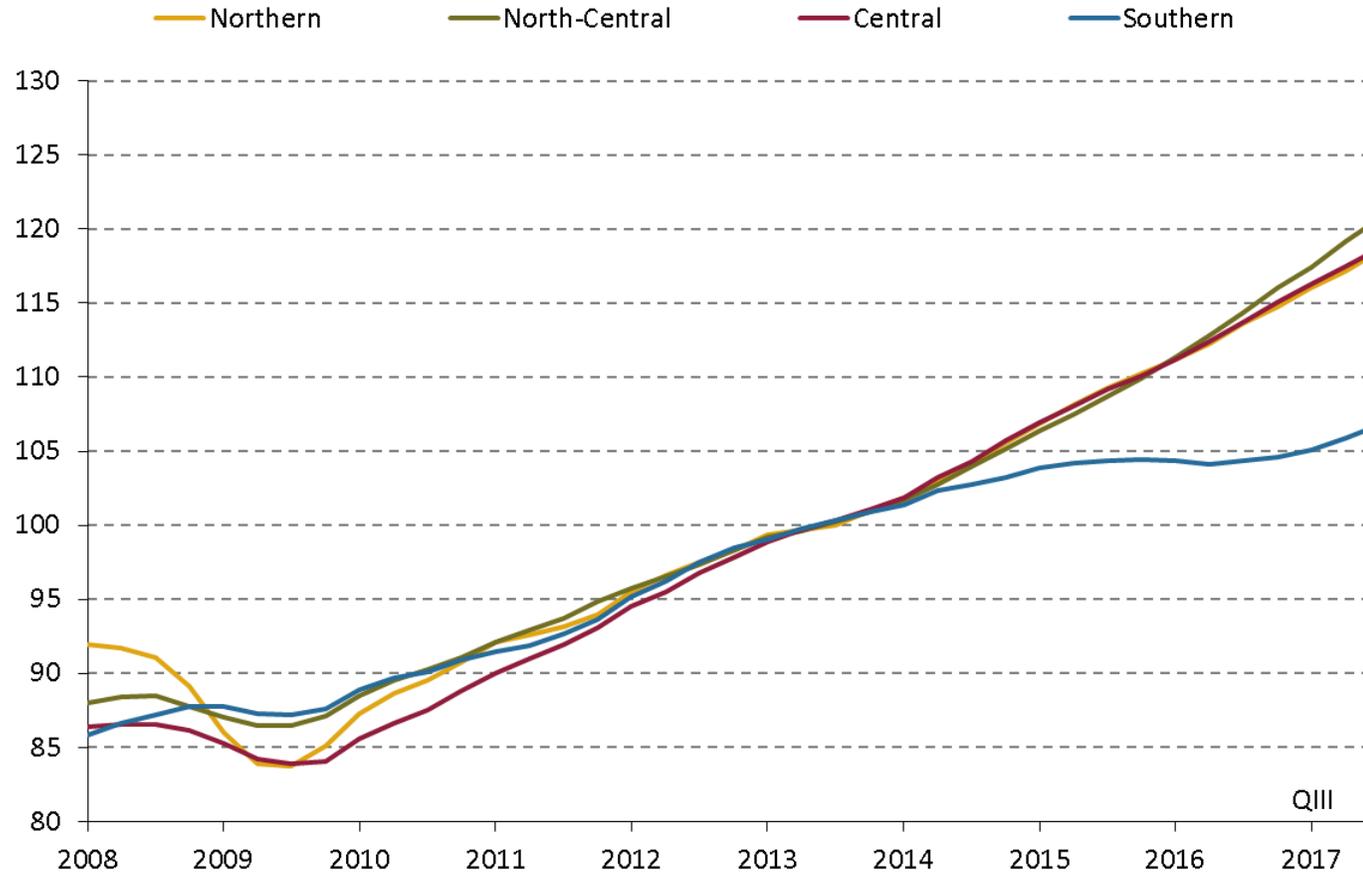
Diffusion indices



Source: Banco de México.

During Q3 2017, the number of IMSS-insured jobs continued increasing in all regions across the country.

### Number of IMSS-insured Jobs <sup>1/</sup> Index 2013=100, quarterly average



1/ Permanent and temporary jobs in urban areas.

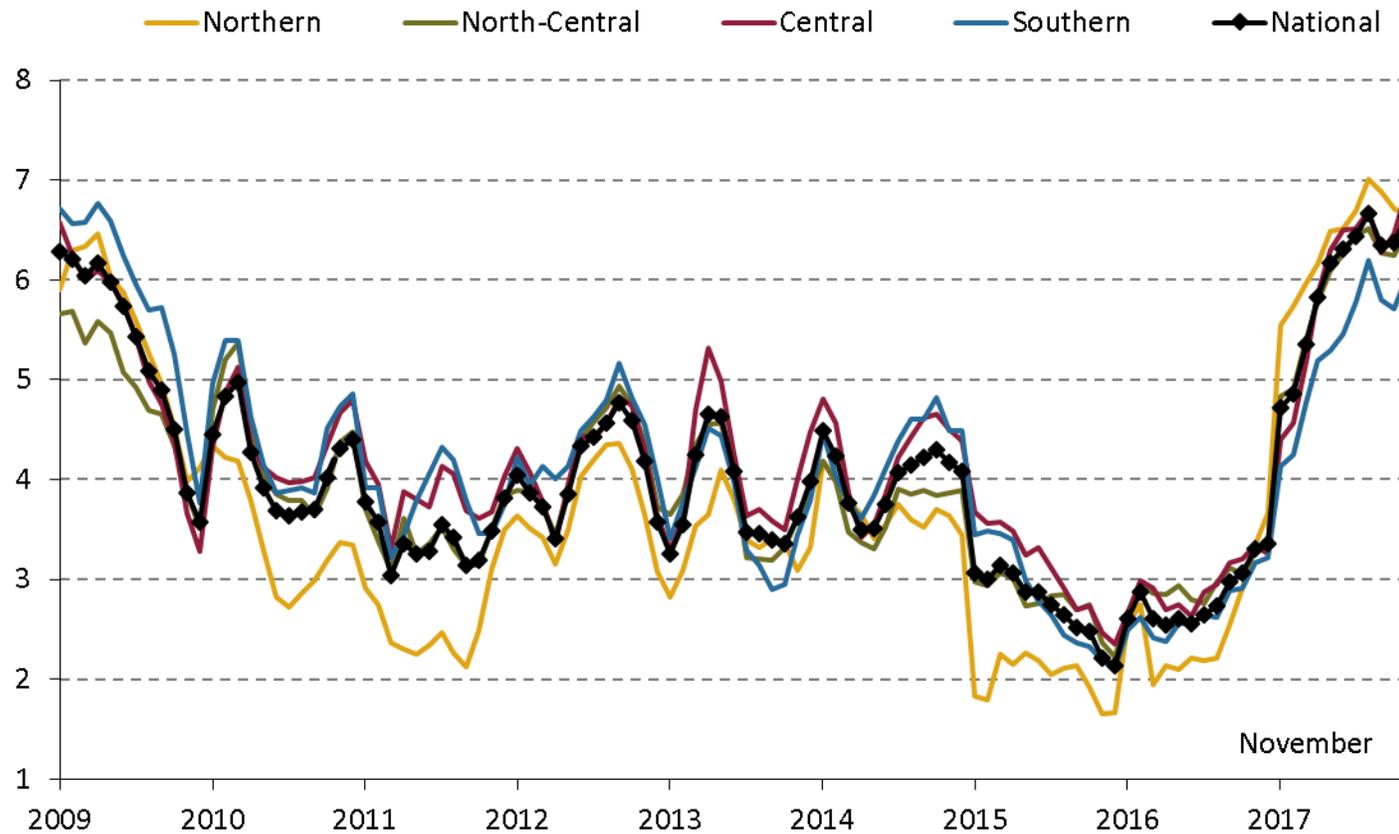
Source: Estimated and seasonally adjusted by Banco de México with data from IMSS.

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Annual headline inflation attained 6.66 percent in August 2017, and lowered over the following two months. However, consequent on new shocks, in November annual headline inflation increased with respect to September from 6.35 to 6.63 percent. It is noteworthy that the evolution of inflation across all regions has generally followed a similar trajectory.

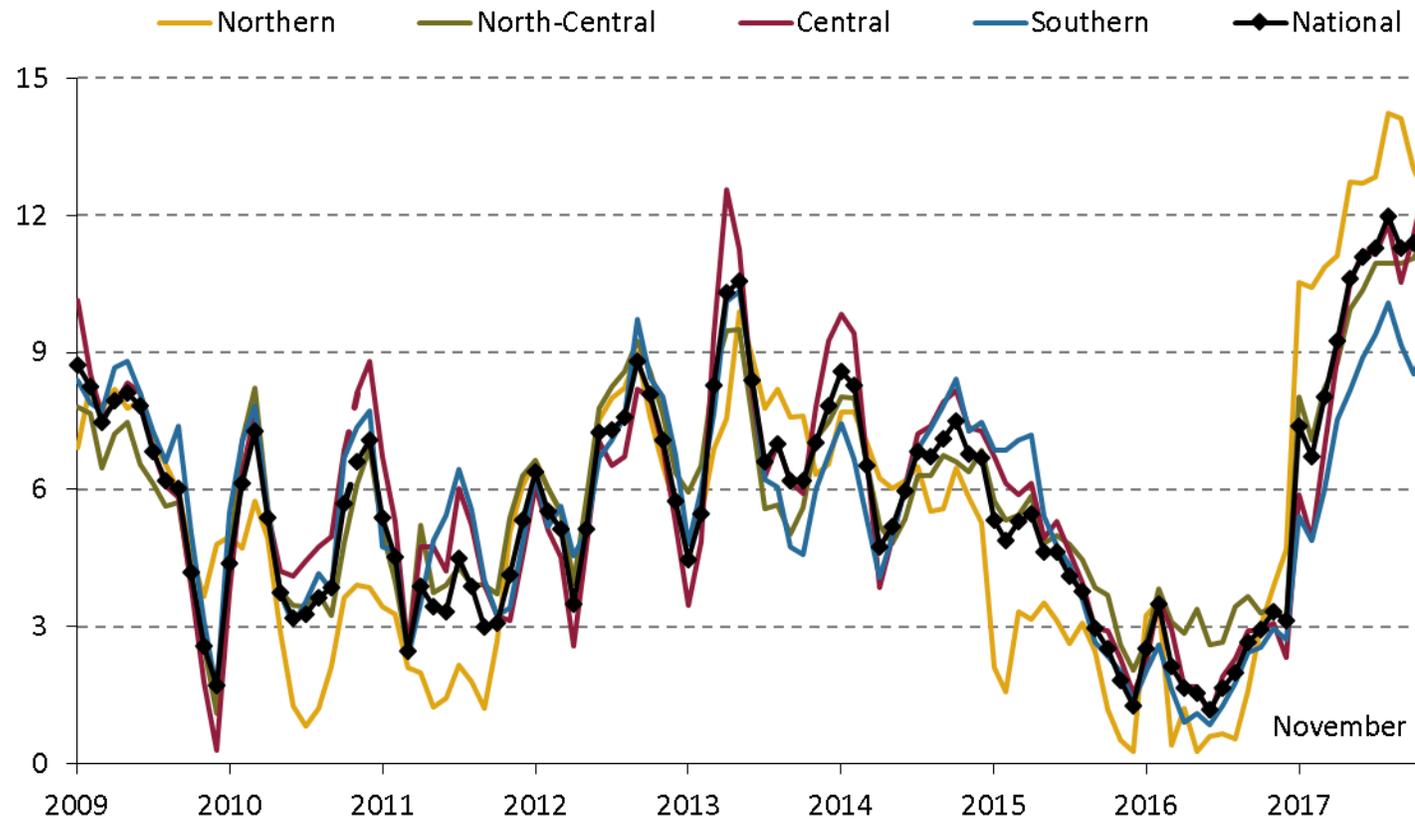
### Annual Headline Inflation Data in percent



Source: Prepared by Banco de México with data from INEGI and own data.

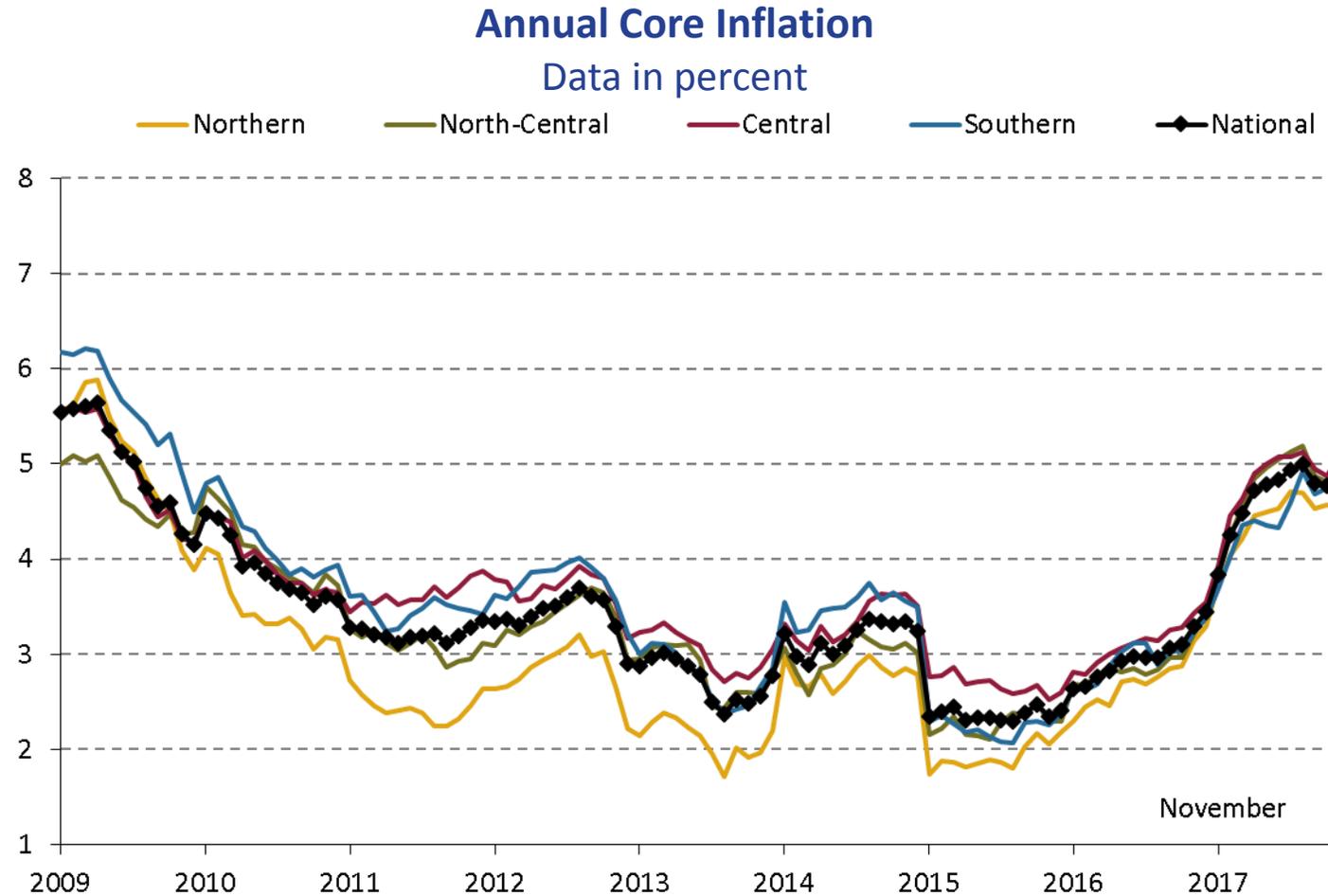
The annual change of the non-core subindex increased in November, mainly in response to higher energy prices, especially LP gas, as well as higher prices of certain fruit and vegetables. It should be noted that this indicator increased in November in all regional economies, with the exception of the Northern region.

### Annual Non-core Inflation Data in percent



Source: Estimated by Banco de México with data from INEGI and own data.

Annual core inflation went up in the period from September to November, as a result of higher prices of food merchandise and a recovery in the services' prices. In particular, this indicator rebounded relative to September, which was perceived in most regions considered for this Report, although in the Northern one there was a lateral movement at the margin.



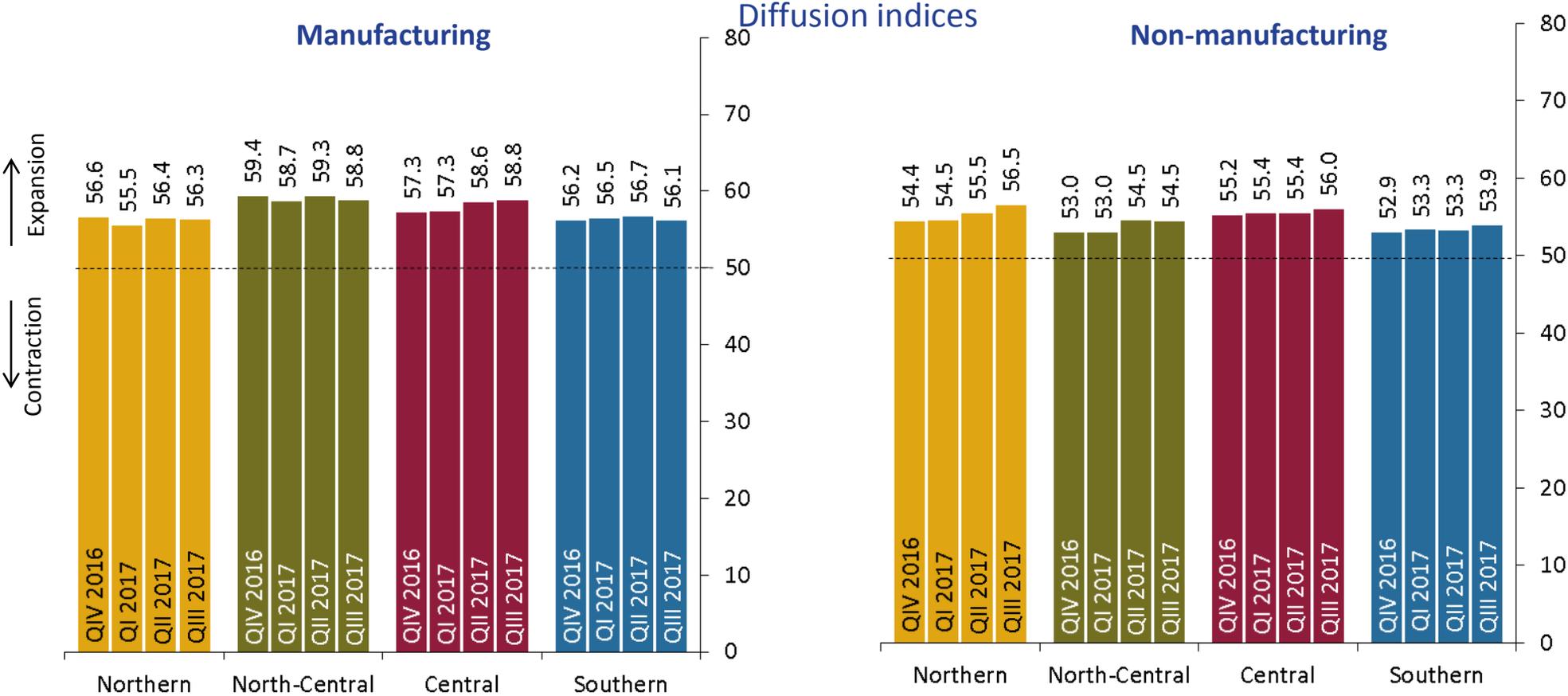
Source: Prepared by Banco de México with data from INEGI and own data.

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Regional indices of manufacturing and non-manufacturing orders indicate that both manufacturing and non-manufacturing activity will continue growing during the following three months in each region of Mexico. It should be noted, however, that in the manufacturing sector the signal of growth weakened marginally in all regions, except for the Central one. Meanwhile, in the non-manufacturing sector this signal strengthened slightly in the Northern, Central and Southern regions, while in the North-Central one it remained stable.

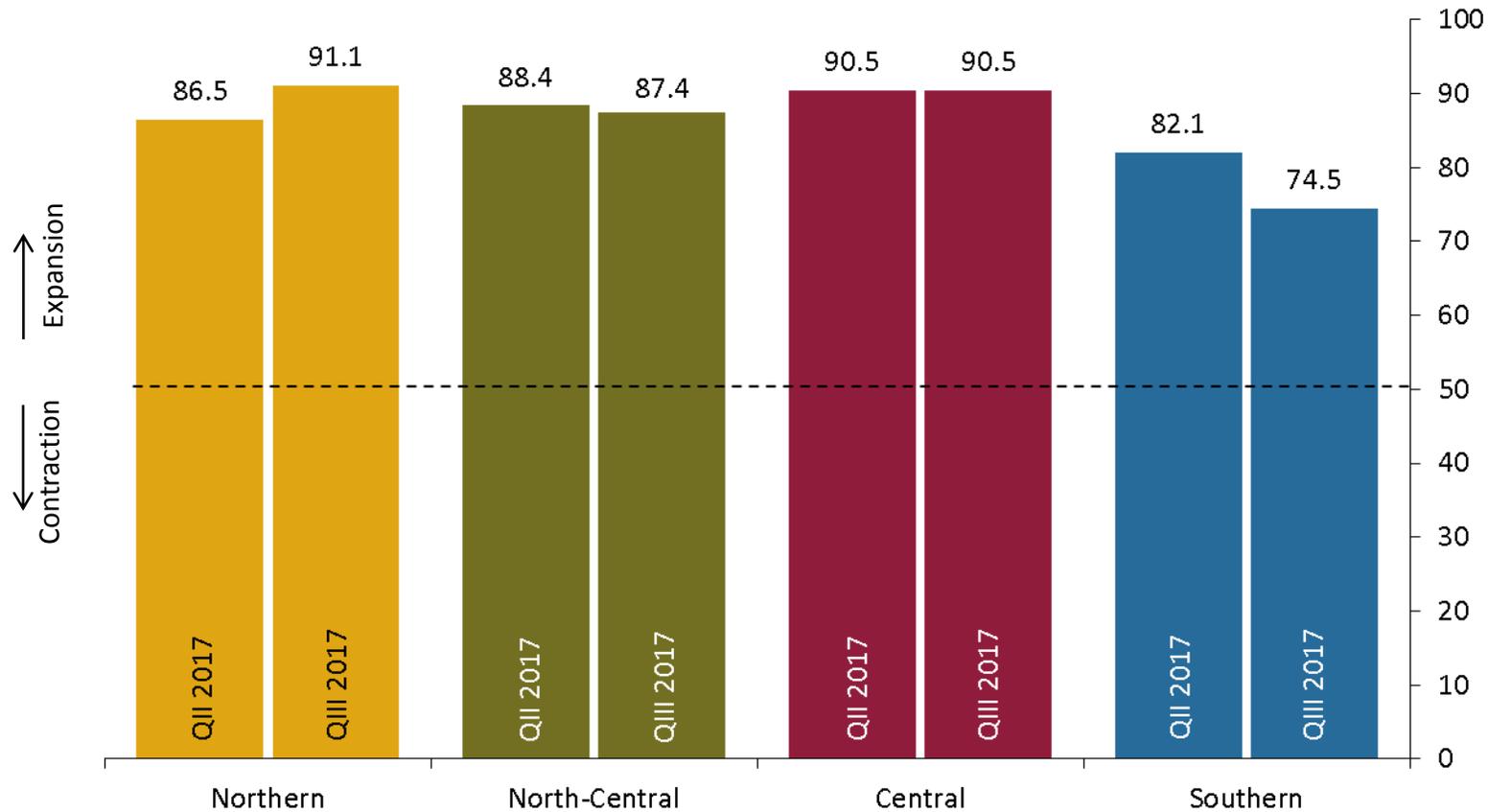
**Regional Index of Manufacturing and Non-manufacturing Orders:  
Activity Outlook, Next 3 Months <sup>1/</sup>**



<sup>1/</sup> Seasonally adjusted data.  
Source: Banco de México.

For the next 12 months, business contacts interviewed in all regions anticipate a higher demand for own goods and services, although this sign weakened considerably in the South and moderately in the North-Central region, while in the Central one it remained unchanged and in the North it strengthened.

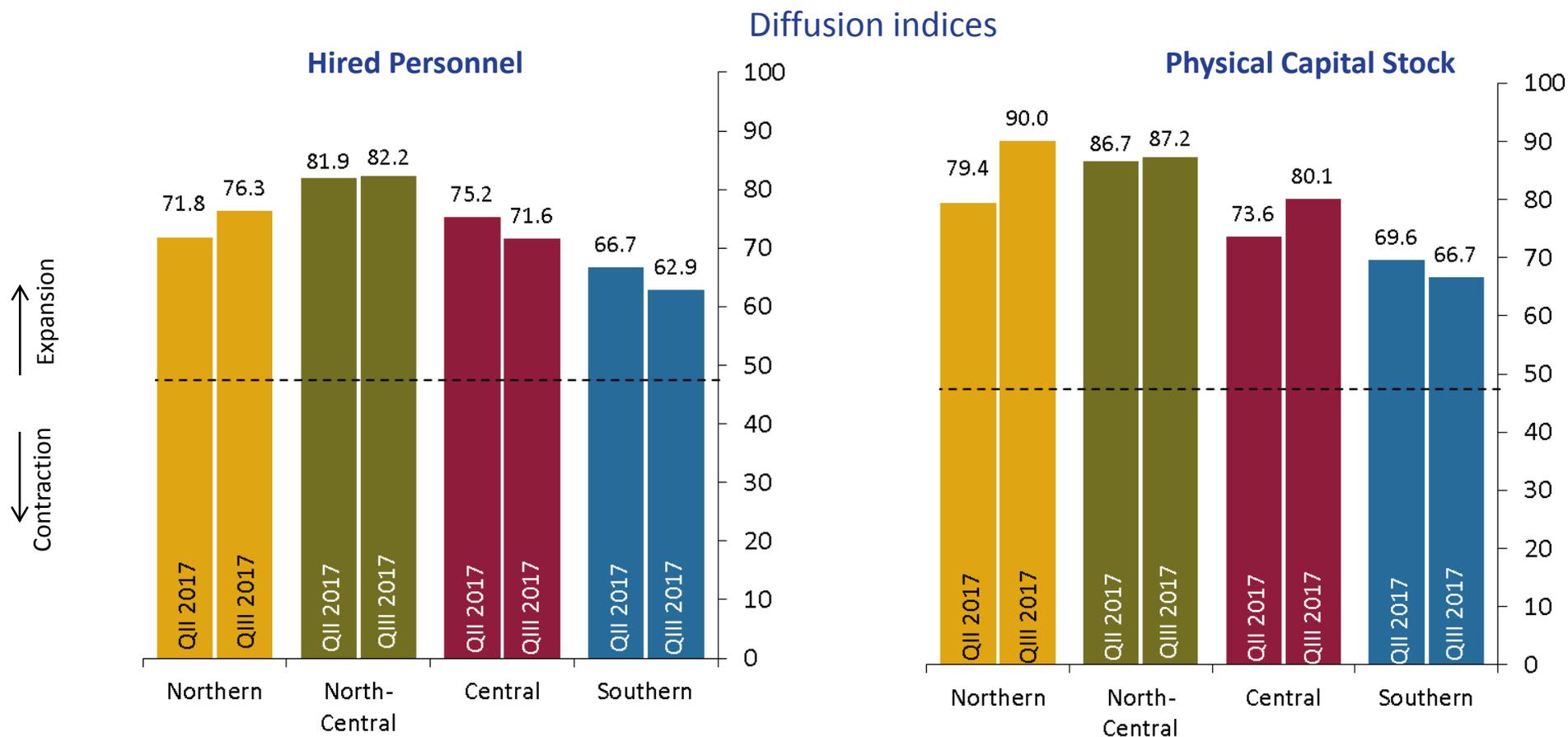
### Business Agents' Expectations: Demand over the Next 12 Months <sup>1/</sup> Diffusion indices



<sup>1/</sup> Results obtained from responses to the question: "With respect to the volume of sales of own goods and services over the previous 12 months, how do you expect the volume of sales to modify in the next 12 months?", from interviews conducted by Banco de México.

In the context of the expected increase in demand for own goods and services, business agents also anticipated an expansion of hired personnel and physical capital stock in all regional economies.

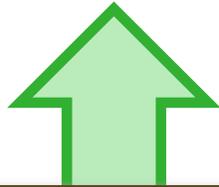
### Business Agents' Expectations: Hired Personnel and Physical Capital Stock, Next 12 Months <sup>1/</sup>



1/ Results obtained from responses to the question: "With respect to the previous 12 months, how do you expect the total number of workers in your firm to modify for the next 12 months?", and "With respect to your firm's investment in fixed assets during the previous 12 months, how do you expect the investment level to change for the following 12 months?", from interviews conducted by Banco de México.

# Risks to Regional Economies

## Upward risks



- ✓ The greater-than-expected flow of investment (both domestic and foreign).
- ✓ That NAFTA renegotiation turns out favorable for the Mexican productive sector.
- ✓ Likewise, in the North-Central and Southern regions, interviewed business contacts stressed the possibility of a better-than-anticipated performance of tourism.

## Downward risks



- ✓ A possible deterioration in public safety.
- ✓ Uncertainty elements that temporarily affect local financial markets.
- ✓ That the renegotiation of NAFTA turns out unfavorable for Mexico, or even leads to the U.S. withdrawal from the said agreement.
- ✓ Furthermore, some business agents in the Northern and Central regions pointed out the possible contraction of public expenditure on infrastructure.

## Box:

### Estimation of the Importance of Regional Economies in Mexican Manufacturing Exports to the U.S.

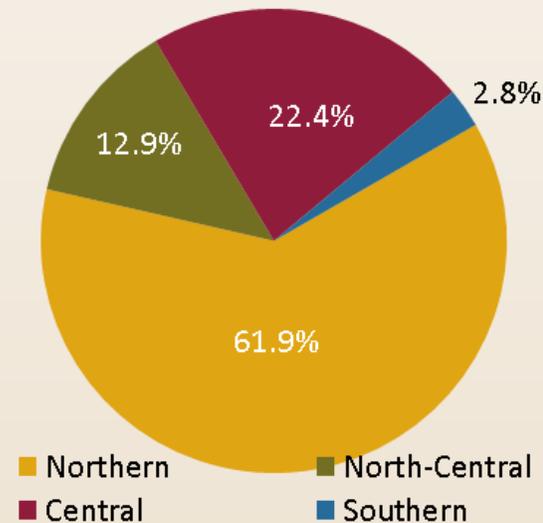
- With the entry into force of NAFTA in 1994, Mexican exports to the U.S. strengthened, while manufacturing exports increased their participation in total exports of the country.
  - ✓ This export performance of Mexico has been considered as evidence of higher production and welfare received as a result of its trade openness.
- Currently, however, it is acknowledged that the flow of gross exports as a measure of welfare associated to commercial exchange presents certain shortfalls.
  - ✓ Therefore, a better measure to estimate such gains is the added value generated by international trade activities, as it controls for these shortfalls.
- Considering the above, this Box estimates the regional added value that derives from manufacturing exports of different regions of Mexico to the U.S.

## Box:

### Estimation of the Importance of Regional Economies in Mexican Manufacturing Exports to the U.S.

- The share of manufacturing exports in the Northern region attains 61.9 percent, followed by the Central region with 22.4 percent and the North-Central one with 12.9 percent.
- The Southern region observes the lowest participation, with 2.8 percent.
- However, the flow of exports does not necessarily reflect the relative importance, in terms of added value, which represents the shipment of merchandise abroad.

Regional Manufacturing Exports to the U.S., 2014  
Percentage of national total



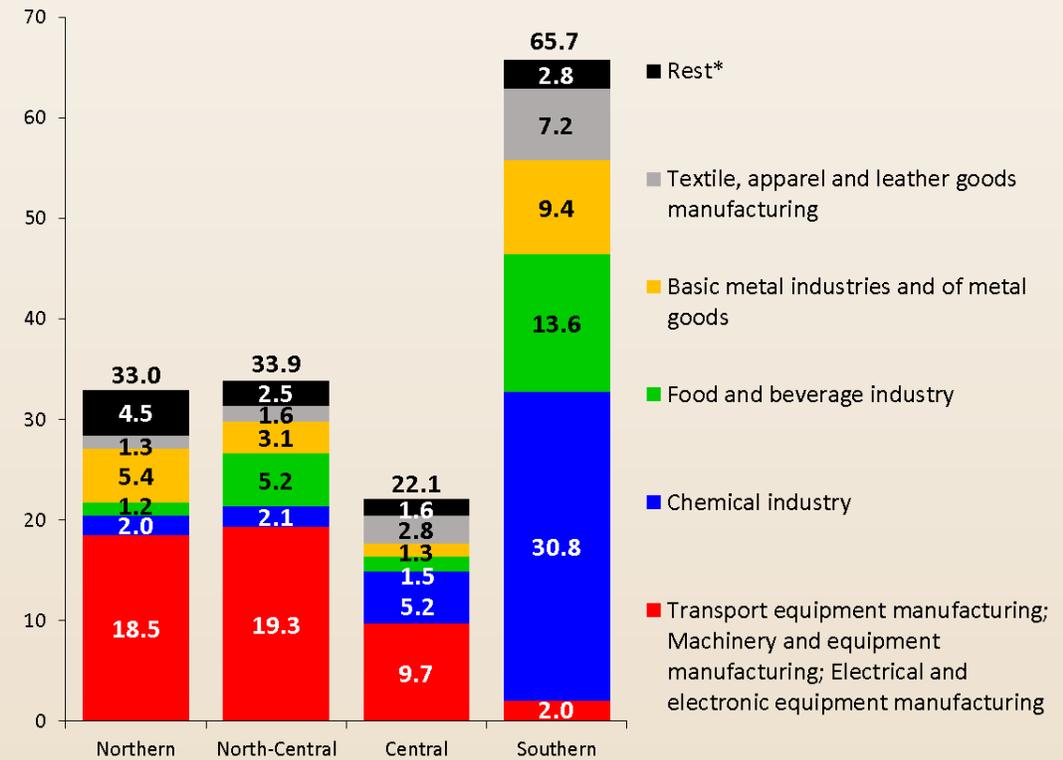
Source: Estimated by Banco de México using WIOD 2014.

## Box:

# Estimation of the Importance of Regional Economies in Mexican Manufacturing Exports to the U.S.

Share of Regional Added Value in Manufacturing Exports to the U.S.  
Percentage points

- Indeed, although the Southern region exhibits the lowest participation in manufacturing exports of Mexico, it is the one that generates the highest added value in terms relative to the value of its total manufacturing exports to the U.S.



\*/ The category "Rest" includes manufacturing subsectors: Timber industry; Paper industry; Manufacturing of non-metal mineral products; Manufacturing of furniture, mattresses and blinds; and Other manufacturing industries.  
Source: Prepared by Banco de México with data for 2014 of WIOD and INEGI.

## Box:

### Estimation of the Importance of Regional Economies in Mexican Manufacturing Exports to the U.S.

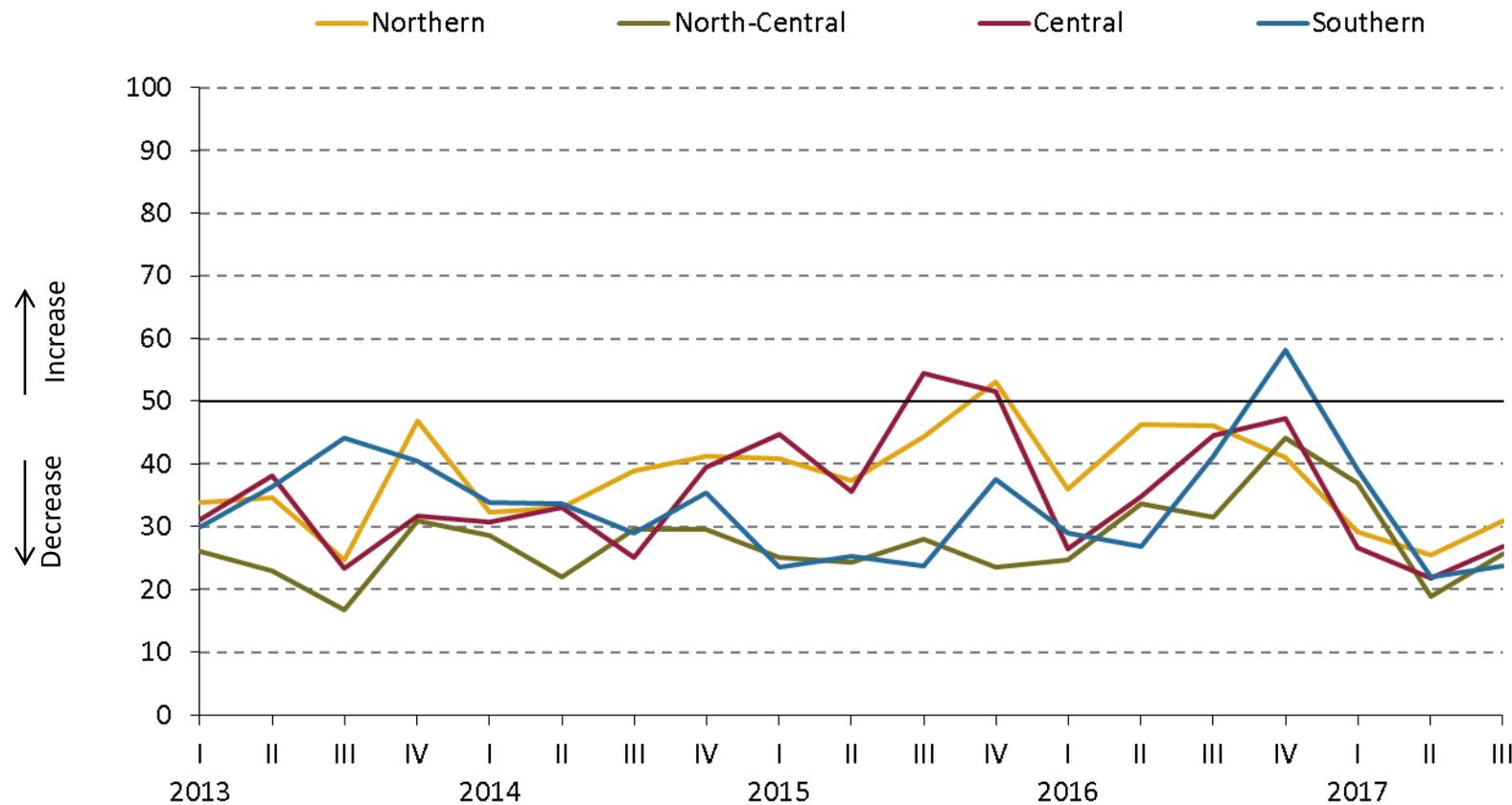
- According to the results, within the four regional economies, Mexican manufacturing exports to the U.S. play an important role in the added value generation.
- Additionally, there is a significant concentration by sector of the added value associated to manufacturing exports, especially in the Northern and Central regions.
- Similarly, they suggest that the Southern region, despite lacking high manufacturing export flows destined abroad, is notable for the generation of added value related to manufacturing exports to the U.S.

# Economic Outlook

- With respect to the expected evolution of prices for the next 12 months, business contacts interviewed in all regions anticipate the annual growth rates of sales' prices of own goods and services to be generally smaller than last year.
- In line with the above, business contacts also expect lower annual changes in input prices for the next 12 months with respect to last year, as well as, in the balance, in most regions they estimate, on average, similar changes in the cost of the labor factor.

As regards the sales' prices of own goods and services, business contacts interviewed in all regions generally anticipated lower annual changes as compared to those observed over the previous 12 months, although this sign slightly weakened with respect to Q2 2017.

### Business Agents' Expectations: Annual Change of Sales' Prices for the Next 12 Months <sup>1/</sup> Diffusion indices

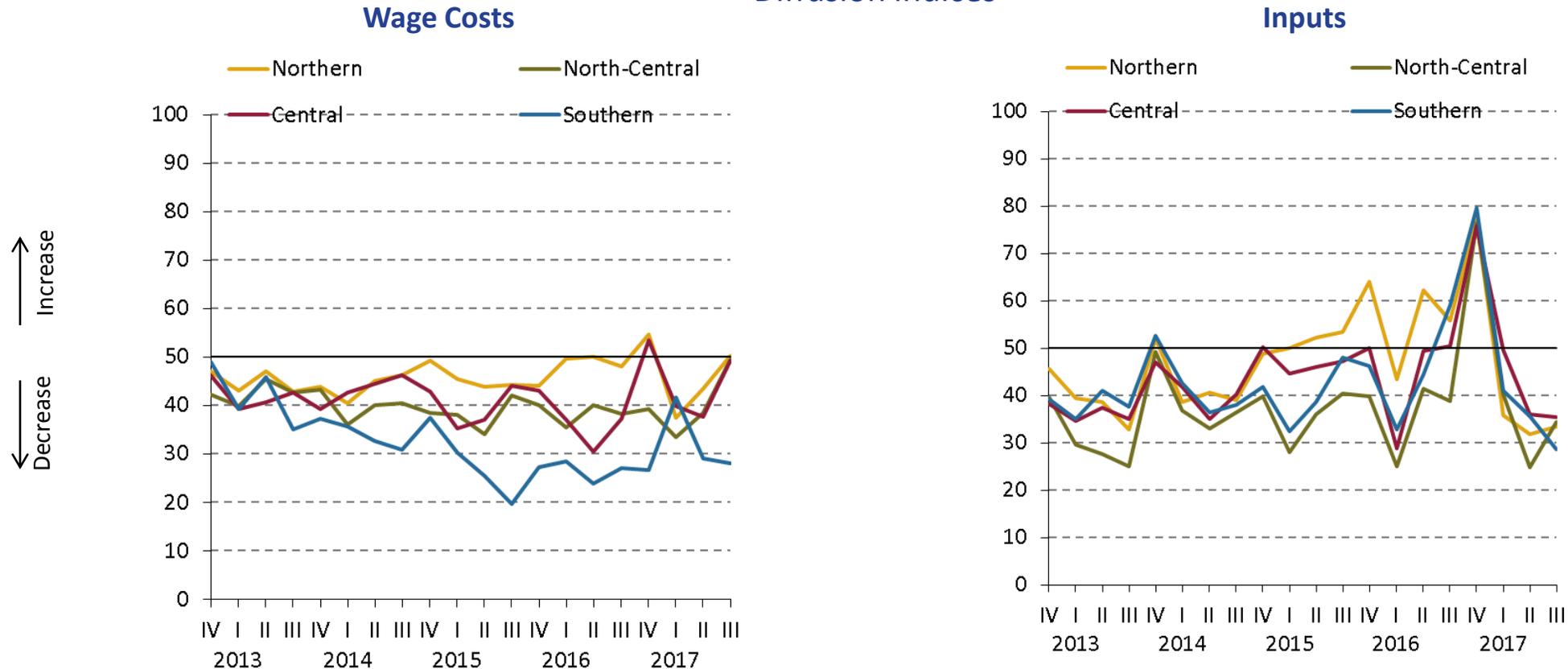


<sup>1/</sup> Results obtained from responses to the question: "With respect to the previous 12 months, how do you anticipate the adjustment in your sector's sales prices for the next 12 months?", from interviews conducted by Banco de México.

The signal of a decrease in the annual growth rate of wages weakened in all regions, except for the Southern one, as the indicator marked the 50-point-threshold, approximately, after prevailing below this reference point over the previous quarters. As regards input prices, interviewed business agents in all regions generally expect their growth rate for the next 12 months to be lower than last year, although this signal weakened in the Northern and North-Central regions.

### Business Agents' Expectations: Annual Change of Wage Costs and Input Prices, Next 12 Months <sup>1/</sup>

Diffusion indices



<sup>1/</sup> Results obtained from responses to the question: "With respect to the previous 12 months, how do you anticipate the adjustment in input prices (goods and services) and in wage costs used in this sector, for the next 12 months?", from interviews conducted by Banco de México.

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## Final Remarks

- Although the monetary and fiscal policy actions, along with the structural reforms and the measures adopted to propitiate greater productivity have contributed to strengthen macroeconomic fundamentals and to improve markets' functioning, an environment of public insecurity and a lack of the full observance of the rule of law have prevented these conditions from being reflected in higher productivity, which, ultimately, is an indispensable condition to obtain a sustainable greater expansion of the economy, and, therefore, to increase labor incomes and population welfare.
- Thus, it is fundamental to improve conditions of legal certainty, to strengthen the rule of law and the institutions of the country, and to modify the incentives' system faced by economic agents so that it favors value-creating activities.
- This becomes even more relevant, in view of the current uncertainty faced by Mexico regarding its economic relation with the U.S., which highlights the importance of a better position for the regional economies to diversify and strengthen the different engines of growth.



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December 2017

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