



Regional Economic Report
January – March 2017



June 16, 2017

Outline

- I. Regional Economic Report**
- II. Results January - March 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.¹
- 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 Q1 2017 and the prospects for regional economic activity and inflation over the following 12 months are analyzed herein.

¹ 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.

Outline

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

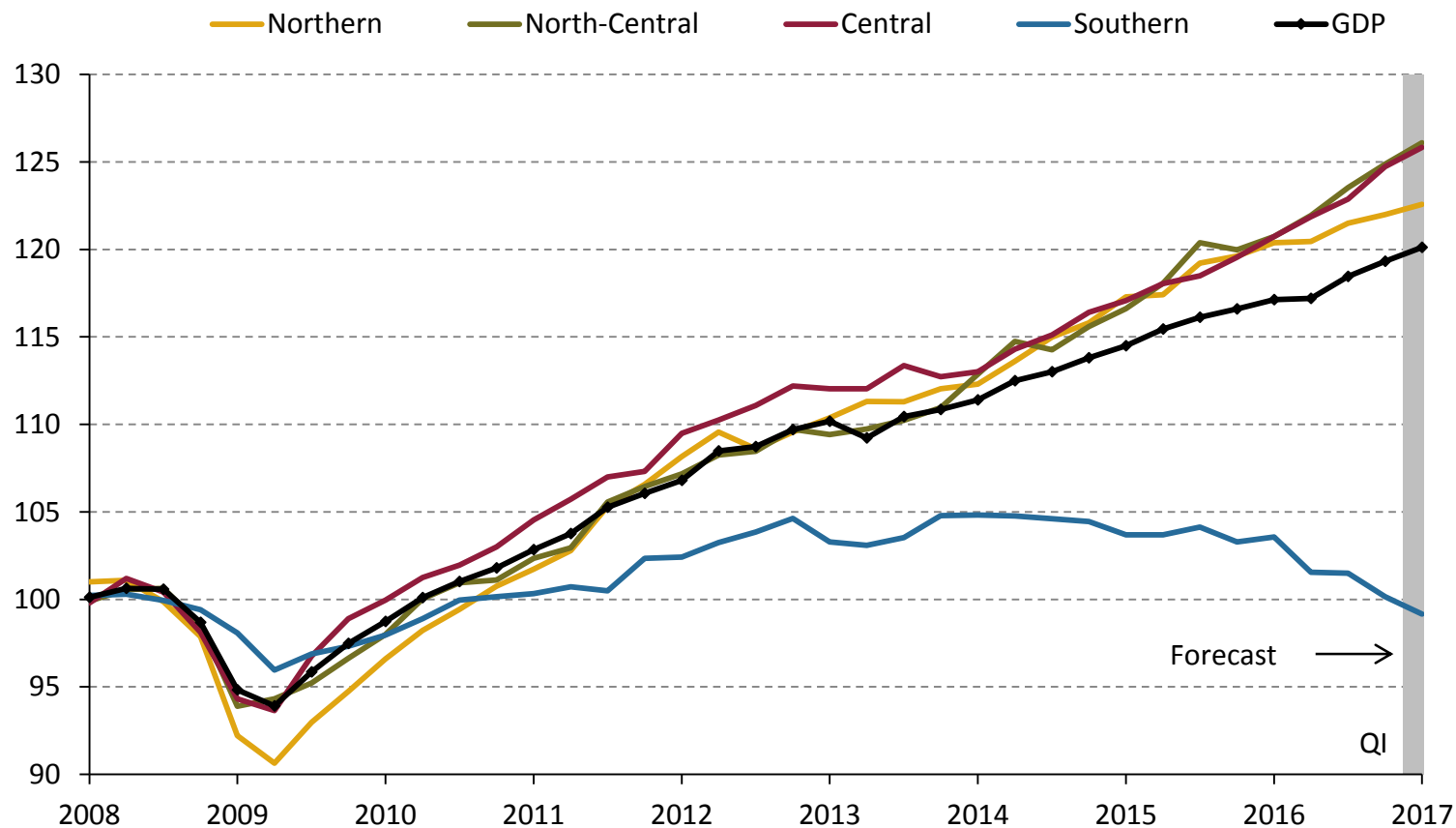
Economic Activity

- During Q1 2017, Mexican economy presented a growth rate similar to that observed in Q4 2016.
 - ✓ This expansion reflected the dynamism of the services' sector, while industrial production as a whole remained stagnant.
 - Within the industrial sector, however, manufacturing kept growing, even though this growth was offset by the stagnant construction sector, a negative evolution of the electricity sector and a downward trend in mining.
- The performance of the Mexican economy in Q1 2017 was reflected across most regions. Indeed, the economic activity in the Northern and Central regions is estimated to have continued expanding, even though in the latter region at a slightly lower rate with respect to that observed in Q4 2016. On the contrary, in the Southern one it is estimated to have continued contracting, albeit at a more moderate rate than in Q4 2016.

Based on the timely available data, it is estimated that growth of the Mexican economy in the reference quarter was reflected across most regional economies. Indeed, in the Northern and Central regions, economic activity kept expanding, even though in the latter region the growth rate somewhat moderated. On the contrary, the Southern region continued contracting, albeit less than in Q4 2016.

Quarterly Indicator of Regional Economic Activity ^{1/}

Index 2008=100



^{1/} The value of the Gross Domestic Product (GDP) for Q1 2017 corresponds to the observed data.
 Source: Estimated by Banco de México with seasonally adjusted data from INEGI.

Economic Activity

- In the Central and Northern regions, the favorable evolution of economic activity, to a large extent, is accounted for by the expansion in manufactures and of certain tertiary activities, as well as by the performance of the construction sector in the Northern and Central regions, and of non-oil mining and agricultural production in the Northern and North-Central ones.
- On the other hand, a lower level of economic activity in the South derived from a practically widespread decrease across various sectors, except for manufacturing and, according to the consulted business agents, in some services.

Box:

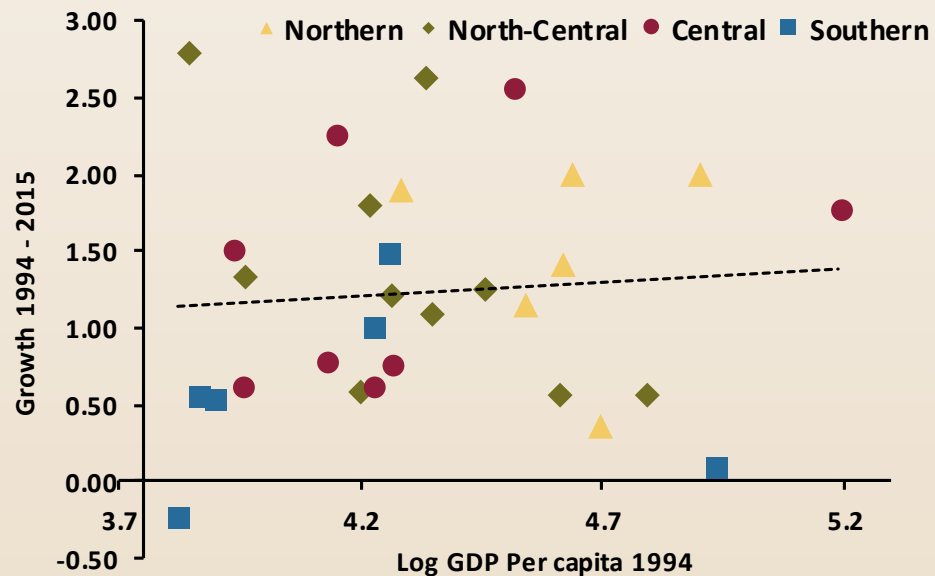
Regional Convergence in Mexico, 1994 - 2015

- **The process of trade openness in Mexico**, which started in the 80s and strengthened upon signing the North American Free Trade Agreement (NAFTA), **led to significant adjustments in the growth patterns of the Mexican states.**
- In particular, **the degree of integration of these into global value chains has been far from homogeneous**, which was reflected in the changes in the levels of industrial location and regional specialization, and, consequently, in the differences in the economic performance across different states of the country.
- This Box analyzes the GDP per capita convergence across the states of Mexico in the period of 1994 - 2015, **considering not only the impact of NAFTA, but also other external shocks, such as the entry of China into the World Trade Organization (WTO) in 2001, and the outbreak of the 2008 global financial crisis.**

Box: Regional Convergence in Mexico, 1994 - 2015

- The gap in income levels across the states widened in the period of 1994 – 2015, indicating a complete divergence pattern.

Annual Growth 1994 - 2015 vs Initial GDP Per capita



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

Estimates of Complete Divergence
Panel data ^{1/}

Period	β -complete convergence
1994 - 2015	0.44 **
1994 - 2001	0.00
2002 - 2008	0.17
2009 - 2015	0.67 **

^{1/} Coefficients are expressed in percentage points.
Note: Symbol ** denotes statistical significance at 5 percent.
Source. Estimated by Banco de México with data from INEGI.

Box: Regional Convergence in Mexico, 1994 - 2015

- In line with the results, there is conditional convergence in GDP per capital among the Mexican states in the period of 1994 – 2015, even though it weakened after the onset of the global crisis.
- Furthermore, estimates indicate that **states characterized by greater physical and human capital, and by a reduced insecurity level present a higher GDP per capital growth rate.**
- Similarly, **foreign direct investment positively affects the economic growth rate of the states**, as it stimulates labor productivity and is related to technological innovation.

Estimates of Conditional Convergence
Annual panel data, 1994 – 2015 ^{1/}

Variables	(1)	(2)
Convergence (1994 - 2015)	-1.24 ***	-----
Convergence (1994 - 2001)	-----	-1.75 ***
Convergence (2002 - 2008)	-----	-1.04 ***
Convergence (2009 - 2015)	-----	-0.05
Education level	0.59 ***	0.58 ***
Roadways	0.01 ***	0.01 ***
Insecurity	-0.22 ***	-0.29 ***
FDI (% GDP)	0.12 ***	0.12 ***
Bajío	1.25 ***	1.28 ***
Observations	630	630
Number of states	30	30

1/ Coefficients are expressed in percentage points.

Note: Symbol ***, ** and * denote statistical significance at 1, 5 and 10 percent, respectively.

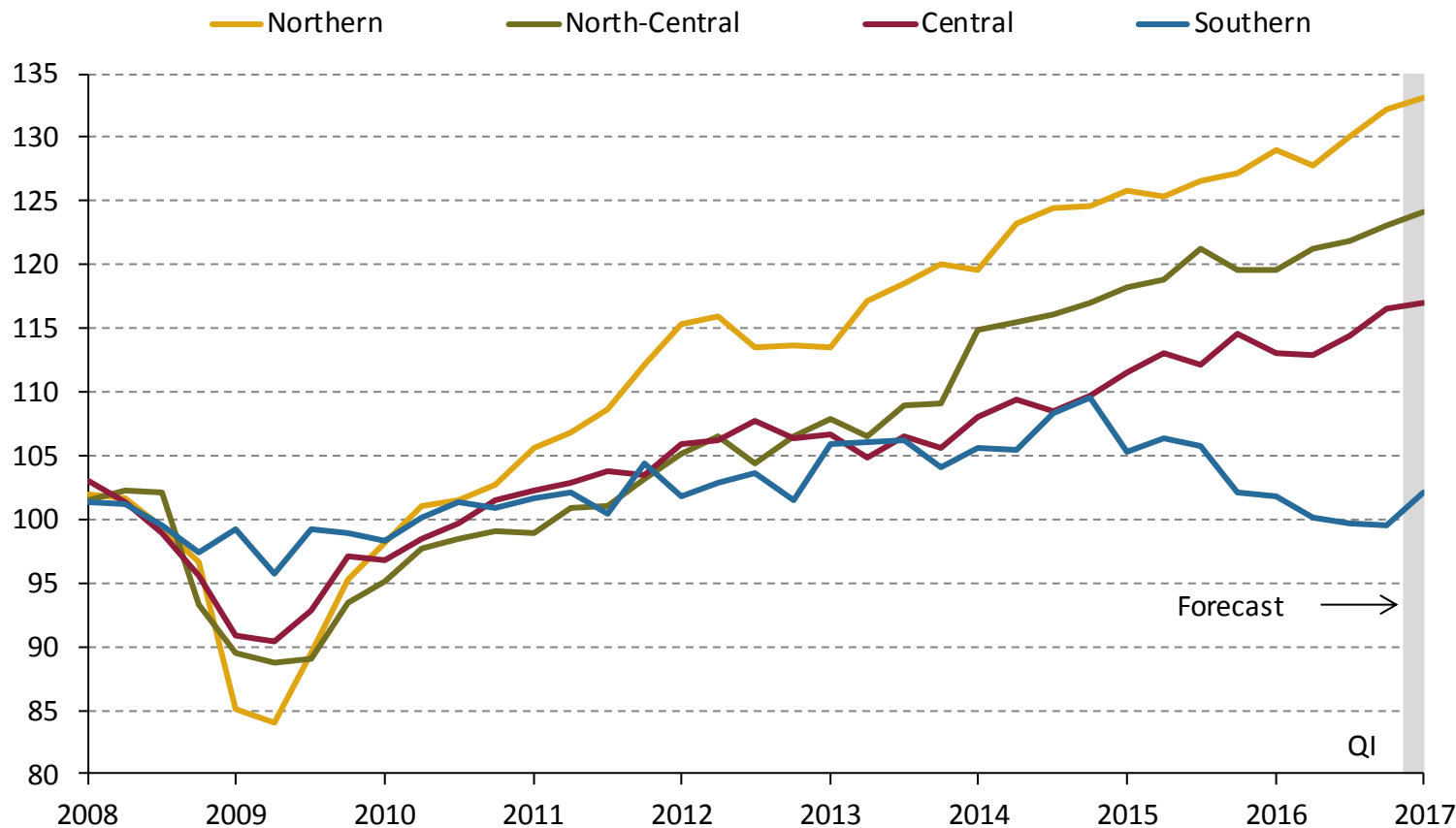
Source: Estimated by Banco de México with data from INEGI.

Box:
Regional Convergence in Mexico, 1994 - 2015

- The results of this Box point to **the presence of conditional convergence in GDP per capital across Mexican states in the period 1994 – 2015, even though it weakened after the onset of the global crisis.**
 - ✓ Indeed, in this episode the process of conditional convergence seems to have been interrupted.
- In the said context, the evidence displayed in this Box indicates that **human capital, infrastructure, foreign direct investment and public safety are fundamental for economic growth in the Mexican states.**
- Therefore, it is necessary to continue promoting public policy aimed at fostering these determinants, principally in the states characterized by lower income levels, as it would allow to attain higher economic growth levels in the referred states, and thus to contribute to regional convergence.

During Q1 2017, manufacturing production maintained a positive trend, registering a recovery as compared to levels observed in 2015 and in the first part of 2016. This is largely attributed to by the reactivation of manufacturing exports. In the Northern and Central regions the manufacturing activity is estimated to have registered an upward trajectory, while it rebounded in the Southern one.

Regional Manufacturing Indicator Index 2008=100, quarterly average

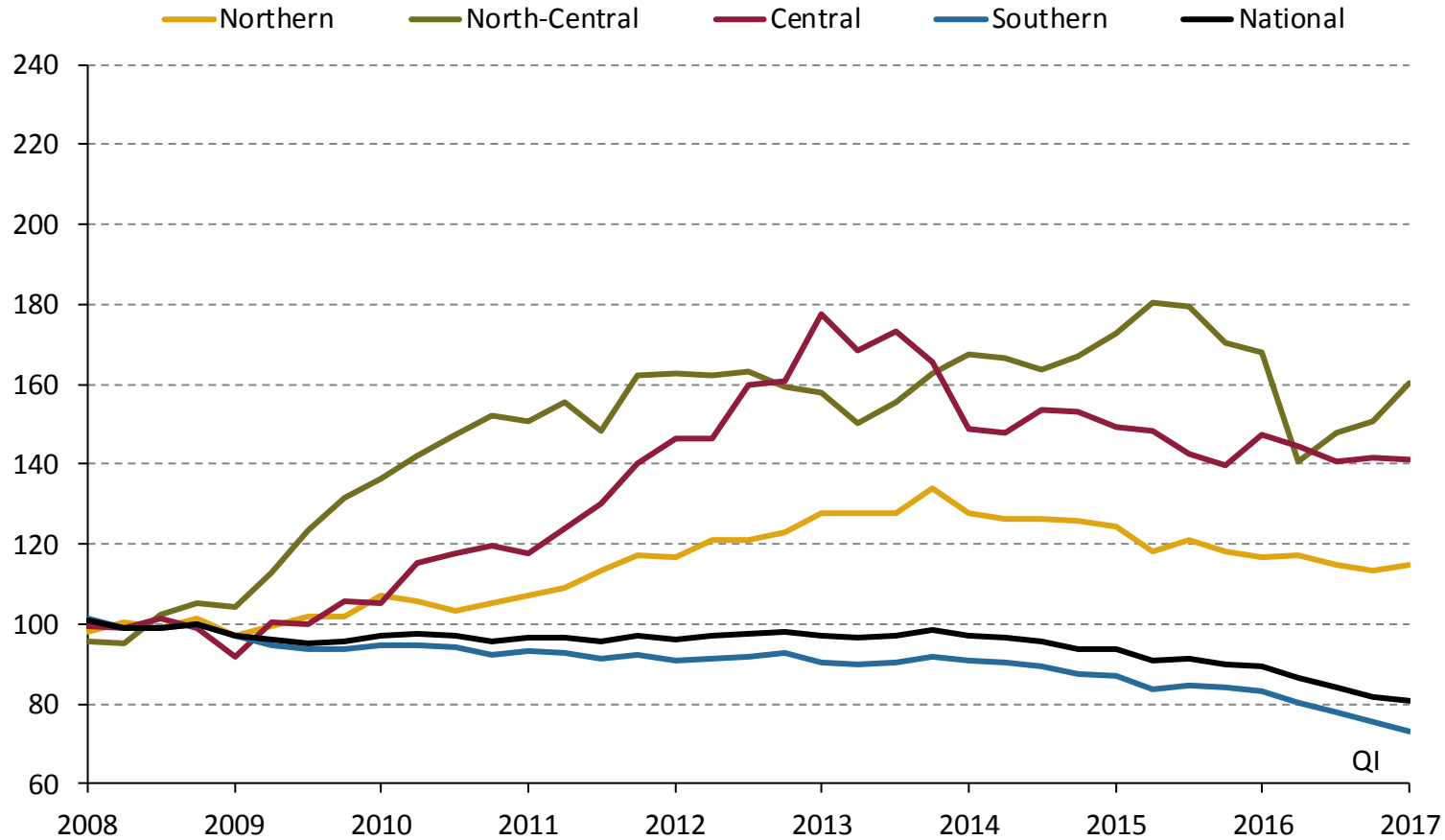


Source: Estimated by Banco de México with seasonally adjusted data from INEGI.

The national mining activity kept contracting, albeit at a more moderate rate than in the previous quarter. Indeed, even though in the Southern region this sector maintained a decreasing trend in Q1 2017, and in the Central one it resumed its downward trend, in the Northern region it rebounded incipiently, while in the North-Central one it kept expanding, as a reflection of the positive evolution of the mining of metal and non-metal minerals.

Regional Indicator of Mining Activity ^{1/}

Index 2008=100, quarterly average



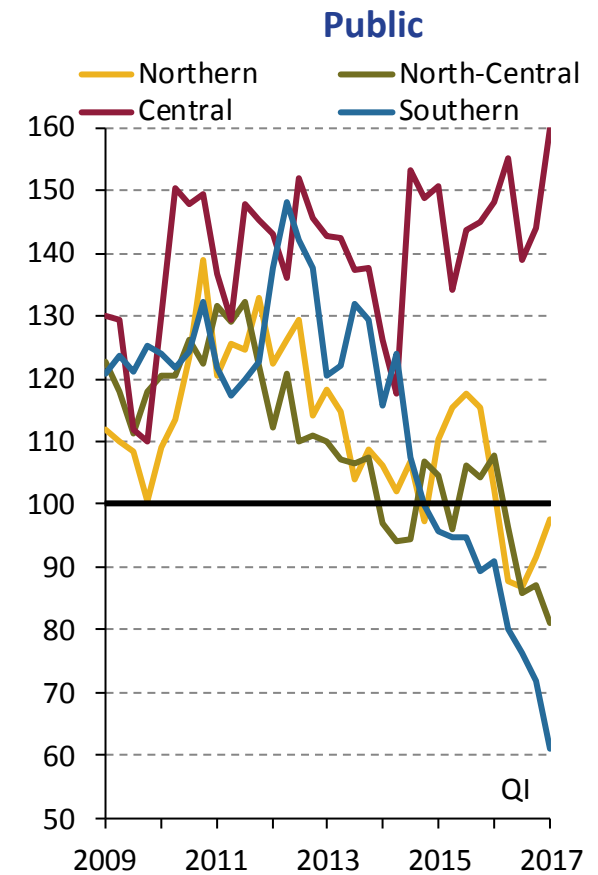
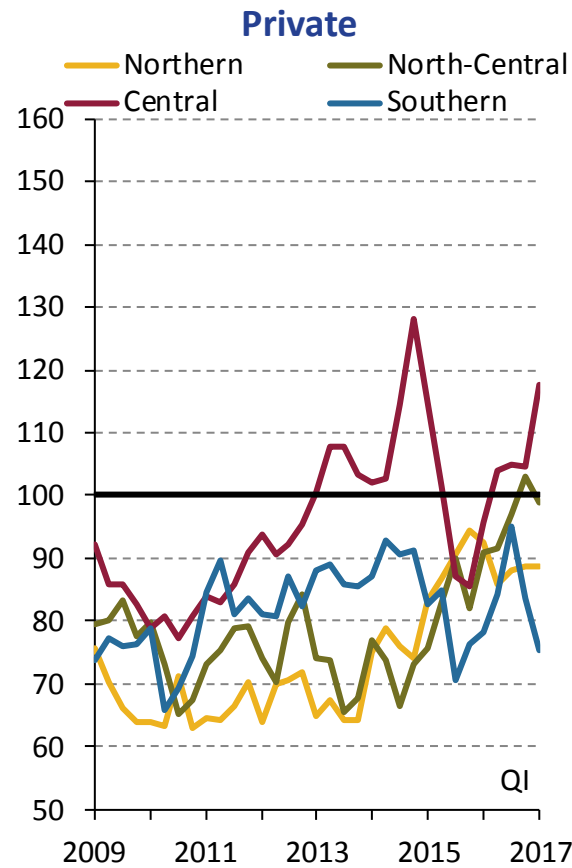
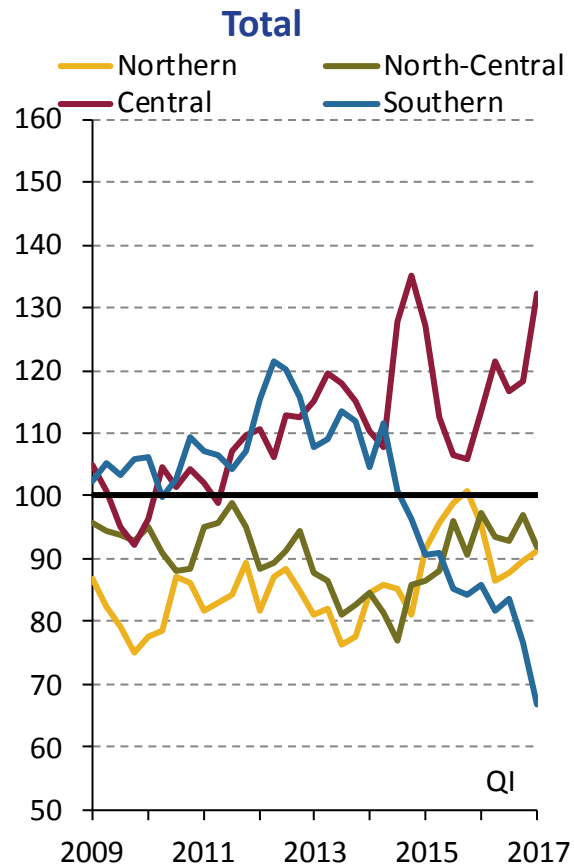
1/ Values in Q1 2017 are preliminary.

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

In Q1 2017, the construction industry stagnated, which was related to the mixed performance of economic activity across different regions. Indeed, in the North-Central and Southern regions, the sector contracted, due to the negative evolution of both public and private construction. On the contrary, in the Northern and Central ones, economic activity kept expanding, which was attributed to by a greater level of public construction, as well as a better performance of the private component in the same region.

Real Value of Production in the Construction Industry by Region

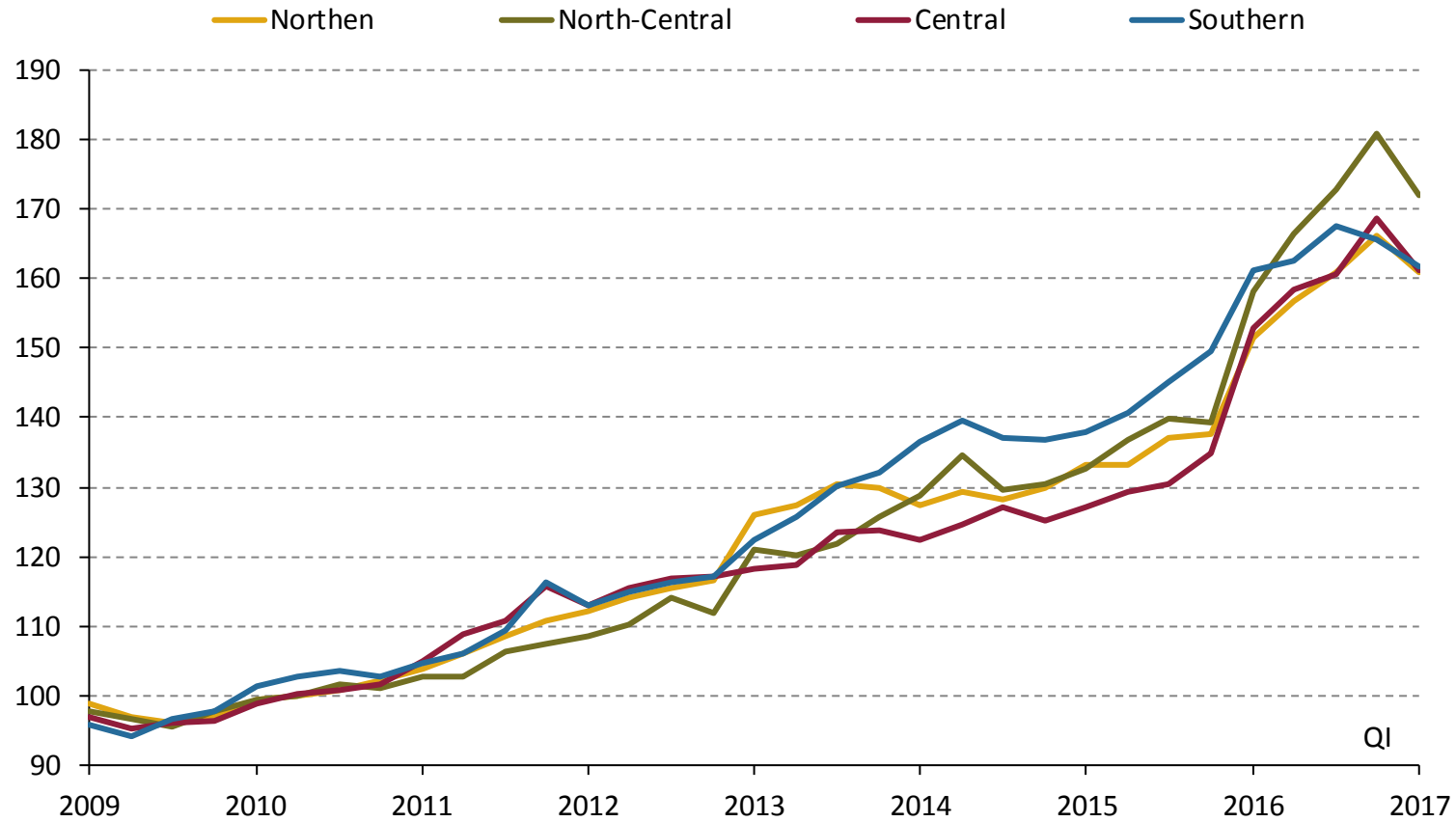
Index 2008=100, quarterly average



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

During Q1 2017, trade, measured with the index of revenues from the supply of goods and services by retail businesses, contracted in all regions.

Regional Indicator of Trade Index 2008=100, quarterly average



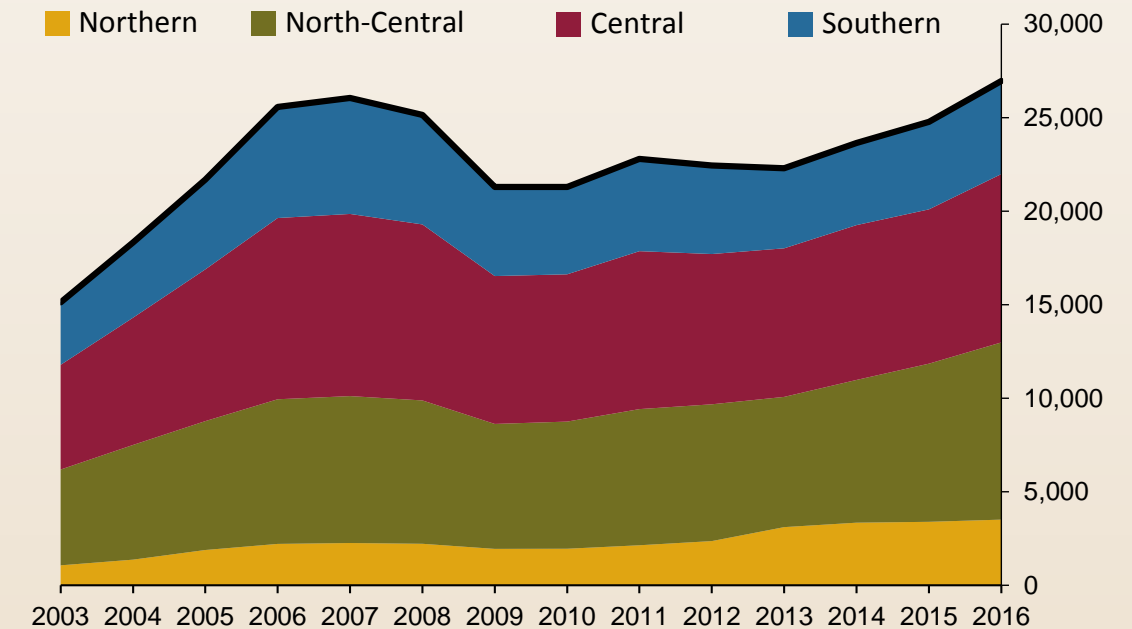
Source: Estimated by Banco de México with seasonally adjusted data from INEGI.

Box:

Impact of International Remittances on Regional Economic Activity

- The deep contraction in USD-denominated remittances to Mexico as of Q4 2007 seems to fundamentally be a result of the outbreak of the global financial crisis, which immediately affected the employment level of Mexican immigrants in the U.S. However, since late 2012 remittances' levels **recovered, even marking a historical maximum level in 2016.**
- This Box seeks to analyze the impact of the increment in remittances between 2015 and 2016 on the regional GDP, using a social accounting approach.

Annual Value of Total Remittances
USD million, 1995 - 2016

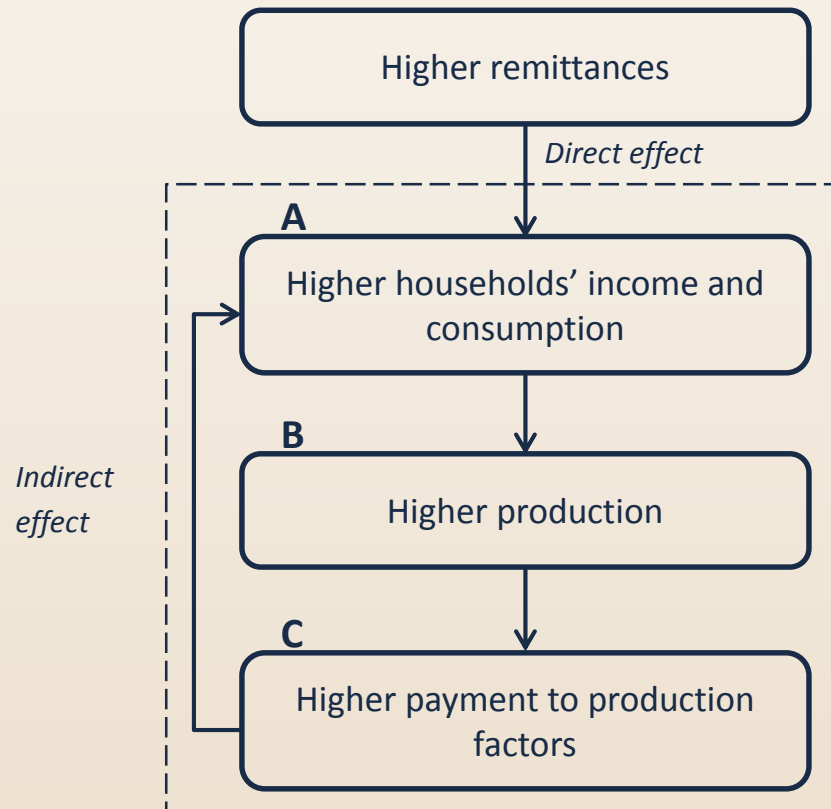


Source: Banco de México.

Box:

Impact of International Remittances on Regional Economic Activity

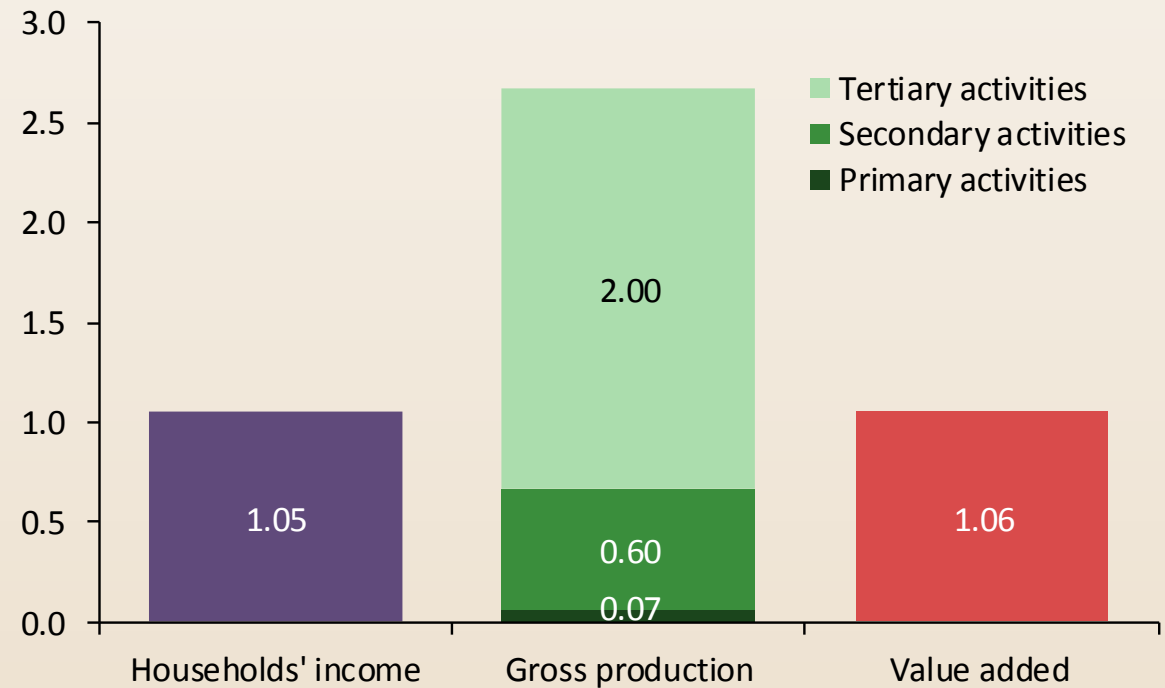
Direct and Indirect Effects of Higher Remittances



Source: Estimated by Banco de México.

Indirect Effect on Households' Income, Gross Production and Added Value

As a share of shocks on international remittances

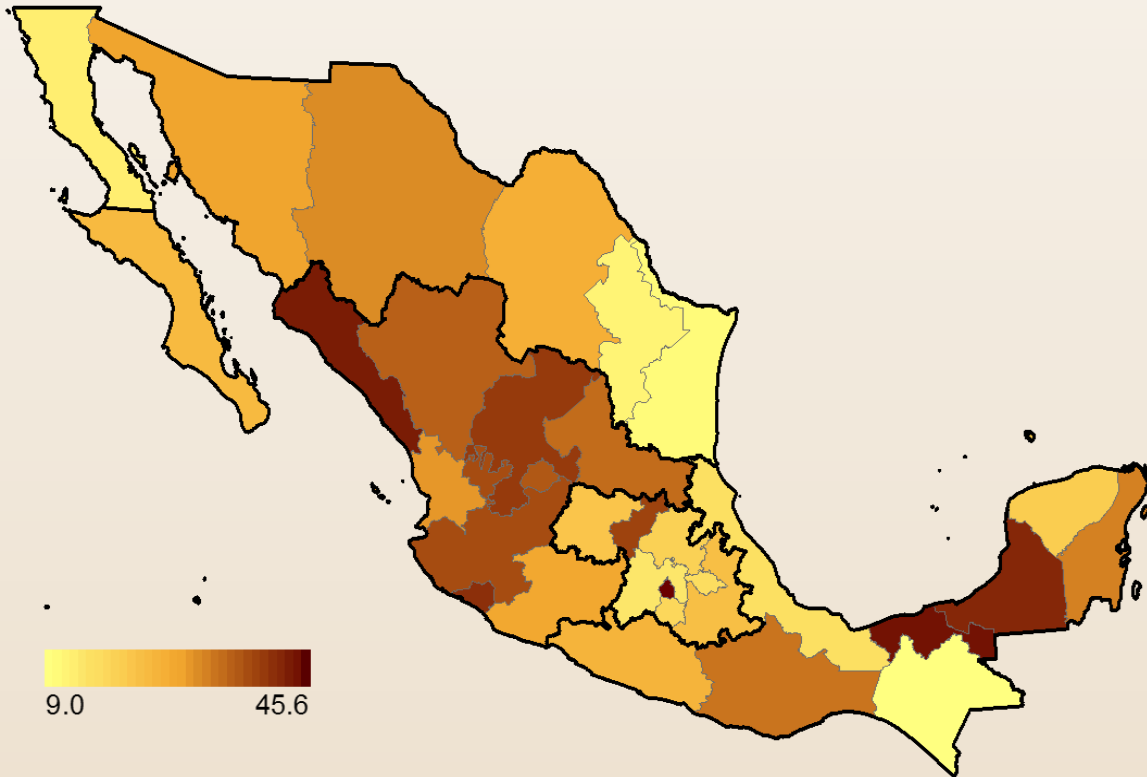


Source: Estimated by Banco de México with data from International Food Policy Research Institute (IFPRI).

Box:

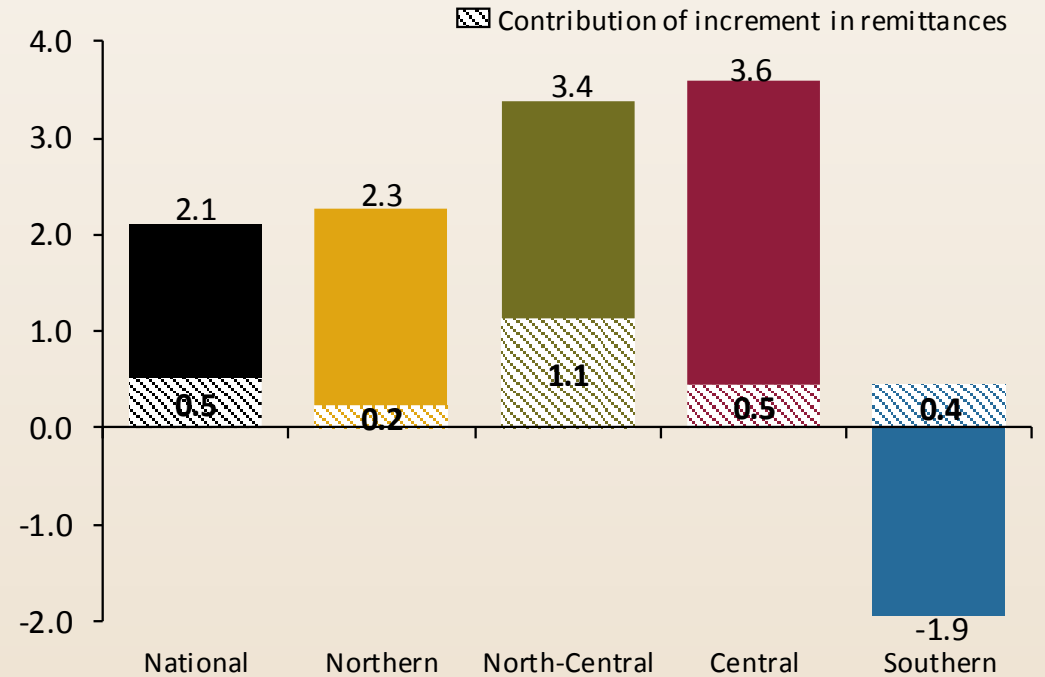
Impact of International Remittances on Regional Economic Activity

Percentage Change in Remittances by State (in constant pesos), 2015 - 2016



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

Growth of Regional GDP, 2016
Percentage points



Note: To estimate the growth of regional GDP in 2016, the seasonally adjusted Quarterly Indicator of State Economic Activity, released by INEGI, was used.

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

Box:

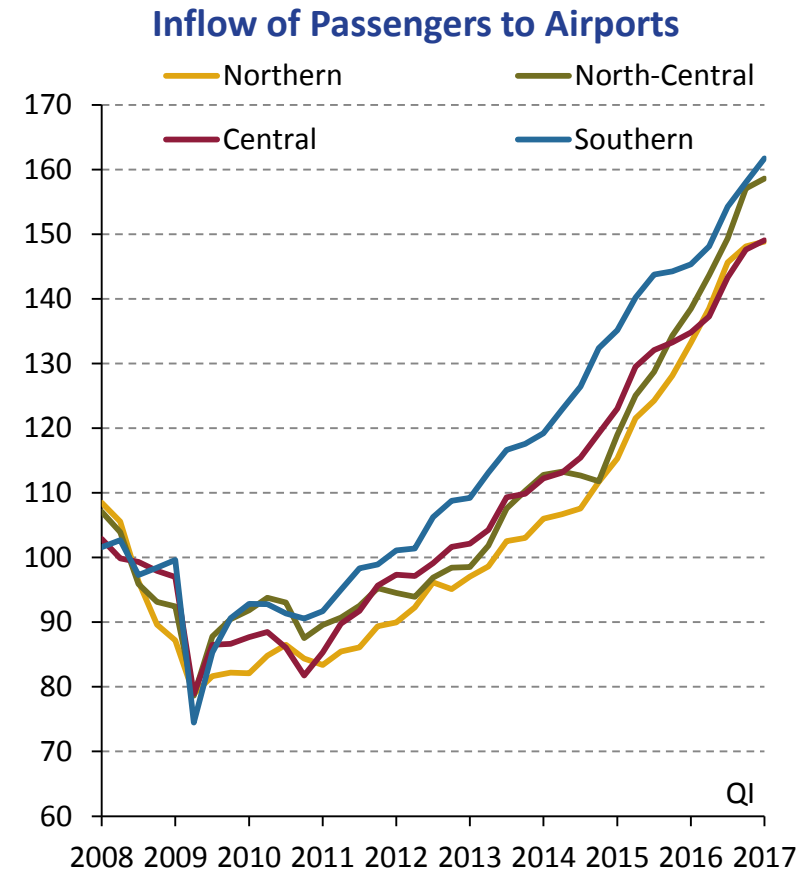
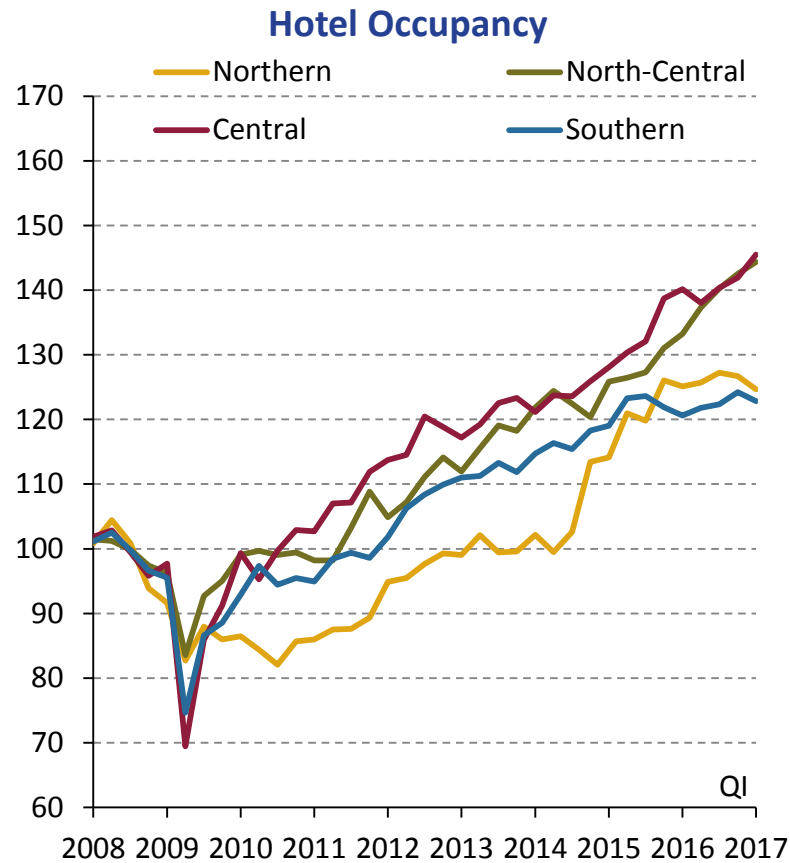
Impact of International Remittances on Regional Economic Activity

- The analysis displayed in this Box suggests that the **flow of international remittances significantly affects economic activity of certain states that are located in Central and Southern regions of Mexico.**
 - ✓ As a result, the **observed increase in remittances prompted greater economic growth in these regions in 2016.**
 - ✓ Indeed, as a result of households' spending patterns, **the said states tend to be more prone to concentrating the impact of remittances in trade and services.**
- Furthermore, remittances' flows **contribute to cushioning households' incomes in light of shocks on economic activity, in particular in the agricultural sector.**

In Q1 2017, tourism, measured with hosting services and inflow of passengers to airports, moderated its growth pace. In particular, hotel occupancy in the Central regions maintained an upward trajectory, while in the Northern and Southern ones it contracted. On the other hand, even though the inflow of passengers kept rising across all regional economies, it was at a lower rate as compared to Q4 2016.

Regional Indicators of Activity in Tourism

Index 2008=100, quarterly average

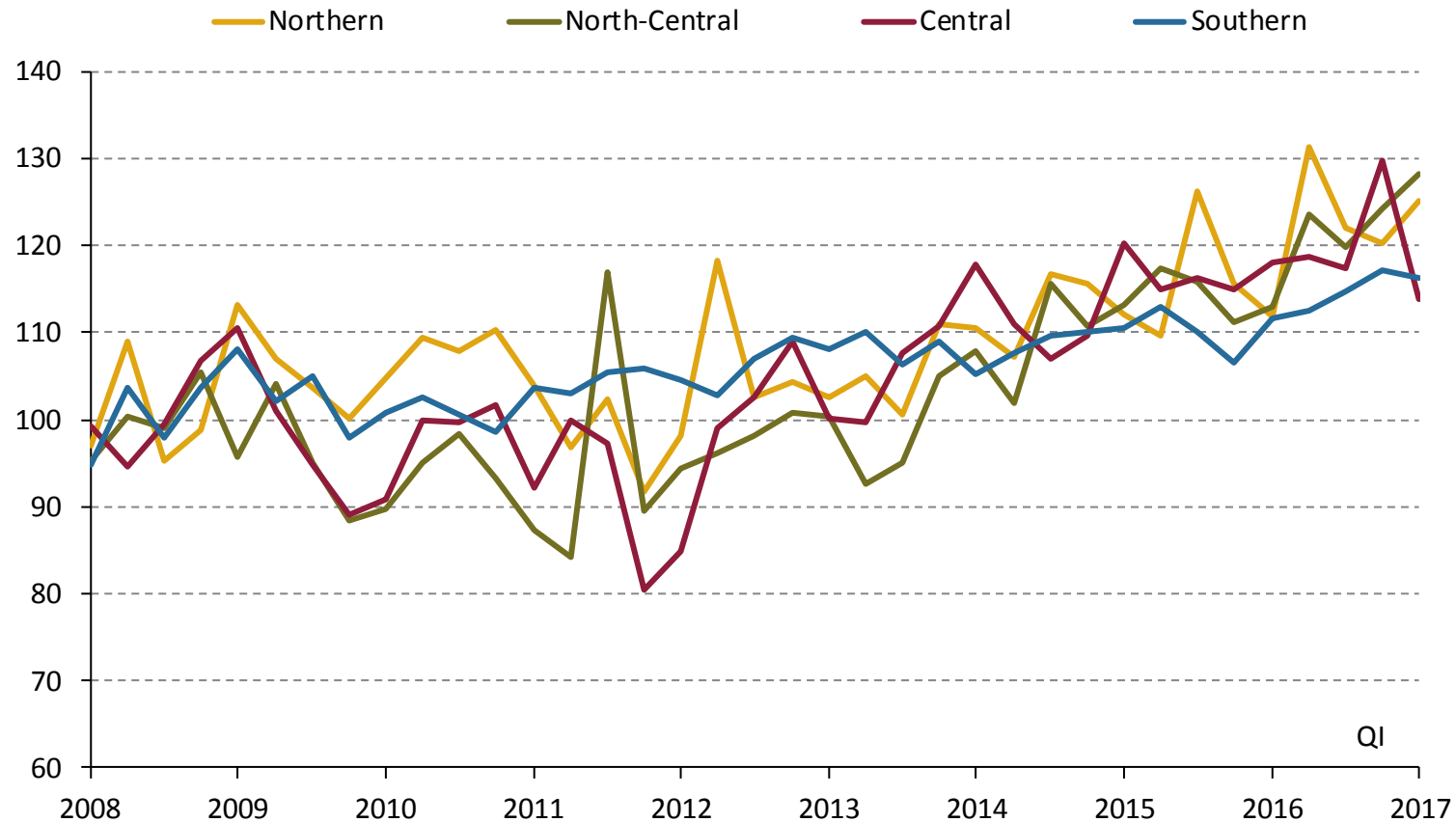


Source: Estimated and seasonally adjusted by Banco de México based on data from the Mexican Secretariat of Tourism and from Airport and Auxiliary Services (ASA).

Agricultural activity generally contracted in Q1 2017, even though the indicator presented a mixed performance across regions, and generally maintains a certain positive trend. In particular, in the Central and Southern regions the level of agricultural activity decreased with respect to Q4 2016. On the contrary, in the Northern and North-Central regions agriculture and livestock production expanded with respect to the last quarter of 2016.

Index of Regional Agriculture and Livestock Production

Index 2008=100, quarterly average

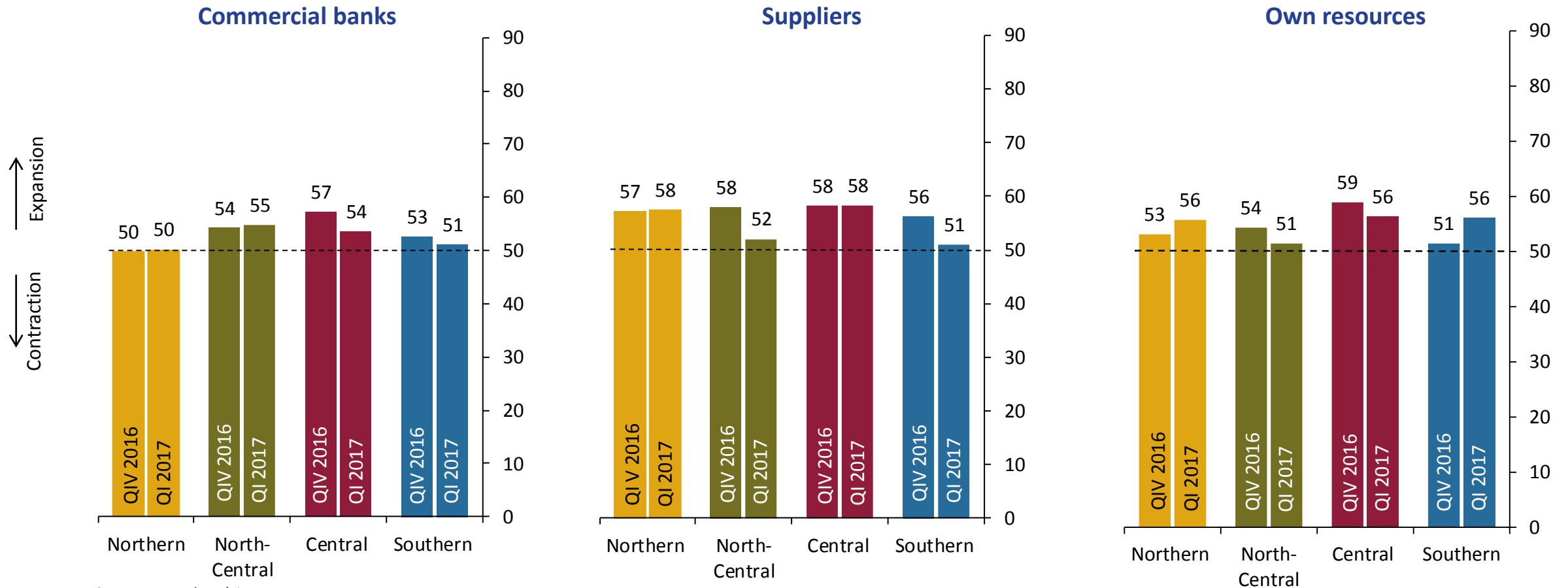


Source: Estimated and seasonally adjusted by Banco de México with data from SAGARPA. It should be noted that, unlike the GDP estimate, this indicator excludes information relative to the value of generated by land cultivation and approximates a measurement of the gross production value, rather than that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

The sign of a greater intensity in the bank credit and financing use from suppliers weakened or turned out similar to Q4 2016 in all regional economies. The sign of a greater intensity in the use of own resources to fund business operations was generally similar to that in Q4 2017, even though in the Northern and Southern regions it strengthened.

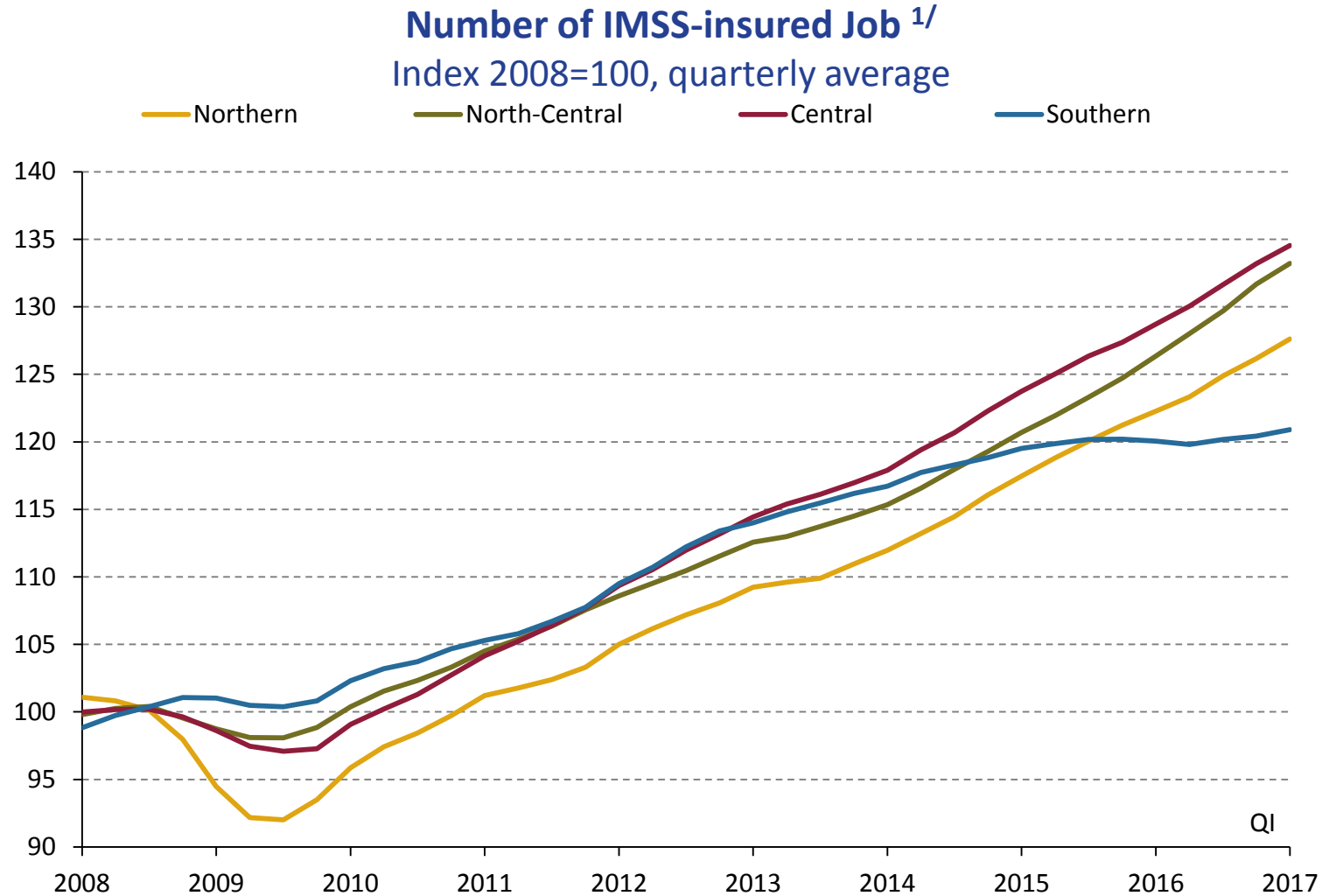
Change in the Use of the Main Sources of Financing

Diffusion indices



Source: Banco de México.

During Q1 2017, the number of IMSS-insured jobs continued registering a positive trend in the Northern and Central regions. In the South this indicator also presented growth, albeit incipient, although it remains at relatively low levels.



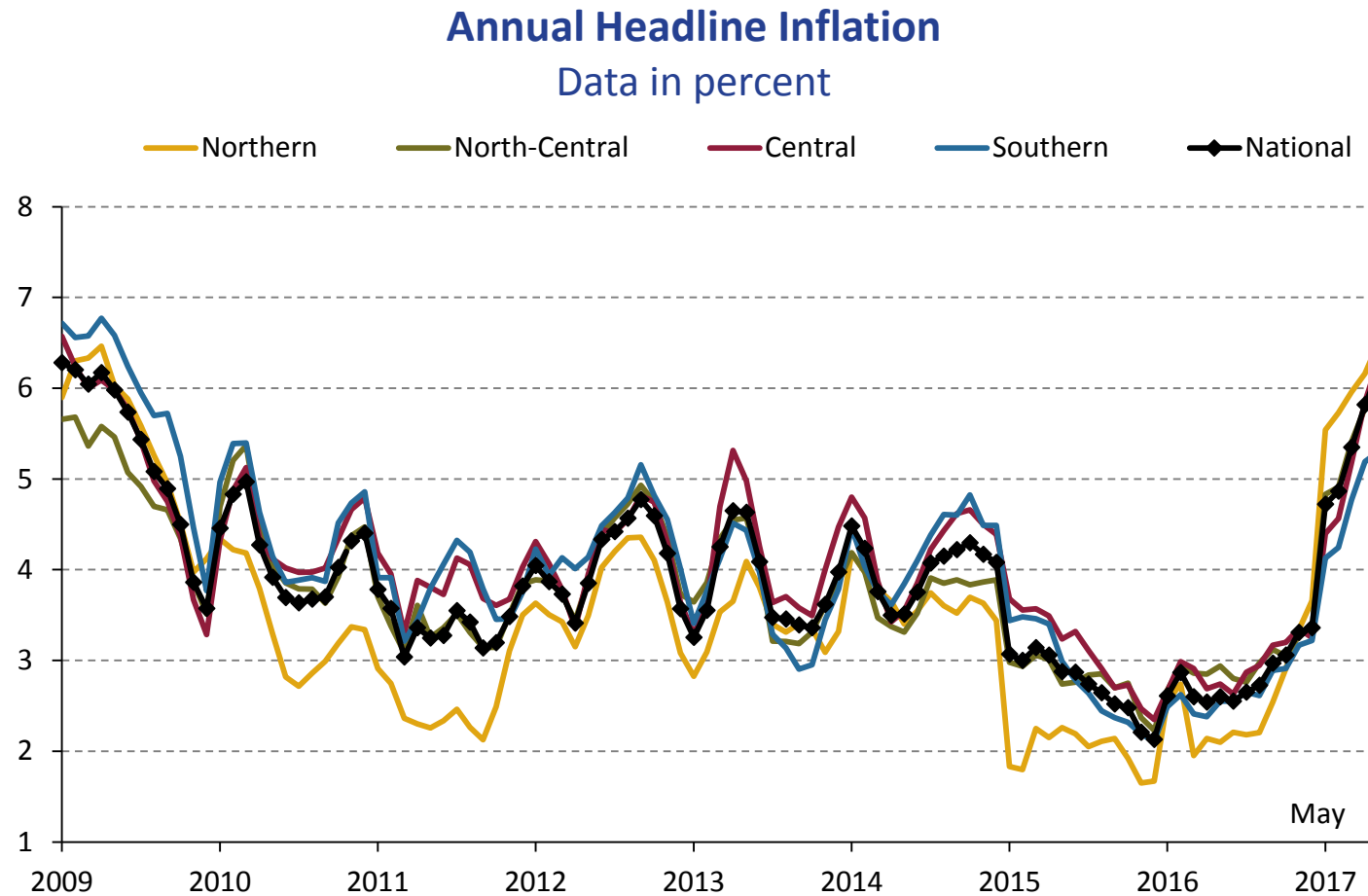
1/ Permanent and temporary jobs in urban areas.

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

Outline

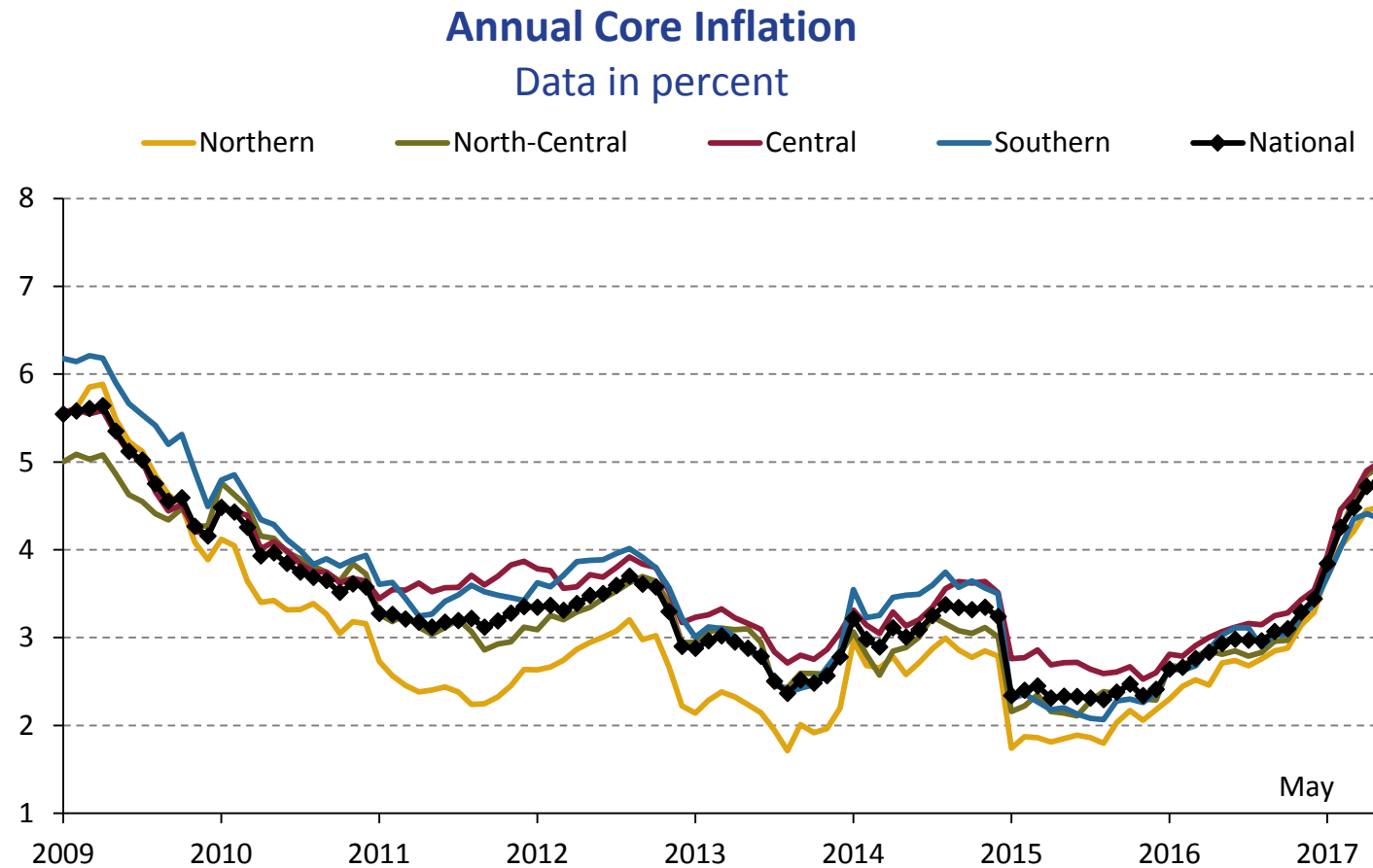
- I. Regional Economic Report
- II. Results January – March 2017**
 - A. Economic Activity
 - B. Inflation**
 - C. Economic Outlook
- III. Final Remarks

Inflation in different regions analyzed in this Report went up between Q4 2016 and Q1 2017, further increasing in subsequent dates.



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

Core inflation strongly accelerated in all regional economies in Q1 2017, as well as during subsequent months in most of these regions.

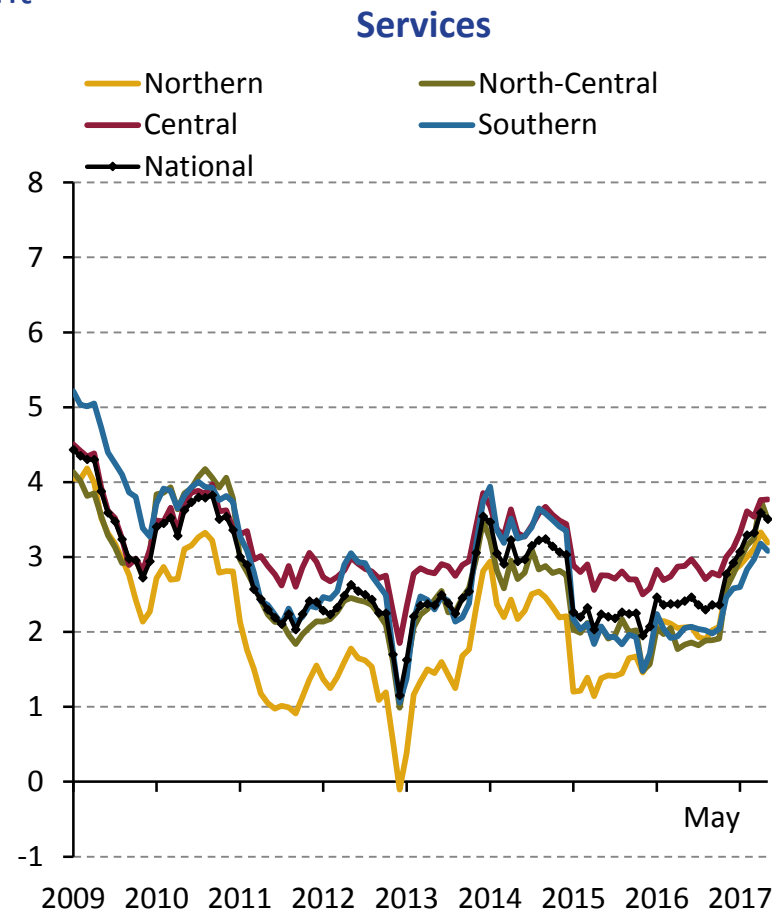
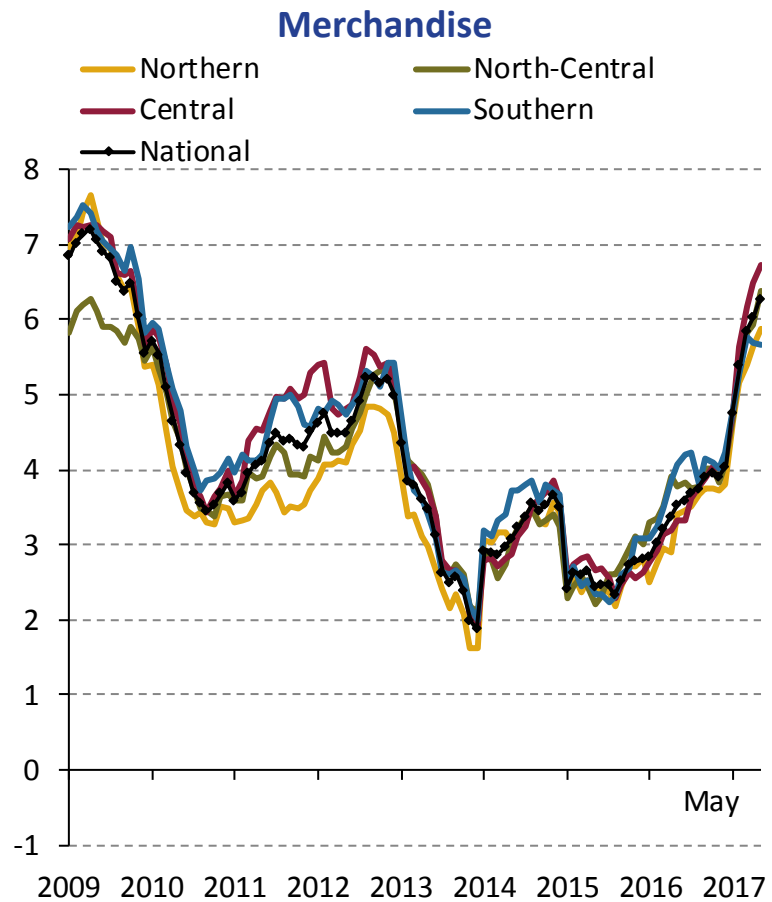


Source: Estimated by Banco de México with data from INEGI and own data.

The higher annual growth rate of merchandise prices was particularly relevant for the above, as it has been more notably reflecting the effects of the national currency's accumulated depreciation, apparently accelerating the pass-through in the wake of the results of the U.S. elections.

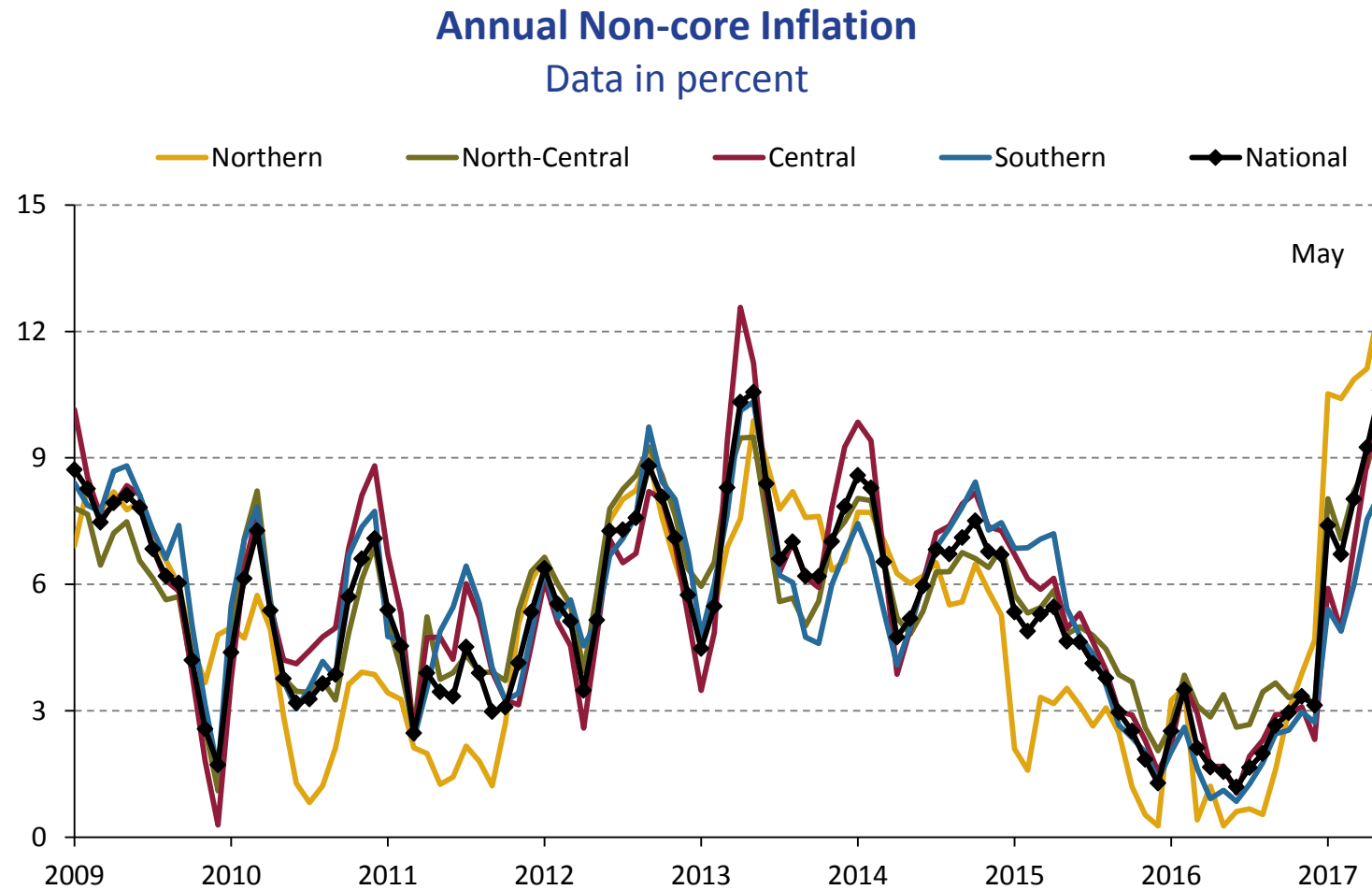
Components of Annual Core Inflation

Data in percent



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

The annual growth rate of the non-core component accelerated significantly in all regions as of January, as a result of higher energy prices, in particular gasoline and LP gas.



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

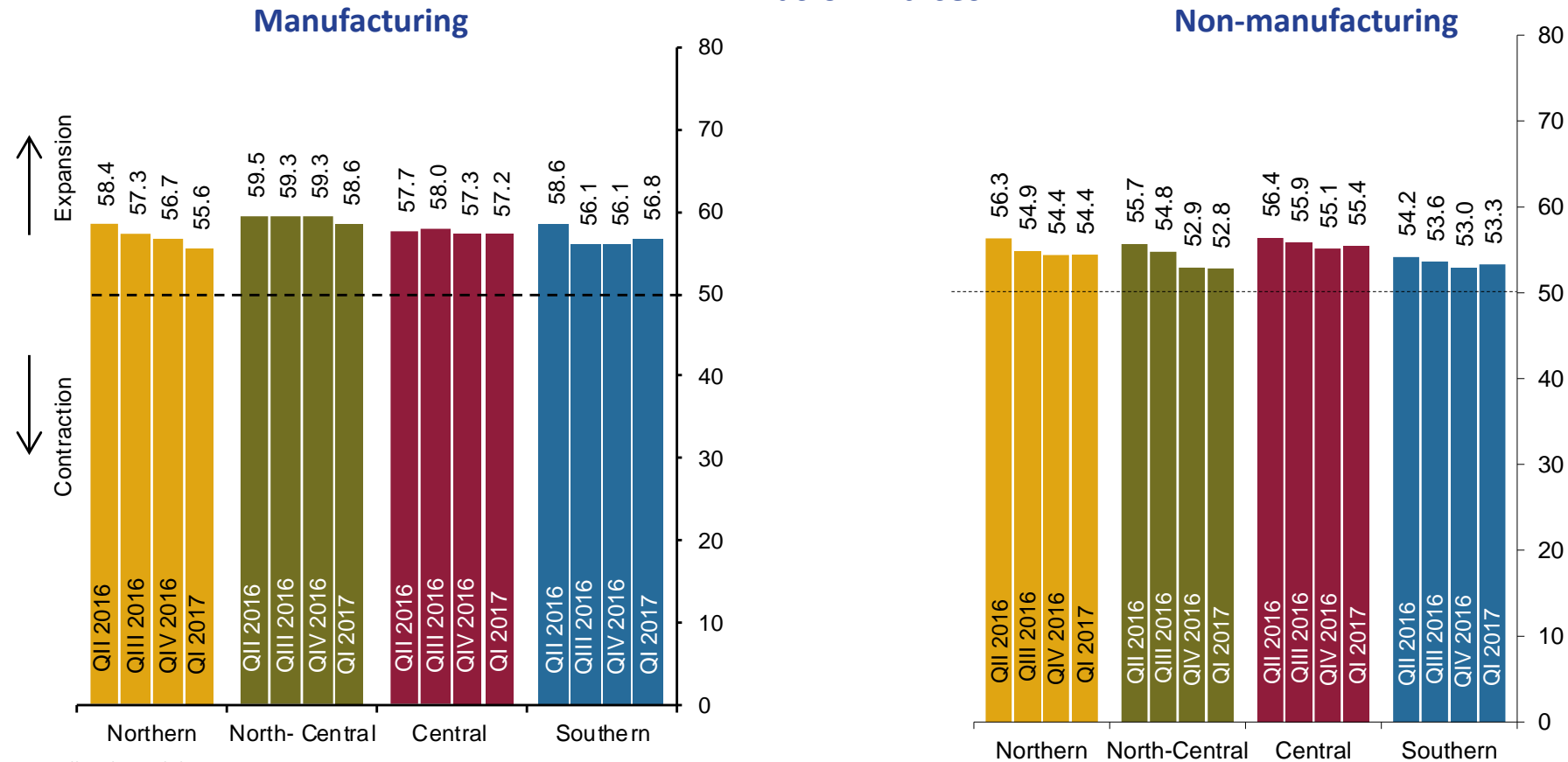
Outline

- I. Regional Economic Report
- II. Results January - March 2017**
 - A. Economic Activity
 - B. Inflation
 - C. Economic Outlook**
- III. Final Remarks

Regional indices of manufacturing and non-manufacturing orders indicate that manufacturing and non-manufacturing activity will continue expanding over the following three months in each regional economy. In the manufacturing sector, the signal of growth weakened slightly in the Northern region with respect to Q4 2016, whereas in the non-manufacturing one, the indicator marked a level similar to that observed in Q4 2016 in all regions.

Regional Index of Manufacturing and Non-manufacturing Orders: Activity Outlook, Next 3 Months ^{1/}

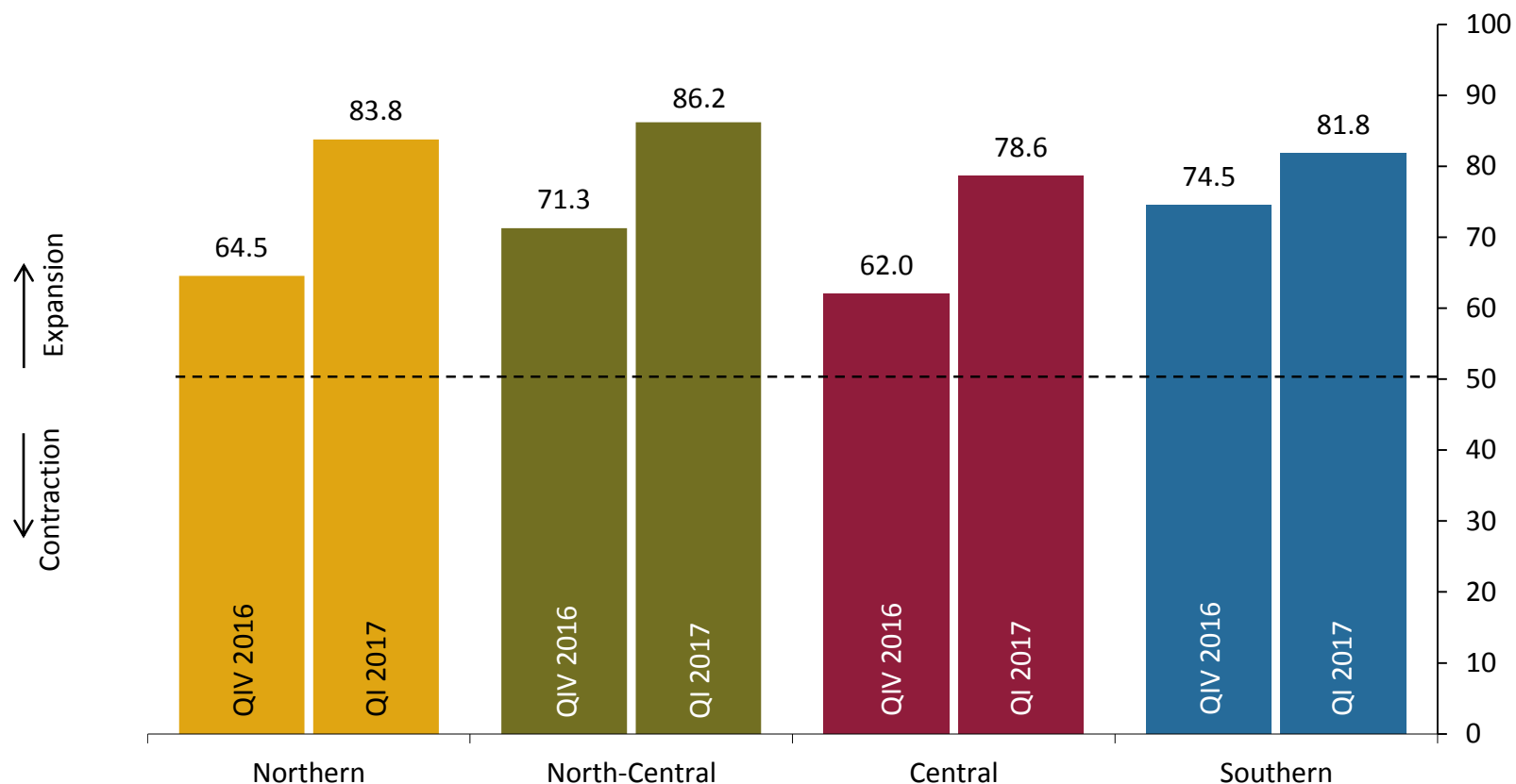
Diffusion indices



^{1/} Seasonally adjusted data.
Source: Banco de México.

Business agents in all regional economies generally anticipated demand for own goods and services to expand for the next twelve months, this signal being stronger than in Q4 2016.

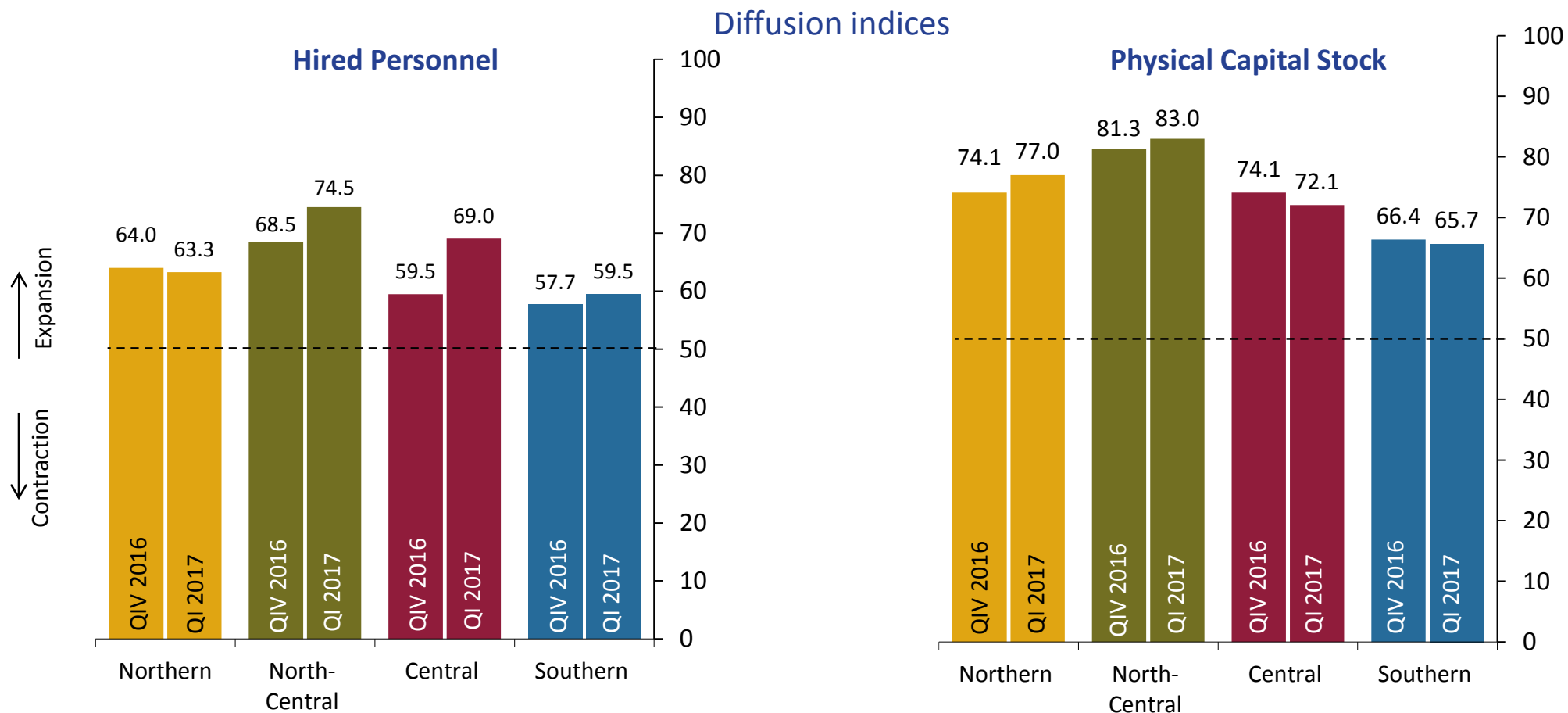
Business Agents' Expectations: Demand over the Next 12 Months ^{1/} Diffusion indices



^{1/} Results obtained from responses to the question: "With respect to the situation in the current quarter, how do you expect demand for own goods and services to modify over the next 12 months?", from interviews conducted by Banco de México.

In the context of an expected increment in demand for own goods and services, business agents also anticipate an expansion of hired personnel and physical capital stock in all regions.

Business Agents' Expectations: Hired Personnel and Physical Capital Stock, Next 12 Months ^{1/}



^{1/} Results obtained from responses to the question: "With respect to the situation in the current quarter, how do you anticipate the total number of personnel hired in your firm to change over the next 12 months?", and "How do you expect the physical capital stock in your firm to modify over the next 12 months?", from interviews conducted by Banco de México.

Risks to Regional Economic Activity

Upward risks



✓ A probable rebound in investment levels, both domestic and foreign, that would derive from the NAFTA renegotiation, which would benefit the involved countries.

✓ That the dynamism of private consumption would be greater than previously expected.

✓ In the North-Central and Southern regions business contacts kept stressing the possibility that tourism would perform better than expected.

✓ In the Central regions, business agents mentioned that growth of the construction sector may be greater than anticipated, in light of the favorable evolution of the automobile industry.

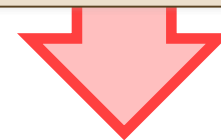
Downward risks

✓ The possibility of a deterioration in the perceived public safety.

✓ That indeed certain trade and migratory policies may be implemented in the U.S., which would negatively affect regional economies.

✓ That a certain weakening of public work projects would lead to an insufficient level of regional infrastructure, especially in transportation and communications.

✓ Some business agents interviewed in the Northern region also pointed out the possibility of new episodes of high exchange rate volatility, while in the Southern one they mentioned possible adverse weather conditions.

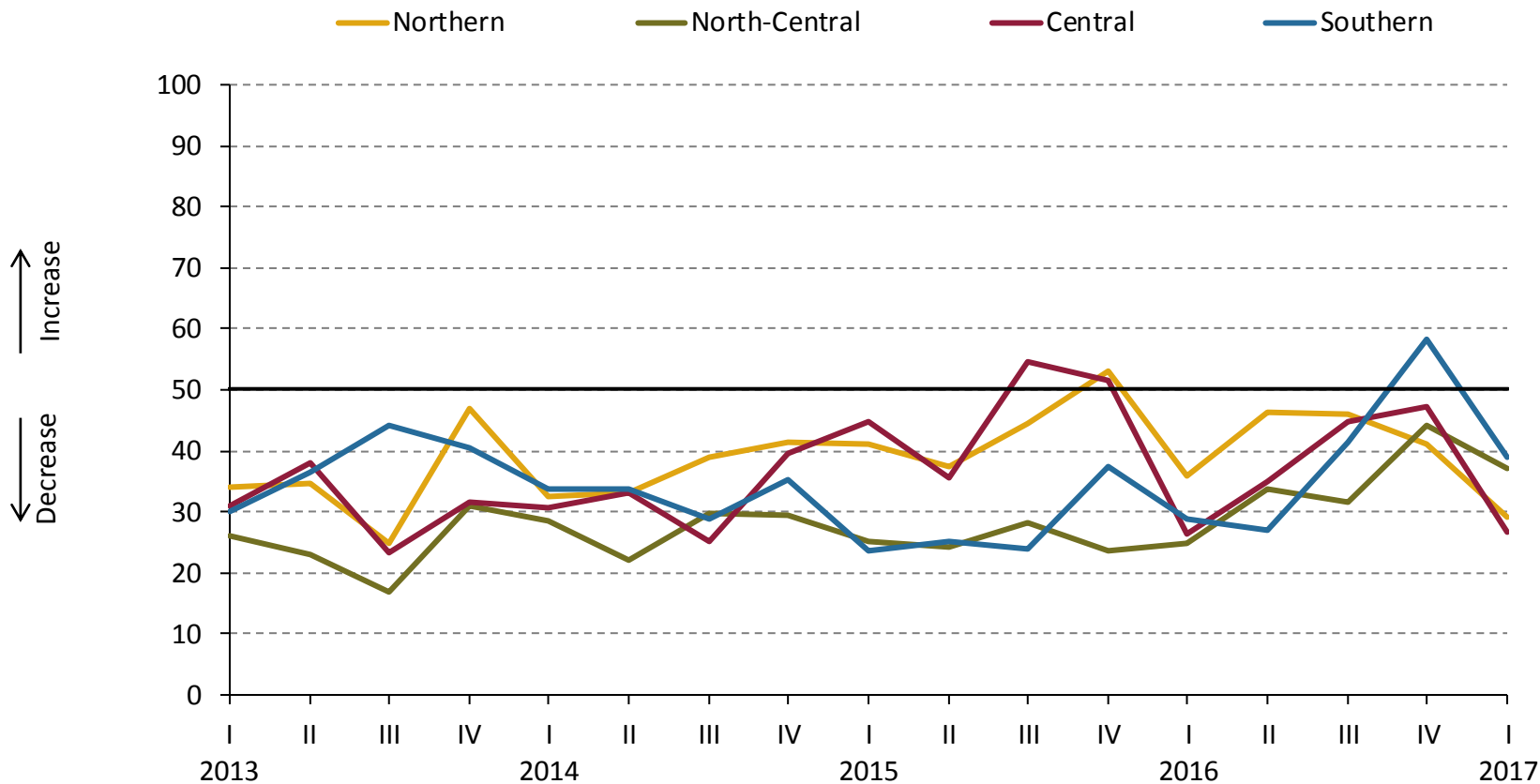


Economic Outlook

- Relative to the expected evolution of prices for the next twelve months, business agents in all regions anticipate annual growth rates of sales' prices of own goods and services to be generally lower than last year, after this signal had been less favorable in most regions during Q4 2016.
- Similarly, business contacts foresee a drop in the annual change of wage costs and input prices for the next twelve months with respect to that observed in Q1 2017.

As regards the sales prices of own goods and services, business agents in all regions generally anticipated lower annual change rates as compared to those observed over the previous twelve months, after a span over which this signal somewhat deteriorated in most regions during Q4 2016.

Business Agents' Expectations: Annual Change of Sales' Prices, Next 12 Months ^{1/} Diffusion indices

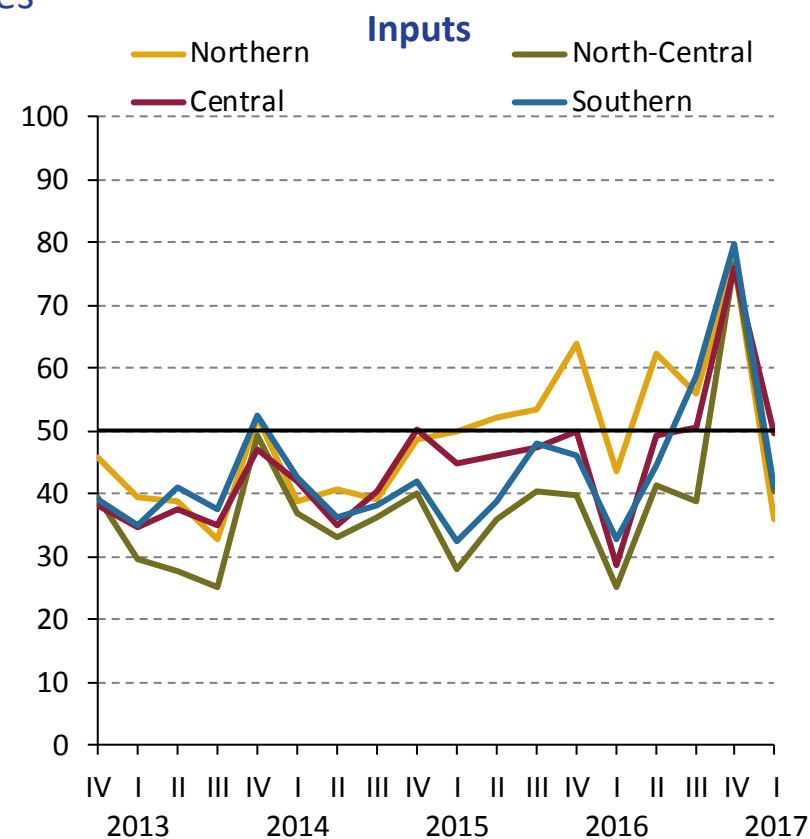
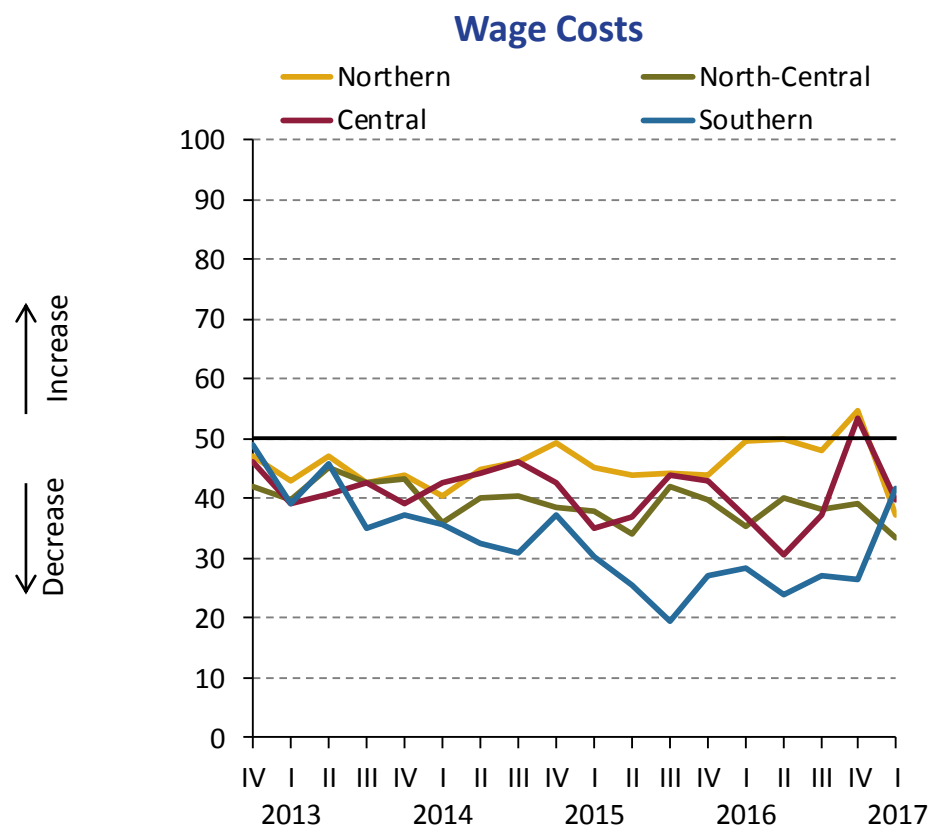


^{1/} Results obtained from responses to the question: "With respect to the previous 12 months, how do you anticipate sales' prices in your sector to adjust for the next 12 months?", from interviews conducted by Banco de México.

As regards wage costs, business agents interviewed in all regions anticipated in general a lower annual growth rate, even though in the Southern one this signal displayed a performance opposite to that registered in the rest of regions. With respect to input prices, the signal of an upward trend in its change for the following twelve months weakened considerably across all regional economies.

Business Agents' Expectations: Annual Change of Wage Costs and Input Prices, Next 12 Months ^{1/}

Diffusion indices



^{1/} Results obtained from responses to the question: "With respect to the previous 12 months, how do you anticipate input prices (goods and services), and wage costs used in your sector to adjust over the next 12 months?", from interviews conducted by Banco de México.

Outline

- I. Regional Economic Report
- II. Results January – March 2017
 - A. Economic Activity
 - B. Inflation
 - C. Economic Outlook
- III. Final Remarks

Final Remarks

- In view of a complex international environment, regional economies generally have shown resilience and have expanded continuously. From a longer-term perspective, this performance has been contributed to by a solid macroeconomic framework, as well as by the adoption of structural reforms, which has been reflected in a greater dynamism of the domestic market and a successful integration of the Mexican export sector into global value chains.
 - ✓ However, looking ahead it is necessary to strengthen the macroeconomic fundamentals of the country and to continue implementing policies at the local level and nationwide, which would allow different regional economies to attain a faster and sustained growth. In particular, it is indispensable to strengthen the rule of law and to guarantee legal certainty of all economic actors.



BANCO DE MÉXICO

June 2017

www.banxico.org.mx