

### **Outline**

- **1** External conditions
- **2** Current situation of the Mexican economy
- 3 Inflation
- 4 Monetary policy
- **5** Forecasts and final remarks

In Q4 2018, global economic activity showed a sharper deceleration than anticipated, as most advanced and some emerging economies exhibited a lower dynamism. In this environment, the outlook for growth has been revised downwards.

# **Selected Countries: Real GDP Growth and Forecast** Annual % change, s. a. **Forecast** China United States 1/

s. a. / Seasonally adjusted figures.

1/ USA figures for the fourth quarter 2018 correspond to the forecast (GDP Now) published by the Federal Reserve Bank of Atlanta.

Source: Haver Analytics and WEO of October 2018. IMF.

Q4 2018

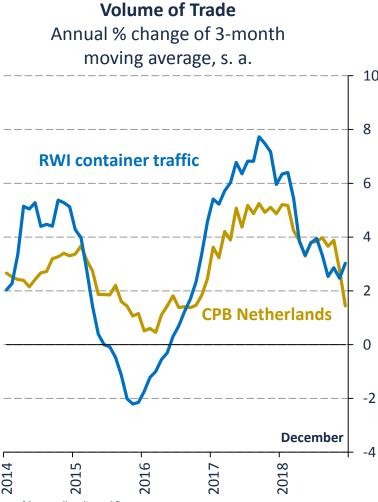
2018

**Japan** 

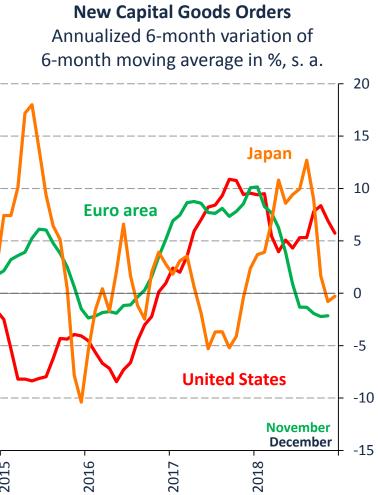
2022

2020

### World Economy



s. a. / Seasonally adjusted figures. Source: Prepared by Banco de México with data from CPB Netherlands, Haver Analytics, and IMF.



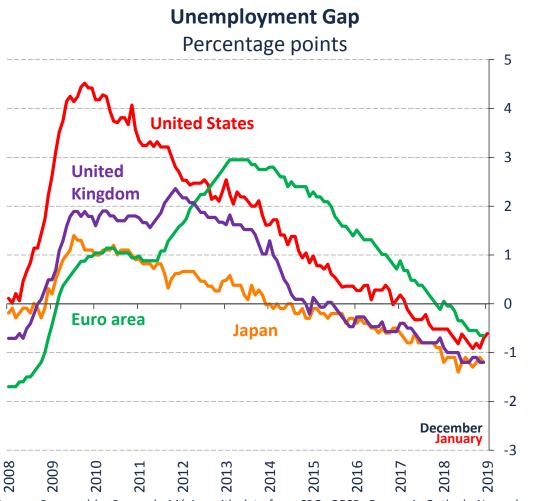
s. a. / Seasonally adjusted figures. Source: Census Bureau, Japan Office of the Cabinet, and ECB.

2010

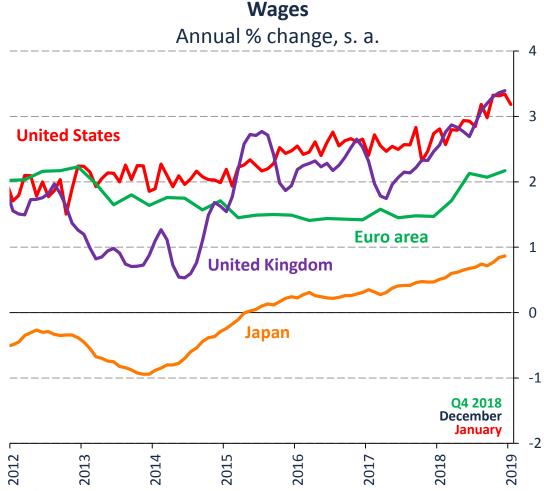
Euro area

In this context, wages in advanced economies increased gradually due to lower slack conditions in their respective labor markets.

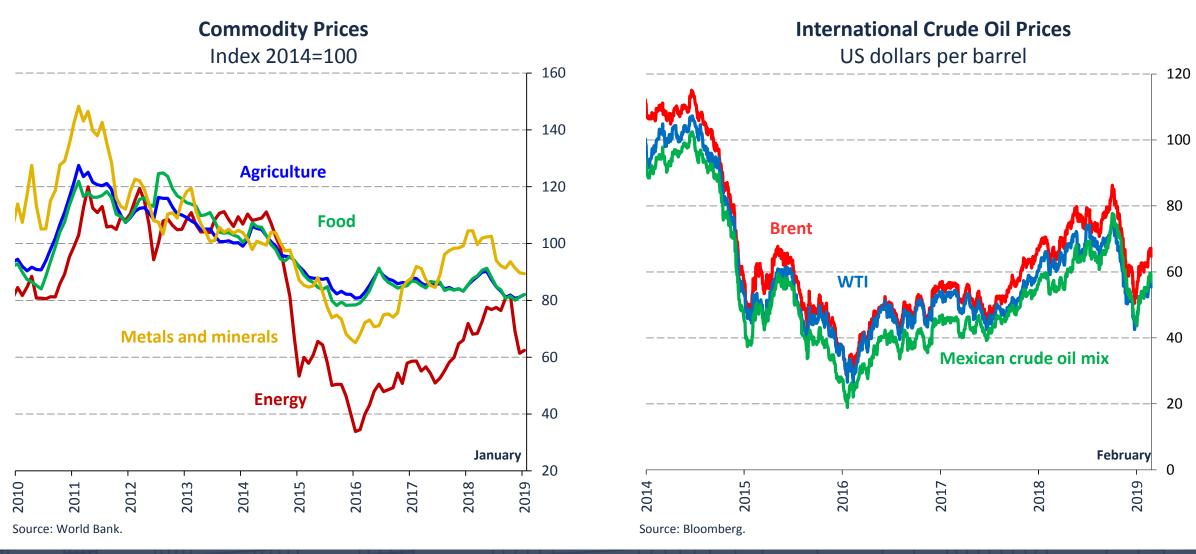
#### **Advanced Economies**



Source: Prepared by Banco de México with data from CBO, OECD, Economic Outlook, November 2017 and National Statistical Agencies.

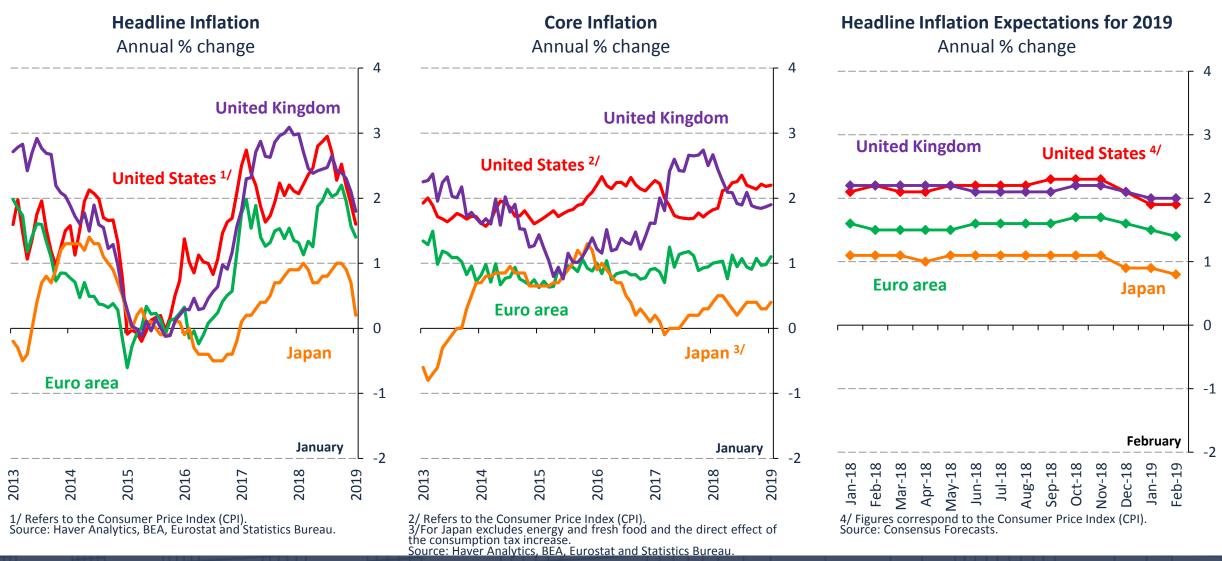


s. a. / Seasonally adjusted figures. Note: Wage indicators of USA, euro area, U.K. and Japan correspond to average hourly remunerations, compensation per employee, weekly average remunerations and average monetary remunerations, respectively. Source: BLS, BCE, Bloomberg and ONS. Given the high levels of oil production and the lower demand caused by a decline in the rate of global growth, oil prices plunged, interrupting such trend in late December. Likewise, industrial metal prices fell due to lower industrial activity worldwide.



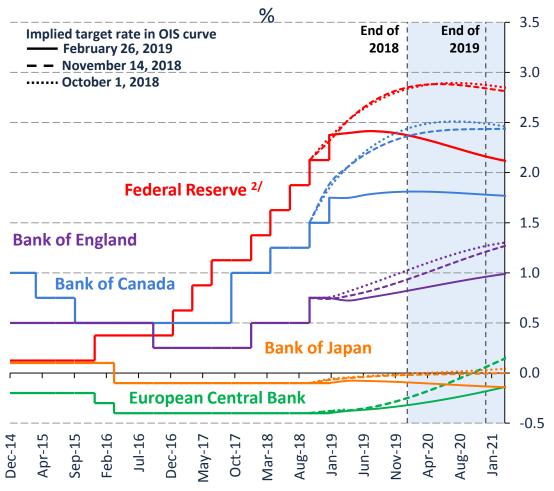
Thus, in an environment of lower economic dynamism and lower energy prices, headline inflation decreased in most advanced economies while core inflation remained relatively stable.



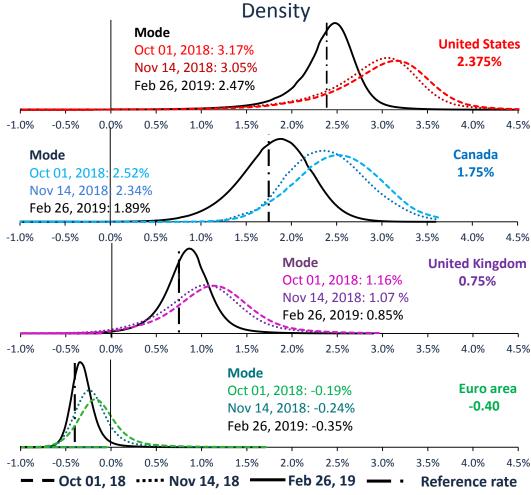


In this scenario of a deteriorated outlook for global growth and of low inflation, the central banks of the main advanced economies started to warn that the process of monetary policy normalization in their countries might take place at a slower rate than anticipated.

# Reference Rates and Implied Trajectories in OIS Curves 1/

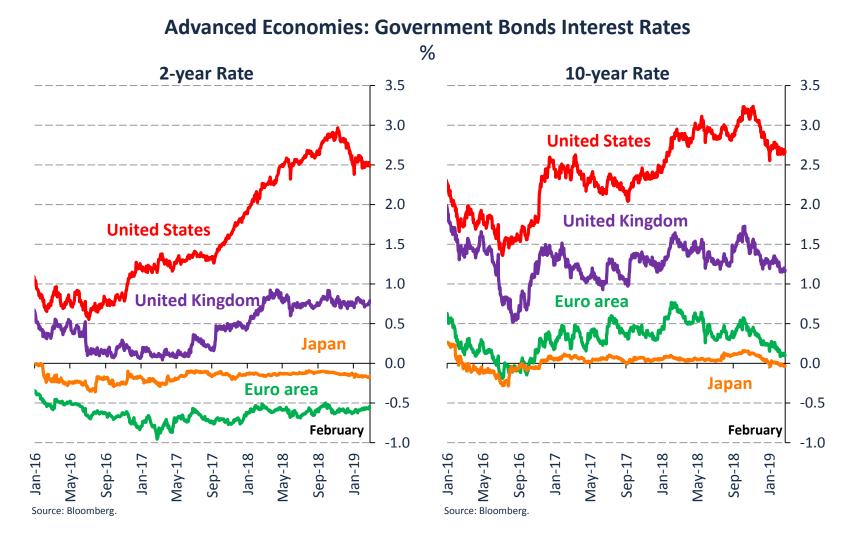


# Prospective Distribution of the Reference Rate at the End of 2019 Implied in Options <sup>3/</sup>



1/ OIS: Fixed-for-floating swap where the fixed interest rate is the reference rate. 2/ Data for the observed federal funds rate corresponds to the average between the lower and upper bounds of the range . 3/ The implicit distribution of the reference rate is obtained from the changes in interest rates implicit in options over 3-month futures (LIBOR in the U.S. and United Kingdom, EURIBOR in the euro area and bankers acceptance in Canada). The spread between the reference rate and the 3-month rate is assumed to remain constant. The implicit distribution in options is calculated using the Breeden-Litzenberger method. Source: Bloomberg.

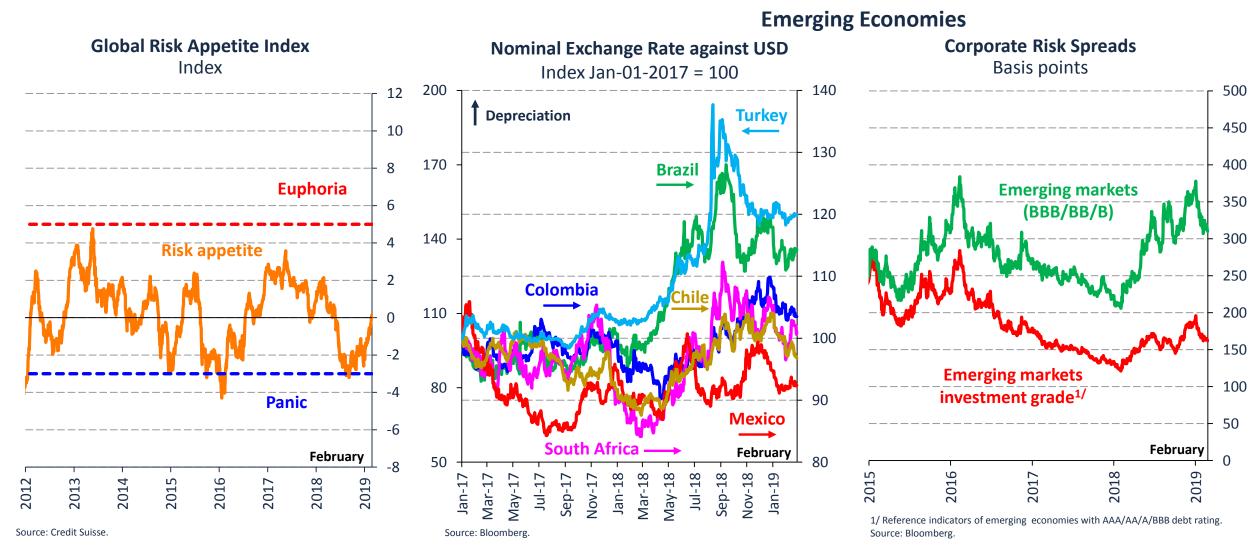
An environment of risk aversion together with a deteriorated economic outlook contributed to a decline in sovereign bond yields in advanced economies and to an appreciation of the US dollar during Q4 2018, a trend that reverted somewhat in the first weeks of 2019.





1/ DXY index estimated by Intercontinental Exchange (ICE) based on the weighted geometric mean of the dollar's value compared with a basket of 6 other major currencies: EUR: 57.6%, JPY: 13.6%, GBP: 11.9%, CAD: 9.1%, SEK: 4.2% and CHF: 3.6%. Base=100. 2/ Trade-weighted Index of the Federal Reserve; main trade partners: China (21.3%), Eurozone (16.38%), Canada (12.7%), Mexico (11.9%), Japan (6.9%), South Korea (3.9%), United Kingdom (3.35%). Source: Bloomberg.

Thus, during Q4 2018, financial markets exhibited high volatility. Additionally, the outlook of a greater-than-anticipated slowdown in the rate of growth of the U.S. economy strengthened. Nevertheless, a change in the message of the main central banks towards a more cautious policy stance had a favorable impact on financial markets since the early part of this year.



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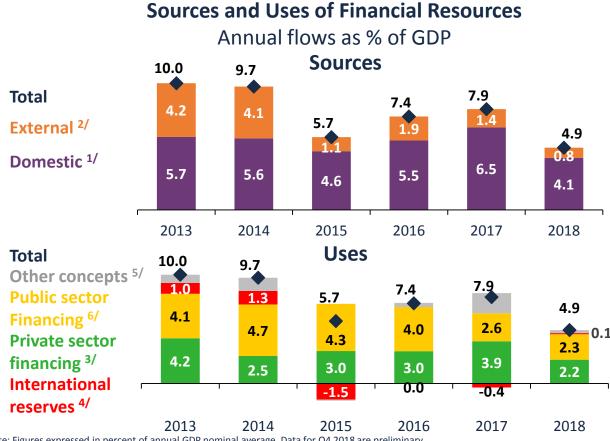
3 Inflation

4 Monetary policy

**5** Forecasts and final remarks

- The Mexican economy has faced a sequence of adverse shocks since mid-2014, which contributed to a greater external financing constraint:
  - 1 Fall in crude oil prices second half of 2014.
  - 2 Significant contraction of the export oil production platform.
    - The oil trade balance went from being in surplus to being in deficit.
  - 3 Uncertainty about the future of NAFTA.
  - 4 Monetary policy normalization in the U.S.
- Given the lower availability of external resources, an adjustment in the current account deficit was necessary. This called for a considerable adjustment in the non-oil trade balance.
  - 1 Depreciation of the real exchange rate.
  - 2 Monetary policy aimed at preventing the price formation process and inflation expectations from being affected.
    - Intertemporal reallocation of economic agents' expenditure, inducing higher savings.
  - 3 Lower absorption of financial resources by the public sector.

The Mexican economy has registered a significant reduction of financing from external sources, which has been partly offset by an increase of domestic financing sources and a lower absorption of resources by the public sector.



Note: Figures expressed in percent of annual GDP nominal average. Data for Q4 2018 are preliminary.

1/ Corresponds to domestic financial assets (aggregate F1), composed of monetary and non-monetary domestic sources.

3/ Includes lending by financial intermediaries, the National Housing Agencies (Infonavit and Fovissste), the issuance of domestic debt and external financing of firms.

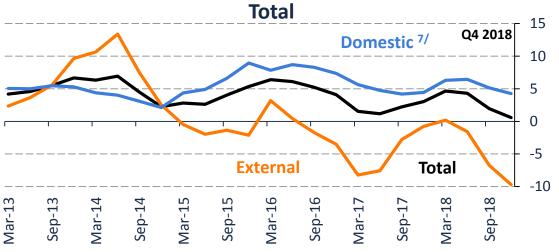
4/ As stated in Banco de México's Law.

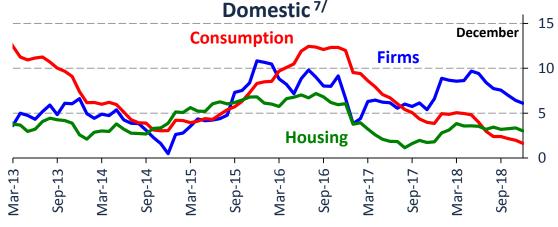
6/ Excluding the effect of Banco de México's operational surplus.

Source: Banco de México.

### Financing to the Non-financial Private Sector





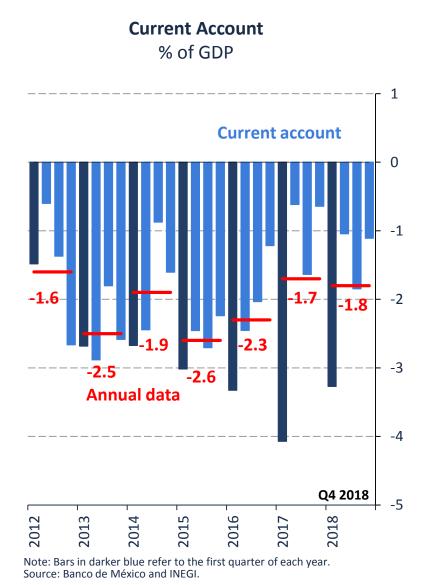


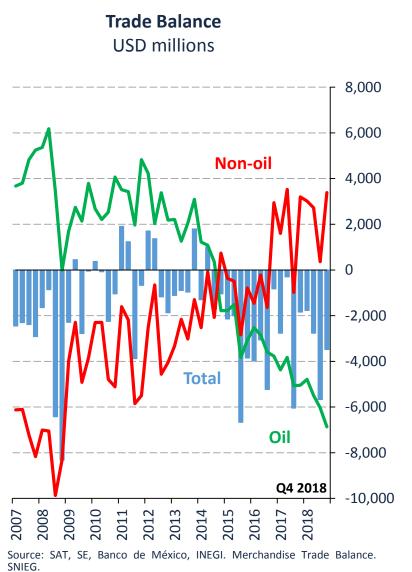
7/ Data adjusted due to the change in composition of the set of financial intermediaries considered in the credit statistics. Credit from commercial and development banks as well as other non-bank financial intermediaries. is included. Source: Banco de México.

<sup>2/</sup> Includes monetary instruments held by non-residents (equivalent to the difference between M4 and M3) and other non-monetary external sources (external debt of the Federal Government and public agencies and companies, commercial banks' external liabilities, external financing to the nonfinancial private sector, and funds raised by agencies, among others).

<sup>5/</sup> Includes capital accounts, and earnings and other assets and liabilities of commercial and development banks, of non-bank financial intermediaries, of the National Housing Agency (Infonavit) and Banco de México -including securities issued by Banco de México for monetary regulation purposes, especially those related to sterilizing the monetary impact of the operational surplus. It includes non-monetary liabilities from the Institute for the Protection of Bank Savings (IPAB) as well as the effect of the valuation changes of public debt instruments, among other concepts.

External accounts have reverted their medium-term trend. Thus, currently, a surplus in the non-oil trade balance and a deficit in the oil trade balance are observed.



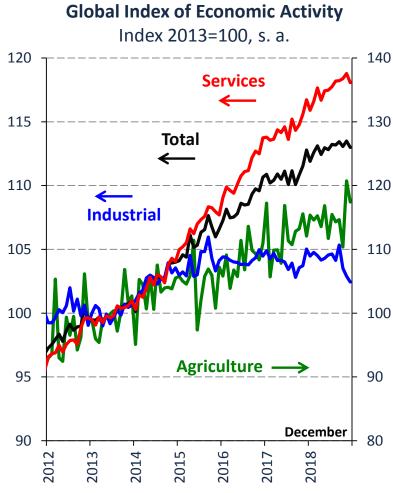




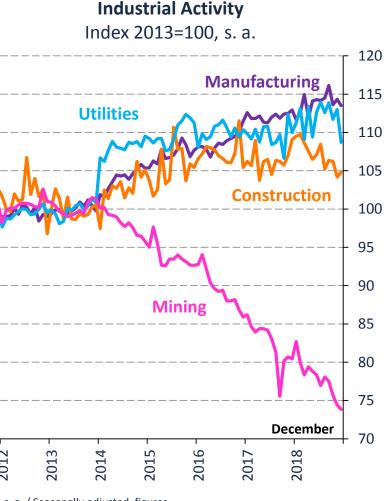
Economic activity decelerated significantly in Q4 2018 vis-à-vis the previous quarter. Such deceleration could extend to the beginning of 2019.

## **Gross Domestic Product** Quarterly % change, s. a. 2.0 1.5 1.0 -0.5 Q4 2018 -1.0 2012 2018 2014 2017 2013

s. a. / Seasonally adjusted figures. Source: Mexico's National Accounts System (SCNM, for its acronym in Spanish), INEGI.



s. a. / Seasonally adjusted figures. Source: Mexico's National Accounts System (SCNM, for its acronym in Spanish). INEGI.

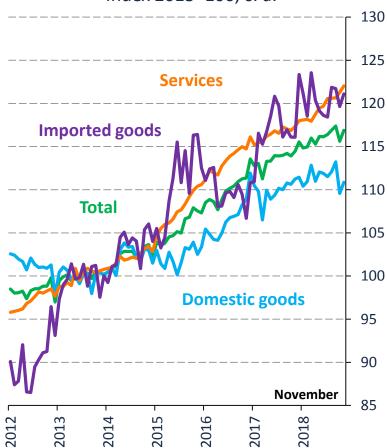


s. a. / Seasonally adjusted figures. Source: Mexico's National Accounts System (SCNM, for its acronym in Spanish), INEGI.

As for domestic demand, private consumption decelerated somewhat due to the weak performance of consumption of domestic goods. In turn, remittances continue showing a significant dynamism and consumer confidence is at high levels.

# Total Private Consumption and Components

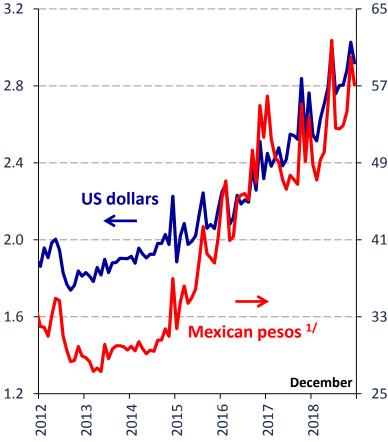
Index 2013=100, s. a.



s. a. / Seasonally adjusted figures. Source: Mexico's National Accounts System (SCNM, for its acronym in Spanish), INEGI.

#### Remittances

Billion of USD and of constant pesos, s. a.



s. a. / Seasonally adjusted figures. 1/ Prices as of the second half of July 2018. Source: Banco de México and INEGI.

# **Consumer Confidence** and Total Real Wage Bill

Response balance and index 2013=100, s. a.



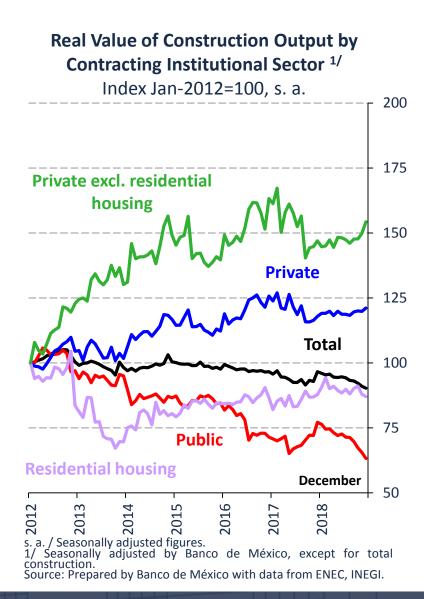
s. a. / Seasonally adjusted figures.

Source: Prepared by Banco de México with data from INEGI's National Employment Survey (ENOE), and the National Consumer Confidence Survey (ENCO) conducted by INEGI and Banco de México.

In a context of uncertainty, the negative trend exhibited by gross fixed investment since the beginning of 2018 has intensified, due to the unfavorable performance of both construction spending and investment in machinery and equipment.

### **Investment and Components** Index 2013=100, s. a. **Domestic machinery** 130 and equipment **Imported machinery** 120 and equipment 115 110 100 Construction 95 **November** 2016

s. a. / Seasonally adjusted figures. Source: Mexico's National Accounts System (SCNM, for its acronym in Spanish), INEGI.



Right Time to Invest <sup>2/</sup> Indicators w/ reference level of 50 points, s. a. **Manufactures** Construction January

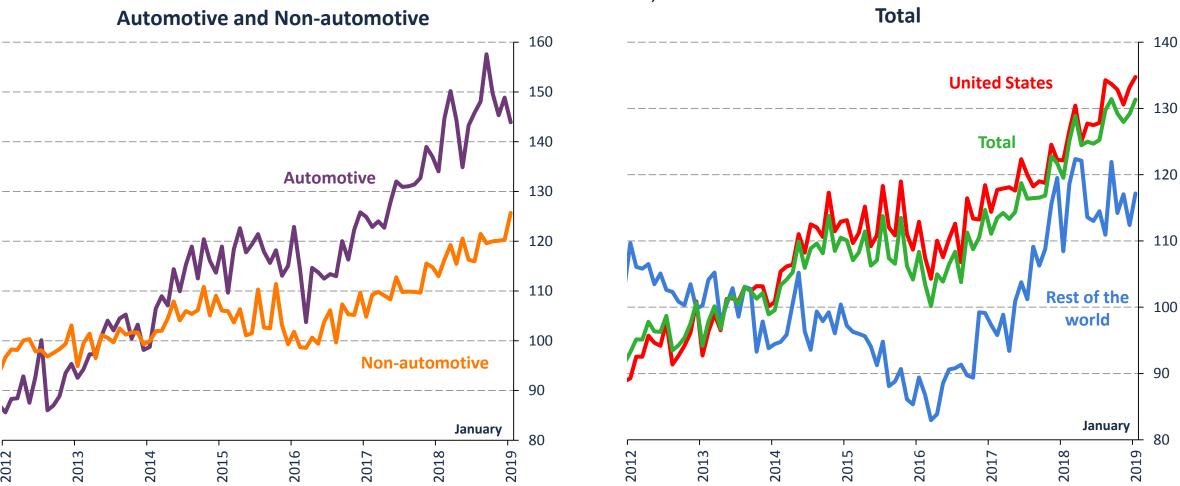
s. a. / Seasonally adjusted figures. 2/ Refers to question: "Considering the current situation of the country and of your firm vs. one year ago, do you believe it is the right time to invest?" Source: INEGI.

2016

In Q4 2018, manufacturing exports remained at levels similar to those registered in the previous quarter, in a context where a deceleration of global trade has been observed.

### **Manufacturing Exports**

Index 2013 = 100, s. a.



s. a./ Seasonally adjusted series based on data in nominal USD.
Source: Prepared by Banco de México with data from Mexico's Tax Administration Service (SAT, for its acronym in Spanish), the Ministry of the Economy (SE, for its acronym in Spanish), Banco de México, the National Institute of Statistics and Geography (INEGI, for its acronym in Spanish), Mexico's Merchandise Trade Balance, and National System of Statistical and Geographical Information (SNIEG, for its acronym in Spanish)

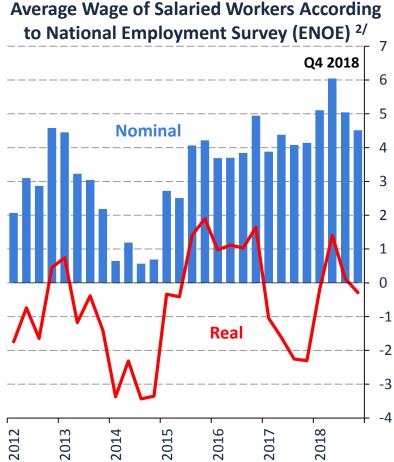
Slack conditions in the labor market remained tight, although they seem to have eased towards the end of the period. On the other hand, there is the risk that the recent minimum wage increases, besides their possible direct impact, could bring about wage revisions that exceed productivity gains and give rise to cost pressures, thus affecting formal employment and prices.

Wage Indicators
Annual % change

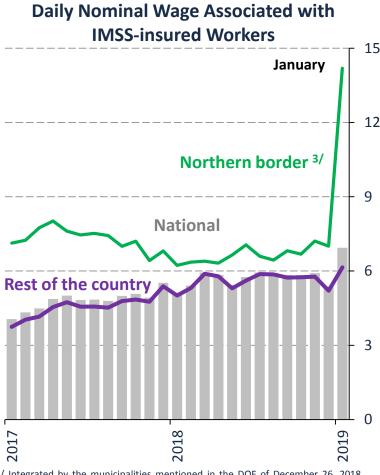


s. a. / Seasonally adjusted figures. 1/ Shadows represent confidence bands. The interval corresponds to two average standard deviations among all estimates.

Source: Prepared by Banco de México with data from ENOE (INEGI).



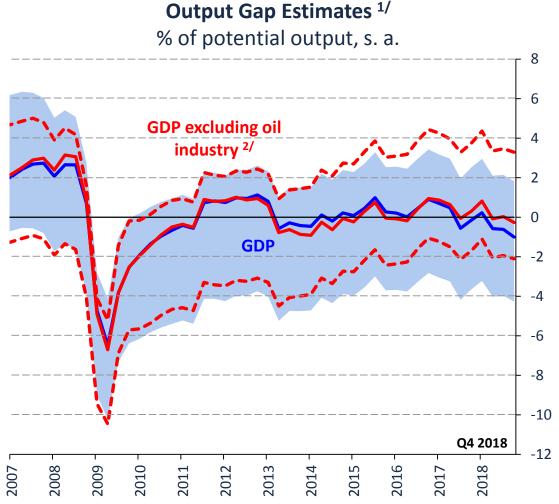
2/ To calculate the average nominal wage, the bottom 1 percent and the top 1 percent in the wage distribution are excluded. Individuals with income reported as zero or those who did not report income are excluded. Source: Calculated by Banco de México with data from INEGI.



3/ Integrated by the municipalities mentioned in the DOF of December 26, 2018, most of which share boundary with the northern border.

Source: Calculated by Banco de México with data from IMSS.

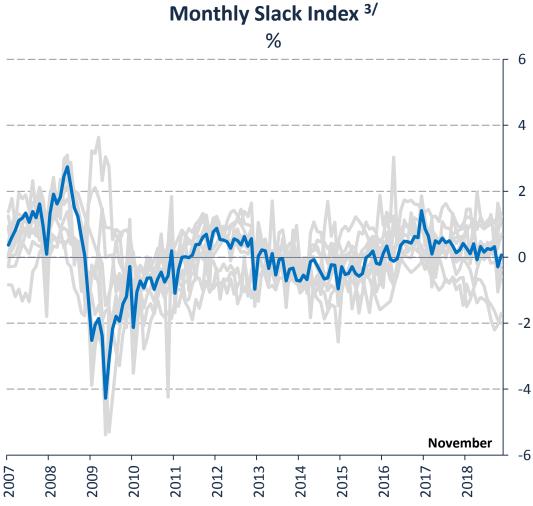
Slack conditions in Q4 2018 for the economy as a whole are estimated to have loosened as compared to the previous quarter.



s. a. / Seasonally adjusted figures. 1/ Output gap estimated with a tail-corrected Hodrick-Prescott filter; see Banco de México (2009), "Inflation Report (April-June 2009)", p.74.

2/ Excludes both oil and gas extraction, support activities for mining, and petroleum and coal products' manufacturing.

Note: Output gap confidence interval calculated with a method of unobserved components. The dotted line refers to the confidence interval for the gap calculated excluding the oil industry while the blue area is the interval corresponding to the total GDP Source: Prepared by Banco de México with INEGI data.



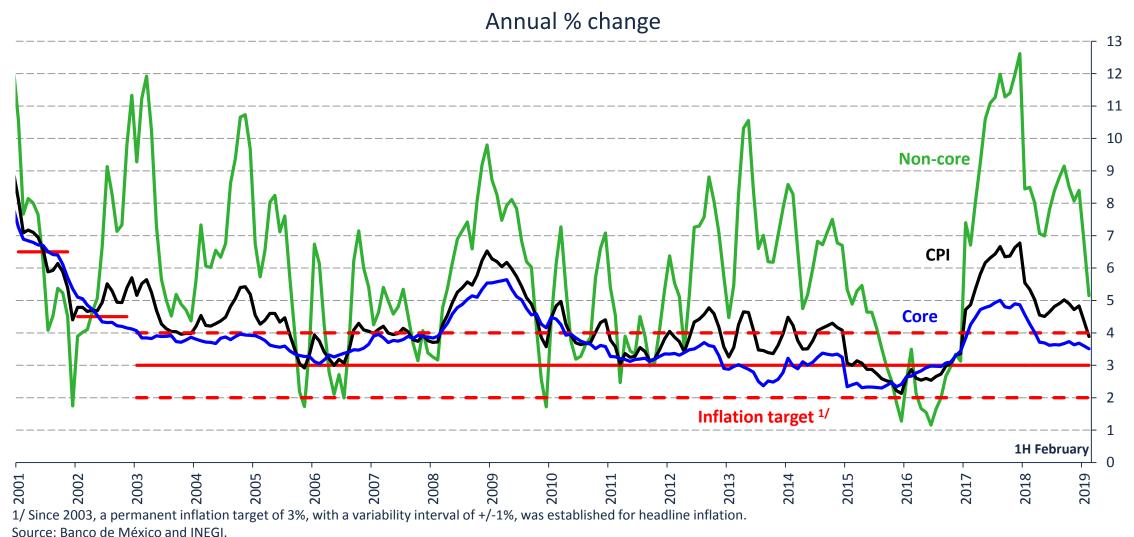
3/ Index constructed using the Model Confidence Set (MCS) methodology; see Banco de México's Inflation Report, October – December 2017. The monthly slack index is based on the first main component of a set of 11 indicators. The first component represents 50% of the joint variation of monthly indicators. Gray lines correspond to individual slack indicators used in the analysis of Principal Components. Source: Prepared by Banco de México with data from INEGI and Banco de México.

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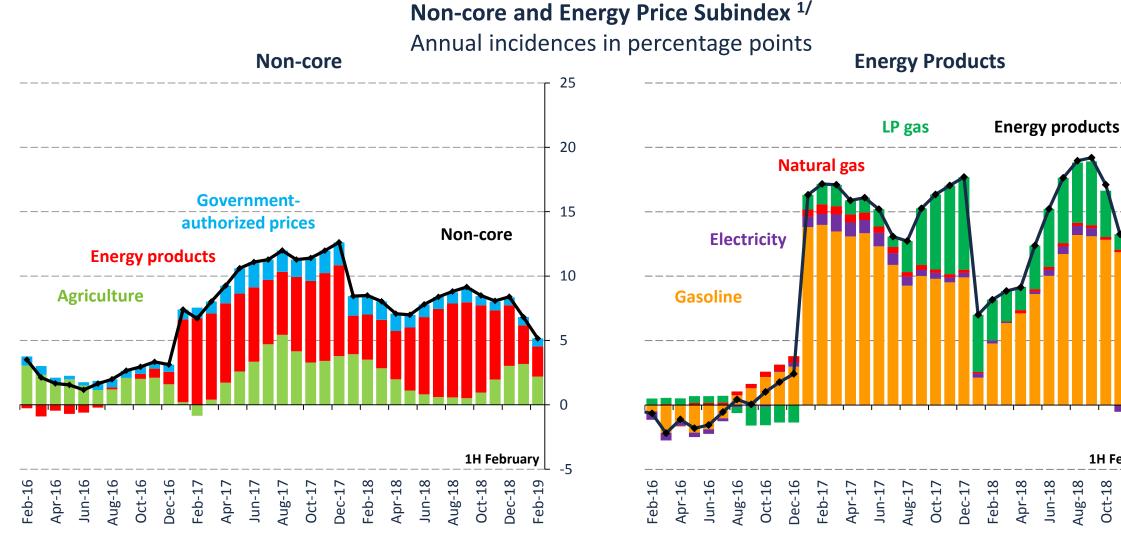
Between Q3 and Q4 2018 annual headline inflation fell, reaching at 3.89% in the first two weeks of February. This result is explained, fundamentally, by the lower levels exhibited by annual non-core inflation, since core inflation continued showing a resistance to decline.

#### **Consumer Price Index**



B BANCO×MÉXICO

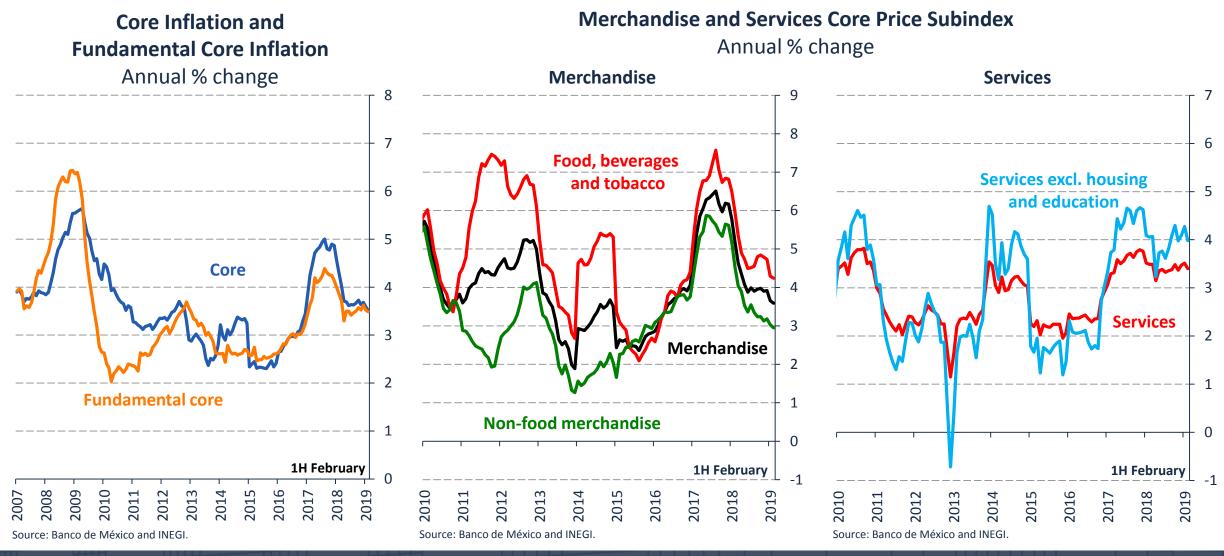
The decline in non-core inflation is largely the result of the lower annual growth of energy prices, such as LP gas, gasoline and electricity tariffs, which more than offset the greater price changes of agricultural products during Q4 2018 and January 2019.



1/ In certain cases, the sum of inflation's components may not add up due to rounding. Source: Calculated by Banco de México with INEGI data.

1H February

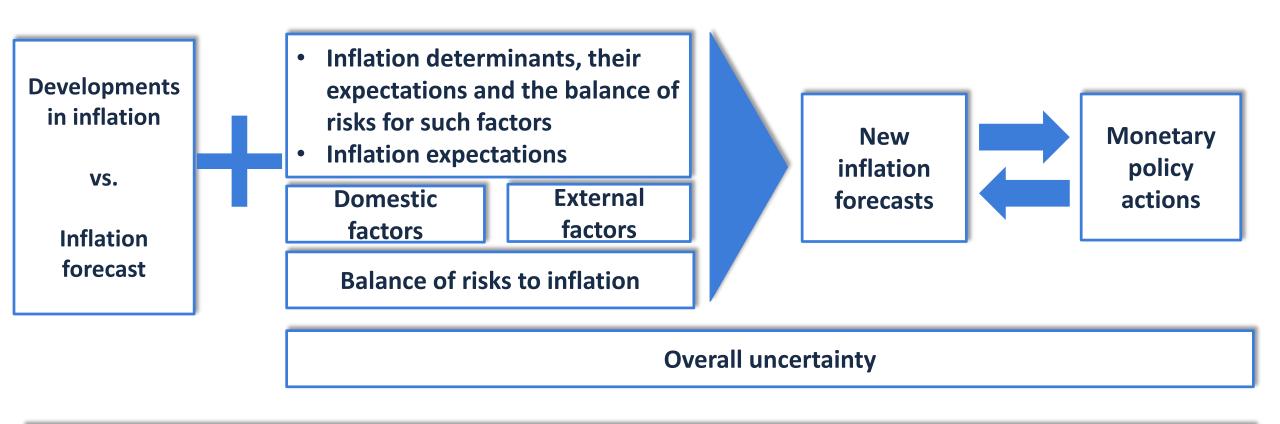
The relatively high levels still displayed by core inflation are due to the magnitude and the simultaneous nature of the shocks that have affected it, standing out among these, the indirect effects of the increases that energy prices had shown, the behavior of the exchange rate and real wages during most of 2018 as well as conditions of relatively low slack.



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# **Monetary Policy Decision Making**



Time frame in which monetary policy operates

### Monetary policy conduction

#### October 2018

Rate **unchanged** at 7.75%

- ✓ Given that the shocks that had affected inflation were of a transitory nature.
- ✓ Nevertheless, the Governing Board expressed concern about the risk that the shocks that had affected non-core inflation could possibly affect the evolution of core inflation.

# November and December 2018

Two 25bp increases up to 8.25%

### February 2019

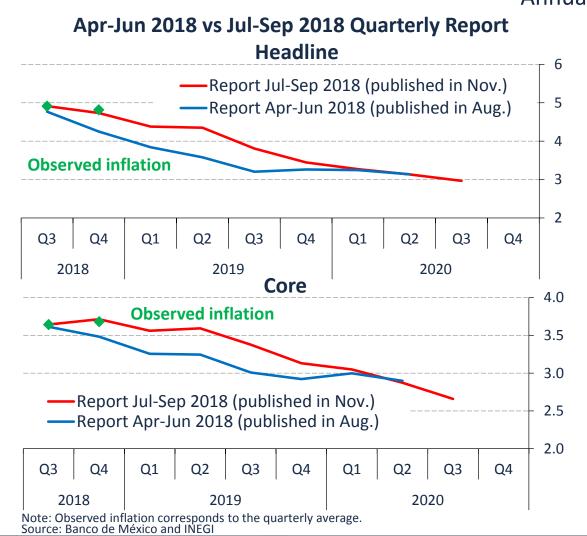
Rate **unchanged** at 8.25%

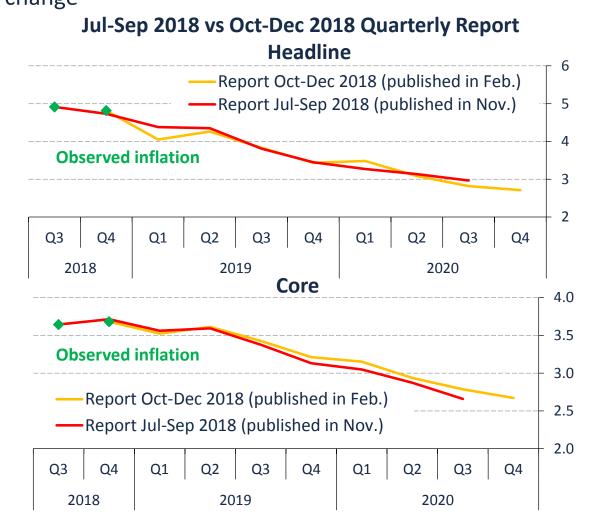
- ✓ The balance of risks to inflation continued to be biased to the upside and had deteriorated in both its short- and medium-term horizons.
- ✓ The expected trajectory for headline and core inflation released by Banco de México at the end of November considered higher-than-previously-estimated levels for all 2019 for both indicators as well as a delay in inflation's convergence to the 3% target.

✓ Considering that the recent developments in inflation and its main determinants did not change significantly with respect to their foreseen trajectories, that the cyclical position of the economy has loosened somewhat, and that the current monetary policy stance is consistent with the convergence of inflation to its target.

The expected trajectory for headline and core inflation published by Banco de México in late November considered levels above those previously estimated for all 2019, for both indicators, and a delay in the convergence to the 3% target. The inflation forecasts of this Report are similar to those released in late November.

# Inflation Forecasts Annual % change



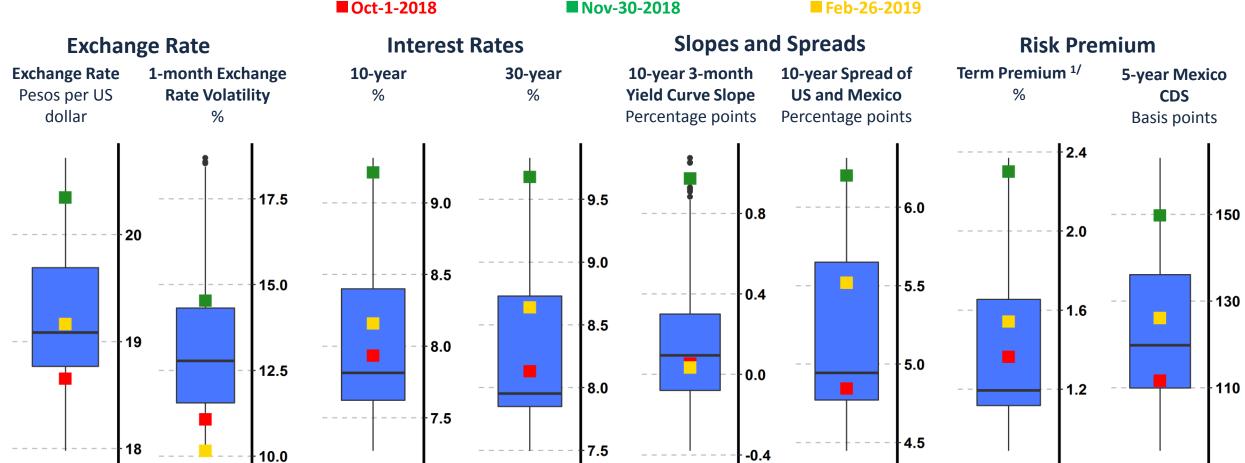


From mid-October to early December, domestic financial markets exhibited a negative performance as a result of both external as well as idiosyncratic factors. However, in recent weeks they have recovered, although they still have not reached the levels registered at the beginning of October.

### **Boxplot Diagram: Performance of Financial Assets in Mexico**

From Jan-1-2018 to date

Oct-1-2018 ■ Nov-30-2018 ■ Feb-26-2019



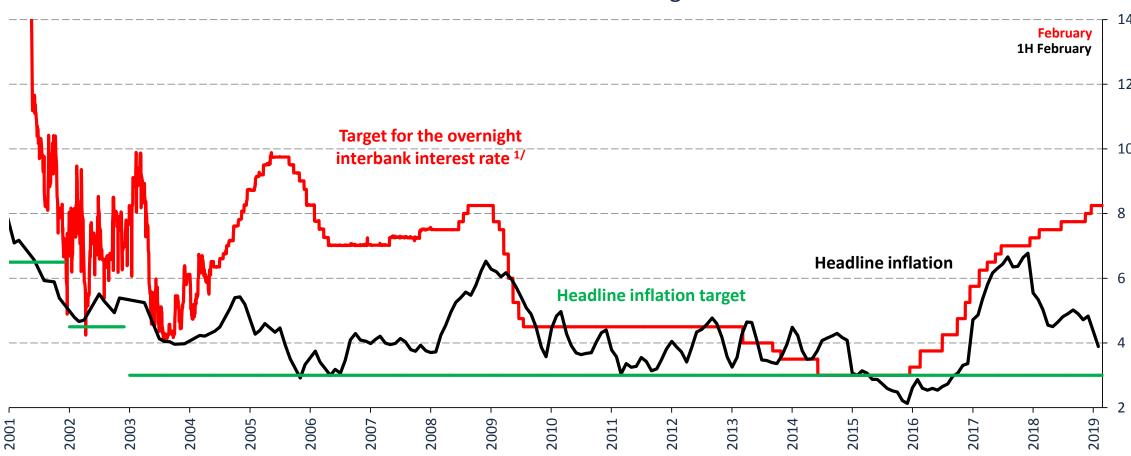
Note: The bloxplot is made from each series sample quartiles. The lower arm represents the first quartile; the upper arm, the fourth quartile. The box represents the distance between the first and third quartiles. The line inside the box identifies the median, that is, below the line and to the bottom of the box is the distance between the first and second quartiles; and the part above the line and to the top of the box represents the distance between the second and third quartiles.

1/ To calculate the term premium, the short-term interest interest interest interest interest interest interest interest interest interest. Source: Bloomberg, Banco de México, Proveedor Integral de Precios (PIP). Valmer and U.S. Treasury Department.

### Thus, the target for the overnight interbank interest rate is currently at 8.25%.

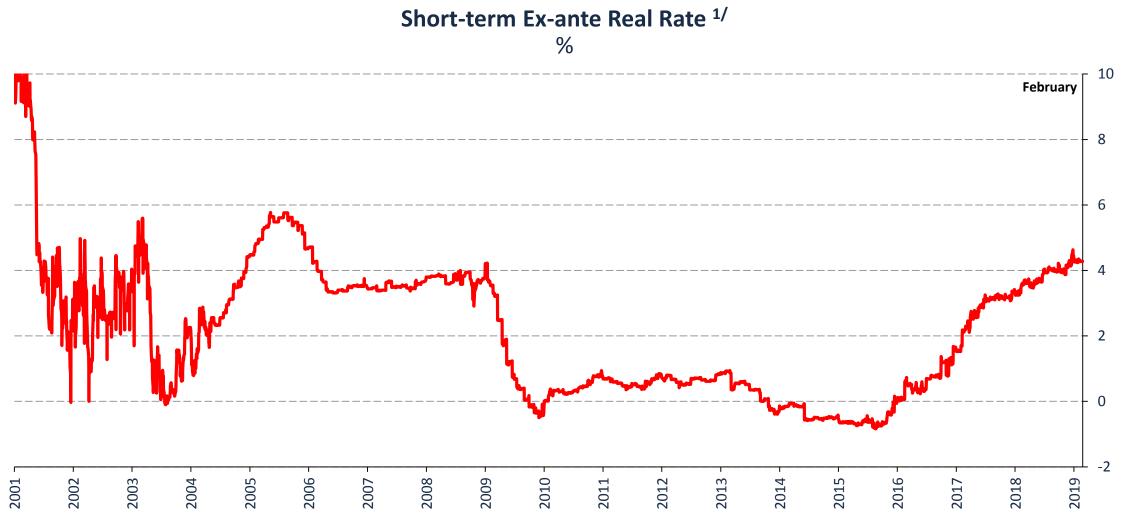
### **Monetary Policy Rate and Consumer Price Index**

% and annual % change



1/ The data shown up to January 20, 2008 corresponds to the overnight Interbank Interest Rate. Source: Banco de México and INEGI.

Therefore, considering the monetary policy actions described above as well as the evolution of 12-month inflation expectations, the ex-ante real interest rate is slightly above 4%.

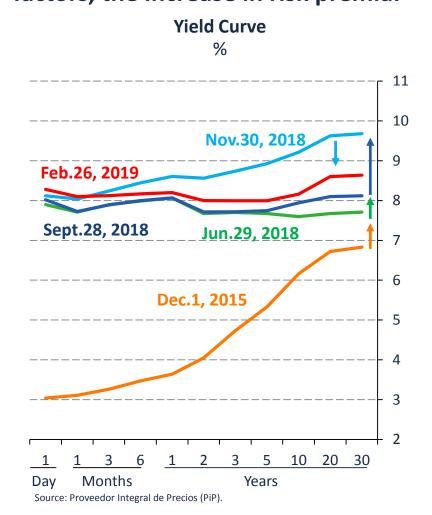


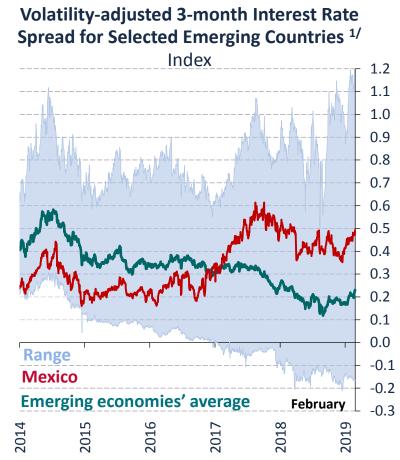
1/ The short-term ex-ante real rate is constructed using the target for the overnight interbank interest rate and 12-month inflation expectations from Banco de México's Survey. Source: Banco de México.

Headline inflation expectations for the end of 2019 and for 2020 deteriorated noticeably in December as a result of the significant upward adjustment in implicit non-core inflation expectations. However, in January, these improved slightly. The median corresponding to expectations for the longer terms remained stable, albeit above the 3% target.

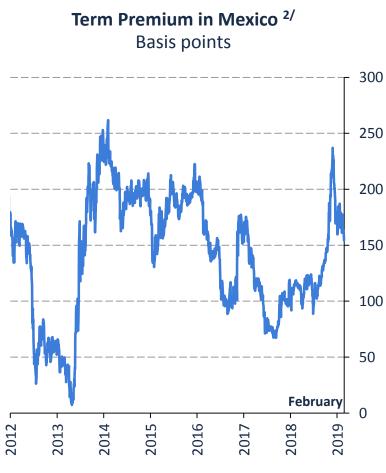


Between mid-October and December, interest rates increased and the slope of the yield curve steepened considerably. Such increase reverted partially in recent weeks. It is worth highlighting that the observed adjustments in medium and long-term interest rates during the former period might have reflected, among other factors, the increase in risk premia.









2/ To estimate the term premium, the average expectation of the short-term interest rate implicit in the long-term rate (zero-coupon 10-year bond rate) is estimated using an affine term structure model of interest rates. Then, based on such estimation, the term premium is calculated as the residual between the long-term rate and the mentioned expectation. The latter is measured using a continuously compound interest rate.

Source: Estimated by Banco de México with data from Valmer, Proveedor Integral de Precios (PiP), and Bloomberg.

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### **Economic Activity Outlook**

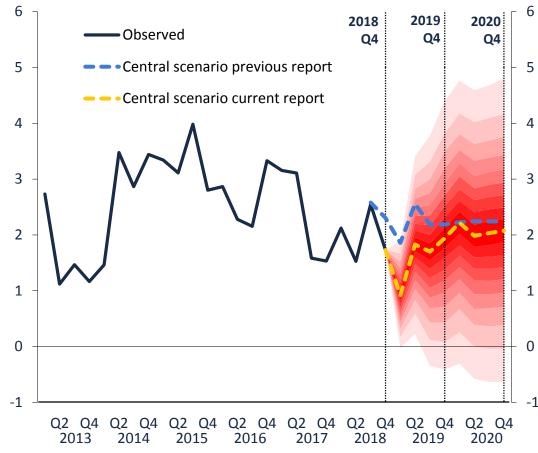
GDP Growth			
(%)			
Report	Jul-Sep 2018	Oct-Dec 2018	
2019	1.7 - 2.7	1.1 – 2.1	
2020	2.0 - 3.0	1.7 – 2.7	

Increase in number of IMSS-insured jobs			
(Thousands)			
Report	Jul-Sep 2018	Oct-Dec 2018	
2019	670 – 770	620 – 720	
2020	690 – 790	650 – 750	

Current account deficit			
(% of GDP)			
Report	Jul-Sep 2018	Oct-Dec 2018	
2019	2.3	2.0	
2020	2.3	2.0	

#### **Fan Chart: GDP Growth**

Annual %, s. a.



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

### Risks to Growth Outlook in the Forecast Horizon

The balance of risks to economic activity in Mexico continues biased to the downside.

#### **Downward:**

- > That an escalation of trade tensions is observed.
- That episodes of volatility are observed in international financial markets.
- > That there is a greater-than-expected slowdown of the world economy and of global trade.
- > That the process of ratification and implementation of the trade agreement reached with the U.S. and Canada is delayed.
- > That the current environment of uncertainty that has been affecting investment persists or deteriorates.
- > That the credit rating of Mexico or of State-productive enterprises deteriorates, specifically, that of Pemex.
- That the impact of episodes such as the shortage of fuel, the blockage of railroads in Michoacán or the labor conflicts in Tamaulipas is greater and more persistent than previously foreseen or that new episodes of this nature take place.

### **Upward:**

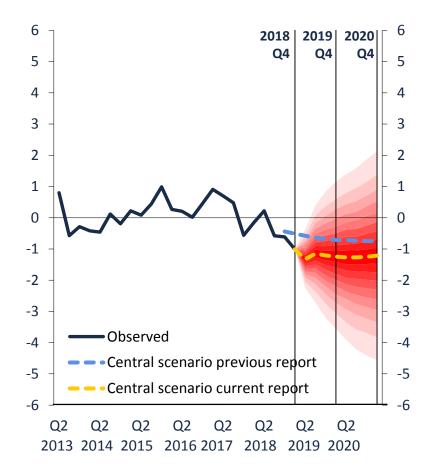
- > That the agreement with the U.S. and Canada about trade leads to a notable recovery of investment.
- > That a greater-than-anticipated dynamism of industrial production in the U.S. favors the performance of manufacturing exports.
- That a greater-than-foreseen dynamism of aggregate demand in the Mexican economy is observed, due to an increase in consumers' expenditure or to a higher investment in some sectors.

As for the economy's cyclical position, it is anticipated that slack conditions will show a greater easing throughout the forecast horizon.

#### **Fan Charts**

### **Output Gap Estimate**

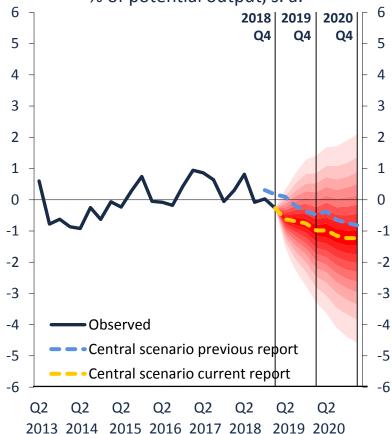
% of potential output, s. a



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

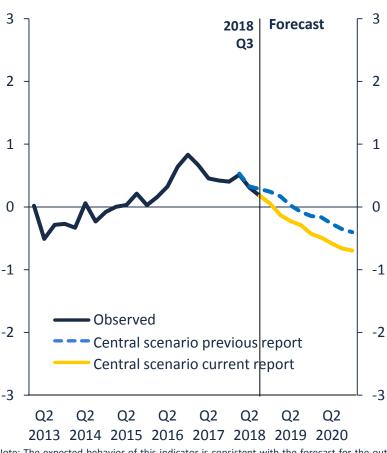
# Output Gap Estimate Excluding the Oil Sector

% of potential output, s. a.



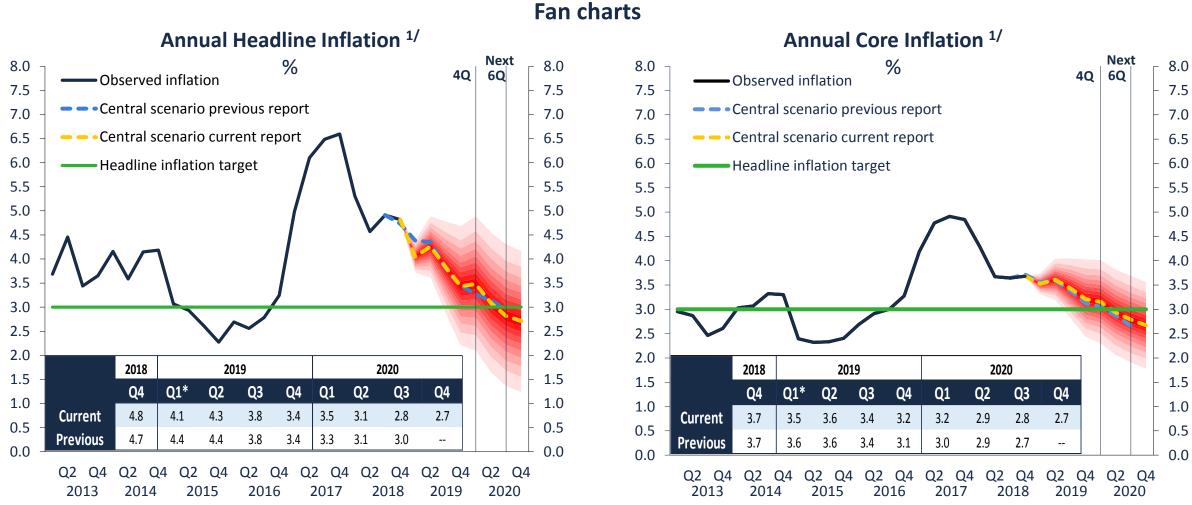
s. a. / Seasonally adjusted figures. Source: Banco de México.

### **Quarterly Slack Index**



Note: The expected behavior of this indicator is consistent with the forecast for the output that excludes the oil sector. It is not feasible to calculate a fan chart for a quarterly slack index because of the nature with which the forecast was constructed. Source: Banco de México.

The forecasts for annual headline and core inflation are similar to those released in the previous Quarterly Report. Headline inflation is estimated to reach levels around the target during the first semester of 2020 and core inflation is expected to lie at levels around 3% starting from 1H 2020.



<sup>1/</sup> Quarterly average of annual inflation. The next four and six quarters are indicated as of first quarter of 2019, that is, the first and third quarters of 2020, respectively, periods in which the monetary policy transmission channels fully operate.

\*/ Forecast since February 2019. Source: Banco de México and INEGI.

### **Risks to Inflation Outlook**

The balance of risks to the expected inflation trajectory remains biased to the upside in an environment of marked uncertainty.

### **Upward:**

- > That the peso exchange rate comes under pressure stemming from external or domestic factors.
- > That new pressures on energy prices or agricultural product prices arise.
- > That an escalation of protectionist and compensatory measures worldwide takes place.
- That public finances deteriorate.
- Considering the magnitude of the recent minimum wage increases, besides their possible direct impact, there is the risk that these bring about wage revisions that exceed productivity gains and give rise to cost pressures, thus affecting formal employment and prices.
- The persistence shown by core inflation could lead to a greater resistance to decline of long-term inflation expectations.

### **Downward:**

- > That smaller changes in the prices of some goods of the non-core subindex are registered.
- > That slack conditions widen more than previously foreseen.

### **Final Remarks**

- To attain a more dynamic and sustained growth that raises the welfare of the population, a sound macroeconomic framework needs to be maintained, and structural and institutional problems that have prevented achieving greater productivity and that have discouraged investment in the country need to be addressed.
- Efforts to structurally strengthen public finances must continue in order to ensure their long-term solvency and allow for increasing public investment spending. To boost private investment, the institutional design of incentives must be reviewed so that value creation is favored, the adoption of cutting-edge technologies is encouraged, trade openness and investment flows are maintained, and economic competition is fostered.
- In particular, the institutional framework must allow prices to properly reflect market conditions so that resources can be allocated to their most productive uses.
- Additionally, policies to fight public insecurity, corruption and impunity, and that guarantee legal certainty and respect for private property need to be adopted.
- A clear agenda on the measures that could be implemented to move in these directions will provide greater confidence and certainty in order to make Mexico a more attractive destination for investment.

### Annex – Boxes

- U.S. Federal Reserve Monetary Policy and Evolution of International Financial Markets
- 2 Escalation of Trade Tensions and Potential Effects on the Global Economy
- Measures Recently Announced by Banco de México and the Ministry of Finance to Boost the Financial Sector
- 4 Impact of Fuel Distribution Problems on Inflation
- 5 Analysis of Core Inflation Persistence
- 6 Evolution of Long-term Inflation Expectations

