BANCO DE MÉXICO®

Executive Summary

Quarterly Report April - June 2022

Summary

Banco de México has conducted monetary policy in an increasingly complex and uncertain environment generated by the economic effects of the pandemic and the military conflict. Externally, world inflation continued increasing. In response, most central banks continued withdrawing monetary accommodation and, in some cases, accelerated this process. At its last two meetings, the Federal Reserve raised the target range for the federal funds rate by 75 basis points and anticipated future upward adjustments. Job creation accelerated in that country and, although the latest figure on US inflation displayed a moderation, it still remains at high levels. Global economic activity weakened and its outlook deteriorated, while financial conditions tightened. Domestically, annual headline inflation continued increasing, reaching levels unseen in two decades, while the core component continued trending upwards. Economic activity continued to recover and financial markets underwent episodes of volatility. In this context, Banco de México took actions to maintain longer-term inflation expectations anchored, and to foster an orderly adjustment of financial markets under the atypical environment currently faced.

Delving into the external environment, global economic activity weakened during the second quarter of 2022, mainly due to the enduring economic effects of the Russia-Ukraine military conflict; the slowdown of China's economy, largely as a result of the measures implemented to contain the resurgence of COVID-19 infections in that country; and the tightening of global financing conditions due to a more accelerated withdrawal of monetary accommodation in response to high levels of inflation. Recent indicators point to this weakening extending into the beginning of the third quarter. As a result, the outlook for global growth for 2022 and 2023 has been revised further downwards.

Global inflation continued increasing in both advanced and emerging economies, in some cases to levels unseen in several decades, in most cases remaining above their respective central banks' targets for an extended period. Inflation has been driven by a broader increase in prices, along with pressures in the food and energy sectors, in an environment in which imbalances between demand and supply prevail in various markets.

In this context, a large number of central banks continued raising their reference rates, some of them at a higher-than-anticipated pace. Financial markets continued to experience volatility and risk aversion, as well as considerable tightening, in an environment where the US dollar strengthened significantly against a large number of advanced and emerging market currencies, and yields increased for most of the period, although in some cases such trend has partially reversed.

The box *Recent Evolution of Capital Flows to Mexico and Other Emerging Economies* analyzes the determinants of capital flows from a high-frequency perspective by estimating the contribution of different risk factors to the recent evolution of these flows. In particular, international monetary factors have been the most relevant in accounting for capital outflows from emerging economies throughout the year, as compared to those related to growth prospects and risk appetite for the assets of emerging economies. In the case of Mexico, local monetary factors have contributed to mitigate the effects of external factors on capital flows.

Domestically, during the second quarter of 2022, economic activity in Mexico continued to recover, driven by the rebound observed in April, although showing some weakness in May and June. This occurred in a complex global economic environment and a renewed increase in uncertainty regarding the

evolution of the pandemic in the country due to the increase in the number of COVID-19 infections since the middle of the period. The growth of economic activity during the quarter was mainly due to an expansion of tertiary and manufacturing activities.

Regarding domestic financial markets, during the period covered by this Report, interest rates increased along the entire yield curve. Short-term interest rates rose in response to the hikes in the reference rate implemented by Banco de México, while medium- and long-term interest rates showed smaller increases. The Mexican peso experienced periods of volatility, although it performed in a slightly more resilient and orderly manner than other emerging economies' currencies.

The box *Pass-through of Mexico's Reference Rate on Interest Rates at Different Maturities* shows, through two time series models, that there is a positive and statistically significant short-run pass-through of changes in the reference rate on interest rates with maturities from 1 month to 10 years, with the effect of said pass-through decreasing with larger maturities. The results also show that there is a long-run relationship between the reference rate and shorter-term interest rates, with a long-run pass-through effect that is complete and considerably fast (lasting approximately 1 month).

In this complicated economic environment, in which the cumulative effects of the shocks of the COVID-19 pandemic and those of the military conflict between Russia and Ukraine concur, annual headline inflation in Mexico continued increasing, from 7.27 to 7.77% between the first and second quarters of 2022, up to 8.62% in the first fortnight of August. The aforementioned shocks have had a widespread effect on the goods and services that are part of Mexico's Consumer Price Index. Core inflation has trended upwards since December 2020. Between the referred quarters, this indicator increased from 6.53 to 7.33%, up to 7.97% in the first fortnight of August, driven significantly by food merchandise inflation, although non-food merchandise inflation and services inflation have also increased. Annual non-core inflation has remained at high levels, registering 9.49 and 9.10% in the aforementioned quarters and 10.59% in the first fortnight of August. This behavior reflects, to a greater extent, the pressures on agricultural and livestock product prices, while energy inflation has been contained by the policies of the Federal Government.

The box *The Differentiated Increase in the Cost of the Consumption Basket of Mexican Households* shows that the effect of the recent inflationary pressures has been heterogeneous across households depending on the composition of their consumption basket, which, in turn, is determined by their income level and demographic characteristics. Using consumption data at the household level, it is estimated that, between August-November 2020 and June 2022, households with lower incomes and with children under 12 years old experienced larger increases in their consumption baskets. The increase was also higher for households headed by men or, in general, composed only of men, relative to women.

Regarding monetary policy decisions, Banco de México's Governing Board decided to raise the target for the Overnight Interbank Interest Rate by 50 basis points in its May meeting, and by 75 basis points in its June and August 2022 meetings, up to a level of 8.50%. The Board also evaluated the magnitude and diversity of the shocks that have affected inflation and its determinants, along with the evolution of medium- and long-term inflation expectations and the price formation process. It considered the increasing challenges for monetary policy stemming from the ongoing tightening of global monetary and financial conditions, the environment of significant uncertainty, greater inflationary pressures accumulated as a result of the pandemic and the geopolitical conflict, as well as the possibility of greater effects on inflation. In its August meeting, it highlighted that world inflation continued increasing, that global financial conditions remained tight, that the US Federal Reserve raised the target range for the federal funds rate by 75 basis points for a second consecutive month and anticipated future adjustments in its reference rate, and that inflation expectations for Mexico for 2022 were revised upwards once again, while those for 2023 and for the medium-term increased to a lesser extent.

In this scenario, the Board will thoroughly monitor inflationary pressures as well as all factors that have an incidence on the foreseen path for inflation and its expectations. This, in order to set a policy rate that is consistent at all times with both the orderly and sustained convergence of headline inflation to the 3% target within the time frame in which monetary policy operates as well as with an adequate adjustment of the economy and financial markets. The Board will assess the magnitude of the upward adjustments in the reference rate for its next policy decisions based on the prevailing conditions.

As for Banco de México's macroeconomic outlook:

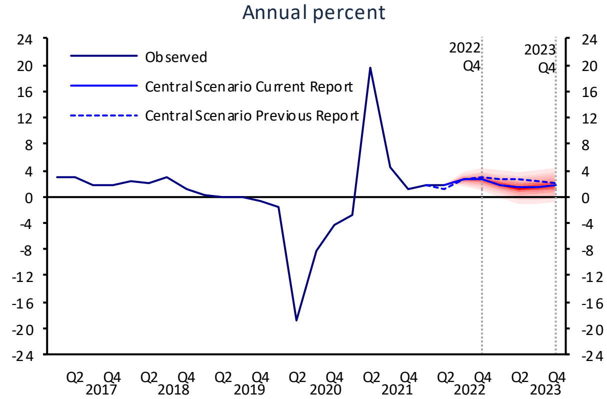
Growth of the national economy: For 2022, GDP growth is expected to be between 1.7 and 2.7%, with a central estimate of 2.2%. For 2023, GDP growth is expected to be between 0.8 and 2.4%, with a central estimate of 1.6% (Chart 1). The point estimates compare with the previous Report's respective forecasts of 2.2 and 2.4% for each year.[1]

The outlook for global economic activity has deteriorated due to the high levels of inflation, tighter financial conditions, and various trade and geopolitical tensions. In particular, the US economy and its industrial activity are expected to grow at a slower pace. In this complex environment, the previsions presented in this Report incorporate in the forecast horizon the expected effects on the Mexican economy of a lower-than-previously-anticipated external demand. Despite the lower dynamism expected for the second half of the year, growth for 2022 as a whole remains unchanged in relation to the previous Report as a result of higher-than-anticipated economic growth during the second quarter. The revised forecast for 2023 reflects a more adverse scenario for growth of the Mexican economy due to the aforementioned factors. It is worth mentioning that domestic demand is still expected to continue recovering gradually, although the process of dispute settlement consultations with the United States and Canada within the framework of the USMCA introduces a new factor of uncertainty and risk that could affect investment decisions in Mexico.

If growth in 2022 materializes close to the upper part of the indicated range, economic activity would recover the level observed at the end of 2019 by the fourth quarter of the current year. With growth close to the point estimate for 2022, such recovery would occur around the second quarter of 2023. With growth close to the lower part of the ranges described above, the level observed at the end of 2019 would be reached in the first quarter of 2024.

Regarding the cyclical position of the economy, slack conditions are expected to continue diminishing throughout the forecast horizon, although at a more gradual pace than that foreseen in the previous Report, in line with the expected development of economic activity (Chart 2).

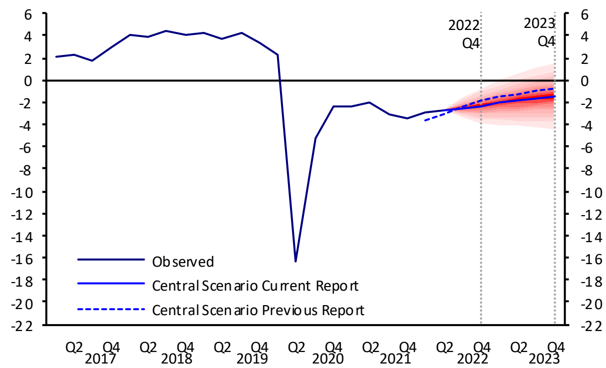
Chart 1
Fan Chart: GDP Growth, s.a.
Annual percent



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

[1] Intervals are compared to those published in the previous Report of 1.6 to 2.8% for 2022 and 1.4 to 3.4% for 2023.

Chart 2
Fan Chart: Output Gap Estimate, s.a.
Percent of potential output



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

Employment: Based on the forecasts for activity and on the most recent information on the number of IMSS-insured jobs, a growth of between 640 and 800 thousand jobs is anticipated for 2022, an expectation that compares to that of the previous Report of between 560 and 760 thousand jobs. For 2023, a variation of between 420 and 620 thousand jobs is expected, which compares to that of the previous Report of between 490 and 690 thousand jobs.

The box *Recent Evolution of Nominal Wages of IMSS-Insured Workers* decomposes the recent behavior of the annual percentage change of the average base contribution wage (SBC, for its acronym in Spanish) of these workers by distinguishing between direct effects on wages and compositional effects among defined groups of workers. The acceleration in the growth of the annual percentage variation of the average SBC since the beginning of 2021 is shown to be mainly associated with a higher wage variation of workers who have remained affiliated to the IMSS, partly as a result of the effects derived from the reform to the labor outsourcing regime and the mechanical effects of increases in the minimum wage.

Current account: For 2022, the trade balance is expected to be between -26.1 and -20.1 billion dollars (-1.8 and -1.4% of GDP) and the current account balance is expected to be between -19.0 and -9.0 billion dollars (-1.3 and -0.6% of GDP). For 2023, a trade balance of between -18.4 and -10.4 billion dollars (-1.2 and -0.7% of GDP) and a current account balance of between -12.1 and -0.1 billion dollars (-0.8 and 0.0% of GDP) are estimated.[2]

Risks to growth: Given the complex environment for the global economy, the balance of risks is considered to remain significantly biased downwards. Among the risks to the downside in the forecast horizon, the following stand out:

i. A lower external demand, particularly from the United States, to the detriment of economic activity in Mexico.

ii. That the effects of the global pandemic or geopolitical conflicts persist or intensify the impact on trade and supply chain problems globally, leading to shortages of inputs or to greater production costs in various sectors of the economy.

iii. Tighter-than-expected financial conditions and episodes of volatility in international financial markets that could affect financing flows to emerging economies.

iv. A lower-than-expected or insufficient recovery of investment spending to support the reactivation process and long-term growth of the economy. In this regard, that the dispute settlement consultations associated with the USMCA contribute to increased uncertainty, to the detriment of investment.

v. That the COVID-19 pandemic continues to affect supply and demand conditions in the global economy, adversely affecting the recovery of domestic economic activity.

[2] Figures for 2022 compare with those of the previous Report of a trade balance of between -16.6 and -10.6 billion dollars (-1.2 and -0.7% of GDP) and a current account balance of between -6.7 and 3.3 billion dollars (-0.5 and 0.2% of GDP). Figures for 2023 compare with the previous Report's figures of a trade balance of between -17.2 and -9.2 billion dollars (-1.1 and -0.6% of GDP) and a current account balance of between -7.9 and 4.1 billion dollars (-0.5 and 0.3% of GDP).

vi. That extreme weather phenomena, such as droughts, atypically high temperatures or cyclones, adversely affect the national or regional economic activity.

Among the risks to the upside in the forecast horizon, the following stand out:

i. That the downward trajectory in the number of infections of the recent COVID-19 wave and the continued adaptation of the economy to the conditions imposed by the pandemic will drive a more vigorous recovery, particularly in those sectors that have reactivated at a slower pace.

ii. That, within the USMCA framework, Mexico becomes an attractive destination for investment in light of a global reconfiguration of production processes, with benefits for its economic activity and productivity.

iii. That global financial conditions are more conducive to economic growth than expected.

The box *Droughts in Mexico and their Potential Impact on Economic Activity* outlines the current state of droughts in Mexico and the recent deterioration of the country's water resources in some regions, and presents an analysis of the possible orders of magnitude of the negative effects on economic activity in the event of more severe drought episodes.

The box *Trade Credit During the Pandemic* shows that the percentage of firms that reported to utilize this type of financing has declined since the beginning of the health crisis in Mexico and in other economies. In the case of Mexico, the results of two probit models suggest that the lower utilization of trade credit reflects mostly supply-side factors. In particular, a greater restriction in the sources of financing to firms and concerns about their production costs might have limited the supply of financing to their clients.

Inflation: Inflation in Mexico and in the world remains subject to a highly complex environment in which shocks have already become long-lasting and inflationary pressures have continued to increase. The effects of the pandemic have accumulated for more than two years, and have been compounded by the effects of the military conflict in Ukraine, which has lingered on. As a result, inflation in many countries and in Mexico has reached levels unseen in decades.

The juncture has been exceptional as the shocks have been observed at a global level, have affected both supply and demand, and have been cross-cutting, as they have affected a broad number of goods and services. On the demand side, in various world markets, it has changed remarkably throughout the pandemic, in response to significant stimuli in advanced economies and to changes in consumer preferences during the lockdown and later during the reopening of the economy. Supply has been subject to demand-related uncertainty and has not been able to adjust at the same speed. It has also been affected by the shortages of inputs and their increasing prices, as well as by disruptions in both production and supply chains and in the work force. The imbalance between supply and demand in various markets has thus exerted significant pressure on inflation.

In view of this situation, inflation in Mexico has remained subject to unanticipated shocks, and, therefore, has reached higher-than-foreseen levels. In the Monetary Policy Statements of June 23 and August 11, Banco de México hence revised upwards its inflation forecasts. The trajectory presented in the most recent Monetary Policy Statement is maintained in this Quarterly Report.

The upward revision up to the third quarter of 2023 in the trajectory of headline inflation between this Quarterly Report and the previous one resulted from adjustments in the same direction in both core and non-core inflation. As to the core component, the revision considers that, although the increases in the international references of some commodities that occurred as a result of the military conflict in Ukraine have reversed to some extent, pressures on production costs, disruptions in both production and distribution chains, and high global demand prevail.

Hence, merchandise inflation, particularly of food, as well as services inflation, is higher than that foreseen in the previous Report. Thus, the revision of core inflation reflects higher inflation paths for both components, although merchandise inflation has contributed to a greater extent to the adjustment. As to the non-core component, the above conditions have also contributed to the anticipation of higher inflation trajectories for agricultural and livestock products, while those of energy products will continue to reflect the policies implemented by the Federal Government.

Both headline and core inflation, after increasing in the third quarter of 2022 in relation to the second one, are expected to decrease over the forecast horizon, so that they would reach levels close to 3% in the first quarter of 2024 (Table 1 and Chart 3). These decreasing trajectories reflect the monetary policy actions that Banco de México has been implementing, as well as the prevision that the effects of the pandemic-related shocks and of the military conflict on inflation will gradually dissipate. In particular, greater control of the pandemic at the global level will allow to continue with the normalization of production and supply chains. In addition to the above, reduction of the fiscal stimuli in advanced countries and the hike in their monetary policy reference rates will also contribute to mitigate demand pressures in their economies, which will ease external inflationary pressures in Mexico. All of that will contribute to resolve the imbalances between supply and demand, which has been contributing to the high levels of inflation.

In a related manner, as can be appreciated in Table 1 and Chart 4, the seasonally adjusted and annualized quarterly rates of the headline index exhibit decreases in the following quarters and from the last quarter of 2022 are expected to be below levels observed in 2021 and in the three previous quarters of 2022. On the other hand, the annualized seasonally adjusted quarterly rates of the core index would be around 3% since the second quarter of 2023. Since annual rates are influenced for 12 months by the short-term shocks that affected inflation, their reduction is slower than that of the seasonally adjusted ones. As a result, annual changes are above seasonally adjusted ones while shocks on inflation are assimilated, for most of the forecast horizon, for both headline and core inflation.

Given the environment of high uncertainty, it cannot be ruled out that the effects of shocks on inflation last longer than estimated, or that they worsen, or that new shocks emerge and pressure inflation upwards. Additionally, the upward trend that core inflation has followed for an extended period and that places it at high levels could imply greater inflationary inertia ahead, thus leading to its persistence at high levels. The later, moreover, could give rise to non-linearities in the effects of the different variables that influence its behavior. In this context, the balance of risks for the expected path of inflation over the forecast horizon remains biased significantly to the upside.

Among the main risks that could affect inflation, the following stand out:

On the upside:

i. Persistence of core inflation at high levels.

ii. External inflationary pressures associated with the evolution of the pandemic.

iii. Greater price-related pressures derived from the geopolitical conflict, particularly on food and energy prices.

iv. Episodes of exchange rate depreciation, possibly as a result of volatility in international financial markets.

v. Cost-related pressures associated with hiring conditions or wages, which could be passed on to consumer prices.

On the downside:

i. That a greater-than-anticipated deceleration of world economic activity leads to lower inflation levels at the global level, which could reduce inflationary pressures in Mexico.

ii. That a reduction in the intensity of the military conflict between Russia and Ukraine implies lower pressures on inflation.

iii. That control of the pandemic results in production and distribution chains resuming an efficient operation that allows to ease pressures on prices.

iv. That, given the slack conditions in the economy, cost-related pressures and labor hiring conditions do not exert pressure on prices.

v. That the measures implemented by the Program to Fight Inflation and High Prices (PACIC, for its acronym in Spanish) have a greater-than-anticipated effect.

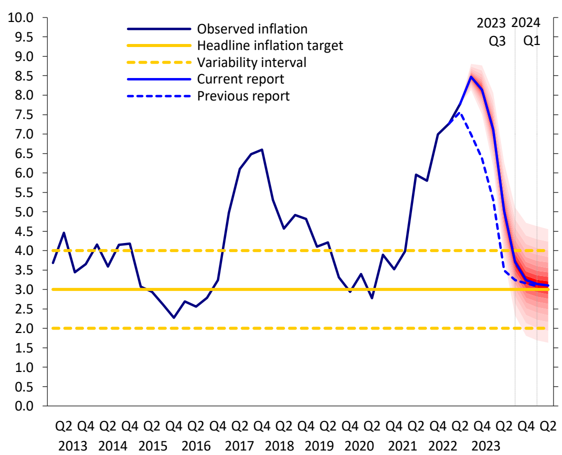
Table 1
Forecasts for Headline and Core Inflation
Annual percentage change of quarterly average indices

	2022				2023				2024	
	I	II	III	IV	I	II	III	IV	I	II
CPI										
Current Report = Monetary Policy Statement of August 2022 1/	7.3	7.8	8.5	8.1	7.1	5.0	3.7	3.2	3.1	3.1
Previous Report = Monetary Policy Statement of May 2022 2/	7.3	7.6	7.0	6.4	5.3	3.5	3.2	3.2	3.1	
Core										
Current Report = Monetary Policy Statement of August 2022 1/	6.5	7.3	7.9	7.6	6.5	5.1	3.8	3.2	3.1	3.0
Previous Report = Monetary Policy Statement of May 2022 2/	6.5	7.2	6.6	5.9	4.8	3.6	3.3	3.1	3.0	
Memo										
Annualized seasonally adjusted quarterly variation in percent 3/										
Current Report = Monetary Policy Statement of August 2022 1/										
CPI	7.5	10.7	8.5	5.8	3.6	2.3	3.2	3.8	3.2	2.3
Core	8.2	8.5	8.2	5.6	3.9	2.9	2.9	3.1	3.2	2.8

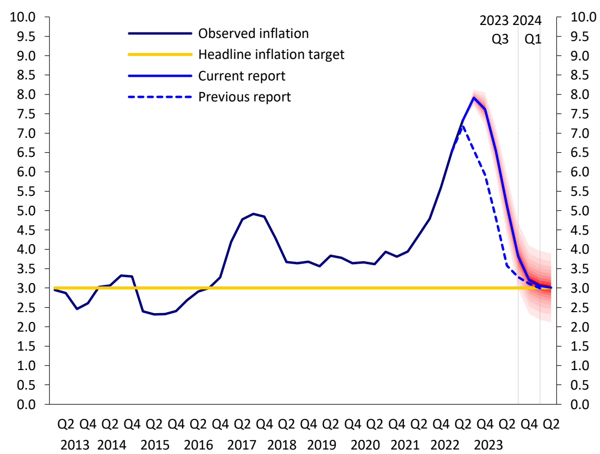
1/ Forecast starting from August 2022. It corresponds to the forecast published in the Monetary Policy Statement of August 11th 2022.
2/ Forecast starting from May 2022. It corresponds to the forecast published in the Monetary Policy Statement of May 12th 2022.
3/ See methodological note on seasonal adjustment process.
Source: INEGI for observed annual variation figures and Banco de México for seasonally adjusted figures and forecasts.

Chart 3

a) Fan Chart: Annual Headline Inflation 1/
Percent



b) Fan Chart: Annual Core Inflation 1/
Percent

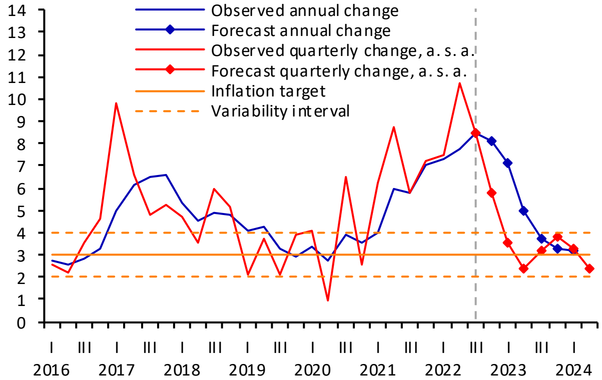


1/ Quarterly average of annual inflation. The next four and six quarters are indicated with vertical lines, using as a reference the third quarter of 2022, that is, the third quarter of 2023 and the first quarter of 2024, respectively, to indicate the time frames in which the transmission channels of monetary policy fully operate.

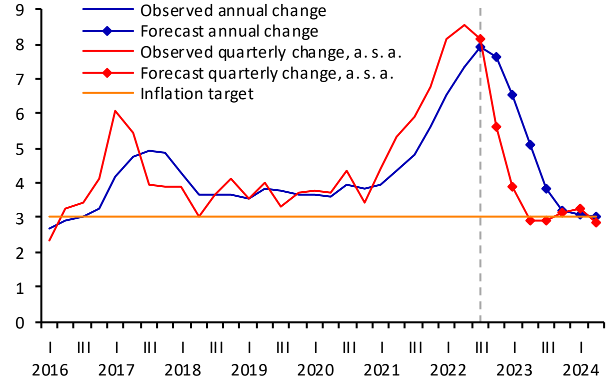
Source: Banco de México and INEGI.

Chart 4

a) Headline
Quarterly change, annualized and s.a.,
and annual change in percent



b) Core
Quarterly change, annualized and s.a.,
and annual change in percent



s.a. seasonally adjusted figures.
a.s.a. annualized seasonally adjusted figures.
Vertical line corresponds to third quater of 2022.
Source: Banco de México and INEGI.

Economic activity in Mexico maintained its gradual recovery during the second quarter of the year. However, uncertainty surrounding the evolution of the pandemic, the consequences of the war in Eastern Europe, the economic environment in the United States, and the high levels of inflation worldwide have contributed to deteriorate the outlook for global growth. In the face of this challenge and to support the resilience of the Mexican economy, it is necessary to continue maintaining solid macroeconomic fundamentals to strengthen the country, including fiscal discipline, a sound and resilient financial system, and a monetary policy focused on achieving price stability. In this regard, Banco de México's Governing Board determines its monetary policy stance seeking to foster an orderly adjustment of relative prices, financial markets and the economy as a whole, leading to the convergence of inflation to the 3% target.

In addition, in the face of a possible slowdown in external demand, the adoption of measures to support domestic growth and foster an environment conducive to generating greater investment and productivity becomes more pressing. This would also help to mitigate inflationary pressures stemming from sectors with limited production capacity. In like manner, the rule of law and the fight against insecurity must continue to be strengthened. All of the above would not only allow Mexico to face the current difficult international environment, but also lay the foundations for a greater long-term growth in productive activity, to the benefit of all Mexicans.

The box *Recent Revisions to the Credit Rating and Outlook of Mexico and Pemex* presents an account of the revisions made by the main rating agencies between May and July 2022, and the factors that led to such revisions of the country's sovereign debt and that of Pemex. It also provides a descriptive illustration of the evolution of Mexico's and the state-owned oil company's credit risk during periods when rating revisions are made.

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August 31, 2022

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