



BANCO DE MÉXICO

Quarterly Report
April – June 2018



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QUARTERLY REPORT

This report analyzes recent developments in economic activity, inflation and different economic indicators in Mexico, as well as the monetary policy implementation in the quarter April – June 2018, and, in general, the activities of Banco de México over the referred period, in the context of the Mexican and international economic environment, in compliance with Article 51, section II of Banco de México's Law.

FOREWARNING

This document is provided for readers' convenience only. The translation from the official Spanish version was made by Banco de México's staff. Discrepancies may possibly arise between the original document in Spanish and its English translation. For this reason, the original version in Spanish is the only official document.

Unless otherwise stated, this document has been prepared using data available as of August 27, 2018. Figures are preliminary and subject to changes.

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1. Introduction

Throughout 2018, Banco de México has conducted monetary policy in an environment of high uncertainty caused by both external and domestic factors. At the international level, trade tensions have built up among several economies, interest rates in the U.S. have increased, and the U.S. dollar has exhibited a generalized strengthening related to a greater divergence in both the observed and expected performance of the main advanced economies. This situation has generated expectations that the U.S. Federal Reserve will continue normalizing its monetary policy stance at a faster pace than other developed economies' central banks. In these conditions, international financial markets underwent bouts of volatility and exhibited lower appetite for risk and, therefore, asset prices in emerging economies exhibited negative returns. During the period analyzed, at the domestic level, the environment that prevailed in the Mexican economy was that of uncertainty and volatility related to the lack of agreements in the NAFTA renegotiations and to Mexico's elections.

In this context, during the first five months of the year annual headline inflation fell. However, starting in June some of the upward risks signaled in the previous Quarterly Report materialized. This led to significant hikes in non-core inflation, which still remains at high levels. This, in turn, has affected the speed at which headline inflation converges to its target. After posting 5.31% during the first quarter of 2018, and 4.55 and 4.51% in April and May, respectively, average annual inflation rebounded to 4.65% in June and to 4.81% in July and during the first half of August. Non-core inflation exhibited greater-than-anticipated price increases in some energy products, mainly gasoline and LP gas, which since June have followed a higher growth trend. Another risk that materialized during most of the second quarter of 2018 was the depreciation of the Mexican peso, attributed to the referred external and domestic factors. However, since mid-June, this depreciation trend has reverted due, among other factors, to the monetary policy actions implemented by Banco de México; the perception of an improvement in the NAFTA negotiations; and, a lesser uncertainty after the federal elections' results. As for core inflation, it continued on a downward

trajectory in line with its forecasts, during the period covered by this Report. The behavior exhibited by this price subindex is due to the easing of the economy's cyclical conditions, resulting from the contraction of economic activity in the second quarter, to the referred exchange rate appreciation, and to the monetary policy actions implemented by Banco de México, which prevented the different shocks on inflation from generating second-round effects on the economy's price formation process. Average annual core inflation thus registered 4.29% during the first quarter of 2018, 3.67% during the second quarter, and 3.60% during the first half of August.

During the reference period, Banco de México conducted monetary policy with the objective of maintaining inflation expectations anchored and reinforcing the declining trend of annual headline inflation to its target. In particular, during its meetings of April and May 2018, the Governing Board unanimously voted to leave the target for the overnight interbank interest rate unchanged at 7.50%. The Board considered that, according to the information available at that moment, the monetary policy stance was consistent with the decreasing trend followed by annual headline inflation towards its target, although, as stated above, non-core inflation still remains at high levels. However, as specified before, as of June, some risks to inflation materialized. Thus, given the deterioration in the balance of risks to inflation and the materialization of certain risks that could delay the convergence of inflation to its target, in its June meeting the Governing Board decided to adjust the monetary policy stance by raising the target for the overnight interbank interest rate by 25 basis points to 7.75%. Subsequently, domestic financial markets performed favorably and the depreciation that the Mexican peso had been displaying during the previous months reverted. The recent shocks on inflation are transitory; the economy's cyclical conditions have eased and are expected to maintain this trend at an even faster rate than previously estimated—which would imply lesser demand-related pressures on inflation—; and, core inflation's expected trend remains downward. Considering the above, in its August meeting, the Governing Board decided to maintain the target rate unchanged.

Delving in the external conditions faced during the analyzed period, the world economy continued to expand, although there is an increasing divergence in the main advanced economies' performance. In particular, the fact that economic activity in the U.S. grew at a higher rate under conditions of reduced slack is noteworthy. This could trigger higher inflation pressures, which stands in contrast with conditions of lesser growth and moderate inflation pressures in other advanced economies. Although for the remainder of 2018 and 2019 the outlook for world economic growth is favorable, downward risks to global economic growth have increased both in the short and medium terms. This is due to the escalation of trade disputes, the possible tightening of financial conditions, and the persistence of geopolitical and idiosyncratic risks. These factors have contributed to raise uncertainty and volatility levels and, therefore, to a lower appetite for risk at the global level, reduced capital flows to emerging economies and, in turn, to the depreciation of their respective currencies.

At the domestic level, in the second quarter of 2018, economic activity in Mexico contracted with respect to the first quarter. This development contrasts with the expansion observed over the previous two quarters and reflects the reversal of the dynamism shown by the investment from December 2017 to March 2018, especially in the construction sector. The weakness of exports also contributed to the above, while consumption maintained a positive performance. As a result, slackness conditions apparently loosened in the analyzed period, though conditions in the labor market remain tight. The balance of risks to economic growth is considered to remain biased to the downside, largely due to the uncertainty regarding the complex external and domestic environment faced by the Mexican economy. In particular, in light of the growing trade tensions at the global level and a possible tightening of the financial conditions, as well as the uncertainty related to the change of administration in the country and the challenges posed by the implementation of the public policy agenda, during the next quarters, tightness conditions of the economy are estimated to possibly continue to ease at a faster pace than previously anticipated.

The inflation outlook presented in this Report considers that the higher-than-anticipated energy prices, mainly of gasoline and LP gas, in an environment in which non-core inflation was already at high levels, will affect the annual headline inflation trajectory expected for 2019, although this effect is estimated to be transitory. Therefore, the trajectory of headline inflation convergence towards its target is expected to be delayed, essentially, due to the performance of non-core inflation. In an environment such as the current one, in which annual non-core inflation has persistently lied above 3% and, in addition, has been affected by additional shocks of considerable magnitude, as well as by high volatility, the decline of annual headline inflation to its 3% target set by Banco de México for this indicator has been affected. Core inflation better reflects the monetary policy stance. Therefore, in this juncture the Governing Board will closely follow this indicator. Annual core inflation is estimated to continue declining, reflecting both the monetary policy stance and the expected easing of the cyclical conditions of the economy. In the same vein, it is estimated to attain the 3% level in the third quarter of 2019. In addition, during the rest of the year and in 2019, annual headline inflation is forecast to approach the 3% target and to lie around that target during the first half of 2020. These estimations are subject to risks in the forecast horizon, in particular, that the Mexican peso may be pressured by different domestic and external factors. In this respect, the recent announcements of a preliminary agreement to revamp the trade treaty with the U.S. contributed to reduce uncertainty that had been faced by the Mexican economy. On the other hand, the risk persists of additional price increases in some energy products or price increases in agricultural prices, as a result of which the evolution of non-core inflation would to a greater degree hinder the convergence of headline inflation to the target. In the same vein, there is a risk that the escalation of protectionist and compensatory measures at the global level negatively affects inflation.

To guide its monetary policy actions, Banco de México's Governing Board closely monitors the development of inflation vis-à-vis its forecast trajectory, taking into consideration the monetary policy stance adopted and the horizon in which monetary policy operates, as well as the available

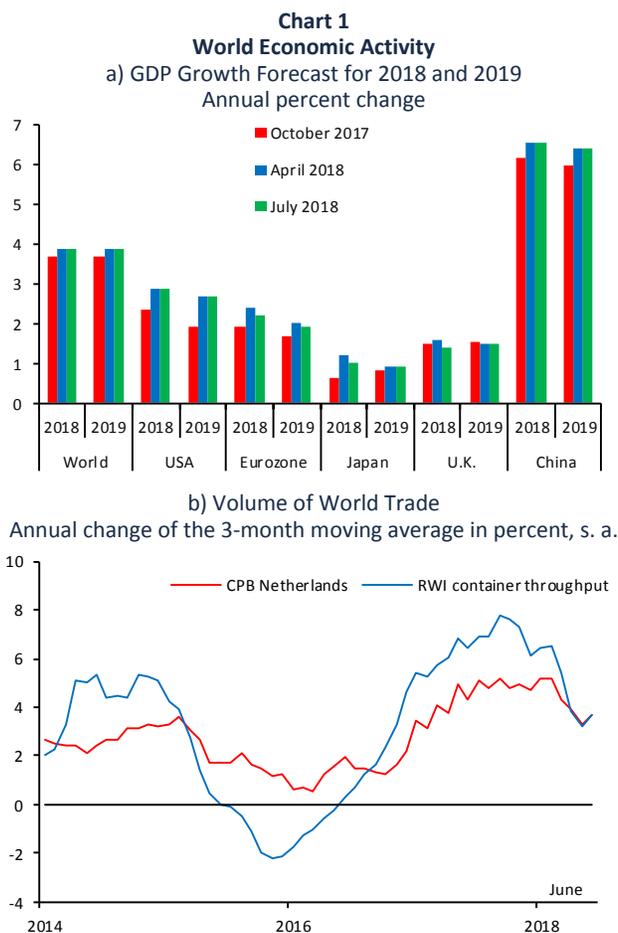
information on all inflation determinants and medium- and long-term inflation expectations, including the balance of risks. The Governing Board will maintain a prudent monetary policy stance and will continue to follow closely the potential pass-through of exchange rate fluctuations on prices, the monetary policy stance relative to that of the U.S., and the evolution of slack conditions in the Mexican economy. In the presence and possible persistence of factors, that, by their nature, may involve risks to inflation and inflation expectations, the monetary policy stance will be adjusted in a timely and firm manner to attain the convergence of inflation to its 3% target, and to strengthen the anchoring of medium- and long-term inflation expectations to reach this target.

It is important to stress that the monetary policy stance adopted by Banco de México to maintain medium- and long-term expectations anchored, along with a lower absorption of financial resources by the public sector and the persisting resilience of the financial system, contributed to having the Mexican economy in a better position to face the adverse scenarios. Nonetheless, the economy is forecast to continue going through a complex environment, both external and domestic, which makes it particularly relevant not only to pursue a prudent and decisive monetary policy, but also to adopt the measures leading to greater productivity, which includes maintaining the openness of the economy and consolidating the public finances of Mexico in a sustainable manner.

2. Economic and Financial Environment

2.1. External Conditions

During the second quarter of the year, the world economy continued to grow. However, there is an increasing divergence in the main advanced economies' performance. In particular, in contrast to the Eurozone and Japan, which grew less than expected, the growth rate of U.S. economic activity accelerated, in part, due to the adopted fiscal stimulus. For the rest of 2018 and 2019, the global economy is anticipated to expand, mainly fueled by the dynamism of domestic demand in most countries. Nevertheless, some risks to this scenario both in the short term and, to a greater degree, in the medium term have increased (Chart 1a). This reflects the risks related to the escalation of the trade dispute, a possible tightening of financial conditions and geopolitical and idiosyncratic factors. In response to the deterioration of some of these factors, the financial markets presented bouts of volatility, especially across the emerging economies. In the Asian economies, the prices of financial assets were affected by the escalating trade disputes between China and the U.S. In other countries, such as Argentina, Indonesia and Turkey, the financial markets exhibited strong drops, fueled by the idiosyncratic factors related to the handling of their economic policies. On the other hand, growth of international trade has moderated and business confidence has started to reflect the impact of uncertainty related to tariff impositions (Chart 1b).



s. a. / Seasonally adjusted figures.
Source: IMF, World Economic Outlook, October 2017, April and July 2018; CPB Netherlands and Haver Analytics.

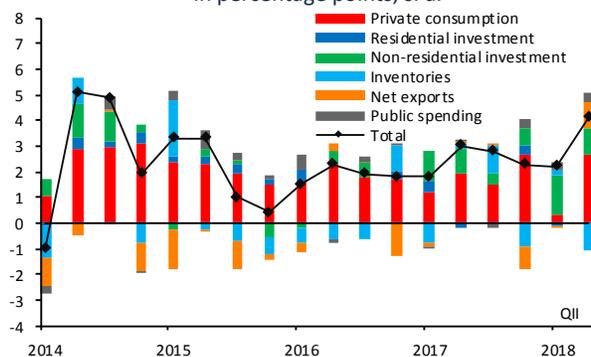
2.1.1. World Economic Activity

The U.S. economy kept growing at a high rate during the first half of the year and the consensus of analysts anticipate that it will continue expanding vigorously during the rest of 2018 and in 2019. However, a considerable slowdown of economic activity starting in 2020 is foreseen, insofar as the impact of the fiscal impulse fades.

During the reported quarter, the growth rate of economic activity in the U.S. accelerated, following the weakness in the first quarter, which was mainly a consequence of temporary factors. Thus, the GDP expanded at an annualized seasonally adjusted rate of 4.1% in the second quarter, as compared to a growth of 2.2% in the first one (Chart 2). Indeed, spending on private consumption grew considerably, which was supported by the increase in disposable

income and high levels of consumer confidence. Net exports also strongly contributed to growth, partly in response to the temporary increase in agricultural exports in anticipation of tariffs imposition by China. Meanwhile, non-residential investment maintained high dynamism, mainly reflecting the expansion of spending on structures related to the oil extraction activities. In contrast, residential investment remained weak, after the increase observed during the fourth quarter of 2017.

Chart 2
Economic Activity in the U.S.
Real GDP and Components
Annualized percent change and contribution
in percentage points, s. a.

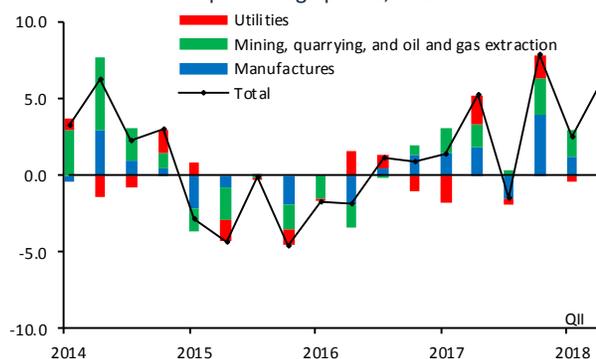


s. a. / Seasonally adjusted figures.
Source: BEA.

In this context, U.S. industrial production rebounded in the second quarter of 2018, as it grew at a quarterly (seasonally adjusted and annualized) rate of 6%, after it expanded 2.5% in the first quarter (Chart 3). This improvement was largely attributed to the recovery of the electricity and gas sector, once the demand had been reestablished after a period of unusually warm temperatures at the beginning of the year in the U.S. and the continuous expansion of the mining activity in response to higher oil prices. Finally, manufacturing production expanded at a moderate pace, given the weakening of the automotive sector, as a result of the temporary interruption in the production of car parts, while the rest of the manufacturing sector presented a higher growth rate. In turn, the available indicators as of the third quarter, such as the Purchasing Managers' Index (PMI) and the industrial production in July suggest that the manufacturing activity will continue to

expand over the next months, despite the increased trade tensions.

Chart 3
Industrial Activity in the U.S.
Industrial Production and Components
Annualized percent change and contribution in
percentage points, s. a.



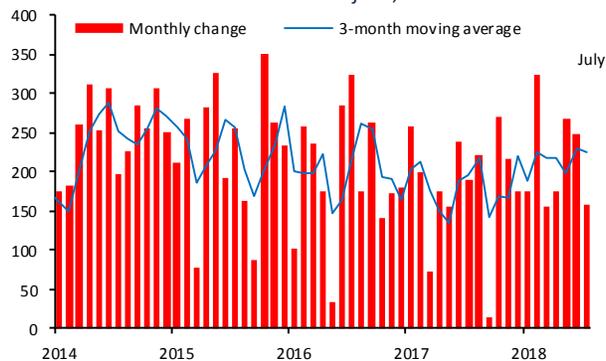
s. a. / Seasonally adjusted figures.
Source: Federal Reserve.

In this juncture, the dynamism of economic activity led to an additional tightening of the labor market. The unemployment rate subsided from 4.1% in March to 3.9% in July, and lied below the long-term rate of 4.5% estimated by the Federal Reserve. In addition, other indicators continue to signal a strengthening of the labor market. In particular, between April and July, an average of 212 thousand new positions were generated on a monthly basis, a rate exceeding that of 190 thousand jobs created on a monthly basis during the same period of 2017 and approximately 100 thousand monthly jobs that, according to the Federal Reserve, are required to absorb the growth of the labor force (Chart 4a). In addition, hiring and resignation rates lied close to the maximum levels of this expansion cycle, while it was harder to fill vacancies. In this context, wages continued to grow, albeit moderately (Chart 4b). Specifically, in the second quarter, the employment cost index increased at an annual rate of 2.8%, after growing 2.7% in the first one.¹

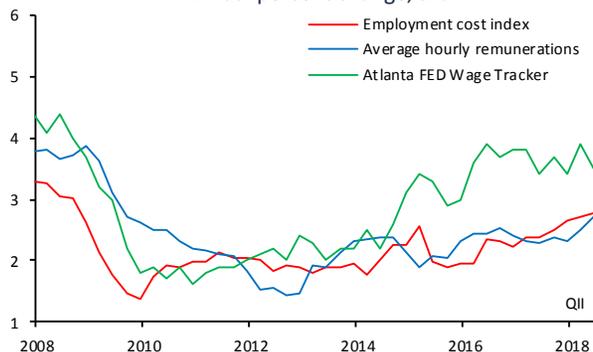
¹ In a number of advanced economies, wages increased moderately, despite the considerably reduced slack in their labor markets. Due to the importance of this factor for the monetary policy determination, there is an ongoing debate on whether the so-called "Phillips Curve"

has structurally flattened. See Box 1 "The Phillips Curve at the Center of Global Debate" in Banco de México's Quarterly Report January – March 2018, pp. 7-9.

Chart 4
Labor Market in the U.S.
 a) Non-farm Payroll
 In thousands of jobs, s. a.



b) Wage Indicators
 Annual percent change, s. a.



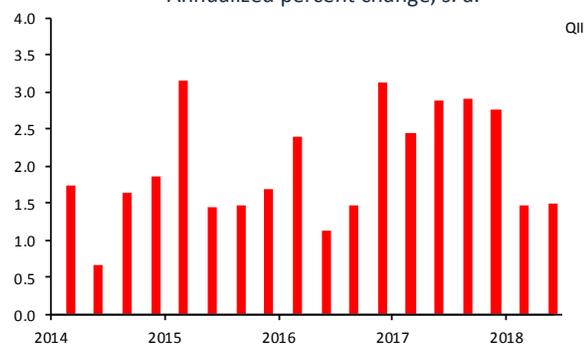
s. a. / Seasonally adjusted figures.

Source: Federal Reserve Bank of Atlanta and BLS.

In the Eurozone, economic activity continued growing at a moderate rate during the second quarter of the year, after a strong expansion observed during 2017 (Chart 5). GDP increased at a quarterly (seasonally adjusted and annualized) rate of 1.5% in the second quarter of the year, a growth similar to the rate registered in the first one and well below the rate of 2.6% observed during 2017. The lower growth rate of this region in the analyzed period in part reflected high uncertainty levels over the future trade relations of the region with the U.S. and the U.K., which may have affected exports growth. Moreover, the growth rate of this economy remained affected by transitory factors, especially the outbreak of strikes in France and adverse weather conditions in some countries of the region. In contrast, private consumption continued growing, supported by the dynamism of the labor market, and investment continued to expand, in response to businesses' greater earnings and accommodative financial conditions. In this environment, the unemployment rate dropped from 8.5% in March to

8.3% in June, while wages increased gradually, albeit unevenly across the countries. Indeed, while in Germany wage growth accelerated in view of the tightening in its labor market, in the rest of the region the progress has been more modest, in response to the still persisting slack in some economies of the periphery (Spain, Greece and Italy). Finally, the purchasing managers' indices weakened during the quarter, which was associated to the deteriorated balance of risks to growth in the region.

Chart 5
Economic Activity in the Eurozone
 Real GDP
 Annualized percent change, s. a.

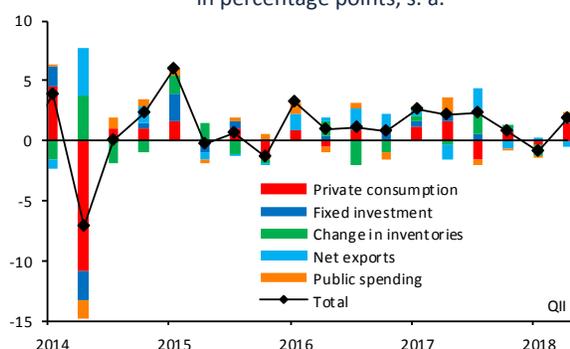


s. a. / Seasonally adjusted figures.

Source: Eurostat.

The economy of Japan remained weak in the first half of 2018, and analysts' expectations point to a moderate growth during the remainder of the year. After GDP contracted at a quarterly (seasonally adjusted and annualized) rate of 0.9% in the first quarter of the year, it went up 1.9% in the second one (Chart 6). The recovery of economic activity was largely fueled by a strong uptick in private consumption, reflecting the growth of employment, after the contraction in the previous quarter due to transitory factors. Businesses' investment recovered moderately. Finally, net exports had a negative contribution to the GDP growth. The continuous increase in employment led to a considerable drop in the unemployment rate, which fell from 2.5% in March to 2.4% in June, and in May reached its lowest level since 1992. Just like in other advanced economies, the strength of the labor market in the country contrasts with the evolution of wages, which have continued to grow moderately. Indeed, average monetary remunerations grew at an annual rate of 1.1% during the second quarter of the year.

Chart 6
Economic Activity in Japan
 Real GDP and Components
 Annualized percent change and contribution
 in percentage points, s. a.

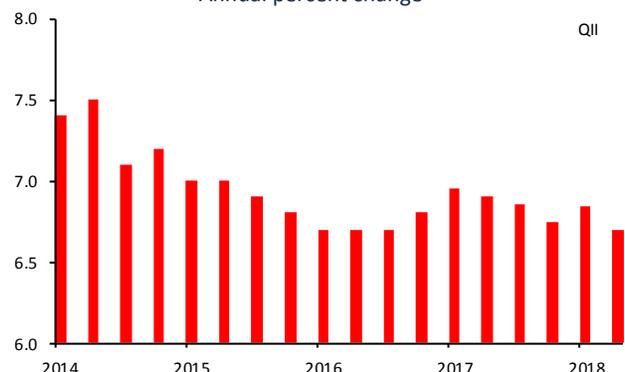


s. a. / Seasonally adjusted figures.

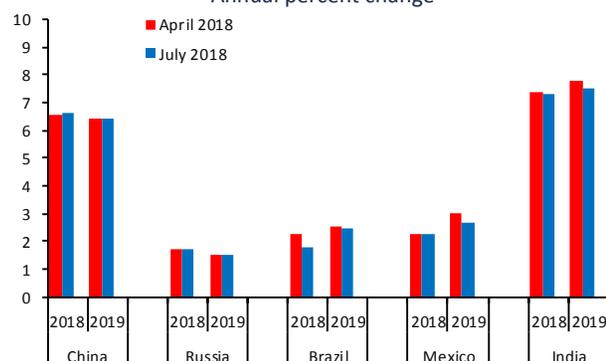
Source: The Cabinet Office.

According to available information, the growth rate of most main emerging economies moderated during the second quarter of the year, which reflects the intensification of trade tensions, higher commodity prices, tightening of financial conditions and different idiosyncratic factors. In particular, the economy of China decelerated slightly during the second quarter. The GDP growth shifted from an annual rate of 6.8% in the first quarter of the year to 6.7% in the second one (Chart 7a). In this context, and in order to support the economic activity given a higher level of uncertainty due to the trade disputes between China and the U.S., in late July the Chinese authorities announced a fiscal package, that includes tax cuts and an increase in spending on infrastructure, along with the easing of banks' capital requirements, among other measures. The rest of emerging economies in general continued to expand, albeit at a differentiated manner. The emerging Asian economies lost the momentum given the moderation of global trade and greater risks to the Chinese economy. The economies of emerging Europe reduced their growth rate, in light of the deceleration in the Eurozone, while in Turkey the lower expected growth rate of the economic activity is associated to the impact of the recent financial volatility in the country. Finally, the growth of Latin American economies considerably decreased. Especially, the weakness of such economies as Argentina and Brazil, triggered by idiosyncratic factors, is noteworthy (Chart 7b).

Chart 7
Economic Activity in Emerging Economies
 a) China: Real GDP
 Annual percent change



b) GDP Growth Forecast in Selected Emerging Economies
 Annual percent change



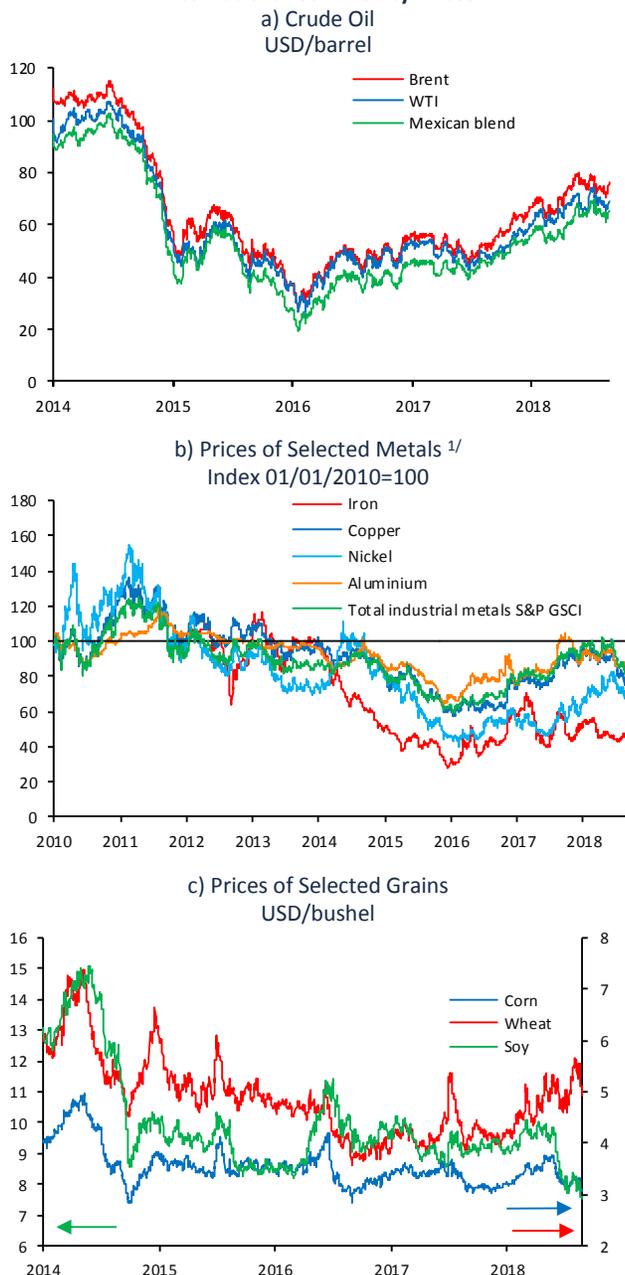
Source: Haver Analytics; IMF, WEO April and July 2018.

2.1.2. Commodity Prices

The performance of international commodity prices was volatile during the period covered by this Report, as their upward trend observed since mid-2017 was interrupted. In particular, crude oil prices increased during the second quarter, which reflects the greater-than-anticipated drop in the production in Libya and Venezuela, the U.S. sanctions on crude oil exports from Iran, and a lower-than-anticipated shale oil production in the U.S. (Chart 8a). However, the possibility that Saudi Arabia and Russia may significantly raise their production levels and the latent threat that the U.S. will use its strategic reserve to supply the market caused the reduction in crude oil prices starting from mid-July. In addition, after showing an upward trend since early 2016, industrial metal prices had a generally fall at the end of the second quarter, which resulted from the concern that intensified trade tensions will negatively affect the world economic activity levels (Chart 8b). Ultimately, grain prices had a volatile performance during the

second quarter, mainly derived from changing climate conditions, which affected the expectations of production and of these products' inventories, as well as of China-imposed tariffs on grain imports from the U.S. (Chart 8c).

Chart 8
International Commodity Prices



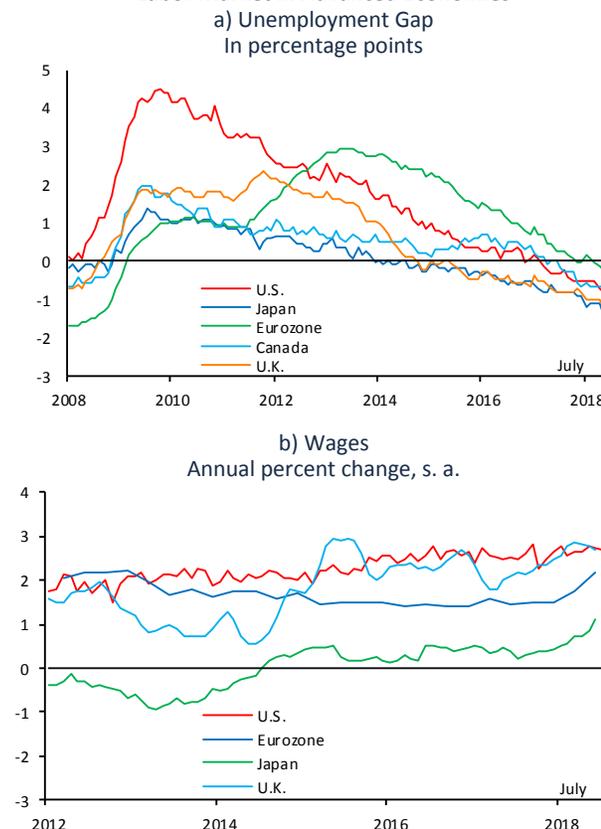
1/ In the case of iron, December 22, 2011 was considered as the base. Source: Bloomberg.

2.1.3. Inflation Trends Abroad

The main advanced economies continued to exhibit a gradual increase in inflation, although the differences

across the countries accentuated. Indeed, in the U.S. inflation continued on an upward trend, just as anticipated, driven by a lower slack in the economy, the fading of transitory factors, such as reductions in the telecommunication prices, and higher energy prices. Meanwhile, in the Eurozone and Japan, core inflation and its expectations, as well as the growth in wages remained at low levels, below their targets for headline inflation, despite the considerable decrease in the slack in their labor markets (Chart 9a and Chart 9b).

Chart 9
Labor Market in Advanced Economies



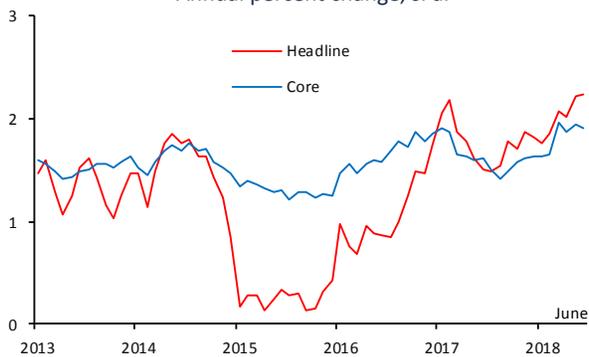
s. a. / Seasonally adjusted figures.
Note: Wage indicators in the U.S., Eurozone, the U.K. and Japan correspond to average hourly remunerations, the negotiated payment, weekly average remunerations and average monetary remunerations, respectively.
Source: Prepared by Banco de México with data from CBO, OECD, Economic Outlook, November 2017 and National Statistical Offices; BLS, ECB, Bloomberg and ONS.

In the U.S., as anticipated, the personal consumption deflator remained slightly above the Federal Reserve 2% target during the period analyzed in this Report. In particular, it shifted from an annual change of 2.1% in March to 2.2% in June, which mainly reflected higher energy prices (Chart 10). Meanwhile, the core index had an annual change close to 1.9% during the

reference period, after having reached a level of 2% in March for the first time since the beginning of 2012. The annual change of the consumer price index shifted from 2.4% in March to 2.9% in July, while the core index changed from 2.1% to 2.3% in the same period. Other relevant indicators, such as the producer price index and import indices increased moderately. In particular, U.S. steel and aluminum tariffs have already started to be perceived in higher producer prices of intermediate processed goods. In this sense, the implementation of additional measures could affect inflation to a greater degree. In turn, inflation expectations derived from financial instruments, and survey-based expectations have remained relatively stable and close to the Federal Reserve target, while long-term expectations are still below that observed before mid-2014 (Chart 11).

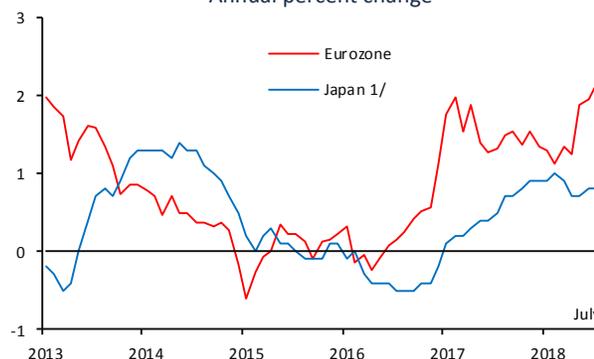
In the Eurozone, headline inflation increased during the period analyzed in this Report from 1.3% to 2.1% in annual terms between March and July, largely as a result of greater contributions of energy and food items (Chart 12). Core inflation increased moderately from 1% in March to 1.1% in July, which was related to the gradual increase in demand-related pressures, given a higher installed capacity utilization and the greater tightening of the labor market. Both short-term and long-term inflation expectations in the Eurozone lie below the target of this region's central bank (Chart 13). In Japan, annual inflation declined from 0.9% to 0.8%, while core inflation subsided from 0.5% to 0.3% in the referred period, in part, due to the weakening of durable goods' prices, caused by the lagged effect of the Japanese yen appreciation, which offset the gradual increase in some services' prices.

Chart 10
Inflation in the U.S.
Personal Consumption Deflator
Annual percent change, s. a.



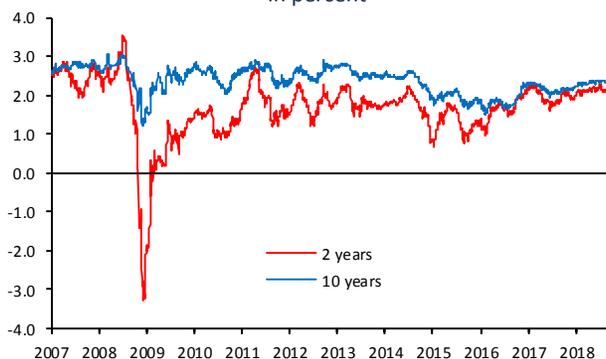
s. a. / Seasonally adjusted figures.
Source: BEA.

Chart 12
Headline Inflation in Eurozone and Japan
Annual percent change



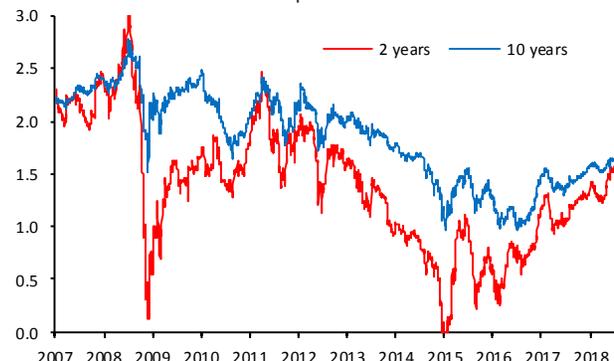
1/ Excludes the effect of the higher consumption tax.
Source: Eurostat and Japan Statistics Bureau.

Chart 11
Inflation Expectations in the U.S. Implicit
in Financial Instruments 1/
In percent



1/ Inflation that is expected for the next 2 and 10 years, respectively. Expectations obtained from swap contracts in which one counterparty agrees to pay a fixed rate in exchange for receiving a referenced payment at an inflation rate over a specified period.
Source: JP Morgan.

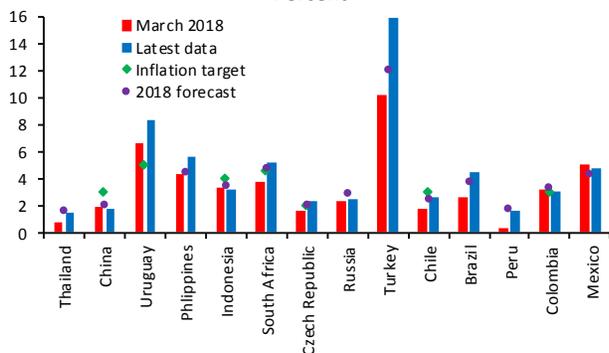
Chart 13
Inflation Expectations in Eurozone Implicit
in Financial Instruments 1/
In percent



1/ Inflation that is expected for the next 2 and 10 years, respectively. Expectations obtained from swap contracts in which one counterparty agrees to pay a fixed rate in exchange for receiving a referenced payment at an inflation rate over a specified period.
Source: JP Morgan.

In most emerging economies, headline inflation rebounded, due to a combination of different factors, such as higher energy prices, the depreciation of their currencies, in particular in Argentina and Turkey, and a lower slack in their economies (Chart 14). Specifically, across different economies of Europe and emerging Asia, inflation has shown a gradual upward trend, which was related to the tightening in their labor markets. Meanwhile, in Latin America inflation pressures have been mainly related to higher food and energy prices, and, in some cases, to their currencies' depreciation, in a scenario in which the slack in resource utilization persists in a number of these economies.

Chart 14
Inflation in Emerging Economies
 Annual Headline Inflation
 Percent



Note: For central banks that have no punctual inflation target, the interval midpoint is presented.
 Source: Haver Analytics.

2.1.4. International Monetary Policy, and Financial Markets

In the described environment, the pace at which the main central banks have adjusted their respective monetary policy stances has become more diverse, along with the rate at which they are expected to continue approaching a more neutral monetary policy stance. Indeed, the Federal Reserve, the Bank of Canada and the Bank of England are forecast to continue raising their reference rates, albeit gradually, while the Central European Bank and the Bank of Japan are anticipated to take even longer to normalize their monetary policy stance.

During the period covered by this Report, the Federal Reserve increased its range of the federal funds rate by 25 basis points, which set it between 1.75% and 2%, this being the second increase this year. The

Federal Reserve maintained its forward guidance of interest rates, highlighting that the process of increasing interest rates will be gradual, congruent with the expectation of a sustained economic expansion, a greater tightening of the labor market and an inflation close to its symmetric target of 2% in the medium term. Although the Federal Reserve continued to describe the monetary conditions as accommodative, in its press release of the June meeting it excluded the reference to the fact that the federal funds rate will lie below its neutral level for a time period, which is congruent with the upward adjustment of the mean of its forecasts. The minutes of the meetings of July 31 and August 1 highlight that the negative effects generated by a possible escalation of trade disputes onto the growth and inflation would represent a challenge in determining an appropriate monetary policy course. According to the minute in which the Federal Reserve points to a high probability of raising its reference rates again soon, the market indicators anticipate this central bank to raise its range for the target rate by 25 basis points in its September meeting, and to further increase it by the same magnitude before the year-end.

The European Central Bank (ECB) left unchanged its reference rate and its forward guidance, and stressed that interest rates would remain at their current levels at least until summer 2019, or until necessary to ensure that inflation converges to its target in a sustainable manner. In addition, the ECB stressed that it would continue its assets purchases totaling EUR 30 billion until the end of September, and that, depending on the evolution of economic data, it expects to cut down these purchases to EUR 15 billion starting from late September and until December 2018, when the referred program will be concluded. In addition, in its press release of July, this central bank stressed that, despite high uncertainty over the global trade, the available information shows that the region's growth has been high and widespread, and it has reflected the confidence that inflation will continue converging to its target in light of higher cost pressures, derived from tightening of the labor market and high levels of installed capacity utilization. Therefore, monetary policy expectations implicit in market instruments anticipate that the first raise in the ECB reference rate will take place in the third quarter of 2019.

In its last meetings, the Bank of Japan maintained its short-term deposit rate at -0.1% and its target for long-term government bonds rate at 0%. However, in its meeting of July it announced that it would allow a greater fluctuation range of the 10-year bonds' yield, and stressed that its interest rates would remain low for the required period to reach the inflation target. Although this central bank maintained its program of asset purchases amounting to JPY 80 trillion, it announced that it would increase the acquisition of assets tied to the Topix index seeking to grant greater flexibility to this program. On the other hand, the Bank of Japan lowered its inflation forecast for the period 2018-2020, and noted that it would probably take longer than anticipated to reach its 2% target.

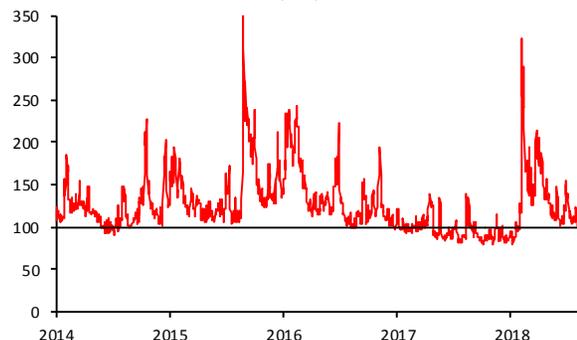
In its meeting of August, the Bank of England raised its reference interest rate by 0.25 percentage points to 0.75%, after it had kept it unchanged in June. In its press release, the Monetary Policy Committee stressed the need of a greater tightening of its monetary policy stance over the next years to ensure that inflation will return to its 2% target, although it is estimated to remain above this level until 2020. Nevertheless, it stressed that the process of increases in the rates will remain gradual, if the evolution of the economy is congruent with the forecast. In particular, it was emphasized that the economic performance could be affected by the development of negotiations over the U.K. exit from the European Union.

Across the emerging economies, an increasing number of central banks have raised their reference rates, although starting from low levels, as in the case of the Philippines, India, the Czech Republic and Romania, in anticipation of greater risks of an inflation rebound. On the other hand, in response to a recent depreciation of their currencies, which was caused by idiosyncratic factors, other central banks, for example in Argentina, Indonesia and Turkey adjusted their reference interest rates, although in some cases at a lower rate than anticipated by the markets.

International financial markets displayed volatility episodes during the period covered by this Report, which, in part, reflected the intensification of trade tensions between the U.S. and its main trade partners, the risk of greater-than-expected tightening

of the monetary conditions and geopolitical factors (Chart 15).

Chart 15
Volatility in International Financial Markets
Index VIX ^{1/}
Index 01/01/2007=100



1/ The VIX index is a weighted indicator that measures implied volatility in the options' market for S&P 500.

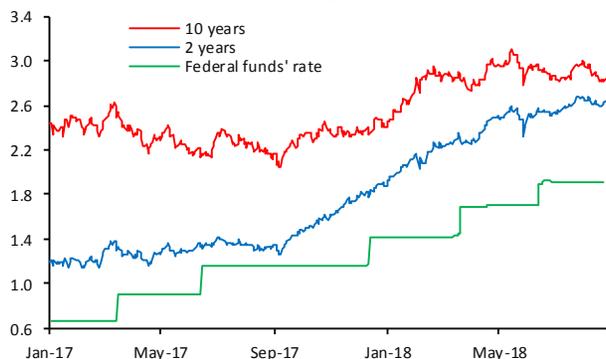
Source: Bloomberg.

In the U.S., the dollar strengthened against most currencies, given the expected differences in the pace at which the Federal Reserve could adjust its monetary policy with respect to the rest of advanced economies, as well as given a lower risk appetite for assets and higher-risk currencies. In the same vein, interest rates in the U.S. (to a greater degree, short-term ones) continued to grow, increasing the flattening of the yield curve (Chart 16a). The referred flattening has taken place in a context in which the Federal Reserve has stressed that it would continue to gradually increase its reference rate, and in which there is still the expectation of a low natural interest rate, low levels of long-term inflation expectations and a compression of term premia to historical lows, which reflected, among other factors, the purchase of the main central banks' securities, as part of their accommodative monetary policy stances.

Chart 16

Financial Markets in Advanced Economies

a) U.S.: Yield on Federal Funds and Treasury Bonds
Percent



b) Stock Markets
Index 01/01/2015=100

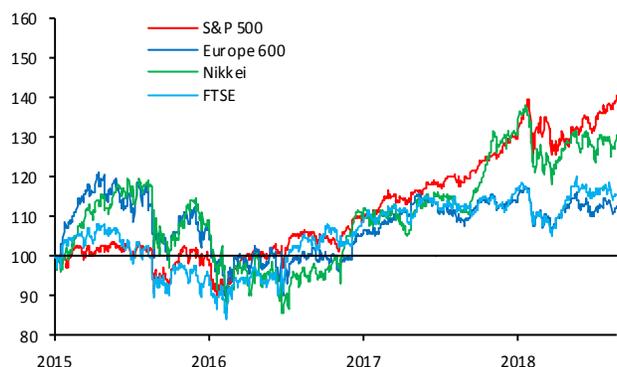
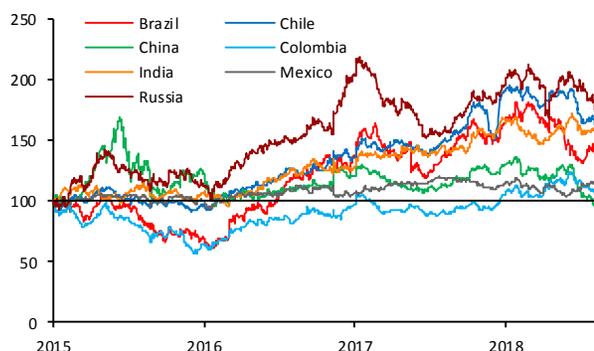


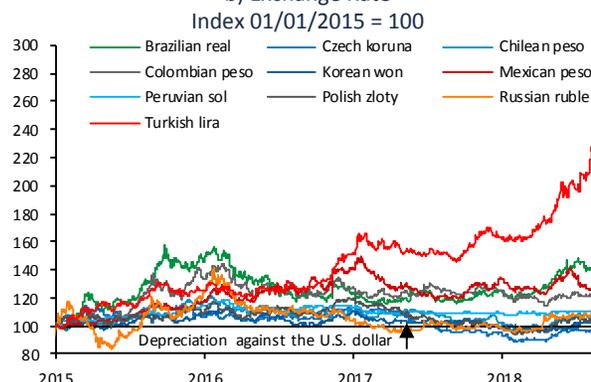
Chart 17

Financial Markets in Emerging Economies

a) Stock Markets
Index 01/01/2015 = 100



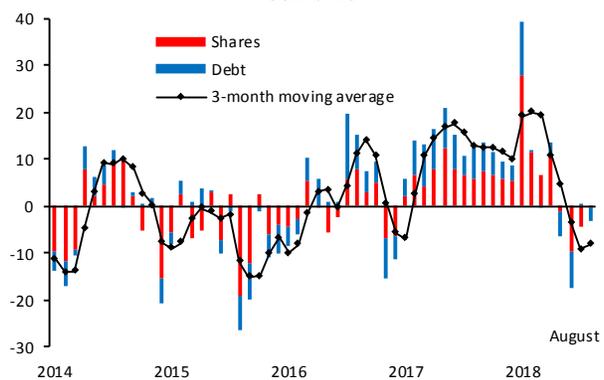
b) Exchange Rate
Index 01/01/2015 = 100



Source: Federal Reserve Bank of St. Louis (FRED); Bloomberg.

Thus, while in the main advanced economies fixed-rate instruments changed moderately and stock indices has few adjustments, in the emerging economies the financial asset prices had a predominantly negative performance, as a result of the above described factors (Chart 16b and Chart 17a). In this context of a lower risk appetite, the decrease was observed in capital flows towards the emerging economies, and in some cases, a strong depreciation of their currencies with respect to the U.S. dollar was registered during the second quarter of the year (Chart 17b and Chart 17c). In particular, Turkey experienced a loss of confidence in its institutions, which caused a strong depreciation of the Turkish lira. Although capital outflows intensified after the escalation of the political tensions between Turkey and the U.S., which led to further economic and trade sanctions, the severe reaction of the financial markets principally reflected the insufficient economic policy response in view of a prolonged deterioration in its fiscal and external stance, and in the quality of its bank assets (see Box 1).

c) Monthly Flows of Funds to Emerging Economies ^{1/}
USD billion



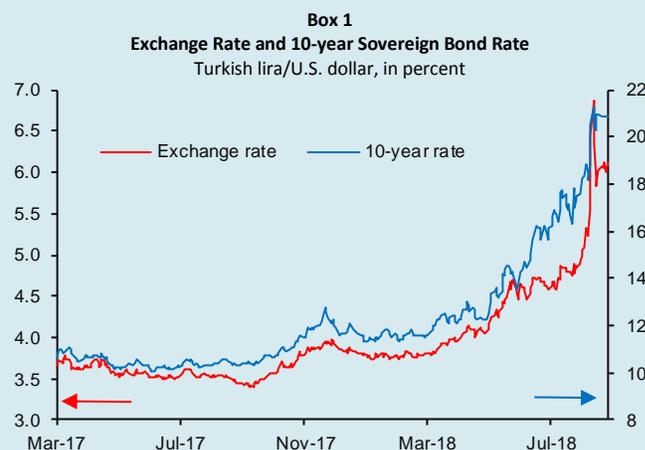
^{1/} The sample covers the funds used for the sale and purchase of emerging countries' shares and bonds, registered in advanced economies. The flows exclude the portfolio performance and exchange rate adjustments.

Source: Bloomberg; Emerging Portfolio Fund Research. Risks to the World Economic Outlook.

Box 1. Evolution of Financial Volatility in Turkey

One of the factors that contributed to the recently observed volatility in international financial markets were the events that have lately taken place in Turkey, caused by a mix of external and domestic factors. Indeed, although throughout the year the emerging economies' currencies generally depreciated as a result of the progressive reduction of monetary accommodation in some of the main advanced economies, the significant worsening of the financial conditions in Turkey can be to a great extent attributed to idiosyncratic factors, which have contributed to the investors' perception of a deterioration of the institutional framework to implement macroeconomic policies.

Thus, Turkey's financial markets showed high volatility. The Turkish lira depreciated around 60% between January and August 2018, and showed a more negative performance than other emerging economies and than its own performance during the global financial crisis (Box 1).¹ Meanwhile, long-term interest rates went up by approximately 10 percentage points during the year and attained 21%, which reflected both an increase in inflation expectations and a deteriorated sovereign risk. Similarly, stock markets in the country fell by approximately 25% during the year.



Note: Data as of August 27, 2018.

Source: Bloomberg.

The rapid loss of markets' confidence in Turkey's financial assets has been fueled by a combination of: 1) macroeconomic and financial imbalances; 2) high uncertainty over the course and the efficiency of macroeconomic policies; and, 3) recent geopolitical and trade tensions.

As regards the first factor of macroeconomic and financial imbalances, although the economic growth in Turkey was vigorous last year, it took place in a context of an expansionary fiscal policy and increased credit, which was supported by the government and was strongly financed with short-term foreign

investment flows. Consequently, based on the IMF data, Turkey's assets debtor position with foreign countries has considerably deteriorated from 42.4% of GDP in 2016 to 53.4% in 2017.² Thus, the current account deficit expanded to approximately 7.2% of GDP as of the first quarter of 2018, which compares to a deficit of 3.8% in 2016 and 5.5% in 2017, a trend that distances Turkey from a sustainable external position.

These imbalances have caused high indebtedness levels and significant foreign exchange adjustments in Turkey's financial institutions' and corporations' balances. Thus, credit to the non-financial private sector currently represents around 85% of GDP, while the external debt of this sector is estimated to have amounted to 37% of GDP. Hence, the recent depreciation of the Turkish lira fueled a fast deterioration in the private sector's capacity to service its external debt. Similarly, although Turkey's banks capitalization indicators have been deemed adequate until recently, signs of deterioration in the quality of its credit portfolio began to emerge since last year, while foreign exchange exposure of the financial system has increased.

With respect to the second factor, uncertainty over macroeconomic policies, there are elements that could significantly erode fiscal sustainability in the short term. In particular, the presence of considerable contingent liabilities associated to bank credit warranty programs and to joint public and private investment projects is noteworthy, along with a profile of public debt maturities in the short term. This is despite the fact that currently the fiscal deficit and the public debt level still seem to remain at manageable levels. Likewise, as regards the macroeconomic policy, the persistent expansion of the Turkish economy above its potential, fueled by an expansionary fiscal stance, combined with the central bank's lax monetary policy have pushed inflation to a level above its target for several consecutive years (Chart 2). This has contributed to a loss of credibility and the de-anchoring of inflation expectations. Although the central bank of Turkey has taken a number of steps to restrict the liquidity conditions in the money market, it maintained its policy rate unchanged in its meeting of July, even if the market participants expected an increase due to the growing inflation pressures. The markets perceived that this decision likely responded to the opinion expressed by the Turkish government in the sense of maintaining low interest rates, generating additional doubts on the monetary policy independence and credibility, which

¹ Although the Turkish lira had the maximum depreciation of close to 80% in mid-August, recently the country has committed to carry out a fiscal adjustment and announced a package of financial aid from Qatar, which temporarily strengthened the Turkish lira.

² Turkey: 2018 Article IV Consultation-Press Release (International Monetary Fund), March 2018.

further weakened the Turkish lira.³ In addition to the potential vulnerability of Turkey's fiscal position, the main factor that motivated the recent reduction in its credit rating by the major rating agencies (Fitch, Moody's and Standard & Poor's) was the continuous weakening of the institutions and the consequent uncertainty over the course of the economic policy, which is perceived in the growing concern over the central bank's independence.^{4,5}

Chart 1
Consumer Inflation and Inflation Target
Annual change in percent



Source: Haver Analytics.

Finally, regarding the third aspect, as mentioned above, the recent events in Turkey can also be attributed to geopolitical factors. In particular, the following factors stand out: the cross border effect of the civil war in Syria, the U.S. announcement of the implementation of tariff measures on imports from Turkey, in light of intensified diplomatic disagreements between the two countries.

In sum, the rapid loss of confidence observed by investors in Turkey's financial assets is mainly accounted for by the deterioration in the macroeconomic and financial imbalances, the high uncertainty over the course and the effectiveness of macroeconomic policies and geopolitical tensions. Although the financial volatility in Turkey worsened in recent months, which affected other emerging economies and triggered a new volatility episode in international financial markets, the global effects have been limited so far. However, there is a latent risk that these may magnify and be transmitted to other economies, where the macroeconomic fundamentals were perceived as weak, and thus negatively affect those foreign banks with a greater exposure to Turkey's assets.

³ During the recent presidential campaign, the winning party declared in favor of maintaining low interest rates. Recently, the selection process of the members of the monetary policy committee has been adjusted, the nominations now directly falling onto the executive branch. This prompted a number of analysts to question the central bank's independence.

⁴ On August 17, Moody's and Standard & Poor's downgraded Turkey's credit rate to Ba3 from Ba2, and to B+ from BB-, respectively. Meanwhile, on July 13, Fitch lowered its rating from BB+ to BB. Since late 2016, Turkey has been losing its investment grade rating.

⁵ See "Rating Action: Moody's downgrades Turkey's ratings to Ba3 and assigns negative Outlook", Moody's August 17, 2018.

During the period analyzed in this Report, risks to the world economy increased both for the short and medium terms.

In particular, some of the risks to the global outlook are:

- i. A change in the economic and trade integration model, which has been reflected in an environment of trade disputes, and, in particular, in the imposition of tariffs, as well as the intensification of these measures between the U.S. and China. This could directly affect the economic activity and inflation in the involved economies, and, to a lower degree, in other countries as well. A stronger escalation of the protectionist measures could further affect the growth outlook: as regards demand, if the confidence of economic agents or financial conditions deteriorate, it could affect investment and consumption. With respect to supply, when the efficiency of resource allocation at the global level decreases, as a consequence of its effects on the global value chains formation, and when productivity reduces, this environment would be characterized by lower foreign direct investment flows, and thus by lower dissemination of new technologies.
- ii. A greater-than-anticipated deceleration of the Chinese economy, which could affect other economies, especially in the Asian region. This could occur, among other reasons, due to the disruptions possibly generated by a sudden abrupt adjustment in the financial system of China, or as a result of the implementation of new protectionist measures against China in the U.S.

In addition, there are other risks that could cause a tightening of global financial conditions, likely further limiting the sources of financing for emerging economies. Some of them are:

- i. In a context of a reduced slack in the U.S., a greater-than-anticipated inflation increase could lead to a monetary policy adjustment that is faster than currently expected, which would lead to a greater tightening in international financial conditions. This would affect both sovereign debt

markets and the balance sheets of some financial intermediaries.

- ii. An additional deterioration of macroeconomic conditions in some emerging economies, especially those characterized by high indebtedness levels, either public or private, and macroeconomic imbalances.
- iii. An escalation of geopolitical conflicts, which could affect the outlook for some economies via their economic agents' confidence, which, in turn, could have repercussions for the financial markets, consumption and investment. In particular, concern over the relations between some of the main economies and Iran and the North Korea are noteworthy, as well as among the OPEC member states.

Finally, in an environment in which the global economy is expected to continue expanding, one of the main risks remain that, having a lenient attitude or taking actions that undermine the fundamentals of their economies, the authorities of the main economies fail to carry out the actions necessary to promote sustained growth and to guarantee the stability of international financial markets.

2.2. Evolution of the Mexican Economy

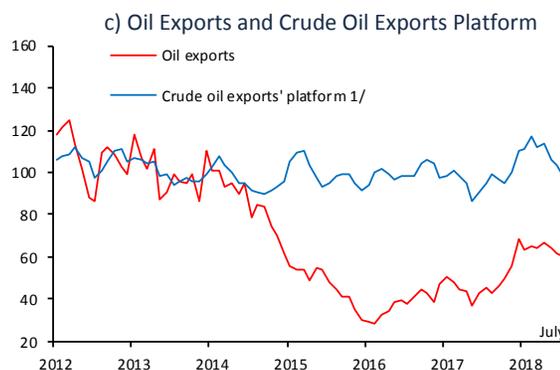
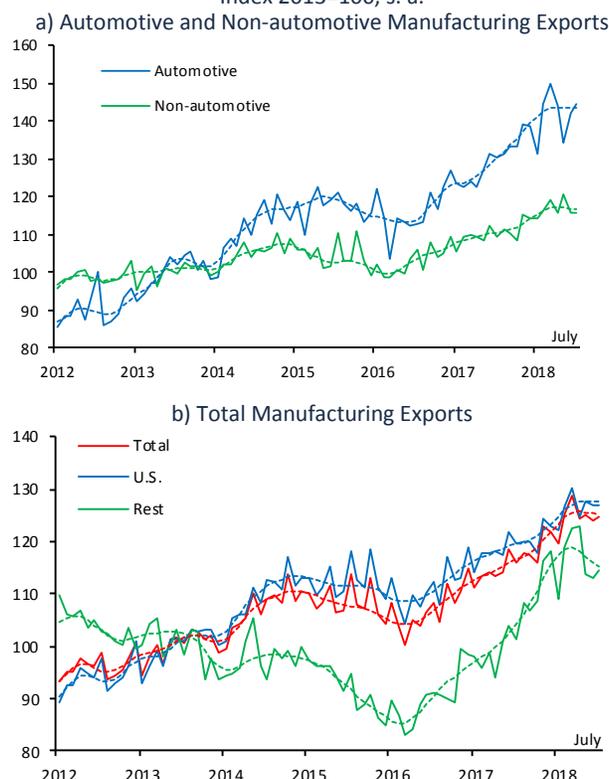
2.2.1. Economic Activity

In the second quarter of 2018, economic activity contracted, as a result of setbacks in the primary and secondary activities, as well as from a loss of dynamism in services. This performance contrasts with the reactivation observed in the previous two quarters, which resulted, in part, from a reversal in the dynamism of investment in late 2017 and in early 2018, especially in the item of construction spending, as well as a weakening of exports. In contrast, private consumption continued on a positive trajectory.

Delving in the performance of external demand, during the April – June 2018 period manufacturing exports somewhat decelerated as compared to the previous quarter. This was a result of the contraction in automotive exports during the quarter as a whole, while over the same period non-automotive exports continued on a growing trajectory (Chart 18a). By export destination, exports to the U.S. continued to

expand, although at a lower rate, while the trend of exports to the rest of the world incipiently changed to negative (Chart 18b). In the reference quarter, oil exports reduced and remained at low levels. This drop resulted from a lower crude oil export platform, while the average price of the exported Mexican blend increased with respect to the level registered in the previous quarter (Chart 18c).

Chart 18
Exports in Mexico
Index 2013=100, s. a.



s. a. / Seasonally adjusted and trend series based on data in nominal dollars. The former is represented by a solid line, the latter by a dotted line.

1/ 3-month moving average of daily barrels of the seasonally adjusted series. Source: Banco de México with data from PMI *Comercio Internacional*, S.A. de C.V.; and SAT, SE, Banco de México, INEGI. Merchandise Trade Balance. SNIEG. Information of National Interest.

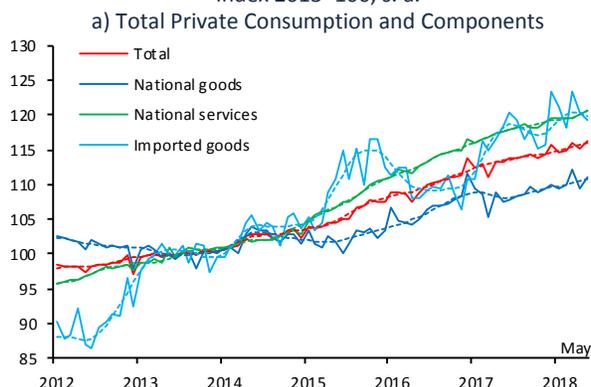
As regards the evolution of domestic demand, in the period April – May 2018 private consumption maintained a positive trend, which is considered to maintain in June. Within it, the consumption of domestic goods and services continued displaying a growing trajectory, while the consumption of imported goods slightly decelerated, in congruence with a real exchange rate that was on average more depreciated (Chart 19a).

- i. Regarding private consumption determinants, in the second quarter of 2018 the real wage bill continued to recover, after it had deteriorated during most of 2017. This development reflected both the continuous growth of salaried employed population and the improvement in real average income in the reference period (Chart 20a). Similarly, incomes from remittances showed high dynamism, specifically there was a considerable increase in June (Chart 20b). In turn, consumer confidence continued growing in the reported period, and, in addition, significantly expanded in July, thus raising to the highest level over the last 10 years (Chart 20c). Finally, although consumer credit decelerated with respect to the previous quarter, it maintained a positive trajectory (Section 2.2.3).
- ii. More timely consumption indicators, although of a smaller coverage, such as the revenues of retail businesses, continued exhibiting an important dynamism, which suggests that consumption maintained progress in June. In contrast, light vehicles sales continued to exhibit weak performance during the second quarter of 2018,

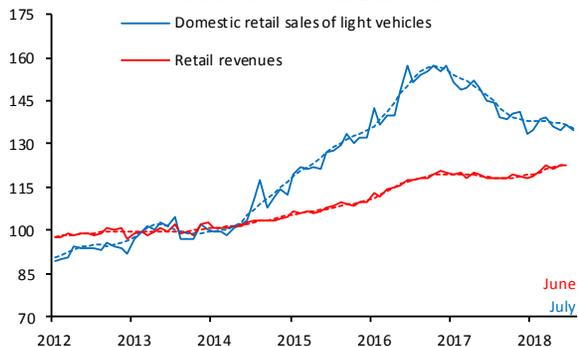
after the strong growth in 2014 and 2016, in a context of a lower placement of automotive credit, although it is at historically high levels (Chart 19b).

Public consumption is estimated to have maintained its progress in the second quarter of the year. Nonetheless, it is possible that, in view of the established fiscal goals, the change of the next administration and the challenges in the implementation of the public policy agenda, this trend could revert during the remainder of this year and lead to higher uncertainty next year.

Chart 19
Consumption Indicators
Index 2013=100, s. a.



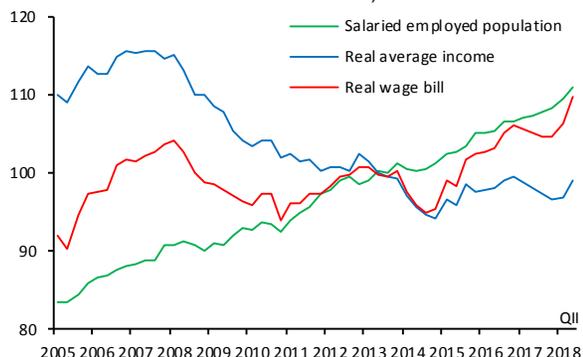
b) Domestic Retail Sales of Light Vehicles and Revenues of Retail Businesses



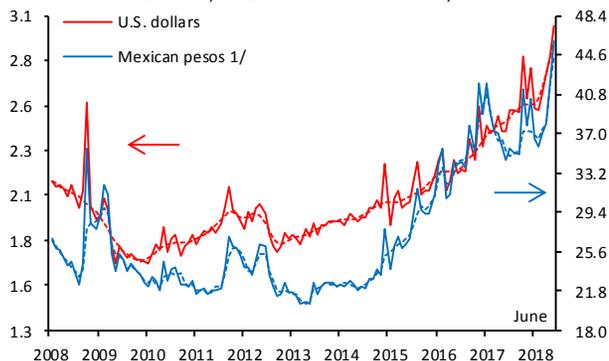
s. a. / Seasonally adjusted and trend data. The former is represented by a solid line, the latter by a dotted line.

Source: a) Mexico's National Accounts System (SCNM), INEGI. b) Prepared by Banco de México with data from the Mexican Automotive Industry Association (AMIA) and the Monthly Survey of Commercial Establishments (EMEC), INEGI.

Chart 20
Determinants of Consumption
a) Total Real Wage Bill
Index 2013=100, s. a.



b) Remittances
Billions, USD and constant MXN, s. a.



c) Consumer Confidence
Index January 2003=100, s. a.



s. a. / Seasonally adjusted and trend series. The former is represented by a solid line, the latter by a dotted line.

1/ Prices as of the second half of December 2010.

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

In the period April – May 2018, investment lost momentum as compared to the incipient recovery displayed at the end of 2017 and in early 2018. This evolution is attributed both to the fading of the rebound in construction in this period, and to an incipient negative change of the trend in spending on

machinery and equipment, principally in the imported component, in congruence with a more depreciated real average exchange rate (Chart 21a). Although since the previous Report it was foreseen that the recovery of this aggregate observed during the previous months could be transitory –given that a number of uncertainty factors associated with the Mexican economy persisted and the uptick in the construction component was related to spending linked to greater reconstruction efforts-, the slowdown appeared to be faster than anticipated.

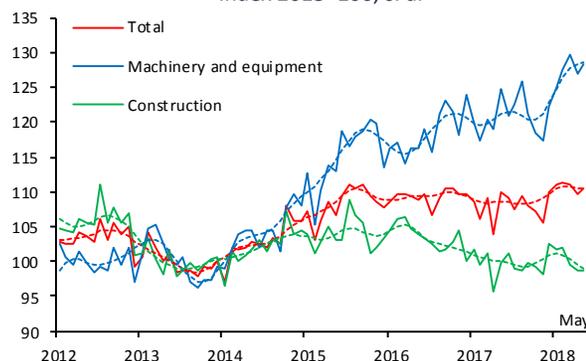
i. Within spending on construction, the residential component reversed with respect to the recovery observed in late 2017 and early 2018, in part, due to the fading of the effects of the reconstruction activities in the wake of the September earthquakes. In the same vein, non-residential construction maintained a weak performance and remained at particularly low levels (Chart 21b). By contracting sector, private construction excluding housing maintained a slight stagnation, while housing construction had an incipient negative change of trend. Works hired by the public sector decelerated and there was a reversal in the improvement that had been observed since mid-2017, fueled by the impulse of certain public works and subsequently by the reconstruction of public buildings and infrastructure damaged by the September earthquakes (Chart 21c).

ii. As for the machinery and equipment component, in the period April – May 2018 the national component followed a positive trajectory, while spending of imported investment had an incipient change of trend to the downside. The evolution of the latter item was related to the generalized decrease of activity across sectors, except for the power generation sector, in which capital imports maintained a growing trajectory.

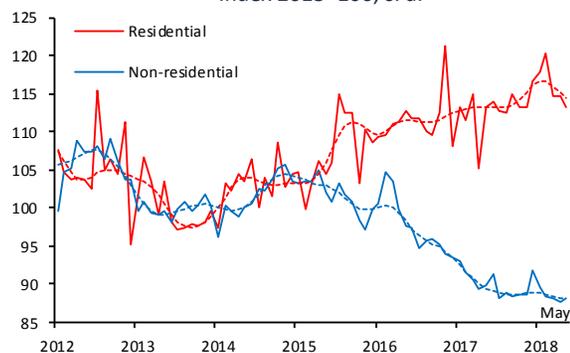
It is notable that the stagnation of investment since mid-2015 has become a risk to the economy's growth in the medium and long term. This weakness responded to the complex domestic and external environment faced by the country. Looking forward, a recovery in investment is necessary, which would

lead to a greater capital stock and would contribute to a virtuous circle between productivity and investment (see Box 2).

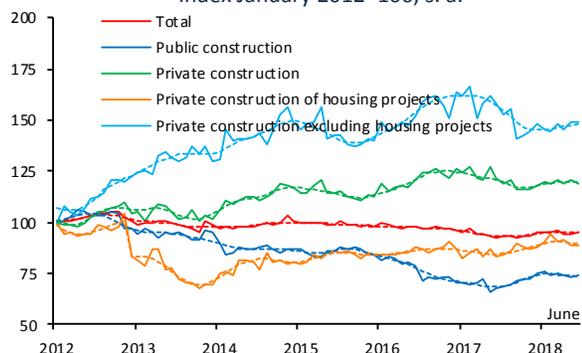
Chart 21
Investment Indicators
a) Investment and its Components
Index 2013=100, s. a.



b) Investment in Residential and Non-residential Construction
Index 2013=100, s. a.



c) Real Value of Production in Construction by Contracting Institutional Sector
Index January 2012=100, s. a.



s. a. / Seasonally adjusted and trend data. The former is represented by a solid line, the latter by a dotted line.

Source: a) and b) Mexico's National Accounts System (SCNM), INEGI.

c) Prepared by Banco de México with data from ENEC, INEGI. Seasonally adjusted by Banco de México, except for the total.

Box 2. Analysis of Investment Determinants

1. Introduction

Since the second half of 2015, investment in Mexico has stagnated, which was in part associated with the high uncertainty faced by the Mexican economy since then. Indeed, a number of factors have generated an environment of high uncertainty that could have negatively affected the evolution of private investment. Some of them are: the U.S. election process and the rhetoric around Mexico; subsequently, the NAFTA renegotiation; and, more recently, the elections in Mexico and stronger tensions related to trade and the adoption of protectionist measures at the global scale. All of the above may have prompted investors to adopt a waiting and precautionary stance until the uncertainty related to these events is resolved. Meanwhile, the fiscal adjustment program that started in 2016 and which largely fell on spending on public investment also negatively affected the gross fixed capital formation. In said context, this Box presents the analysis of the evolution of investment, both private and public, based on some of its determinants.

2. Private Investment

Private investment has had a low dynamism since mid-2015. Table 1 shows the change rates of the different components of private investment for two periods: the first one spanning from the second half of 2013 to the first half of 2015, and the second one from the second half of 2015 to the first quarter of 2018. This comparison shows that the weakening of private investment that started in mid-2015 was generalized across the different items that compose it, although the weak performance of non-residential construction and transportation equipment has been especially notable.

Table 1
Investment in Private Construction, and Machinery and Equipment

	Annualized % change, s. a.*		Contribution to total investment growth	
	II Sem. 2013- I Sem. 2015	II Sem. 2015- QI 2018	II Sem. 2013- I Sem. 2015	II Sem. 2015- QI 2018
Investment in private construction 1/				
Residential	4.6	2.7	2.8	1.6
Non-residential	12.0	-9.4	4.7	-4.0
Investment in machinery and investment				
Total	8.9	3.6	8.9	3.6
National	9.2	1.6	3.7	0.6
Transport equipment	11.5	-1.2	2.6	-0.3
Rest	6.1	6.1	1.1	1.0
Imported	8.5	4.1	5.1	2.5
Transport equipment	11.1	6.9	0.9	0.6
Rest	8.5	3.7	4.3	2.0

s. a. / Prepared with seasonally adjusted series.

* Refers to the annualized average change rate for the indicated period.

1/ It is assumed that all investment in residential construction is private.

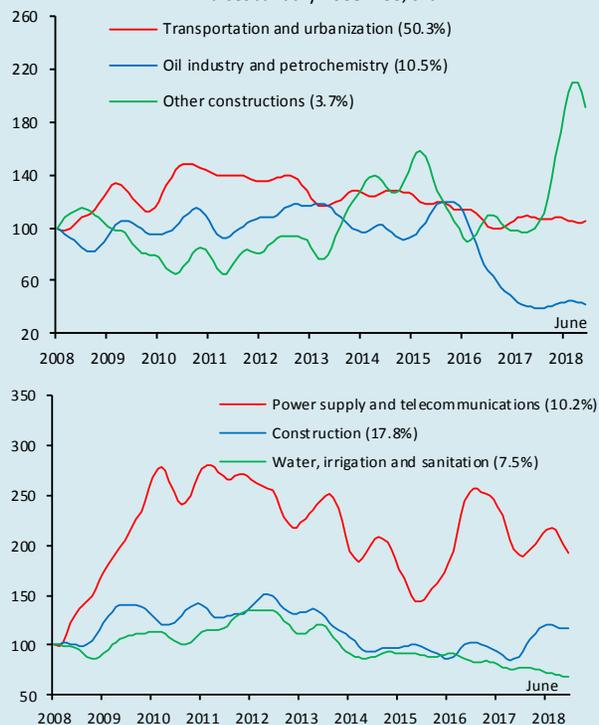
Source: Seasonal adjustment by Banco de México with data from Mexico's National Accounts System, SCNM, (INEGI).

3. Public Investment

The weakness of public investment precedes the weakness of the private one, showing a decreasing trajectory since 2010.

However, its performance in recent years can be largely associated with the fiscal adjustment program adopted in early 2016. In particular, based on data from the Ministry of Finance (SHCP), fixed investment shifted from 4.7% of GDP in 2014 to 2.6% of GDP in 2017. In addition, it is noteworthy that 60% of spending cuts are attributed to the decrease on Pemex investment, although this spending adjustment has also been prompted by lower investment on the Federal Electricity Commission (CFE); the decrease in public construction works, such as the projects of drinking water and sewage systems, and the one related to communications and transportations. On the other hand, investment in the healthcare sector remained constant in terms of GDP in the same period. It is noteworthy that as of June 2018, the decreasing trajectory observed during the previous three years has stopped. Consequently, as of the first half of 2018 investment even lied close to 2.8% of GDP.

Chart 1
Value of Production in Construction: Works Contracted by the Public Sector
Indices January 2008=100, s. a. 1/



1/ Trend series estimated by Banco de México. Figures in brackets indicate the share of each type of works in the value of production of the works contracted by the public sector in 2017.

Source: National Survey of Construction Companies, ENEC, INEGI.

The information provided by the National Survey of Construction Companies (ENEC) conducted by INEGI confirms that the item that has been affected the most by the weakness of public investment since 2016 has been the one related to the oil and petrochemical industry (Chart 1).¹ On the other hand, construction works contracted by the public sector to

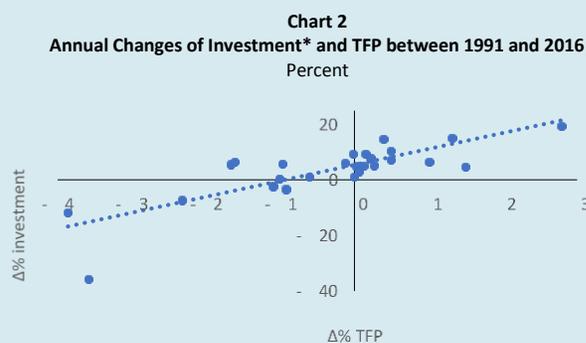
¹ The type "Other Constructions" includes building installations (building electrical installations, hydro-sanitary and gas installations and air conditioning

installations), as well as structures assembly, land levelling, masonry works, finishing works, and ancillary works.

invest in transport and urbanization, as well as the water supply, irrigation and sanitation, have had a negative trend at least since 2014. Finally, the items of building and other construction projects contracted by the public sector have shown greater volatility, highlighting the recent impulse given by the reconstruction efforts after the earthquakes of September 2017, as well as the projects to construct Mexico City's New International Airport and Mexico-Toluca Intercity Train.

4. Investment and Productivity

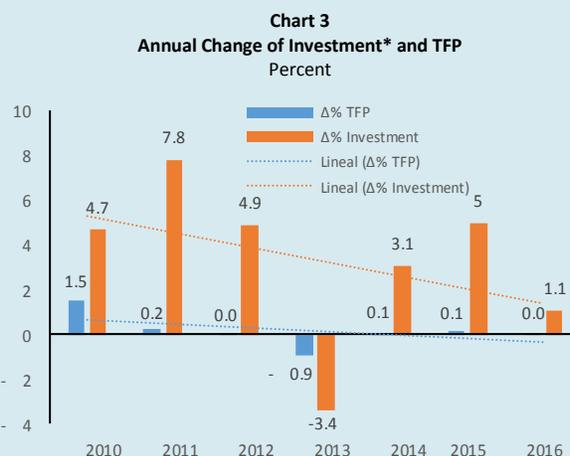
The weakness of investment has not only affected the observed growth, but could also negatively impact the future growth capacity. Directly, investment leads to a greater capital accumulation, which is required to boost productive capacity. Indirectly, investment affects the performance of other economic growth determinants, particularly productivity. Indeed, there are a number of channels through which investment and productivity can feed back to each other. For example, the so-called hypothesis of “embodied technological change” sustains that a relevant part of technological progress can be attributed to improved capital quality, so that significant increases in the total factor productivity (TFP) –which measures the efficiency in the use of productive factors as a total- require high investment.² In addition, the incorporation of new machinery and equipment prompts the company's workers and managers to acquire the necessary skills to use them and allows better business practices to be adopted, which, in turn, positively affects TFP.³ On the other hand, a greater TFP generates more productive capital, and, therefore, by increasing capital returns, boosts investment.



* Refers to gross fixed capital formation.
Source: Banco de México and INEGI.

For the case of Mexico, the available data on productivity and investment suggest that indeed there is a certain positive

relationship between both variables (Chart 2). In addition, Chart 3 shows that the lower growth rate of investment in recent years has taken place in a context in which TFP has remained stagnant.



* Refers to gross fixed capital formation.
Source: Banco de México and INEGI.

In order to understand the interrelation between investment and TFP more formally, a Vector Error Correction Model (VECM) was estimated, which allowed the calculation of the contribution of different factors to the dynamics of these variables. In particular, to explain the private component of investment and TFP, the model considered the following determinants: i) Gross Domestic Product (GDP); ii) public investment, which on the one hand could positively affect private investment by generating infrastructure projects that complement it, although, on the other hand, it could also negatively affect it by absorbing the financial resources that are no longer available for the private initiative;⁴ iii) the capital cost that is approximated by the real ex-ante short-term interest rate, although it is necessary to acknowledge that this cost, and, therefore, the investment decisions depend on the profile of the total yield curve;⁵ and iv) uncertainty over trade issues, measured by the Trade Policy Uncertainty Index (TPU). The TPU has had high levels since late 2016, after the U.S. presidential elections and the announcement of NAFTA renegotiations. The model was estimated with quarterly data from 2004 to 2018.⁶

² See Federal Reserve Bank of San Francisco, Economic Letter: 2002-05| March 1, 2002.

³ See Greenwood, Jeremy, Zvi Hercowitz, and Per Krusell. 1997. “Long-Run Implications of Investment-Specific Technological Change.” *American Economic Review* 87(3) (June), pp. 342-362.

⁴ From a theoretical point of view, the effect of public investment on the private one is ambiguous. Insofar as public investment contributes to a greater and better infrastructure, its impact on private investment will be complementary. However, public investment is also likely to crowd out the private one.

⁵ Although greater interest rates in general can negatively affect investment, the necessary, timely and credible tightening of the monetary policy stance could be reflected in the leveraging of the yield curve, increasing short-term rates and containing a possible increase in longer-term ones. In this context, a leveraging of the yield curve tends to benefit the investment projects that require a longer-term financing.

⁶ An update of the trade policy uncertainty index is used, which was reported in Box 2 of the Quarterly Report July - September 2017.

Regarding long-term determinants, the cointegration tests suggest that the long-term trend of private investment is represented by the following equation:⁷

$$IPr_t = 1.77 Y_t + 1.01 TFP_t$$

(0.16) (0.58)

Where:

IPr = Gross fixed capital formation of the private sector at 2013 prices;
 Y = Mexico’s real GDP at 2013 prices;
 TFP = Total factor productivity.⁸

Meanwhile, the specification for the short-term dynamics is shown below:⁹

$$\Delta IPr_t = -0.003 - 0.31EC_{t-1} + 0.15\Delta IPr_{t-2} + 0.18\Delta IPr_{t-4} + 1.51\Delta Y_t - 0.19\Delta IPU_t - 0.09\Delta IPU_{t-2} - 0.03\Delta TPU_t - 0.98\Delta R_{t-1}$$

(0.00) (0.09) (0.07) (0.10) (0.21) (0.03) (0.03) (0.01) (0.64)

$$\Delta TFP_t = -0.002 + 0.05\Delta IPr_{t-1} + 0.09\Delta Y_t + 0.08\Delta Y_{t-3}$$

(0.00) (0.03) (0.04) (0.04)

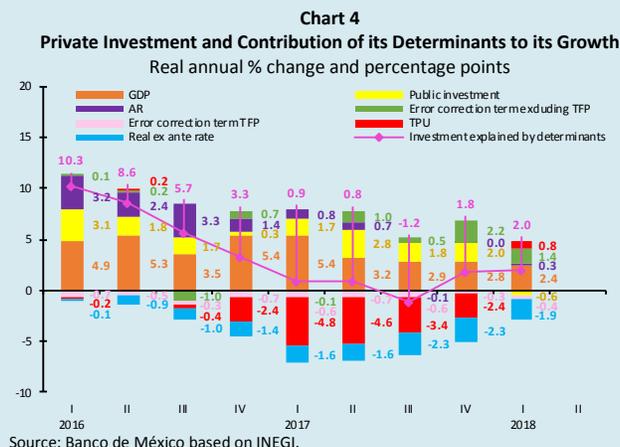
Where:

EC = Error correction term;
 TPU = Trade policy uncertainty index;
 R = Real ex-ante short-term interest rate, calculated as the difference between the target for the overnight interbank interest rate and the mean 12-month inflation expectation derived from Banco de México’s Survey of Expectations.
 IPU = Public investment in national accounts at 2013 prices;
 Δ Difference operator.

The results of this exercise indicate that in the long term private investment is positively related to GDP and TFP. In the short term, the estimation suggests that private investment positively responds to GDP growth and negatively to higher capital costs, higher uncertainty over trade policy and a greater public investment. In turn, it is found that temporary fluctuations in TFP positively respond both to increases in private investment and in GDP. That is, in the short term, a

higher investment is also related to a greater growth of TFP, which, in turn, fuels the investment growth. The absence of public investment in the long term and its negative impact on private investment in the short-term dynamics are noteworthy. This could be related both to the crowding out effect and the possibility that public investment has not been sufficiently oriented to projects that complement the return on private investment. This could be reverted insofar as low levels of public investment go up and a better composition is attained.

Chart 4 shows the contributions of the determinants considered for private investment. It stands out that TFP, when it stagnated notably, did not contribute to the growth of private investment in the considered period. In the same vein, in late 2016 and during most of 2017, uncertainty over the trade policy, especially related to the NAFTA future, had a strong negative impact on the performance of private investment. In turn, over the last quarters the greater capital cost seems to have had a certain negative short-term impact on the capital accumulation. In contrast, it is estimated that the GDP growth and the performance of the public sector investment have been the factors that positively contributed to the evolution of private investment.



⁷ The cointegration relation between the variables is significant at conventional significance levels according to Johansen trace test. In the brackets, standard coefficient errors are reported. Equations that describe the short-term dynamics comply with specification and diagnostics tests that are generally applied at conventional significance levels. All variables are expressed in logarithms, except for the real rate that is used in percent.

⁸ INEGI measures total factor productivity (TFP) at annual frequency, in accordance with the KLEMS project. Given that the econometric estimation has a quarterly frequency, the frequency of this measure of productivity has been transformed. To do so, a Cobb-Douglas production function was estimated, which is modeled as a function of capital stocks, and labor to obtain TFP as a residual. This residual

(Solow residual) reflects the quarterly pattern of the series. Thus, the used TFP series is a combination of the annual INEGI information (KLEMS) and the quarterly pattern of the Solow residual (the production function). In this way, the annual growth of TFP for a given year is the same between the annual INEGI series (KLEMS) and the one estimated for the quarterly series constructed as previously described.

⁹ With respect to the short-term specification, only those related to private investment and TFP are reported. Although the system is completed with an equation for GDP, it is not reported as it is not part of the subject analyzed in this Box. For the complete system, “general-to-specific” methodology was applied, starting from a rich structure in lags to later rule out the insignificant ones.

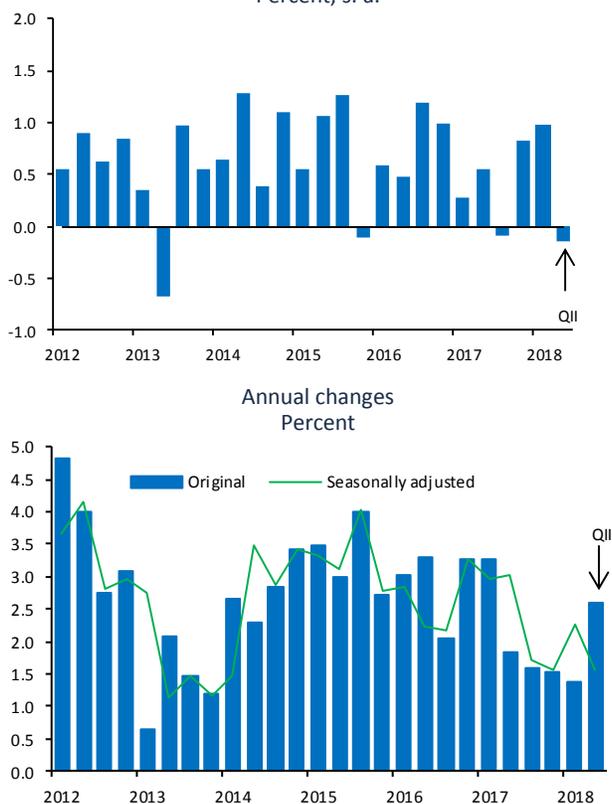
5. Final Remarks

In recent years, investment in Mexico (both private and public) have shown a prolonged atony, while high dynamism has been observed in consumption. From a long-term perspective, this growth composition is not sustainable, as greater household consumption requires capital and productivity growth that are necessary to satisfy it. In addition, a low level of private investment not only negatively affects the capital accumulation and the creation of new productive projects, but it also diminishes the momentum of other determinants of growth, such as productivity. Indeed, the analysis of the dynamics of private investment and productivity in Mexico presented in this Box confirms the relation between these two factors. In this sense, a reactivation of investment not only would support the cyclical expansion of the economy, but would also allow to attain greater potential growth in the

medium and long terms via a greater capital accumulation and greater productivity, keeping in mind that ultimately the only way to achieve a greater level of income and remunerations sustainably is via a more efficient and productive economy. In this context, a favorable resolution of the different elements of uncertainty that have affected investment in Mexico could boost investment in the short and medium terms. Furthermore, for a favorable investment environment to persist, it is key to adopt the necessary measures to propitiate the conditions prompting greater investment. This implies that the macroeconomic framework should continue to strengthen and to further progress in modernizing the microeconomic functioning of the country. Similarly, it is essential to continue strengthening the rule of law, so that corruption and insecurity do not hinder greater investment.

In the second quarter of 2018, the evolution of economic activity from the production side reflected the weakness displayed by the three big sectors of economic activity. Indeed, during the analyzed period, GDP contracted at a quarterly seasonally adjusted rate of 0.15% (the annual growth of 2.6% with original data and 1.6% with seasonally adjusted data), after having increased 0.82 and 0.98% in the fourth quarter of 2017 and in the first one of 2018, respectively (Chart 22).²

Chart 22
Gross Domestic Product
Quarterly Changes
Percent, s. a.



s. a. / Seasonally adjusted series.

Source: Mexico's National Accounts System, INEGI.

In particular, in the reference period the industrial activity showed weakness once again, after the rebound in late 2017 and early 2018, while the tertiary activities decelerated with respect to the dynamism reported during the previous quarters. In

turn, the primary activities contracted in the reference period (Chart 23 and 24a). Specifically:

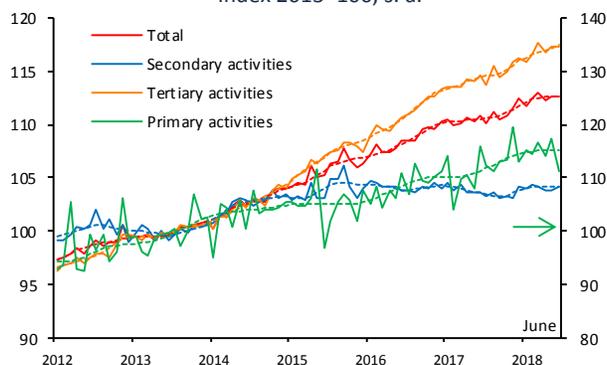
- i. Within the industrial activity, during the second quarter the negative trend of construction resulted from the reductions in the items of civil engineering and construction works. On the other hand, specialized construction works maintained a positive trend, which can be largely associated to some public infrastructure works, particularly those related to the construction of the new International Airport of Mexico City (Chart 24b).
- ii. In turn, mining maintained a negative trend, largely as a reflection of the decreasing trajectory in oil and gas extraction, as a result of the decline in the main producing wells. In turn, metallic and nonmetallic ore mining showed weakness, while the services related to this activity recovered, as a consequence of an improvement in the drilling of development wells (Chart 24c and Chart 24d).
- iii. In the quarter April – June 2018, manufacturing somewhat recovered as compared to the weak performance during most of 2017 and early 2018. This development derived from the continuous improvement in manufacturing excluding transportation equipment, as compared to the levels observed at the end of 2017, while the subsector of transportation equipment showed certain weakness relative to the recovery in the first months of 2018. In particular, the favorable performance of manufacturing excluding transportation strongly reflected the recovery of the subsector for the manufacture of petroleum and coal products, associated, in turn, to the gradual reestablishing of the operation of certain refineries. Other subsectors with a positive contribution were basic metal industry and metal products manufacturing –in a context in which a number of countries, including Mexico, have imposed steel and aluminum tariffs-; as well as the food industry –fueled by the dynamism of the domestic market- (Chart 24e).

² In the second quarter of 2018, the annual growth rate of GDP (using original series) was greater than that estimated with seasonally

adjusted data, given that in 2018 the Holy Week took place in March, while in 2017 it was in April.

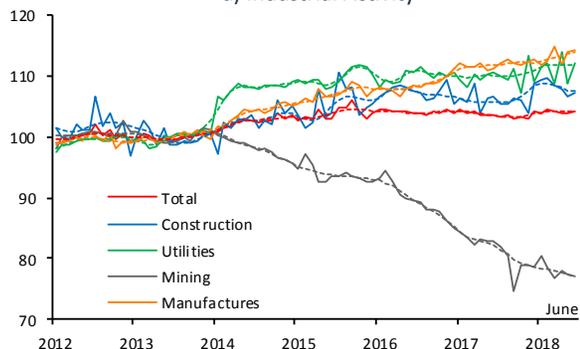
- iv. As regards the evolution of services, the loss of dynamism observed in the quarter largely reflected the setbacks in the items of retail and wholesale trade, while the services of mass media information, financial and insurance services; business support services, waste management and remediation services; real estate services and tangible and intangible goods rental and leasing; and government-related activities continued to perform favorably (Chart 25).
- v. In turn, although the evolution of the primary activities tends to be subject to high volatility, the strong contraction observed in the reported period contrasts with the dynamism that had been observed since the second half of 2015. This performance appears to be related, in part, to the fact that some Mexican states were affected by high temperatures and an irrigation water shortage; by the fact that some harvests were brought forwards during the last quarter and, by the lower growth of external demand for some Mexican agricultural products, such as certain grains and avocado.

Chart 23
Global Economic Activity Indicator
Index 2013=100, s. a.

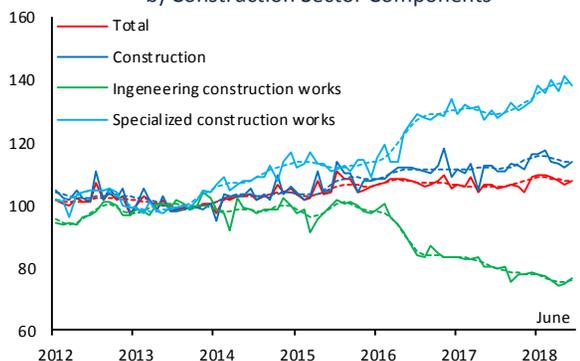


s. a. / Seasonally adjusted and trend data. The former is represented by a solid line, the latter by a dotted line.
Source: Mexico's National Accounts System (SCNM), INEGI.

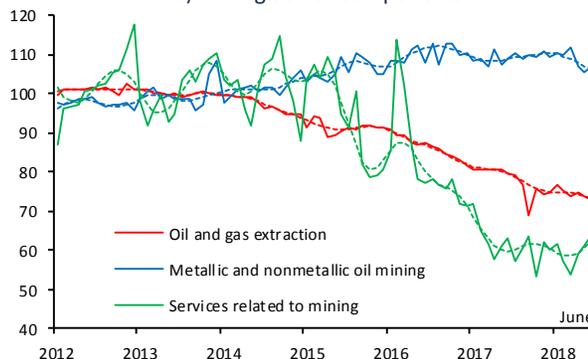
Chart 24
Production Indicators
Index 2013=100, s. a.
a) Industrial Activity



b) Construction Sector Components

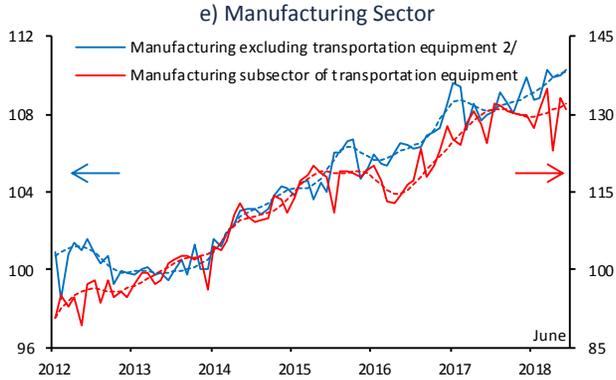


c) Mining Sector Components



d) Oil Production Platform ^{1/}
Thousands barrels a day, s. a.





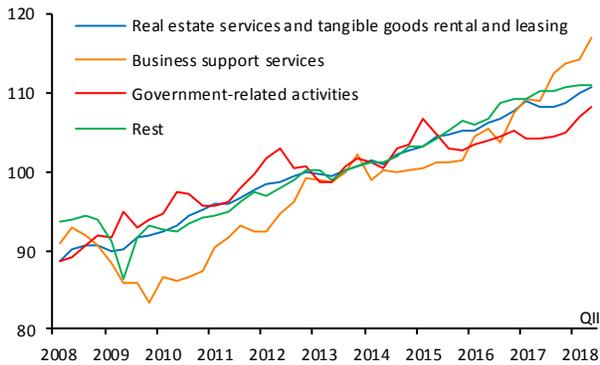
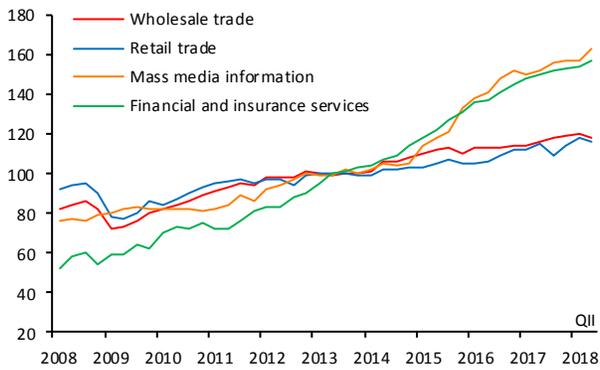
s. a. / Seasonally adjusted and trend data. The former is represented by a solid line, the latter by a dotted line.

1/ Seasonally adjusted by Banco de México with data from PEMEX Institutional Database.

2/ Prepared and seasonally adjusted by Banco de México.

Source: Monthly Industrial Activity Indicator, Mexico's National Accounts System (SCNM), INEGI and PEMEX.

Chart 25
GDP of the Services Sector
Index 2013=100, s. a.



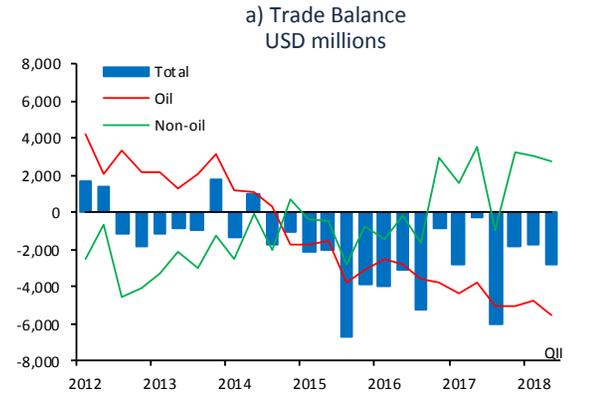
s. a. / Seasonally adjusted data.

Source: Mexico's National Accounts System (SCNM), INEGI.

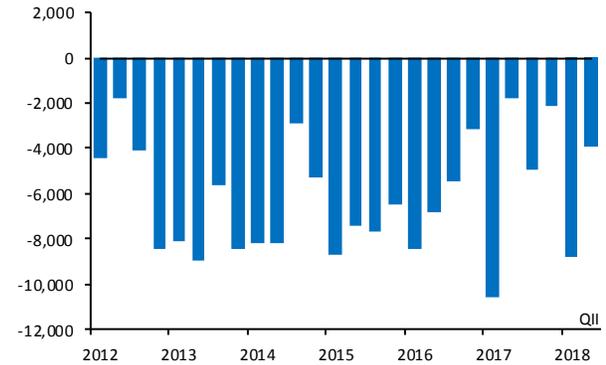
Regarding Mexico's external accounts, in the second quarter of 2008 the deficit of the current account lied at 1.3% of GDP, which was higher than 0.6% in the same period of 2017 and lower than 2.9% reported for the first quarter of this year (Chart 26). The annual increase in the deficit principally reflected the increase in the merchandise trade balance deficit, as

compared to the same quarter of last year, which was partially offset by a higher surplus of the remittances balance, as a result of the capital inflows that continued at historic highs. In turn, the higher deficit in the merchandise trade balance was attributed both to a broader deficit of the oil trade balance and a lower surplus of the non-oil trade balance—which is consistent with the deceleration of Mexican manufacturing exports, in a context in which global trade tensions have exacerbated- (Chart 26a).

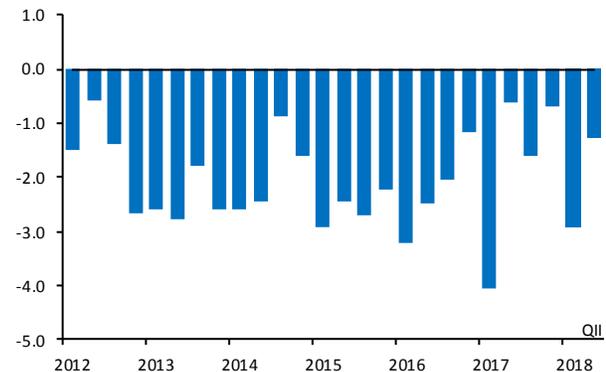
Chart 26
Trade Balance and Current Account



b) Current Account
USD millions



c) Current Account
Share of GDP

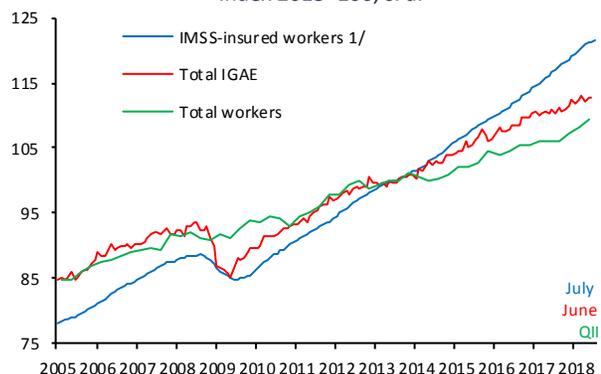


Source: a) SAT, SE, Banco de México, INEGI. Merchandise Trade Balance. SNIEG. Information of National Interest. b) and c) Banco de México.

2.2.2. Labor Market

In the second quarter of 2018, both the urban and the national unemployment rates remained low. This occurred in an environment in which the employed population continued increasing and the labor participation rate continued on a positive trend (Chart 27). In addition, the unemployment gap both estimated based on the national unemployment rate and that estimated based on a measure that also considers informal salaried workers, remained negative (Chart 28). On the other hand, the labor informality rate lied at levels similar to those observed during the previous quarter, while the informal sector employment slightly rebounded, in a context in which, although the number of IMSS-affiliated jobs maintained a growing trend, its dynamism somewhat moderated.³

b) IMSS-insured Workers, Total IGAE and Working Population Index 2013=100, s. a.



c) National Labor Participation Rate ^{2/} Percent, s. a.

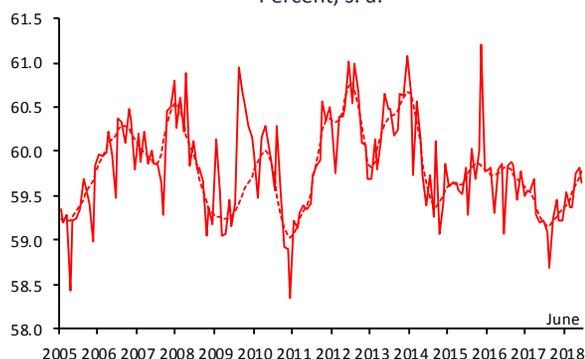
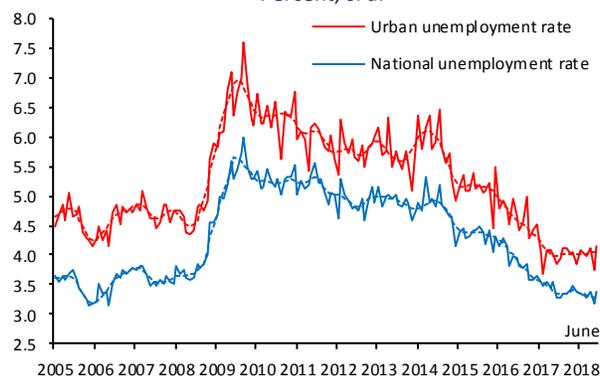
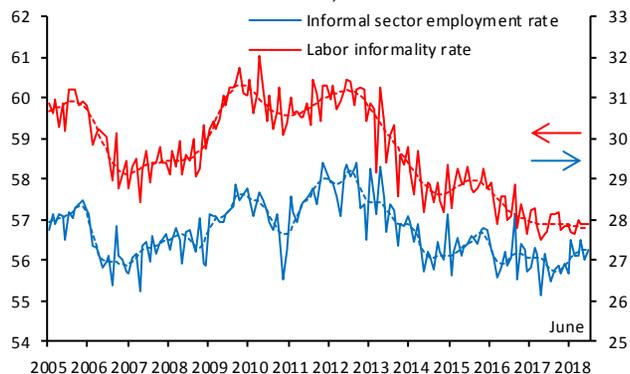


Chart 27
Labor Market Indicators
a) National and Urban Unemployment Rates
Percent, s. a.



³ Currently, both the unemployment rates and the labor informality rate are measured based on the results from the National Employment Survey (ENOE), which started to be conducted in 2005.

d) Informal Sector Employment ^{3/} and Labor Informality ^{4/} Percent, s. a.



s. a. / Seasonally adjusted and trend data. The former is represented by a solid line, the latter by a dotted line.

1/ Permanent and temporary jobs in urban areas. Seasonal adjustment by Banco de México.

2/ Percentage of Economically Active Population (EAP) with respect to the population of 15 years and older.

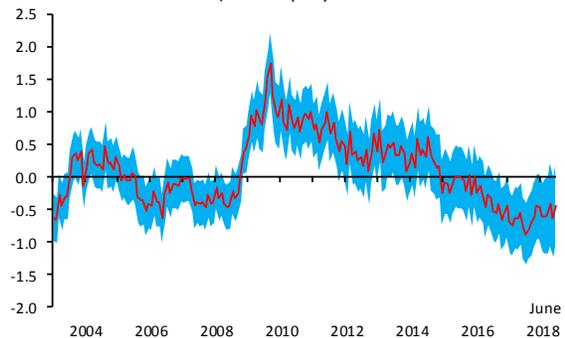
3/ It refers to individuals working in non-agricultural economic units, operating with no accounting records and using households' resources.

4/ It includes workers who, besides being employed in the informal sector, work without social security protection, and whose services are used by registered economic units, and workers self-employed in subsistence agriculture.

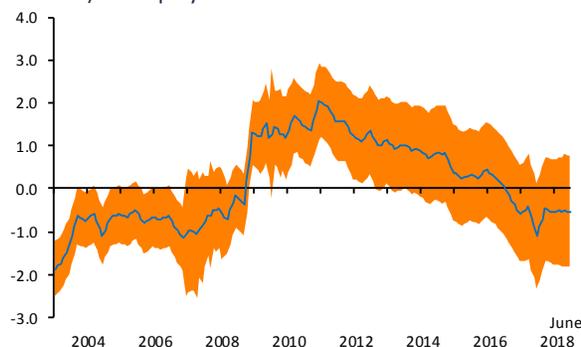
Source: Prepared by Banco de México with data from IMSS and INEGI (SCNM and ENOE).

Chart 28
Estimate of the Unemployment Gap ^{1/} Percent, s. a.

a) Unemployment Rate



b) Unemployment Rate and Informal Paid Workers



s. a. / Seasonally adjusted data.

1/ Shaded areas represent confidence intervals. An interval corresponds to two average standard deviations among all estimates.

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

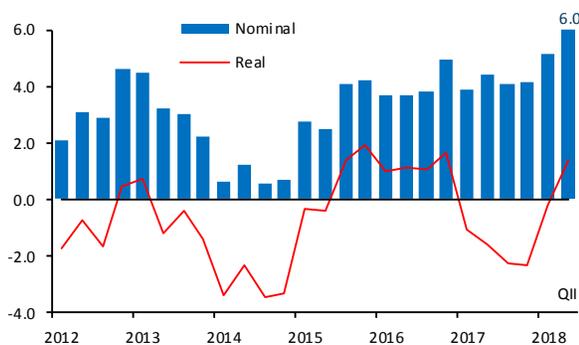
In the second quarter of the year, the main wage indicators continued on an upward trend. In particular, the average wage in the economy as a whole had an annual growth rate of 6.0%, a higher increment than the 5.1% reported in the previous quarter. In turn, the daily wage associated to IMSS-affiliated workers presented an average annual increase of 5.7%, as compared to 5.5% in the period January – March 2018. The average adjustment of contractual wages negotiated by firms under federal jurisdiction was 5.3% in the reported quarter, higher than the 4.6% displayed in the same period of 2017 (Chart 29). Hence, in general, wage increases, combined with the behavior of inflation—both the observed one and that expected for the next 12 months— led to increases in real terms in workers remunerations.

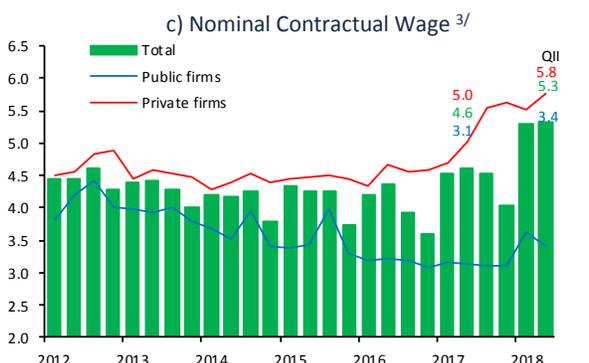
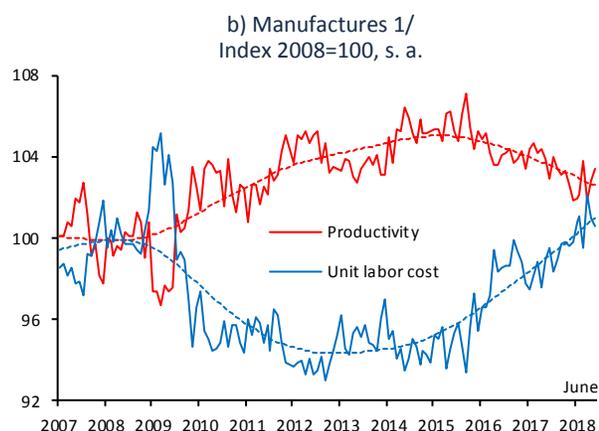
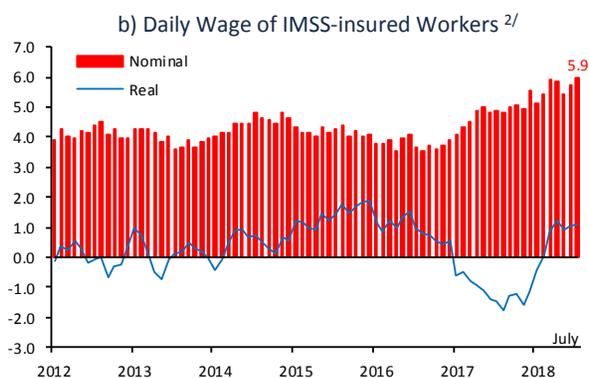
In the second quarter of 2018, unit labor costs in real terms rebounded for the economy as a whole, mainly as a consequence of the progress observed in real earnings. In this way, in the reported period they lied above their long-term trend, which maintains a downward trajectory. In turn, in June, the unit labor costs in the manufacturing sector continued to exhibit a growing trend (Chart 30). These results are consistent with the degree of tightness that the labor market seems to exhibit.

Chart 29
Wage Indicators

Annual percent change

a) Average Wage of Paid Workers according to the National Employment Survey ^{1/}





s. a. / Seasonally adjusted and trend series. The former is represented with a solid line, the latter with a dotted line.

1/ Labor productivity based on hours worked.

e/ The figure of the second quarter of 2018 is Banco de México's estimate based on GDP data published by SCNM and ENOE by INEGI.

Source: Prepared by Banco de México with seasonally adjusted data from the Monthly Manufacturing Business Survey and the Monthly Indicator of Industrial Activity of Mexico's System of National Accounts. 2013 base series, INEGI.

2.2.3. Financing Conditions of the Economy ⁴

2.2.3.1. Total Funding of the Mexican Economy

In the second quarter of 2018, the sources of financial resources of the economy continued growing at relatively low rates, although they were higher than those registered in 2017. In particular, its growth in real annual terms was 2.4% in the second quarter of the year, which is higher than the 1.0% observed at the end of 2017. As indicated in previous Reports, the moderate growth rate of the sources of financial resources has been largely related to different adverse shocks faced by the Mexican economy since the end of 2014, initially due to the decline in the terms of trade –mainly due to lower international crude oil prices relative to the previous years, the uncertainty related to the NAFTA renegotiation and to the elections in Mexico, as well as to volatility generated in the international financial markets by the process of the U.S. monetary policy normalization. This has led to a greater restriction of financing from abroad. Indeed, in the second quarter of 2018, flows of external resources accumulated over the last four quarters amounted to 1.3% of GDP, a figure that is similar to the average of 1.5% of GDP observed in the period 2015-2017 and well below the

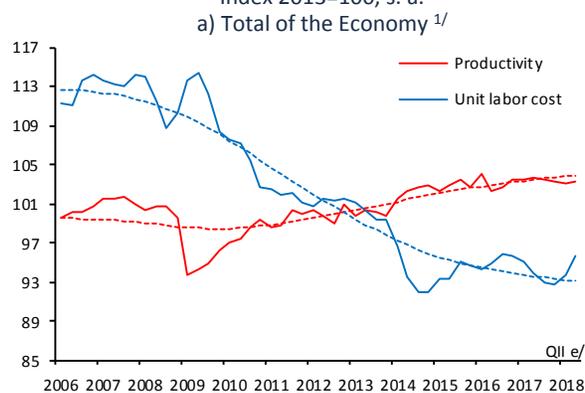
1/ To calculate average nominal wages, the bottom 1 percent and the top 1 percent in the wage distribution were excluded. Individuals with zero reported income or those who did not report it are excluded.

2/ During the second quarter of 2018, on average 19.9 million workers were registered at IMSS.

3/ The contractual wage increase is an average weighted by the number of involved workers. The number of workers in firms under federal jurisdiction that report their wage increases each year to the Secretary of Labor and Social Welfare (STPS) is approximately 2.3 million.

Source: Calculated by Banco de México with data from IMSS, STPS and INEGI (ENOE).

Chart 30
Productivity and Unit Labor Cost
Index 2013=100, s. a.



⁴ Unless stated otherwise, in this Section growth rates are expressed in real annual terms and are estimated based on balances adjusted for exchange rate and asset price variations.

4.2% of GDP displayed on average over the period 2013-2014 (Table 1).

Table 1
Total Funding of the Mexican Economy (Sources and Uses)

	2013	2014	2015	2016	2017	2018 Q2	2013	2014	2015	2016	2017	2018 Q2
	Annual flows as percentage of GDP						Real annual change in percent					
Total sources	10.0	9.7	5.8	7.4	7.9	7.2	5.9	5.3	3.4	3.8	1.0	2.4
Domestic sources (F1) ^{1/}	5.7	5.6	4.6	5.5	6.5	5.9	5.6	5.1	5.3	5.4	3.6	4.7
Monetary ^{2/}	3.8	3.2	2.7	3.6	4.2	4.1	6.0	4.1	4.7	5.7	3.7	5.5
Non-monetary ^{3/}	1.9	2.4	1.9	1.9	2.3	1.8	5.0	7.0	6.3	4.9	3.4	3.2
Foreign sources ^{4/}	4.2	4.1	1.2	1.9	1.3	1.3	6.3	5.5	0.6	1.3	-3.2	-1.1
Total uses	10.0	9.7	5.8	7.4	7.9	7.2	5.9	5.3	3.4	3.8	1.0	2.4
International reserves ^{5/}	1.0	1.3	-1.5	0.0	-0.4	-0.1	0.8	2.0	-9.2	-3.5	-8.5	-4.8
Public sector financing	4.1	4.7	4.1	2.9	1.1	2.8	4.5	5.6	6.1	2.3	-4.2	1.4
Federal public sector	3.7	4.5	4.0	2.8	1.1	2.7	4.2	5.8	6.3	2.5	-4.2	1.6
States and municipalities	0.4	0.2	0.1	0.1	0.1	0.1	9.1	2.5	2.9	-0.6	-4.6	-2.2
Private sector financing ^{6/}	4.1	2.5	3.0	3.2	3.9	3.7	6.6	2.2	5.5	4.7	3.0	4.5
Domestic	2.5	1.7	3.0	3.3	3.3	3.2	5.3	2.1	8.9	8.3	4.5	6.2
External	1.7	0.8	0.1	0.0	0.6	0.5	9.4	2.4	-1.6	-3.5	-0.9	-0.1
Other ^{7/}	0.8	1.2	0.1	1.3	3.2	0.8	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

Note: Annual flows are expressed in % of average annual nominal GDP. The acronym "n.s." refers to non-significant data.

1/ It corresponds to the aggregate of domestic financial assets F1.

2/ It refers to financial instruments included in the monetary aggregate M3, which is composed of M2 plus federal government securities, Banco de México's securities (BREMS) and IPAB securities held by resident money-holding sectors. M2 is constituted by liquid instruments (banknotes and coins and deposit accounts payable on demand in banks and in savings and popular loan entities) and terms instruments (deposits with a residual term of up to 5 years in banks, in savings and popular loan entities and credit unions; investment fund shares and repo and creditors from repo operations).

3/ They include housing and pension saving funds, private securities, other public securities and other bank liabilities (debt securities issued by banks with a residual term of over 5 years and subordinated obligations).

4/ It includes monetary instruments held by non-residents (i.e., MNR aggregate that is equivalent to the difference between M4 and M3) and other non-monetary sources held by the external sector (foreign financing to the federal government, public institutions and enterprises; commercial banks' foreign liabilities; foreign financing to the non-financial private sector; deposits by agencies, among others).

5/ As defined by Banco de México's Law.

6/ It refers to credit portfolio of financial intermediaries, the National Housing Fund (Infonavit) and the ISSSTE Housing Fund (Fovissste), as well as the issuance of domestic debt and external financing of businesses.

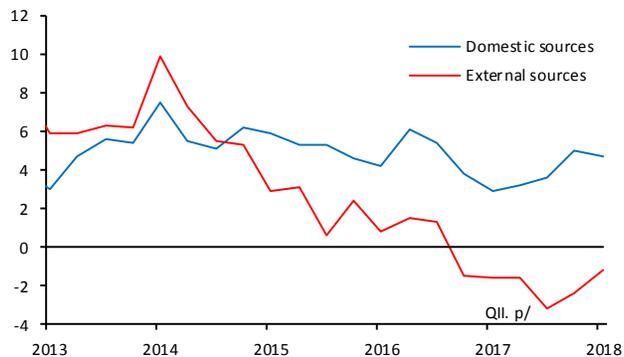
7/ It includes capital accounts, and results and other assets and liabilities of commercial and development banks, non-bank financial intermediaries, the National Housing Fund (Infonavit) and Banco de México –including the securities issued by this Central Institute for the purposes of monetary regulation, 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.

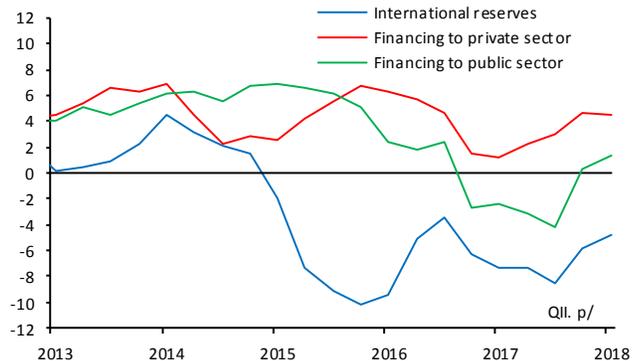
In this context of a low dynamism of external financing to the economy, the slight recovery of the sources of financial resources in the first half of the year was due to the increase in the domestic sources (Chart 31a). In particular, as a part of the macroeconomic adjustment that the Mexican economy required to face this environment, the increases in the target for the overnight interbank interest rate implemented by Banco de México since late 2015 have contributed to an intertemporal reallocation of spending and to greater financial savings of the private sector –mostly, through longer-term instruments, given the higher opportunity cost of holding liquid assets-. This, along with the lower absorption of financial resources by the public sector registered since 2016, contributed to mitigate the effects of a greater restriction of external financing on the financing conditions to the private sector (Chart 31b).

Delving in the above, in the analyzed quarter, domestic sources of financial resources –as measured by the aggregate of domestic financial assets F1– expanded at a real annual rate of 4.7% during the second quarter of 2018 (Chart 32a). This growth rate is similar to that observed during the first quarter of the year (5.0%), and is a recovery with respect to the 3.6% observed during 2017. The higher yields of financial instruments, and the dynamism of formal employment have contributed to this growth, which favored term deposits issued by banks and savings in investment funds of debt instruments, as well as resources destined to housing and pension saving funds. In the reference quarter, currency held by the public also increased, which could have been associated to the temporary growth in the demand for money that is usually associated with the federal elections held in Mexico (Chart 32b).

Chart 31
Total Funding of the Mexican Economy (Sources and Uses)
 Real annual change in percent
 a) Sources



b) Uses
 International reserves (blue line)
 Financing to private sector (red line)
 Financing to public sector (green line)



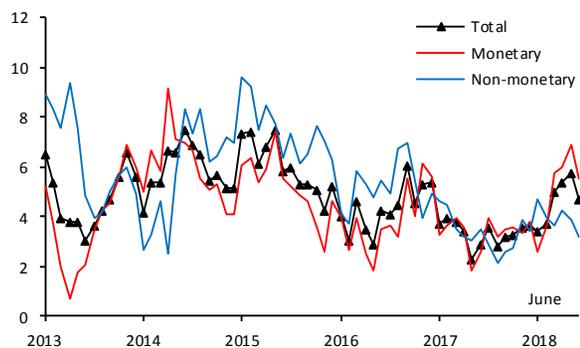
p/ Preliminary data.

Note: Each item's definitions are shown in Table 1.

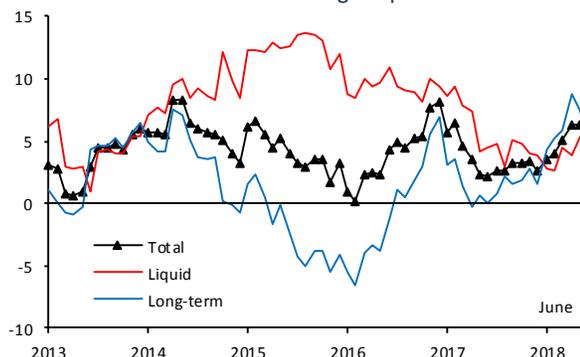
Source: Banco de México.

The external sources of resources declined by 1.1% in real annual terms in the second quarter of 2018, a contraction that is lower than the 2.4% registered in the first quarter, and the 3.2% exhibited in the last quarter of 2017. Within it, external financing to non-financial private firms continued expanding at a relatively low rate, while in the holdings of monetary instruments by non-residents contracted in real terms again. This reflects the aforementioned greater restriction in external financing that the Mexican economy is currently facing (Chart 32c).

Chart 32
Sources of Financial Resources
 a) Domestic Sources (F1)
 Real annual change in percent

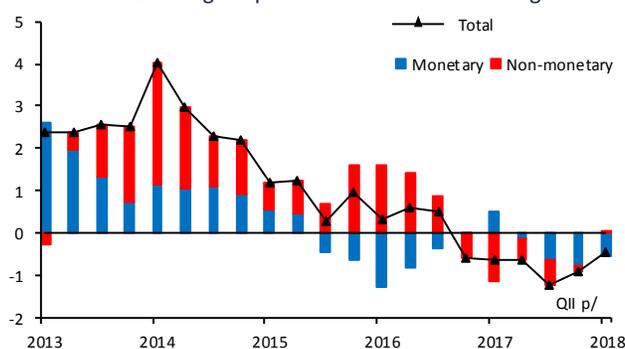


b) Monetary Aggregate M2
 Real annual change in percent



c) External Sources

Real annual change in percent and contribution to growth



p/ Preliminary data.

Note: Each item's definitions are shown in Table 1.

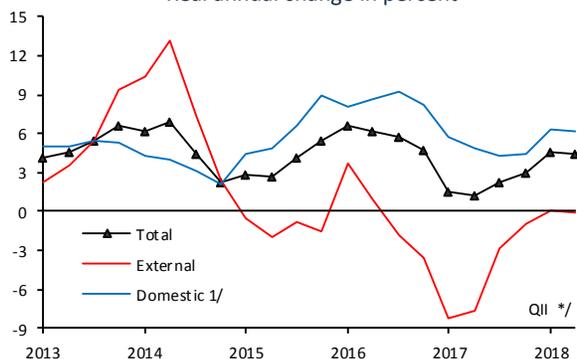
Source: Banco de México.

Regarding the use of financial resources of the economy, financing to the public sector continued to increase at a lower rate. In particular, in 2017 and in the first half of 2018, financing to the public sector expanded at average rates of -4.2% y 1.4% in real annual terms, respectively, figures that compare with the high average growth of 5.4% displayed between 2013 and 2015. Meanwhile, at the end of the second

quarter of 2018, the balance of international reserves lied at USD 173.2 billion, which is slightly above the figure of USD 172.8 billion observed at the end of 2017. As it has been previously indicated, the low dynamism of international reserves is largely related to the deterioration in the oil trade balance, reason why Pemex has not sold U.S. dollars to Banco de México since 2017. On the other hand, total financing to the non-financial private sector continued to show a greater dynamism than that observed at the end of 2017. Indeed, this financing expanded at a real annual rate of 4.5% in the reported quarter, which is similar to the 4.6% in the first quarter of 2018 and is above the 3.0% in the fourth quarter of 2017 (Chart 33). The following section provides further detail on the evolution of financing to the public and private sectors.

Mexico and, thus, facilitated the channeling of financial resources to the private sector. In fact, starting from that year, the gross financing of the federal public sector moderated its growth rate significantly. As a result, its balance as a share of GDP stabilized at levels close to 45% (Chart 34a).⁶ In the second quarter of 2018, growth rates of domestic and external gross financing to the public sector increased by 2.0% and 1.5%, respectively, which was lower than the average observed between 2014 and 2016, of 8.0% in the first case, and of 6.0% in the second one. In the same sense, the absorption of financial resources by states and municipalities also decreased, which has contributed to the contraction of this sector’s financing in real terms since mid-2016 (Chart 34b).

Chart 33
Total Financing to Non-financial Private Sector
Real annual change in percent



*/ Data on external and total financing corresponding to the first quarter of 2018 are preliminary.

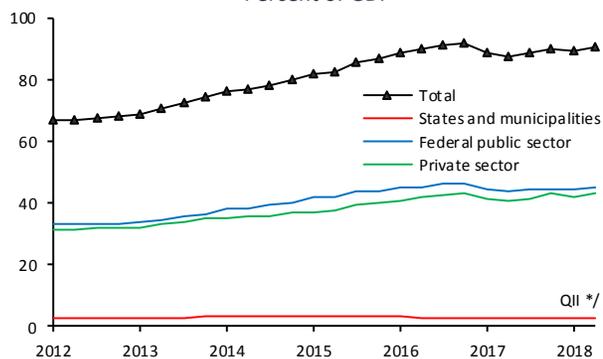
1/ These data are adjusted due to the withdrawal from and the incorporation of some financial intermediaries to the credit statistics. It includes commercial banks’ credit, development banks’ credit and credit from other non-bank financial intermediaries.

Source: Banco de México.

2.2.3.2. Financing of the Economy ⁵

In light of the relatively weak growth of the sources of financial resources of the economy in recent years, the lower absorption of financial resources by the public sector starting from 2016 had contributed to attenuate pressures on loanable funds markets in

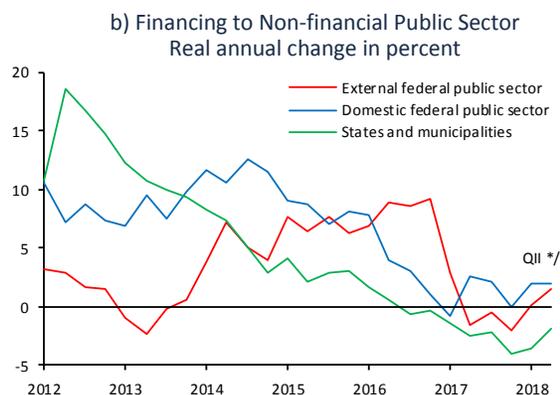
Chart 34
Financing to the Economy
a) Financing to Non-financial Sectors
Percent of GDP



⁵ This section presents an in-depth analysis of the recent evolution of financing to public and private sectors, understood as gross financing received by these sectors from external and domestic financial intermediaries, as well as via the debt issuance. This financing measure allows to have a comparable indicator between the non-financial public and private sectors –businesses and households.

⁶ The balance of gross financing to the public sector considers the Federal Government, public entities and enterprises, and states and

municipalities. Unlike the Borrowing Requirements Historical Balance of Public Sector (BRHBPS), which is a measure of net indebtedness and that in addition considers contingent liabilities-, this measure of financing does not consider its holdings of financial assets or liabilities of this sector, such as those corresponding to IPAB and Fonadin (National Infrastructure Fund), ISSSTE law bonds, Pemex and CFE pension bonds, among others.



*/ Data on private sector and total financing corresponding to the first quarter of 2018 are preliminary.

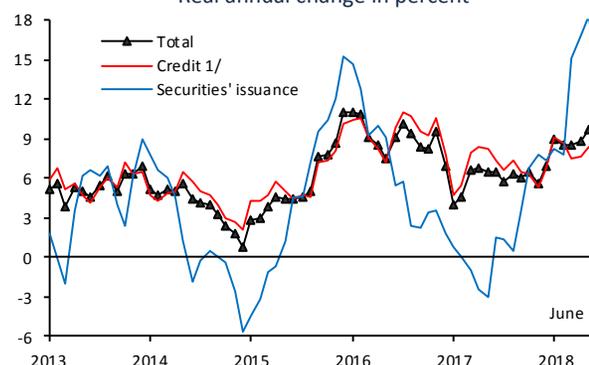
Source: Banco de México.

Despite the lower availability of external resources starting from the second half of 2014, financing to non-financial private sector continued to expand and lied at levels close to 43% of GDP in the second quarter of 2018. Above all, growth of domestic financing to firms contributed to that, which is a trend that persisted in the quarter covered by this Report. Indeed, its growth rate shifted from 8.5% to 8.9% between the first and the second quarters of the year, while in 2017 it displayed a real average annual rate of 6.0%. Specifically, financing to large firms has continued, both via a greater debt issuance in the domestic market and the expansion of commercial banks' credit (Chart 35). On the one hand, it is due to the fact that these firms have been substituting external liabilities with domestic ones, as a reflection of tighter financing conditions in international markets and the volatility of the exchange rate. On the other hand, these firms have increased their preference for liquidity for precautionary reasons given an environment of uncertainty related both to external and domestic factors.

Delving in the evolution of domestic financing to businesses, in the first half of the year private debt issuance was the highest for a similar period (Chart 36). The resources obtained from these issuances, as indicated by firms in their placement outlooks, have been principally destined to refinance other liabilities and to cover working capital needs. Meanwhile, bank

credit to firms, in particular large firms, continued to expand with dynamism (Chart 37), in congruence with the higher demand for credit by this group of firms, which has been reported by commercial banks in the Survey on General Conditions and Standards in the Banking Credit Market (EnBan). To complement the above, the results of the EnBan and the Credit Market Survey indicate that large firms have channeled their credit resources above all to meet their working capital needs and their needs to restructure liabilities, while they have reduced their use to invest in fixed assets (Chart 38).^{7,8} Meanwhile, commercial banks' credit to small and medium firms continued to grow at low rates, which were above those observed in late 2017, in line with the perception of the weak demand for credit by this group of firms in accordance with EnBan.

Chart 35
Domestic Financing to Non-financial Private Firms^{1/}
Real annual change in percent



^{1/} These data are adjusted due to the withdrawal from and the incorporation of some financial intermediaries to the credit statistics. It includes credit from commercial banks, development banks and other non-bank financial intermediaries.

Source: Banco de México.

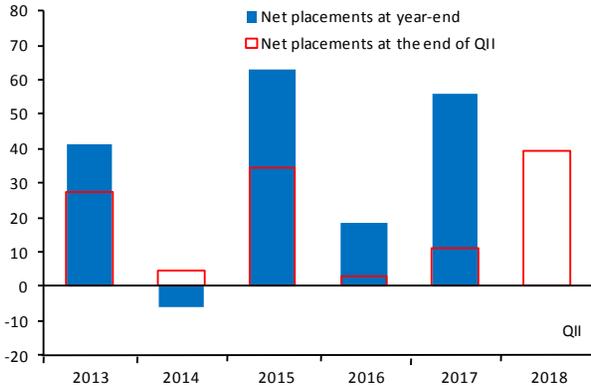
⁷ For additional information, see the press release on the Quarterly Evolution of Financing to Firms during the quarter April – June 2018, available at the following link:

<http://www.banxico.org.mx/publicaciones-y-prensa/evolucion-trimestral-del-financiamiento-a-las-empr/evolucion-del-financiamiento-.html>

⁸ For additional information, consult the press release of the Survey on General Conditions and Standards in the Banking Credit Market during the quarter April – June 2018, available at the following link:

<http://www.banxico.org.mx/publicaciones-y-prensa/encuesta-sobre-condiciones-generales-y-estandares-/condiciones-en-credito-bancar.html>

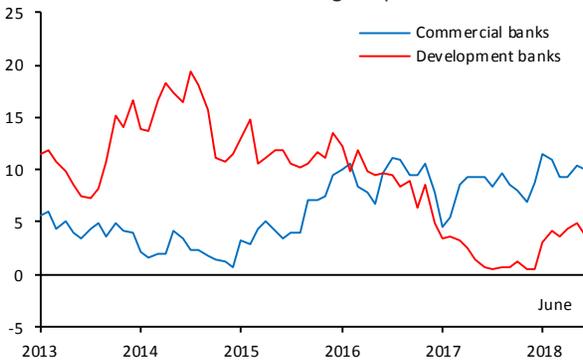
Chart 36
Net Placement of Medium-term Securities of Non-financial Private Firms ^{1/}
 MXN billion



^{1/} Placements excluding amortizations (maturities and prepayments) in the quarter.

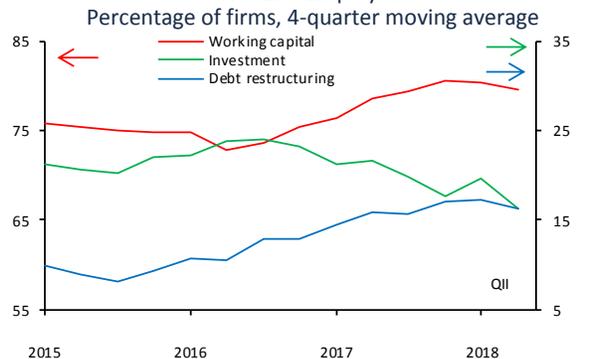
Source: Banco de México.

Chart 37
Performing Credit to Non-financial Private Firms
 Real annual change in percent

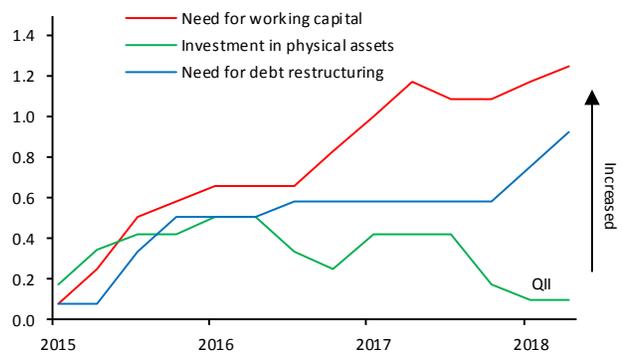


Source: Banco de México.

Chart 38
Use of Bank Credit by Large Businesses
 a) Main Purpose of New Bank Credit according to Firms with over 100 Employees



b) Factors Related to Large Firms' Credit Demand according to Banks with Greater Participation in the Segment
 Accumulated diffusion indices ^{1/}
 2015Q1 – 2018Q2

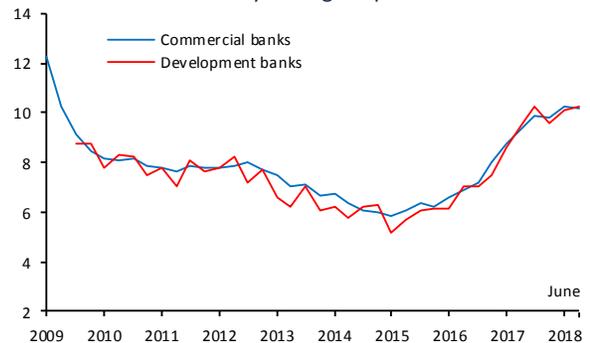


^{1/} For each quarter the diffusion index can take a value from -1 to 1, where the positive (negative) values denote increases (decreases) in the respective concept.

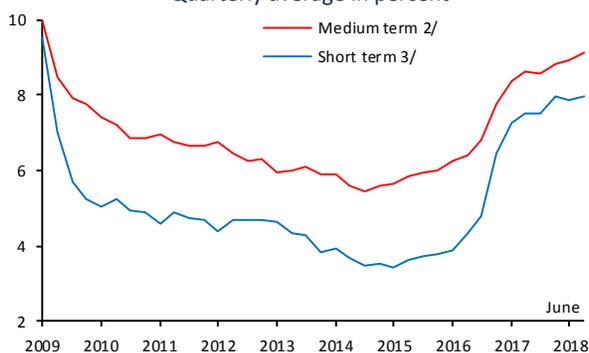
Source: The Credit Market Survey and the Survey on General Conditions and Standards in the Banking Credit Market, Banco de México.

In this context, in the second quarter of 2018, the costs of financing to non-financial private firms remained at levels above those registered in 2017, although in general they have not exhibited additional increments during the year (Chart 39).

Chart 39
Financing Costs of Non-financial Private Firms
 a) Annual Interest Rate of New Credits ^{1/}
 Quarterly average in percent



b) Annual Interest Rates of Private Securities
Quarterly average in percent



1/ Average rate weighted by the associated balance of performing credit for all terms.

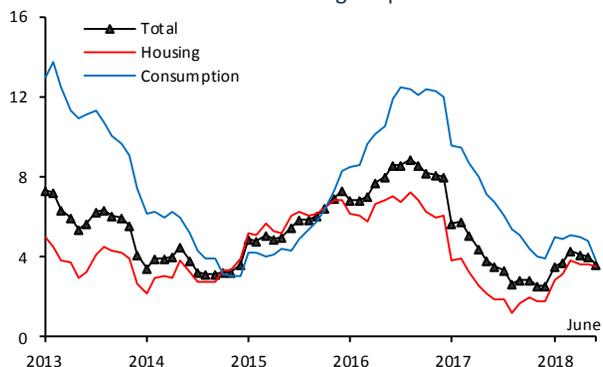
2/ Average weighted yield to maturity of debt issuances, with a term over 1 year, at the end of the month.

3/ Average weighted rate of private debt placements, with a term of up to 1 year, expressed in a 28-day curve. It only includes stock exchange certificates.

Source: Banco de México.

Credit to households continued to slow down, as it grew at a lower rate than that in the first quarter of 2018. Indeed, its growth rate shifted from 4.3% to 3.6% between the first and the second quarters of the year, which compares to the average annual real change of 2.6% in the fourth quarter of 2017 (Chart 40).

Chart 40
Total Credit to Households ^{1/}
Real annual change in percent



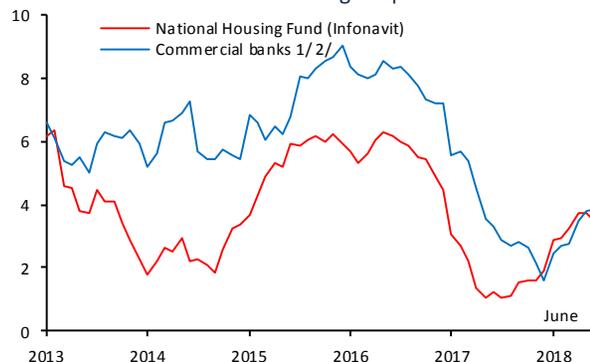
1/ These data are adjusted due to the withdrawal from and the incorporation of some financial intermediaries to the credit statistics.

Source: Banco de México.

Within it, in the second quarter of the year, the mortgage portfolio of both the National Housing Fund (Infonavit) and commercial banks continued growing at moderate rates, although higher than those registered in the previous quarter (Chart 41). This is consistent with the recovery of demand for

this type of credit, as indicated by the managers of banks with a greater participation in this segment. In this respect, the interest rates of new credits for housing acquisition have remained practically unchanged since mid-2017 (Chart 42).

Chart 41
Performing Housing Credit
Real annual change in percent

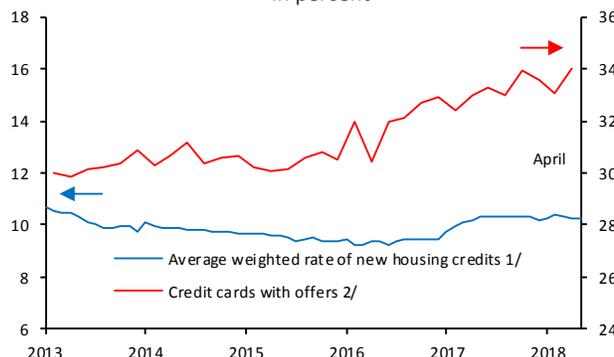


1/ These data are adjusted due to the withdrawal from and the incorporation of some financial intermediaries to the credit statistics.

2/ Figures are adjusted in order to avoid distortions by the transfer and the reclassification of direct credit portfolio, by the transfer from the UDIS trust portfolio to the commercial banks' balance sheet and by the reclassification of direct credit portfolio to ADES program.

Source: Banco de México.

Chart 42
Annual Interest Rate of Credit to Households
In percent



1/ The average rate weighted by the associated balance of performing credit. It includes credit for acquisition of new and used housing.

2/ The source is the credit cards-related data base. It refers to the average rate weighted by performing credit cards and the generalized use of non-revolving customers.

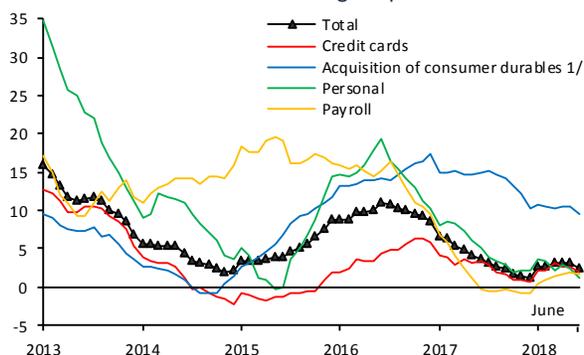
Source: Banco de México.

In contrast to the greater expansion of housing credit, commercial bank consumer credit continued to show a low growth rate, particularly in the segments of credit cards, payroll loans and personal credit.⁹ On the contrary, auto loans –which constitute 92% of credit for acquisition of consumer durables–,

⁹ Demand for consumer credit could be growing at a low pace, in part as a reflection of the greater dynamism of other sources of consumer financing, such as the wage bill and remittances.

continued to expand at a rate higher than in other segments of consumer credit, although it was lower than that observed during the previous quarters, in line with the downward trajectory in light vehicle sales (Chart 43). In the second quarter of the year, interest rates of different segments of consumer credit were at levels similar to those observed in 2017, except for those associated to credit cards, which showed an increase (Chart 42).

Chart 43
Performing Commercial Bank Consumer Credit
Real annual change in percent



1/ It includes auto loans and credit for acquisition of other movable properties.
Source: Banco de México.

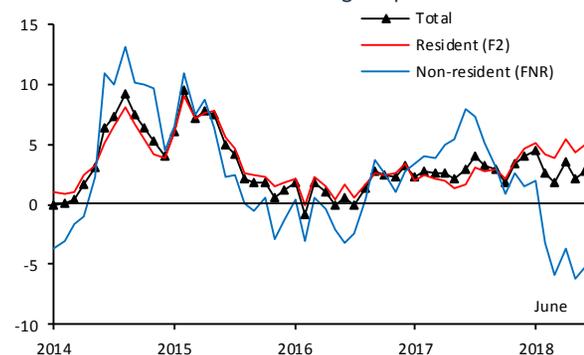
In sum, although the Mexican economy is still facing a larger restriction in external financing, the adjustments in the macroeconomic stance of the country have contributed to increase domestic saving and to decrease the absorption of financial resources by the public sector, which has led to an orderly adjustment in the economy so far. This has attenuated pressures on loanable funds markets and external accounts in Mexico, as well as the consequences of this environment on private sector financing conditions. Given the prospect that this external restriction may continue or even intensify in the future, it is especially important for the federal government to sustainably consolidate the public finances. In addition to strengthening the macroeconomic framework of the country, this would help to continue channeling financial resources to the private sector without generating further pressures on interest rates.

2.2.3.3. Domestic Financial Assets (F)

Domestic financial assets –measured by the aggregate F–, continued growing moderately during the second quarter of 2018, although at a rate slightly above that of the previous quarter (Chart 44). In

particular, between the first and the second quarters of 2018, its real annual change increased from 1.7% to 2.8%. Within the aggregate E, there was an increase in the holdings of floating-rate securities by both residents and non-residents (measured, respectively, in the aggregates F2 and FNR), which reflected to a large extent the favorable performance in the shares issued by Mexican firms.

Chart 44
Domestic Financial Assets (F)
Real annual change in percent



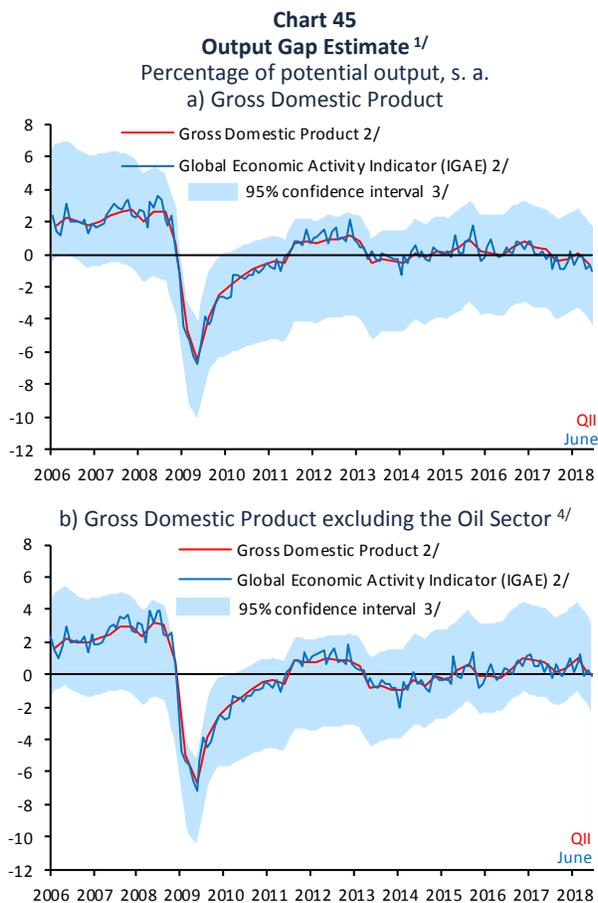
Source: Banco de México.

2.2.4. Slackness Conditions of the Economy

As to the cyclical position of the economy, in the reported quarter slack conditions are estimated to have eased more than anticipated, mainly as a result of the contraction of economic activity in this time frame. As a result, output gap estimates lied at levels close to zero, following the period of tightening in the first quarter of the year.

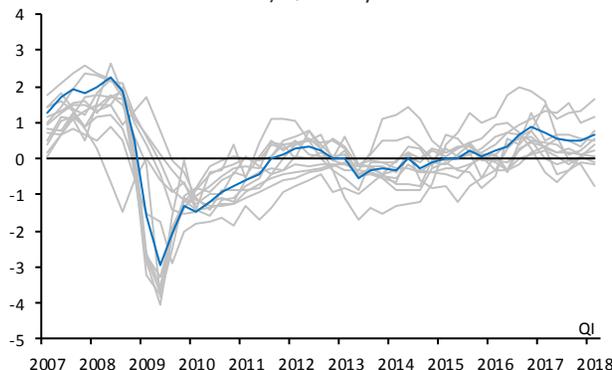
Indeed, derived from an incipient recovery of economic activity by the end of 2017 and in early 2018, in the first quarter of the year the quarterly frequency indicator of slack conditions were somewhat tight (Chart 45, 46a and 47c). In contrast, the estimate of total output gap and of the output gap excluding the oil sector had lower levels in the second quarter of 2018 (Chart 45). Likewise, according to the monthly frequency indicator, in the period April – May slack conditions had a tightness level lower than in the previous quarter (Chart 46b). By groups of indicators, the index related to consumption decreased, while the indicator associated to demand conditions in the loanable funds market remained negative. In contrast, slack

conditions in the labor market remained tight, according to its monthly indicator (Chart 47).¹⁰

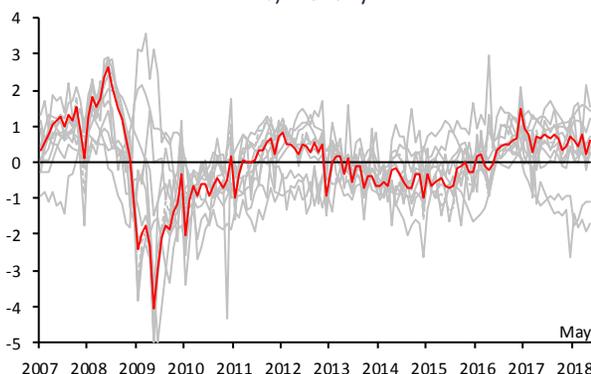


s. a. / Prepared with seasonally adjusted data.
 1/ Estimated using the Hodrick-Prescott (HP) filter with tail correction; see Banco de México Inflation Report, April- June 2009, p.69.
 2/ GDP figures as of the second quarter of 2018, IGAE figures as of June 2018.
 3/ Confidence interval of the output gap calculated with an unobserved components' method.
 4/ GDP excluding oil and gas extraction, excluding mining-related services and those derived from oil and carbon.
 Source: Prepared by Banco de México with data from INEG and own data.

Chart 46
First Principal Component by Frequency of Indicators^{1/}
 In percent
 a) Quarterly

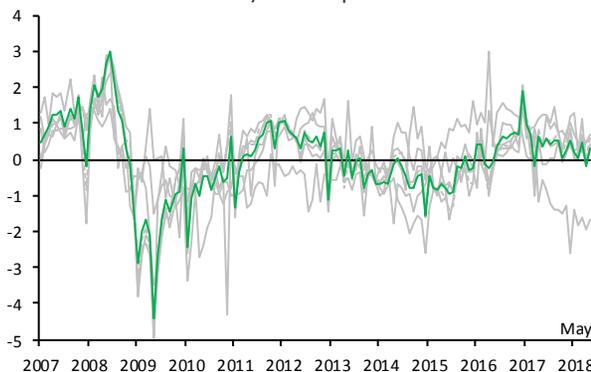


b) Monthly



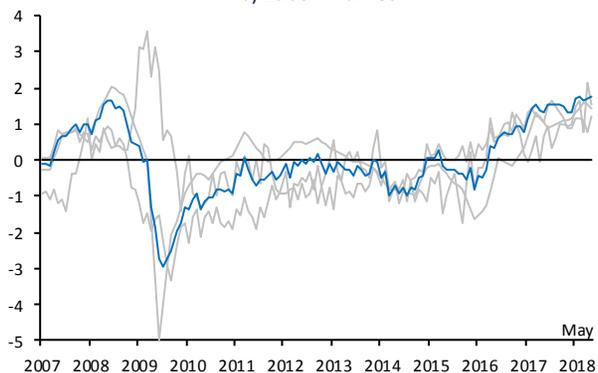
1/ The constructed indices are based on the MCS methodology; see Box 4 of the Quarterly Report October – December 2017. Monthly and quarterly slack indices are based on the first principal component of the sets comprising 11 and 12 indicators, respectively. The first component represents 51% and 58% of the joint variation of monthly and quarterly indicators, respectively. Grey lines correspond to individual slack indicators used in the principal components analysis.
 Source: Estimated with data from INEGI and Banco de México.

Chart 47
First Principal Component by Group of Indicators^{1/}
 In percent
 a) Consumption

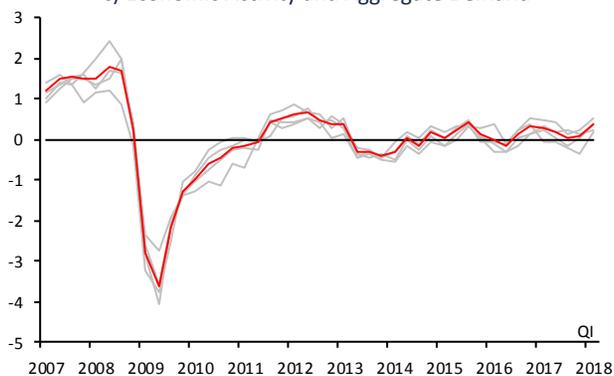


¹⁰ See Banco de México (2017). "Slack Indicators to Identify Inflation Pressures", in Box 4 of Banco de México's Quarterly Report October - December 2017, pp. 47-49.

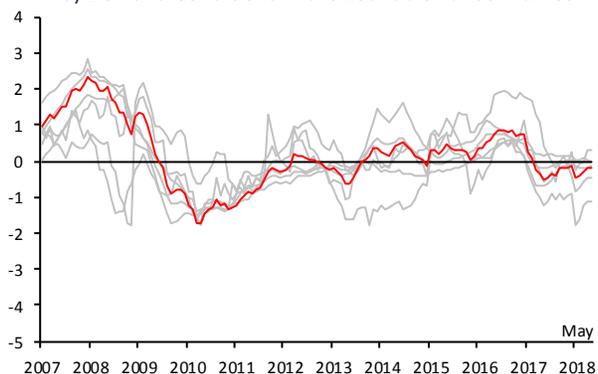
b) Labor Market



c) Economic Activity and Aggregate Demand



d) Demand Conditions in the Loanable Funds Market



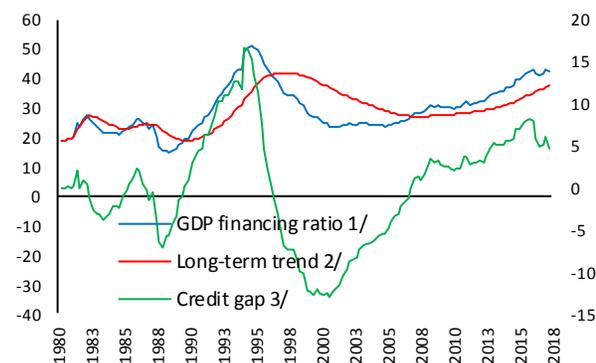
1/ The constructed indices are based on the MCS methodology; see Box 4 of the Quarterly Report October – December 2017. The slack indices related to consumption, labor market, economic activity and financial conditions are based on the first principal component of sets comprising 6, 3, 4, and 6 indicators, respectively. The first principal component represents 62%, 51%, 96% and 57% of the joint variation of the indicators of consumption, labor market, economic activity and financial conditions in the same order. The indices are based on monthly indicators, except for economic activity and aggregate demand, which use quarterly indicators. Grey lines correspond to individual slack indicators used in the principal component analysis.
Source: Prepared by Banco de México with data from INEGI and own data.

2.2.5. Stability of the Financial System

2.2.5.1. Aggregate Financing

In the described economic environment, total financing to the non-financial private sector as a share of GDP remained stable during the second quarter of the year, at levels slightly above its long-term trend (Chart 48). It is noteworthy that, although this deviation has been used to identify the presence of periods in which the fast growth of credit might imply a vulnerability in the financial system, this indicator could have certain limitations. Hence, it is also important to consider other elements, such as the quality of the portfolio, lending standards and other conditions on the supply and demand of credit.

Chart 48
Ratio of Financing to Non-financial Private Sector to GDP and Long-term Trend
In percent



1/ The data of June 2018 are preliminary.

2/ The long-term trend is estimated using the one-tail Hodrick-Prescott filter with a smoothing parameter equal to 400,000, with data as of the fourth quarter of 1980.

3/ The credit gap is calculated as the difference of the financing-to-GDP ratio of the long-term trend. This indicator is a standard international reference established by the Basel Committee on Banking Supervision (BCBS) to identify a credit growth that could be excessive. BCBS suggests that the countries should consider this indicator along with others that, given their features, would be relevant to decide on the activation and the amount of the countercyclical capital requirement.

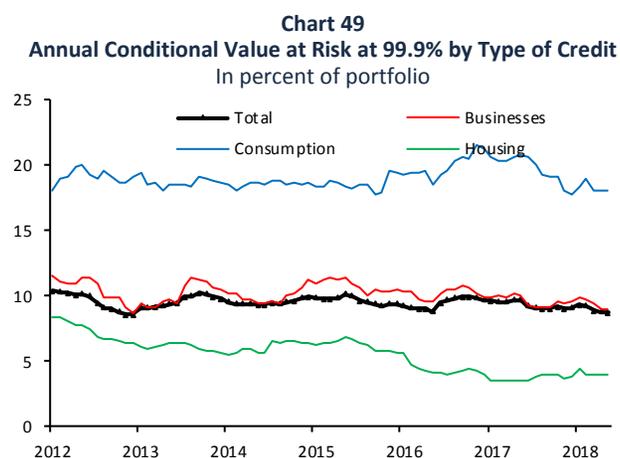
Source: Prepared by Banco de México with data from INEGI and own data.

2.2.5.2. Credit Risk

2.2.5.2.1. Bank Credit Risk

During the period covered by this Report, the credit risk of commercial banks' portfolio to the non-financial private sector remained relatively stable at levels observed over the last years, as measured with the Conditional Value at Risk (CVaR) as a share of total portfolio (Chart 49). The level of portfolio risk, measured as the share of net banks' capital, is at

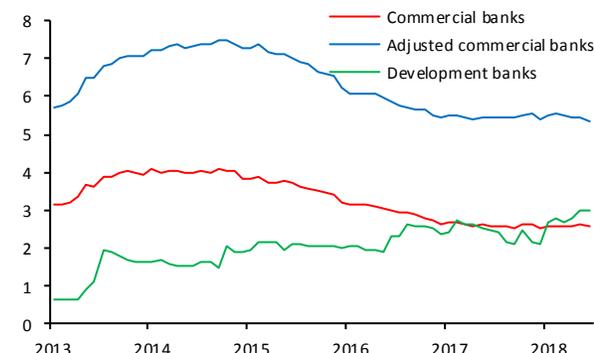
levels below those registered during 2017, the year in which it attained its highest level over the last five years.



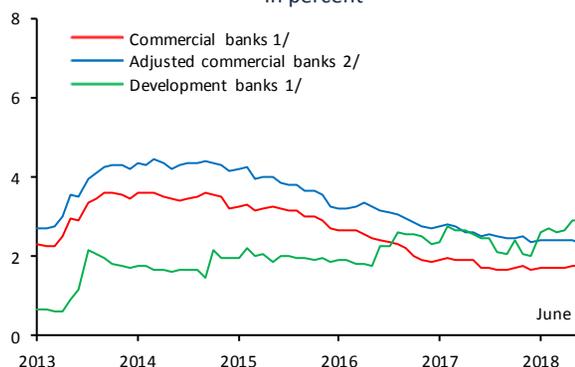
Source: Banco de México.

The delinquency of commercial banks' credit to the non-financial private sector remained relatively stable during the period covered by this report (Chart 50a). In particular, during the second quarter, the delinquency rate of the firms' portfolio increased marginally to 1.74% (Chart 50b). In turn, the delinquency rate of housing credit dropped to 2.57%, a level close to the lowest levels registered in recent years (Chart 51), while the delinquency rate of bank credit to consumption deteriorated more during the second quarter, as it increased from 4.46% to 4.54% (Chart 52). The adjusted delinquency rate of business, housing and consumption portfolios presented levels similar to those observed during the first quarter, and marked 2.32%, 3.24% and 12.79%, respectively (at the end of the first quarter, the corresponding levels were 2.41%, 3.44% and 12.89%, respectively).

Chart 50
Delinquency Rates of Credit to Non-financial Private Firms
a) Total
In percent



b) Firms
In percent

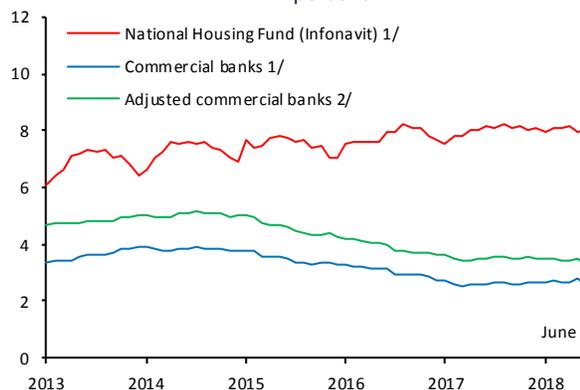


1/ The delinquency rate is defined as the stock of non-performing loans divided by the stock of total loans.

2/ The adjusted delinquency rate is defined as the non-performing portfolio plus debt write-offs accumulated over the last 12 months divided by the total portfolio plus debt write-offs accumulated over the last 12 months.

Source: Banco de México.

Chart 51
Delinquency Rates of Housing Credit
In percent

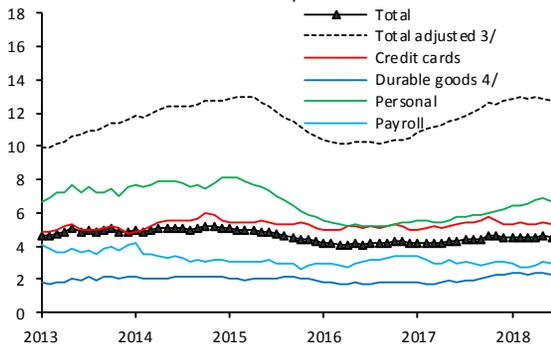


1/ The delinquency rate is defined as the stock of non-performing loans divided by the stock of total loans.

2/ The adjusted delinquency rate is defined as the non-performing portfolio plus debt write-offs accumulated over the last 12 months divided by the total portfolio plus debt write-offs accumulated over the last 12 months.

Source: Banco de México.

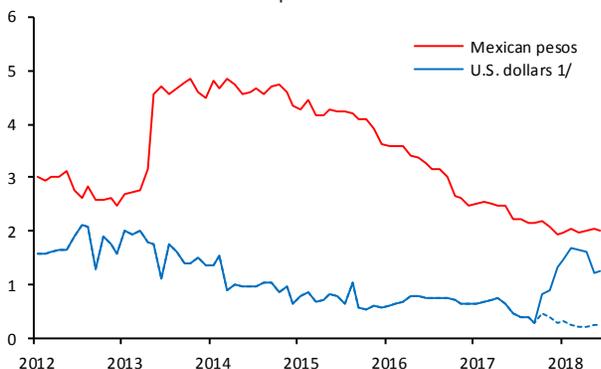
Chart 52
Delinquency Rates of Commercial Bank Consumer Credit ^{1/2/}
 In percent



1/ It includes Sofomes ER subsidiaries of bank institutions and financial groups.
 2/ The delinquency rate is defined as the stock of non-performing loans divided by the stock of total loans.
 3/ The adjusted delinquency rate is defined as the non-performing portfolio plus debt write-offs accumulated over the last 12 months divided by the total portfolio plus debt write-offs accumulated over the last 12 months.
 4/ It includes auto loans and credit for acquisition of other movable properties.
 Source: Banco de México.

Banks' exposure to dollar-denominated credits represents approximately 25% of its credit portfolio to firms. In this context and considering the external economic and financial environment described above, a depreciation of the Mexican peso against the U.S. dollar could exercise additional pressures on the payment capacity of firms with dollar-denominated obligations. However, the delinquency rate of this portfolio subset has remained below the delinquency rate of the portfolio denominated in Mexican pesos (Chart 53). The increase in the delinquency rate of the portfolio denominated in U.S. dollars was temporary, given that during the second quarter it recovered.

Chart 53
Delinquency Rates of Credit to Non-financial Private Firms by Loan Currency
 In percent

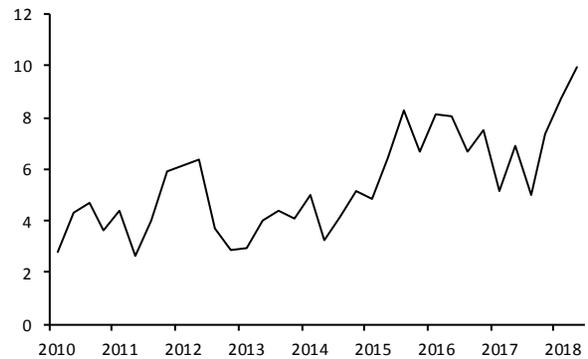


1/ The dotted line corresponds to delinquency that would have been observed but for the breach of the two firms.
 Source: Banco de México.

Meanwhile, housing prices, measured with the house price index of detached houses, townhouses and apartments using the mortgage credit guaranteed for new and used housing of the Federal Mortgage Society (SHF in Spanish) increased 9.92% during the second quarter of 2018 with respect to the same quarter of last year, which represents the highest annual change in the period 2010 – 2018 (Chart 54).

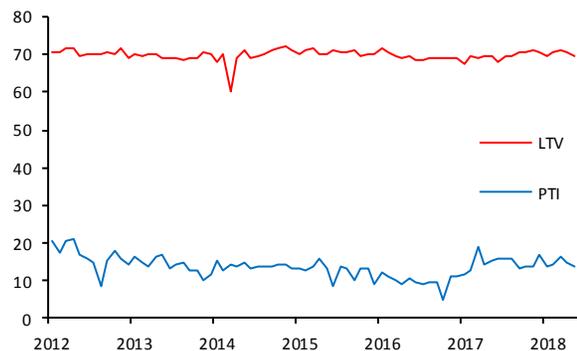
In this context, although higher housing prices could lead to higher indebtedness levels for new credits granted, and, thus, raise the portfolio credit risk, banks' lending standards have not changed considerably (Chart 55).

Chart 54
SHF Index of Housing Prices in Mexico
 Annual change in percent



1/ The indicator at the national level includes new and used housing. The indicator is in real terms, as it consists in the constant quality index of fixed weights.
 Source: Federal Mortgage Society (SHF).

Chart 55
Loan-to-Value Ratio (LTV) and Payment-to-Income (PTI) Ratio
 In percent



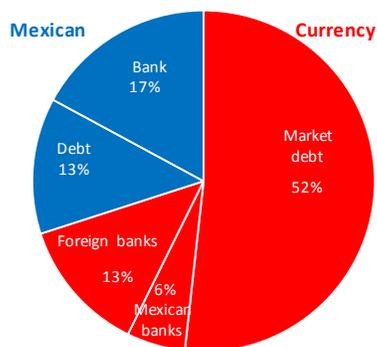
Source: Banco de México.

2.2.5.2.2. Non-financial Private Firms Listed in the Mexican Stock Exchange

The evolution of the exchange rate and of interest rates in foreign currencies can have an important

impact on financial conditions of non-financial private firms listed in the Mexican stock exchange, as approximately 70% of total financing of these firms (71% as of March 2018) is denominated in other currencies (Chart 56).

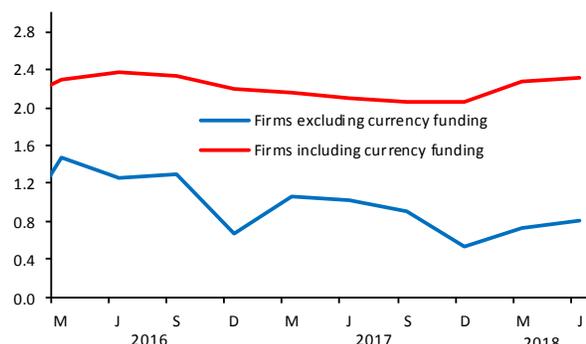
Chart 56
Total Financing of Non-financial Private Firms Listed in the Mexican Stock Exchange
 Composition by type of base currency and origin of resources, March 2018 ^{1/}
 In percent



^{1/} The chart shows different suppliers of financing to the non-financial private sector, and the base currency of such financing.
 Source: Mexican Stock Exchange and Bloomberg.

Thus, the depreciation of the Mexican peso against the U.S. dollar between March and June 2018 resulted in a slight increase in the leverage metrics of firms with foreign currency-denominated financing (Chart 57), although the appreciation of the Mexican peso against the U.S. dollar starting in July attenuated this risk. These firms' improved revenues during the reference quarter did not revert the impact of the depreciation on the leverage metrics.

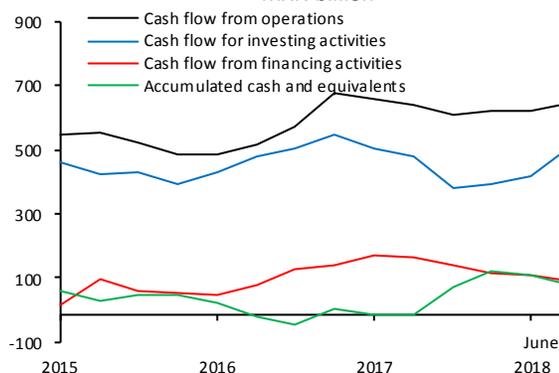
Chart 57
Leveraging of Non-financial Private Firms listed in the Mexican Stock Exchange
 Net debt to EBITDA ^{1/}
 Times



^{1/} Net debt = total debt with cost excluding liquidity divided by annual EBITDA. Debt service = annual accrued interests divided by annual EBITDA. EBITDA is earnings before interest, taxes, depreciation and amortization.
 Source: Mexican Stock Exchange and Bloomberg.

The foreign exchange impact on firms was attenuated by the revenues obtained by their businesses in other currencies, as a result of their export sales and their subsidiaries' sales abroad, which amounted to 46% of their total sales. In addition, some firms have financial hedge to mitigate their foreign exchange risk. Other measures taken by some firms in recent years to attenuate their leveraging and refinancing risks and to improve their debt service capacity include operations to extend their liabilities' term, the use of liquidity to redeem liabilities in advance and liquidity accumulation as a precautionary measure (Chart 58).

Chart 58
Annual Generated Liquidity and its Use for Non-financial Private Firms Listed in the Mexican Stock Exchange ^{1/}
 MXN billion

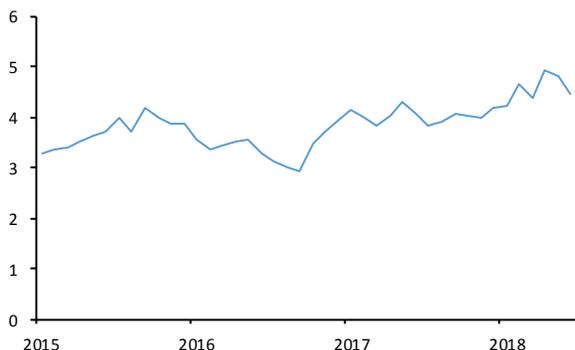


^{1/} Figures correspond to 12-month accumulated flows. The cash flow used in investment activities includes purchases and sales of properties, plant and equipment, as well as cash flows used to obtain control of subsidiaries and other businesses. This variable describes the flow of resources used to accumulate or reduce fixed assets.
 Source: Mexican Stock Exchange and Bloomberg.

2.2.5.3. Market Risk

The market risk of commercial banks, measured with the Conditional Value at Risk (CVaR) as a share of net capital, decreased from 4.9% to 4.5% between April and the end of June, a level similar to that observed in March (Chart 59). This mainly resulted from the fact that banks adjusted their portfolios to reduce sensitivity in the face of adjustments in nominal interest rates, increasing their position in real rate bonds. These adjustments were the most relevant risk factor, given the composition of the banking institutions' balance sheets. Meanwhile, risks arising from changes in the exchange rate and in equities had a smaller impact during the quarter.

Chart 59
Conditional Value at Risk at 99.9% for Banks' Market Risk



Source: Banco de México

2.2.5.4. Other Risks: Cyber Attacks

In addition to the previously described risks, the financial system could be affected by the risk of cyberattacks. Over the last couple of months, measures have been taken to strengthen the current regulation and supervision.

The Financial System Stability Council agreed on a series of principles seeking to incorporate the best international practices and recommendations. These principles encompass the corporate governance of cyber security, data protection schemes, risk management, device access controls, incidence response protocols, services providers, infrastructure protection policies and systems and programs of trainings and promoting a culture of cybersecurity, both for the personnel and for financial institutions' clients.

In this respect, during the analyzed period Banco de México has issued a series of regulations to strengthen the processes carried out by financial institutions in order to verify the transfers received by other financial entities, as well as transfers among the accounts of the same institutions. Likewise, these regulations aimed to establish additional requirements to the participants of the Interbank Electronic Payment System (SPEI) in terms of information security. In particular:

- i. On May 17, Banco de México issued Circular 04/2018, in which it established a fixed term of one day to deliver the recourses from funds' transfers in cash or cashier's check, which amount to or exceed MXN 50 thousand, while the

delivery of these resources could be faster than the term stipulated under certain conditions.

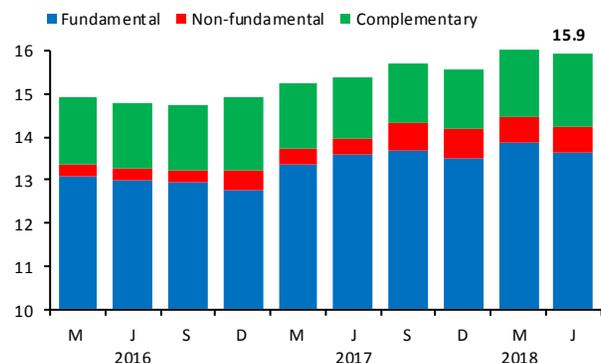
- ii. In the same vein, on July 27, Banco de Mexico issued Circulars 10/2018 and 11/2018, which established additional requirements for the policies and procedures that SPEI participants will need to comply with: a) following the action plans set up by Banco de México to face possible attacks; b) having protocols and procedures that document the actions to be taken in case cybersecurity risks, which could affect the operation of SPEI participants, materialize; c) establishing and implementing confidence and integrity tests for the personnel and third parties that have access to relevant information and systems in operating SPEI; and d) appointing an information security officer responsible for the policies of cybersecurity risks and the implementation of corrective measures in view of the materialization of said risks that could affect the operation of the SPEI participant.

In addition to the requirements listed in the previous paragraph, Circulars 10/2018 and 11/2018 establish the requirements to strengthen the security features during the provision of the services of financial transfers to those clients who offer exchanges or purchases/sales of virtual assets. These requirements include: i) identify the accounts that belong to this type of clients to implement additional validations prior to the certification of resources from transfers via SPEI; ii) with the purpose of ensuring the legitimacy of payment orders, pay the received resources on the following business day after they have been received, unless there is an authorization by Banco de México to carry said additional validations under different terms; iii) refrain from making the received resources available on the same day of the reception to this type of clients, in the cases when Banco de México issues warnings given possible attacks; iv) the accounts that SPEI participants open to this type of firms should be demand deposits, exclusively opened in the financial institutions entitled to provide them; and v) refrain from providing accounts to these firms so that such accounts are in turn assigned to clients to manage resources for the purpose of purchasing virtual assets.

2.2.5.5. Commercial Banks

Commercial banks are in a position of strength to face the risks described above. Indeed, the capitalization level (CAR¹¹ of 15.9% in June), remains at high levels with respect to those observed in recent years, although in June 2018 the CAR slightly decreased by 0.1 percentage points, with respect to what was observed at the end of the first quarter of the year. In addition, most of regulatory capital is formed by Common Equity Tier 1, the portion of capital that is characterized by a greater quality to absorb losses (Chart 60). In addition, banks also have sufficient levels of loan loss reserves to face portfolio losses.¹² At the end of the second quarter, the reserves amounted to 152.6% of the non-performing portfolio, a very similar level to that at the end of the first quarter. Finally, Mexico's banking institutions are able to generate revenue that would allow them to promptly replenish their capital and reserves levels in stress conditions.

Chart 60
Evolution of Regulatory Capital
In percent of risk-weighted assets



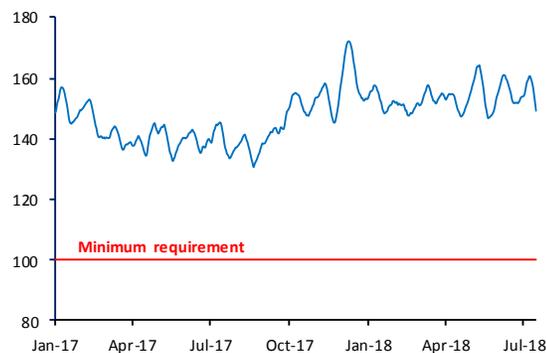
Source: Banco de México.

As regards the liquidity position, both on average and individually, banks maintain a slack position in the requirement known as the Liquidity Coverage Ratio

(LCR).¹³ Although the LCE will not be required at 100% until January 2019, then exclusively for larger banks, all banks in the system show levels above 100% or maintain their LCR around said limit. Thus, banks maintain sufficient liquid assets to face adverse liquidity scenarios both idiosyncratic and systemic (Chart 61a).

Meanwhile, although this requirement has not come into force yet, practically most banks maintain their Net Stable Funding Ratio (NSFR)¹⁴ above 100%, the minimum level established by the Basel Committee (Chart 61b). This indicator's levels have stabilized since January 2018. This suggests that banks have incorporated this indicator in their liquidity risk management and have realized the necessary adjustments to meet the minimum requirement once it is in force in 2019. The levels of the NSFR point to the fact that banks' credit is mostly financed using stable funding sources.

Chart 61
Banks' Liquidity
a) Liquidity Coverage Ratio
Percent



b) Dispersion of the Net Stable Funding Ratio
Percent

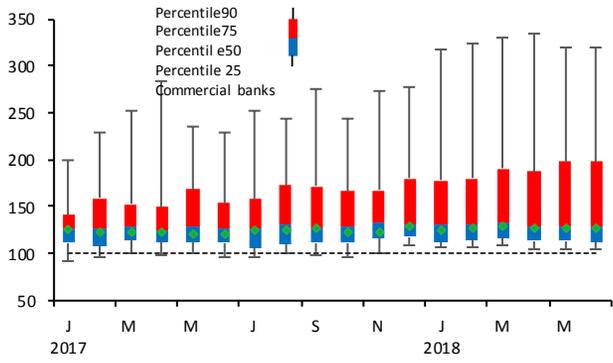
¹¹ The capital adequacy ratio is estimated by dividing the net capital by the risk-weighted assets. According to the capitalization rules, the quotient of this division should be at least 10.5 percent. The net capital is the regulatory capital that includes the Tier 1 capital and the Tier 2 capital. The Tier 1, in turn, consists, in part, of Common Equity Tier 1 capital and Additional Tier 1 capital.

¹² Establishing the level of required loan loss reserves for commercial banks' loan losses is carried out by estimating the expected loss during the following twelve months. The expected loss is determined as the result of the probability of default, the severity of the loss and the exposure at default.

¹³ The LCR is defined as the quotient of high quality liquid assets divided by the expected outflow of net liquidity over the next 30 days, in a stress scenario. The goal of this requirement is for institutions to have

liquid assets to face the liabilities' maturity, which may occur in a stress period in a time frame of 30 days. For a detailed description of the Liquidity Coverage Ratio, see Box 2 of Banco de México's Report on the Financial System, October 2014, p.68.

¹⁴ The Net Stable Funding Ratio (NSFR) is defined as the quotient of the available stable funding and the liabilities weighted by term and stability, divided by the Required Stable Funding of assets weighted by liquidity and term. It is a structural liquidity requirement that prompts banks to finance their activities using stable funding sources, consistent with their assets' liquidity and maturity, mitigating the risk of liquidity stress episodes in the future. For a detailed description of NSFR, see Box 3 of the Report on the Financial System released by Banco de México in October 2017.



Source: Banco de México.

3. Recent Evolution of Inflation

3.1. Inflation

During the first five months of the year annual headline inflation fell. Nevertheless, since June some of the upward risks signaled in the previous Quarterly Report materialized. This led to significant hikes in non-core inflation. It remains at high levels, consequently delaying the convergence rate of headline inflation to its target. In particular, higher-than-anticipated increases in some energy prices were observed, such as in gasoline and LP gas, both due to increments that have accumulated in their international references, and the exchange rate depreciation during most of the second quarter of the year. In turn, core inflation continued on a downward

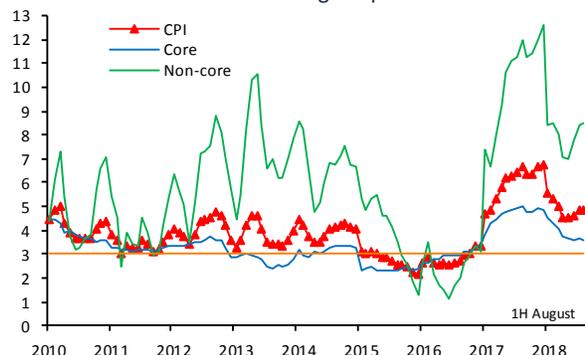
trajectory in the reference quarter, which reflected the easing in the cyclical conditions of the economy, which was greater than anticipated, as well as the effects of the monetary policy actions implemented by Banco de México, which have prevented the generation of second-round effects as a result of a number of shocks that have affected the economy. Thus, after averaging at 5.31% in the first quarter of 2018, and 4.55% and 4.51% in April and May, respectively, in June annual headline inflation rebounded to 4.65% and attained 4.81% in the first half of August. Notably, a significant part of the inflation increase is due to increments in gasoline and LP gas prices (Table 2 and Chart 62).

Table 2
Consumer Price Index, Main Components and Trimmed Mean Indicators
 Annual change in percent

	2017			2018		
	II	III	IV	I	II	1H August
CPI	6.10	6.48	6.59	5.31	4.57	4.81
Core	4.78	4.91	4.85	4.29	3.67	3.60
Merchandise	6.22	6.37	6.11	5.20	4.10	3.85
Food, beverages and tobacco	6.82	7.29	6.80	5.93	4.71	4.49
Non-food merchandise	5.73	5.60	5.53	4.58	3.59	3.32
Services	3.55	3.68	3.77	3.50	3.30	3.36
Housing	2.56	2.61	2.66	2.57	2.58	2.56
Education (tuitions)	4.39	4.56	4.74	4.79	4.82	5.10
Other services	4.34	4.53	4.63	4.07	3.58	3.79
Non-core	10.31	11.51	12.00	8.32	7.28	8.48
Agricultural	6.39	12.07	8.99	9.39	3.40	0.87
Fruit and vegetables	9.60	21.80	15.59	14.93	0.57	-0.83
Livestock	4.54	6.50	5.06	6.25	5.10	1.63
Energy and government-authorized prices	12.90	11.14	13.92	7.70	9.71	13.51
Energy	15.72	13.68	17.03	8.00	12.18	18.71
Government-authorized prices	7.99	6.82	8.20	7.08	5.12	4.10
Trimmed Mean Indicator ^{1/}						
CPI	4.60	4.61	4.68	4.22	3.87	4.12
Core	4.41	4.52	4.50	4.01	3.55	3.52

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

Chart 62
Consumer Price Index
 Annual change in percent



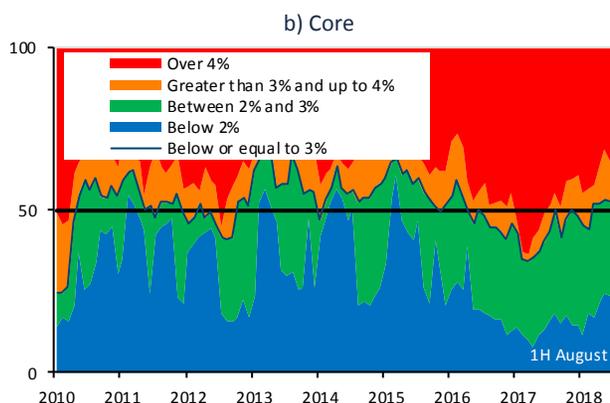
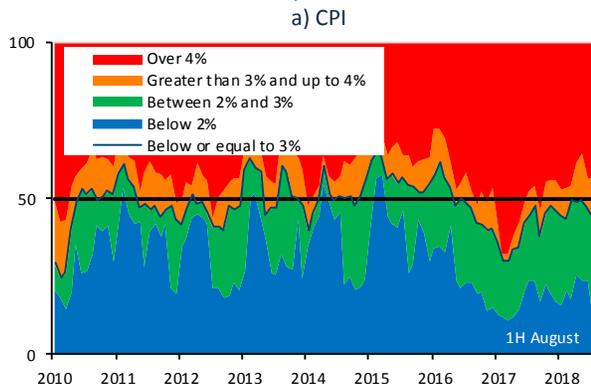
Source: INEGI.

Some indicators that yield complementary information are presented below, to analyze both headline and core inflation trends, and their performance at the margin.

In the first place, the proportion of headline and core CPI baskets is analyzed, which presents monthly (seasonally adjusted and annualized) price changes that are grouped into different intervals. To do so, the items that are part of these baskets are grouped into four different categories: i) items with a price change below 2%; ii) between 2 and 3%; iii) greater than 3% and up to 4%; and iv) over 4%. In the same vein, the percentage of headline and core CPI baskets is presented in two additional categories: the one with monthly price changes (seasonally adjusted and annualized) smaller or equal to 3%, and the one with price changes over 3% (Chart 63).

This analysis shows that the percentage of both headline and core basket (with price increments less than 3%) increased between the first and the second quarters of 2018, although at the margin it decreased (blue and green areas, Chart 63). In particular, the share of the basket of the headline index with monthly annualized and seasonally adjusted price changes below or equal to 3% (area below the blue line) in the first quarter of 2018 was 46%, while in the second quarter it attained 49%. In the first half of August, the referred share was 36%. For the core index basket, in the respective quarters the shares were 47% and 53%, respectively, and marked 39% in the first half of August.

Chart 63
Percentage of CPI Basket according to Intervals of Monthly Annualized Increment, s. a. ^{1/}
 In percent



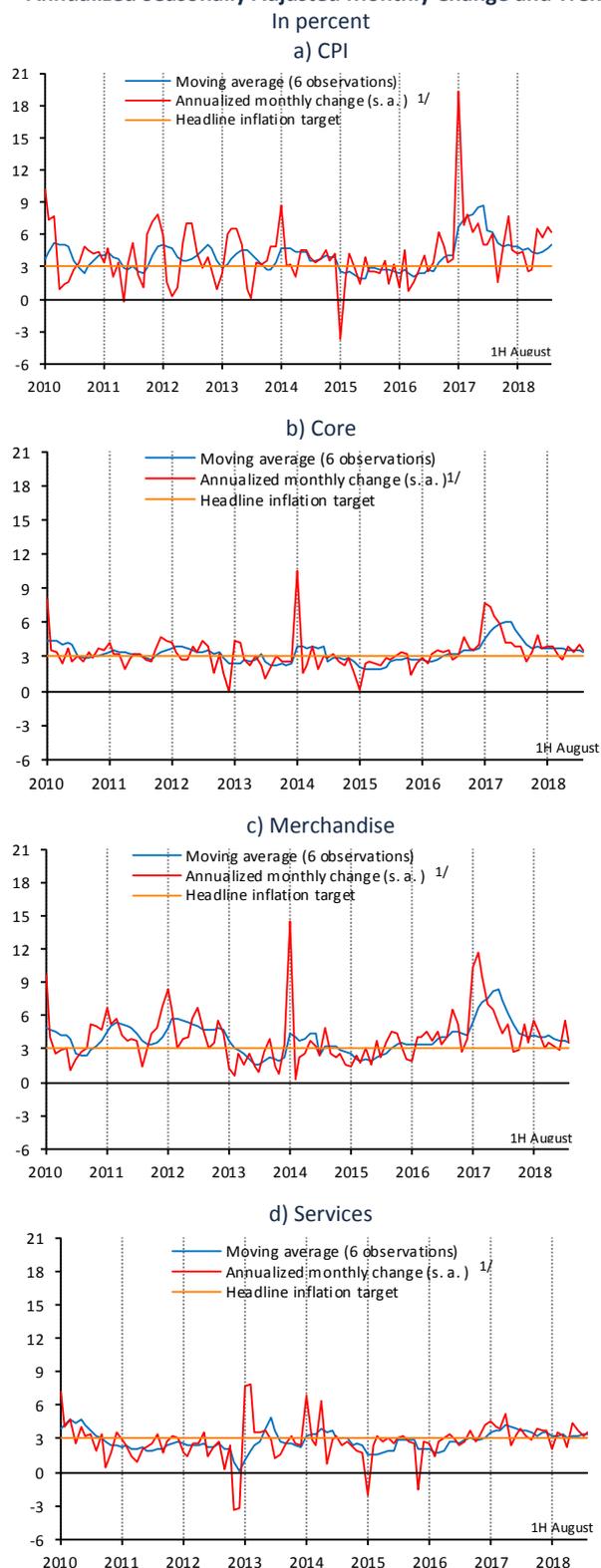
s. a. / Seasonally adjusted data.

^{1/} 3-month moving average.

Source: Banco de México and INEGI.

Secondly, the evolution of monthly (seasonally adjusted and annualized) changes of both headline and core indices is presented. In the first case, its monthly change increased in the second quarter, largely as a reflection of the upward pressure of energy prices on headline inflation, although at the margin it reduced. As regards the monthly (seasonally adjusted and annualized) changes of both the core index and its components (the merchandise and services), they lie at levels close to 3%. The measurements of trend are at levels close to the inflation target, although in the case of headline inflation there has been a slight uptick in recent periods (Chart 64).

Chart 64
Annualized Seasonally Adjusted Monthly Change and Trend



s. a. / Seasonally adjusted figures.

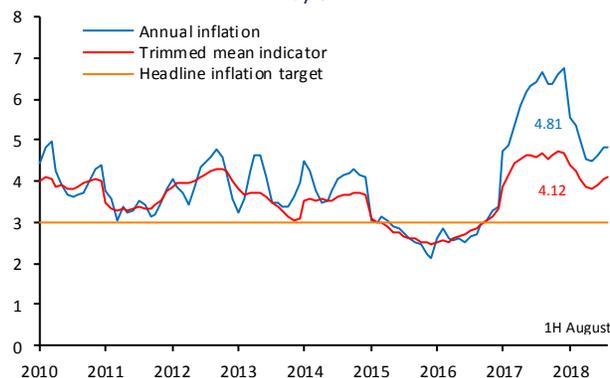
1/ For the last observation, the annualized biweekly change is used.

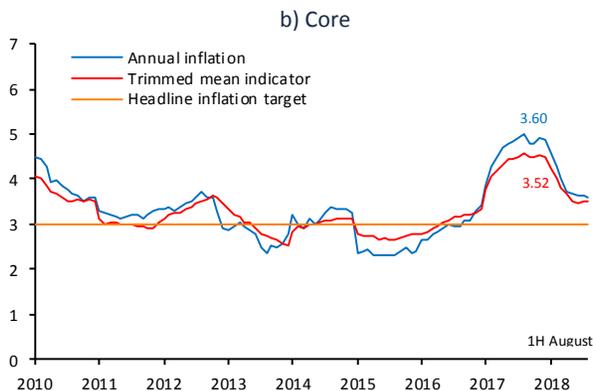
Source: Seasonal adjustment prepared by Banco de México with own data and data from INEGI.

The Trimmed Mean Indicator for headline inflation has remained significantly below the level observed in headline inflation, which indicates that the high price changes of some goods have been affecting the current levels of headline inflation. In particular, between the first and the second quarters of 2018, the Trimmed Mean Indicator for headline inflation shifted from 4.22 to 3.87% (the inflation was 5.31 and 4.57%, respectively), while in the first half of August the indicator marked 4.12% (the observed figure was 4.81%). The Trimmed Mean Indicator for core inflation also lied below the observed figures, decreased from 4.01% to 3.55% between the first and the second quarters of 2018, and lied at 3.52% in the first half of August (Chart 65 and Table 2).

Furthermore, Box 3 analyzes the dynamics of headline, core and non-core inflation at different time frequencies, using the "wavelets" methodology. This analysis suggests that the recent increases in headline inflation are related to transitory shocks, while the trend of headline inflation and its core and non-core components have shown a trajectory to the downside in recent months, while non-core inflation seems to present a long-term level that is systematically above the 3% target.

Chart 65
Price Indices and Trimmed Mean Indicators 1/
Annual change in percent





1/ The Trimmed Mean Indicator excludes the contribution of extreme variations in the prices of some generic items to the inflation of a price index. To eliminate the effect of these changes, the following is done: i) monthly seasonally adjusted changes of the generic items of the price index are arranged from the smallest to the largest value; ii) generic items with the biggest and the smallest variation are excluded, considering in each distribution tail up to 10 percent of the price index basket, respectively; and iii) using the remaining generic items, which by construction lie closer to the center of the distribution, the Trimmed Mean Indicator is calculated.

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

3.1.1. Core Inflation

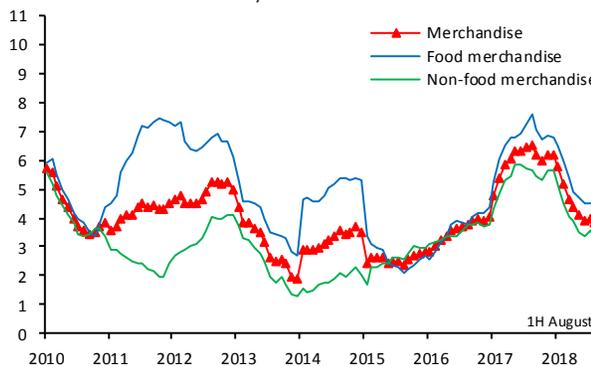
The decreasing trajectory of core inflation in the reference period largely reflects the downward performance of the annual price changes of merchandise, while the annual change of the services subindex also declined. Specifically, core inflation subsided from an average annual level of 4.29% in the first quarter of 2018 to 3.67% in the second one. In the first half of August, this indicator marked 3.60%. In particular:

i. The average annual change of the merchandise price subindex declined from 5.20% to 4.10% between the first and the second quarters, and marked 3.85% in the first half of August. Within it, both food and non-food merchandise prices showed reductions in their annual growth rates during the reference quarter (Chart 66a). This reflected both the fading of the indirect effects of the shocks that during the previous year had affected the costs of some inputs used in the production of different merchandise, and the implemented monetary policy actions.¹⁵ In this way, the average annual change of food merchandise prices shifted from 5.93% in the first quarter to 4.71% in the second one, and marked

4.49% in the first half of August. The average annual change of non-food merchandise decreased from 4.58% to 3.59% in the referred quarters, and marked 3.32% in the first half of August.

ii. The average annual change of the subindex of services prices decreased from 3.50% to 3.30% between the first and the second quarters. It should be noted that the level of the first quarter included the calendar effect of the Holy Week, which in 2018 took place in March and in 2017, in April. Therefore, in 2018 tourism services prices increased more in March and lowered more in April, as compared to last year. In the first half of August, the annual change of the services price subindex lied at 3.36%. Within it, the performance of the segment of services other than education and housing was notable, as its average annual price change shifted from 4.07% to 3.58% in the same quarters and marked 3.79% in the first half of August (Chart 66b).

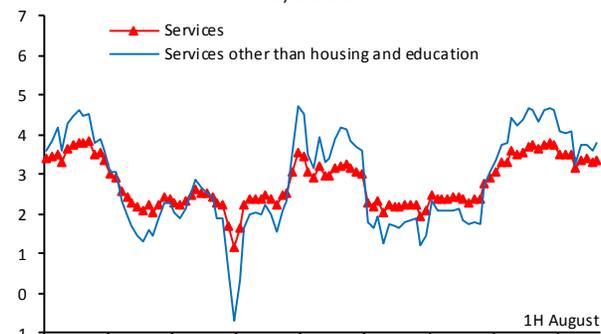
Chart 66
Core Price Index
Annual change in percent
a) Merchandise



¹⁵ A direct effect refers to the impact of an increase in the price of a generic item onto the CPI, given its weight. Meanwhile, an indirect effect considers the impact of an increase of a generic item price on the prices of other goods that use it as input. Finally, a second-round effect

corresponds to a situation in which a supply shock contaminates inflation expectations, and, therefore, can lead to more generalized increases in the prices of goods and services that are not directly related to the initial shock.

b) Services

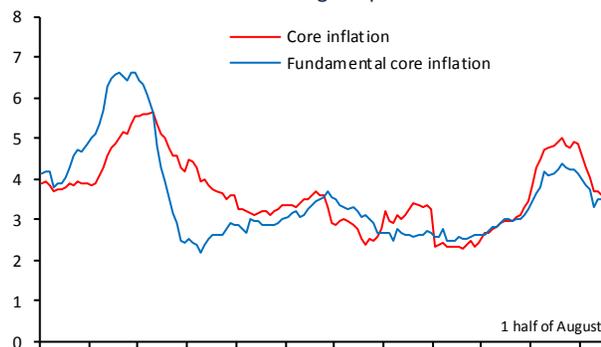


Source: INEGI.

Thus, the impact of the merchandise price changes on annual headline inflation decreased throughout the reference quarter, while the impact of the services price changes has remained relatively stable in recent months (Chart 68).

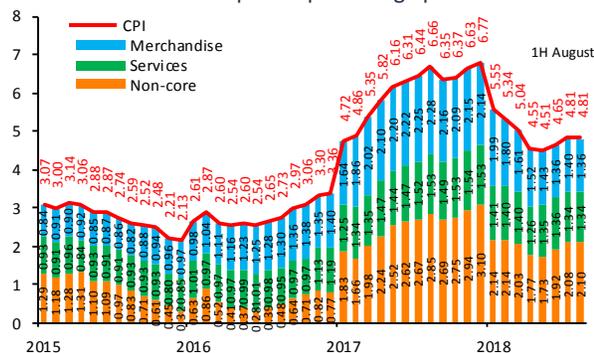
Fundamental core inflation remained at levels below core inflation and presented a slight downward pattern. The latter was related to the contraction in the economic activity in the second quarter of 2018, which led to laxer cyclical conditions. In particular, in the second quarter of 2018 and in the first half of August it lied at 3.43% and 3.40%, respectively, which compares to 3.85% in the first quarter (Chart 67).

Chart 67
Core Inflation and Fundamental Core Inflation
Annual change in percent



Source: Banco de México and INEGI.

Chart 68
Consumer Price Index
Annual impact in percentage points 1/



1/ In some cases, the sum of respective components can exhibit some discrepancies due to rounding.

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

Box 3. Analysis of Inflation Dynamics using “Wavelets”

1. Introduction

This Box analyzes the inflation dynamics using the wavelets methodology, which consists in decomposing a time series in a set of elements associated to different time frequencies, thus allowing to estimate the long-term trend, seasonal and cyclical changes and high frequency inflation fluctuations.¹

The results of this decomposition suggest that the recent increments in headline inflation have been mainly associated to the high frequency component. Furthermore, these shocks do not seem to have generated second-round effects on the price formation process of the economy so far, which is congruent with the sustained downward trajectory of the low-frequency component of headline inflation. In this sense, the effect of the recent shocks on inflation is expected to be transitory.

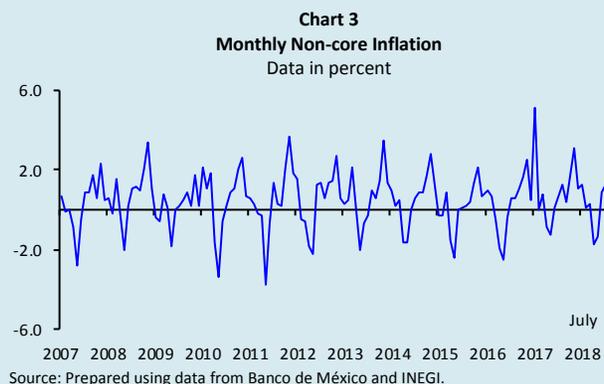
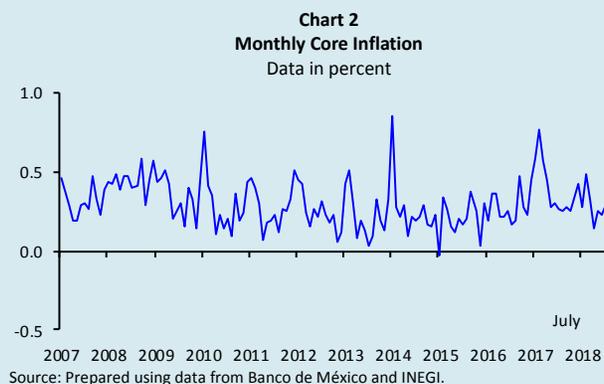
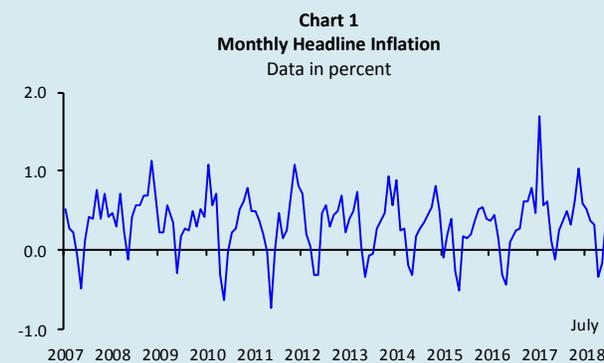
In addition, it is shown that despite the heterogeneous movements in the short-term and medium-term frequencies for headline and core inflation, their long-term components present a downward tendency that is approaching the inflation target expressed in monthly terms.

Another relevant finding of this analysis is that, although the long-term component of non-core inflation has also been decreasing, for a long while it has had levels systematically above the inflation target.

2. Inflation Evolution and its Decomposition using Wavelets

Charts 1, 2, and 3 present the monthly evolution of headline, core and non-core inflation between January 2007 and July 2018. As it can be appreciated in these charts, headline and non-core inflations are more volatile and have a more marked seasonal character as compared to core inflation. In addition, the effects of different shocks on these variables can be observed, for example, those of fiscal adjustments in January 2010 and 2014, and the one related to the liberalization of gasoline and LP gas prices in January 2017.

In this context, and in order to more accurately analyze the effects of the different shock Mexico has been exposed to, the wavelets methodology is used, which grants a more detailed vision of the inflation evolution across time and allows to identify fluctuations observed at the different frequencies that integrate it.



Delving in the above, below we detail the procedure to be used to decompose the monthly series of headline, core and non-core inflation at different frequencies. In particular, a wavelet is a function that isolates the performance of a series with respect to time and a specific frequency. Thus, the decomposition of a time series via wavelets can be expressed as follows:

$$x(t) = D_1 + D_2 + \dots + D_j + S_j$$

where:

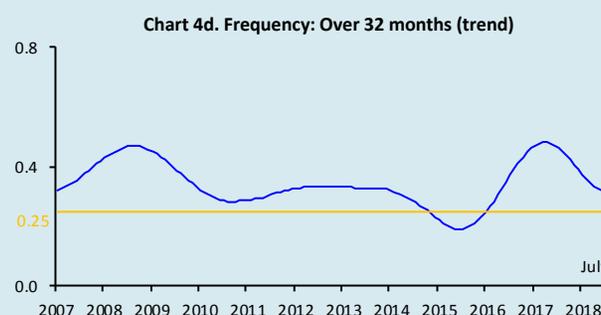
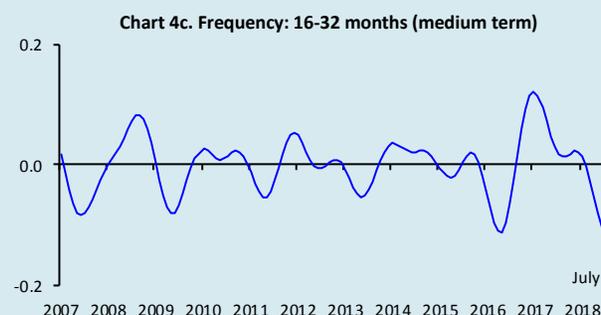
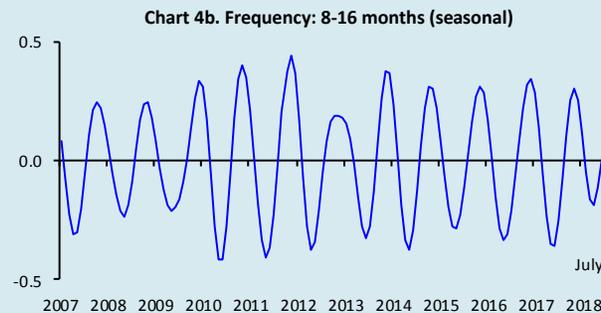
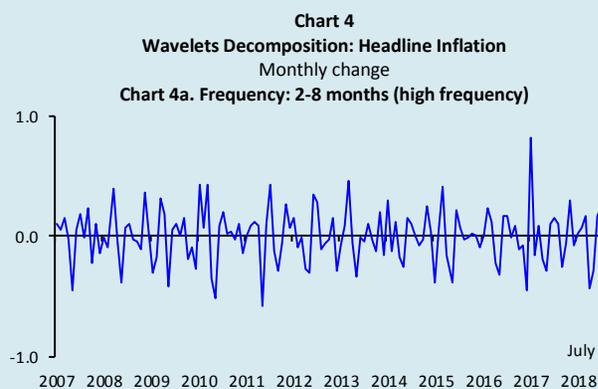
¹ In particular, the wavelet analysis basically consists in describing a time series using deterministic functions. By definition, these functions take a shape of wavelets.

- ✓ D_j represents the j th decomposition associated to the j th frequency of the $x(t)$ series.²
- ✓ S_j represents the decomposition associated to the trend of the $x(t)$ series.³

Based on this methodology, the decomposition of headline, core and non-core monthly inflation will be analyzed, considering a sample formed by monthly observations between January 2007 and July 2018.

Given the type of decomposition used in this analysis, it is only possible to obtain the frequencies based on 2 (2, 4, 8, 16, 32...)⁴. Frequencies from 2 to 8 months are interpreted as high-frequency fluctuations; frequencies from 8 to 16 months as seasonal variations; those from 16 to 32 months, as medium-term adjustments, and those of over 32 months, as long-term trends.⁵

Chart 4 shows headline inflation fluctuations at different frequencies. In particular, it can be seen that in the last observations the high frequency component and the seasonal component increased, related to the temporary shocks that have affected inflation. In contrast, medium- and low-frequency components have a downward trajectory. It suggests that the recent shocks on inflation were transitory and produced changes in relative prices. However, these shocks do not seem to have generated the second-round effects on the price formation process of the economy, so that both headline and core inflation trends are downwards, moving towards the inflation target.



Source: Prepared using data from Banco de México and INEGI.

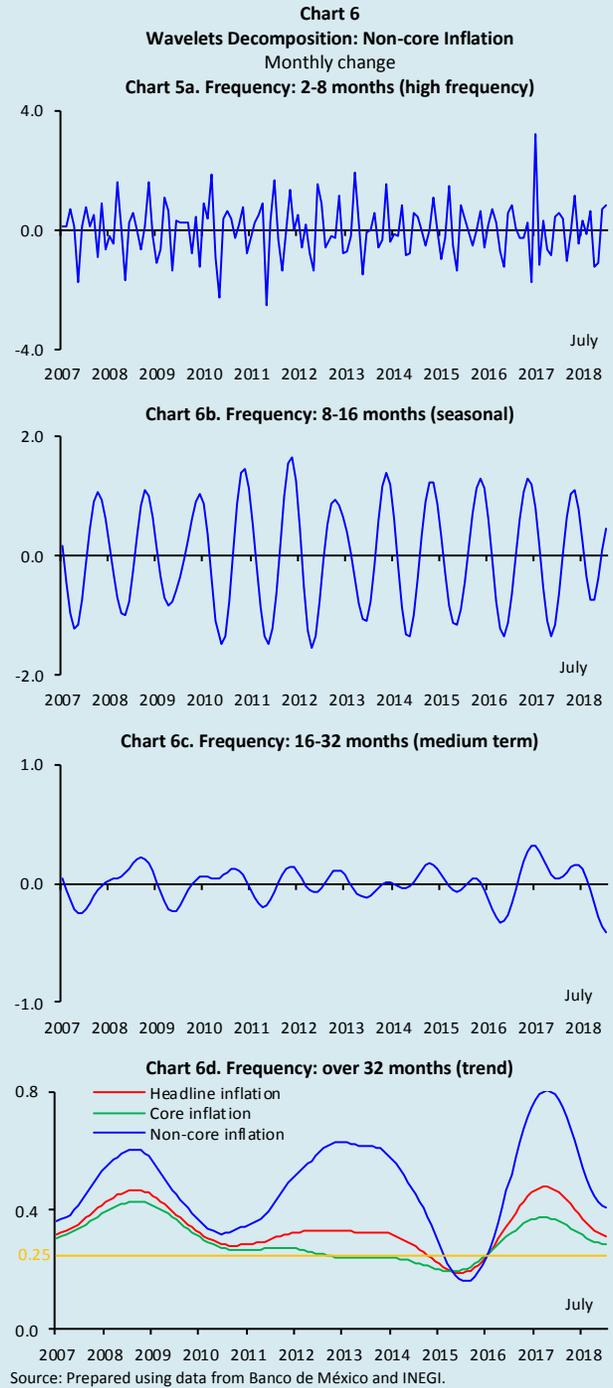
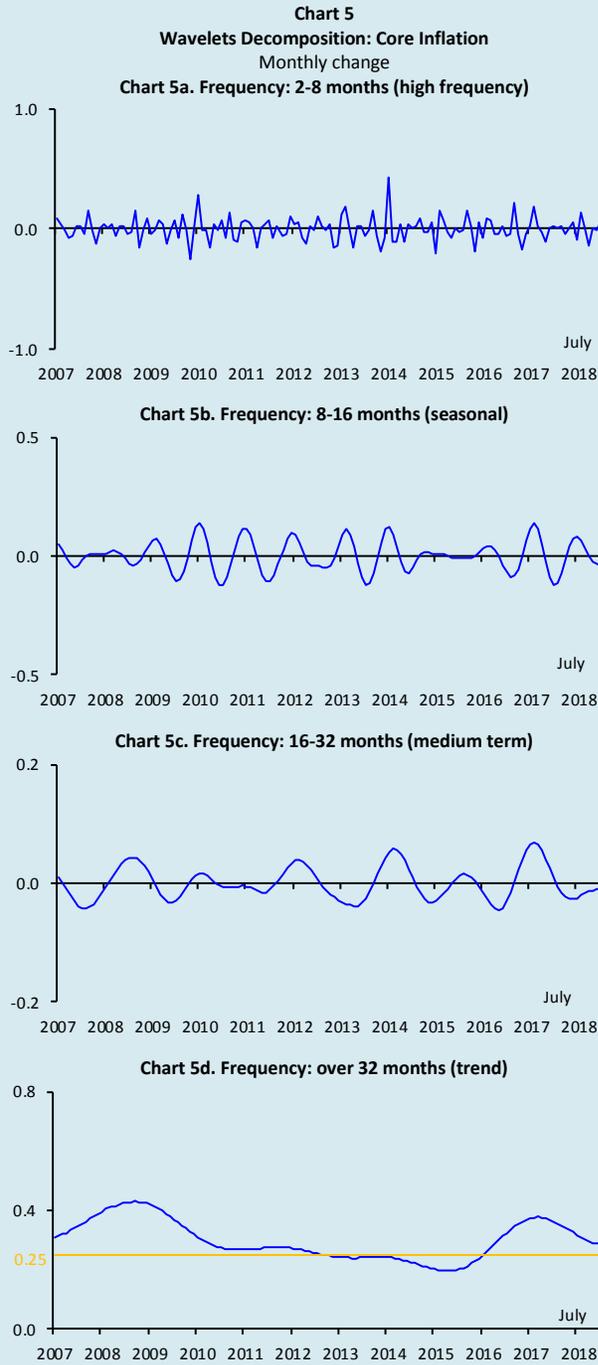
Chart 5 shows the evolution of core inflation at different time frequencies. As it can be appreciated, the high frequency component of core inflation is less volatile than that of headline inflation. In the same vein, the seasonal component of core inflation is less marked as compared to headline inflation. Finally, the medium frequency component lies close to its mean level, while the trend of this indicator is on a downward trajectory and is very close to the inflation target expressed in monthly terms.

² These decompositions represent deviations from trend, associated to short-term movements.

³ It is characteristic of long-term movements or movements with a greater time scale.

⁴ For the frequency from 2 to 8 months, frequencies from 2 to 4 months and from 4 to 8 months were added.

⁵ This Box uses Daubechies proposals as the basis functions (the 8th level Daubechies base was used, which is less asymmetrical and allows to identify atypical observations).



Finally, we present the same set of charts for the monthly non-core inflation. Chart 6 shows that it is the high-frequency component that propitiated the recent increase in the monthly headline inflation, mainly due to higher prices of gasoline and LP gas, by the end of the sample. Moreover, although it has also been showing a decrease in recent months, it is notable that the monthly non-core inflation trend is continuously above Banco de México’s inflation target, expressed in monthly terms, unlike that of core inflation.

3. Final Remarks

The presented analysis suggests that the recent increases in headline inflation are mainly associated to its component of high frequency, which would be related to transitory shocks of the economy. On the other hand, low frequency components that represent a trend measurement showed a downward trajectory since early 2017 so far. This suggests that the recent shocks on inflation generated changes in relative prices, the effects of which have been fading over time without generating second-round effects on the price formation process of the economy.

In line with that, the wavelets analysis points to a downward trend both of headline and core inflation that is approaching the inflation target. However, it should be noted that the high level of the monthly non-core inflation trend revealed in this analysis, could represent certain difficulty to the full attainment of Banco de México's inflation target.

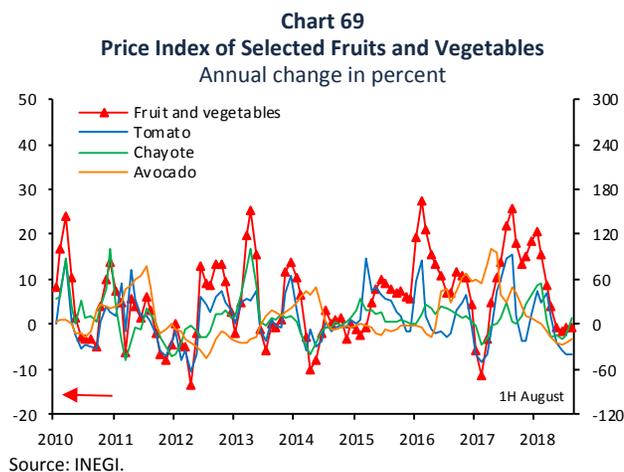
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3.1.2. Non-core Inflation

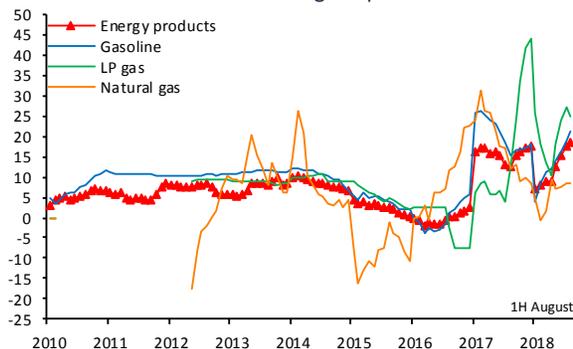
After a decrease at the beginning of the year, largely due to the high base of comparison effect and a favorable trajectory in the inflation of agricultural products, the declining trend of annual non-core inflation was limited by the evolution of the growth of energy prices, the magnitude of which has maintained non-core inflation at high levels, and, in fact, has led to its higher annual growth rate since June. Thus, in the first quarter of 2018, average annual non-core inflation was 8.32% and in the second quarter it lied at 7.28%, while in the first half of August it rose again to 8.48%. As a result, the contribution of non-core inflation to headline inflation has increased recently (Chart 68).

i. The annual change of the subindex of agricultural product prices had a downward trend throughout the year, which accentuated in recent months. This occurred despite the tariffs imposed by Mexico onto the imports of certain U.S. agricultural products, based on which in June and July they were estimated to have generated a 4-basis-points upward impact on annual headline inflation. Thus, between the first and the second quarters, the average annual change of this indicator subsided from 9.39 to 3.40%, and registered 0.87% in the first half of August. In this regard, reductions in the annual price changes of fruit and vegetables have been notable, as they shifted from an average of 14.93% to 0.57% between the first and the second quarters, and marked -0.83% in the first half of August, with especially notable price reductions in tomato and avocado (Chart 69).



ii. The average annual change of the price subindex of energy products and government authorized prices increased between the first and the second quarters from 7.70 to 9.71%, and marked 13.51% in the first half of August. The greater part of these increments are due to increases in energy prices. The latter price subindex shifted from an average annual change of 8.00% in the first quarter to 12.18% in the second one, and to 18.71% in the first half of August. In this respect, gasoline and LP gas increases have been significant. To further put into perspective the magnitude of energy price increases that are currently affecting the inflation evolution, it should be noted that in January 2017, when gasoline and LP gas prices were liberalized, the annual change attained by the energy price subindex was 16.31%, a figure lower than the one, that, as mentioned above, was reached by this subindex in the first half of August (Chart 70). In particular, over the last months, greater contributions of the increases in gasoline and LP gas prices to the annual energy price subindex are noteworthy (Chart 71). Thus, the contribution of this subindex to annual headline inflation of 4.81% in the first half of August 2018 was 1.79 percentage points, while this contribution to inflation of 4.72% observed in January was 1.59 percentage points.

Chart 70
Price Indices of Selected Energy Products
Annual change in percent



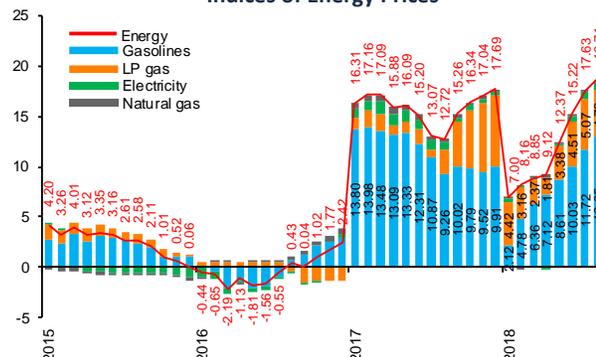
Source: INEGI.

Delving in the above:

- Between the first and the second quarters of 2018, the average annual change of gasoline prices shifted from 7.78% to 14.17%, and further to 21.30% in the first half of August. These data reflect the evolution of this fuel’s international references, the exchange rate and the policy of smoothing the prices implemented by the Federal Government. Although the international references increased during 2018 and the exchange rate depreciated in the second quarter, the referred smoothing policy delayed the increases in the domestic prices.
- The average annual change of the LP gas price shifted from 19.15% in the first quarter to 17.45% in the second one. The international reference of this fuel increased significantly in the reference quarter, which, in addition to weakening the Mexican peso in this period, and the lack of competition in some regional markets, accounts for increases in the domestic prices. In the first half of August, the annual price change of this fuel was 25.06%.
- The average annual changes of the natural gas price in the first and the second quarters of 2018 were 1.80 and 8.00%, respectively. In the first half of August, the annual change of this fuel’s price was 8.54%. The natural gas prices are determined in accordance with its international reference.
- Ordinary electricity tariffs decreased by 2% in early 2016 and since then they have remained unchanged. High consumption domestic tariffs (DAC) have had adjustments that reflect the input

costs required to generate electric power. In April, May and June, their monthly changes were -4.2, -0.1 and 5.3%, respectively. In July and August, price changes of 2.3 and 0.7% were registered, respectively.

Chart 71
Indices of Energy Prices



1/ In some cases, the sum of respective components can exhibit some discrepancies due to rounding.

Source: Own estimate with data from INEGI.

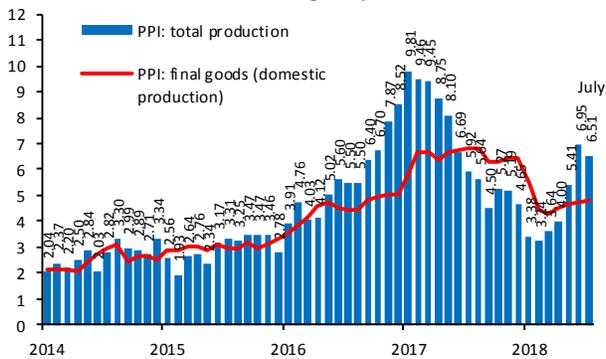
Finally, it should be noted that the National Institute for Statistics and Geography (INEGI), in charge of estimating and disseminating the CPI, realized the change of this indicator’s base year starting from the first half of August 2018, taking as a base period the second half of July 2018. In addition to the change of the CPI reference period to determine the spending patterns, INEGI carried out a number of methodological improvements, among which are: the update of the basket and the inclusion of populations in rural areas to determine the weights, the inclusion of more cities to the CPI and a new statistical sample design. A more detailed description of the above can be found in Box 4.

3.2. Producer Price Index

The average annual change of the Producer Price Index (PPI) of total production was 3.42% in the first quarter of 2018, increased to 5.45% in the second one and marked 6.51% in July. Within this indicator, the average annual growth rate of the component of finished merchandise and services increased from 3.24 to 4.97% between the said quarters, and attained 5.75% in July. The average annual growth rate of the subindex of merchandise and services for exports rose from 0.27 to 5.37% between the first and the second quarters and reached 6.88% in July. Meanwhile, the subindex of intermediate goods and services exhibited an increase in its average annual

change rate from 3.84 to 6.55% in the mentioned quarters, and marked 8.25% in July. It should be mentioned that the subindex of finished goods' producer prices for domestic consumption has the most predictive power on the evolution of prices of the merchandise destined to consumers, included in the core subindex. The average annual growth rates of this subindex in particular reduced in the referred quarters from 4.71 to 4.64%, and in July marked 4.83% (Chart 72).

Chart 72
Producer Price Index ^{1/}
 Annual change in percent



1/ Total Producer Price Index, excluding oil.

Box 4. Main Elements of CPI Base Change

1. Introduction

The Consumer Price Index (CPI) is an indicator specifically designed to measure the average price change across time, using a weighted basket of goods and services that is representative of consumption of Mexico's households. In particular, the Laspeyres index is usually used to construct this type of indices, which compares the spending made when acquiring a fixed basket, which allows prices to vary between periods. However, one of the main limiting factors of the prices indices that use this formula is that they do not consider the changes in the consumption patterns, among other factors, given the modification in relative prices, as the weights are fixed for a set time period. Therefore, the price indices with this specification are said to tend to overestimate the change in the price level of the economy.¹ In this sense, to avoid this bias as much as possible, it is recommended to frequently revise the baskets of goods and services, and their weights, in order to reflect the changes in households' consumption patterns.

Therefore, the basic input to construct the CPI is to determine at a point of time a representative basket of households' spending and to assign the weights that represent the importance of each component of the said basket in the household's spending. It should be noted that if households' spending patterns did not change, the basket and the weights defined at a set point of time could be used indefinitely. However, it is a fact that both the basket of goods and services consumed by individuals and the relative importance of each of them change frequently in response to a number of factors, such as relative price adjustments, the introduction of new products, the emergence of new points of sale, and changes in income, among others. Due to this dynamics that is inherent to the economy, it is important to carry out updates both of the basket and the weights, for this indicator to reflect as closely as possible the changes in the prices of goods and services that households spend on.

Starting from July 15, 2011, INEGI has been in charge of preparing and disseminating the CPI, as stipulated in the Law of the National System of Information on Statistics and Geography (LSNIEG). In the first half of April 2013, INEGI updated the weights, and kept unchanged the rest of methodological characteristics of the indicator, including the base period in the second half of December 2010. More recently, a Change of the Base Year (CBY) has been determined starting from the first half of August 2018, taking as a base period the second half of July. This process, in addition to changing the reference period of the index to the second half of July, considered the update of the basket and the weights, the inclusion of more cities to the CPI, along with a new statistical sampling design, with a purpose of strengthening the representativeness of the indicator.

2. Changes in the CPI Base Year

Modern economies are characterized by the dynamism of prices and of incomes, as well as by the constant emergence of new goods and forms of marketing. In this environment, as mentioned above, to ensure that the CPI reflects the evolution of relevant prices for a representative household, it is necessary to realize the CBY from time to time. Since its introduction in 1969, CPI has been subject to six changes of the base year. Throughout time, both the cities considered in the CPI and the number of quoted goods and services have increased (Table 1).

Table 1
CPI Evolution

Base period	Cities	Number of specifications quoted at the beginning of the use of the base	Sources for weights ^{1/}
1968	7	5,100	EIGF (1963)
1978	16	7,100	EIGF (1963)
1980	35	9,700	ENIGH (1977)
1994	46	43,400	ENIGH (1989)
2H June 2002	46	58,200	ENIGH (2000)
2H December 2010	46	83,500	ENIGH (2008)
2H July 2018	55	120,454	ENGASTO (2012 y 2013), ENIGH (2014)

^{1/} GH refers to the Survey of Households' Expenditure; ENIGH, to National Survey of Household Income and Expenditure; and ENGASTO, to the National Survey of Household Expenditure.

Source: Banco de México and INEGI.

3. Change to the 2018 Base Year

The recent CBY conducted by INEGI has four main elements:

- The update of the basket of goods and services consumed by households.*** The goods and services considered in the new basket were chosen in accordance with the concepts of spending reported in the National Survey of Household Expenditure (ENGASTO) in 2012 and 2013, as well as in the National Survey of Household Income and Expenditure (ENIGH) in 2014. The ENGASTO consider households' consumption patterns during the whole calendar year, in order to prevent the seasonal bias, which is assumed to be observed in the ENIGH surveys. The new basket includes 299 generic items, as compared to 283 in the previous one. Out of these generic items, 265 remained the same and amount to a weight of approximately 96% of the new basket. In addition, 10 new generic items were incorporated, 2 disappeared, 9 were disaggregated into 19 and 7 were fused into 5. These modifications to the basket of goods and services of the CPI are displayed in Table 2.

¹ Review Boskin Commission Report that analyzes this bias for the case of the U.S.

Table 2
Comparison of Generic Items for the Previous Basket
and the Basket with the CBY

Previous basket		Basket CBY	
Number of generic items	Situation	Number of generic items	Weight (%)
265	Same	265	95.9
-	New	10	0.5
2	Are excluded	-	-
9	Are disaggregated i	19	2.4
7	Are fused in	5	1.2
283	Total	299	100.0

Source: INEGI.

- I. **The update of the weights, which are the weight or the share of each good or service in the index of products.** The weights refer to the relative importance in households' spending on goods and services that are part of the CPI basket. As pointed out above, for the CBY the weights were calculated based on the information from 2012 and 2013 ENGASTO, and 2014 ENIGH. It should be noted that this update included the effect of the spending of households that live in towns with population under 15 thousand inhabitants in the definition of these weights. In the previous CPI, the weights corresponded to the spending patterns of the population located only in towns with 15 thousand inhabitants or more. The new weights combined with the previous ones are presented in Table 3. Thus, the differences among them are accounted for both by changes in consumption patterns and the introduction of towns with a population of under 15 thousand inhabitants.

Table 3
Comparison of Weights for the Previous CPI and CBY
 Data in percent

Index	Previous CPI	CBY ^{1/}	Difference
	(A)	(B)	B - A
Index	100.00	100.00	0.00
Core	77.44	75.55	-1.89
Merchandise	34.38	39.21	4.83
Food, beverages, and tobacco	14.71	20.06	5.35
Non-food merchandise	19.67	19.15	-0.52
Services	43.06	36.34	-6.72
Housing	19.50	15.51	-3.99
Education	5.11	3.61	-1.50
Other services	18.45	17.22	-1.23
Non-core	22.56	24.45	1.89
Agriculture	8.43	10.22	1.79
Fruit and vegetables	3.56	4.58	1.02
Livestock	4.87	5.64	0.77
Energy and government authorized prices	14.13	14.23	0.10
Energy	8.78	9.97	1.19
Government authorized prices	5.35	4.26	-1.09

1/ The CBY weights were obtained from ENGASTO 2012 and 2013, and ENIGH 2014.
 Source: INEGI.

- II. **The expansion of the sample of localities that are considered to recollect prices.** In the CPI estimate following the CBY, 9 cities were added, so that the sample of localities where the CPI prices are recollected shifted from 46 to 55. The new cities have different population sizes. So, two of them are large (L), four are medium-size (M), and the remaining three are small (S). The cities that compose it are: Atlacomulco, Estado de México (S); Cancún, Quintana Roo (L); Coatzacoalcos, Veracruz (M); Esperanza, Sonora (S); Izúcar de Matamoros, Puebla (S); Pachuca, Hidalgo (M);

Saltillo, Coahuila (L); Tuxtla Gutiérrez, Chiapas (M); and, Zacatecas, Zacatecas (M). In particular, after this CBY the weight of the three largest metropolitan areas in the country decreased in relative terms: Mexico City Metropolitan Area, Guadalajara and Monterrey.

- III. **A new statistical design.** The sampling of the points of sale of 248 generic items considered in the new CPI basket was probabilistic, in contrast to the directed sample of the previous CPI. The sampling framework of these points of sale comes from the results of the 2014 Economic Census and Mexico's Statistical Business Register (RENEM) and includes businesses that are in the 55 localities incorporated in the new CPI. The remaining 51 generic items that do not have a probabilistic sample maintained a directed sampling at points of sale.

4. Final Remarks

This Box presented the main points to be considered in the new calculation base and the CPI presentation. To ensure the representativeness of this indicator, INEGI decided to do a CBY of the CPI starting from the first half of August 2018, taking the second half of July as the base period. The changes tend to the current situation of Mexico in terms of geographic coverage, points of sale and consumption patterns. Finally, having an updated indicator of the price change that is representative of Mexican households' consumption patterns, such as the one recently published by INEGI, is essential to adequately determine the monetary policy.

4. Monetary Policy and Inflation Determinants

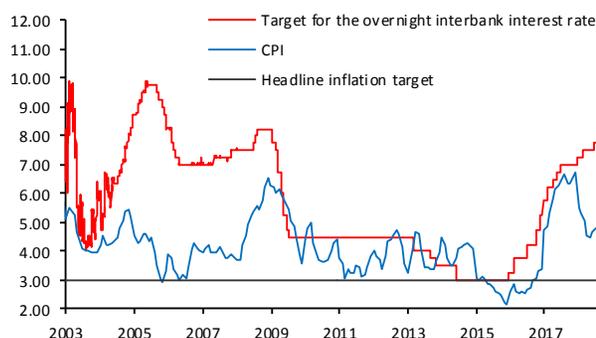
To make decisions on monetary policy conduction, Banco de México's Governing Board closely followed the evolution of inflation vis-à-vis its anticipated trajectory, considering the horizon at which the monetary policy operates, as well as the available information concerning all inflation determinants and its medium- and long-term expectations, including the balance of risks to them. Likewise, considering a high degree of uncertainty and risks that could negatively affect inflation, monetary policy is required to act in a timely and decisive manner. These actions favor the inflation convergence to its target and strengthens the anchoring of medium- and long-term inflation expectations.

Thus, given the inflation outlook and the inflation reduction in the first months of 2018, in the meetings of April and May, the Governing Board unanimously decided to maintain the target for the overnight interbank interest rate unchanged at 7.50%, although it was recognized that the non-core inflation remains at high levels. Over the subsequent weeks, some inflation risks mentioned by Banco de México started to materialize. In particular, a more negative environment characterized by a generalized strengthening of the U.S. dollar and a higher risk aversion was observed, which was in part related to the intensified international trade tensions and geopolitical factors. The factors described, along with factors specific for Mexico that have already been mentioned in this Report, generated higher volatility of the Mexican peso and a greater depreciation. In addition, greater-than-anticipated pressures on gasoline and LP gas prices were observed. Consequently, the balance of risks to inflation has deteriorated. In response, the Governing Board decided to increase the target for the overnight interbank interest rate by 25 basis points to a level of 7.75% in its meeting of June. Subsequently, domestic financial markets performed more favorably and the depreciation that the Mexican peso had been observing during the previous months reverted. In the monetary policy meeting of August, the Governing Board stressed that the shocks that have recently affected inflation, particularly energy price

increments, were transitory; that the contraction of economic activity in the second quarter had led to slacker-than-expected cyclical conditions, a situation that was estimated to prevail in the future –which implied lower demand-related pressures on inflation–; that medium- and long-term inflation expectations remained stable; and that, considering the above factors, the expected trend of core inflation will remain downward. In this environment, the Board decided to maintain the target for the overnight interbank interest rate at 7.75% (Chart 73).

As a result of these actions, and considering the evolution of 12-month inflation expectations, the short-term interest rate has increased to a real ex-ante level close to 4.0% (Chart 74). In this respect, it should be noted that the estimate range for the short-term neutral rate in real terms is between 1.7 and 3.2%, with a median at 2.5%.¹⁶

Chart 73
Target for the Overnight Interbank Interest Rate and Headline Inflation^{1/}
Annual percent



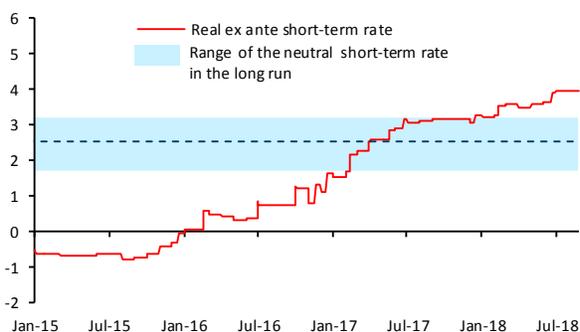
1/ The overnight interbank interest rate is shown until January 20, 2008. The latest inflation figure corresponds to June.

Source: Banco de México and INEGI.

¹⁶ For a description of the estimation of the short-term neutral interest rate, see Box "Considerations on the Evolution of the Neutral Interest Rate in Mexico", in the Quarterly Report July – September 2016.

Starting from the Quarterly Report January – March 2018, the estimation was updated to include data up to December 2017.

Chart 74
Short-term Real Ex-ante Rate and Estimated Range for the Short-term Neutral Real Rate in the Long Term ^{1/}
 Annual percent



^{1/} The short-term ex ante real rate is calculated as the difference between the target for the overnight interbank interest rate and the mean of inflation expectations for the next 12 months, derived from Banco de México's Survey. The dotted line corresponds to the mid-point of the range.

Source: Banco de México.

As regards the evolution of inflation vis-à-vis its expectations, as mentioned, annual headline inflation decreased over the first five months of 2018, while non-core inflation remains at high levels.

Subsequently, as mentioned above, the materialization of some inflation risks in June and the first half of July caused the balance of risks to deteriorate in June and to maintain an upward bias in August, which affected its non-core component. This, contrasted with the outlook for the core inflation component, which is expected to continue on a declining trend. Thus, derived from the change in relative prices propitiated by the events described above, the expected headline inflation trajectory increased, as detailed below, although the effect of these changes on inflation is expected to be transitory. This, considering that the impact of this change in relative prices on the annual measurement of inflation, estimated via its arithmetic effect, will disappear upon a conclusion of a 12-month period.

Box 5. Inflation-Targeting Regime Based on Forecasts

1. Introduction

The Inflation-Targeting Regime, officially adopted by Banco de México in 2001, is a framework to conduct monetary policy that is characterized by recognizing the price stability as the fundamental goal of the central bank, the announcement of the explicit inflation target, a high level of transparency and clear communication with the public, as well as having the accountability mechanisms.

Although it has been extensively adopted by a number of central banks, the literature recognizes that the Inflation-Targeting Regime comprises important challenges regarding its evaluation and monitoring. This is largely due to the fact that monetary policy affects inflation with a lag via different transmission channels, and that inflation is continuously subject to shocks. In this context, the publication of inflation forecasts facilitates the evaluation of a central bank's performance that conducts the monetary policy to attain the inflation target in a certain time frame. In particular, analysts, market participants and the general public are in better conditions to follow up and to assess the monetary policy. In this way, it has been argued in the literature that using a central bank's inflation forecast as an "intermediate target" of the monetary policy can contribute to improve the inflation-targeting regime.

The Quarterly Report October-December 2017 stressed the importance of the role of inflation forecasts in Banco de México's conduct of monetary policy, which is a distinctive feature of the Inflation Forecast Targeting (IFT). According to the literature and in conformity with the best practices, the release of inflation forecasts is a key element of the central banks' communication strategy, since these forecasts are an explicit reference of the expected effects of the monetary policy conduct, and in addition they facilitate its assessment by the public. Furthermore, their publication and detailed explanation can improve the comprehension of the manner in which the central bank makes monetary policy decisions, which reinforces its accountability and its efficiency. Based on the above, this Box describes the main elements of the monetary policy conduct under IFT, as well as a number of relevant characteristics of its use in the international practice.

2. IFT: Definition and Main Elements

The IFT scheme is defined as a scheme in which the central banks decides the monetary policy stance so that inflation forecasts based on this stance are congruent with fulfilling its mandate, considering the horizon at which monetary policy operates.¹ This implies that the forecast of future inflation

evolution fulfills a certain criterion, mainly regarding the horizon at which monetary authority considers that inflation will have to reach its target.² In this context, the monetary authority's inflation forecasts can be interpreted as an "intermediate target", that is, as a target that is not a goal in itself, but rather that when taking steps for inflation to reach the forecast level one acts seeking to reach the central bank's target.³ In particular, the central bank's inflation forecast is an adequate intermediate target, among other factors, due to the following: i) it is highly correlated to future inflation; ii) there is a greater degree of control over it as compared to control over inflation that will be observed in the future; and iii) its release makes it highly visible to the public.⁴ Thus, it has been acknowledged in the literature that for this framework to function correctly the following is required: the release of the above mentioned inflation forecasts, a broad discussion and explanation of the reasoning behind them and their possible deviations.⁵

The main elements of the IFT are:

a) A criterion: The monetary authority's forecast of the future evolution of inflation must fulfill a set criterion, which includes a specific time horizon to reach the inflation target. This horizon is determined based on the characteristics of the economy (for example, the time during which the monetary policy transmission channels fully operate), the initial state of the economy, the characteristics of shocks on inflation, and other considerations of monetary authority. In sum, although a central bank can establish that inflation would have to attain its target in the medium term, it does not necessarily mean that the horizon in which the monetary authority considers that inflation will converge to its target is fixed. The specific horizon depends on such factors as the nature, the magnitude and the persistence of shocks that are affecting the inflation evolution at a given moment.⁶

b) Structural Forecasts: The forecasts used by the central bank should be based on one or a number of models that consider all relevant available information. In particular, they consider the fundamental inflation determinants, the current state of the economy, the transmission mechanisms of the monetary policy, as well as the impact and the spreading of different shocks in the economy. These forecasts are based on the results of the models, but they also incorporate the opinion of the Monetary Policy Committee members, as well as the opinions of those that prepare them regarding the elements that may affect inflation.⁷ In the same vein, during the preparation of these forecasts the interaction between inflation and the monetary policy is considered, so that a

¹ See Svensson (2017).

² See Svensson (1997, 1999) and Woodford (2007).

³ The idea that the inflation target implies that the inflation forecast becomes an intermediate target was introduced by King (1994), while the term IFT was introduced by Svensson (1997).

⁴ See Svensson (1997).

⁵ See Svensson (2017) and Woodford (2007).

⁶ See Clinton et al. (2017).

⁷ See Svensson (2005).

monetary policy stance is established endogenously, which allows the inflation forecast to comply with the criterion established by the central bank.

c) Transparency and Communication Strategy: the IFT requires a high degree of transparency and a central bank's communication strategy that would include, along with the publication of inflation forecasts, its explanation and detailed justification. This facilitates, first of all, the comprehension of the response strategy (the reaction function) of the central bank, making its actions more predictable. Secondly, it contributes to greater credibility of the central bank, and, consequently, to the more efficient conduct of monetary policy. Thirdly, it is an accountability tool, as it facilitates the monitoring and evaluation of the monetary policy actions.

In sum, it has been recognized in the literature that the publication of inflation forecasts by the central bank strengthens the transmission mechanism of the monetary policy in two ways: i) by increasing the public's confidence that the central bank's actions aim at attaining the inflation target, it contributes to align the economic agents' inflation expectations to the inflation target; and ii) by influencing the expectations of both inflation and the monetary policy stance in the future, it allows the monetary policy transmission channels to operate more efficiently.⁸

3. Inflation Forecasts and Monetary Policy Decision

Considering the above, the manner in which based on the IFT the central bank uses the inflation forecasts during the monetary policy decision-making process can be summarized in the following steps:⁹

- a) Based on a monetary policy stance (for example, the one used for the previous immediate decision), a new inflation forecast is prepared, considering all new available information.
- b) If the new inflation forecast complies with the criterion set by the central bank for the inflation convergence to its target, then the monetary policy stance remains unchanged.
- c) If the new inflation forecast does not comply with the referred criterion, then, considering the expected nature, magnitude and persistence of new shocks on inflation, the central bank assesses the corresponding differences, along with the specific horizon in which inflation could attain its target. In particular, it assess the monetary policy stance that would be required to achieve the target under new conditions.
- d) Finally, the new inflation forecast is released, including the reasons behind the changes in the forecasts, the change in the

date at which inflation is estimated to lie at its target and the manner in which the monetary policy would contribute to that.

4. International Evidence

In practice, only a few central banks are explicitly considered in the literature under the most extreme version of the IFT (New Zealand, Canada, Sweden, Norway, Chile, Israel and the Czech Republic, among others). However, there are a few countries that have the elements that characterize this framework.¹⁰ In particular, out of the sample of 28 central banks both in advanced and emerging economies, that follow the inflation targeting regime, all prepare inflation forecasts that are considered in their monetary policy decisions, and that, in addition, are presented to the public on a regular basis, mainly, in their monetary policy reports.¹¹

Another relevant aspect is the horizon in which the central banks forecast inflation to converge to its respective target. In this sense, most central banks, both in advanced and emerging economies, consider that their monetary policy actions are such that the inflation forecasts will converge to the target, in a horizon under three years. It should be noted that, as mentioned above, the convergence of inflation to its target can be subject to a number of factors, some of which are other monetary authority' considerations, the functioning of the transmission mechanisms of the monetary policy and the properties of the shocks on the economy.

The literature suggests that another key element of the IFT scheme is that the monetary policy stance is endogenous to the used forecast models and that it meets the inflation target in the corresponding horizon. In this sense, 39% of the analyzed central banks use an assumption of an endogenous monetary policy rate, out of which 3 are the central banks in the advanced economies, and 8, in the emerging ones. However, some central banks consider other assumptions. In particular, it is noteworthy that for advanced economies, 30% report an assumption of a constant rate and the same share assumes a monetary policy stance in accordance with the market expectations, while two central banks use the evaluation of each member of the Committee. On the other hand, for emerging economies, 17% consider an assumption of a constant rate and 6% assumes a monetary policy stance in accordance with the market and/or analysts' expectations.¹²

5. Final Remarks

Banco de México has been making progress in its communication strategy, considering the elements that may contribute for this central institute to be in conditions to fulfill

⁸ See Clinton et al. (2015).

⁹ See Svensson (2017). Once again, the explanation corresponds to a central bank, whose mandate is price stability.

¹⁰ See Clinton et al. (2015).

¹¹ Advanced economies: Australia, Eurozone, Canada, the United States, Japan, Norway, New Zealand, the United Kingdom, Sweden and Switzerland. Emerging

economies: Brazil, Chile, Colombia, Korea, the Philippines, Hungary, India, Indonesia, Israel, Malaysia, Mexico, Peru, Poland, the Czech Republic, Russia, South Africa, Thailand and Turkey.

¹² Percentages do not necessarily add up to 100, as some central banks release their forecasts based on more than one estimate of the monetary policy rate.

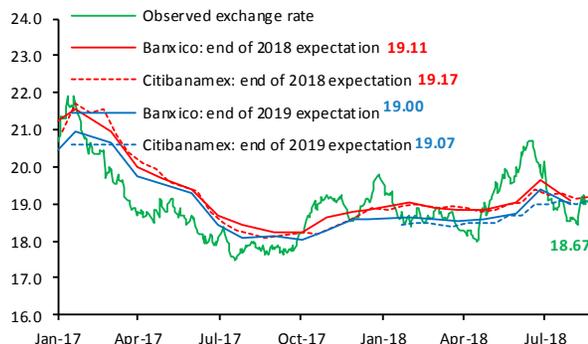
its constitutional mandate, within the inflation targeting regime that was adopted in 2001. One description of this process can be found in the Box “Improvements in the Communication Strategy, Transparency and Accountability of Banco de México” published in the Quarterly Report January – March 2018. As regards the role of inflation forecasts in the process of monetary policy decision, the central bank must have a clear and detailed explanation of the reasons behind the possible changes in inflation forecasts. In the same vein, depending on the type of shocks that affect inflation, it should be assessed if modifying the horizon in which inflation is considered to attain its target is required, and, in this case, which would be the congruent monetary policy stance be.

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Regarding inflation determinants, the one referring to the potential pass-through of exchange rate adjustments on prices, from the end of March to the first half of June 2018, the Mexican peso had a spike in its volatility and depreciated 12.6%. Thus, the exchange rate marked MXN/USD 20.72 on June 15, and even reaching an intraday level of MXN/USD 20.96. Some of the external factors that contributed to these results are the generalized strengthening of the U.S. dollar and the presence of risks to the international trade outlook, which affected most emerging economies' currencies. Domestic factors, such as the uncertainty related to NAFTA renegotiations and Mexico's electoral process, also contributed to this outcome. In contrast, from the second half of June to the end of August, the peso appreciated 9.9%. This reflected: i) the effect of Banco de México's monetary policy actions; ii) the perception of an improvement in NAFTA negotiations; and, iii) a lower degree of uncertainty after Mexico's presidential elections. Congruent with this evolution of the Mexican peso, survey-based exchange rate expectations for the end of 2018 and 2019 shifted from MXN/USD 19.62 and 19.38 in June to MXN/USD 19.11 and 19.00 in July, respectively (Charts 75 and 76). Nonetheless, volatility in the Mexican foreign exchange market increased slightly during mid-August, which reflected greater international financial volatility, which, in part, responded to the strong drop of the Turkish lira, principally caused by idiosyncratic factors (see Box 1). It is important to note that if the Mexican economy faces a scenario that requires an adjustment in the real exchange rate, just like on previous occasions, Banco de México will monitor for it to take place in an orderly manner and without generating second-round effects on the price formation process.

Chart 75
Nominal Exchange Rate ^{1/}
MXN/USD



1/ The observed rate is the daily FIX exchange rate. Expectations correspond to the average of the July survey by Banco de México and the Citibanamex survey of August 21, 2018.

Source: Banco de México and Citibanamex.

Chart 76
Implied Volatility in FIX Options
Percent



Source: Bloomberg.

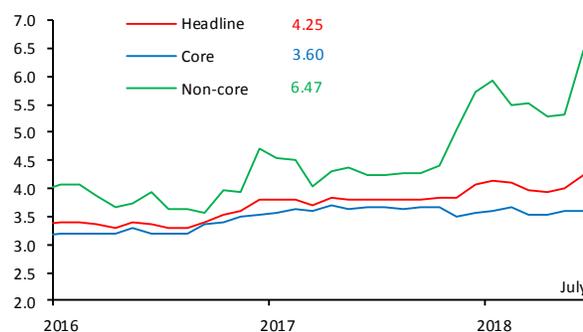
As regards the cyclical position of the economy, after the slack conditions tightened during the first quarter of 2018, the contraction of the economic activity in the second quarter of the year led to a greater-than-anticipated easing in those conditions, although the labor market still displays tightness. Similarly, the forecast for the economic activity over the next quarters suggests that these will even continue to ease.

As regards the monetary policy of Mexico relative to that of the U.S., as mentioned in Section 2.1.4., the Federal Reserve has been acting in line with its forecast that the monetary policy normalization process, including the program of reducing its balance sheet that began in October 2017, will continue in a gradual manner. In this context, as anticipated, the Federal Reserve increased its target range for the federal funds rate by 25 basis points in

June and kept it unchanged in August. Similarly, two additional increases in the federal funds rate are anticipated in the remainder of 2018. The basis scenario, that is being ruled out by analysts and market participants is the one, in which, as mentioned above, the Federal Reserve will be normalizing its monetary policy gradually, despite the persistent possibility of surprises regarding the speed of this process. In particular, in view of greater-than-expected inflationary risks, given an environment of reduced slack in Mexico, there is a risk that monetary conditions could normalize at a rate higher than currently estimated, which would imply repercussions on international financial markets. In this context, Banco de México closely follows the monetary normalization process in the U.S. and the evolution of the relative monetary stance between both countries.

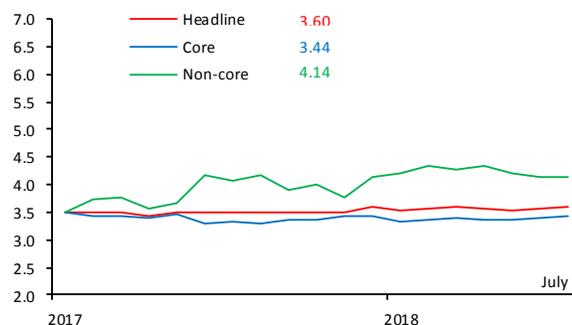
With respect to inflation expectations, during the first months of the second quarter of 2018, the median of inflation expectations corresponding to the end of 2018 decreased. In particular, it adjusted downwards from 4.09% to 3.94% between March and May 2018. However, after some of the risks to inflation started to materialize, for instance, the increases in some energy prices, and after some inflation figures lied above the analysts' expectations, the median for the end of 2018 rose, and registered 4.25% in the survey of July. In contrast, the median for core inflation at the end of 2018 dropped from 3.68% to 3.60% between March and July 2018, while the implicit expectation for the non-core component increased from 5.49 to 6.47% (Chart 77).¹⁷ Meanwhile, regarding headline inflation expectations for longer terms, it should be noted that the mean corresponding to the end of 2019 remained around 3.60%, while that corresponding to core inflation went up from 3.40 to 3.44%, and the one implicit in the non-core component decreased from 4.28 to 4.14% between the referred surveys (Chart 78).¹⁸ Finally, the medians of medium- and long-term inflation expectations remained stable at 3.50%, in the same reference period (Chart 79).¹⁹

Chart 77
Average Headline, Core and Non-core
Inflation Expectations as of End of 2018
Percent



Source: Banco de México's Survey.

Chart 78
Average Headline, Core and Non-core Inflation
Expectations as of End of 2019
Percent



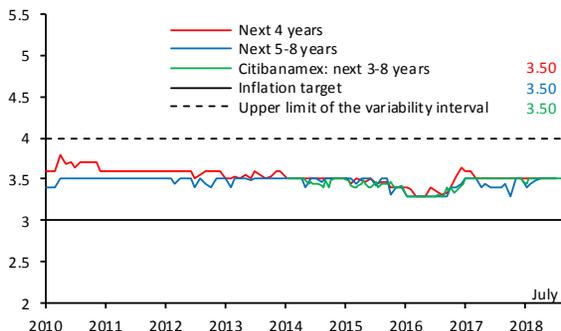
Source: Banco de México's Survey.

¹⁷ The mean of headline inflation expectation for the end of 2018, based on the Citibanamex survey increased from 4.07 to 4.30% between the surveys of March 20, 2018 and August 21, 2018.

¹⁸ The mean of headline inflation expectation for the end of 2019, based on the Citibanamex survey increased from 3.60% to 3.65% between the surveys of March 20, 2018 and August 21, 2018.

¹⁹ Regarding the mean of long-term headline inflation expectations, based on the Citibanamex survey (for the next 3-8 years), it maintained around 3.5% between the surveys of March 20, 2018 and August 21, 2018.

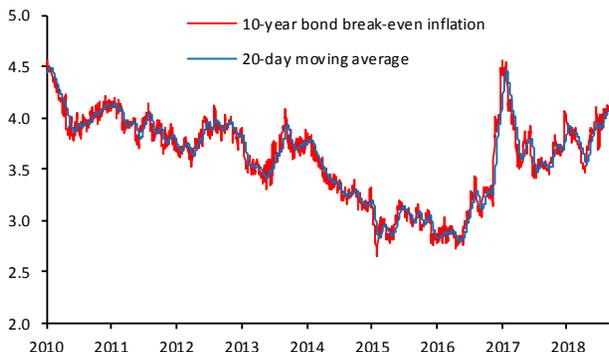
Chart 79
Average Headline Inflation Expectations for Different Terms
Percent



Source: Banco de México's survey and Citibanamex survey.

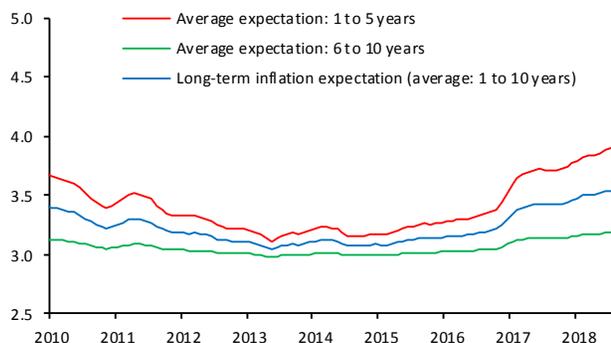
The break-even inflation (the difference between long-term nominal and real interest rates) increased between March and July (Chart 80). Regarding its components that are estimated, long-term expectations (average 1 to 10 years) have remained around 3.5% (Chart 81), while the estimate of inflation risk premium increased between March and July (Chart 82).²⁰

Chart 80
Break-even Inflation and Inflation Risk Implicit in Bonds
Percent



Source: Estimated by Banco de México with data from Valmer and Bloomberg.

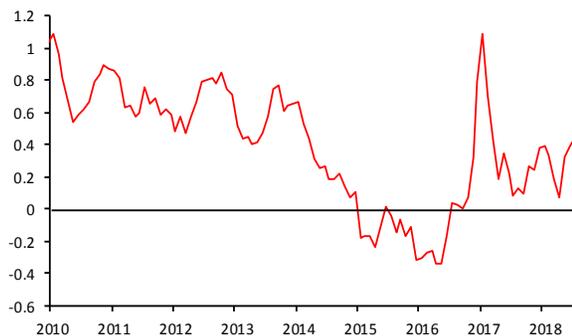
Chart 81
Estimate of Annual Inflation Expectations
Implicit in Market Instruments ^{1/}
Percent



^{1/} The inflation expectation is calculated based on a similar model using data from Bloomberg, PIP and Valmer, based on Aguilar, Elizondo and Roldán (2016).

Source: Estimated by Banco de México with data from Bloomberg, Valmer and PIP.

Chart 82
10-year Inflation Risk Premium ^{1/}
Percent



^{1/} The inflation risk premium is estimated based on an affine model using data from Bloomberg, PIP and Valmer, based on Aguilar, Elizondo and Roldán (2016).

Source: Estimated by Banco de México with data from Bloomberg, Valmer and PIP.

Interest rates in Mexico increased for all terms during the reported period, especially medium-term ones, although these increases have partially reversed starting from mid-June. In this regard, adjustments in short-term interest rates were in line with the raise in the target for the overnight interbank interest rate in June, while increases in longer-term rates were attributed to upward adjustments in external interest rates. In particular, the interest rate for a 3-month horizon went up from 7.7 to 7.9%, while 2-year and 10-year rates increased by 40 basis points, from 7.3 to 7.7% and from 7.4 to 7.8%, respectively, from end-

²⁰ For a description of the estimation of long-term inflation expectations, see Box "Decomposition of the Break-even Inflation" in the Quarterly Report October-December 2013. Starting from the Quarterly Report

October–December 2017, the estimation includes data up to November 2017.

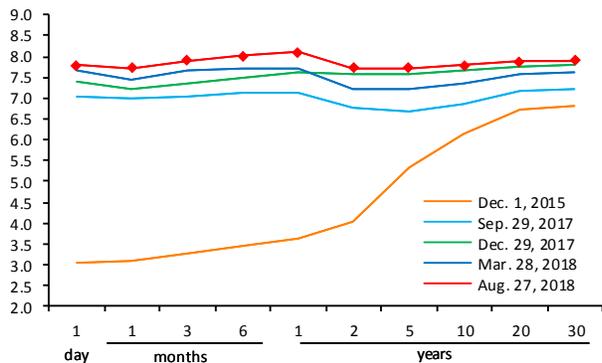
March to end-August (Chart 83 and Chart 84). Hence, the yield curve remained relatively flat while its slope (defined as the difference between the 10-year and 3-month interest rates) continued relatively stable (Chart 85). In this respect, it should be noted that medium- and long-term interest rates have remained stable, in part as a result of the monetary policy actions implemented by Banco de México, keeping inflation expectations anchored and limiting possible increases in the term premia incorporated in long-term rates. Similarly, it is noteworthy that the slope of the yield curve prevailing in Mexico contrasts with those observed in other emerging economies, which presented higher levels (Chart 86).

Chart 83
Government Bond Interest Rates in Mexico
Percent



Source: Proveedor Integral de Precios (PiP).

Chart 84
Yield Curve in Mexico
Percent



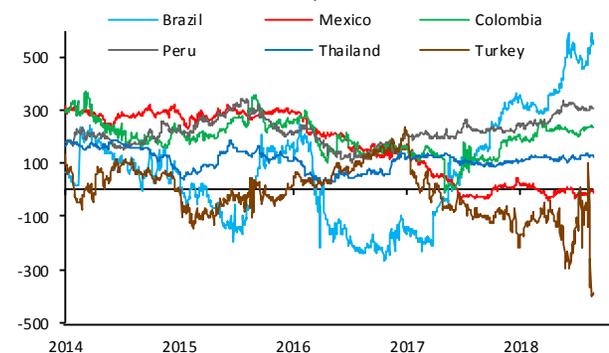
Source: Proveedor Integral de Precios (PiP).

Chart 85
Slope of the Yield Curve
(10 years-3 months)
Basis points



Source: Proveedor Integral de Precios (PiP).

Chart 86
Slope of the Yield Curve in Different Countries
(10 years-3 months)
Basis points

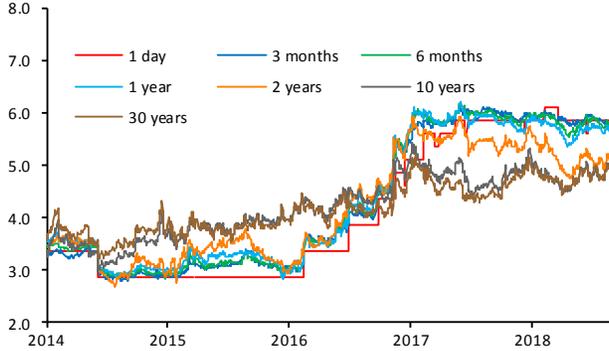


Source: Bloomberg.

In line with the above described developments, and given increases of a lower magnitude in medium- and long-term interest rates in the U.S. (2 years and longer), spreads between Mexican and U.S. interest spreads for these terms increased during the period analyzed in this Report. Thus, the spreads of 3-month interest rates remained practically unchanged at 580 basis points, while the spreads of 2-year and 10-year interest rates increased by 10 and 40 basis points and marked levels of 510 and 500 basis points respectively at the end of August (Charts 87 and 88). In this regard, it stands out that shorter-term interest rate spreads remain high, at levels registered in late 2008, while those corresponding to longer terms have remained stable in recent years. It is noteworthy that the implemented monetary policy actions have contributed to increasing short-term interest rate spreads between the two countries, and have prevented long-term ones from expanding further, although the latter persist at relatively high levels (Chart 89). This has allowed the Mexican economy to

have better conditions to face a complex external environment, such as the one previously described.

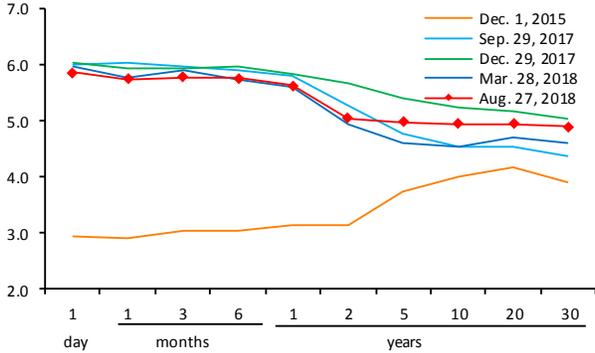
Chart 87
Spreads between Mexican and U.S. Interest Rates ^{1/}
Percent



1/ For the U.S. target rate, the average of the interval considered by the Federal Reserve is considered.

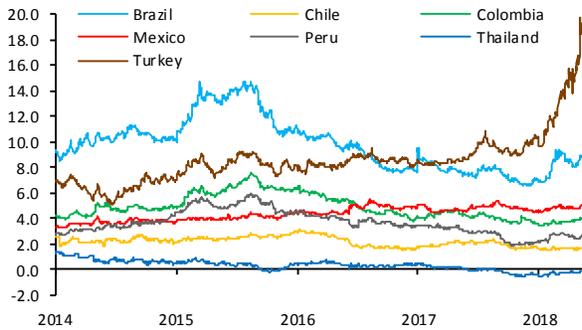
Source: *Proveedor Integral de Precios* (PiP) and U.S. Department of the Treasury.

Chart 88
Curve of Spreads between Mexican and U.S. Interest Rates
Percentage points



Source: *Proveedor Integral de Precios* (PiP) and U.S. Department of the Treasury.

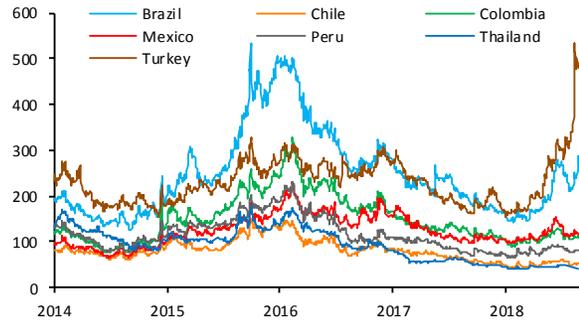
Chart 89
Spreads between U.S. 10-year Interest Rates and those of Other Countries ^{1/}
Percent



1/ The countries' interest rates are expressed in local currencies.
Source: Bloomberg, *Proveedor Integral de Precios* (PiP) and U.S. Department of the Treasury.

Finally, market conditions that measure the domestic sovereign credit risk exhibited higher volatility and a significant increase until mid-June, which reversed by the beginning of August (Chart 90). Nonetheless, recently, greater international volatility related to the events that have characterized Turkey's financial markets have again contributed to the upward adjustment in the above mentioned indicators.

Chart 90
Market Indicators that Measure the Domestic Sovereign Credit Risk ^{1/}
Basis points



1/ This refers to 5-year Credit Default Swaps.

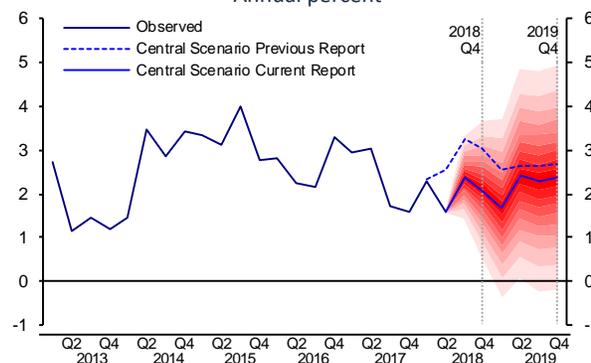
Source: Bloomberg.

5. Forecasts and Balance of Risks

5.1. Forecasts for Economic Activity

GDP growth: The contraction of the Mexican economy during the second quarter of 2018 showed a weakening of economic activity greater than anticipated in the previous Report. Mexico is expected to continue facing a complex environment, characterized by possibly increasing trade tensions worldwide, higher external interest rates and a strong U.S. dollar, as well as scenarios of contagion from other emerging economies, which may lead to a persistent weakness in the different components of private demand and exports.²¹ The recent statements of a preliminary understanding for the modernization of the trade agreement with the U.S. have contributed to the reduction of the uncertainty that the Mexican economy has been facing. Domestically, there is uncertainty related to the change of administration and the challenges the implementation of the public policy agenda may present. In addition, the weakness shown by the oil production platform in recent years is expected to continue. In this context, the GDP growth forecast interval for 2018 has been adjusted from between 2.0 and 3.0% in the previous Report, to between 2.0 and 2.6% in this Report. In turn, the expected growth interval for 2019 has been modified from 2.2 and 3.2% in the previous Report to 1.8 and 2.8% in this one (Charts 91 and 92). These projections consider the prevalence of a solid macroeconomic framework, characterized by sustainable public finances and policies that foster investment and productivity growth.

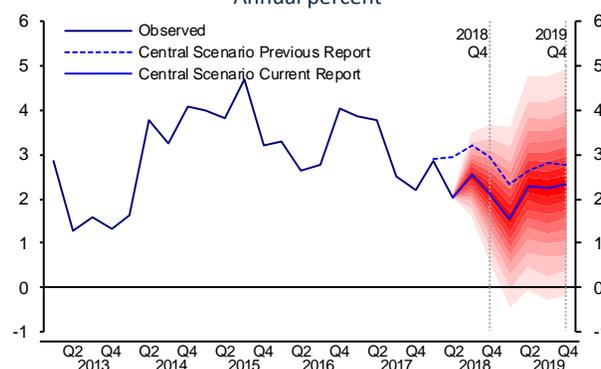
Chart 91
Fan Chart: GDP Growth, s. a.
Annual percent



s. a. / Seasonally adjusted data.

Source: INEGI and Banco de México.

Chart 92
Fan Chart: GDP Growth Excluding Oil Sector, s. a.
Annual percent



s. a. / Seasonally adjusted data.

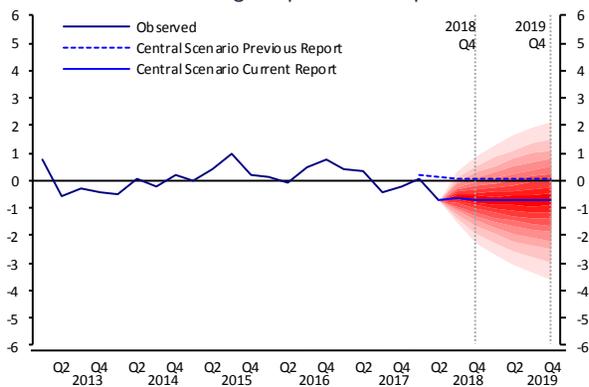
Source: INEGI and Banco de México.

With respect to the cyclical position of the economy, based on the estimated trajectory of the output, the tightness conditions are expected to continue easing, even at a faster rate than previously anticipated. In particular, both the estimate of the output gap excluding the oil sector and the quarterly slack indicator are expected to continue declining throughout the forecast time frame (Charts 93, 94 and 95).

²¹ The expectations for the U.S. industrial production in 2018 and 2019 were adjusted from 3.6% and 2.6% in the previous Quarterly Report to 3.7% and 2.7% in the current one, based on the consensus among

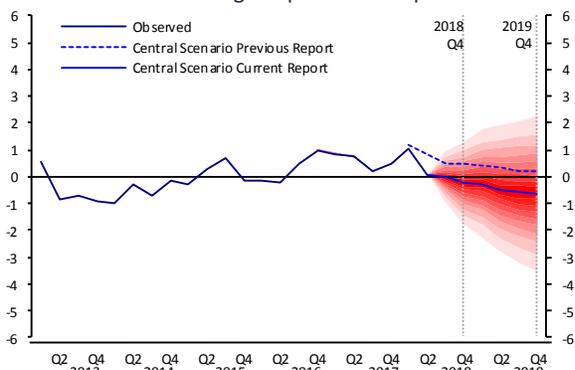
business analysts surveyed by Blue Chip in August 2018. This greater dynamism could, to a certain extent, mitigate the effects of the trade tensions on the external demand faced by Mexico.

Chart 93
Fan Chart: Output Gap Estimate, s. a.
 Percentage of potential output



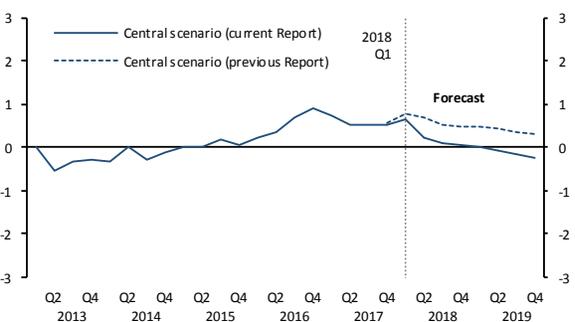
s. a. / Seasonally adjusted data.
 Source: Banco de México.

Chart 94
Fan Chart: Output Gap Estimate Excluding Oil Sector, s. a.
 Percentage of potential output



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

Chart 95
Quarterly Slack Index



Notes:

- i) The estimated performance of this indicator is consistent with the GDP forecasts excluding the oil sector.
- ii) A fan chart for the quarterly slack index cannot be calculated, given the manner in which its forecast was estimated.

Source: Banco de México.

Employment: Consistent with the anticipated evolution of the economy, the forecasts for the number of IMSS-insured jobs for 2018 and 2019 have

been revised downwards. In particular, an increase of between 670 and 770 thousand jobs is forecast for 2018, in contrast with the estimation of between 680 and 780 thousand jobs of the previous Report. For 2019, an increase of between 670 and 770 thousand jobs is anticipated, a lower range with respect to the 690 and 790 thousand jobs estimated in the previous Quarterly Report.

Current Account: For 2018, the deficits in the trade balance and the current account are anticipated to amount to US\$ 13.4 and 23.7 billion, respectively (1.1 and 1.9% of GDP), which are lower than the projections of the previous Report of US\$ 14.0 and 25.2 billion, respectively (1.1 and 2.1% of GDP). For 2019, deficits in the trade balance and the current account are estimated to be US\$ 14.1 and 27.9 billion respectively (1.1 and 2.1% of GDP), which compare to US\$ 15.0 and 30.5 billion, respectively (1.1 and 2.3% of GDP), of the previous Report.

In view of the continued uncertainty surrounding the Mexican economy, the balance of risks to growth maintains a downside bias.

The main downward risks in the forecast time frame are:

- i. That the escalation of protectionist measures worldwide affects global economic growth and international trade negatively, particularly that of Mexico.
- ii. That volatility spikes emerge in international financial markets, among other factors, due to inflation surprises in the U.S. that generate higher-than-expected increases in interest rates in that country, to a possible contagion from other emerging economies, or to geopolitical events that may constrain the sources of financing.
- iii. That the environment of uncertainty, which has been affecting investment persists, prompting various businesses to delay their investment plans in Mexico and leading Mexican consumers to cut down their spending as a precautionary measure.

Some of the upward risks to growth in the forecast horizon are:

- i. That the recent statements of an understanding related to the modernization of the trade

agreement with the U.S. reinvigorates investment.

- ii. That a greater-than-anticipated dynamism of the U.S. industrial production favors the performance of Mexican manufacturing exports.
- iii. That a greater-than-expected public spending is observed.

In addition to the above risks, the Mexican economy is facing a number of additional risks that, in case of materializing, could not only affect cyclical growth, but also negatively influence the potential growth in the medium and long run. Some of these risks are:

- i. That the continued weakness of investment that has prevailed for several years has a more marked effect on Mexico's productive capacity and on the rate of adoption of new technologies.
- ii. That the protectionist measures, those already implemented or new ones, negatively affect the participation of certain economies (including Mexico) in global value chains.
- iii. That the competitiveness of the Mexican economy is affected by a number of external and domestic factors, such as corporate tax cuts in the U.S.
- iv. That public safety issues, corruption, impunity and the lack of rule of law, along with their consequent negative impacts on investment and economic activity, worsen.

5.2. Inflation Outlook

Inflation: The inflation forecasts presented in this Report consider that the greater-than-anticipated increases in energy prices, particularly gasoline and LP gas, in an environment in which non-core inflation is already at high levels, will affect the trajectory of annual headline inflation expected during 2019. However, its effect is estimated to be transitory. Therefore, the convergence trajectory of headline inflation towards its target is expected to be delayed, essentially due to the developments of non-core inflation. In the current environment, in which annual non-core inflation has remained persistently above 3% and in which it has faced additional significant

shocks and high volatility, the process of reducing annual headline inflation towards its 3% target set by Banco de México has been affected. Core inflation is the component which best reflects Banco de México's monetary policy stance. Therefore, in the current juncture, the Governing Board will monitor this indicator closely. In this context, annual core inflation is expected to continue subsiding, a result of both the monetary stance and the projected easing of the cyclical conditions of the economy. In the same vein, core inflation is expected to reach 3% in the third quarter of 2019. In turn, annual headline inflation is anticipated to approach its 3% target during the remainder of 2018 and in 2019, and will come close to this target during the first half of 2020 (Table 3 and Charts 96, 97, 98 and 99).

To complement the fan charts that are usually included, we present boxplots to illustrate both the central trend and the range of values at which headline and core inflation may lie. Each diagram consists of a box that is bound by an interquartile range that represents the middle 50% of the distribution mass and two whiskers determined by 1.5 times the size of such range. The median, corresponding to the forecast value, is identified at the center of the box as the measure of the central trend and the interquartile range functions as a dispersion measure.

In addition, Chart 100 displays the different contributions of core and non-core inflation groups to annual headline inflation, as compared to the forecast presented in the last Report. The upward adjustment is largely attributed to the greater expected contribution of adjustments in energy prices to annual headline inflation, as compared to that anticipated in the previous Report, mainly during the next four quarters. Regarding the contributions of core inflation, merchandise prices have been slightly revised upwards for the short term, indirectly triggered by energy price hikes, although in the time frame in which monetary policy operates they have been adjusted downwards. Lesser tightness conditions of the economy, as well as the adopted monetary policy stance are factors that contribute to this result.

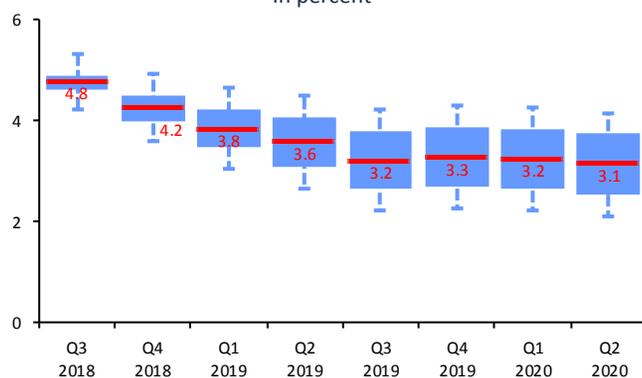
Table 3
Headline and Core Inflation Forecasts
Annual change in percent

	2018			2019				2020	
	II	III	IV	I	II	III	IV	I	II
CPI									
Current report	4.6 *	4.8	4.2	3.8	3.6	3.2	3.3	3.2	3.1
Previous report	4.6	4.3	3.8	3.3	3.1	3.1	3.1	3.1	
Core									
Current report	3.7 *	3.6	3.5	3.3	3.2	3.0	2.9	3.0	2.9
Previous report	3.7	3.6	3.4	3.2	3.2	3.1	3.0	3.0	

*/ Observed data.

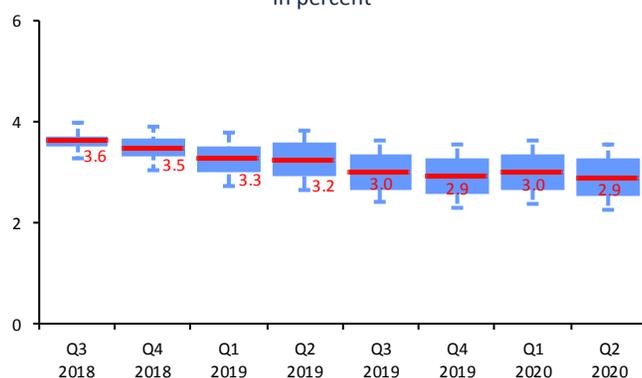
Source: Banco de México and INEGI.

Chart 96
Box Plot: Forecast for Annual Headline Inflation
In percent



Source: Banco de México.

Chart 97
Box Plot: Forecast for Annual Core Inflation
In percent



Source: Banco de México.

The balance of risks to inflation maintains its bias to the upside, in an environment of a high degree of uncertainty. Some of the upward risks to the above projections in the forecast time frame are:

- i. That the peso comes under pressure due to an environment of higher external interest rates and the U.S. dollar's strength, as well as to uncertainty factors in the external and domestic

environments. If the Mexican economy faces a scenario that requires an adjustment of the real exchange rate, Banco de México will ensure that it is carried out in an orderly manner and without second-round effects on the economy's price formation process.

- ii. That further increases in some energy prices and in the prices of agricultural products are observed. As a result, non-core inflation could further jeopardize the convergence of inflation to its target.
- iii. That protectionist and compensatory measures escalate at the global level, which would affect inflation negatively.
- iv. That greater-than-anticipated public spending reduces the speed at which core inflation declines.
- v. If wage negotiations are not congruent with productivity gains, they could become a source of cost pressures in the economy.

Downside risks:

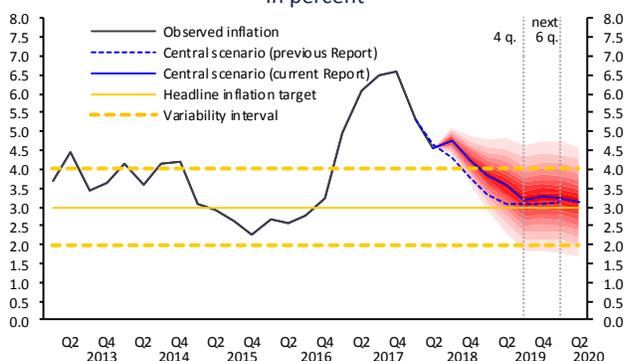
- i. The possibility of peso appreciating if the outcome of the recent statements of a preliminary agreement to modernize the trade treaty with the U.S. is favorable.

In the same vein, some of the risks that could affect the inflation outlook in the long run are:

- i. That the real exchange rate shows a greater trend towards depreciation, given an unfavorable external environment regarding financial and trade conditions.

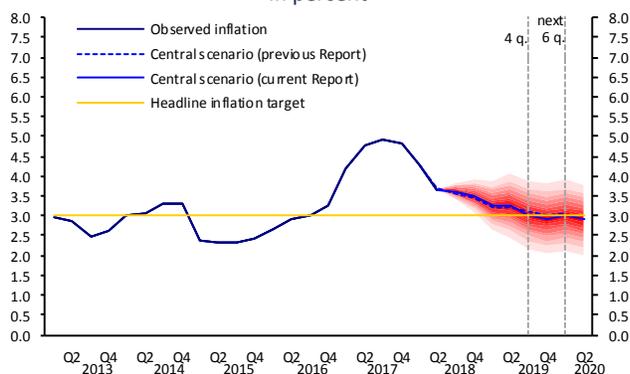
- ii. That a situation of structurally weak public finances arises.
- iii. That investment weakens further and the lack of productivity growth continues, which, in view of the expansion of certain aggregate demand components, would make inflation reduction more difficult. This could also be attributed to the deterioration of public safety conditions, corruption, and the lack of legal certainty in Mexico.

Chart 98
Fan Chart: Annual Headline Inflation ^{1/}
In percent



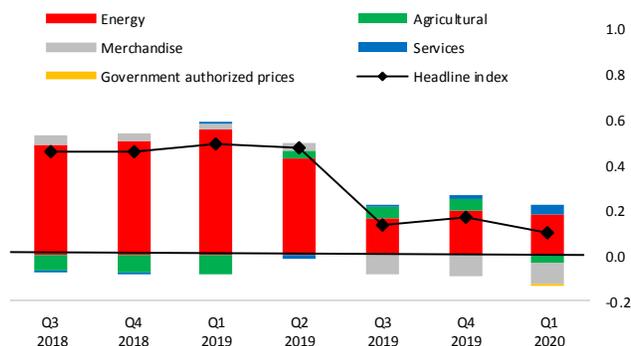
1/ Quarterly average of annual headline inflation. The next four and six quarters are indicated, using as a reference the third quarter of 2018; that is, the third and the first quarters of 2019 and 2020, respectively, time intervals over which monetary policy transmission channels fully operate.
Source: Banco de México and INEGI.

Chart 99
Fan Chart: Annual Core Inflation ^{1/}
In percent



1/ Quarterly average of annual core inflation. The next four and six quarters are indicated, using as a reference the third quarter of 2018; that is, the third and the first quarters of 2019 and 2020, respectively, time intervals over which monetary policy transmission channels fully operate.
Source: Banco de México and INEGI.

Chart 100
Differences in Contributions to Annual Headline Inflation
Forecast (Current Report vs. Previous Report)



Source: Banco de México.

To guide its monetary policy actions, the Governing Board closely monitors the evolution of inflation vis-à-vis its expected trajectory, considering the adopted monetary policy stance and the time frame at which it operates, as well as available information on inflation determinants and medium- and long-term inflation expectations, including the balance of risks to inflation. The Board will maintain a prudent monetary policy stance and will continue to closely surveil the potential pass-through of exchange rate adjustments onto prices, the monetary policy stance of Mexico relative to that of the U.S., and the evolution of slack in the economy. In the presence and possible persistence of factors, that, by their nature, imply a risk to inflation and inflation expectations, monetary policy will adjust in a timely and decisive manner to attain the convergence to its 3% target, and to strengthen the anchoring of medium- and long-term inflation expectations, in order for them to reach such target.

To take on the challenges that the Mexican economy may face and to address the social gaps and the needs of millions of Mexicans, policies that allow the country to reach its potential based on solid fundamentals, such as fiscal discipline, price stability, trade openness and the actions that have been taken to enhance economic efficiency should be encouraged. Thus, it is key to ratify the commitment to maintain a solid macroeconomic framework as a basis for an economic policy that triggers growth in the Mexican economy. It should be acknowledged that macroeconomic stability in itself, despite being necessary, is not sufficient to generate greater economic growth. It is also necessary to tackle structural and institutional problems that could

prevent the country from increasing its productivity, keeping in mind that, ultimately, the only way to generate better-paid jobs and to reduce poverty in a sustainable manner is via greater productivity. Indeed, various sectors of the Mexican economy have market structures that, instead of promoting competition and value creation, have favored rent extraction, protecting the interests of a few particular agents, rather than those of consumers. Similarly, it is necessary to invest in projects that could provide the country with the infrastructure that contributes to strengthen the domestic market and to further exploit Mexico's export vocation throughout the country. In addition, as stated in previous Quarterly Reports, it is imperative to make progress in areas

other than the economic ones, above all those related to public safety conditions and legal certainty. Indeed, improving public safety would lower the operational costs currently faced by businesses, encourage investment and private consumption, and facilitate transportation and goods distribution. Meanwhile, strengthening the legal certainty in terms of property rights would contribute to an environment of higher investment. Thus, the policies that improve public safety, curb corruption, improve the governance of public institutions and guarantee full respect for private property are key to achieving a higher welfare of the Mexican population.

Annex 1. Banco de México's Publications in the Quarter April – June 2018

1. Publications

1.1. Quarterly Reports

30/05/2018	Quarterly Report, January - March 2018
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1.2. Regional Economic Reports

14/06/2018	Regional Economic Report, January – March 2018
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2. Working papers

09/04/2018	2018-04 Financial openness, policy vs. realized outcomes
09/04/2018	2018-05 Stability of Equilibrium Outcomes under Deferred Acceptance: Acyclicity and Dropping Strategies
25/06/2018	2018-06 Nowcasting Mexican GDP using Factor Models and Bridge Equations (Available only in Spanish)
28/06/2018	2018-07 Determinants of FDI Attraction in the Manufacturing Sector in Mexico, 1999-2015
29/06/2018	2018-08 The Duration in the Market of New Housing in Mexico (Available only in Spanish)
29/06/2018	2018-09 Do heterogeneous countries respond differently to oil price shocks?

3. Speeches and presentations by Governing Board members

3.1. Speeches

27/04/18	"La política monetaria en México ante condiciones de elevada incertidumbre", Javier Guzmán, Deputy Governor of Banco de México
31/05/18	"Premiación del concurso Reto Banxico", Alejandro Díaz de León, Governor of Banco de México
26/06/18	"End of QE and rising interest rates: implications for advanced and emerging market economies", Javier Guzmán, Deputy Governor of Banco de México

3.2. Presentations

04/04/2018	"Comparecencia ante el Senado de la República", Alejandro Díaz de León, Governor of Banco de México
20/04/2018	"Outlook for the Mexican economy", Alejandro Díaz de León, Governor of Banco de México
07/05/2018	"Perspectivas económicas para México en 2018", Alejandro Díaz de León, Governor of Banco de México
23/05/2018	"Perspectivas económicas para México en 2018", Alejandro Díaz de León, Governor of Banco de México
28/05/2018	"Códigos globales de conducta y el caso del mercado mexicano", Alejandro Díaz de León, Governor of Banco de México

06/06/2018	" <i>Perspectivas económicas y financieras internacionales</i> ", Alejandro Díaz de León, Governor of Banco de México
28/06/2018	"Monetary policy under Fed normalization and other challenges", Javier Guzmán, Deputy Governor of Banco de México

4. Press Releases

4.1. Monetary Policy

4.1.1. Announcements of Monetary Policy Decisions

12/04/2018	Target for the Overnight Interbank Interest Rate remains unchanged at 7.50 percent
17/05/2018	Target for the Overnight Interbank Interest Rate remains unchanged at 7.50 percent
21/06/2018	Target for the Overnight Interbank Interest Rate will increase by 25 basis points

4.1.2. Minutes of the meeting of Banco de México's Governing Board on the occasion of the monetary policy decision

26/04/2018	Minutes of the meeting of Banco de México's Governing Board on the occasion of the monetary policy decision announced on April 12, 2018
31/05/2018	Minutes of the meeting of Banco de México's Governing Board on the occasion of the monetary policy decision announced on May 17, 2018

4.2. Banco de México

4.2.1. Weekly balance statement

03/04/2018	Banco de México's balance statement of the week of April 20, 2018
10/04/2018	Banco de México's balance statement of the week of March 28 and March 2018
17/04/2018	Banco de México's balance statement of the week of April 6, 2018
24/04/2018	Banco de México's balance statement of the week of April 13, 2018
02/05/2018	Banco de México's balance statement of the week of April 27, 2018
08/05/2018	Banco de México's balance statement of the week of May 4 and April 2018
15/05/2018	Banco de México's balance statement of the week of May 11, 2018
22/05/2018	Banco de México's balance statement of the week of May 18, 2018
29/05/2018	Banco de México's balance statement of the week of May 25, 2018
05/06/2018	Banco de México's balance statement of the week of June 1 and May 2018
12/06/2018	Banco de México's balance statement of the week of June 8, 2018
19/06/2018	Banco de México's balance statement of the week of June 15, 2018
26/06/2018	Banco de México's balance statement of the week of June 22, 2018

4.2.2. Weekly information of the Consolidated Account Statement

03/04/2018	Weekly information as of March 28, 2018
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10/04/2018	Weekly information as of April 6, 2018
17/04/2018	Weekly information as of April 13, 2018
24/04/2018	Weekly information as of April 20, 2018
02/05/2018	Weekly information as of April 27, 2018
08/05/2018	Weekly information as of May 4, 2018
15/05/2018	Weekly information as of May 11, 2018
22/05/2018	Weekly information as of May 18, 2018
29/05/2018	Weekly information as of May 25, 2018
05/06/2018	Weekly information as of June 1, 2018
12/06/2018	Weekly information as of June 8, 2018
19/06/2018	Weekly information as of June 15, 2018
26/06/2018	Weekly information as of June 22, 2018

4.2.3. Weekly information of the Consolidated Account Statement

27/04/2018	Financial statements: December 2017
27/04/2018	Financial statements presented in 2017
30/04/2018	Financial statements: January, February and March 2018
23/05/2018	April 30, 2018
20/06/2018	May 31, 2018

4.3. Financial Sector

4.3.1. Monetary aggregates and financial activity

30/04/2018	Monetary aggregates and financial activity in March 2018
31/05/2018	Monetary aggregates and financial activity in April 2018
29/06/2018	Monetary aggregates and financial activity in May 2018

4.4. External Sector

4.4.1. Balance of payments

25/05/2018	Balance of payments in the first quarter of 2018
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4.4.2. Revised information of foreign trade

09/04/2018	February 2018
09/05/2018	March 2018
11/06/2018	April 2018

4.5. Survey results

4.5.1. Quarterly evolution of financing to firms

23/05/2018	Quarterly evolution of financing to firms during the quarter January – March 2018
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4.5.2. National survey on consumer confidence

05/04/2018	Consumer confidence index: March 2018
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07/05/2018	Consumer confidence index: April 2018
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05/06/2018	Consumer confidence index: May 2018
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4.5.3. Surveys among private sector specialists

02/04/2018	Survey among private sector specialists: April 2018
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02/05/2018	Survey among private sector specialists: May 2018
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01/06/2018	Survey among private sector specialists: June 2018
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4.5.4. Survey on General Conditions and Standards in the Banking Credit Market (EnBan)

11/05/2018	Survey on General Conditions and Standards in the Banking Credit Market during the quarter January - March 2018
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4.5.5. Business opinion indicators

03/04/2018	Manufacturing orders' index: March 2017
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02/05/2018	Manufacturing orders' index: April 2018
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01/06/2018	Manufacturing orders' index: May 2018
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4.6. Miscellaneous

02/04/2018	Public consultation on the draft of Banco de México's regulations: the regulation of credits available to the workers with access to the payroll account
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27/04/2018	Operational incidents registered among some participants of the Interbank Electronic Payment System (SPEI)
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30/04/2018	Additional information on operational incidents registered among some participants of the Interbank Electronic Payment System (SPEI)
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30/04/2018	Banco de México adjusts its monetary policy communication strategy
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04/05/2018	Public consultation on the draft of Banco de México's regulations: the regulation of subordinated debentures that credit institutions intend to issue
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08/05/2018	The Board of Directors of the Bank for International Settlements (BIS) elects Alejandro Díaz de León Carrillo as its new member.
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14/05/2018	Actions taken by Banco de México to mitigate the risks of operational incidents among the participants of the Interbank Electronic Payment System (SPEI)
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16/05/2018	Information on the Interbank Electronic Payment System (SPEI)
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24/05/2018	The bases of coordination regarding the information security
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31/05/2018	Release of the mandates of the working groups of the Network for Greening the Financial System (NGFS) and the expansion of NGFS membership
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31/05/2018	Banco de México recognizes GS1 Mexico as a local operating unit established on the national territory able to issue LEI codes
01/06/2018	Bachelor's degree students assess inflation risks in the third issue of <i>Reto Banxico</i>
13/06/2018	Basic indicators of auto loans (data as of October 2017)
14/06/2018	The Financial System Stability Council updates its balance of risks

4.7. Circulars issued by Banco de México

17/05/2018	4/2018 Circular: General regulations applying to the funds transfer service and the system of administrative payments by Banco de México
17/05/2018	5/2018 Circular: Reform to the rules of the Interbank Electronic Payment System (SPEI) related to the time frames of transfers received by the participants
01/06/2018	6/2018 Circular: Modifications to the rules of the Domestic USD Transfer system (SPID) (POA-SPID and COA-SPID transitional system).



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