



# Quarterly Report

October – December 2017

February 28th, 2018



BANCO DE MÉXICO

# Outline

## **1** External Conditions

## **2** Evolution of the Mexican Economy

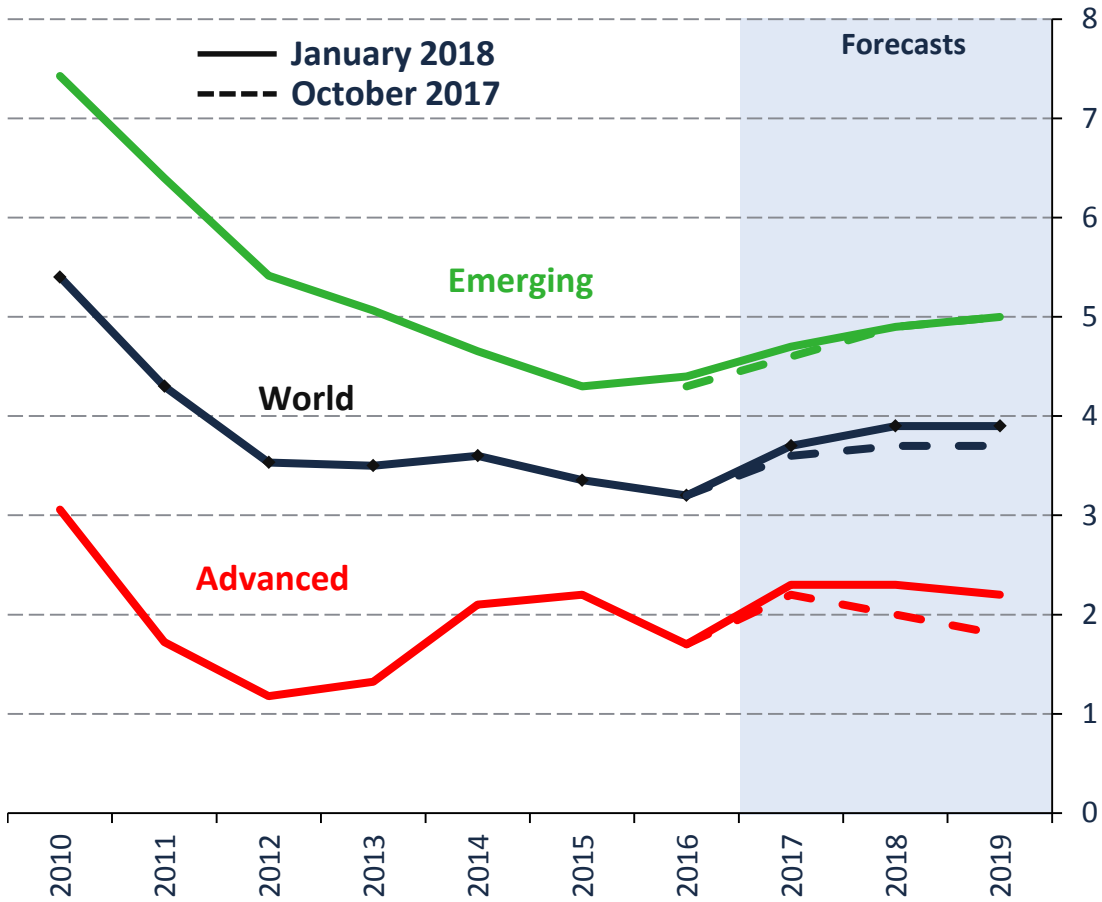
## **3** Inflation

## **4** Monetary Policy

## **5** Forecasts and Final Remarks

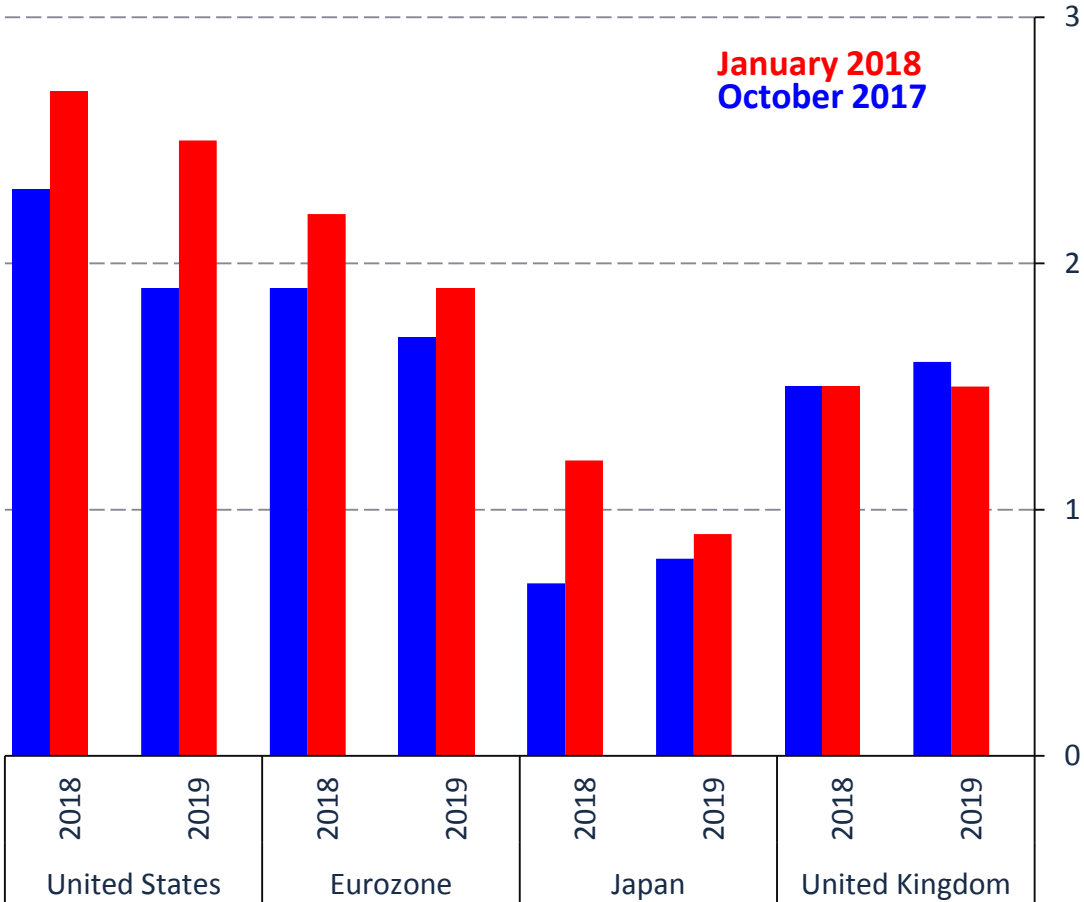
During Q4 2017, the global economy continued expanding both in advanced and emerging economies, and growth forecasts have been adjusted upwards.

GDP Growth Forecasts  
Annual % change



Source: IMF, WEO October 2017 and January 2018.

G4: 2018 and 2019 GDP Growth Forecasts  
Annual % change

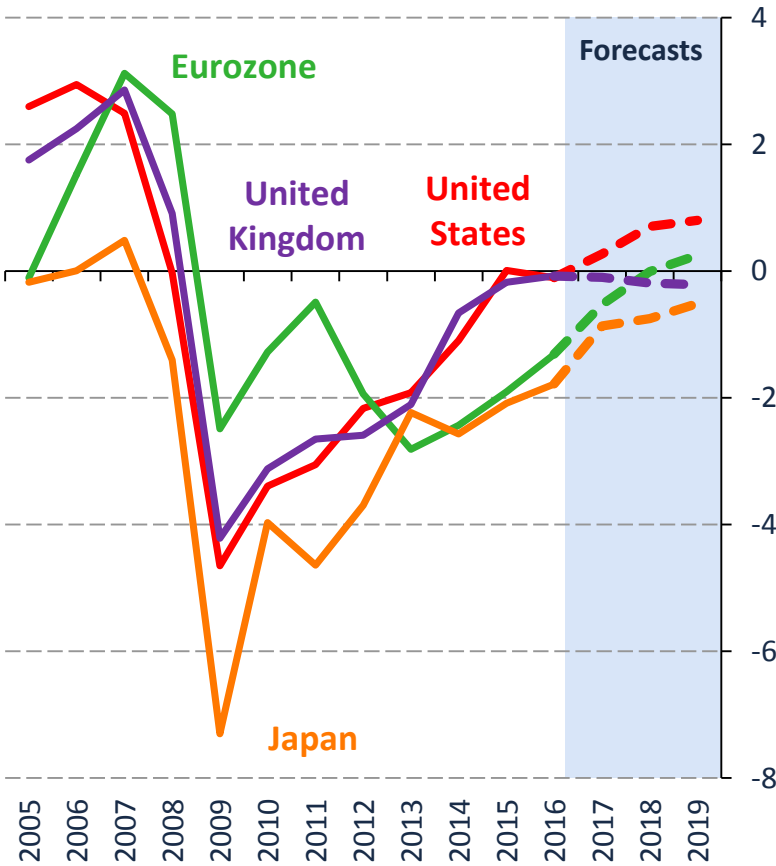


Source: IMF, WEO October 2017 and January 2018.

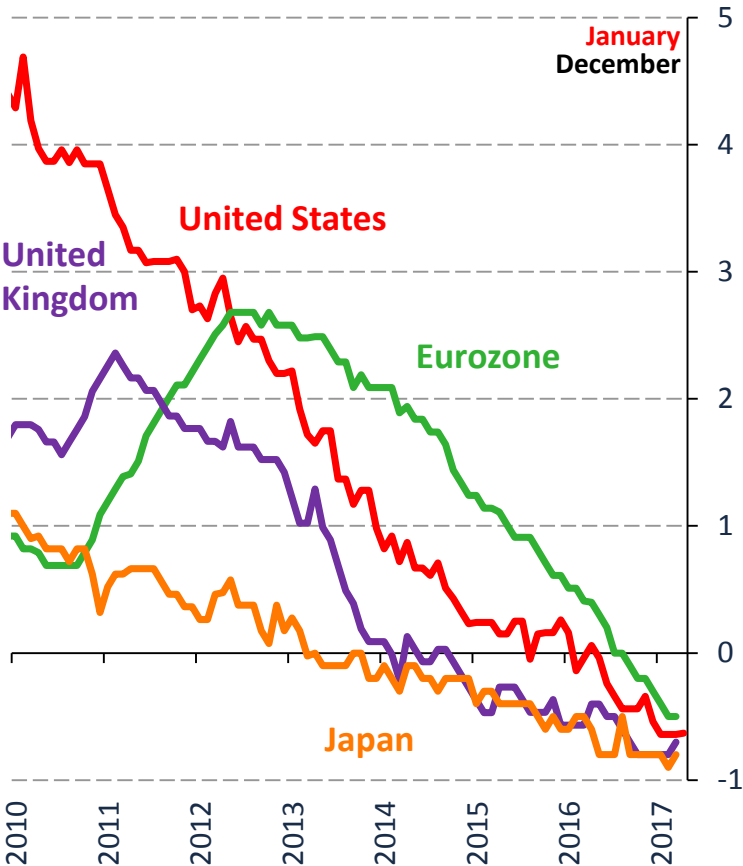
Decreasing slack in advanced economies, along with energy price increases have led to a gradual rise of inflation and inflation expectations. Nonetheless, both indicators remain below central banks' targets.

Advanced Economies

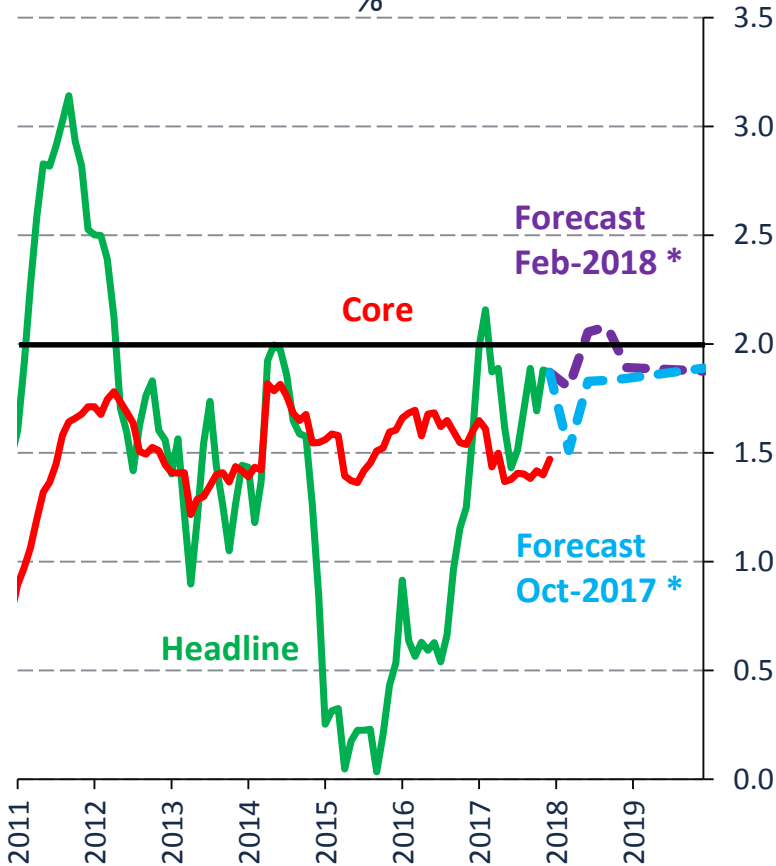
Output Gap <sup>1/</sup>  
% of potential GDP



Unemployment Gap  
%



Headline and Core Inflation in  
G7 Countries and Analysts' Forecasts



1/ The model is estimated through a system of multiple equations that explain the difference between observed GDP and potential GDP as the result of three types of shocks, to: (1) the level of inflation, (2) the unemployment rate and (3) growth and inflation expectations.  
Source: IMF.

Note: The unemployment gap refers to the unemployment rate minus the natural rate of unemployment.  
Source: Bloomberg, Federal Reserve Bank of St. Louis and OECD.

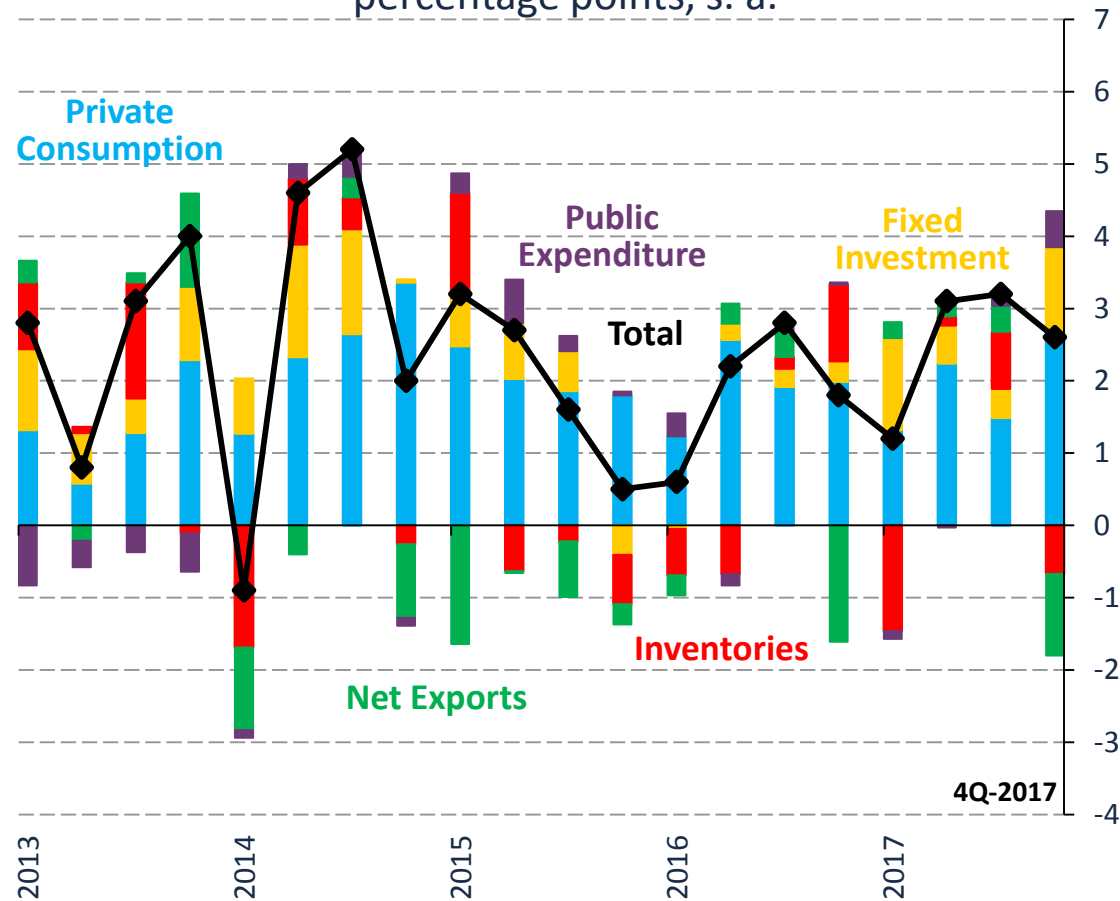
Note: Annual inflation measured by the GDP-weighted G7 consumer price index.  
\*GDP-weighted headline inflation forecasts from Bloomberg's survey of analysts.  
Source: Banco de México with data from Bloomberg and Haver Analytics.

The cyclical recovery of the U.S. economy continued during Q4 2017. The fiscal reform is expected to boost growth in the short run. Tighter cyclical conditions in the U.S. have led to higher wage increases.

## United States

### Real GDP and its Components

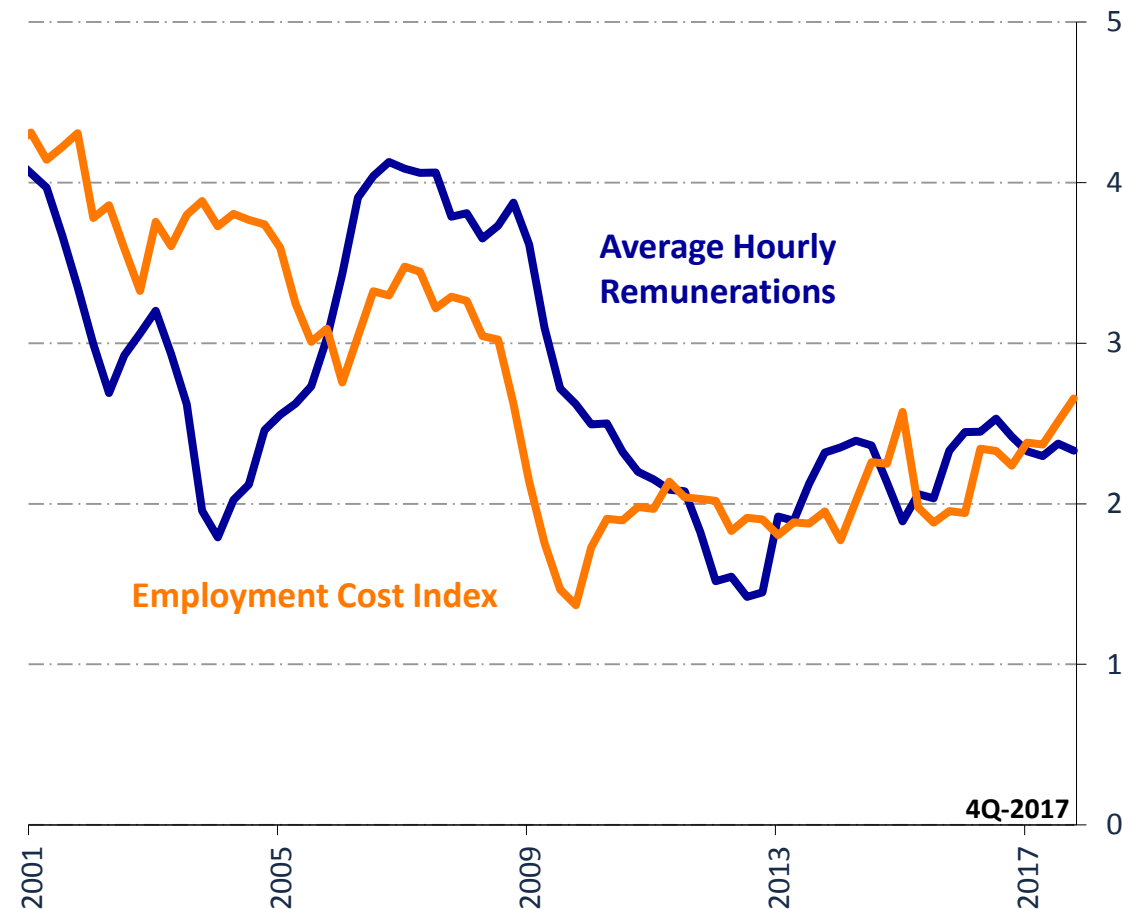
Annualized quarterly % change and contributions in percentage points, s. a.



s. a. / Seasonally adjusted data.  
Source: Bureau of Economic Analysis.

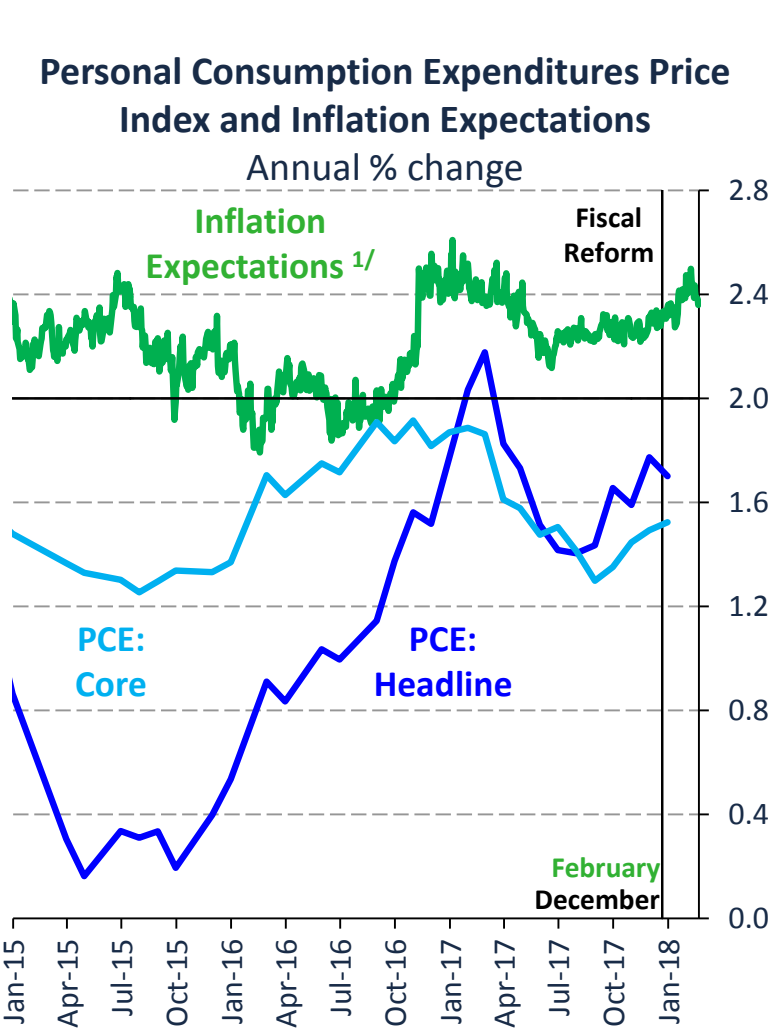
### Wage Indicators

Annual % change, s. a.

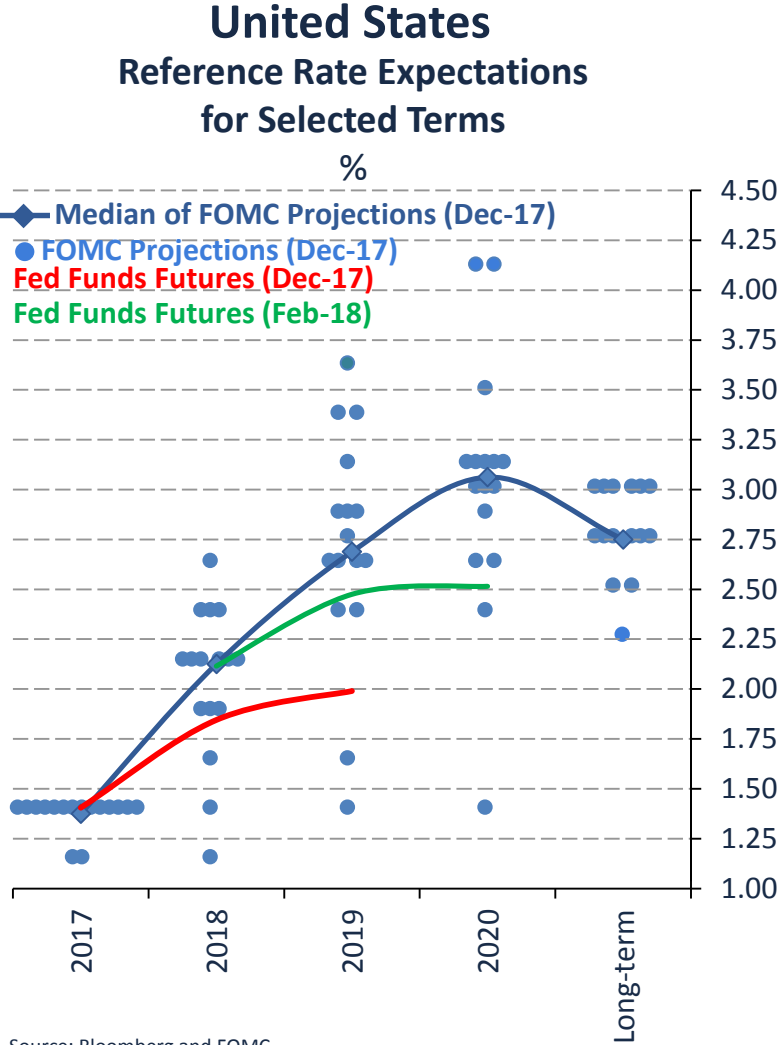


s. a. / Seasonally adjusted data.  
Source: Bureau of Labor Statistics.

In a context where the U.S. economy seems to be operating close to its potential, the fiscal stimulus is affecting the expectation of a gradual monetary policy normalization, and has led to considerable hikes in 10-year and 30-year interest rates.



1/ Expected inflation over the five-year period that begins five years from today. Obtained from swap contracts in which one counterparty agrees to pay a fixed rate in exchange of a referenced payment at an inflation rate over a specified period.  
Source: Bloomberg and Bureau of Economic Analysis.



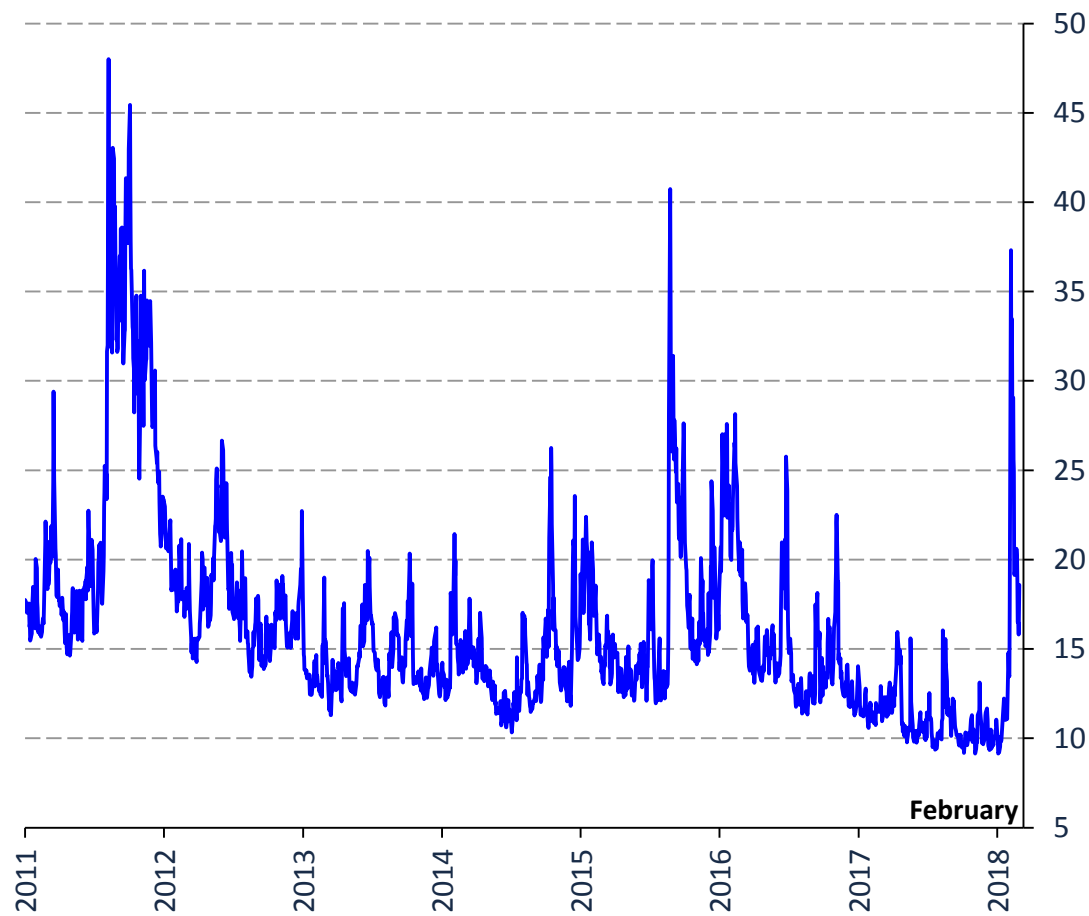
Source: Bloomberg and FOMC.



Source: Banco de México with data from Bloomberg.

After a period of rising stock market prices, at the beginning of this year these registered an adjustment and bouts of volatility.

VIX <sup>1/</sup>  
Index



1/ The VIX Index is a weighted implied volatility indicator for the S&P 500.  
Source: Bloomberg.

Advanced Economies: Stock Markets  
Index 01-Jan-2015=100

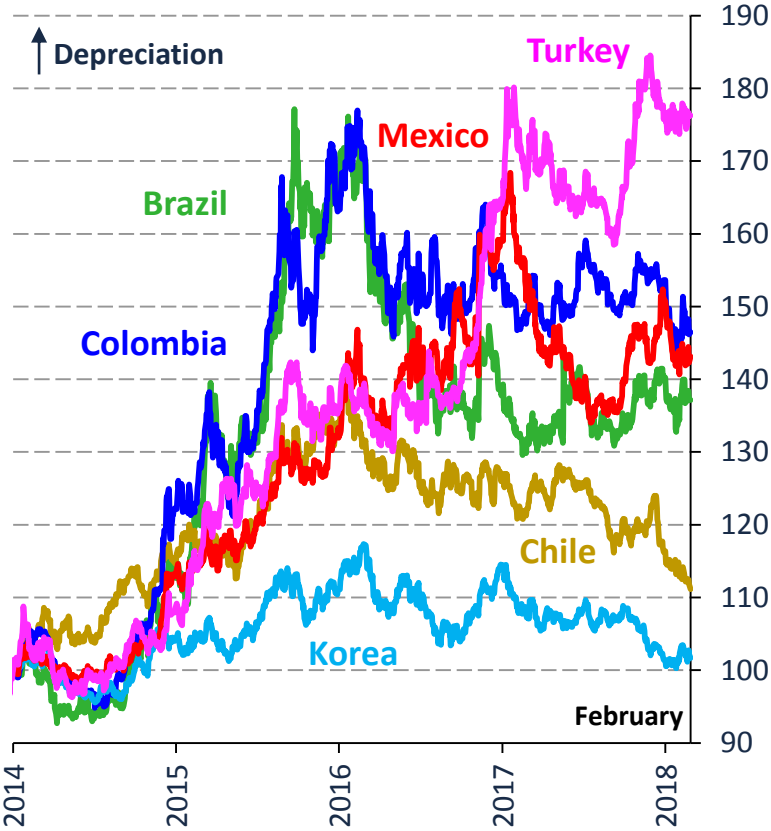


Source: Bloomberg

Although some emerging economies' currencies appreciated slightly this year, their financial markets are still exposed to uncertainty related to the external environment and domestic conditions.

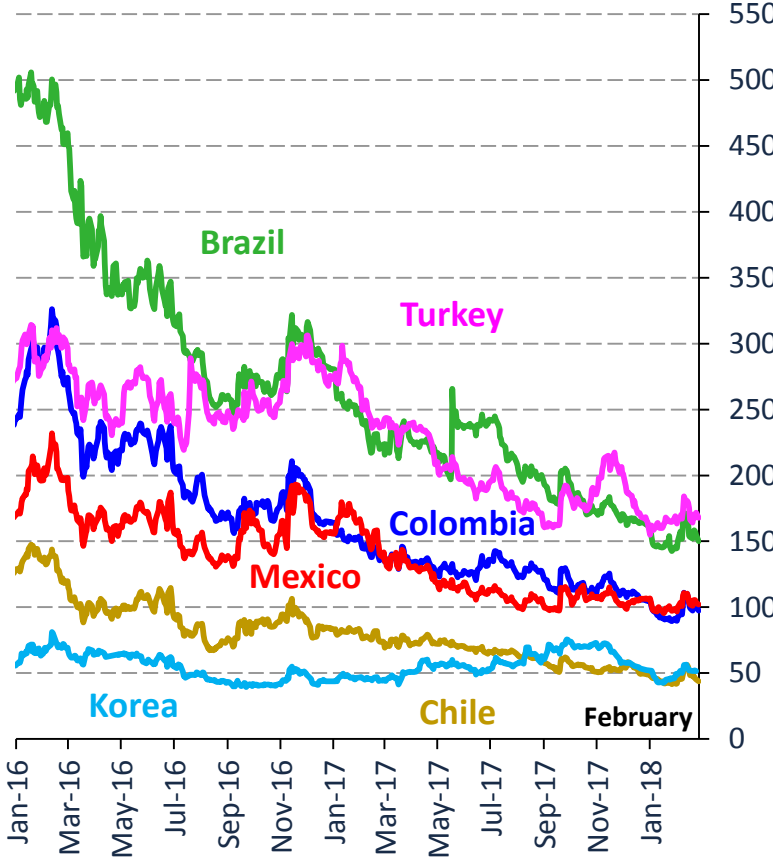
Emerging Economies

Nominal Exchange Rate against USD  
Index 01-Jan-2014 = 100



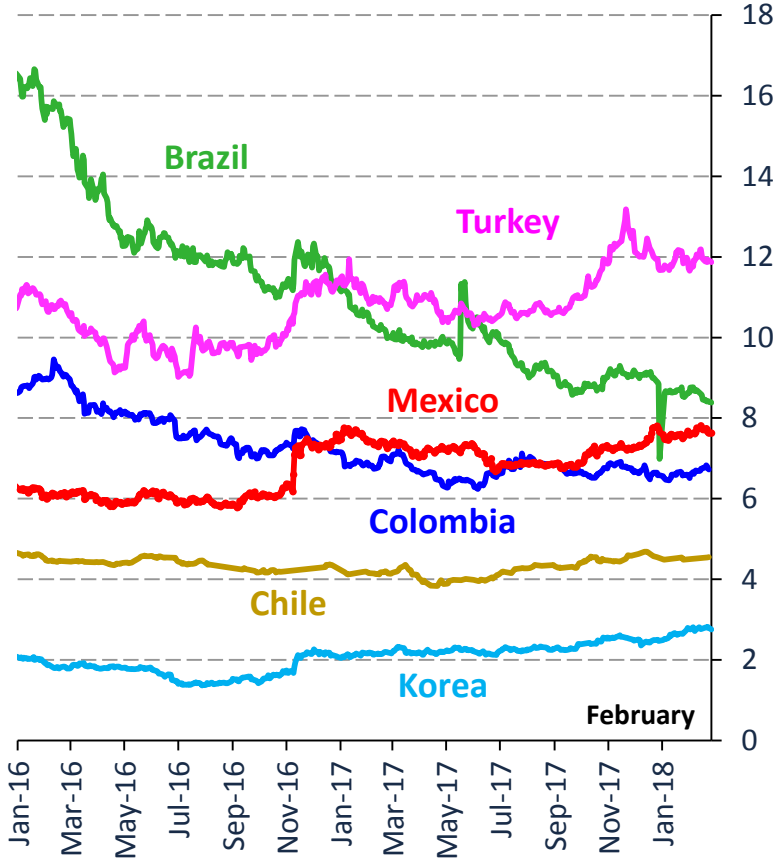
Source: Bloomberg.

National Sovereign Credit Risk <sup>1/</sup>  
Basis points



<sup>1/</sup> It refers to the 5-year CDS.  
Source: Bloomberg.

10-Year Government Bond Rates <sup>2/</sup>  
%



<sup>2/</sup> 9-year rate for Brazil and Chile.  
Source: Bloomberg.



# Risks to World Economic Outlook

- The recent global environment and the impact of the U.S. expansionary fiscal policy suggest that in the short term the *balance of risks* to the global economy is on the upside.
- For the medium term, a number of *important downward risks* persist:
  - ① Significant *changes* to the regional and global *integration model*.
  - ② Greater-than-expected *deceleration of the Chinese* economy.
  - ③ A possible *escalation of geopolitical tensions* across different regions.
- **Risks** of facing more volatile international financial markets and **tighter financing conditions in emerging economies**:
  - ① *Monetary policy normalization in advanced economies, especially in the U.S., that is faster than expected by financial markets.*
  - ② *An environment of higher interest rates can generate pressure on the financial strength of non-bank financial intermediaries.*

# Outline

**1**

**External Conditions**

**2**

**Evolution of the Mexican Economy**

**3**

**Inflation**

**4**

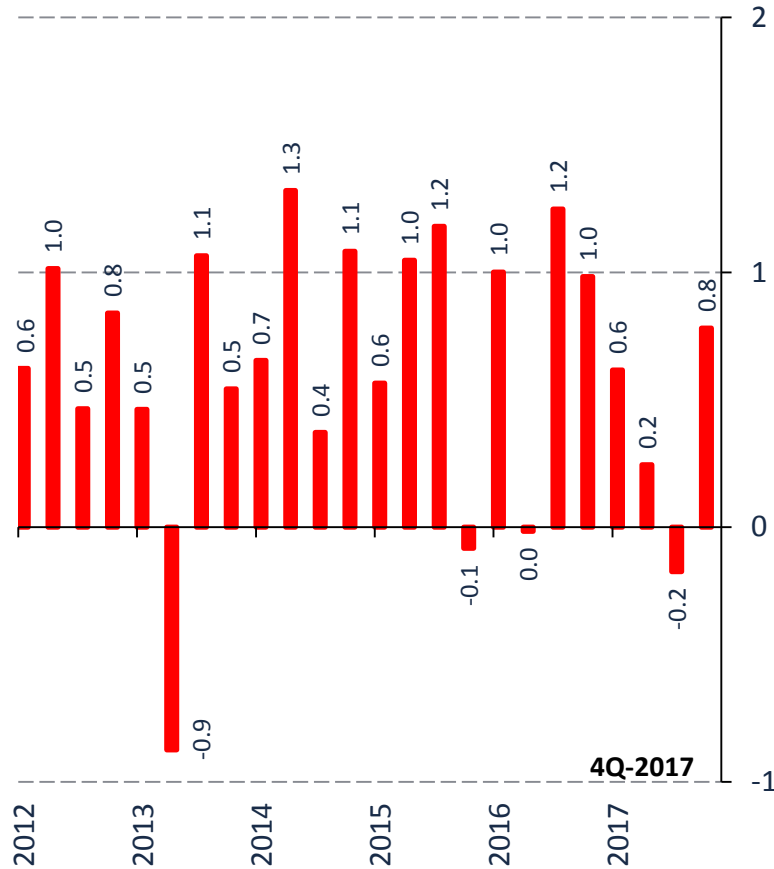
**Monetary Policy**

**5**

**Forecasts and Final Remarks**

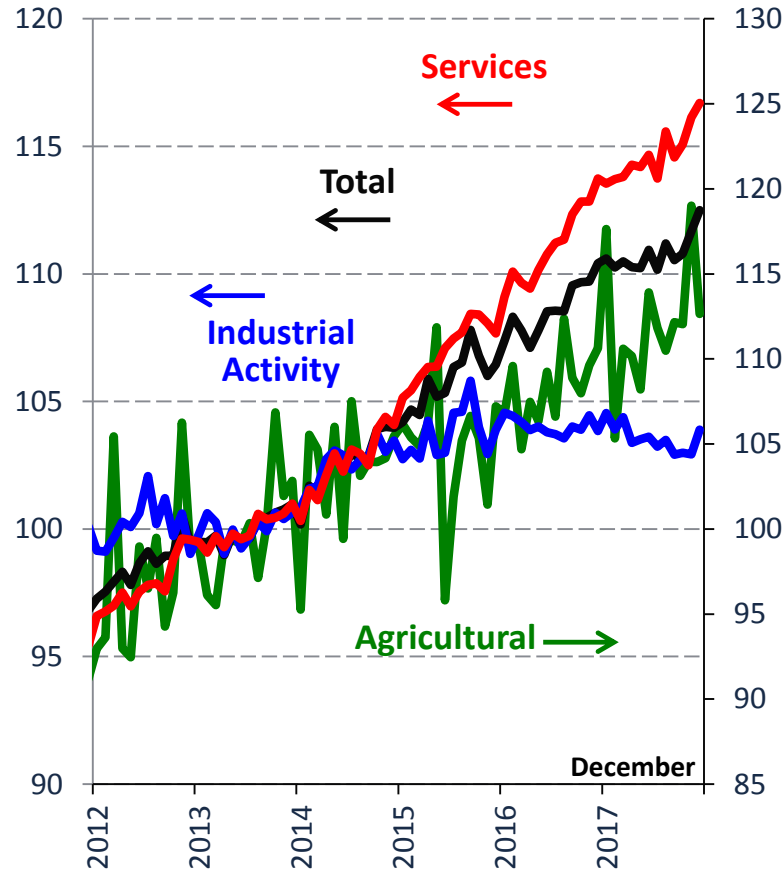
In Q4 2017 the Mexican economy expanded considerably, driven mainly by the performance of the services sector.

**Gross Domestic Product**  
Quarterly % change, s. a.



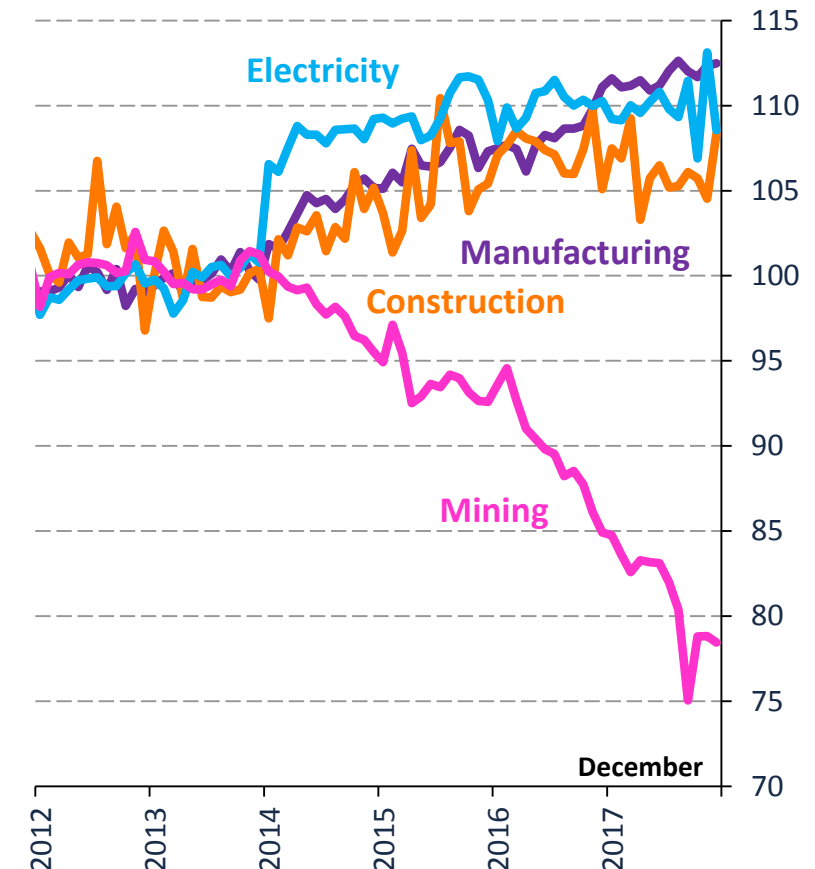
s. a. / Seasonally adjusted data.  
Source: Mexico's System of National Accounts, INEGI.

**Global Economic Activity Indicator**  
Index 2013=100, s. a.



s. a. / Seasonally adjusted data.  
Source: Mexico's System of National Accounts, INEGI.

**Industrial Activity**  
Index 2013=100, s. a.

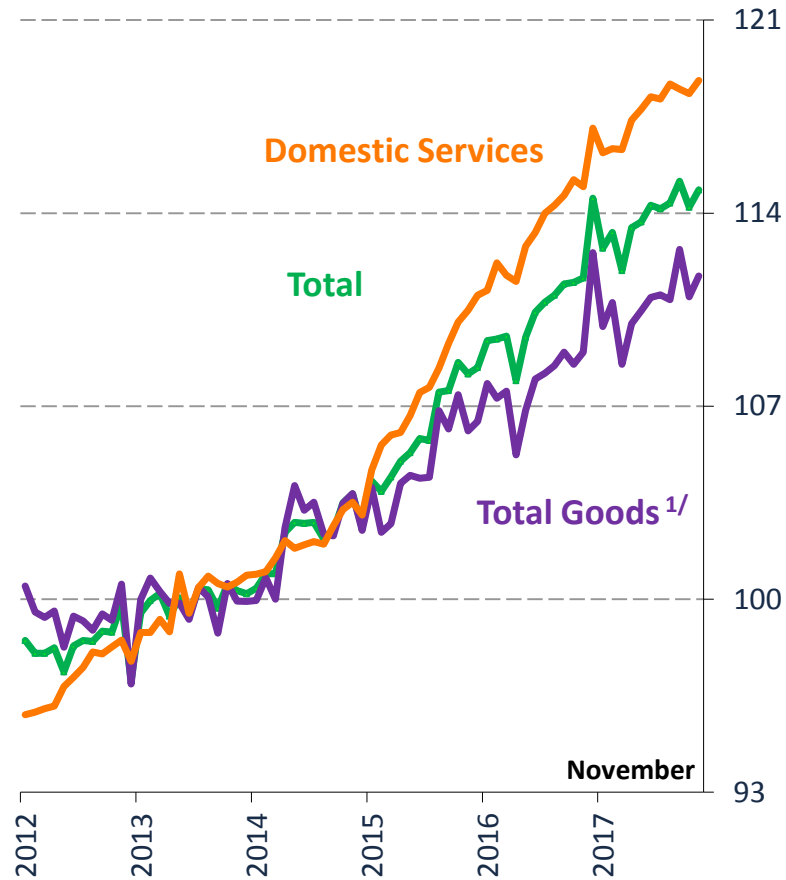


s. a. / Seasonally adjusted data.  
Source: Mexico's System of National Accounts, INEGI.

# Private consumption maintained a positive trend, albeit with signs of deceleration.

## Monthly Indicator of Private Consumption and its Components

Index 2013=100, s. a.



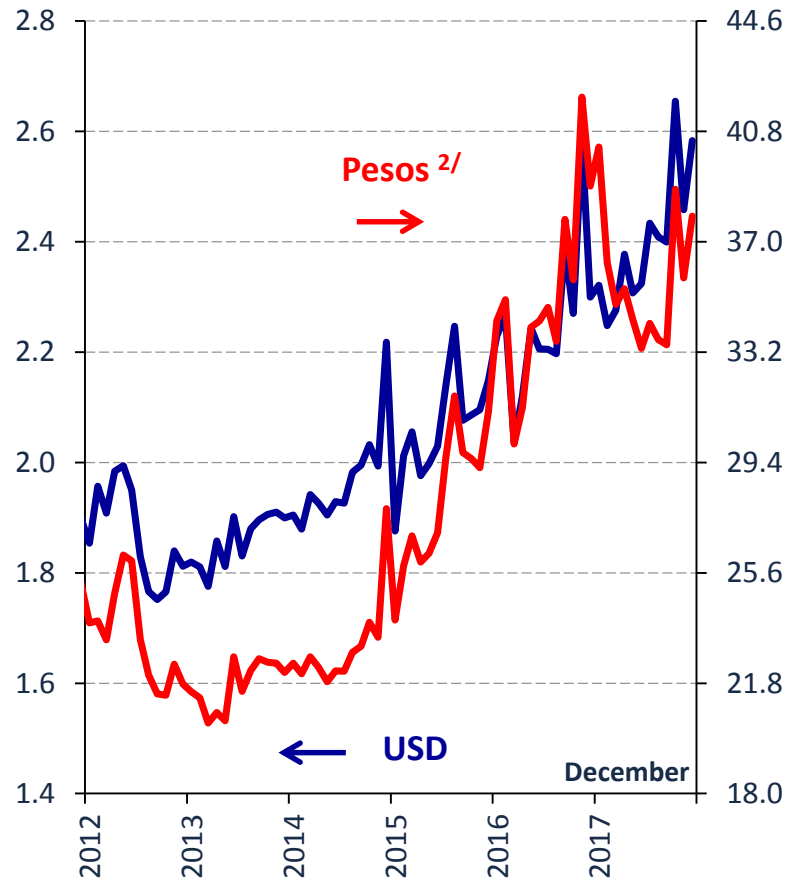
s. a. / Seasonally adjusted data.

1/ Elaborated and seasonally adjusted by Banco de México. National and imported goods are included.

Source: Mexico's System of National Accounts, INEGI.

## Workers' Remittances

USD billion and constant pesos; s. a.



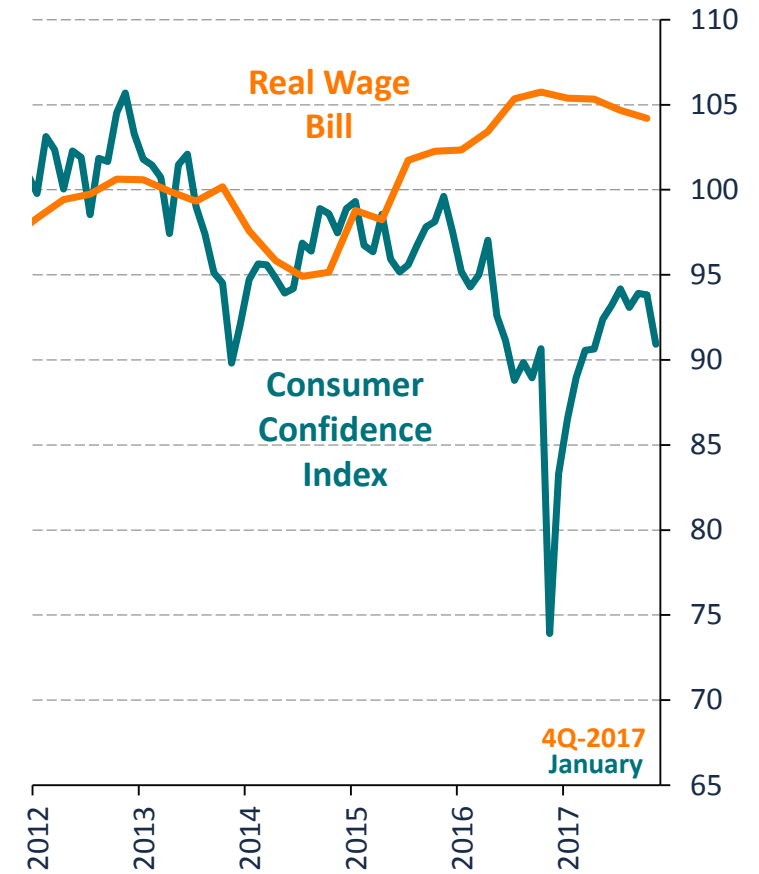
s. a. / Seasonally adjusted data.

2/ At prices of the second fortnight of December 2010.

Source: Banco de México and INEGI.

## Consumer Confidence Index and Total Real Wage Bill

Index 2013 =100, s. a.

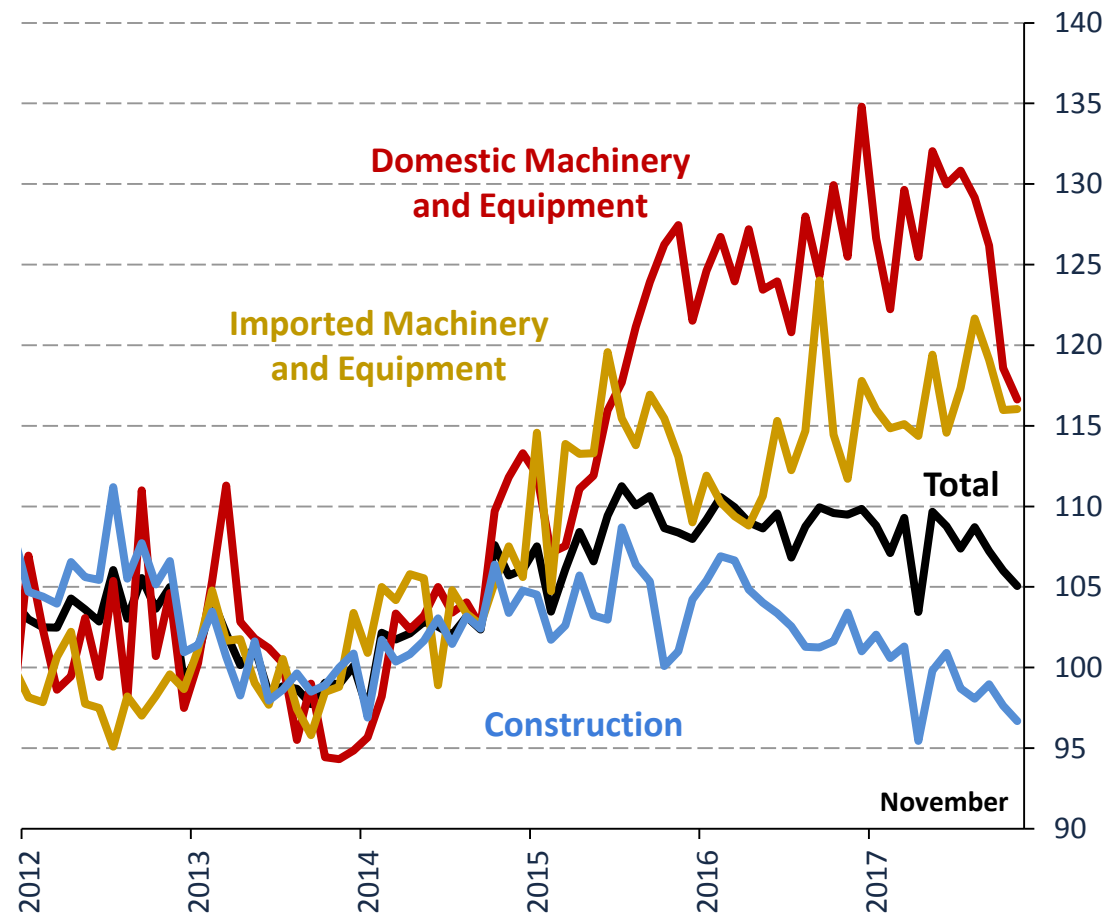


s. a. / Seasonally adjusted data.

Source: Elaborated by Banco de México with data from the National Employment Survey (Encuesta Nacional de Ocupación y Empleo), INEGI.

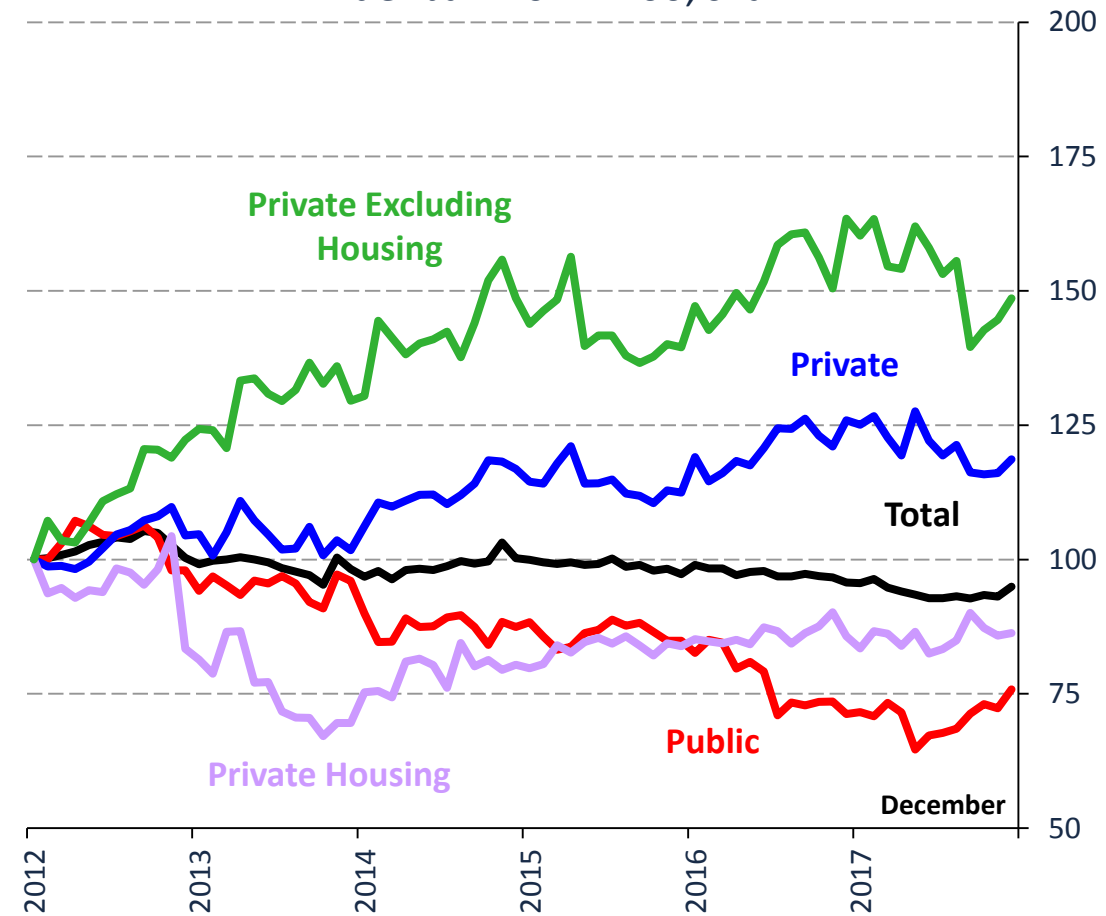
# Investment maintained a downward trend.

Investment and Components  
Index 2013=100, s. a.



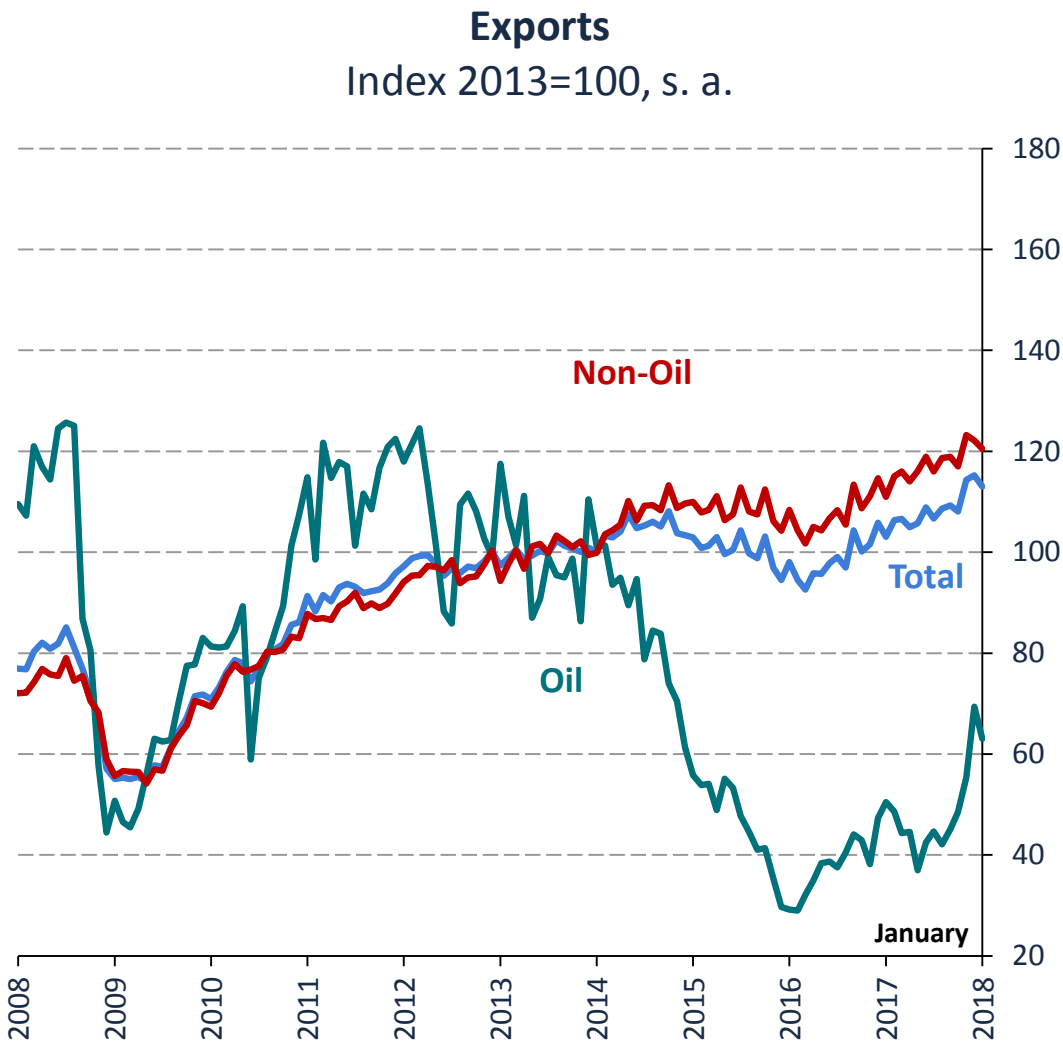
s. a. / Seasonally adjusted data.  
Source: Mexico's System of National Accounts, INEGI.

Real Value of Construction Output by  
Contracting Institutional Sector <sup>1/</sup>  
Index Jan-2012=100, s. a.

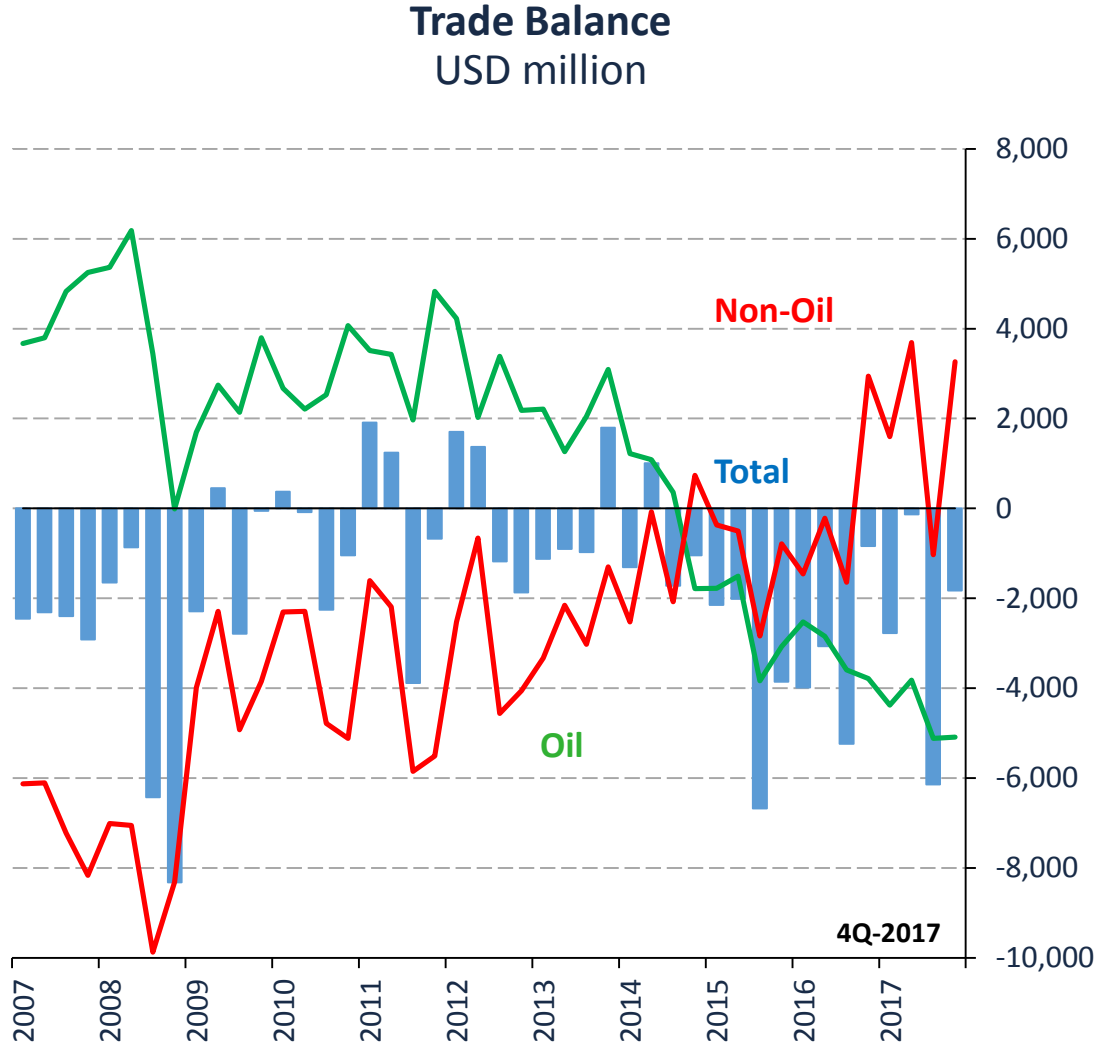


s. a. / Seasonally adjusted data.  
<sup>1/</sup> Seasonally adjusted by Banco de México, except the total.  
Source: Banco de México with data from ENEC, INEGI.

The external accounts have reverted their medium-term trends, and now the oil trade balance is in deficit and the non-oil balance had a surplus in 2017.

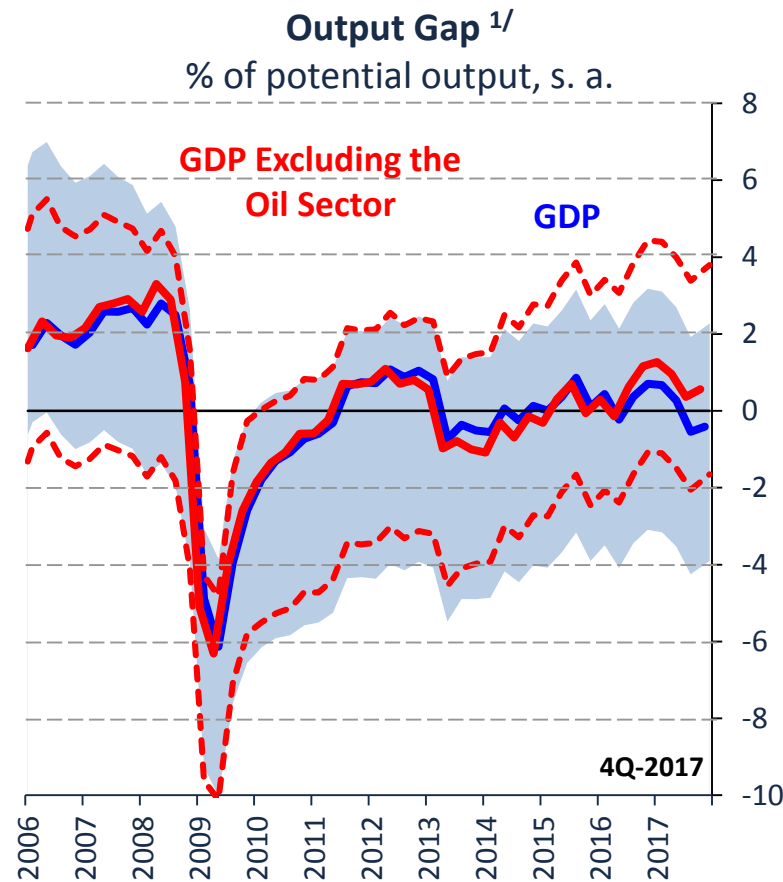


s. a. / Seasonally adjusted data.  
Source: SAT, SE, Banco de México, INEGI. Merchandise Trade Balance, SNIEG. Information of National Interest.



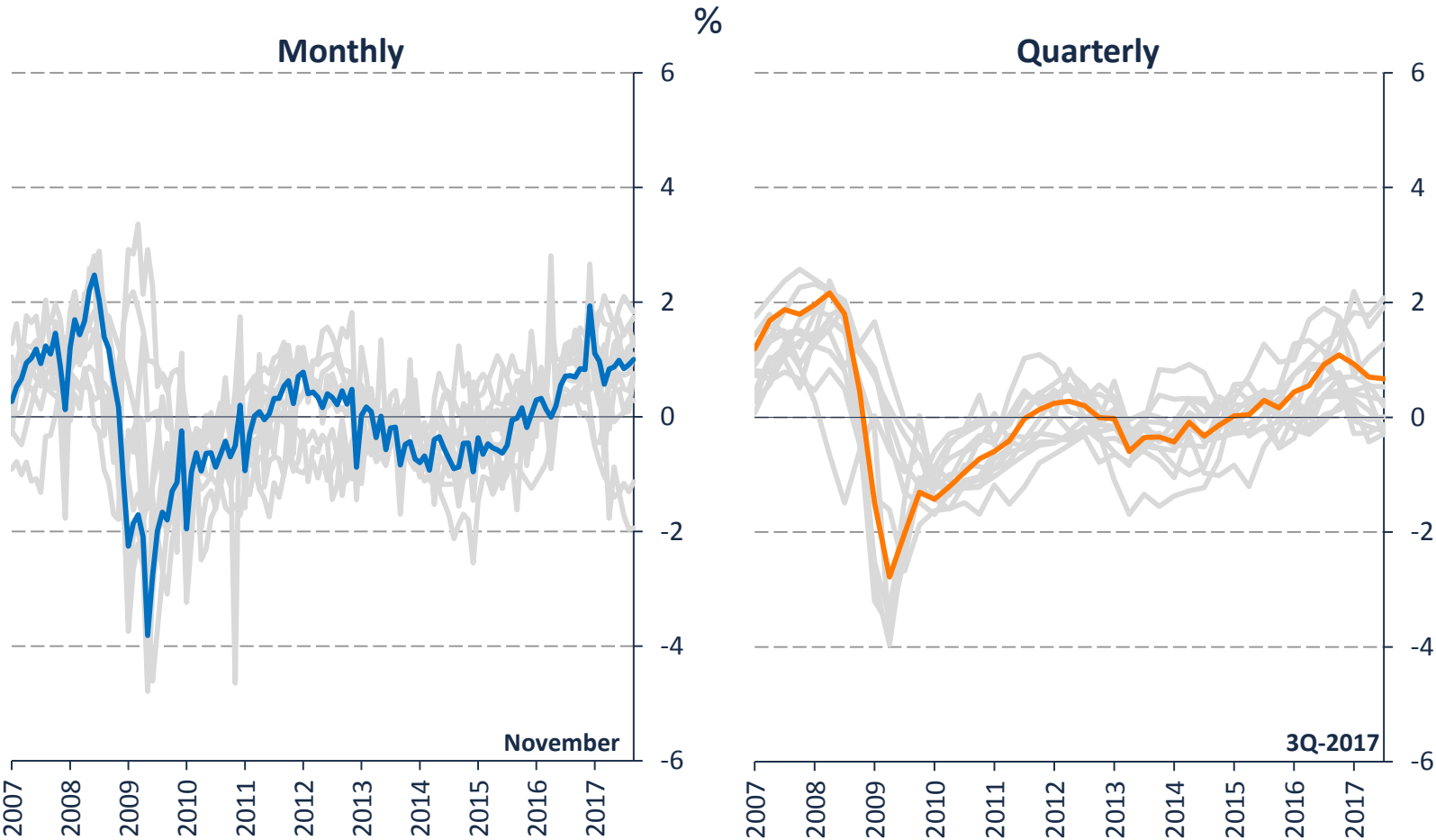
Source: SAT, SE, Banco de México, INEGI. Merchandise Trade Balance, SNIEG. Information of National Interest.

Regarding the cyclical position of the economy, slack conditions have been tightening, although a certain reversal at the margin has been observed.



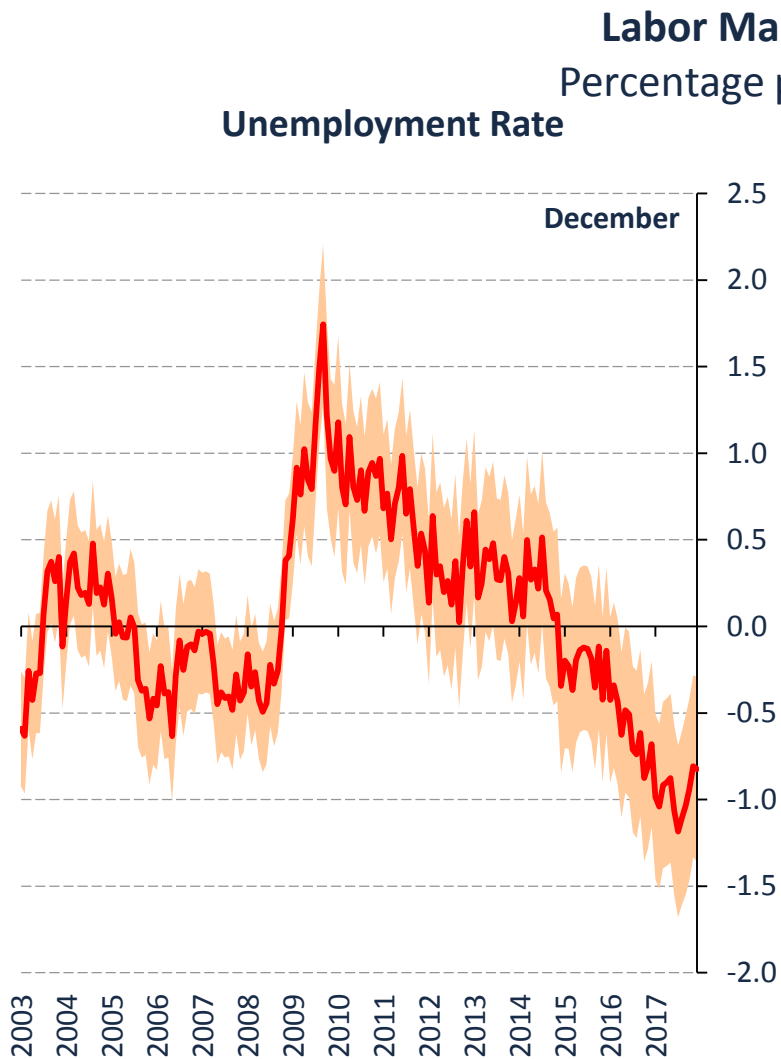
Note: Confidence interval of the output gap calculated with an unobserved components method. The dotted line refers to the confidence interval for the gap calculated without the oil sector while the blue area is the interval corresponding to the total GDP. s. a. / Estimated with seasonally adjusted data.  
 1/ Estimated using the Hodrick-Prescott (HP) filter with tail correction; see Banco de México Inflation Report, April- June 2009, p.69.  
 Source: Estimated by Banco de México with data from INEGI.

Measures of Slack: Principal Component by Frequency of Indicators <sup>2/</sup>

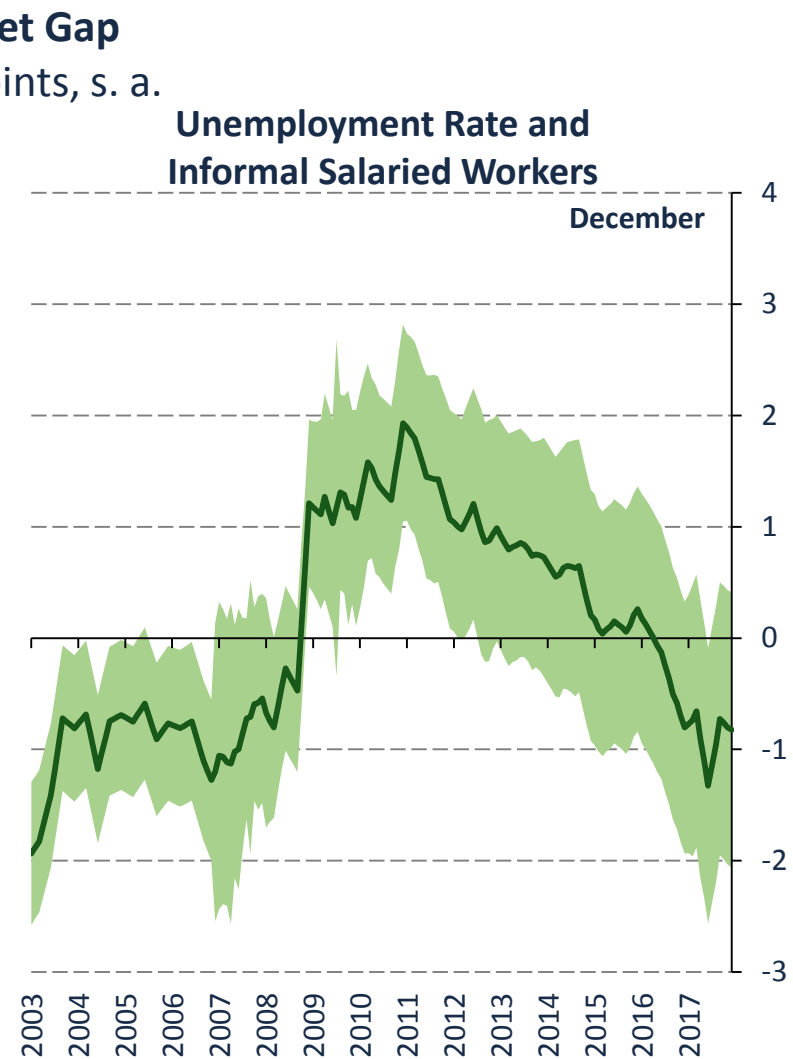


2/ Indices constructed based on the Model Confidence Set (MCS) methodology; see Banco de México Inflation Report, October – December 2017, Box 3. Monthly and quarterly slack indices are based on the first principal component of sets that include 11 and 12 indicators, respectively. The first component represents 55% and 59% of joint variation of the monthly and quarterly indicators, respectively. Gray lines correspond to individual slack indicators used in the analysis of Principal Components.  
 Source: Own elaboration with data from INEGI and Banco de México.

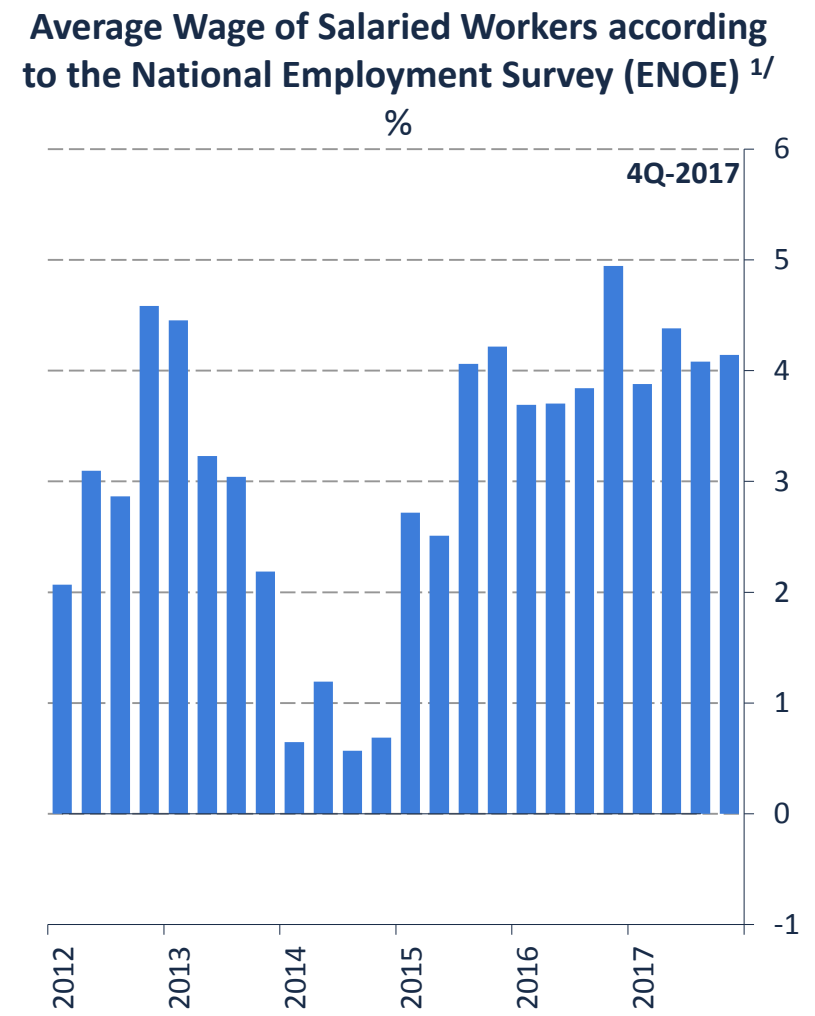
The tightening of slack conditions has been notable in the labor market. However, so far no considerable wage pressures have been observed.



s. a. / Seasonally adjusted data.  
Note: The interval corresponds to two average standard deviations among all estimates; see Banco de México (2017), "Quarterly Report, October-December 2016", page 47. Source: Banco de México.



s. a. / Seasonally adjusted data.  
Note: The interval corresponds to two average standard deviations among all estimates; see Banco de México (2017), "Quarterly Report, October-December 2016", page 47. Source: Banco de México.



<sup>1/</sup> To calculate average nominal wages, the bottom 1 percent and the top 1 percent in the wage distribution were excluded. Individuals with zero reported income or those who did not report it are excluded.  
Source: Calculated by Banco de México with data from INEGI (ENOE).



In recent years, the external sources of funding have declined, while domestic sources have substituted them. This, along with a decrease in the use of resources by the public sector, allowed to mitigate the deceleration of financing to the private sector.

### Sources and Uses of Financial Resources

Annual flows as % of GDP

	2013	2014	2015	2016	2017
<b>Total sources</b>	<b>10.0</b>	<b>9.7</b>	<b>5.8</b>	<b>7.4</b>	<b>7.8</b>
Domestic sources <sup>1/</sup>	5.7	5.6	4.6	5.5	6.6
External sources <sup>2/</sup>	4.2	4.1	1.2	1.9	1.2
<b>Total uses</b>	<b>10.0</b>	<b>9.7</b>	<b>5.8</b>	<b>7.4</b>	<b>7.8</b>
International reserves	1.0	1.3	-1.5	0.0	-0.4
Public sector financing	4.1	4.7	4.2	2.8	1.1
Private sector financing	4.2	2.5	3.1	3.0	3.8
Domestic	2.5	1.7	3.0	3.0	3.3
External	1.7	0.8	0.1	0.0	0.5
Other concepts <sup>3/</sup>	0.7	1.2	0.1	1.6	3.2

Nota: Figures expressed in percent of the nominal average annual GDP.

1/ Corresponds to the domestic financial assets aggregate F1, which includes the monetary aggregate M3 plus other instruments held by resident sectors that hold money that are not considered in the monetary aggregates.

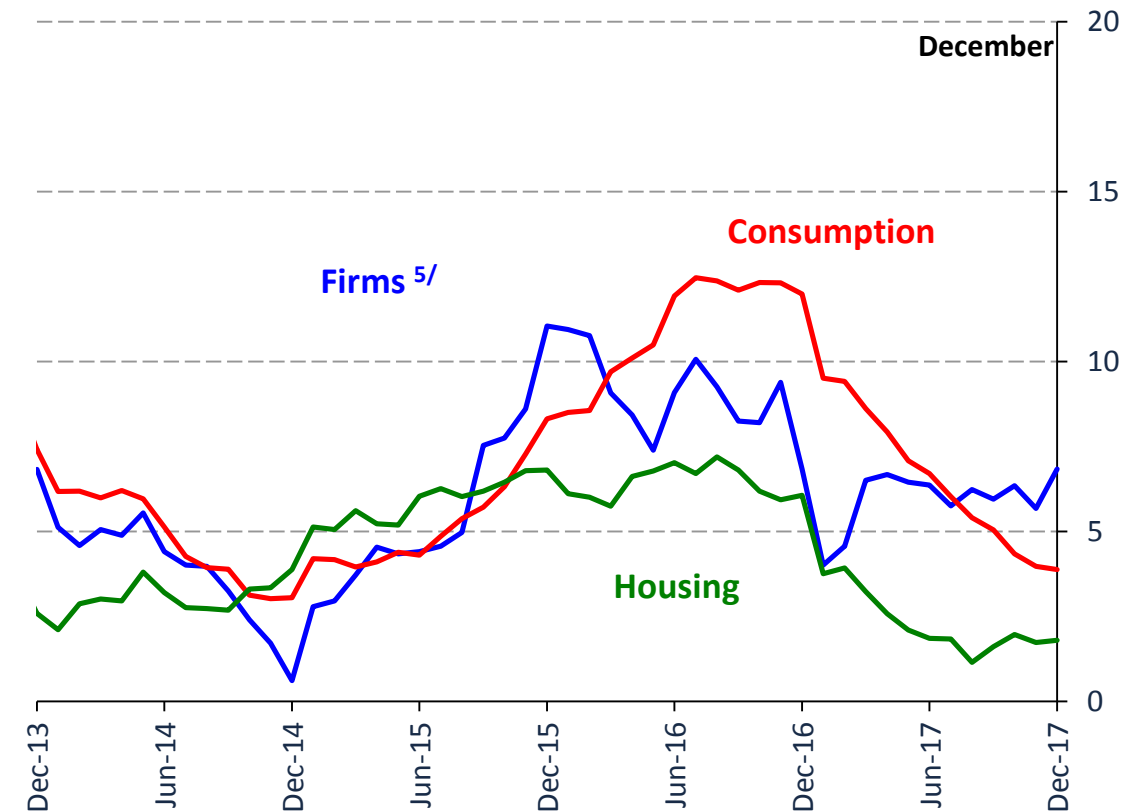
2/ Includes the monetary aggregate M4 held by non-residents, the external debt of the Federal Government, the external debt of public agencies and companies, the external liabilities of commercial banks, external financing to the non-financial private sector, the raising of agencies and other instruments non-monetary holdings of non-residents.

3/ It includes capital accounts, and results and other assets and liabilities of commercial and development banks, non-bank financial intermediaries, of the National Housing Fund (Infonavit) and Banco de México –including the securities issued by this Central Institute for the purposes of monetary regulation, especially those related to neutralizing the monetary impact by the operational surplus–. Similarly, it includes non-monetary liabilities from the Institute for the Protection of Bank Savings (IPAB), as well as the effect of the change in the valuation of public debt instruments, among other concepts.

Source: Banco de México.

### Domestic Financing to the Non-Financial Private Sector <sup>4/</sup>

Real annual % change



4/ Data adjusted due to the withdrawal from and the incorporation of some financial intermediaries to the credit statistics.

5/ Data adjusted due to exchange rate variations.

Source: Banco de México.

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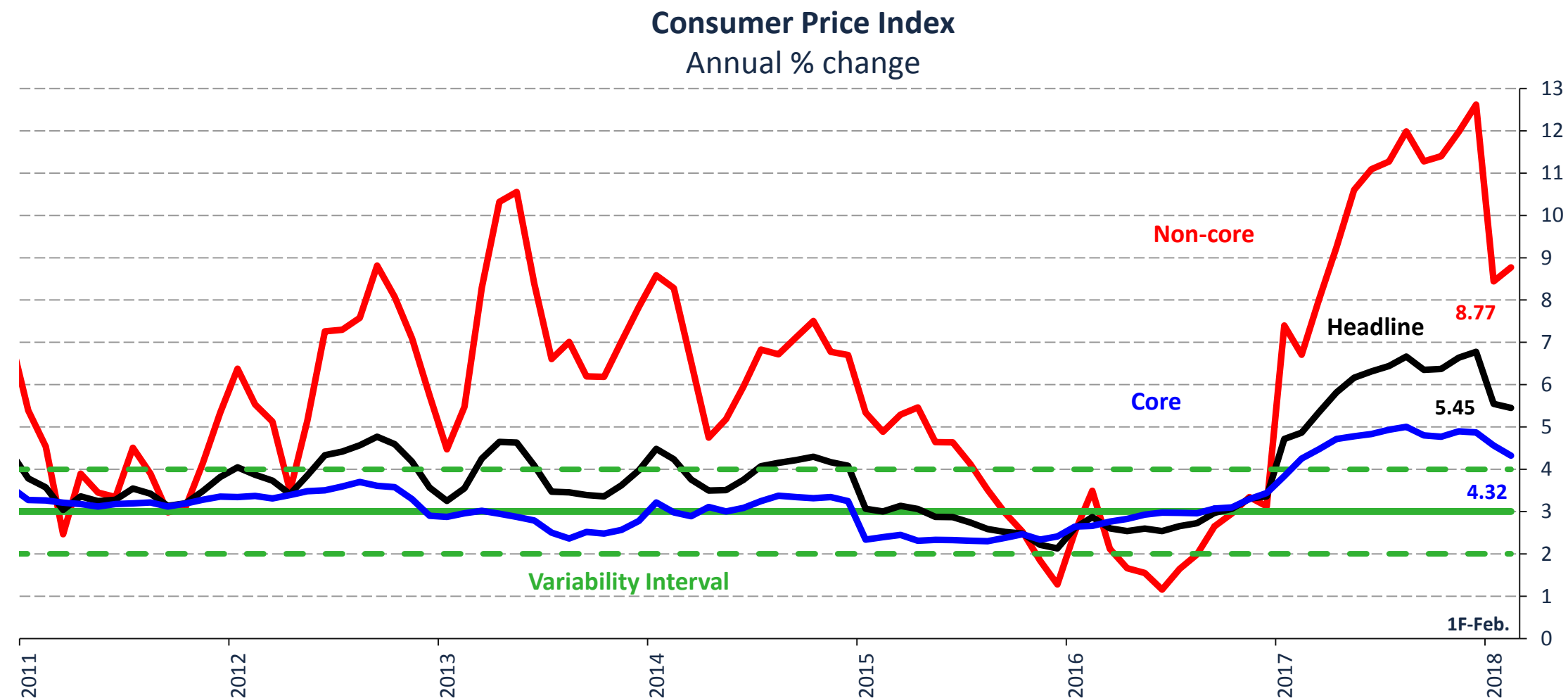
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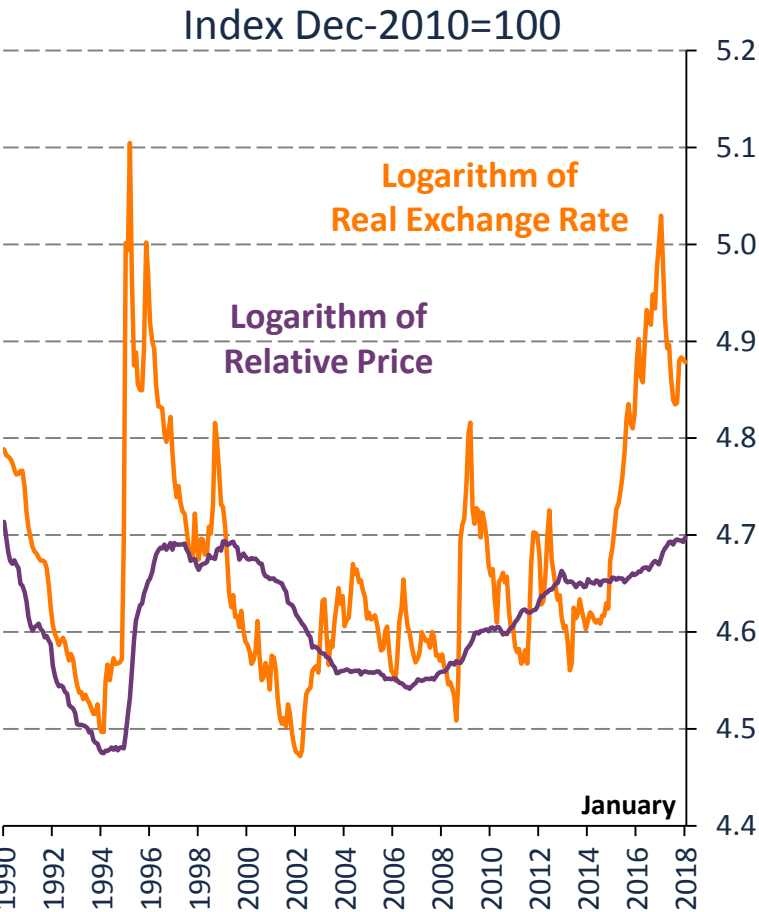
In 2017, inflation was strongly influenced by a series of domestic and external shocks of considerable magnitude, including: the depreciation of the Mexican peso, higher energy prices (gasoline and LP gas), higher public transportation fares and increased prices for some agricultural products.



Source: Banco de México and INEGI.

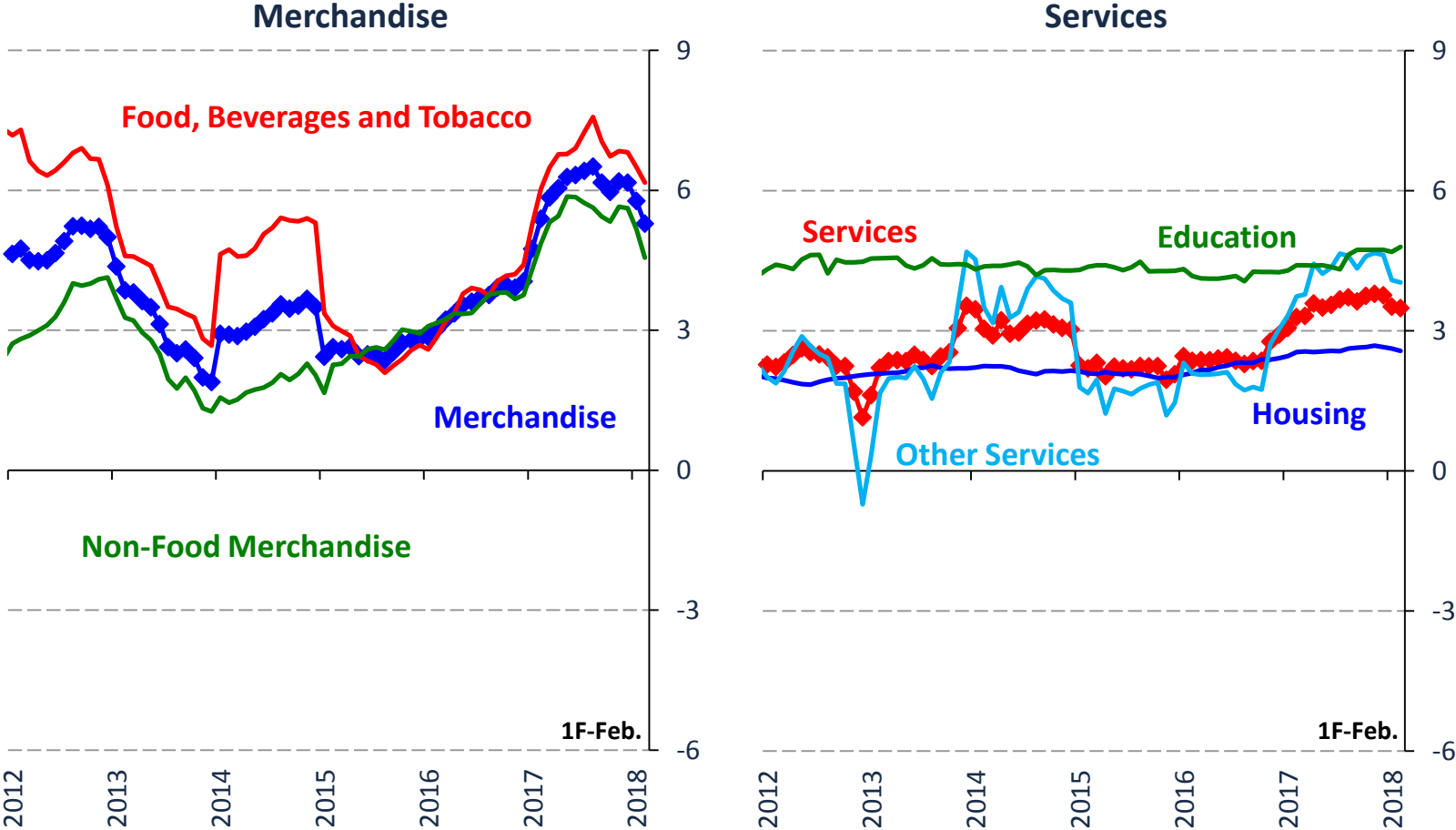
Within core inflation, the difference in the growth of merchandise and services prices reflects the adjustment in relative prices, which derived from the real exchange rate depreciation. Both subindexes have started to decrease, in part due to the fading of indirect effects generated by cost increases.

Real Exchange Rate and Relative Price  
of Merchandise and Services



Source: Banco de México with data from Banco de México and INEGI.

Core Price Index  
Annual % change



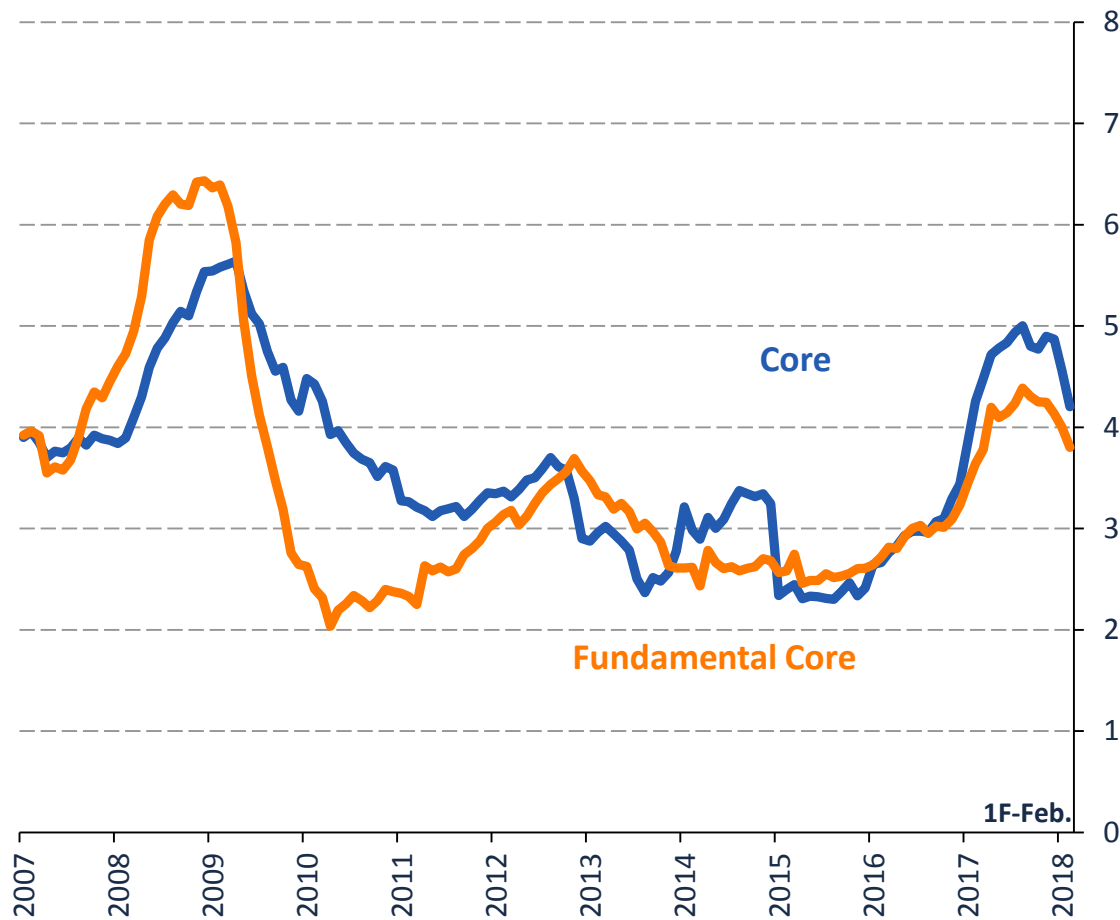
Source: Banco de México and INEGI.

Source: Banco de México and INEGI.

Core inflation exhibited an incipient downward trajectory, although the economy's cyclical position could be affecting the pace of core inflation's decline.

### Core Inflation and Fundamental Core Inflation

Annual % change



Source: Banco de México and INEGI.

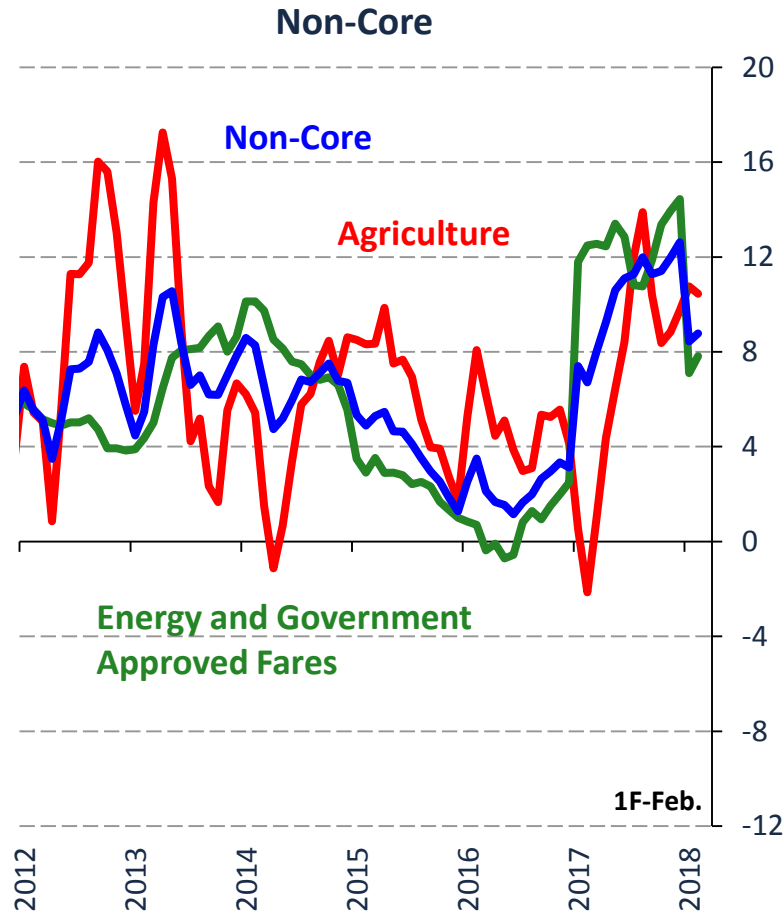
### Fundamental Core Inflation

The index is more *sensitive to the economic cycle than core inflation*.

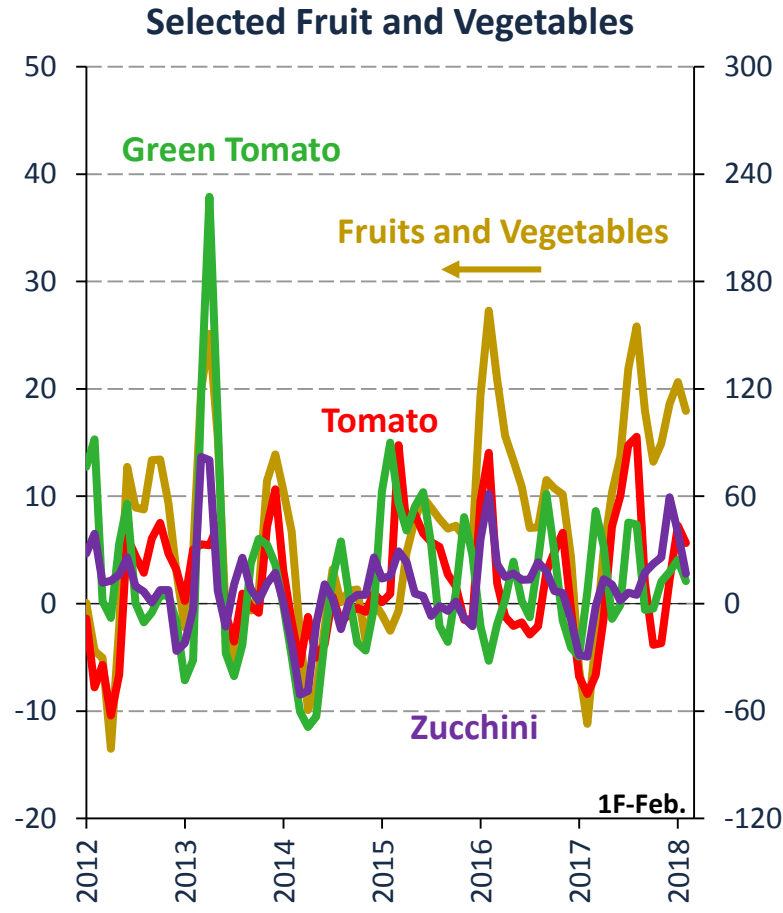
- ✓ It only includes the prices of those goods and services that have a positive and statistically significant relationship with slack conditions of the economy.
- ✓ Signals a change in the inflation trend to reflect the economic cyclical conditions.
- ✓ Despite a strong association with the economic cycle, it can be affected by other shocks to the price formation process.

In 2017, a number of important shocks influenced non-core inflation, pushing it to high levels by late 2017. Even though in early 2018 non-core inflation started to decline, it continued to reflect the shocks that had affected it in late 2017.

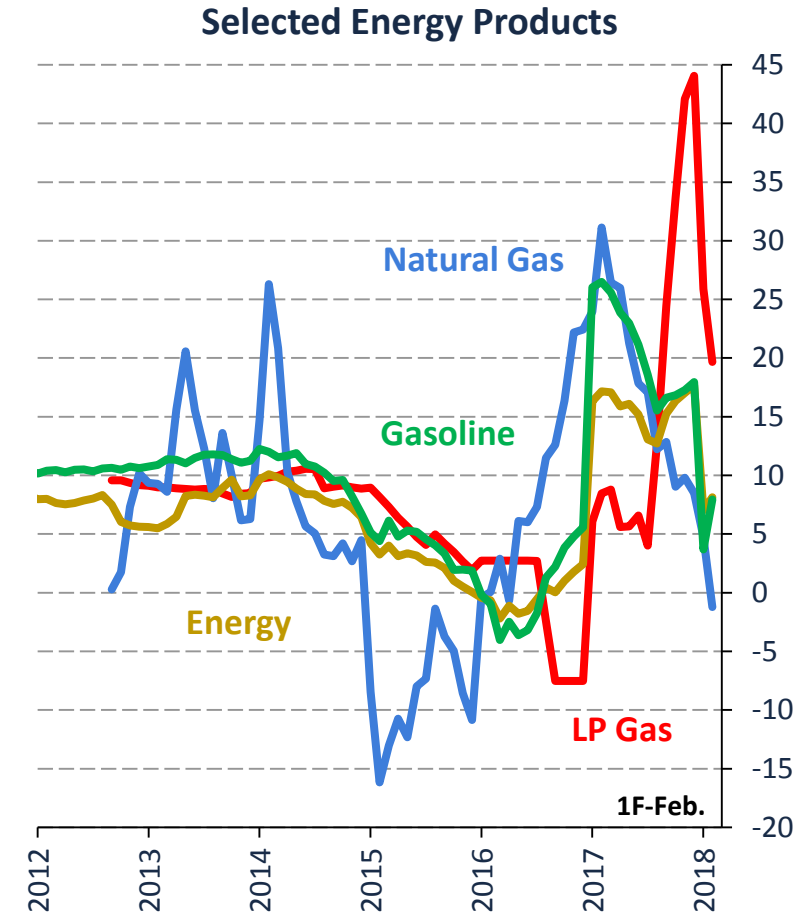
## Non-Core Price Index Annual % change



Source: Banco de México and INEGI.



Source: Banco de México and INEGI.

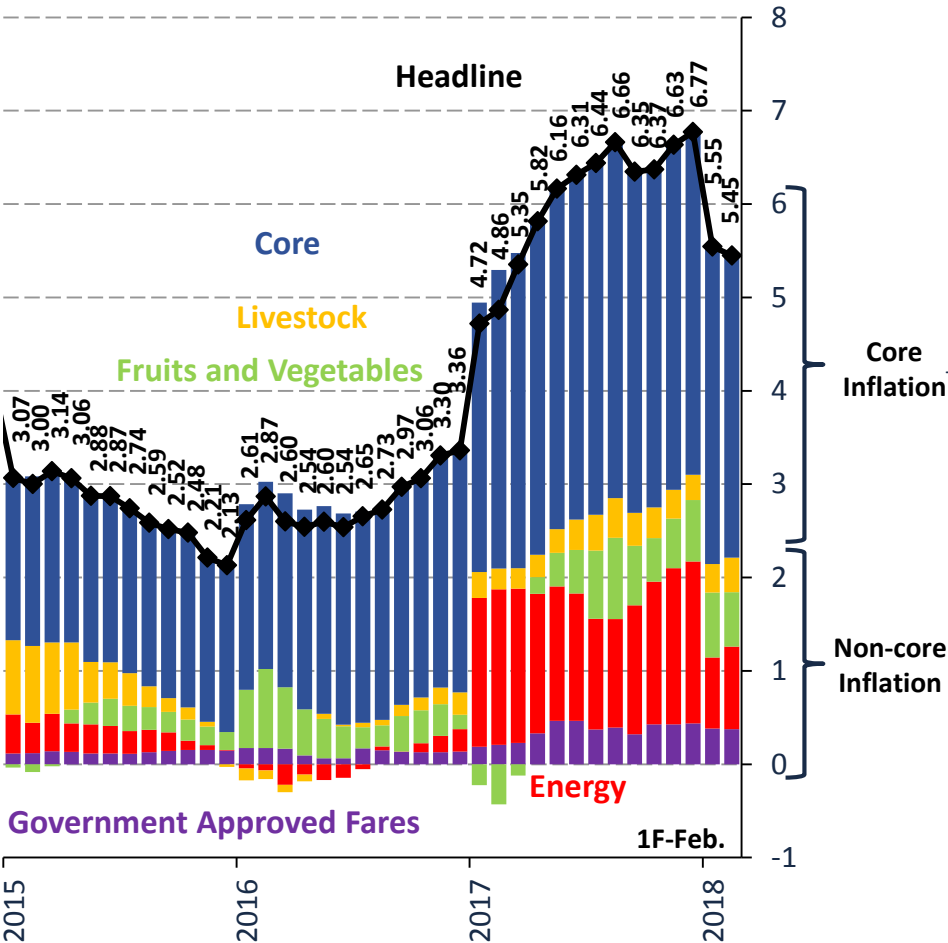


Source: Banco de México and INEGI.

At the beginning of the year, gasoline prices started to subside, while high price fluctuations of LP gas and other fruits and vegetables continue.

Consumer Price Index (CPI)

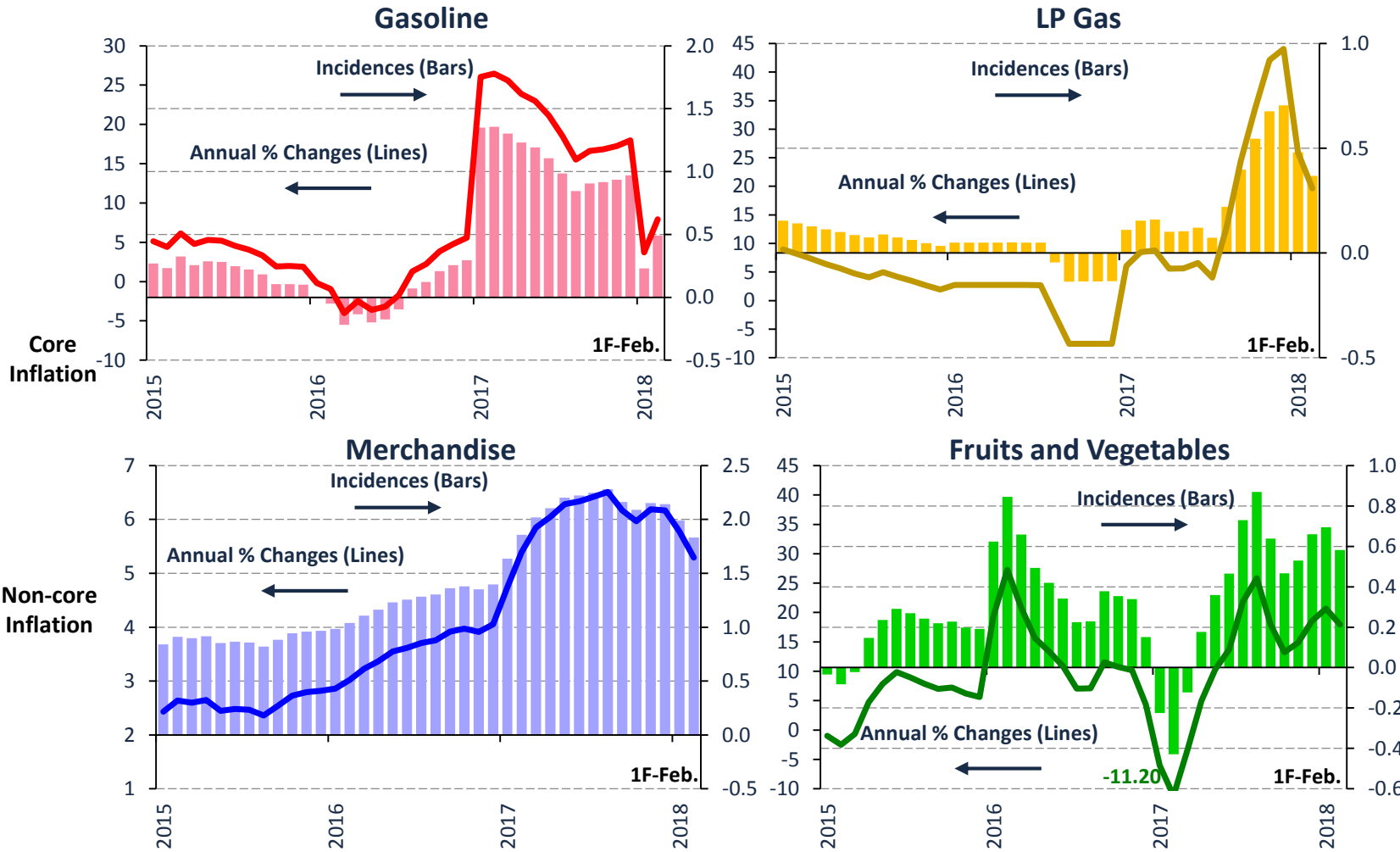
Incidences in percentage points



Source: Banco de México and INEGI.

Selected components of CPI

Annual % change and incidences in percentage points



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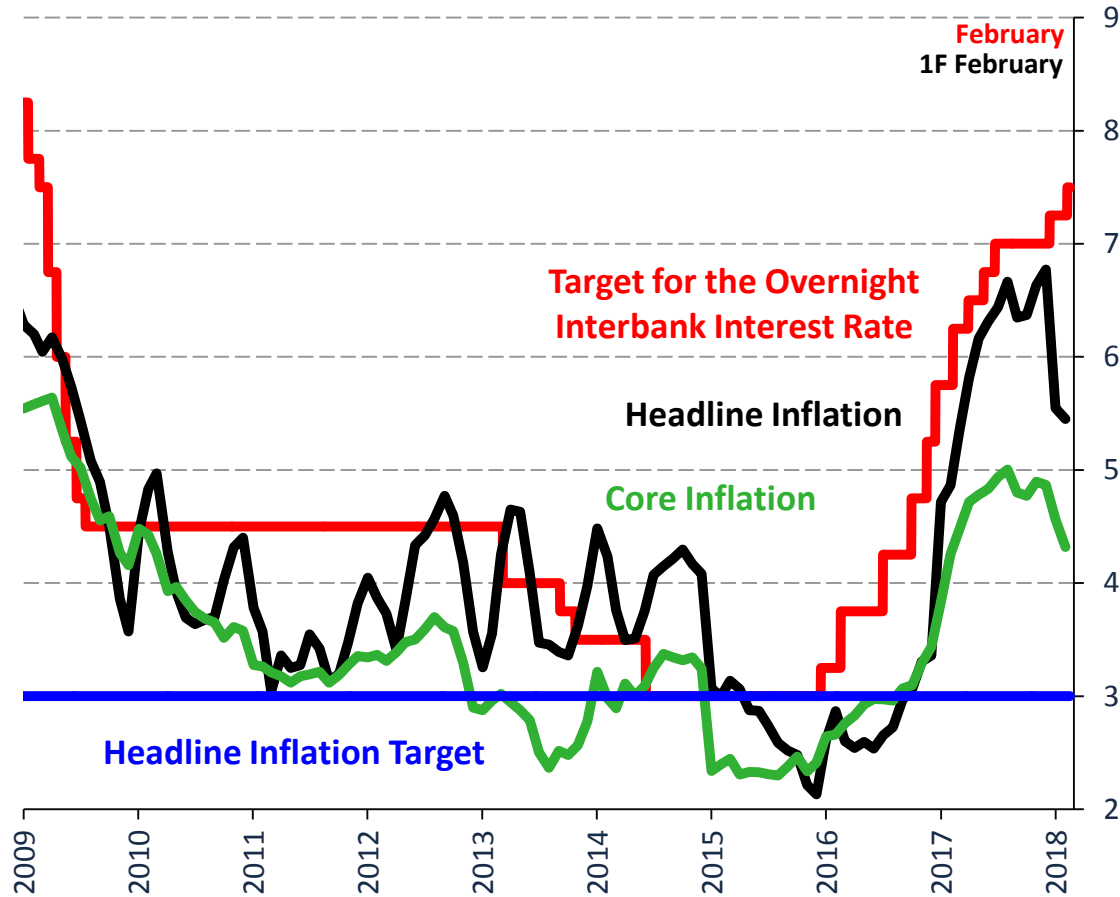


## Monetary Policy Stance

- To guide monetary policy actions, the Board of Governors closely monitors *inflation with respect to its expected path, considering the adopted monetary policy stance and the horizon at which monetary policy operates*, as well as available information of all inflation determinants and medium- and long-term inflation expectations, including the balance of risks.
- Looking forward, the Board has emphasized that it will continue to follow the:
  - ✓ *Potential pass-through of exchange rate fluctuations on prices.*
  - ✓ *Monetary stance of Mexico relative to the U.S.*
  - ✓ *Evolution of slack conditions in the economy.*
- In light of risks that imply a high degree of uncertainty over inflation and inflation expectations, the **monetary policy** acts in a **timely and robust** manner.

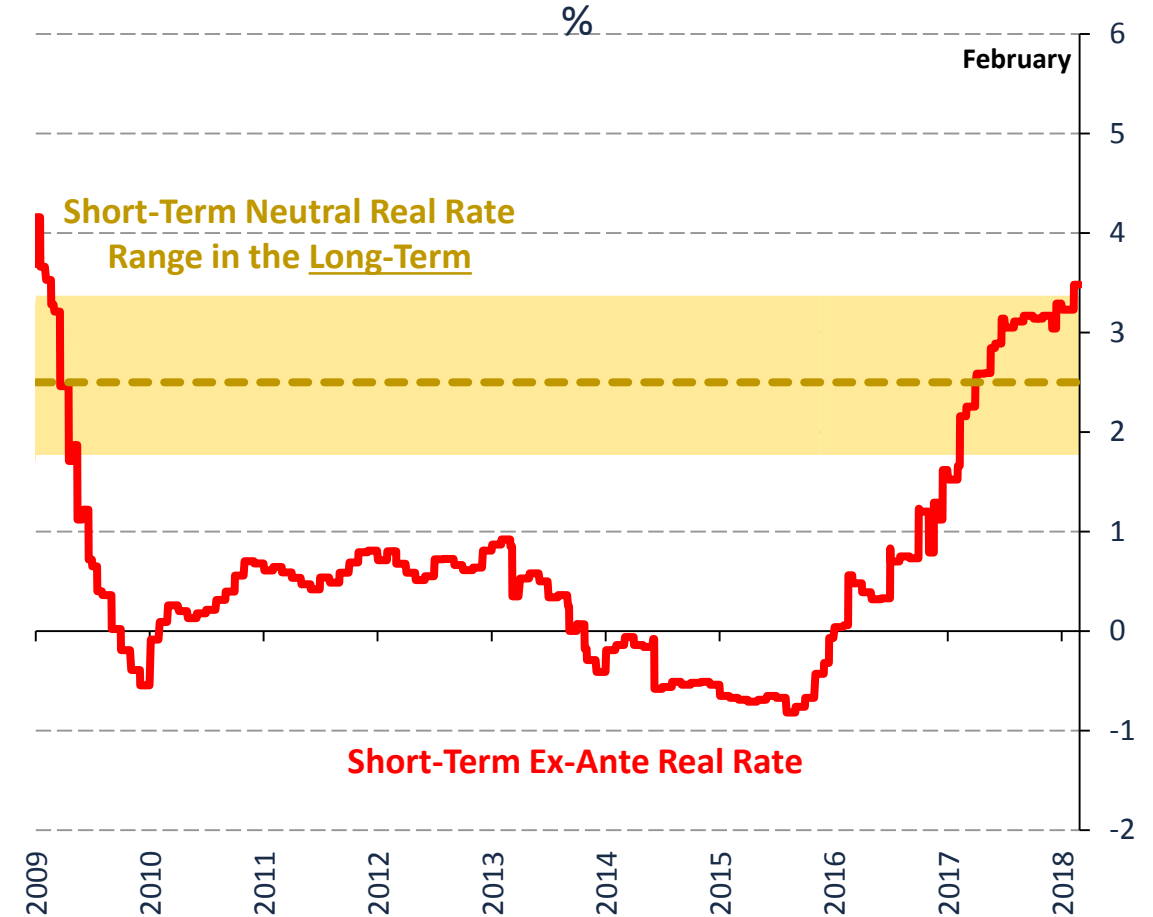
The increases in the target for the Overnight Interbank Interest rate implemented by the Board of Governors in the monetary policy meetings of December and February, raised the interest rate to 7.50%. Consequently, the real ex-ante interest rate reached levels close to 3.5%.

**Monetary Policy Rate and Consumer Price Index**  
% and annual % change



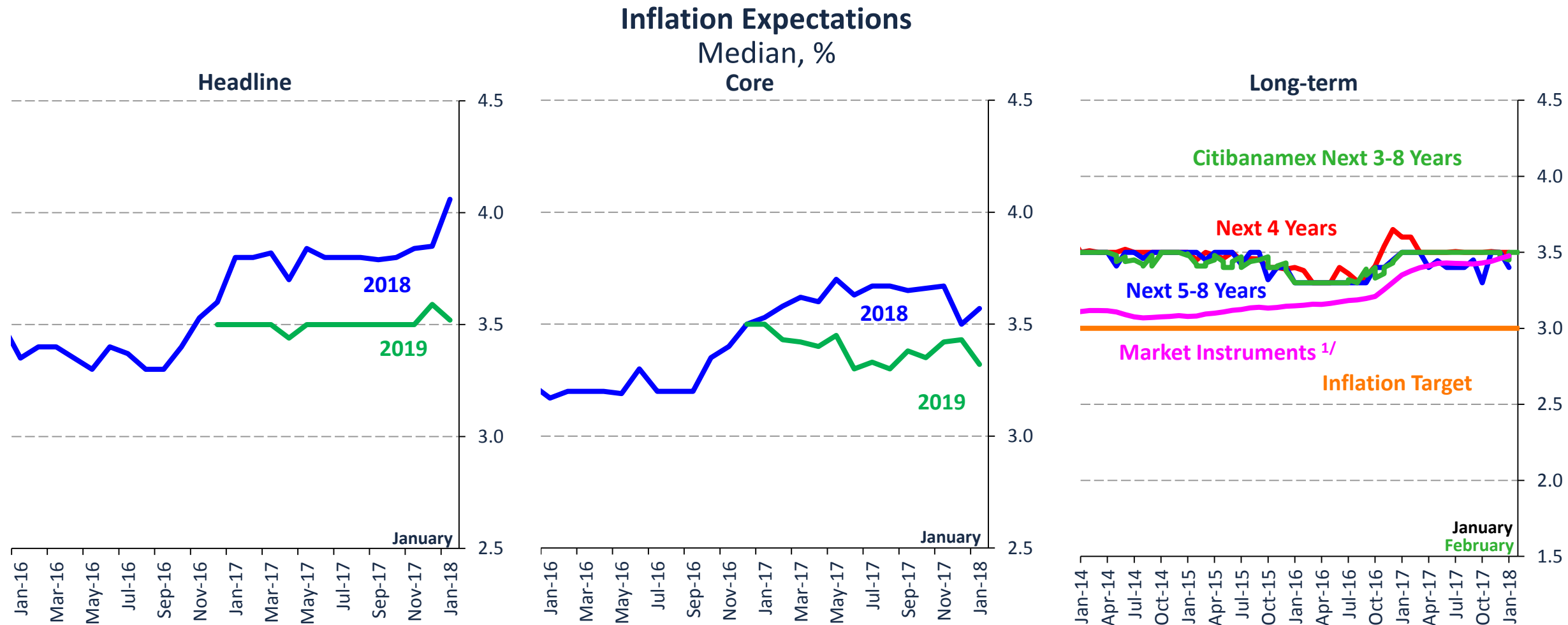
Source: Banco de México and INEGI.

**Short-Term Ex-Ante Real Rate and Estimated Range for the Short-Term Neutral Real Rate in the Long Term <sup>1/</sup>**



<sup>1/</sup> 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 Survey. The dotted line corresponds to the midpoint of the range.  
Source: Banco de México.

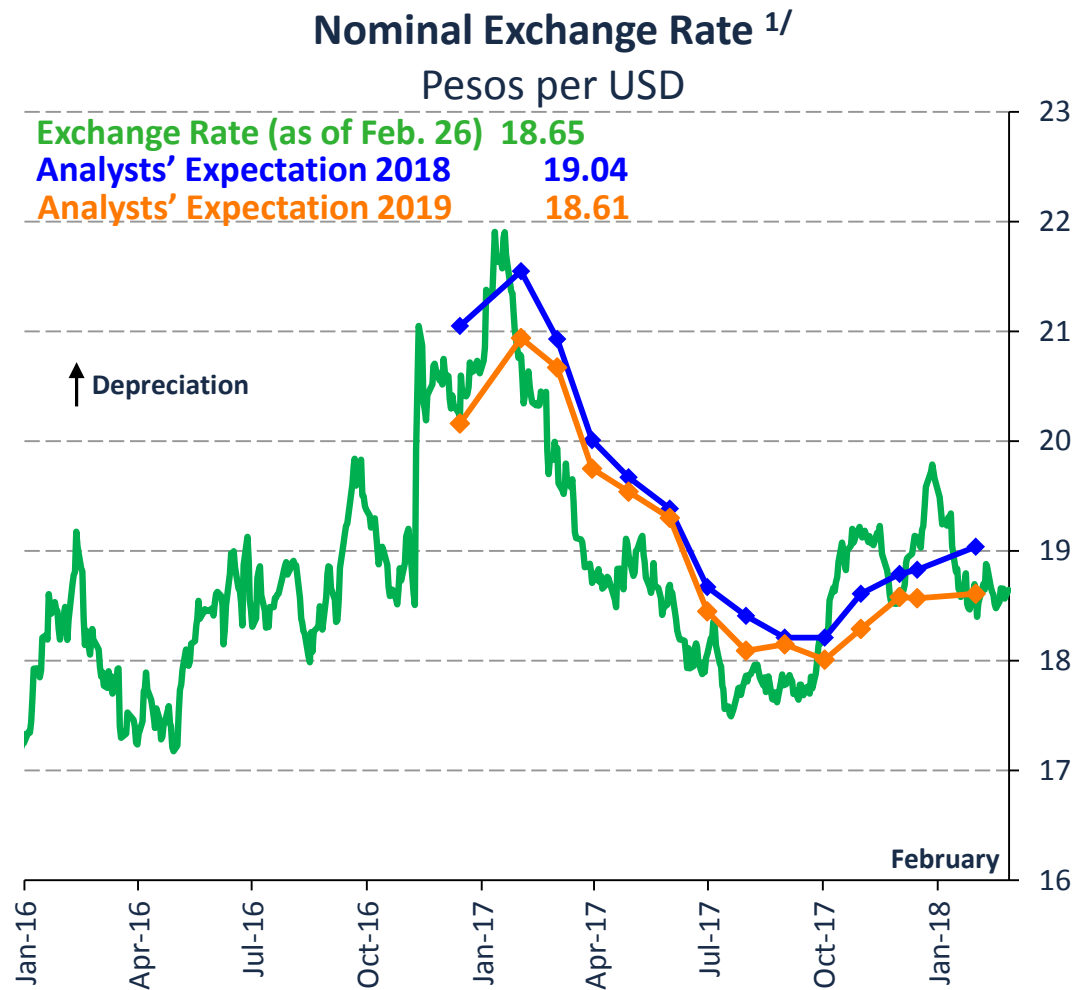
The evolution of non-core inflation led to increases in headline inflation expectations for the end of 2018. However, medium- and long-term expectations remained stable, although at around 3.5%, slightly above the target level.



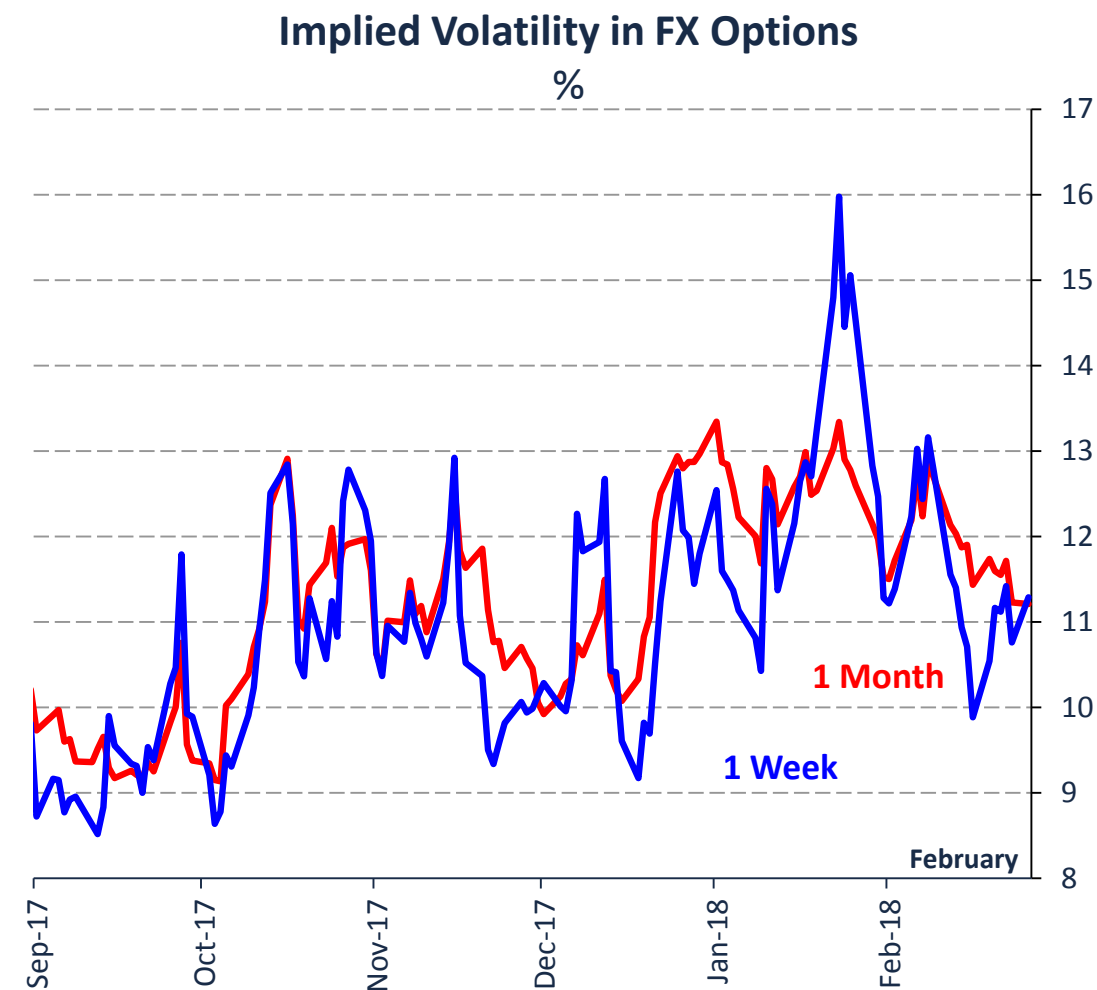
Source: Banco de México Survey.

1/ For a description of the estimation of long-term inflation expectations, see the Box “Decomposition of Breakeven Inflation” in the Quarterly Report, October – December 2013. For this Report, the estimation was updated to include information as of November 2017. Source: Banco de México and Citibanamex Survey.

Although during Q4 2017 the Mexican peso depreciated and its volatility increased, since the beginning of January it has appreciated slightly. This has been associated with a number of factors: the monetary policy actions, a certain improvement in the outlook for NAFTA negotiations, and the generalized weakness of the U.S. dollar.

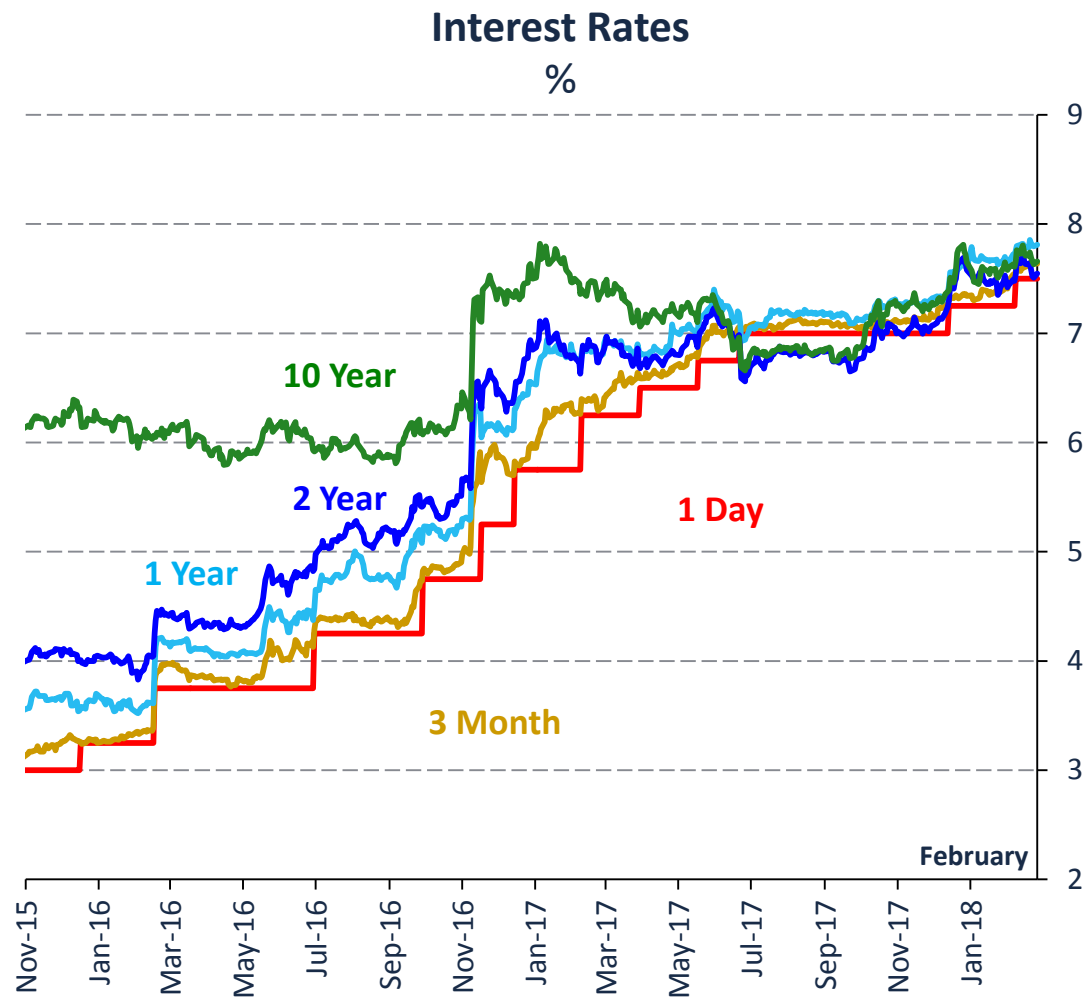


<sup>1/</sup> Observed exchange rate refers to the daily FIX Exchange Rate. Expectations refer to the average of Banco de México Survey from January.  
Source: Banco de México.

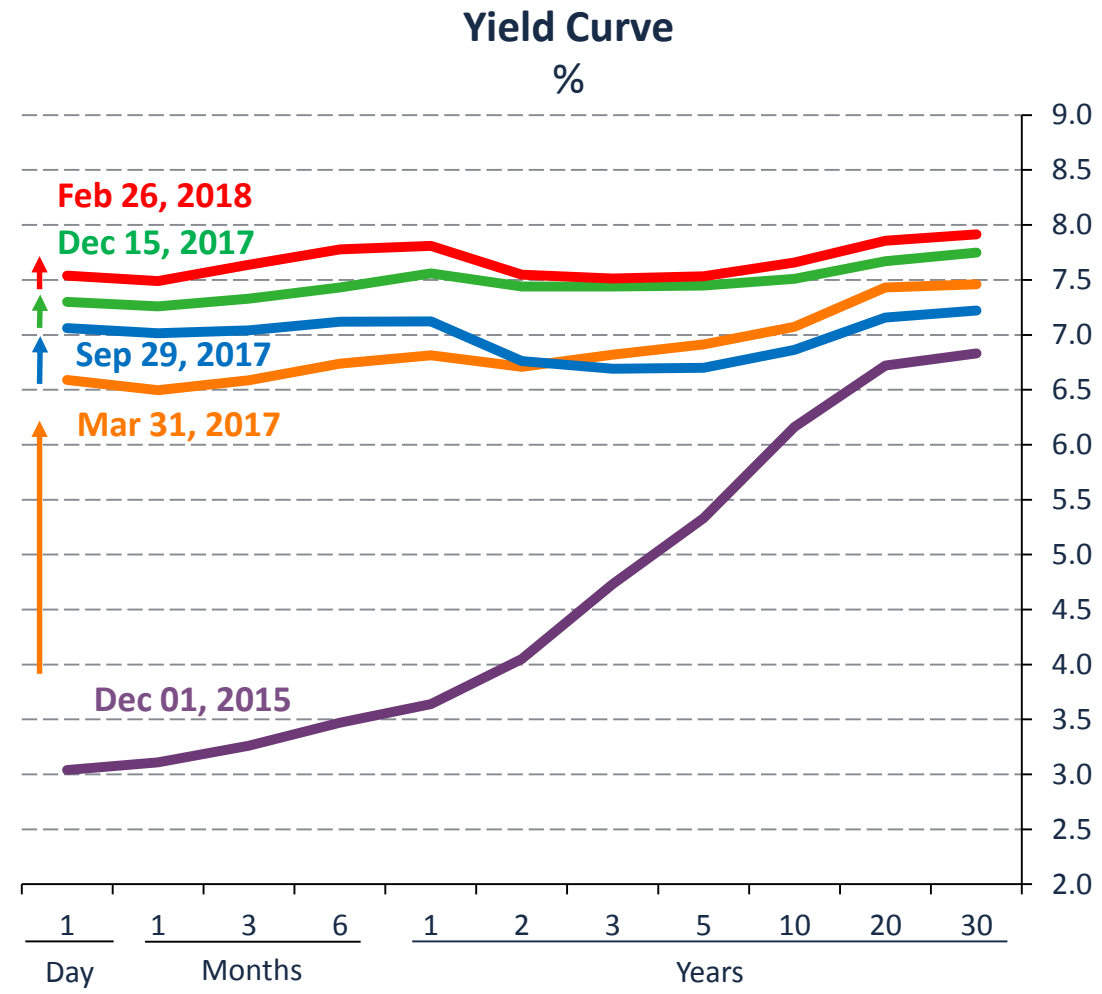


Source: Bloomberg.

Short-term interest rates reflected a rise in the benchmark interest rate in December and February, while longer-term rates have been pressured by external interest rates of the same terms.

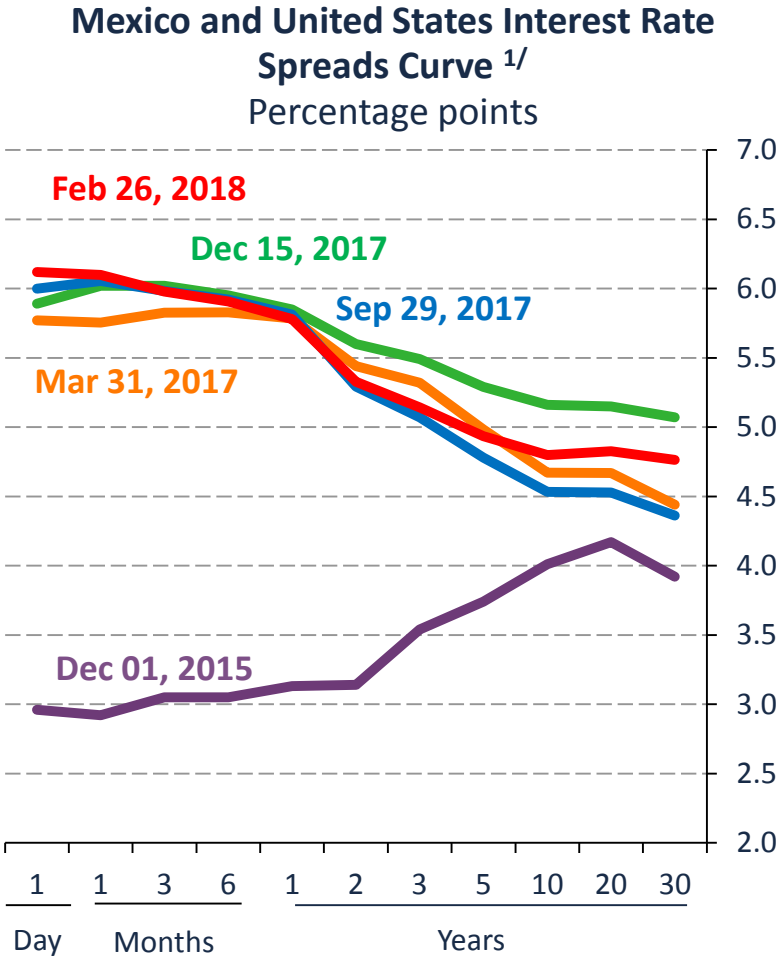


Source: Banco de México and *Proveedor Integral de Precios (PiP)*.

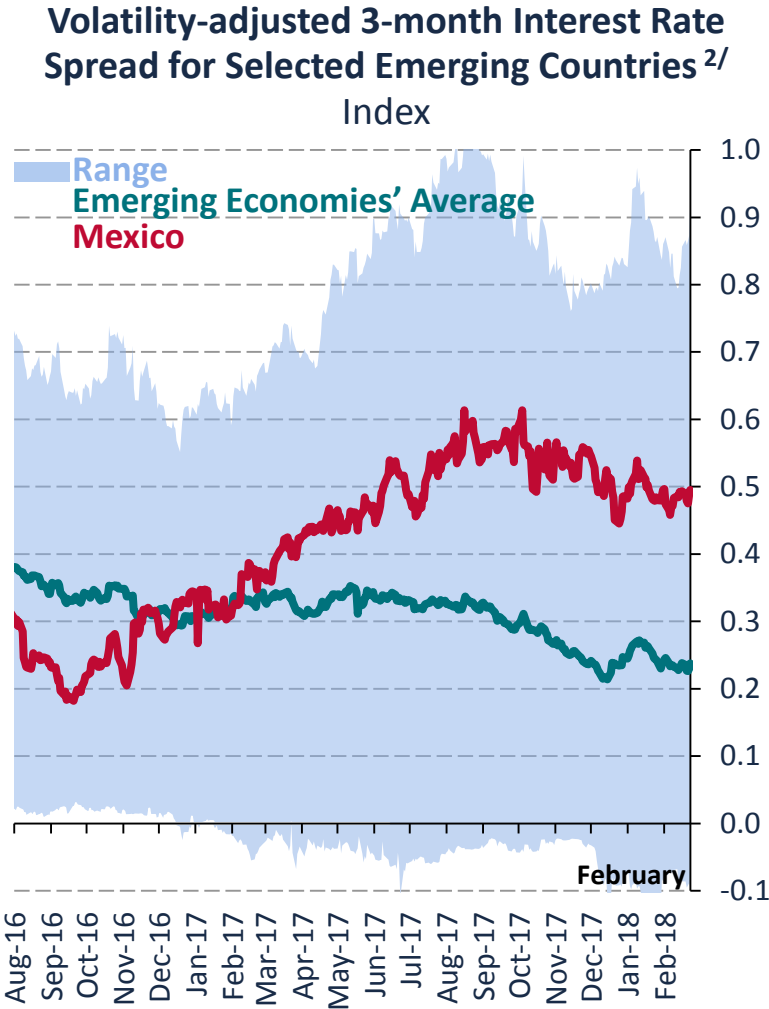


Source: Banco de México and *Proveedor Integral de Precios (PiP)*.

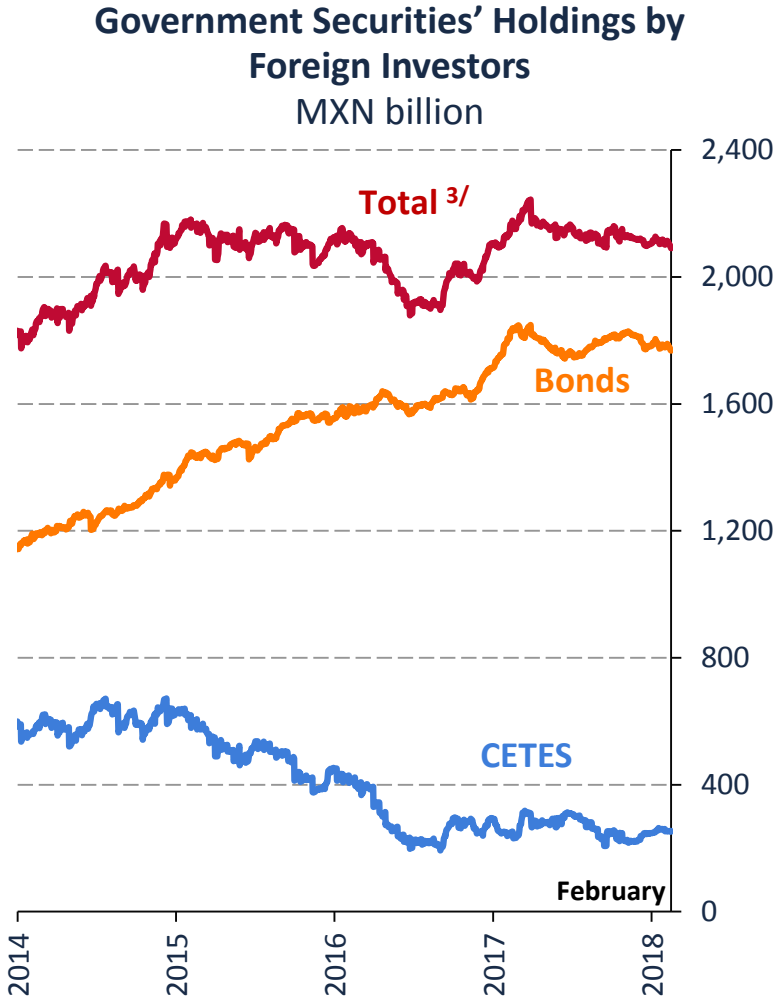
During Q4 2017 and in early 2018, interest rate spreads between Mexico and the U.S. have remained high, especially shorter-term ones. The residents' holdings of medium- and long-term securities abroad have been relatively stable.



<sup>1/</sup> The United States objective rate is the average of the interval considered by the Federal Reserve.  
Source: *Proveedor Integral de Precios* (PIP) and U.S. Treasury Department.



<sup>2/</sup> The countries selected are Brazil, Chile, Colombia, Turkey, South Africa, South Korea and Poland.  
Source: Bloomberg.



<sup>3/</sup> The total includes CETES, bonds, udibonos, bondes and bondes D.  
Source: Banco de México.

# Outline

**1**

**External Conditions**

**2**

**Evolution of the Mexican Economy**

**3**

**Inflation**

**4**

**Monetary Policy**

**5**

**Forecasts and Final Remarks**

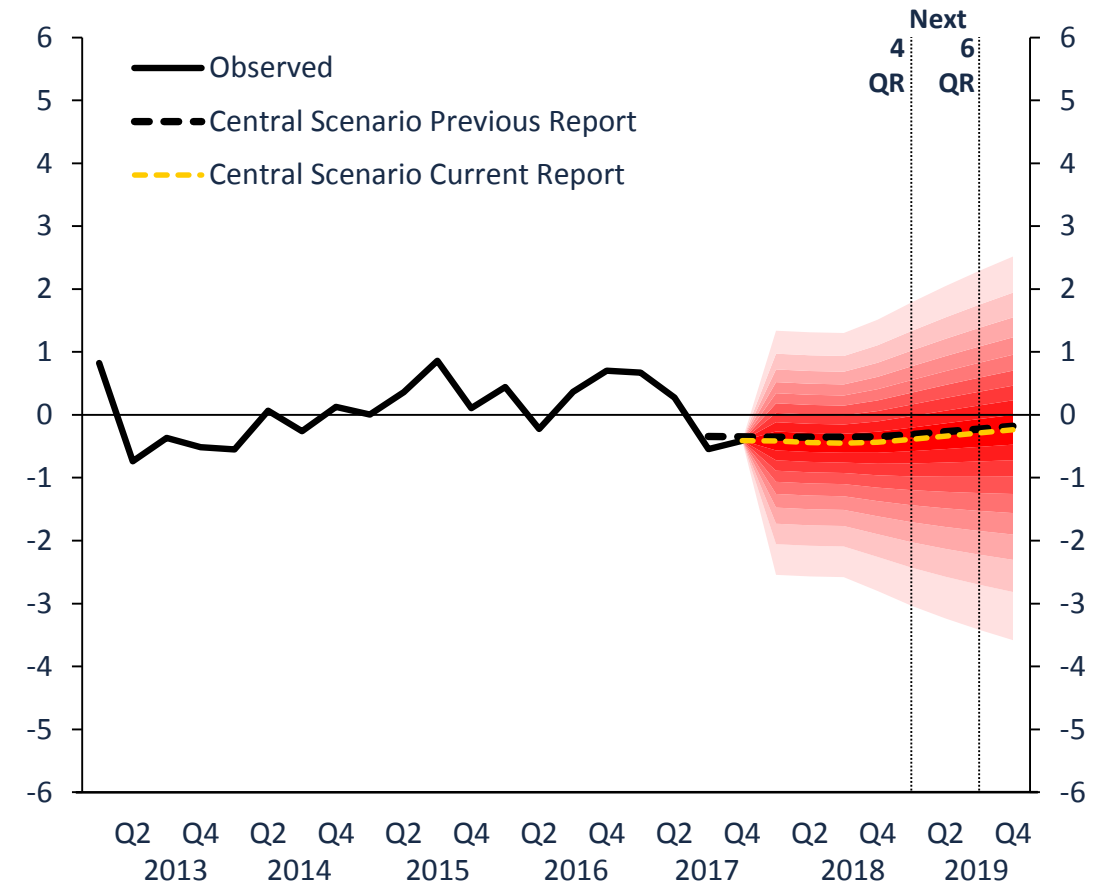
## Economic Activity Outlook

GDP Growth (%)		
Report	Previous	Current
2018	2.0 – 3.0	2.0 – 3.0
2019	2.2 – 3.2	2.2 – 3.2

Increase in the Number of IMSS-insured Jobs (Thousands)		
Report	Previous	Current
2018	680 – 780	680 – 780
2019	690 – 790	690 – 790

Current Account Deficit (% of GDP)		
Report	Previous	Current
2018	2.1	2.1
2019	2.3	2.3

**Fan Chart: Output Gap Estimate <sup>1/</sup>**  
% of potential output, s. a.



s. a. / Seasonally adjusted data.

<sup>1/</sup> The next four and six quarters are indicated as of the first quarter of 2018, that is, the first and third quarters of 2019, periods in which the monetary policy transmission channels fully operate.

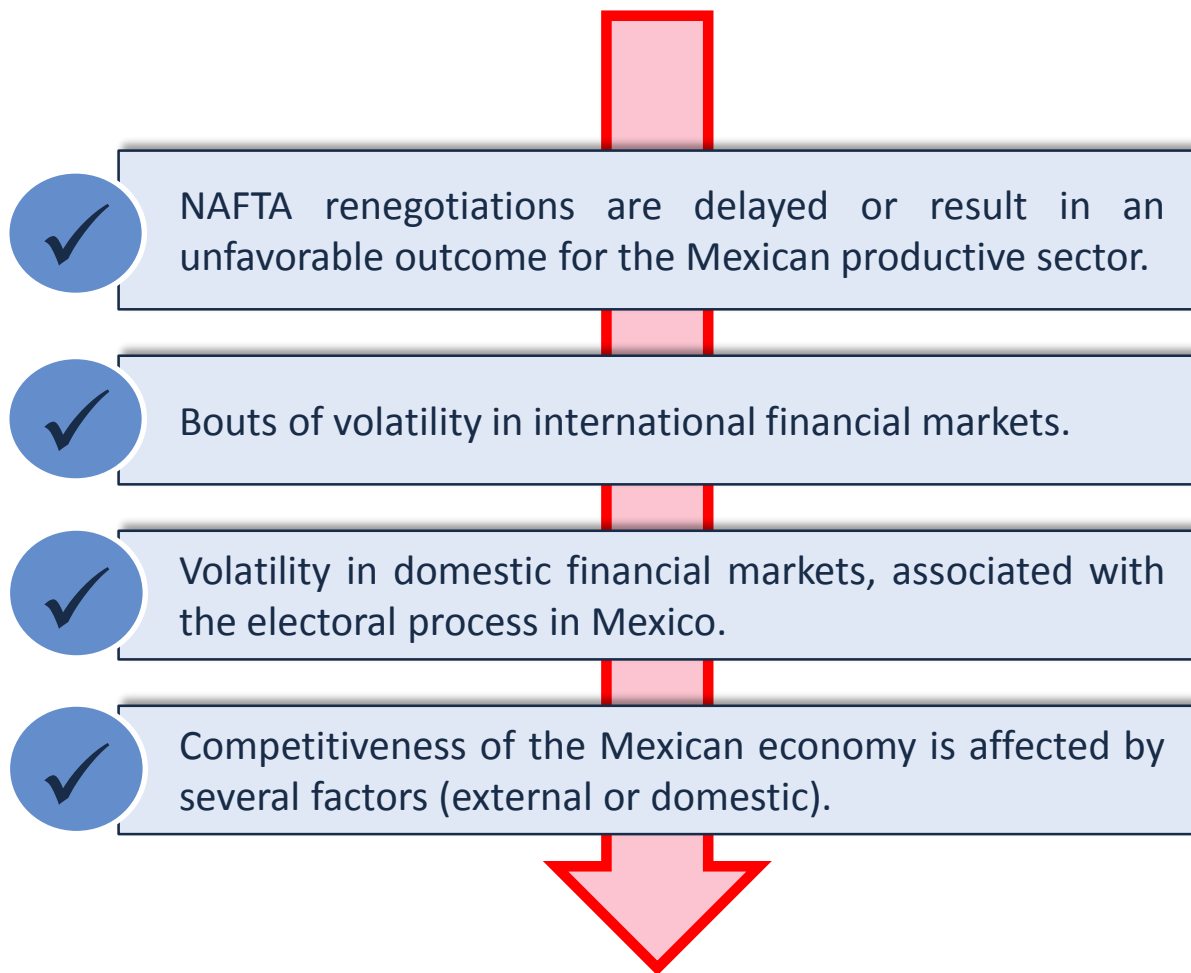
Source: Banco de México.



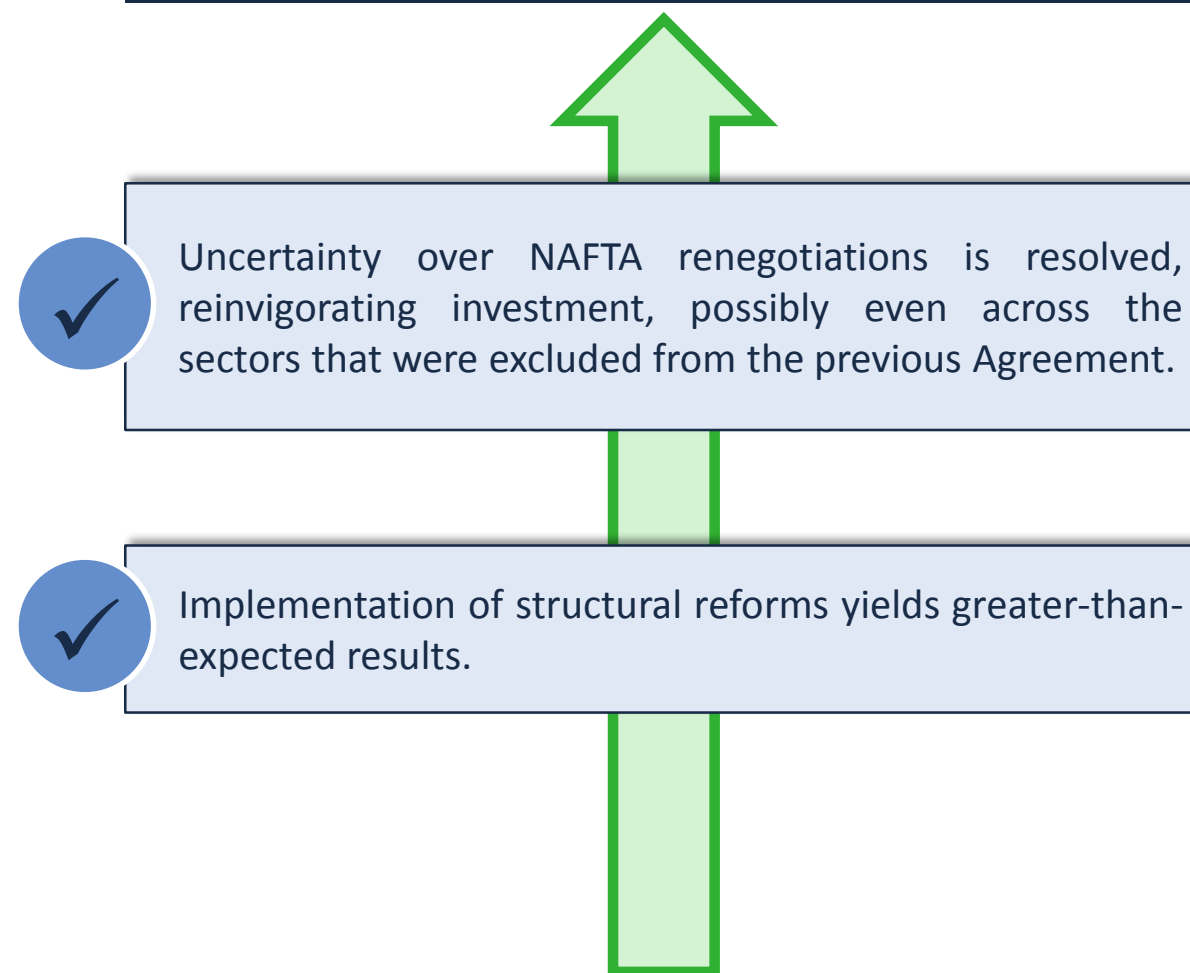
## Risks to Growth Outlook

Balance remains biased to the downside.

### Downward



### Upward



## Central Scenario for Inflation

### Headline Inflation

- Will continue declining, approaching the 3.0% target during the year, **attaining it in Q1 2019**, and fluctuating around the target during the remainder of that year.

### Core Inflation

- Will continue to decline gradually, **will reach levels close to 3.0% in Q1 2019**, and will consolidate the convergence to that level during the rest of the year.

- The current forecast considers the recent inflation evolution, the performance of inflation determinants, and the impact of the implemented monetary policy actions, which operate with a certain lag. In addition, it considers:
  - ✓ An *orderly performance* of the exchange rate.
  - ✓ *The absence of labor market pressures.*
  - ✓ *A strong decline in non-core inflation* during 2018, as long as the shocks observed last year do not occur again.

# Inflation-Targeting Regime and the Role of Forecasts

- **Constitutional mandate**: To maintain the stability of the domestic currency's purchasing power.

## Inflation-Targeting Regime/ Framework for Conducting Monetary Policy

- **Explicit goal**: 3% annual inflation (CPI) / Variability interval

### Guidelines for monetary policy:

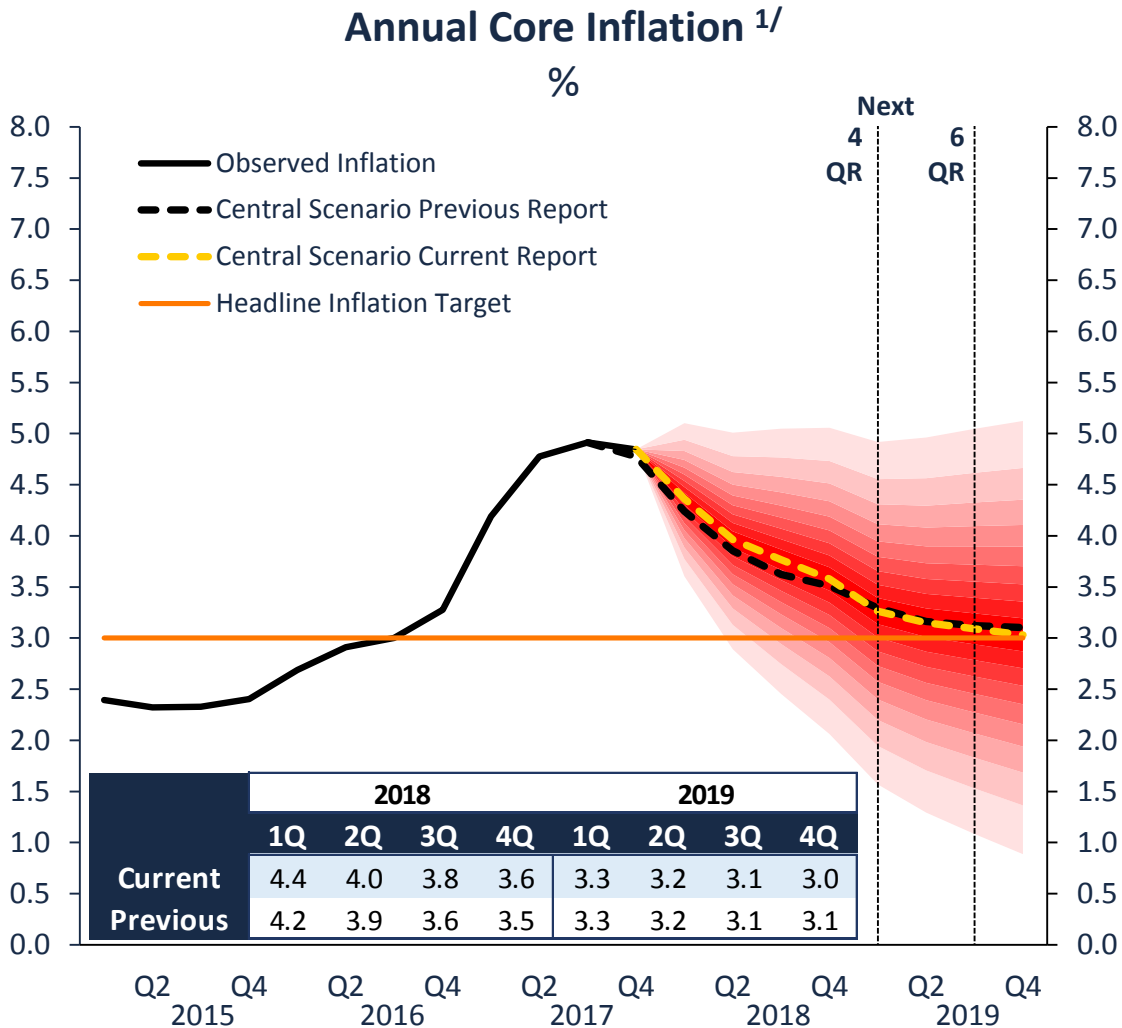
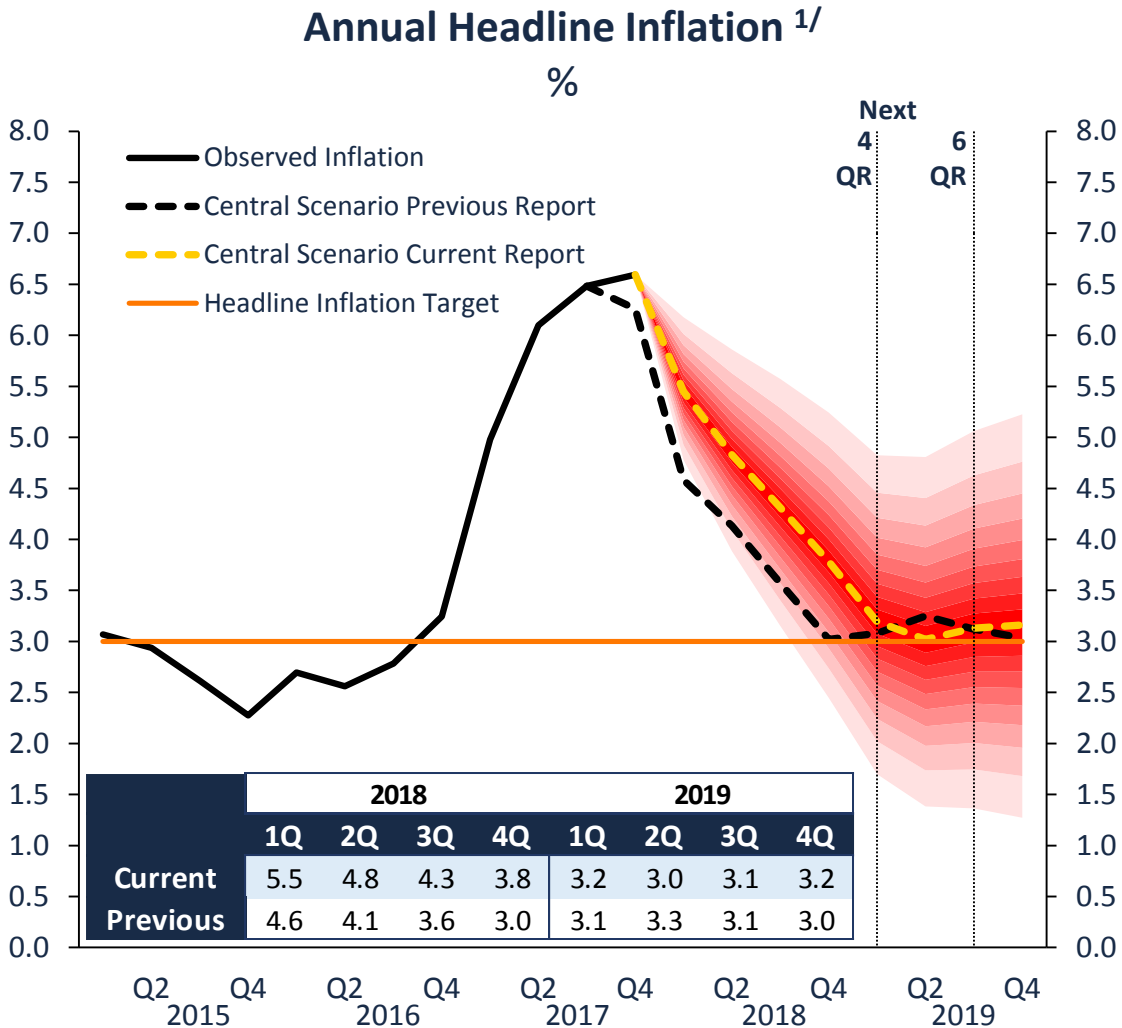
- 1 Monetary policy actions that allow reaching **the inflation forecasted path** in the horizon at which monetary policy operates.
- 2 Evaluate if **inflation deviations from its projected path** justify adjustments in the monetary policy stance, taking into account:
  - ✓ *All the available information, including inflation expectations.*
  - ✓ *The horizon at which monetary policy operates (4-6 quarters).*
- 3 Evaluate the balance of risks for inflation relative to its forecasts and the associated uncertainty.



As from this Inflation Report, **forecasts for the quarterly average of annual changes** of headline and core **inflation** will be published.

Current forecasts display a delay in the estimated convergence trajectory of annual headline inflation towards the target. This delay is related, in part, to the effect of price increases in some energy products and fruits and vegetables, which affected non-core inflation in recent months, along with the cyclical position of the economy, which could be affecting the pace of core inflation decline.

Fan Chart




<sup>1/</sup> Quarterly average of annual inflation. The next four and six quarters are indicated as of the first quarter of 2018, that is, the first and third quarters of 2019, periods in which the monetary policy transmission channels fully operate.  
Source: Banco de México and INEGI.

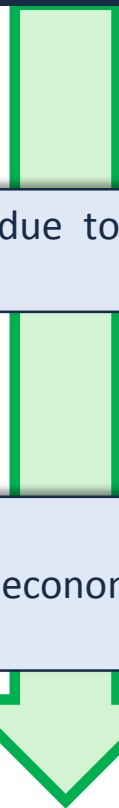
## Risks to Inflation Outlook

Balance of risks remains biased to the upside, in an environment of high uncertainty.

### Upward

- 
- A red triangle pointing upwards is positioned above a vertical red line. This line is composed of four rectangular segments, each containing a checkmark icon, indicating a positive or upward bias.
- ✓ Depreciation of the Mexican peso due to external or domestic factors.
  - ✓ New unfavorable shocks on agricultural product prices.
  - ✓ Spikes in some energy product prices.
  - ✓ Potential pressure on inflation from the evolution of unit labor costs, given the absence of slack in the economy.

### Downward

- 
- A green triangle pointing downwards is positioned above a vertical green line. This line is composed of three rectangular segments, each containing a checkmark icon, indicating a negative or downward bias.
- ✓ Currency appreciation due to a favorable outcome in NAFTA negotiations.
  - ✓ Lower-than-anticipated economic growth .

Given the presence of **factors** that imply a risk to inflation and inflation expectations, if needed, the monetary policy will act in a **timely and decisive** manner to reinforce the anchoring of medium- and long-term inflation expectations and to achieve the **convergence** to the 3.0 percent inflation target.

## Final Remarks

- Thanks to the **monetary policy actions** implemented to keep medium- and long-term inflation expectations anchored, combined with the **attainment of fiscal objectives** in 2017 and the commitment to reach them in 2018, as well as **the continued resilience of the financial system**, the Mexican economy is in a better position to face possible adverse scenarios.
- The **early renewal of Mexico's Flexible Credit Line** with the International Monetary Fund in November 2017 for the next two years should also be highlighted as recognition of Mexico's solid macroeconomic framework.
- So far, given the **strengthening of the Mexican macroeconomic framework**, the economy has continued growing, despite the severe and simultaneous shocks that it has faced. However, it still confronts short- and medium-term challenges, therefore, it is necessary to take actions that would foster greater productivity in the economy.

## Annex – Boxes

- 1 Remarks on the Fiscal Policy in the U.S.
- 2 Recent Evolution of Mexico's Automotive Exports.
- 3 Remarks on New Measures of Monetary Aggregates and Domestic Financial Assets in Mexico.
- 4 Slack Indicators to Identify Inflation Pressures.
- 5 Fundamental Core Inflation.
- 6 Inflation-Targeting Regime and the Role of Forecasts.



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