INTERNATIONAL MONETARY FUND

IMF Country Report No. 22/334

MEXICO

2022 ARTICLE IV CONSULTATION—PRESS RELEASE AND STAFF REPORT

November 2022

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2022 Article IV consultation with Mexico, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its November 2, 2022 consideration of the staff report that concluded the Article IV consultation with Mexico.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on November 2, 2022, following discussions that ended on September 23, 2022, with the officials of Mexico on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on October 18, 2022.
- An **Informational Annex** prepared by the IMF staff.

The documents listed below have been or will be separately released.

Financial Stability System Assessment

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

Copies of this report are available to the public from

International Monetary Fund • Publication Services
PO Box 92780 • Washington, D.C. 20090
Telephone: (202) 623-7430 • Fax: (202) 623-7201
E-mail: publications@imf.org Web: http://www.imf.org
Price: $18.00 per printed copy

International Monetary Fund
Washington, D.C.

© 2022 International Monetary Fund

PRESS RELEASE

PR22/373

IMF Executive Board Concludes 2022 Article IV Consultation with Mexico

FOR IMMEDIATE RELEASE

Washington, DC – **November 4, 2022:** The Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with Mexico.

After stagnating unexpectedly in the second half of 2021, the economic recovery picked up pace in the first half of 2022 owing to catch-up momentum, improving labor market conditions, and fiscal policy support. Headline inflation rose from about 3 percent at the end-2020 to 7.4 percent by end-2021 and to 8.7 percent by August this year. Economic activity is expected to slow from 2.1 percent in 2022 to 1.2 percent in 2023, given weaker U.S. and global growth and tighter global financial conditions. Inflation is projected to plateau in the second half of 2022 and then gradually decline.

The government has maintained a broadly neutral fiscal stance in 2022, targeting a fiscal deficit of 3.8 percent of GDP. It has used largely untargeted subsidies to mitigate the rise in the cost of living, offsetting the windfall gains from oil revenues. The gross debt of the public sector (by staff's definition) is estimated at about 56 percent of GDP. With inflation above target, the central bank has increased the policy rate to 9.25 percent in a series of hikes. Reflecting more resilient domestic demand growth compared to output, the current account posted a deficit of 0.4 percent of GDP in 2021 and is expected to widen to around 1 percent of GDP in 2022-2023. International reserves remain at a comfortable level.

The Mexican banking system remains well-capitalized, and its profitability continues to recover from the impact of the pandemic. Risk analysis as part of the Financial Sector Assessment Program (FSAP), conducted in parallel with the Article IV consultation, found that the systemic vulnerabilities and system-wide liquidity risks in the financial system remain broadly contained, given high capital buffers, low private sector leverage, and no sign of stretched asset prices. However, tail risks bear close monitoring. Financial sector policies have been strengthened in recent years, but further steps are necessary to maintain the resilience of the financial system under the evolving risk environment.

Executive Board Assessment[2]

Executive Directors agreed with the thrust of the staff appraisal. They welcomed the authorities' prudent macroeconomic policies in the face of a surge in inflation. They noted that economic growth is expected to slow in the near term reflecting weaker U.S. growth and tighter global financial conditions. With increased risks in a more turbulent global environment,

---

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.IMF.org/external/np/sec/misc/qualifiers.htm.

Directors agreed that Mexico is well placed to navigate the challenges, owing to its very strong macroeconomic policies and policy frameworks.

Directors welcomed Banco de México's proactive approach to addressing the inflation surge. With significant uncertainty about the inflation path in 2023 and upside risks, they concurred that further increases in the policy rate and maintaining a restrictive policy stance may be needed for some time. They also generally underscored the importance of clear policy communication. Directors recommended aligning wage increases more closely with expected inflation and the productivity of lower wage workers.

Directors agreed that the envisaged neutral fiscal stance in 2022 and 2023 is appropriate. They noted that retail fuel price smoothing, while reducing cost pressures, had a sizable cost on the budget, and generally encouraged the authorities to shift toward more targeted support should oil prices rise again in order to protect other priority spending. Contingency plans should be prepared for a swift policy response should downside risks materialize. Increasing fiscal buffers in the short term and reforming the institutional framework for greater flexibility in the longer term would be important. Directors noted that the floating exchange rate should continue to act as a shock absorber, although foreign exchange intervention could be considered if there is a significant worsening of market illiquidity.

Directors agreed that the financial system remains resilient post pandemic, welcomed the favorable assessment of the effectiveness of Mexico's financial stability framework, and broadly supported the key policy recommendations of the 2022 Financial Sector Assessment Program. They concurred that additional measures, including an update of the financial sector oversight and crisis management frameworks, are needed to keep up with a changing risk and regulatory landscape. After aligning the legal and regulatory AML/CFT framework with Financial Action Task Force standards, the focus should now be to strengthen the effectiveness of the AML/CFT regime, including through adequate resources, ensuring availability of high-quality beneficial ownership information, and monitoring emerging financial risks related to fintech.

Directors urged the authorities to broaden the supply side policy agenda for higher and more inclusive growth. Efforts should include measures to address corruption and crime and strengthen the rule of law, increase human capital investment, tackle infrastructure bottlenecks, reduce labor and product market rigidities, and promote financial deepening and inclusion. Directors recommended a gradual increase in productive spending, financed by tax reforms, to improve human and physical capital.

Directors generally noted the need to take further steps toward reducing greenhouse emissions. Fostering greater private sector participation in the energy sector would help boost competitiveness and investment.

It is expected that the next Article IV consultation with Mexico will be held on the standard 12-month cycle.

Mexico: Selected Economic Indicators, 2021–23

Population (millions, 2021):	129.0	GDP per capita (U.S. dollars, 2020)	10,048.8
Quota (SDR, millions):	8,912.7	Poverty headcount ratio (% of population, 2020) 1/	43.9

Main export products: cars and car parts, electronics, crude oil
Main import products: cars and car parts, electronics, refined petroleum
Key export markets: United States, EU and Canada
Key import markets: United States, China, EU

		Proj.	
	2021	2022	2023
Output			
Real GDP (% change)	4.8	2.1	1.2
Employment			
Unemployment rate, period average (%)	4.1	3.4	3.7
Prices			
Consumer prices, end of period (%)	7.4	8.5	4.8
Consumer prices, period average (%)	5.7	8.0	6.3
General government finances 2/			
Revenue and grants (% GDP)	23.3	24.3	24.1
Expenditure (% GDP)	27.1	28.0	28.2
Overall fiscal balance (% GDP)	-3.8	-3.8	-4.1
Gross public sector debt (% GDP)	57.6	56.2	57.7
Monetary and credit			
Broad money (% change)	9.5	11.0	7.3
Credit to non-financial private sector (% change) 3/	4.1	10.7	8.1
1-month Treasury bill yield (in percent)	4.4	N.A.	N.A.
Balance of payments			
Current account balance (% GDP)	-0.4	-1.2	-1.2
Foreign direct investment (% GDP)	2.5	2.1	2.2
Gross international reserves (US$ billions)	207.7	205.7	207.4
In months of next year's imports of goods and services	3.9	3.8	3.8
Total external debt (% GDP)	34.6	31.6	31.6
Exchange rate			
REER (% change)	5.9	…	…

Sources: World Bank Development Indicators, CONEVAL, National Institute of Statistics and Geography, National Council of Population, Bank of Mexico, Secretariat of Finance and Public Credit, and Fund staff estimates.
1/ CONEVAL uses a multi-dimensional approach to measuring poverty based on a "social deprivation index," which takes into account the level of income; education; access to health services; to social security; to food; and quality, size, and access to basic services in the dwelling.
2/ Data exclude state and local governments and include state-owned enterprises and public development banks.
3/ Includes domestic credit by banks, nonbank intermediaries, and social housing funds.

INTERNATIONAL MONETARY FUND

MEXICO

STAFF REPORT FOR THE 2022 ARTICLE IV CONSULTATION

October 18, 2022

KEY ISSUES

Context. Mexico's economy has recovered more gradually from the pandemic than many peers. Even so, inflation has accelerated and has become more entrenched, as elsewhere. Domestic and external financial conditions tightened in the past year, while near-term growth prospects for the U.S., Mexico's main trading partner, have weakened. The risks of capital outflows have risen. These new challenges compound Mexico's long-standing problems of low growth and high inequality.

Outlook and risks. Economic activity is expected to slow in the second half of 2022 and in 2023, given weaker U.S. and global growth and tighter global financial conditions. Inflation is projected to plateau in the second half of 2022 and then gradually decline. The balance of risks to the outlook is tilted to the downside, with higher domestic and global inflation, a sharper tightening of global financial conditions, and a sharper slowing in U.S. growth as the main downside risks.

Main Policy Recommendations

Fiscal policy. Moving towards more market-based fuel pricing would create room for providing targeted income support to vulnerable households, help rebuild fiscal buffers, and increase flexibility for fiscal policy to respond to downside risks. A permanent increase in productive spending, financed by tax reform, would enhance growth while underscoring Mexico's commitment to a sustainable fiscal position.

Monetary policy. With near-term upside risks to inflation, Banco de México should raise the policy rate further to a firmly restrictive level.

Financial sector policies. Policy priorities include strengthening the capacity of regulatory agencies, enabling supervision of financial groups on a consolidated basis, further enhancing supervisory techniques and methodologies, introducing supervision and regulation of cyber risks, and upgrading the macroprudential toolkit.

Structural policies. Mexico should prioritize supply side policies to increase growth and job creation including by strengthening the rule of law and governance, increasing incentives for labor market formality, and promoting competition, including in the energy sector.

Approved By
Nigel Chalk (WHD) and Bikas Joshi (SPR)

Discussions were held in Mexico City during September 12–23, 2022. The team comprised Thomas Helbling (head), Jean-Marc Fournier, Swarnali Ahmed Hannan, Kevin Wiseman (WHD); Carolina Claver (LEG); Samir Jahan (FAD); Faezeh Raei and Misa Takebe (SPR); and Jeffrey Williams (MCM). Nigel Chalk, Gaston Gelos (WHD) and Vikram Haksar (FSAP Mission Chief, MCM) joined the concluding meetings. Alfonso Guerra (OED) participated in the mission. The team met with Finance Secretary Ramírez de la O, Governor Rodríguez Ceja, Labor Secretary Alcalde, Economy Secretary Clouthier, other officials, and representatives of the financial and private sectors. The team was supported by Boele Bonthuis (FAD), Laila Azoor, Hugo Tuesta (WHD), and Mengqi Wang (2021 summer intern, University of Wisconsin-Madison).

CONTENTS

CONTEXT 4

RECENT DEVELOPMENTS 4

OUTLOOK AND RISKS 9

POLICY DISCUSSIONS 13

A. Tackling High Inflation 13

B. Managing Potential Downside Risks 16

C. Maintaining a Robust Financial System 19

D. Policies for Higher and More Equitable Growth 22

STAFF APPRAISAL 29

BOXES

1. The 2023 Budget Proposal 9
2. Global Tightening and Inflation Scenario 12

FIGURES

1. High Frequency Indicators 33
2. Labor Market Indicators 34
3. Real Sector 35
4. Prices and Inflation 36
5. Mexico: External Sector 37
6. Reserve Coverage and FCLs in an International Perspective 38
7. Fiscal Sector 39

8. Financial Markets 40
9. Banking System 41
10. Nonfinancial Corporate Sector 42
11. Social Indicators in Regional Context 43

TABLES

1. Selected Economic, Financial, and Social Indicators 44
2. Statement of Operations of the Public Sector, Authorities' Presentation 45
3. Statement of Operations of the Public Sector, GFSM 2014 Presentation 46
4a. Summary Balance of Payments (In billions of U.S. dollars) 47
4b. Summary Balance of Payments (In percent of GDP) 48
5. Financial Soundness Indicators 49
6. Financial Indicators and Measures of External Vulnerabilities 50
7. Baseline Medium-Term Projections 51
8. Monetary Indicators 52

ANNEXES

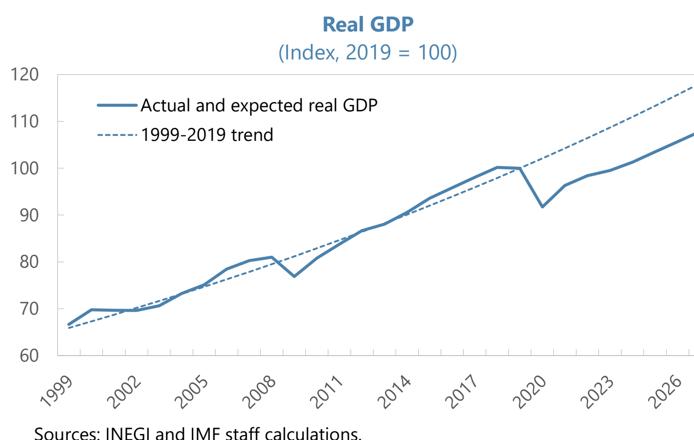
I. External Sector Assessment 53
II. Risk Assessment Matrix 54
III. Debt Sustainability Analysis 56
IV. The Subcontracting Law, Employment, and GDP Measurement 65
V. Domestic Market Development, Foreign Investors and Peso Stability 67
VI. Fiscal Policies to Tackle the Effects of Inflation in Mexico 69
VII. When the U.S. Sneezes, Does Mexico Catch a Cold? 72
VIII. The Impact on Mexico's Exports to U.S. from 2014 U.S. Sanctions on Russia 74
IX. The Inflation Surge in Mexico in Perspective 76
X. Reforming the Fiscal Framework in Mexico: Freeing Fiscal Policy to Respond to Shocks 79
XI. FSAP Key Recommendations 84
XII. Recent Reforms in Tax Administration 86
XIII. Mexico's Pension System 87
XIV. Mexico's Trade with Central America 89

CONTEXT

1. While still rebounding from the pandemic, Mexico is facing a challenging new environment as global inflation has surged. The economy has rebounded more gradually than in many peers, but even so, inflation has accelerated, in line with global developments. Financial conditions tightened in the past year, while growth prospects for the U.S., Mexico's main trading partner, have weakened. Risks of capital flow reversals in emerging market economies have increased. Mexico is well placed to navigate the challenges and risks, given prudent macroeconomic policy conduct, strong monetary and fiscal frameworks, and no major macroeconomic imbalances. Nonetheless, difficult policy trade-offs lie ahead.

Source: Banxico.

2. These challenges, alongside scarring from the pandemic, compound Mexico's long-standing problems of low growth, weak productivity, and high inequality. Investment weakened in the pandemic downturn, reinforcing the impact of increased policy uncertainty in some sectors in recent years. Important obstacles to higher, more inclusive growth remain pertinent in several areas, such as rule of law, corruption, and crime issues; regional disparities; and weak outcomes in education and health.



Sources: INEGI and IMF staff calculations.

RECENT DEVELOPMENTS

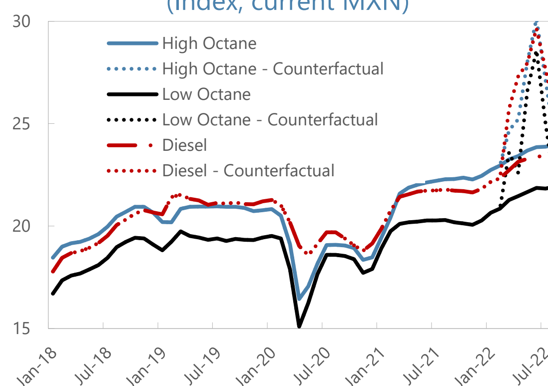
3. The economic recovery picked up pace in the first half of 2022. Real GDP expanded at an above-trend rate of 1.8 percent, reversing an unexpected stagnation in the second half of 2021. The latter reflected temporary factors, notably the impact of the new subcontracting law on production (Annex IV) and the impact of the spread of COVID-19 in the summer. The subsequent pickup largely reflects continued catch-up momentum, but also improving wages and fiscal policy support. Growth of domestic demand was more resilient than that of output in the past year, and the external current account recorded a small deficit of 0.4 percent of GDP in the period. The

external position in 2021 was broadly in line with the level implied by medium-term fundamentals and desirable policies (Annex I).

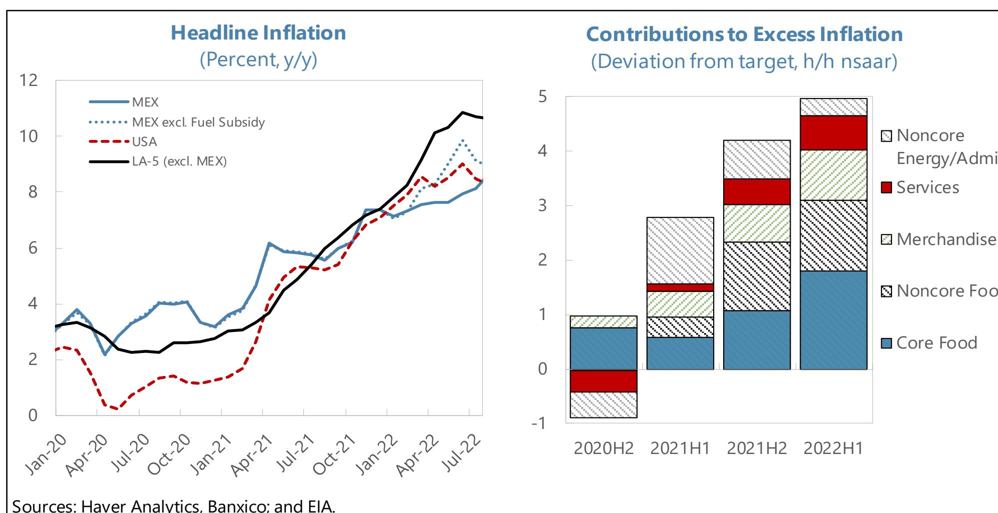
4. The recovery and slack continued to be uneven across sectors. Labor market conditions improved ahead of output in the past year, with steady increases in employment and decreases in un- and under-employment. Across sectors, many goods producing and some services sectors recently produced above pre-pandemic levels, while construction and some other sectors remained below. Overall, staff estimates that the output gap, which was about -2½ percent in early 2021, was nearly closed in mid-2022, reflecting both the recovery and potential output growth temporarily below pre-pandemic rates.

5. After accelerating in 2021, inflation has increased further in 2022, as elsewhere, despite an increase in fuel subsidies. Headline inflation rose from about 3 percent at the end of 2020 to 7.4 percent by end-2021 and to 8.7 percent by August this year. After an initial surge in 2021, energy price inflation has moderated due to an increase in fuel subsidies (see below). Food inflation, which has consistently exceeded the 3-percent target over the past decade, has risen steadily to 14.1 percent in August and has accounted for over 50 percent of the increase in headline inflation above target. Nevertheless, core inflation has also risen to 8.1 percent as price pressures have broadened. Near-term inflation expectations have increased above the upper limit of the target range, medium-term expectations are rising notably, but longer-term expectations remain broadly stable.

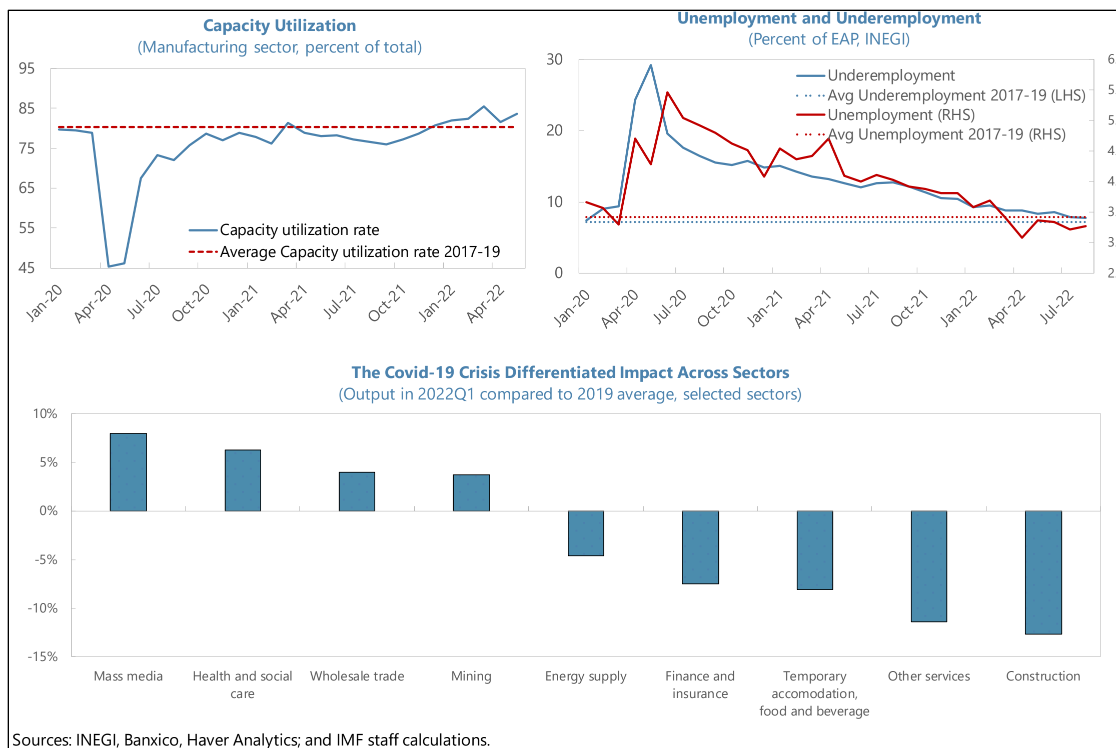
Retail and Counterfacual Fuel Prices
(Index, current MXN)



Sources: EIA, Banxico; and Haver Analytics.
Note: Chart presents counterfactual fuel prices with no fuel subsidies but full reduction of fuel excise taxes, and assuming a full passthrough from subsidies to prices.



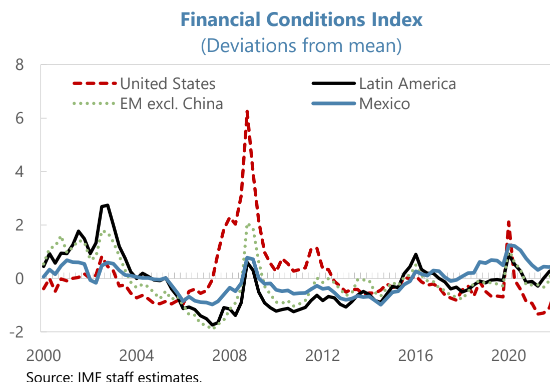
Sources: Haver Analytics, Banxico; and EIA.



6. Banco de México (Banxico) has responded to the inflationary pressures with an acceleration in the pace of monetary tightening. Starting with 25 basis-point (bp) hikes initially, Banxico resorted to 50 and, more recently, 75 bp hikes when it became clear that inflation was becoming increasingly broad-based. At 9.25 percent, the policy rate is currently about 6 percentage points above that of the U.S. Fed. Markets were pricing in a terminal policy rate of about 10.5 percent in this tightening cycle, to be reached in the first quarter of 2023.

7. Financial conditions have tightened. The IMF's Financial Conditions Index (FCI)[1] for Mexico indicates a moderate increase by end-June 2022 but to levels still well below past peaks.

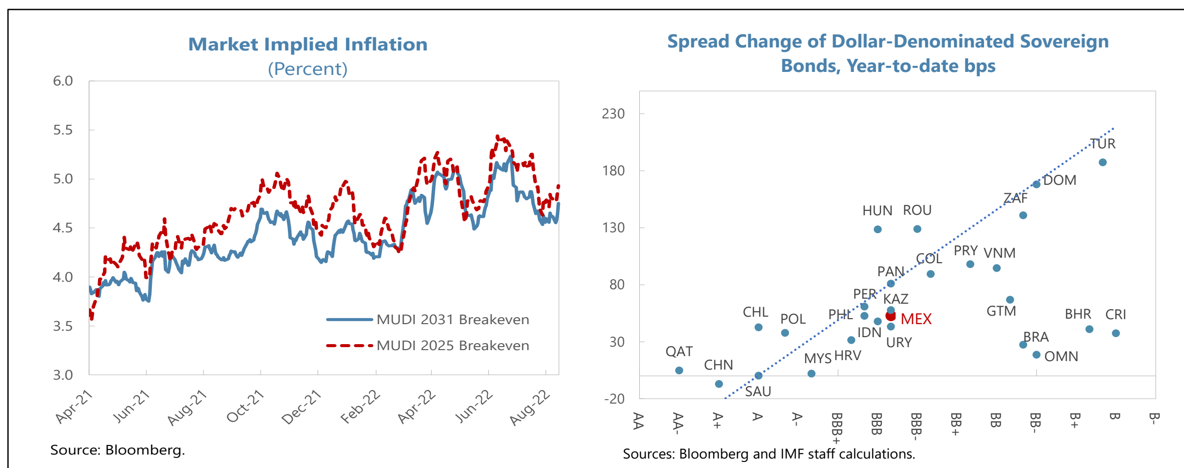
- Interest rates and bond yields on peso-denominated debt securities have risen to their highest levels since the Global Financial Crisis (GFC). The increase has been especially large at the front-end, in response to Banxico's rate increases. The yield on a one-year government bond has risen by over 250 bps so far this year, compared to a 100-bp



[1] https://www.imf.org/-/media/Files/Publications/GFSR/2018/Oct/CH1/doc/Annex1-1.ashx

increase for a 20-year bond. The real yield on an inflation linked Udibono[2] maturing in 2031 has risen by 80 bps.

- Yields on foreign-currency denominated Mexican securities have also risen, reflecting in part diminished risk appetite for emerging market assets and higher yields on safe assets. Across emerging market economies, the sovereign risk spread on Mexican 10-year U.S. dollar bonds has widened less than those for most other sovereigns with similar credit ratings (see chart).



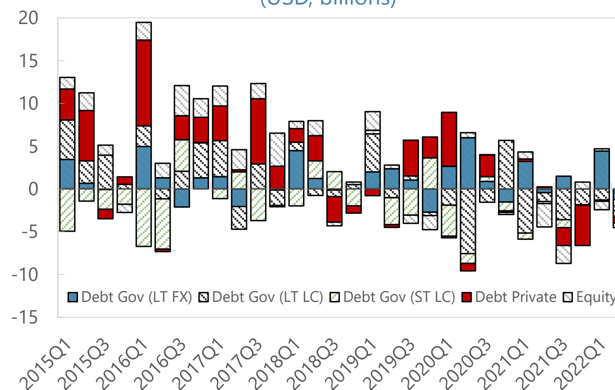
Source: Bloomberg.

Sources: Bloomberg and IMF staff calculations.

8. **Moderate portfolio outflows continued in the past year, but the peso remained broadly stable.** The outflows primarily reflected sales of peso-denominated government bond markets by nonresident investors, a development that predates the pandemic and has affected other large issuers of domestic currency-denominated bonds among emerging market peers. This has been offset by strong buying by domestic institutional investors, notably pension funds (Annex V). The peso has remained stable against the U.S. dollar, supported by a rising interest rate differential compared to the U.S., relatively strong fiscal fundamentals, monetary policy commitment to price stability, and solid remittance inflows. Mexico's gross international reserves slightly declined from their peak value after the SDR allocation of USD 12 billion in August 2021 but have remained adequate in terms of the ARA metric coverage at 125 percent.[3]

Portfolio Flows

(USD, billions)



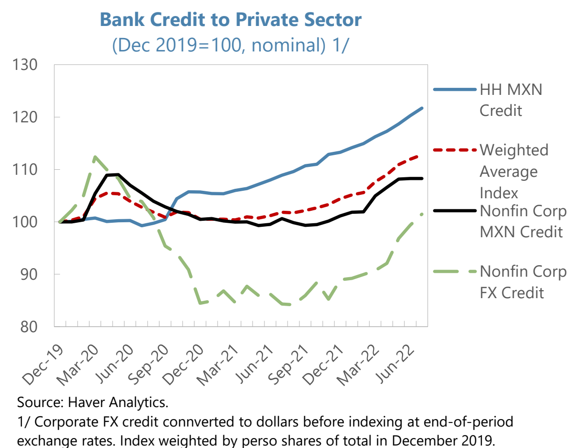
Sources: Bank of Mexico, Ministry of Finance and Public Credit; and Fund staff estimates.

---

[2] Udibonos are inflation-linked domestic bonds issued by the government. They are denominated in UDIs, which stands for Unidad de Inversion (Investment Unit). The value of UDIs relative to pesos rises with inflation.

[3] After the SDR allocation in 2021, the government bought foreign exchange of USD 7 billion from the central bank (albeit without recourse to SDRs) to meet the public sector's foreign currency debt amortization as part of its asset-liability management strategy.

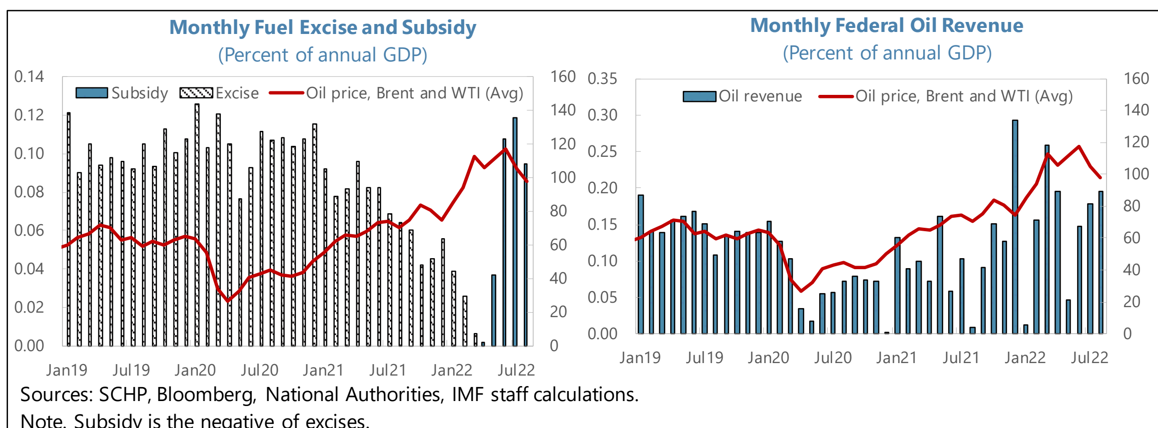
9. Credit growth is recovering despite the tighter financial conditions. Loans to non-financial corporates began to pick up late last year. Foreign currency-denominated (FX) loans recently reached their nominal pre-pandemic levels and peso-denominated loans have recovered after stagnating for a year. Loans to households picked up earlier, led by public non-bank mortgage lending, which was almost unaffected by the pandemic. Corporates are entering this tightening phase with healthy financial buffers, albeit smaller than a decade ago (Figure 10).



Source: Haver Analytics.
1/ Corporate FX credit connverted to dollars before indexing at end-of-period exchange rates. Index weighted by perso shares of total in December 2019.

10. The Mexican banking system remains well-capitalized, and its profitability continues to recover from the impact of the pandemic. The banking system has managed to navigate the worst of the pandemic while maintaining healthy balance sheets (Figure 9). The total capital adequacy ratio has increased to over 19 percent, from 16 percent before the pandemic. The large institutions that comprise the bulk of the financial system maintain ample liquidity buffers.

11. As global oil prices have risen, the authorities have smoothed retail fuel prices and took steps to stabilize prices of some essential food items. The fiscal cost of the long-standing fuel pricing regime rose following the Russian invasion of Ukraine, resulting in higher-than-budgeted subsidies in 2022H1 (Annex VI). In a nonbinding agreement, several food producers and distributors agreed to stabilize the prices of 24 items initially for six months. In addition, the authorities provided a temporary tariff reduction on certain foods, while taking steps to reduce distribution costs and promote food production, especially by small farmers.



Sources: SCHP, Bloomberg, National Authorities, IMF staff calculations.
Note. Subsidy is the negative of excises.

12. PEMEX has benefited from higher global oil prices. Reported earnings more than doubled to over USD 23 billion in the first six months of 2022 compared to the same period last year.[4] Most of the increase reflects higher oil prices and a modest increase in production. The

[4] Earnings are on an EBITDA basis, that is, they are earnings before interest, taxes, depreciation, and amortization.

improved cash generation has allowed for a rise in capital expenditures but will mostly be used for debt amortization. PEMEX's total debt outstanding has declined somewhat in recent years but remains high, including to suppliers, and spreads on Pemex's external debt continue to be above those on bonds of the Mexican government and most oil sector peers.

OUTLOOK AND RISKS

13. After the pickup in the first half, economic activity is expected to slow in the second half of 2022 and in 2023, given tighter global financial conditions and cooling U.S. growth. The outlook assumes a moderate further tightening in financial conditions, as Banxico and other central banks are expected to raise policy rates further, and fiscal policy stance is expected to be neutral based on budget developments to date in 2022 and the proposed 2023 budget (Box 1). Based on past patterns, the recent tightening in financial conditions will modestly weaken domestic demand, consistent with the impact of higher costs of debt, lower free cash flow and retained earnings, and weaker investment and spending on durables. A more material impact is expected from the ongoing weakening of U.S. growth (Annex VII).

14. Staff projects economic growth of 2.1 percent in 2022 and 1.2 percent in 2023. With the projected weakening of both domestic and U.S. demand in the second half of 2022 and in 2023, employment growth would also slow, reinforcing the deceleration in activity. The current account balance is expected to slightly widen to about 1 percent of GDP in 2022–23, as import prices are increasing faster than export prices.

Box 1. The 2023 Budget Proposal

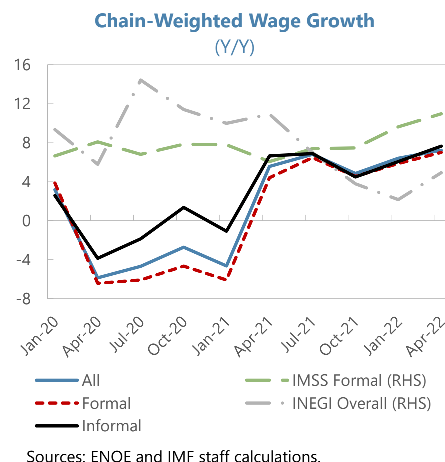
The 2023 draft budget targets a small increase in the overall deficit due to the increase in interest payments, 3.8 to 4.1 percent of GDP. On this basis, staff estimates that the fiscal stance (based on the change in the structural primary balance) will be about neutral in 2023. Compared to the authorities estimated 2022 outturn, expenditure in 2023 is increased by 8.5 percent in nominal terms (or by 0.1 percentage points of authorities' projected GDP). This increase accommodates higher spending of interest payments, some social programs—particularly (non-contributory) social pensions for the elderly—and priority infrastructure projects. In addition, the allotted funding for social programs related to fertilizers, procurement of national milk, and rural supplies has also been increased, though the size of the programs remains modest. On the revenue side, the budget entails no change in the tax code but highlights continued efforts to reduce tax evasion and avoidance. The authorities project oil price to be well below 2022 levels, and excise collections are expected to improve (including from fuels).

Staff Projection of 2022 and 2023 Budget (Share of GDP)

	2022		2023
	Staff Report 2021	Current	
GFS Revenue	23.2	24.3	24.1
Oil revenue	3.6	5.0	4.5
Excises (including fuel) 1/	1.8	0.8	1.4
GFS Expenditure	26.8	28.0	28.2
Interest payments	3.8	4.7	4.6
Fuel subsidy 1/	0.0	0.5	0.0
Overall balance	-3.5	-3.8	-4.1
Primary balance	-0.1	0.7	0.3

Source: IMF staff calculations.
1/ Fuel excises within excises include the revenue effects of using the excise rate to smooth market prices. Fuel subsidy includes mostly direct fuel subsidy.

15. Inflation is projected to plateau at around 8½ percent in the second half of 2022 and then decline gradually. Core and headline inflation are expected to return to the midpoint of the target band in mid-2024. This assumes that the policy rate will be raised to around 10 percent by early 2023 and be maintained at that level before being gradually reduced starting in late 2023. On balance, risks to this inflation outlook are judged to be tilted to the upside.



Sources: ENOE and IMF staff calculations.

16. Economic activity is projected to pick up in 2024 and the following years, in tandem with the U.S. The output gap will narrow after widening somewhat in 2023. However, without significant structural reforms, the growth rebound is expected to be modest, to about 2 percent. Potential output growth per capita would recover to a rate only slightly above one percent.[5] The current account deficit is projected to stabilize at around 1 percent of GDP in the medium term.

17. The balance of risks to the near-term outlook for economic growth is tilted to the downside.

- Higher global inflation and a sharper tightening of global financial conditions, or a sharper deceleration in economic global or U.S. growth, are the main downside risks. Additional external prices shocks, including from the Russian invasion of Ukraine, could put upward pressure on inflation, especially for food items, and inflation expectations. An illustrative global inflation scenario presented in the July 2022 World Economic Outlook Update could result in a peak output loss of 2 percent or more and stalling real GDP in Mexico (Box 2). Tighter-than-expected monetary policy could lead to an upswing in capital outflows, potential system-wide liquidity stress, downward pressure on the peso, and higher imported inflation. This could be exacerbated by a fall in remittances as the U.S. economy slows or worsening competitiveness relative to competitors that have seen a real depreciation in recent months. A sharper U.S. slowdown would be particularly consequential—in the short-term Mexican GDP has an elasticity of more than one with that of the U.S. (Annex VII).

- On the domestic side, the inflation surge might reverse more slowly than expected, as it may have led to more backward-looking price dynamics or impending further increases in inflation expectations. In both cases, a tighter monetary policy stance would be required.

- Risks loom along other dimensions as well. The emergence of new COVID-19 variants with greater evasion of previous immunity or higher hospitalization and mortality rates could result in lower mobility and higher precautionary saving. Additional large negative supply shocks from

[5] Average annual population growth is projected at 0.7 percent per year in 2022-27. Potential GDP growth after 2024 would thus be about 1.8 percent.

China could also be in train if continued zero COVID-19 policies motivated lockdowns similar to those seen this year. Rising inflation, declining incomes, and worsening crime and inequality could lead to social unrest and political instability.

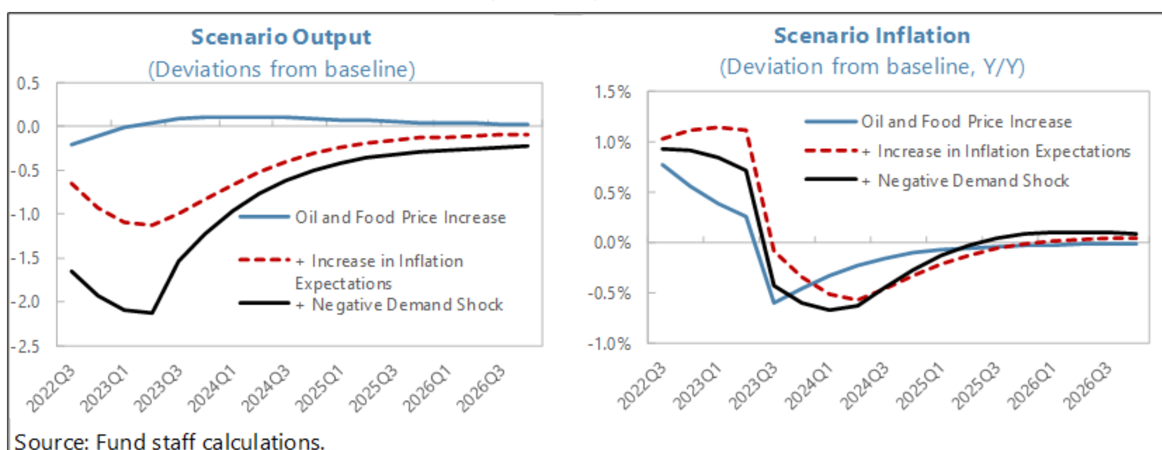
- Among medium-term risks are the possibility that scarring from the pandemic or policy uncertainty lowers potential output, as could climate-change induced risks (such as more frequent severe hurricanes and floods, or earlier emergence—or larger amounts of—stranded assets in the carbon-intensive energy sector).

- Upside risks include the continuation of nearshoring dynamics in Mexico or smaller spillovers from an economic slowdown in the U.S. than was seen in the past. The former entails the buildup of productive and distribution capacity in Mexico, with a view to serve the North American markets. The latter could reflect continued robust service sector performance as the domestic economy recovers, or delayed effects on the manufacturing sector from the U.S. slowdown. Mexico's exports could also get some boost in the near-term due to trade diversion effects from geopolitical tensions (Annex VIII, Annex VII of 2021 Staff Report).

Authorities' Views

18. The authorities agreed that the current conjuncture of high and rising global and domestic interest rates, high inflation, and downside risks to growth presented elevated uncertainty with risks tilted to the downside. The budget contemplates growth for 2023 in the range of 1.2 to 3.0 percent in 2023, with a central estimate of 2.1, while the latest Banxico forecast puts it between 0.8 and 2.4 percent with a central estimate of 1.6 percent. The authorities see inflation falling in 2023 from a high level under the normalization of supply shocks, fiscal measures to contain fuel prices pass-through, and decisive monetary policy. They agreed disappointing growth in the U.S. is the headline risk. However, they noted that the manufacturing sector, which represents the bulk of trade exposure, might this time be less affected than services in a U.S. slowdown. At the same time, they expected that Mexico could benefit from the nearshoring trend. Faster-than-expected global monetary tightening could also spark a steepening credit curve and pressures on capital flows, though experience through the tightening cycle so far attenuates these concerns.

Box 2. Global Tightening and Inflation Scenario



Source: Fund staff calculations.

A global tightening and inflation scenario was simulated with the IMF's G20MOD multi-country DSGE model to better understand the consequences of multiple downside shocks on the Mexican economy.[1] The model results are presented in cumulative layers, with each successive layer adding another shock on top of those in the previous layer.

An initial layer simulates the direct effect of a temporary shock to global oil and food prices, which would rise by 10 and 50 percent, respectively, relative to the baseline. The shock would raise headline inflation in Mexico by nearly 1 percent above an already elevated baseline in year-on-year terms for a few quarters, but it would only have limited direct effects on output in the absence of a significant monetary policy response.

In a second layer, the commodity shock on top of the baseline, which already includes inflation at a 20-year high, causes a temporary dislocation of inflation expectations globally, including in Mexico. This results in a sharper increase in the domestic (and global) policy interest rate, in line with the increase in inflation expectations, to bring expectations back in line with the inflation target and limit second-round effects. In this case, output levels fall substantially below baseline, peaking at more than 1 percent below in the first half of 2023. Higher policy rates also present elevated systemic liquidity risk, discussed in detail in the accompanying 2022 Financial System Stability Assessment (FSSA) for Mexico.

Last, a third layer us added with a 1 percent decline in domestic demand, inspired by diminished real earnings expectations, or perhaps an un-modeled credit contraction. This brings output to more than 2percent below baseline at the trough while somewhat attenuating prices pressures. The three layers put substantial cumulative pressure on the corporate interest rate though a capital flow shock is not modeled directly.

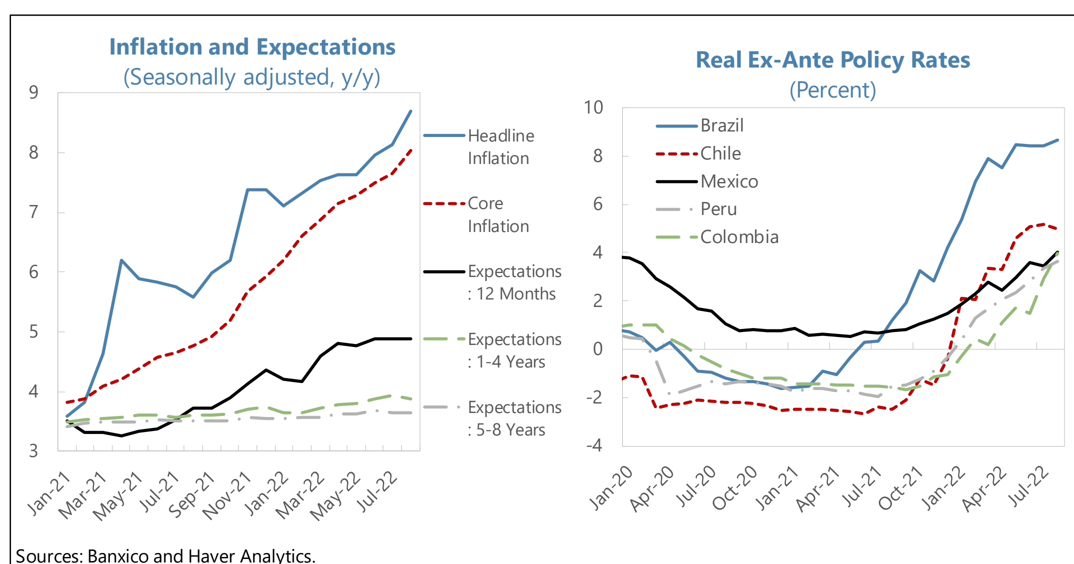
[1] The simulation is consistent with the global downside scenario presented in the July 2022 World Economic Outlook Update. It was constructed on the basis of shocks to economic variables relative from their baseline levels and, as such, the results generally are not sensitive to the baseline levels.

POLICY DISCUSSIONS

A. Tackling High Inflation

Monetary Policy

19. Banxico has taken a proactive approach to address increasingly broad-based inflation. Since June 2021, successive and gradually larger increases in the reference rate brought the ex ante real policy rate (i.e., the nominal rate adjusted for one-year ahead inflation expectations) to a moderately restrictive level by September 2022 at about 4 percent.[6] This has been an appropriately calibrated response to the upward surprises to inflation and sequential delays in returning to the inflation target. In recent monetary policy statements, Banxico has also rightly indicated its intention to further increase the policy rate. It is expected that a policy rate of at least 10 percent would be required for inflation to reverse close to the central bank's 3-percent target within the usual two years or so.

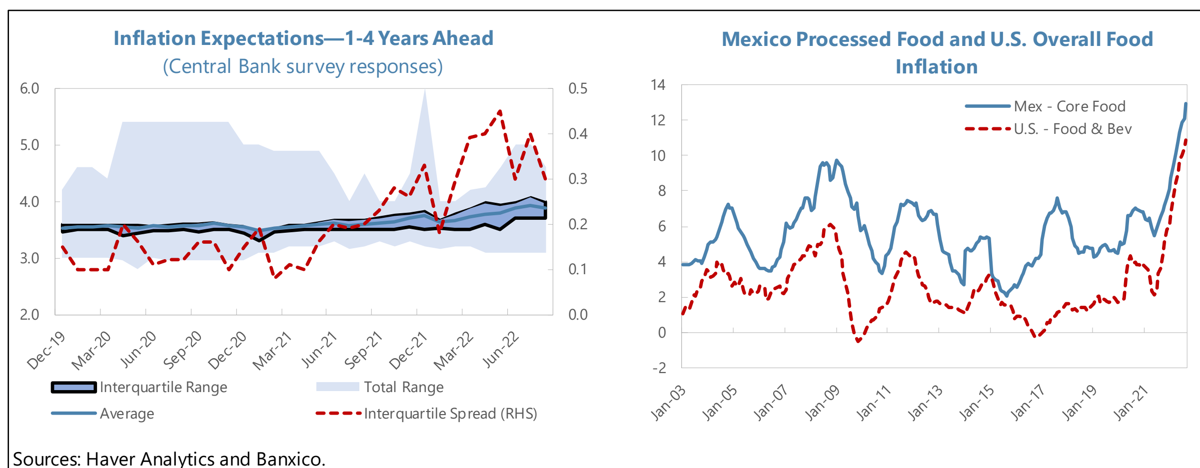


Sources: Banxico and Haver Analytics.

20. Inflation risks are expected to remain heightened for some time. The proactive policy tightening already put in place, alongside further increases in the policy rate, and weakening global demand are expected to lead to a slowdown in activity and a decline in inflation. However, there is significant uncertainty about the timing, speed, and durability of the downward path for inflation. This uncertainty arises from the possibility of: (i) further shocks, including spillovers to local raw and processed food prices from global commodity prices and domestic food prices, especially resulting from severe drought conditions in some Mexican states; (ii) if inflation imported from advanced economies is more persistent than expected; (iii) longer-lasting price pressures from supply chain

[6] In its April–June 2019 Quarterly Report, Banxico used a range of models to establish a range between 1.8 and 3.4 percent for the neutral real policy rate.

constraints; (iv) further expected increases in the minimum wage feeding into costs and prices; (v) inertia resulting from more frequent domestic price adjustments; and (vi) further upticks in near-term inflation expectations that then feed in to wages and prices. The inflation surge in Mexico reflects both shocks in standard determinants (such as relative food and import prices, falling slack, and rising inflation expectations), but also a series of positive residual factors, and preliminary signs of greater inertia (Annex IX).



Sources: Haver Analytics and Banxico.

21. Risk considerations call for further increases in the policy rate and maintaining it at that higher level. The risks to inflation are not only high but also asymmetric in the usual one-to-two-year monetary policy horizon: upside surprises to inflation seem more likely than downside shocks. One contributing factor is backward-looking elements in the inflation process in Mexico according to Philips curve estimates for Mexico (Annex IX), which suggests additional risks from recent inflation shocks. Given these asymmetric risks and the substantial costs of de-anchoring wage and price formation, a risk management approach would argue for policy rates to rise further and stay firmly restrictive for some time, so as to keep wage and price formation anchored. Such an approach would entail a real ex ante policy rate that would peak at over 5 percent in 2023, broadly consistent with market expectations for nominal rates and staff's inflation forecast.

22. Clear monetary policy communication will increase policy effectiveness during this period of significant inflation uncertainty. Banxico has appropriately taken steps to help the public better understand its policy decisions in this context. Steps have included the publication of updated inflation forecasts with every rate decision since August 2021 and, more recently, guidance on the direction of the next policy rate change in the monetary policy statement. These efforts have helped the public better understand the Governing Board's policy decision. To further strengthen this understanding, Banxico could begin publishing more information on the policy rate path that underpins its macro forecast, including the expected rate and length of its stay at the peak of the tightening cycle, and possible triggers for changes in policies. If clearly presented as expectations and not a policy commitment, changes in the expected policy rate path would provide valuable information on how the central bank expects to adjust policy as economic conditions change. A broader review of the experience with Banxico's inflation targeting framework over the past two

decades could provide useful suggestions for further improvements to the policy framework and the communications toolkit.

Fiscal Measures

23. The authorities have used largely untargeted subsidies to mitigate the rise in the cost of living. The authorities expect that these subsidies will cost around 2 percent of GDP (see Annex VI for a description of the authorities' anti-inflationary fiscal measures) which include:

- Retail fuel price stabilization has directly reduced cost pressures, lowering inflation by an estimated 2 percentage points this year. The measure has come at a sizeable budgetary cost, estimated at around 1.5 percent of GDP, and has disproportionately benefited higher income households. Furthermore, by diluting price signals, the policy has short-circuited the desirable adjustment in fuel demand.

- The measures to mitigate the impact of higher food prices have come at a smaller budgetary cost. They have mostly relied on preexisting programs (e.g., increased emphasis on direct fertilizer provision to small farmers or support for subsistence farming), and their direct impact on inflation has been minimal.

24. Overall, these fiscal and preexisting redistributive measures have helped support real incomes. The higher food and energy prices have only increased the deficit by around ¼ percent of GDP with fuel subsidies offset by higher oil revenues and food-related measures funded from reducing other expenditures. However, in the event of a renewed increase in energy prices, the fiscal effects would depend on the level of refining margins ("crack spread") and the duration of the higher global prices. In addition to these efforts to lessen the increase in the cost of living, the administration has increased the universal social (noncontributory) pensions and is projected to raise the minimum wage from 42 percent of the median formal sector wage in 2018 to 59 percent in 2022). Overall, in the context of a stronger economic recovery and record-high remittance inflow, these fiscal efforts, the higher minimum wage, and other labor market measures may have contributed to an increase in real per capita labor income of about 5 percent (y/y) by mid-2022.

25. The proposed neutral fiscal stance in 2023 strikes a balance between supporting monetary policy in its disinflation efforts while avoiding a material fiscal drag on activity. With the economy currently operating at close to potential the priority is to restore low and stable inflation. A restrictive monetary stance and a broadly neutral fiscal stance provide an appropriate policy mix to achieve this goal. However, continuing large minimum wage increases will likely add to inflation pressures, working at counter purpose to monetary and fiscal policies and potentially reducing formal employment for lower income workers (see below).

Authorities' Views

26. The authorities agreed with the need for a robust monetary policy to keep inflation expectations well-anchored. The early and decisive monetary policy response to the global

inflation surge had been successful, noting that upside risks to inflation were recognized early even when the surge was still considered transitory in the baseline. They underscored that the real policy rate was now in restrictive territory despite continued upward surprises to inflation. The authorities highlighted their strengthened communication efforts, which had ensured smooth financial market adjustment in this hiking cycle. They will continue to evaluate other tools that could improve communication.

27. The anti-inflationary fiscal measures have helped to mitigate the effects of inflation on those most exposed. The authorities emphasized that, despite these measures, they sustained momentum on the administration's flagship reforms. Fuel price stabilization in particular had been central to efforts to support households and restrain inflation, in line with the President's commitment to the people. They highlighted analysis suggesting that, in addition to supporting households, the pricing mechanism has dampening second-round inflation effects. Other anti-inflation measures had largely leveraged existing policies, especially in agriculture and for basic necessities other than fuels. The authorities underscored that the main goal of these policies was to support historically underserved agricultural communities, although they also expected positive effects on agricultural yields.

B. Managing Potential Downside Risks

Fiscal Policy

28. Fiscal policy could better prepare for downside risks. The neutral fiscal stance could be maintained if growth were to slow modestly. However, more could be done to be ready to provide targeted support for poorer households. In the event of a significant weakening of activity, additional discretionary fiscal support should be considered.

29. Under Mexico's fiscal framework—which includes both a balanced budget rule and constraints on debt issuance—the scope to pursue a countercyclical fiscal policy is limited. Modest steps could, however, increase the ability of fiscal policy to provide targeted support in the event of a negative shock.

- ***Changing the retail fuel price regime could create room for more targeted support in case of a prolonged global oil price increase***. More market-based fuel pricing could allow for a passthrough of global fuel prices to domestic retail prices, encourage transition to greener sources of energy, and reduce the budgetary cost of subsidies. This would also strengthen the price signals for fuel demand and allow the fiscal savings to be, at least partially, reinvested in targeted support for vulnerable households[7] by leveraging existing social safety nets (see Fiscal Policy for Mitigating the Social Impact of High Energy and Food Prices, IMF 2022) or relying on

[7] The fuel tax expenditure under the current regime entails large leakage of support to higher income households. Using 2020 data, the authorities estimate that the top 20 percent of the income distribution accounted for about 45 percent of the fuel excise tax collection whereas the bottom 20 percent accounted for 6 percent (*Distribución del pago de impuestos y recepción del gasto público por deciles de hogares y personas. Resultados para el año 2020*, Ministry of Finance). Broad-based reductions in tax rates are therefore likely to entail disproportionately large gains for richer households.

other tools (such as one-off cash payments, temporary energy bill discounts, or temporary public transport subsidies).

- ***Implementing, and building upon, proposed reforms to the fiscal framework.*** Fiscal reserves in the *Fondo de Estabilización de los Ingresos Presupuestarios (FEIP*, also known as '*the stabilization fund*') have fallen to less than 0.1 percent of GDP, given extensive usage during the pandemic and a restrictive replenishment mechanism under the Federal Budget and Fiscal Responsibility Law (FRBL). [8] This is a potential constraint on the government's ability to respond quickly to future shocks. The authorities estimate that a minimum of 0.3 percent of GDP would provide sufficient resources for a fiscal policy response. Recent amendments to the FRBL proposed by the authorities as part of the 2023 budget would bring FEIP reserves closer to this desired level, by enabling utilization of headroom against the government's debt ceiling. This approach would enhance preparedness in the short-term. However, in the medium term, more extensive reforms are required to enhance flexibility more permanently, while also ensuring sustainability and credibility over the medium-term (Annex X). Such reforms could include (Annex IV of Staff Report 2019): (i) a well-calibrated debt anchor; (ii) broader coverage of expenditure in the structural spending rule; (iii) a medium-term fiscal strategy that specifies the post-shock adjustment path to return to the debt target; (iv) tighter triggers for the use of escape clauses; and (v) a strengthened role for the fiscal council.

30. A medium-term fiscal strategy could help to anchor expectations about future fiscal policy. The public debt ratio is expected to remain broadly unchanged in the next decade.[9] Weaker-than-expected growth or adjustment slippages would thus result in a rising debt path. Nonetheless, the Sovereign Risk and Debt Sustainability Analysis (SRDSA) (Annex III) indicates that public debt remains sustainable. With the proposed fiscal framework reform, a credible debt anchor and a medium-term fiscal strategy could increase the scope to let fiscal policy act as a shock absorber and reduce the volatility in activity as a result.

Authorities' Views

31. The authorities see advantages to maintaining the current retail fuel price stabilization mechanism. Given the current administration's pledge that fuel prices will not rise in real terms above their November 2018 level and the legal basis of the pricing mechanism, the authorities prefer to continue with the current prompt and programmatic fuel price stabilization mechanism rather than more targeted support.

---

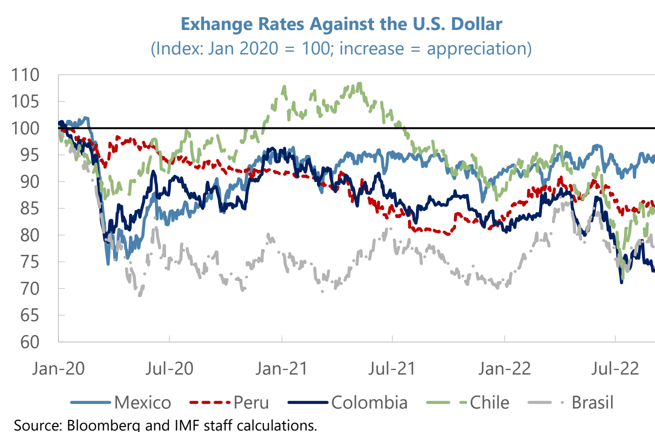
[8] Under Mexico's fiscal framework, FEIP has served as the de facto source of contingent financing for the budget alongside smaller trust funds when revenue shortfalls materialized during the 2020 downturn. These fiscal reserves are critical as Mexico's fiscal framework does not permit the issuance of debt for non-capital spending. The current framework, enshrined in the FBFRL, also places restrictions on how FEIP can be replenished, with balance sheet transfers to FEIP likely viewed as expenditures that must be balanced by a pre-identified revenue source or spending cuts elsewhere in the budget.

[9] The growth-adjusted interest factor, sometimes referred to as (r-g), captures the interest costs of the debt ratio, adjusted for growth effects, which, on their own, lower the latter. Staff's baseline projections for the SRDSA include increasing fiscal gaps in the outer years, which reflect the estimated adjustment needed to achieve the deficits projected in the authorities' latest *Budget Update*.

With oil prices expected to decline next year, the formula underpinning the fuel pricing mechanism is expected to result in lower subsidies in 2023. The authorities pointed to a track record of tapering subsidies when market price pressures abated. Other policies addressing food prices include the removal of tariffs on key food imports and regulatory agreements with retailers on food price passthrough. However, in anticipation of possible downside risks, they are interested in reforms to the fiscal framework that would enable the allocation of fiscal savings and funding from debt issuance to the stabilization fund, while respecting key tenets of the current framework. In case of a shock affecting vulnerable population, the authorities consider they can create space to provide support by reallocating spending away from public investment.

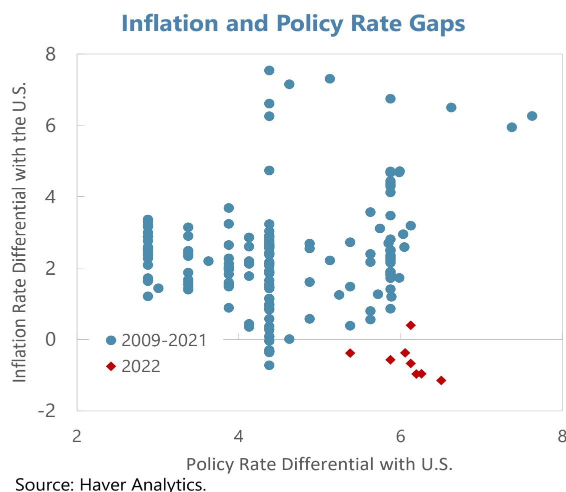
External Sector Policies

32. The peso has faced less downward pressure over the past year than other emerging market currencies. The relatively high interest rate differential between Mexico and the U.S. has made holding peso assets more attractive, which has helped in containing upside risks to inflation. In addition, the peso has been supported by strong remittances, a track record of fiscal discipline, and some inflows linked to the "nearshoring" of productive capacity.



Source: Bloomberg and IMF staff calculations.

33. In the event of a weakening of the balance of payments, peso depreciation should be allowed to act as a shock absorber. Standard financial frictions underpinning concerns about depreciation generally are not relevant in Mexico's case. In particular, peso foreign exchange (FX) markets are deep and liquid and even during the turbulence in 2020 saw below-average rises in the UIP premium and in bid-ask spreads. FX mismatches in balance sheets are contained. The economy and financial sector (see below) are thus expected to remain resilient if downward pressure on the peso materialized. However, in the case of a large shock resulting in sizeable depreciation, policy rate hikes might be needed to counter the inflation passthrough. If such a shock triggered market illiquidity and sharply higher bid-ask spreads, temporary FX intervention could be considered. The IMF's Flexible Credit Line (FCL) provides an additional external buffer against such external risks and will help contribute to market confidence.



Source: Haver Analytics.

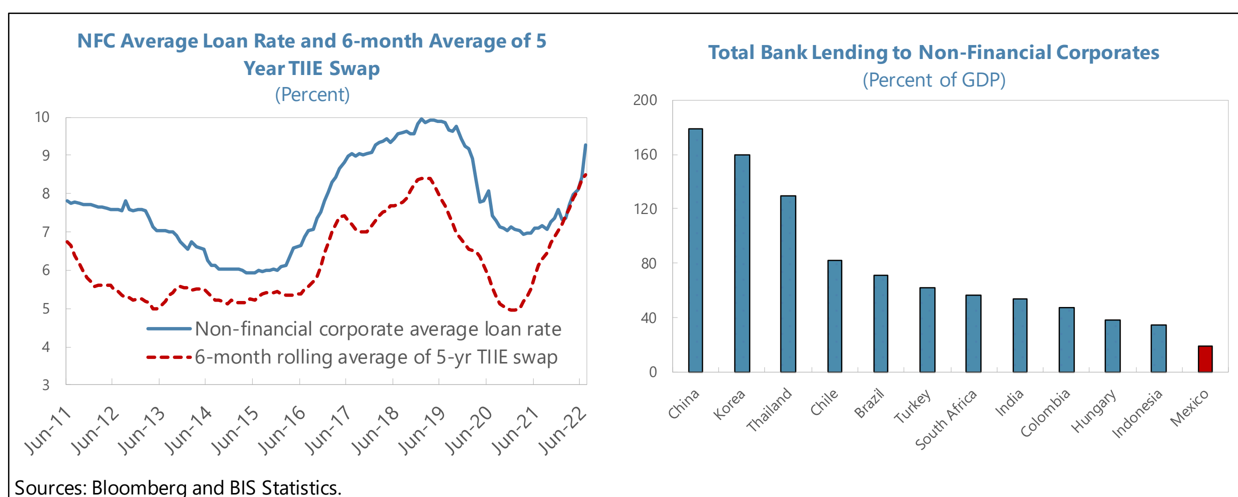
Authorities' Views

34. The authorities consider that the country's external buffers served them well during the pandemic and in the recent tightening period. The flexible exchange rate helped support the recovery by stimulating manufacturing. Portfolio outflows have proved manageable in the context of substantial remittances and recently resurgent FDI, while the level of foreign participation in local currency sovereign bond market, now back to earlier levels, lowers risks to future external shocks.

C. Maintaining a Robust Financial System

35. The financial system has emerged from the pandemic in good health. Non-performing loans (NPLs) rose modestly from low levels during the pandemic and began declining last year. Capital adequacy ratios are high and rising, and liquidity ratios are comfortable. With these buffers, the banking system demonstrated strong resilience to severe macrofinancial shocks in the solvency and liquidity stress tests conducted under the 2022 FSAP (although some smaller banks may require additional buffers to handle such stresses). Overall, systemic vulnerabilities and liquidity risks in the financial system appear broadly contained, given high capital buffers, low private sector leverage, and no sign of stretched asset prices.

36. Bank loans and the financial health of non-financial corporations should be monitored in the context of the recent rapid rise of interest rates. The increase itself should, all else equal, increase banks' net interest margin, especially for larger institutions. On the other hand, with Mexican banks having increased their holdings of domestic government bonds, they could face mark to market losses on their holdings (although the impact is not expected to be large since their holdings are of short duration). A large fraction of non-financial corporate credit is floating rate, so higher interest payments could strain liquidity for some corporates and possibly increase default rates. Offsetting the pressures from higher interest rates, Mexican corporates retain relatively strong buffers and FSAP stress tests imply that heightened default risks under the adverse scenario from currently low levels would be manageable for the banking sector.



Sources: Bloomberg and BIS Statistics.

37. The authorities should take steps to further enhance the resilience of the financial system. The authorities have already rolled out critical Basel reforms, including the introduction of Total Loss Absorbing Capacity (TLAC) requirements and improved supervisory techniques and methodologies. The 2022 FSAP offers several recommendations for further steps (Annex XI).

- ***Capacity of regulatory agencies***. The autonomy and resources of regulatory government agencies and the legal protection of supervisors could be strengthened, to equip them to deal with the evolving risk environment.

- ***Banking supervision and regulation***. The banking regulator (CNBV) should continue to improve supervisory techniques, by simplifying its risk-based rating system and using methodologies that are principles- rather than rules-based. It should also be enabled to supervise effectively all financial conglomerates on a consolidated basis. Currently, such conglomerates can voluntarily request authorization to operate as a financial group, but some have not done so. The authorities should amend the 2014 Financial Groups law to make application mandatory for all such conglomerates.

- ***Systemic liquidity management***. System-wide liquidity risks appear contained, with commercial banks well-placed to provide liquidity to other financial institutions during periods of stress. Moreover, the authorities have demonstrated the effectiveness of their toolkit to support systemic liquidity during the pandemic. But conditions bear continued monitoring, particularly in a context of severe downside risks, and high levels of short-term wholesale funding of development banks deserve further consideration, though risks are attenuated by their liabilities guaranteed by the sovereign. Banxico's Emergency Liquidity Assistance framework could be further enhanced.

- ***Safety nets.*** CNBV should closely monitor risks from loan concentration risks and contingent credit lines to non-financial corporates and apply Pillar 2 requirements as needed. Bank resolution and recovery could be strengthened by removing impediments to banks' resolvability, eliminating barriers to the effective use of the purchase and assumption and bridge bank tools, and expanding the resolution regime's remit to financial holding companies. Board vacancies at the Deposit Insurance and Resolution Authority (IPAB) should be filled.

- ***Cybersecurity***. Banxico and CNBV could enhance their approach to strengthening cybersecurity in the financial system, by further developing their strategy and enhancing oversight, inspection, and investigative powers and instruments.

- ***Climate risks.*** Financial system exposure to physical and transition risks from climate change is manageable but financial tail risks will worsen, particularly if investments in resilience are not made and global climate policy action is delayed, resulting in higher corporate defaults and lower bank capital.

38. The macrofinancial toolkit could benefit from additional instruments. While banking system and corporate sector risks appear contained, the mortgage market is less well regulated.

Mortgages are still small as a share of bank capital and GDP, but they are growing rapidly (Figure 9). Introducing loan-to-value and debt-to-income requirements at this early stage would be prudent, ahead of a possible risk build-up. Publishing a macroprudential strategy and counter-cyclical buffer guidelines would further advance macroprudential policy.

39. Financial deepening should remain a policy priority. The authorities have undertaken various efforts in recent years, including to increase access to bank branches and financial products, improve transparency and broaden access with more digital connectivity. These efforts should continue. Mexico's relatively poor financial depth is a headwind to inclusive growth. Difficulties in collateral recovery and perceptions of judicial quality are also headwinds (see below).

40. The authorities should continue to foster the development of Fintech to increase competition in the financial sector and broaden financial inclusion. Mexico's 2018 Fintech law was an important step in developing the digital financial services industry, and helped foster the rapid creation of new firms, primarily in the e-payments sector. Additionally, Banxico has recently undertaken a plan to launch a central bank digital currency (CBDC). A primary objective of this initiative is to promote greater financial inclusion. As CBDC implementation raises complex legal, regulatory, and operational issues with little global experience so far, Banxico should continue to engage with stakeholders and ensure sufficient resources are allocated, including to ensure that safeguards to financial stability and integrity remain robust.

41. The authorities should build on their good progress in aligning the legal and regulatory framework with the Financial Action Task Force (FATF) standard by enhancing effectiveness. Efforts should continue to ensure that adequate, accurate and timely information on beneficial ownership is available. The authorities' plans to establish a beneficial ownership register and strengthen the legal framework applicable to designated non-financial business and professions are key elements of this endeavor. Efforts should remain to strengthen Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) consolidated supervision, allocate adequate resources and reinforce enforcement to ensure effective, proportionate, consistent, and dissuasive sanctions. Emerging financial integrity risks, including those related to fintech and virtual assets (i.e., registration, customer due diligence, and supervision) also need monitoring.

Authorities' Views

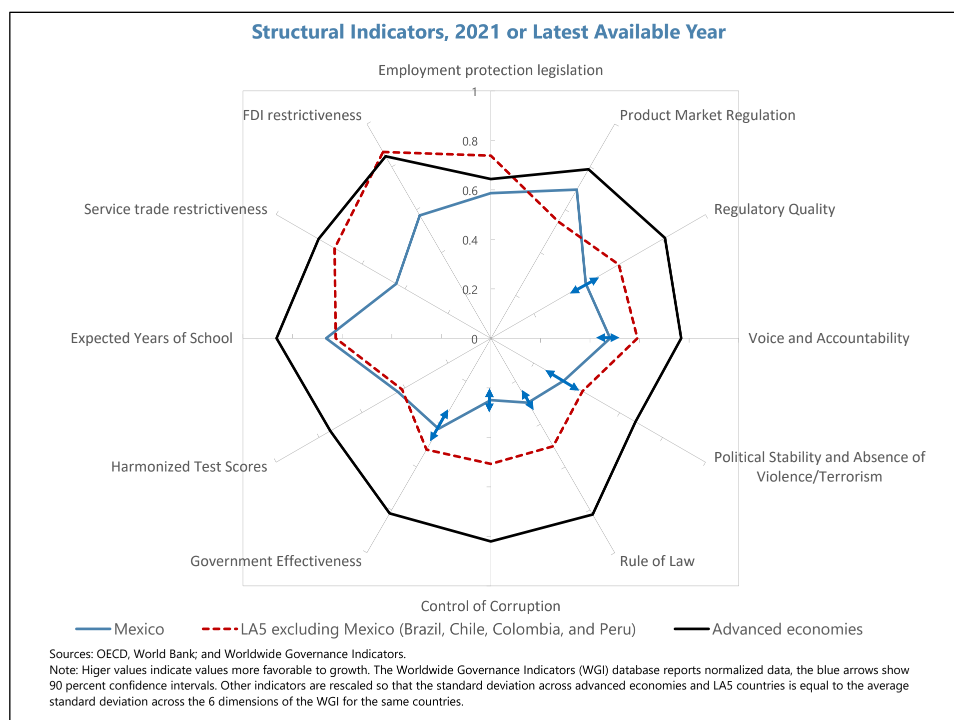
42. The authorities underscored their commitment to monitoring and containing emerging systemic risks in the context of their risk-based prudential oversight. They concurred that the Mexican financial system is robust and resilient to possible future adverse shocks. They shared the view that the policy framework performed well during the pandemic shock and are considering further analysis of potential system-wide liquidity risks, as new global shocks emerge. They intend to continue strengthening the risk-based supervisory framework and take note of the recommendations to expand the application of the consolidated supervision framework. As for other potential risks and recommendations, the authorities did not fully share the concern on the risks associated to contingent credit lines (the vast majority of such lines are revocable) or on liquidity risks from development banks (as these institutions are fully backed by the sovereign

government). They agreed, however, to monitor and continue assessing these issues. They also noted that the institutional arrangements governing the autonomy of regulatory agencies are defined legislatively, emphasizing that there is a track record of supervisors and regulators operating with a high level of independence. The authorities are committed to boosting cyber resilience and will continue to develop new areas, such as climate risk and fintech, including in the context of their CBDC project, which focuses on promoting financial inclusion.

D. Policies for Higher and More Equitable Growth

43. Productivity growth has been weak despite successful trade opening and a stable macroeconomic environment. The 1994 North American Free Trade Agreement (NAFTA) eliminated almost all tariffs among Canada, Mexico, and the U.S. This opening reshaped the Mexican economy, with exports as a share of GDP rising threefold. Foreign direct investments also increased. Simultaneously, cautious fiscal and monetary policies have achieved moderate inflation, exchange rate stability, and stable public debt. This growth strategy should have spurred investment, productivity, and growth. Other supply side impediments, however, appear to have held back productivity gains.[10]

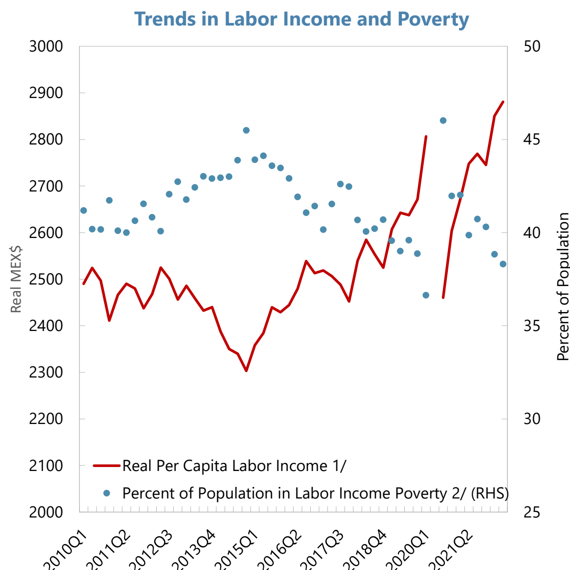
Structural Indicators, 2021 or Latest Available Year



Sources: OECD, World Bank; and Worldwide Governance Indicators.
Note: Higer values indicate values more favorable to growth. The Worldwide Governance Indicators (WGI) database reports normalized data, the blue arrows show 90 percent confidence intervals. Other indicators are rescaled so that the standard deviation across advanced economies and LA5 countries is equal to the average standard deviation across the 6 dimensions of the WGI for the same countries.

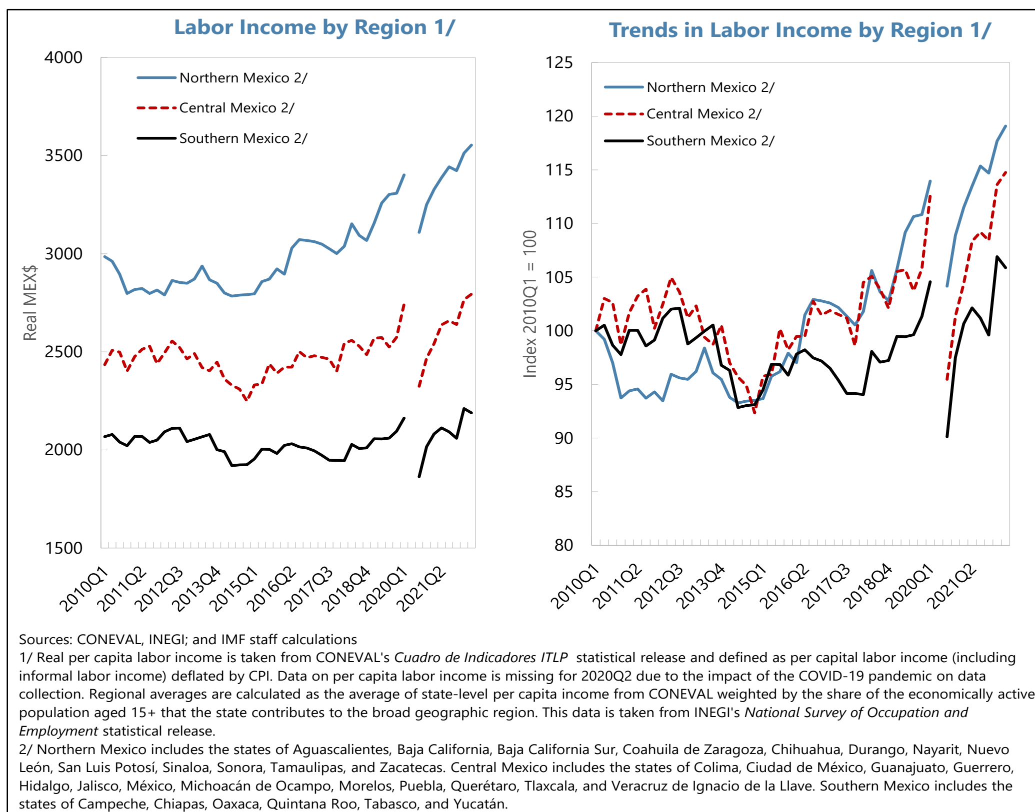
[10] Total factor productivity which account for financial deepening has even been negative over 1990–2020 including in the manufacturing sector according to estimates from INEGI, the national statistical agency.

44. Alongside weak per capita income growth, poverty rates in Mexico have remained stubbornly high. Poverty rates have consistently hovered around 40 percent but rose in 2020 due to the pandemic. With the economic recovery, real income has rebounded, and poverty rates have fallen back to pre-pandemic levels.[11]



Source: CONEVAL
1/ Real per capita labor income is taken from CONEVAL's *Cuadro de Indicadores ITLP* statistical release and defined as per capital labor income (including informal labor income) deflated by CPI. Data on per capita labor income is missing for 2020Q2 due the impact of the COVID-19 pandemic on data collection.
2/ The official labor income poverty line is determined by CONEVAL using its labor poverty index methodology.

45. There are persistent, stark regional inequalities that show no sign of narrowing. Both the Northern and Central regions of Mexico have greatly benefitted from proximity to the U.S. Meanwhile, the South of the country has suffered from little integration with the rest of the country and the U.S., and limited economic opportunity. This has resulted in low levels of investment in health, education, and infrastructure, thereby reinforcing a significantly poorer economic performance and lower real incomes.



Sources: CONEVAL, INEGI; and IMF staff calculations
1/ Real per capita labor income is taken from CONEVAL's *Cuadro de Indicadores ITLP* statistical release and defined as per capital labor income (including informal labor income) deflated by CPI. Data on per capita labor income is missing for 2020Q2 due to the impact of the COVID-19 pandemic on data collection. Regional averages are calculated as the average of state-level per capita income from CONEVAL weighted by the share of the economically active population aged 15+ that the state contributes to the broad geographic region. This data is taken from INEGI's *National Survey of Occupation and Employment* statistical release.
2/ Northern Mexico includes the states of Aguascalientes, Baja California, Baja California Sur, Coahuila de Zaragoza, Chihuahua, Durango, Nayarit, Nuevo León, San Luis Potosí, Sinaloa, Sonora, Tamaulipas, and Zacatecas. Central Mexico includes the states of Colima, Ciudad de México, Guanajuato, Guerrero, Hidalgo, Jalisco, México, Michoacán de Ocampo, Morelos, Puebla, Querétaro, Tlaxcala, and Veracruz de Ignacio de la Llave. Southern Mexico includes the states of Campeche, Chiapas, Oaxaca, Quintana Roo, Tabasco, and Yucatán.

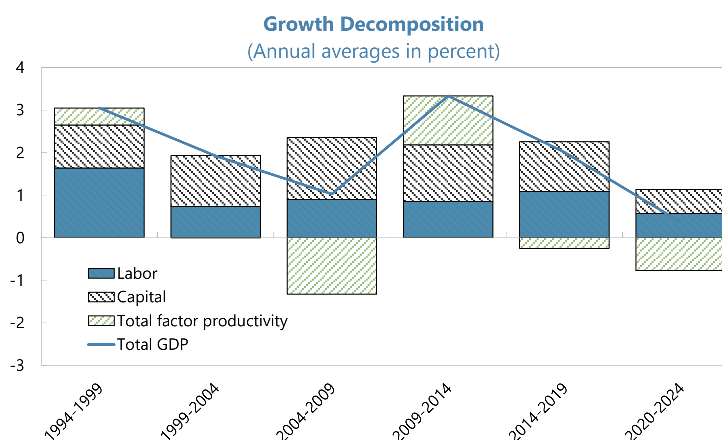
[11] Given public health restrictions, income surveys were not conducted in 2020Q2 resulting in missing data for this period.

46. The supply side policy agenda should be broadened to unlock Mexico's growth potential. The current administration's policy agenda has focused on redistribution, trade promotion, infrastructure investment, and trade integration to foster development, especially in Southern states. Flagship reforms include (i) the implementation of the U.S.-Mexico-Canada Agreement (USMCA); (ii) increases in the minimum wage and the subcontracting law to reduce wage inequality; (iii) increases in the general social pension to reduce old age poverty; and (iv) the development of trade infrastructure in the Isthmus of Tehuantepec ("Isthmus corridor") in the South of Mexico. While this agenda addresses some obstacles to higher productivity and growth, additional efforts are needed. Priorities include corruption, crime and rule of law issues; addressing human capital and infrastructure shortfalls; and lessening labor and product market rigidities.

A Budget for Higher, More Equitable Growth

47. A pivot to a more equitable and pro-growth budget would entail a gradual increase in productive government spending, financed by revenue-increasing tax reforms. To lift the growth potential and reduce socioeconomic gaps, Mexico should address spending shortfalls in education, health, public investment, and social safety nets (IMF Staff Report 2021/2020; IMF Selected Issues 2019, Paper 2; IMF WP/20/215). Structural indicators such as spending per student, the teacher-to-student ratio, and public health spending per capita are well below the OECD averages and somewhat below emerging market averages (IMF WP/21/244). The pandemic has further increased spending needs, particularly in education (following 18 months of school closures). Separately, there is scope, and a need, to increase revenue through tax reform, to support the additional spending and secure tax buoyancy.[12]

48. A gradual, permanent increase in spending of around 2 to 3 percent of GDP could foster inclusive growth, reduce poverty, and address pandemic legacies. This feasible step would help make progress in achieving the Social Development Goals (SDG; IMF WP/21/244). The gains from higher spending on education, health, public investment, and social safety nets could be enhanced with more efficiency in programs. For example, social assistance could reduce the leakage of benefits to high-income groups and eliminate overlaps and coverage gaps with the creation of single beneficiary



Sources: INEGI and IMF staff calculations.

[12] Based on staff's macroeconomic forecasts, there is a fiscal gap of 0.2 percent of GDP in 2023, which gradually increases to around 1.3 percent of GDP by 2027. In recent years, the authorities have closed expected gaps through revenue and spending measures and small changes in the budget deficit target. The revenues generated from staff's proposed tax reforms could also be used to close these gaps.

registry. Efficiency gains in public investment could be achieved through better coordination across government levels, effective national and sector strategies to guide planning, and better multi-year budgeting (IMF 2019).

49. While higher oil prices have lowered immediate debt service pressures on Pemex, restructuring efforts need to continue. Changes to the business plan should remain a priority, including focusing on production in profitable fields, selling non-core assets, and reforming its pension scheme. More partnerships with private firms in upstream projects could help in maintaining or increasing production capacity at lower cost and reducing risks to Pemex's financial position and the government budget.

50. A credible, well-designed medium-term tax reform could generate additional revenues to finance the permanent increase in spending on health, education and social assistance. Mexico's non-oil revenue was nearly 6 percent of GDP below Latin American peers (and only about half the OECD average) before the pandemic. Actions to strengthen tax administration should continue (Annex XII) but tax policy reforms would also be essential:

- *Value Added Tax (VAT).* Eliminating zero-ratings, except for a few essential foodstuffs, and rationalizing exemptions and differences in rates increase collection. A comprehensive risk management strategy and a high-coverage audit process for VAT returns could also reduce the compliance gap.

- *Personal income tax.* Eliminating exclusions (e.g., of income on personal business activities and independent services), reducing tax expenditure, and widening the top personal income tax bracket. These measures could yield around ¾ percent of GDP.

- *Subnational taxes.* Property taxes could be increased gradually to raise over ¾ percent of GDP. Updating the cadaster and enhancing policy coordination between the federal and subnational governments would be essential. Simplifying and better enforcing the local vehicle tax could increase revenue for states and municipalities.

- *Carbon tax.* While carbon pricing coverage through both the Emission Trading Scheme (ETS) and carbon taxation is high relative to peers, Mexico could further raise the carbon price to levels consistent with the Nationally Determined Contributions (NDCs; Black and others, 2021). The carbon tax remains relatively narrow in scope with a de facto exemption of natural gas.[13] Also, the tax rate (USD 3 per ton of CO_2) is very low and should be raised to USD 75 by 2030 (along the lines of the global carbon tax floor proposed for G20 economies by the IMF). Such a carbon price, combined with an expansion of emissions pricing coverage, would raise additional revenues of close to 1.8 percent of GDP by 2030 (Black and others, 2021). A compensation

[13] The carbon tax is an excise applied to the CO_2 emissions of fossil fuel suppliers that exceed the emission rate of natural gas.

scheme would be needed for those who are most negatively affected by the resulting energy price increase.

51. Overall, the comprehensive fiscal package of higher spending financed with higher revenues should have positive complementarities between growth and equity.

- The higher permanent spending aims to close above-discussed socioeconomic gaps that have held back investment in human capital and productivity. In the context of Mexico where the socioeconomic gaps are concentrated in specific regions, the increased and more efficient productive spending, especially in those regions, should enhance both growth and equity.

- The trade-offs between growth and increased revenues are likely to be small as a significant part come from VAT reforms, which should not distort factor supplies or affect long-term growth especially since the reforms would be accompanied by compensation for poor households. Increases in the personal income tax would largely be through simplifying and expanding the tax base, which would have minimal effects on labor supply.

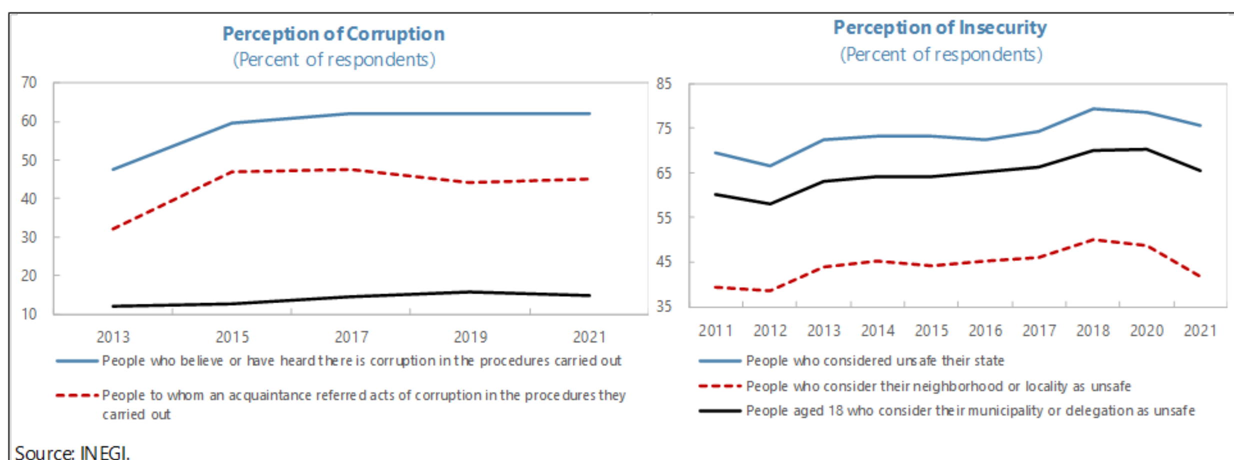
- Together, such budget reforms would increase growth and place public debt on a firm downward trajectory over the medium term (IMF Staff Report 2021, IMF Staff Report 2020, IMF WP/20/215).

Authorities' Views

52. They are supportive of a pro-growth productive spending increase supported by tax reforms. But note such measures would require time to be implemented. In the meantime, they remain confident that the administrative measures to combat tax evasion and tax fraud taken by the current administration would continue to maintain robust revenues.

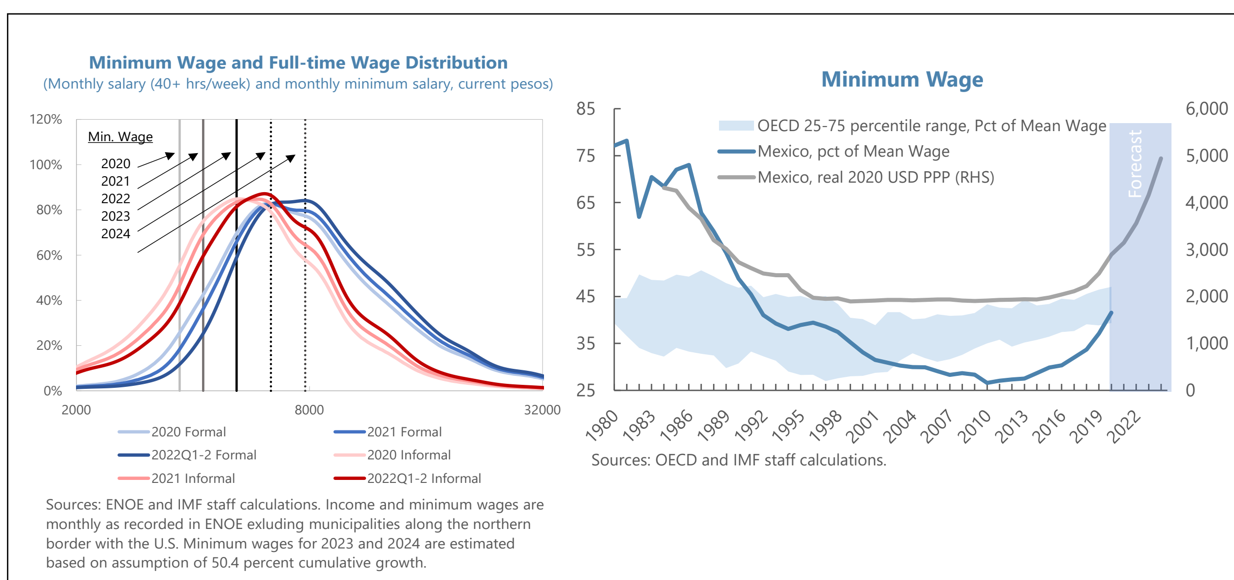
Other Structural Policies

53. A determined implementation of the anticorruption framework would help in addressing corruption and other governance issues. Contract enforcement by civil justice is very weak, discouraging business expansion and formal employment. This also complicates collateral seizure and impedes financial development. Corruption undermines the provision on public services. Organized crime increases transport and insurance costs and discourages entrepreneurs and business formation. Improving governance would unlock investment and growth potential. A new law treating corruption and fraud as felony offenses is expected to enable more comprehensive investigations on corruption. The challenge lies in implementing and assessing effectiveness of the anti-corruption policies, and in further coordinating state levels. Prevention, facilitation of reporting including with whistleblowing protection and further empowering the institutions in charge of investigation, prosecution and oversight can improve implementation. Mexico should participate in the next round of voluntary assessments of transnational aspects of corruption by the Fund.



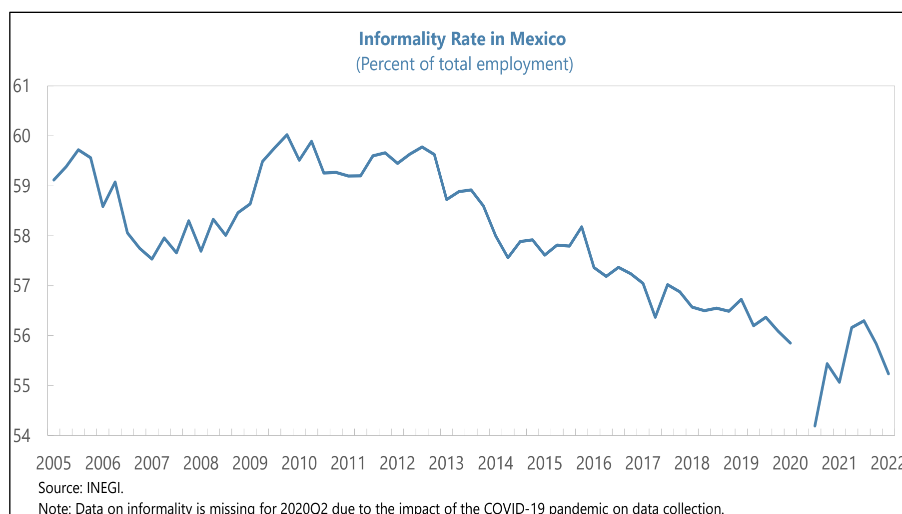
Source: INEGI.

54. Recent labor market reforms should be complemented by measures to reduce informality. The 2021 pension reform risks reducing formal labor supply incentives, including by reducing the number of qualifying weeks for pension eligibility and raising contribution rates (Annex XIII). At the same time, the share of informal employment remains elevated and is associated with low productivity. Recent reforms to reduce inequality—notably increases in the minimum wage—risk increasing incentives for informality and reduce opportunities for workers to transition to the formal sector. It would be preferable, therefore, to align real minimum wage increases more closely with average productivity growth of low wage workers. Other steps that could help reduce informality could include: (i) continuing to improve labor dispute resolution mechanisms (building on the experience of the 21 states that have already implemented the mechanism); (ii) lowering restrictions to layoffs; and (iii) reducing regulatory costs of formalizing a business. Also, improving access to, and the quality of, childcare would increase female labor force participation.



Sources: ENOE and IMF staff calculations. Income and minimum wages are monthly as recorded in ENOE exluding municipalities along the northern border with the U.S. Minimum wages for 2023 and 2024 are estimated based on assumption of 50.4 percent cumulative growth.

Sources: OECD and IMF staff calculations.



Source: INEGI.
Note: Data on informality is missing for 2020Q2 due to the impact of the COVID-19 pandemic on data collection.

55. The USMCA trade agreement and its implementation remain important catalysts for higher growth and reform.

- The agreement with the U.S. and Canada reduces regulatory divergence, complementing the elimination of many tariffs under NAFTA. Implementation efforts include the establishment of new, independent labor adjudication courts at the state level.
- An important challenge for Mexico is to increase the domestic value-added content of exports to abide by the tighter rules of origin, including in the automotive and textile sectors. Meeting these rules calls for complementary reforms, including through the structural fiscal reforms discussed earlier (e.g., to support education and training).
- Mexico could also take steps to reduce trade barriers with other important partners, including China, the EU, and Latin America. Strengthening customs cooperation could further increase trade integration with neighboring Central America (Annex XIV).
- The implementation agenda should be complemented with regulatory moves fostering more competition. High rates of firm creations suggest that the regulatory framework provides for a low entry cost for businesses in many sectors. Yet regulatory hurdles in some sectors with critical forward linkages (e.g., foreign direct investment restrictions in surface, maritime and air transport) limit competition and, through the implications for input costs, harms the competitiveness of other sectors. Also, cumbersome licenses and permits procedures create vulnerabilities to corruption (e.g., road transport, custom brokerage and restaurants licenses, construction permits). Streamlining licensing and permit procedures would reduce vulnerabilities to corruption and improve competitiveness. Finally, the autonomous competition authority should be strengthened by reversing recent budget cuts and preserving its statutory independence.

56. Restoring a more predictable and independent energy policy would also boost competitiveness and investment. Actions to reverse the 2013 energy reforms remain incomplete, as Parliament rejected the change in the constitution needed for a full reversal, which has

introduced policy uncertainty about the way forward. A new electricity law, however, was approved and has replaced auctions by nonmarket-based policies, with regulatory power given to the Comisión Federal de Electricidad (CFE), the state-owned electricity company. This has created conflicts of interest and disrupted contracts signed under the 2013 reform. Policies should instead aim to encourage private sector participation in the energy sector. Restoring market-oriented regulatory frameworks would leverage Mexico's large and diverse renewable energy resource base. It would also provide for cheaper, more reliable, sustainable, and competitive energy supply to the economy and people and secure the needed investment.

57. Mexico established a climate change mitigation and adaptation agenda early but reducing greenhouse gas emissions will require determined steps, including through ambitious carbon pricing.[14] The expansion of the emission trading system (ETS) in 2023 will be an important step towards pricing emissions comprehensively. However, questions remain regarding the scalability and parameters of the ETS, which is currently in a pilot phase covering a small number of large entities. Although these are responsible for around 40 percent of emissions, the ability to expand coverage is not clear. Additionally, the size of the allocated allowances and the absence of legally binding emissions caps mean that the market created by the pilot is limited. Ensuring adequate enforcement and monitoring of polluting activity, introducing legally binding emissions caps, and introducing the planned auction system for allowances are key to making the ETS fully functional. Further, sectoral measures, such as feebates, public investment in clean energy infrastructure networks, and regulatory reforms in the energy sector as discussed above could enhance the impact of carbon pricing.

Authorities' Views

58. The authorities pointed to a sharp increase in public investment especially in underdeveloped areas, to support growth and reduce regional disparities. They considered industrial policy and strengthening human capital as major priorities to increase productivity. They agreed on the need to continue advancing the governance agenda and improve the effectiveness of the anti-corruption and AML/CFT framework. They noted that their efforts to improve governance also included greater reliance on the army to curb crime and the removal of conditionality in transfer programs, the latter to lower the programs' vulnerability to corruption. They were pleased that the implementation of the 2019 labor law had already resulted in accelerated resolution of labor disputes. The authorities were seeking to increase labor market formality with the outsourcing law and tax administration reforms. They considered that a regulatory framework strengthening their energy state-owned enterprises served the economy better.

STAFF APPRAISAL

59. Mexico is well placed to navigate a more challenging, potentially turbulent global environment. The post-pandemic recovery has been relatively gradual, but domestic inflation has

[14] A comprehensive climate mitigation strategy for Mexico is described in IMF WP/21/246.

accelerated in line with developments elsewhere. Near-term growth prospects for the U.S. have weakened and global financial conditions have tightened as central banks have responded to high inflation, increasing the risks of capital flow reversals in emerging market economies. In this environment, Mexico will benefit from its very strong macroeconomic policies and policy frameworks but should also prepare contingency plans to react quickly to downside scenarios.

60. Growth is expected to slow in the near-term and the balance of risks is tilted to the downside. After strong outturns in the first half of 2022, growth is projected to decline in the next few quarters, while inflation is expected to gradually fall. More persistent global or domestic inflation, another spike in international oil or food prices, a greater-than-expected tightening of global financial conditions, or a sharper slowdown in U.S. growth are the main downside risks. On the upside, an acceleration in nearshoring of production for better access to the North American market could moderate the impact of lower U.S. growth.

61. Tackling high inflation calls for further increases in the policy rate and maintaining it there for some time. With significant uncertainty about the path for inflation in 2023 and important upside risks, a clearly restrictive policy stance for some time would be appropriate. Further steps in using policy communication as a tool, including further information on the rate path consistent with Banxico's inflation forecast, could reinforce the proactive approach to re-anchoring near-term inflation expectations and minimizing disruptions in financial markets.

62. The envisaged neutral fiscal stance in 2022 and 2023 is appropriate. With the economy currently operating at close to potential and restoring low and stable inflation a priority, a restrictive monetary stance and broadly neutral fiscal stance is an appropriate policy mix.

63. The untargeted fiscal measures deployed to mitigate the impact of rising living costs raise efficiency concerns but have supported real incomes. Retail fuel price smoothing has reduced cost pressures for the economy but at a sizeable cost to the budget. Shifting to targeted support could safeguard priority spending and insulate the budget from swings in oil prices.

64. Fiscal reserves should be restored and the institutional framework for fiscal policy should be strengthened. Rebuilding the FEIP stabilization fund to around 0.3 to 0.5 percent of GDP would create room for fiscal policy to respond to near-term shocks. In the longer term, more fiscal policy flexibility to respond to shocks could be achieved through the introduction of an explicit debt anchor with narrowly defined escape clauses and a clear mechanism to return to the debt path following periods of deviation.

65. The floating exchange rate should continue to serve as a shock absorber. The economy is expected to remain resilient if downward pressure on the peso materializes, benefiting from deep FX markets and contained FX mismatches in balance sheets. In the event of large shocks to capital flows, monetary policy could be used to counter the potential inflationary impact of a weaker peso. FX intervention could be considered to mitigate a material worsening of market illiquidity.

66. Additional measures would help the financial system remain resilient in a changing financial and regulatory landscape. While systemic vulnerabilities are found to be contained, the 2022 FSAP flags the need for upgrading the financial sector oversight and crisis management frameworks to close some gaps and address emerging challenges. After aligning the legal and regulatory AML/CFT framework with Financial Action Task Force standards, the focus should now be on strengthening the AML/CFT regime, including through adequate resourcing, ensuring the availability of high-quality beneficial ownership information, and monitoring emerging financial integrity risks related to fintech.

67. Unlocking growth potential and reducing inequality require a broad supply side agenda. Despite increased trade openness and macroeconomic stability, productivity growth has been weak and the growth in output per worker has averaged close to zero over the past 15 years. The authorities' agenda addresses some obstacles to higher productivity and growth, but additional efforts are needed to address corruption, crime, and the weak rule of law; increase human capital investments and address infrastructure bottlenecks; and reduce labor and product market rigidities.

68. Financial inclusion should be deepened to support inclusive growth. The potential of digital finance to increase financial access and depth should be fostered through increased competition in the financial sector, while maintaining safeguard to ensure financial stability and integrity. Efforts to broaden digital connectivity and to improve the transparency of financial services should continue.

69. Determined implementation of the anticorruption framework will be key to enhancing its effectiveness. Steps should include strengthening prevention, facilitating reporting including whistleblower protection, and further empowering institutions in charge of investigation, prosecution, and oversight.

70. A gradual increase in productive government spending, financed by reforms to raise tax revenues, would promote growth and equity. Higher spending on education, health, public investment, and social protection is critical to improve human and physical capital and to narrow the significant variation in social outcomes across states. To be effective, this higher spending would need to be accompanied by more efficient public spending, building on recent steps taken to improve spending control and program design. Recent tax administration reforms have buoyed revenue, but a well-designed tax policy reform is needed to reduce differences in VAT rates, reduce tax expenditures, and widen the top personal income tax bracket. These reforms should be combined with adequate compensation to offset the impact on poorer households.

71. Recent labor market reforms should be adapted to lessen their negative effects on formal sector employment. The current strategy could be complemented by continued implementation of the labor dispute resolution mechanisms; lowering firing restrictions; reducing the regulatory costs of formalizing a business; and aligning increases in the real minimum wage to increases in the productivity of lower wage workers.

72. A more predictable energy policy that is more open to private sector participation would boost competitiveness and investment. Reestablishing more market-oriented regulatory frameworks would leverage Mexico's large and diverse renewable energy resource base. It would incentivize investments to create a cheaper, more reliable, sustainable, and competitive energy supply.

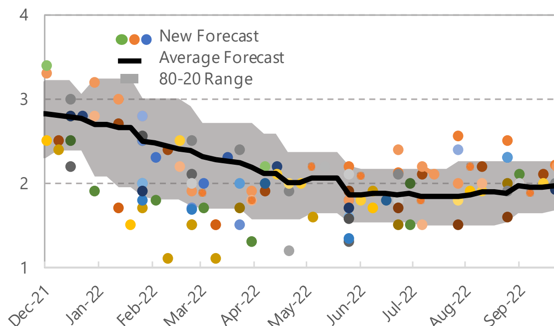
73. Further steps toward carbon pricing would reduce greenhouse emissions. The expansion in 2023 of the emission trading system (ETS) will be an important step towards comprehensively pricing emissions. Ensuring adequate coverage, enforcement, and monitoring of polluting activity, introducing legally binding emissions caps, and introducing the planned auction system for allowances are key to making the ETS fully functional. Other measures, such as increasing the carbon tax, introducing feebates, expanding public investment in clean energy infrastructure, and regulatory reforms could help Mexico achieve its NDCs.

74. It is recommended that the next Article IV consultation take place on the standard 12-month cycle.

Figure 1. Mexico: High Frequency Indicators

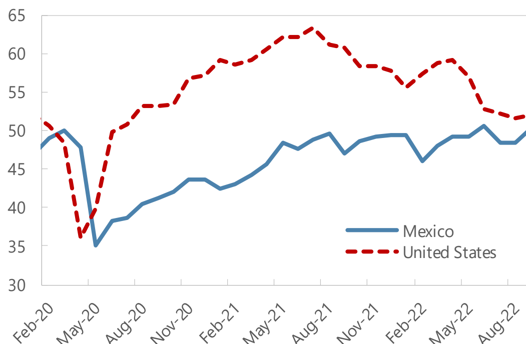
Private sector forecasts had declined steadily during the first half of 2022...

2022 GDP Growth Forecasts 1/



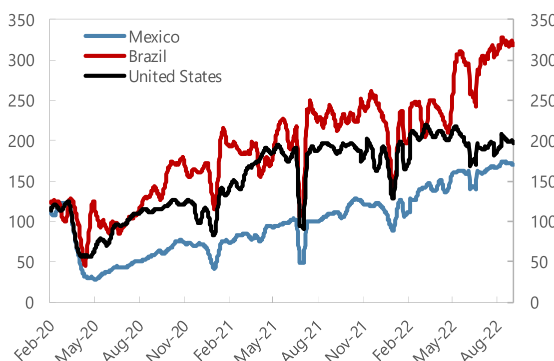
... including because of the slowdown in the U.S.

S&P Global Manufacturing PMI



However, the labor market is still in a recovery phase with rising employment job posting...

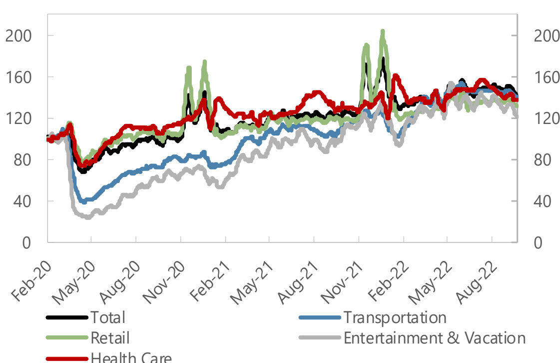
Employment: New Job Postings Index



...while card transactions' growth is slowing.

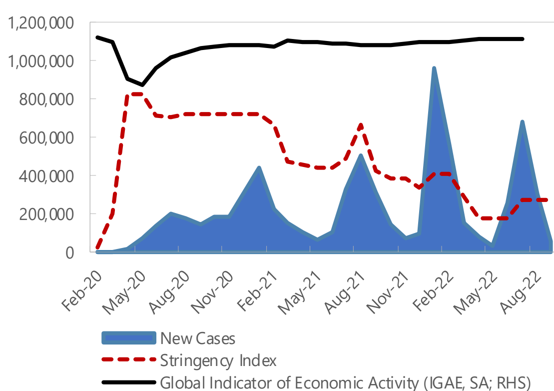
Card Transactions

(14day MA, Index, Jan-Feb Avg. = 100)



As a rising share of the population is vaccinated, Covid-19 waves economic effects are less sharp...

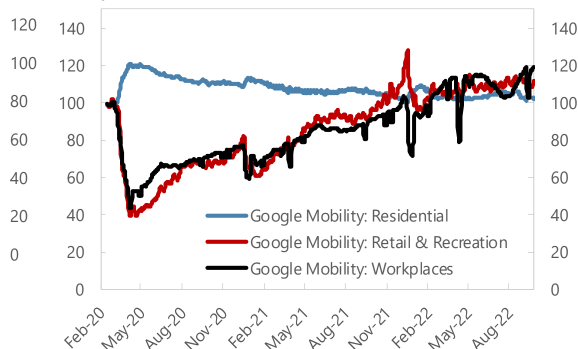
Covid-19 Cases, Economic Activity and Policy Response 2/



... and mobility is not much affected by recent waves either.

Individual Mobility

(7day MA, Index, Mar. 8 = 100)

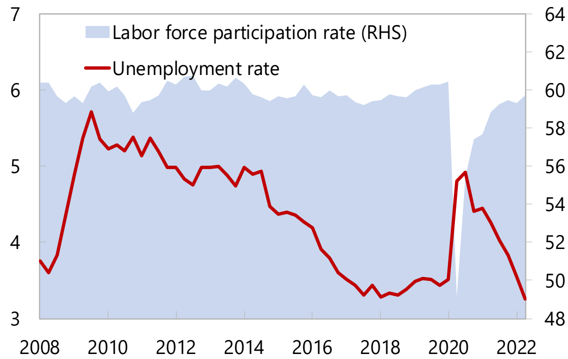


Sources: National authorities, Oxford University, Google Mobility, Haver Analytics, Bloomberg, Refinitiv Eikon.
1/ In the top left panel, all dots reflect new forecasts.
2/ Stringency calculated as the Oxford University Stringency index of the health policy response.

Figure 2. Mexico: Labor Market Indicators

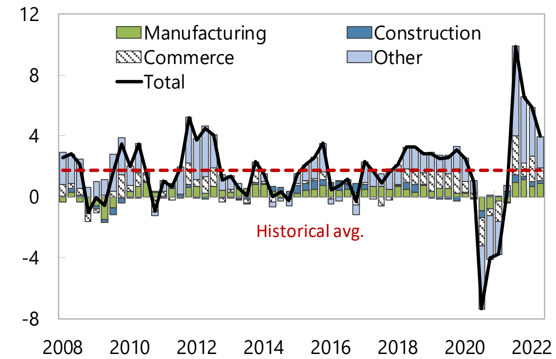
Participation has largely recovered while unemployment has fallen below average.

Unemployment Rate
(In percent, SA)



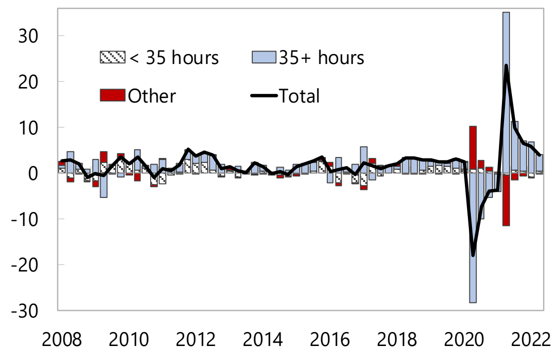
Manufacturing jobs were relatively insulated and recovered early while construction has lagged.

Contributions to Employment Growth by Sector
(Y/Y percent growth)



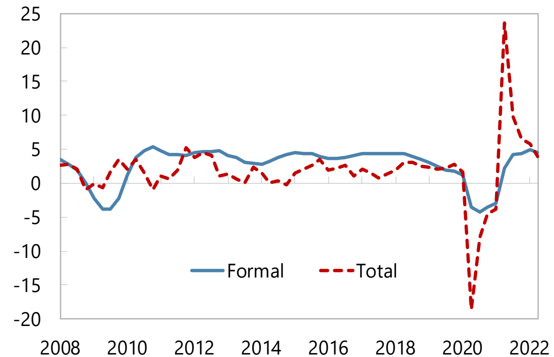
Irregular employment was a shock absorber through the crisis but conditions have normalized …

Contributions to Employment Growth by Hours
(Y/Y percent growth)



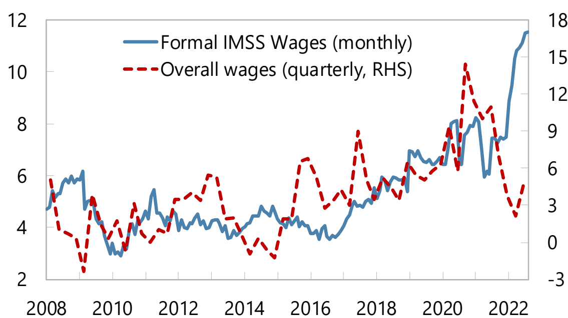
… with similar behavior in informal employment.

Total and Formal Employment
(Y/Y percent growth)



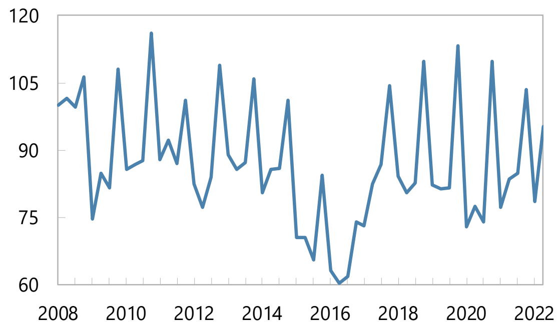
Nominal wages are rising, especially in the formal sector…

Average Nominal Wages
(Y/Y growth)



… while ULCs appear flat amid high seasonal variation.

Unit Labor Cost Real Effective Exchange Rate
(Index, Mar. 2008=100)

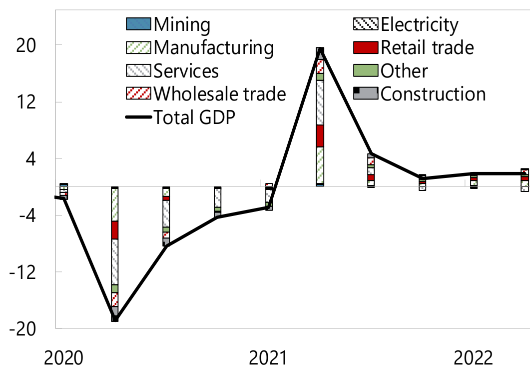


Sources: National Authorities, Haver Analytics, and IMF staff calculations.

Figure 3. Mexico: Real Sector

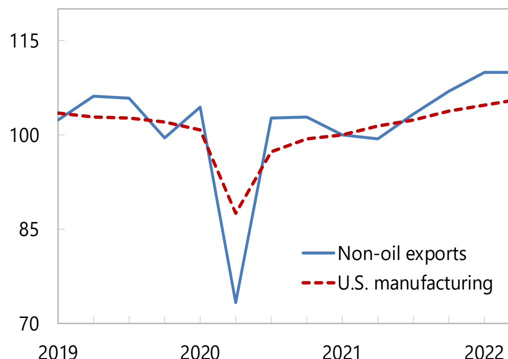
Manufacturing is leading the recovery along with services most affected during the pandemic.

Supply Contributions to Growth
(SAAR, percent, y/y)



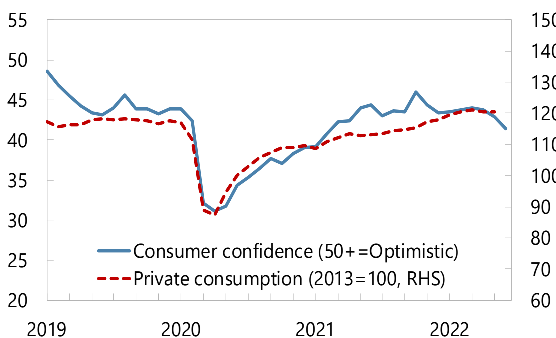
Exports recovered quickly and were on a steady growth path in late 2021 and early 2022.

Real Export Growth
(2021Q1 = 100, SA)



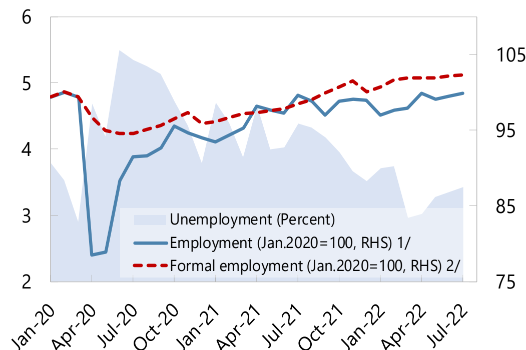
Private confidence is loosing momentum but consumption is resisting so far...

Consumption
(Index, SA)



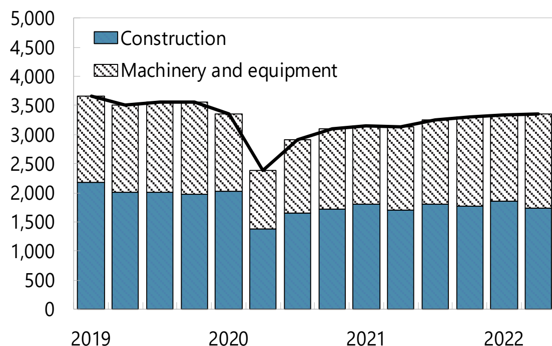
... while job losses were steep but have largely recovered.

Employment
(NSA)



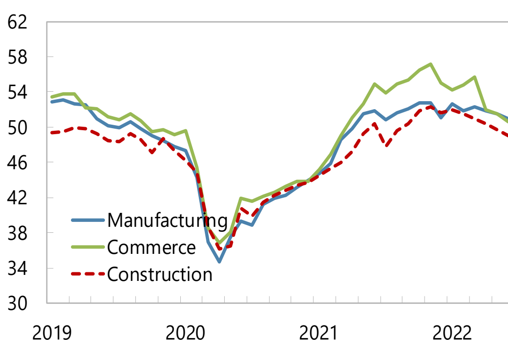
Gross fixed capital formation fell sharply and has seen a relatively slow rebound ...

Gross Fixed Capital Formation
(NSAAR, Billions of 2013 Pesos)



... and business confidence is now declining.

Business Confidence by Sector
(Index)



Sources: National Authorities, Haver Analytics, and IMF staff calculations.

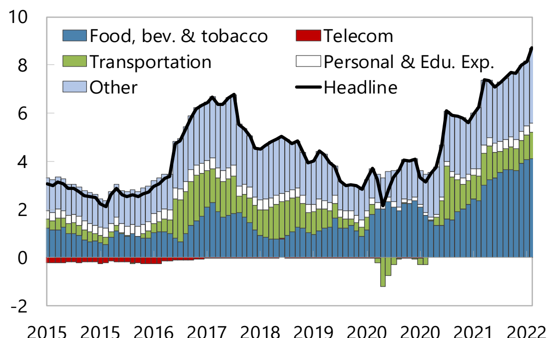
1/ Employment is calculated as employment as a share of the economically active population.

2/ Formal employment is calculated as the number of IMSS-reporting employees, which does not capture self-employed formal workers.

Figure 4. Mexico: Prices and Inflation

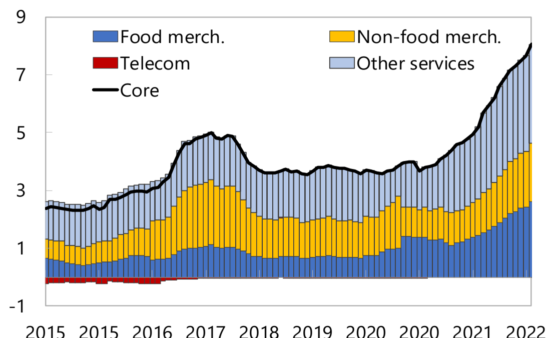
Headline inflation is at 20-year highs led by food prices.

Contributions to Headline Inflation
(Y/Y, in percent)



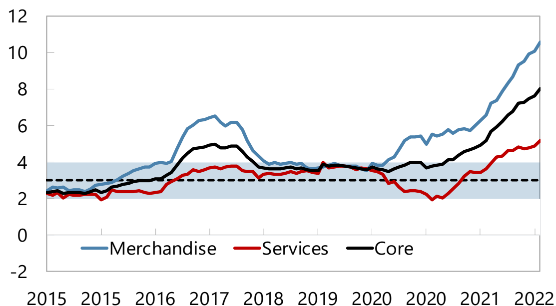
Core inflation has risen with a lag, driven by processed foods.

Contributions to Core Inflation
(Y/Y, in percent)



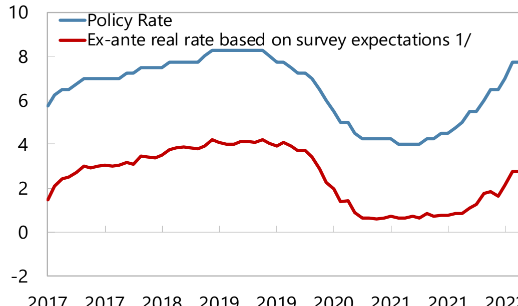
Merchandise inflation is rising with services inflation now following.

Inflation
(Y/Y percent growth)



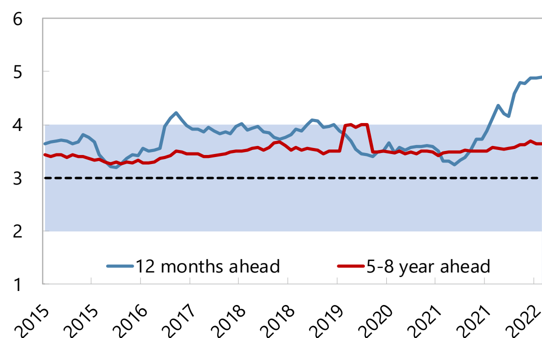
The policy rate has been raised to above 2019 peaks while rising inflation expectations present a more moderate path for the real rate.

Policy Rates
(In percent)



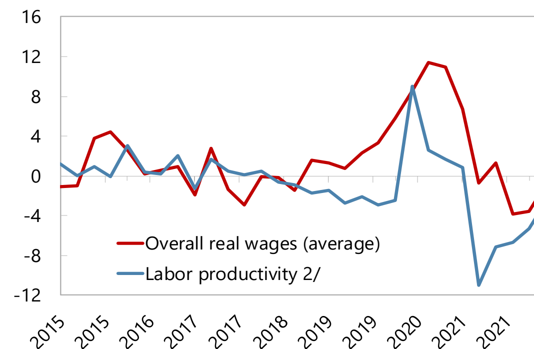
Short term survey-based expectations substantially exceed the central bank's range of variability but long run expectations remain anchored.

Survey-based Inflation Expectations
(In percent)



Real wages struggle to keep pace with inflation as productivity declined through the pandemic.

Real Wages and Labor Productivity
(Y/Y percent growth)

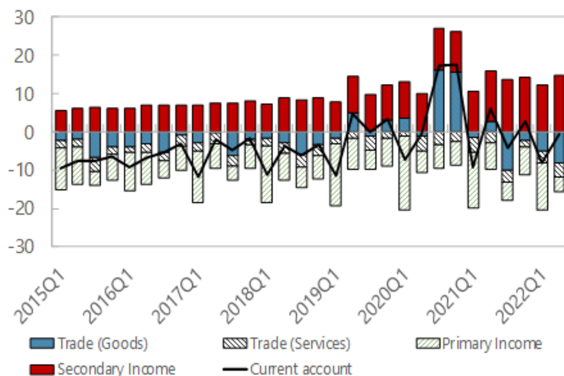


Sources: National Authorities, Haver Analytics, and IMF staff calculations.
1/ Calculation using the average inflation expectation for the next 12 months (NSA, %). Source: Banco de México. Survey on the Expectations of Private Sector Economists.
2/ Based on hours worked.

Figure 5. Mexico: External Sector

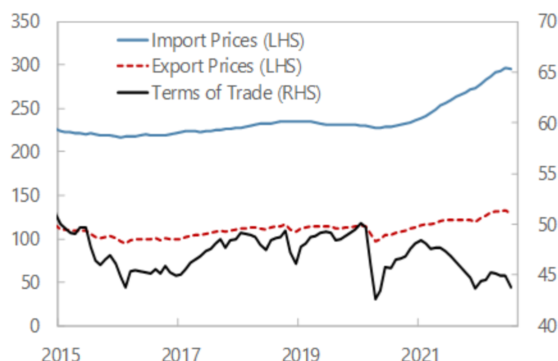
The current account balance has registered deficits so far this year.

Current Account Balance
(USD, billions)



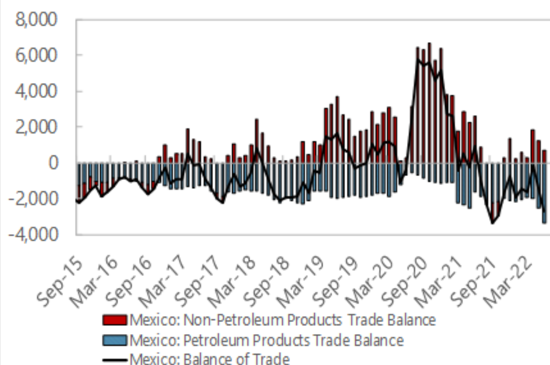
The terms of trade deteriorated on high import price inflation.

Terms of Trade



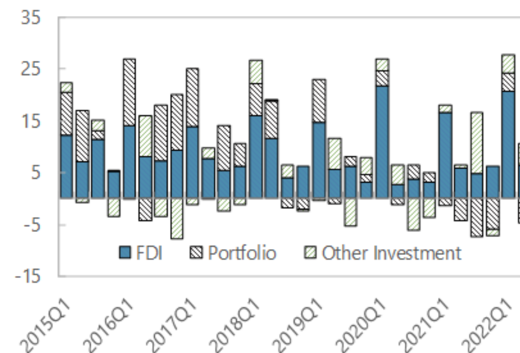
The trade deficit widened with an increasing oil trade deficit.

Trade Balance
(NSA, USD millions, 3-month Average)



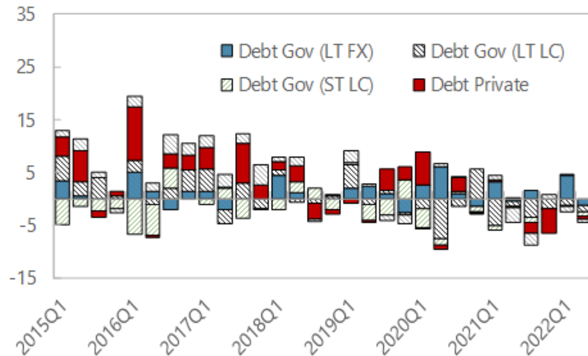
Capital flows remain resilient supported by strong FDI inflows despite high uncertainty.

Capital Inflows by Non-Residents
(USD, billions)



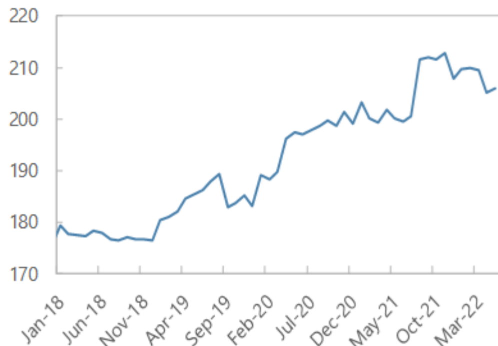
However, portfolio flows were lackluster with continued outflows from peso-denominated debt.

Portfolio Flows
(USD, billions)



Gross international reserves declined slightly but remained above the level before the SDR allocation.

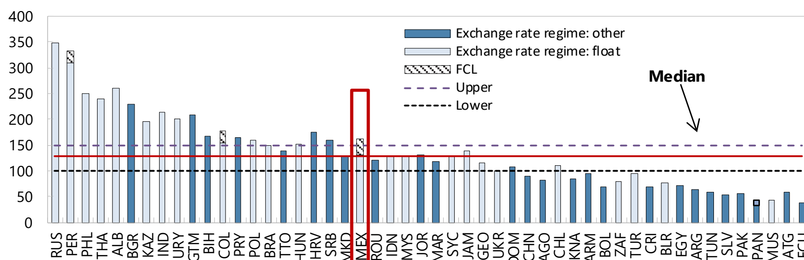
Gross International Reserves
(USD, billions)



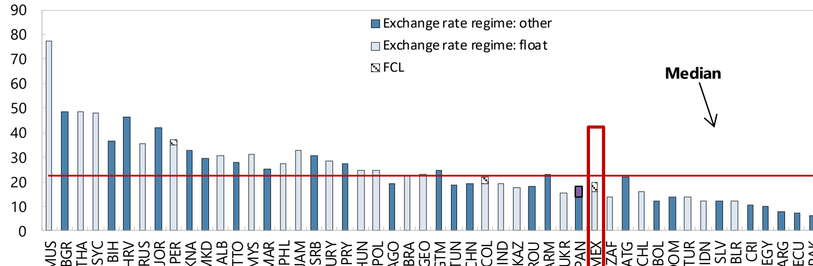
Sources: National Authorities, Haver Analytics, and IMF staff calculations.

Figure 6. Mexico: Reserve Coverage and FCLs in an International Perspective 1/

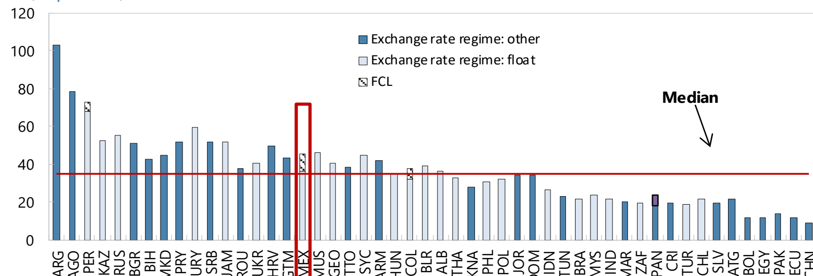
GIR to ARA Metric, 2021 2/3/4/
(In percent)



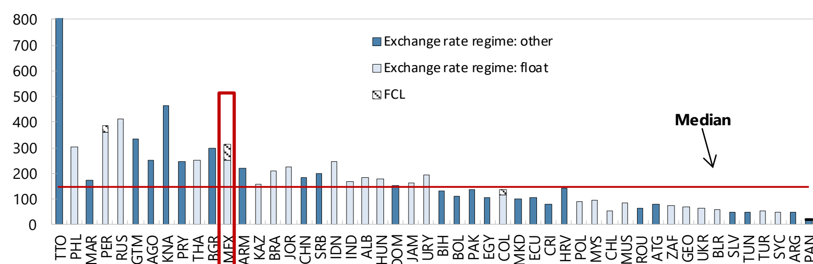
GIR to GDP, end-2021
(In percent)



GIR to Broad Money, end-2021
(In percent)



GIR to Short-term External Debt at Remaining Maturity plus Current Account Deficit (end-2021) 5/
(In percent)

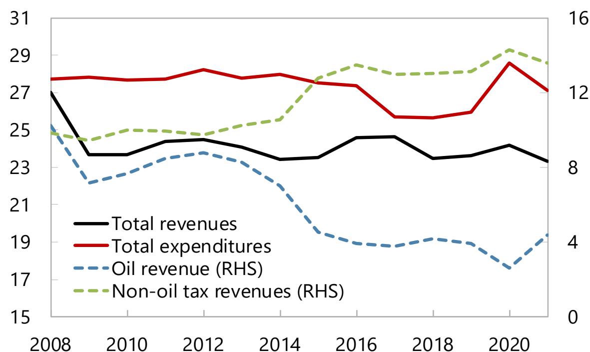


Sources: World Economic Outlook; IFS; and IMF staff estimates.
1/ The sample of countries included in these charts includes all EMEs for which data is available.
2/ The ARA metric provides a tool to help inform reserve adequacy assessments, but individual circumstances (for example, access to swap lines, market maturity, etc.) require additional judgment and, for this reason, mechanistic comparisons of the ARA metric do not provide a complete view.
3/ The ARA Metric is a weighted sum of potential drains on the BoP, depending on the country's exchange rate regime. For fixed exchange rates, ARA Metric = 10% × Exports + 10% × Broad Money + 30% × Short-term Debt + 20% × Other Liabilities. For floating exchange rates, ARA Metric = 5% × Exports + 5% × Broad Money + 30% × Short-term Debt + 15% × Other Liabilities. See "Guidance Note on the Assessment of Reserve Adequacy and Related Considerations", IMF, 2016.
4/ The upper and lower lines denote the 100-150 percent range of ARA metric, which are considered broadly adequate for precautionary purposes.
5/ The current account balance is set to zero if it is in surplus.

Figure 7. Mexico: Fiscal Sector

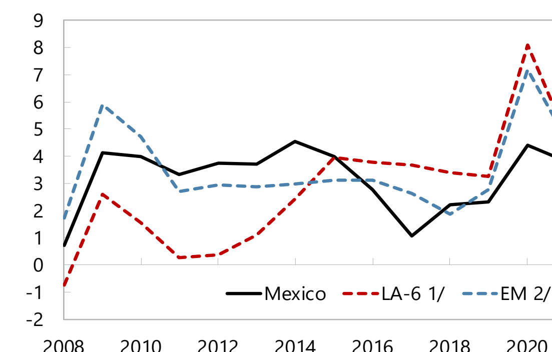
Revenue- and expenditure-to-GDP ratios declined in 2021 as nominal GDP rebounded following the pandemic.

Public Sector Revenues and expenditures
(In percent of GDP)



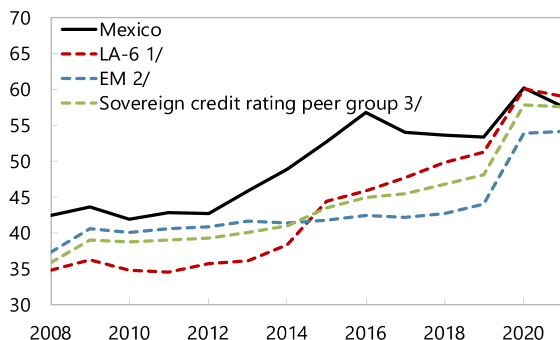
The deficit in Mexico was lower than peer groups in 2021.

Overall Public Sector Deficit
(In percent of GDP)



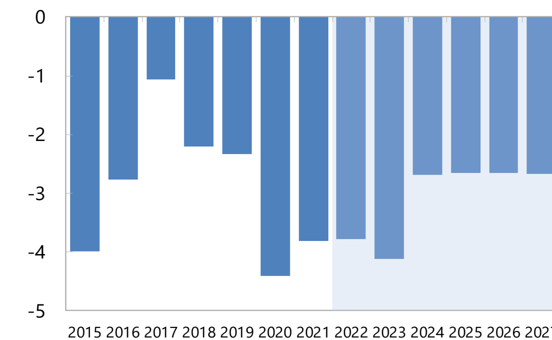
Public debt declined more in Mexico in 2021 compared to peer groups.

Gross Public Sector Debt
(In percent of GDP)



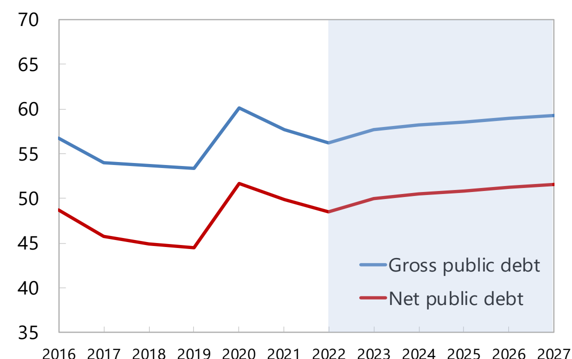
Overall deficit is likely to stay high in 2022 due to fuel subsidies.

Fiscal Balance
(In percent of GDP)



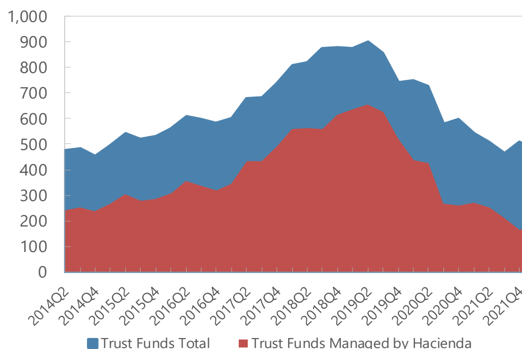
Public debt is projected to remain almost flat below 60 percent of GDP over the medium-term.

Public Sector Debt Path
(In percent of GDP)



The trust funds have reduced considerably since the pandemic.

Trust Funds Managed by Secretaría de Hacienda
(As of March 2022, in billions of pesos)

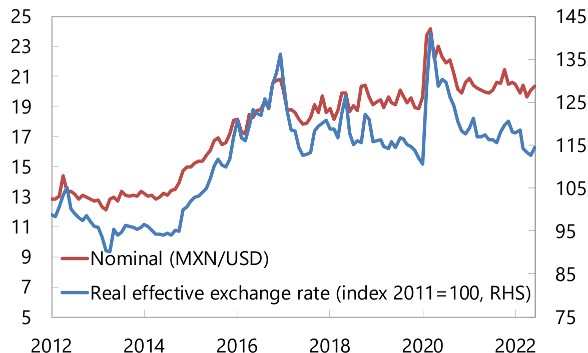


Sources: National authorities, World Economic Outlook, Fitch Ratings, and IMF staff calculations.
1/ LA-6 excluding Mexico is comprised of Brazil, Chile, Colombia, Peru, and Uruguay.
2/ EM comparator group is comprised of India, Indonesia, Poland, Russia, Thailand, and Turkey.
3/ Fitch sovereign credit rating peer group includes Brazil, Chile, Colombia, India, Poland, Russia, South Africa, Thailand, and Turkey.

Figure 8. Mexico: Financial Markets

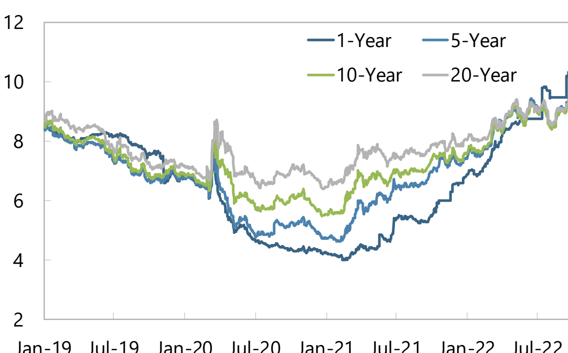
The peso has been stable since recovering from the pandemic shock, and the real rate is little changed since 2016.

Exchange Rate
(As of August, 2022)



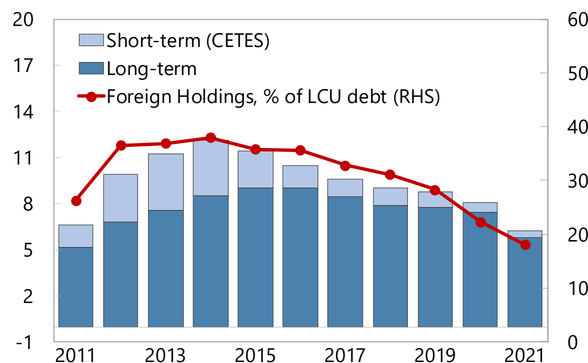
Yields have been rising in response to policy hikes, mostly at the short end, leading to an inversion of the yield curve.

Local Government Bonds Yields
(In percent; as of September, 2022)



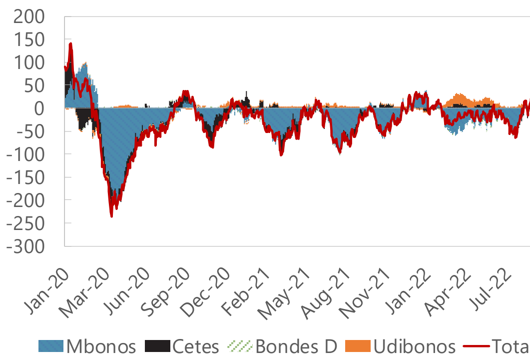
Foreigners continue to reduce their holdings of peso-denominated bonds.

Sovereign Debt Holdings in Local Currency
(In percent of GDP; December, 2022)



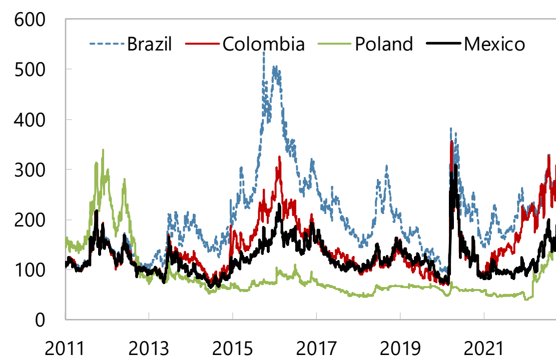
Capital flows have stabilized. Inflation caused a surge in demand for inflation-linked bonds (Udibonos) in early 2022.

Foreign Inflows in Local Currency Debt 1/
(30 day Moving Sum, MXN bn)



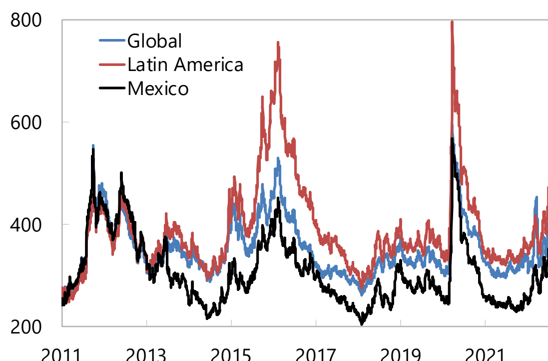
Credit spreads have risen in recent months, but less so than for some other emerging markets.

Sovereign Risk Spreads
(5Y CDS spread, in basis points; as of September 23, 2022)



Spreads on dollar-denominated corporate bonds have also risen recently in response to a general reduction in investor risk-appetite

Corporate Risk Spread
(CEMBI spread, in basis points; as of September 23, 2022)

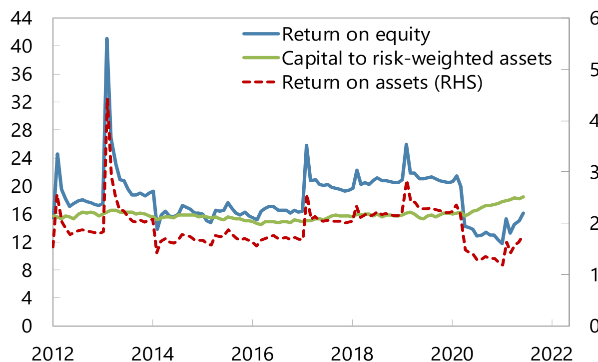


Sources: Bloomberg, Haver Analytics, National authorities, and IMF staff calculations.
1/ Flows associated with Pemex transaction on 11/20/2020 have been removed.

Figure 9. Mexico: Banking System

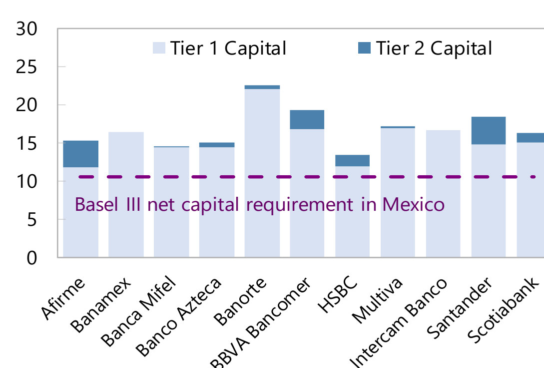
Banking profitability proved resilient...

Commercial and Development Banking Sector
(In percent; as of July, 2022)



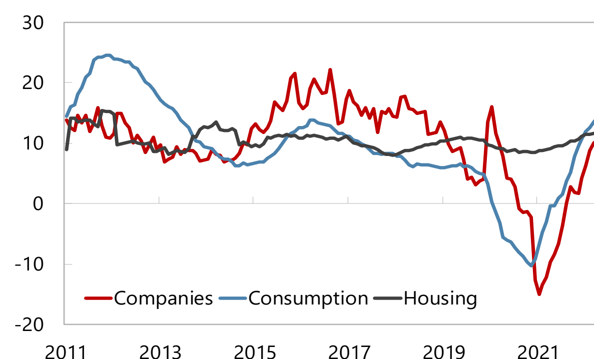
...and banks remain well capitalized.

Capital to Risk-Weighted Assets
(In percent; as of July, 2022)



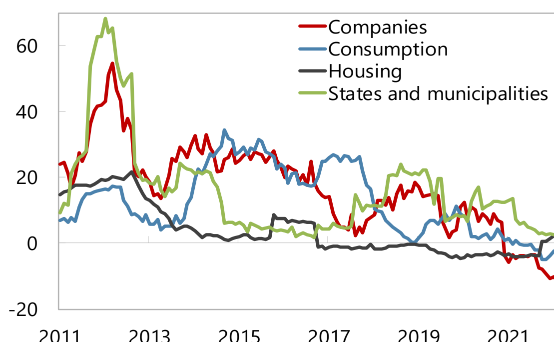
Commercial bank credit has resumed growth, outpacing inflation ...

Commercial Bank Credit Growth by Sector
(Y/Y monthly growth, nominal; as of July, 2022)



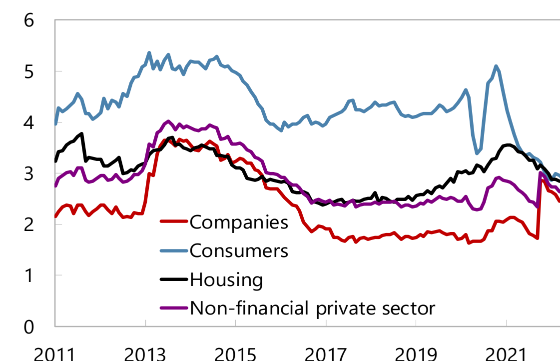
...while development bank credit growth continues to decline.

Development Bank Credit Growth by Sector
(Y/Y monthly growth, nominal; as of July, 2022)



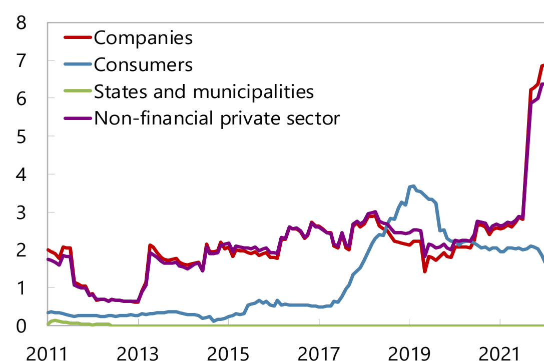
Non-performing loans at commercial banks...

Total Commercial Bank NPLs
(In percent of outstanding loans; as of July, 2022)



...and especially at development banks saw a rise earlier this year due primarily to a few entities experiencing financial difficulty, as well as a change in accounting methodology to IFRS 9

Total Development Bank NPLs
(In percent of oustanding loans; as of July, 2022)



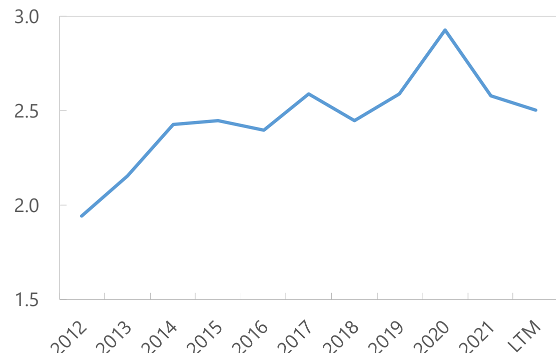
Sources: Bloomberg, Haver Analytics, National authorities, and IMF staff calculations.

Figure 10. Mexico: Nonfinancial Corporate Sector 1/

Nonfinancial corporate leverage has seen a reprieve since 2020…

Total Debt to Total EBITDA

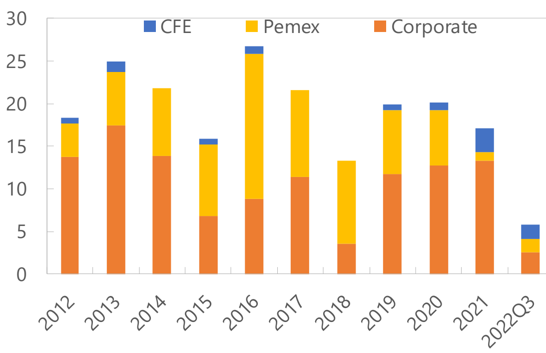
(In percent, median)



…while bond issuance has fallen sharply amidst higher yields.

Hard Currency Issuance 1/

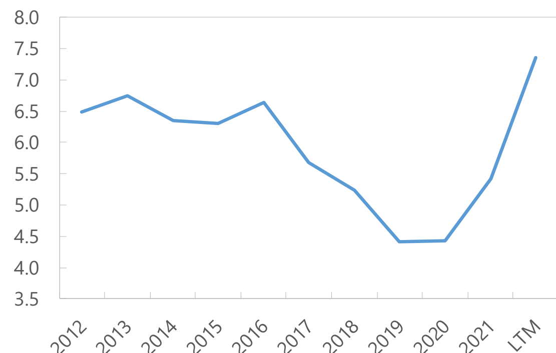
(In US$ billion)



Debt servicing capacity has reversed recent declines …

Interest Coverage Ratio

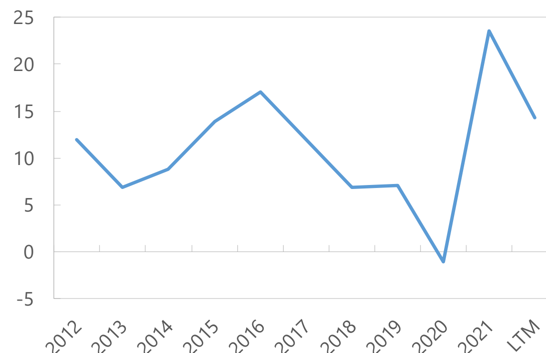
(Earnings in multiples of Interest Expense, median)



…as has profitability.

EBITDA Growth

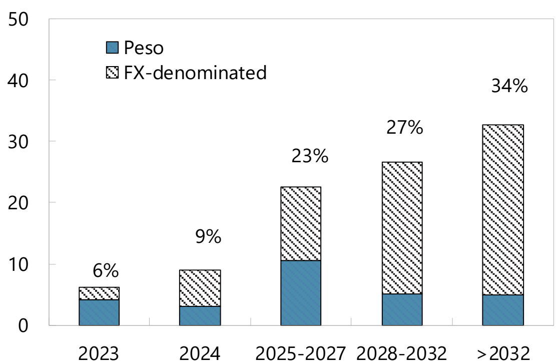
(year-on-year percent change, median)



The maturity structure of borrowing is weighted toward longer maturities…

Nonfinancial Corporate Bond Maturity Profile

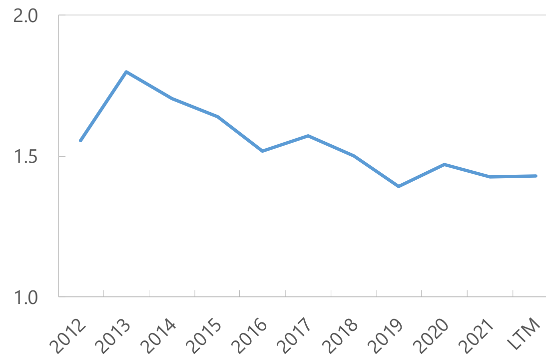
(In US$ billion)



… but current ratios deteriorated somewhat.

Current ratio: Current Assets to Current Liabilities

(Multiples, median)



Sources: Bloomberg, Haver Analytics, National authorities, and IMF staff calculations.

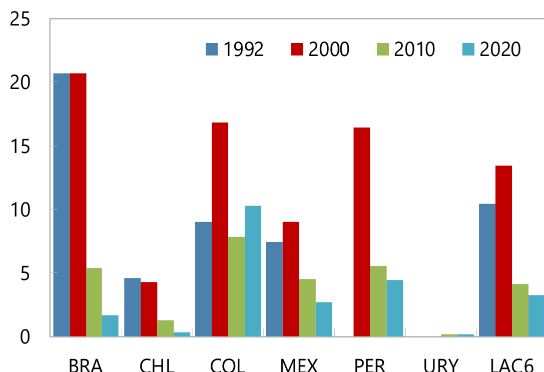
1/ Totals exclude any hard currency issuance in local law

LTM= Last 12 months, 2021Q3-2022Q2.

Figure 11. Mexico: Social Indicators in Regional Context

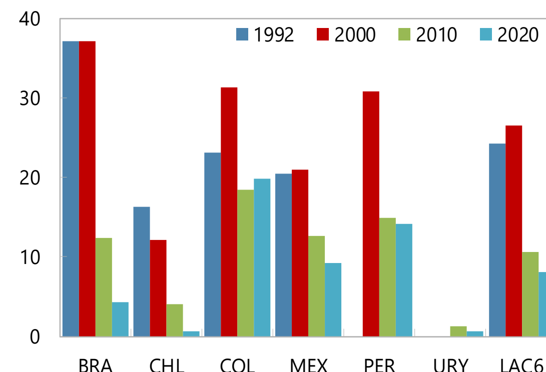
Extreme poverty has declined over the past 25 years.

Poverty Headcount Ratio at $1.90
(2011 PPP, percent of population)



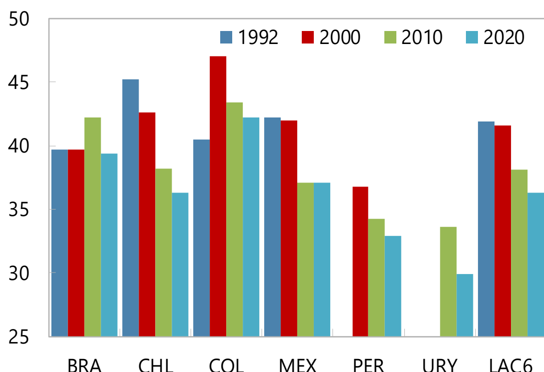
Still, poverty in Mexico is slightly higher than the LAC6 average.

Poverty Headcount Ratio at $3.20
(2011 PPP, percent of population)



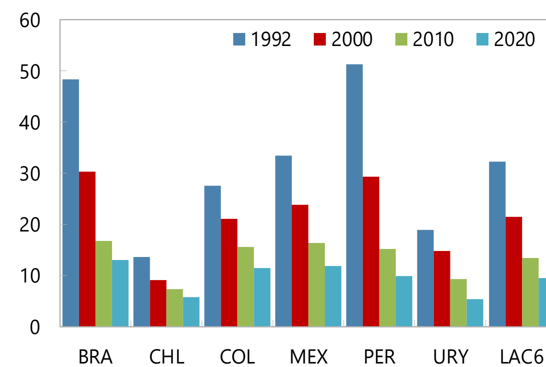
Income inequality is slightly above the regional average.

Income Share Held by Highest 10 Percent



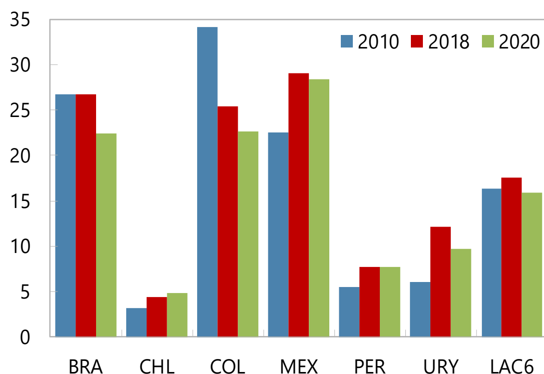
Poverty and inequality go along with higher than average infant mortality rates.

Infant Mortality Rate
(Per 1,000 live births)



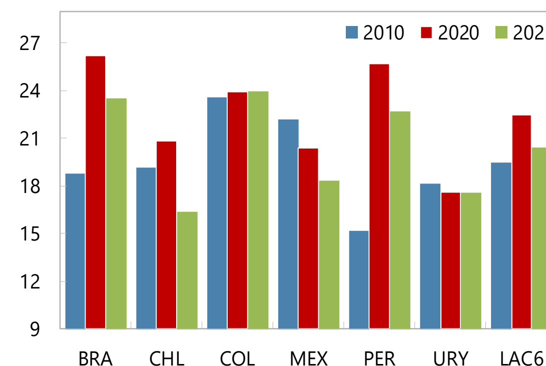
The homicide rate remains high.

Intentional Homicides
(Per 100,000 people)



A large but declining share of youth is excluded from education or employment.

Share of Youth not in Education, Employment or Training
(Total, percent of youth population)



Source: World Development Indicators.

Table 1. Mexico: Selected Economic, Financial, and Social Indicators

GDP per capita (U.S. dollars, 2021)	10,048.8	Poverty headcount ratio (% of population, 2020) 1/	43.9
Population (millions, 2021)	129.0	Income share of highest 20 perc. / lowest 20 perc. (2020)	9.1
Life expectancy at birth (years, 2020)	75.1	Adult literacy rate (2019)	95.4
Infant mortality rate (per thousand, 2020)	11.8	Gross primary education enrollment rate (2020) 2/	104.7

II. Economic Indicators

					Proj.	
	2018	2019	2020	2021	2022	2023
(Annual percentage change, unless otherwise indicated)						
National accounts (in real terms)						
GDP	2.2	-0.2	-8.1	4.8	2.1	1.2
Consumption	2.6	0.0	-8.8	6.4	5.6	1.1
Private	2.6	0.4	-10.3	7.5	6.4	0.9
Public	2.9	-1.8	-0.2	1.0	1.0	1.9
Investment	0.4	-5.3	-19.0	10.8	5.3	1.9
Fixed	0.8	-4.7	-17.7	9.5	5.9	1.8
Private	1.2	-3.1	-19.2	10.1	6.4	1.7
Public	-1.3	-14.5	-7.5	5.8	2.4	1.8
Inventories 3/	-0.1	-0.2	-0.4	0.2	-0.1	0.0
Exports of goods and services	6.0	1.5	-7.3	6.9	6.1	-0.6
Imports of goods and services	6.4	-0.7	-13.8	13.6	8.9	1.1
GDP per capita	1.1	-1.2	-8.9	3.8	1.2	0.3
External sector						
External current account balance (in percent of GDP)	-2.0	-0.3	2.5	-0.4	-1.2	-1.2
Exports of goods, f.o.b. 4/	10.1	2.2	-9.4	18.6	14.0	2.4
Export volume	6.3	1.2	-4.7	5.2	5.2	-0.6
Imports of goods, f.o.b. 4/	10.4	-2.0	-15.9	32.0	17.0	1.1
Import volume	6.3	-0.8	-12.6	13.7	8.5	1.1
Net capital inflows (in percent of GDP)	-2.6	-1.5	0.9	-0.9	-1.1	-1.3
Terms of trade (goods, improvement +)	-0.4	2.2	-1.2	-2.9	0.5	3.0
Gross international reserves (in billions of U.S. dollars)	176.4	183.0	199.1	207.7	205.7	207.4
Exchange rates						
Real effective exchange rate (CPI based, IFS)						
(average, appreciation +)	-0.1	3.2	-7.7	5.9	...	...
Nominal exchange rate (MXN/USD)						
(end of period, appreciation +)	0.5	4.3	-5.9	-3.2	...	...
Employment and inflation						
Consumer prices (end-of-period)	4.8	2.8	3.2	7.4	8.5	4.8
Core consumer prices (end-of-period)	3.7	3.6	3.8	5.9	8.4	5.3
Formal sector employment, IMSS-insured workers (average)	4.1	2.3	-2.5	1.9	...	...
National unemployment rate (annual average)	3.3	3.5	4.4	4.1	3.4	3.7
Unit labor costs: manufacturing (real terms, average)	3.6	4.2	9.8	-9.1	...	...
Money and credit						
Financial system credit to non-financial private sector 5/	8.9	3.0	1.5	4.1	10.7	8.1
Broad money	4.5	4.7	13.4	9.5	11.0	7.3
Public sector finances (in percent of GDP) 6/						
General government revenue	23.5	23.6	24.2	23.3	24.3	24.1
General government expenditure	25.7	26.0	28.6	27.1	28.0	28.2
Overall fiscal balance	-2.2	-2.3	-4.4	-3.8	-3.8	-4.1
Gross public sector debt	53.6	53.3	60.1	57.6	56.2	57.7
Memorandum items						
Nominal GDP (billions of pesos)	23,524.4	24,445.7	23,415.6	26,273.5	29,225.2	31,235.6
Output gap (in percent of potential GDP)	0.8	-1.0	-4.7	-2.0	-0.6	-1.2

Sources: World Bank Development Indicators, CONEVAL, National Institute of Statistics and Geography, National Council of Population, Bank of Mexico, Secretariat of Finance and Public Credit, and Fund staff estimates.

1/ CONEVAL uses a multi-dimensional approach to measure poverty based on a “social deprivation index,” which takes into account the level of income; education; access to health services; to social security; to food; and quality, size, and access to basic services in the dwelling.

2/ Percent of population enrolled in primary school regardless of age as a share of the population of official primary education age.
3/ Contribution to growth. Excludes statistical discrepancy.
4/ Excludes goods procured in ports by carriers.
5/ Includes domestic credit by banks, nonbank intermediaries, and social housing funds.
6/ Data exclude state and local governments and include state-owned enterprises and public development banks.

Table 2. Mexico: Statement of Operations of the Public Sector, Authorities' Presentation 1/

(In percent of GDP)

	2019	2020	2021	2022	2023	2024	2025	2026	2027
				Proj.					
Budgetary revenue, by type	**22.0**	**22.8**	**22.7**	**22.3**	**22.4**	**22.1**	**22.0**	**22.0**	**22.1**
Oil revenue	3.9	2.6	4.4	5.0	4.5	4.4	4.2	4.2	4.1
Non-oil tax revenue	13.1	14.3	13.6	13.1	14.1	14.1	14.1	14.1	14.2
Non-oil non-tax revenue	5.0	6.0	4.7	4.3	3.8	3.7	3.7	3.7	3.8
Budgetary revenue, by entity	**22.0**	**22.8**	**22.7**	**22.3**	**22.4**	**22.1**	**22.0**	**22.0**	**22.1**
Federal government revenue	16.4	17.5	16.4	16.4	16.5	16.3	16.3	16.3	16.4
Tax revenue, *of which:*	13.1	14.3	13.6	13.1	14.1	14.1	14.1	14.1	14.2
Excises (including fuel)	1.9	2.0	1.5	0.3	1.4	1.4	1.4	1.4	1.4
Nontax revenue	3.3	3.2	2.9	3.3	2.4	2.2	2.2	2.2	2.2
Public enterprises	5.6	5.3	6.3	5.9	5.9	5.8	5.7	5.7	5.7
PEMEX	2.1	1.7	3.0	2.7	2.9	2.7	2.6	2.6	2.6
Other	3.5	3.6	3.2	3.2	3.0	3.1	3.1	3.1	3.1
Budgetary expenditure	**23.7**	**25.6**	**25.6**	**25.3**	**26.0**	**24.3**	**24.1**	**24.2**	**24.2**
Primary	21.0	22.7	23.0	22.3	23.2	21.7	21.7	22.0	22.3
Programmable	17.3	19.0	19.5	18.6	19.2	17.8	17.7	18.1	18.4
Current	14.3	15.6	15.1	14.8	15.4	15.5	15.5	15.8	16.1
Wages	5.0	5.5	5.1	5.0	5.1	5.1	5.1	5.1	5.2
Pensions 2/	3.6	4.1	4.0	4.1	4.3	4.4	4.5	4.6	4.7
Subsidies and transfers	2.9	3.3	3.2	3.1	3.5	3.6	3.5	3.6	3.7
Other	2.8	2.8	2.8	2.5	2.5	2.5	2.4	2.4	2.5
Capital	3.0	3.4	4.4	3.8	3.8	2.2	2.2	2.3	2.3
Physical capital	2.3	2.8	2.6	2.9	3.6	2.2	2.2	2.3	2.3
Financial capital 3/	0.7	0.6	1.8	1.0	0.2	0.0	0.0	0.0	0.0
Nonprogrammable	3.7	3.7	3.5	3.6	3.9	4.0	3.9	3.9	3.9
Of which: revenue sharing	3.6	3.6	3.5	3.6	3.8	3.8	3.8	3.8	3.8
Interest payments	**2.7**	**2.9**	**2.6**	**3.1**	**3.1**	**3.2**	**3.3**	**3.2**	**3.2**
Unspecified measures	**0.0**	**0.0**	**0.0**	**0.0**	**-0.2**	**-0.6**	**-0.8**	**-1.1**	**-1.3**
Traditional balance	**-1.6**	**-2.9**	**-2.9**	**-3.0**	**-3.6**	**-2.2**	**-2.1**	**-2.1**	**-2.2**
Adjustments to the traditional balance	**-0.7**	**-1.5**	**-0.9**	**-0.8**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
Public Sector Borrowing Requirements 4/	**2.3**	**4.4**	**3.8**	**3.8**	**4.1**	**2.7**	**2.7**	**2.7**	**2.7**
Memorandum items									
Structural current spending	9.6	10.8	10.0						
Structural current spending real growth (y/y, in percent)	-2.6	2.8	-2.7						

Sources: Ministry of Finance and Public Credit; and IMF staff estimates.

1/ Data exclude state and local governments, and include state-owned enterprises and public development banks.

2/ Includes social assistance benefits.

3/ Due to lack of disaggregated data this item includes both financing and capital transfers.

4/ The 2020 PSBR is adjusted for some statistical discrepancies between above-the-line and below-the-line numbers.

Table 3. Mexico: Statement of Operations of the Public Sector, GFSM 2014 Presentation 1/

(In percent of GDP)

				Proj.					
	2019	2020	2021	2022	2023	2024	2025	2026	2027
Revenue	**23.6**	**24.2**	**23.3**	**24.3**	**24.1**	**24.0**	**23.9**	**23.9**	**23.9**
Taxes	**13.1**	**14.3**	**13.6**	**13.6**	**14.1**	**14.1**	**14.1**	**14.1**	**14.2**
Taxes on income, profits and capital gains	6.9	7.5	7.2	7.9	7.7	7.7	7.7	7.7	7.7
Taxes on goods and services	5.7	6.2	5.8	5.2	5.8	5.9	5.9	5.9	6.0
Value added tax	3.8	4.2	4.3	4.4	4.4	4.4	4.4	4.4	4.5
Excises	1.9	2.0	1.5	0.8	1.4	1.4	1.4	1.4	1.4
Taxes on international trade and transactions	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other taxes	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Social contributions	**2.2**	**2.4**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**	**2.3**
Other revenue	**8.3**	**7.5**	**7.4**	**8.4**	**7.8**	**7.7**	**7.5**	**7.4**	**7.4**
Property income	3.4	3.3	2.7	3.1	2.4	2.2	2.2	2.2	2.1
Other	5.0	4.2	4.7	5.2	5.3	5.4	5.3	5.3	5.3
Total expenditure	**26.0**	**28.6**	**27.1**	**28.0**	**28.2**	**26.7**	**26.5**	**26.5**	**26.6**
Expense	**24.7**	**26.8**	**25.4**	**25.8**	**25.6**	**25.8**	**25.8**	**26.1**	**26.3**
Compensation of employees	3.2	3.6	3.3	3.3	3.3	3.3	3.3	3.3	3.4
Purchases of goods and services	3.7	3.7	3.6	3.2	3.3	3.2	3.1	3.2	3.2
Interest 2/	4.2	4.4	4.0	4.7	4.6	4.7	4.6	4.6	4.5
Subsidies and transfers	1.9	2.3	2.5	2.8	2.8	2.8	2.8	2.9	2.9
o/w fuel subsidy	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Grants 3/	8.0	8.4	7.8	7.9	8.1	8.1	8.1	8.1	8.1
Social benefits	3.6	4.1	4.0	4.1	4.3	4.4	4.5	4.6	4.7
Other expense	0.1	0.4	0.2	-0.2	-0.7	-0.7	-0.6	-0.6	-0.5
Net acquisition of nonfinancial assets 4/	**1.3**	**1.8**	**1.7**	**2.3**	**2.9**	**1.5**	**1.5**	**1.6**	**1.6**
Unspecified measures	**0.0**	**0.0**	**0.0**	**0.0**	**-0.2**	**-0.6**	**-0.8**	**-1.1**	**-1.3**
Gross Operating Balance	**-1.0**	**-2.7**	**-2.1**	**-1.5**	**-1.5**	**-1.8**	**-1.9**	**-2.2**	**-2.4**
Overall Fiscal Balance (Net lending/borrowing) 5/	**-2.3**	**-4.4**	**-3.8**	**-3.8**	**-4.1**	**-2.7**	**-2.7**	**-2.7**	**-2.7**
Primary net lending/borrowing	**1.4**	**-0.5**	**0.0**	**0.7**	**0.3**	**1.8**	**1.8**	**1.8**	**1.6**
Memorandum items									
Primary expenditure	21.8	24.2	23.1	23.3	23.7	22.0	21.9	21.9	22.1
Current expenditure	24.7	26.8	25.4	25.8	25.4	25.2	25.0	24.9	25.0
Structural fiscal balance	-1.9	-2.6	-3.1	-3.7	-4.1	-2.6	-2.6	-2.6	-2.7
Structural primary balance 6/	1.9	1.3	0.7	0.7	0.3	1.9	1.9	1.8	1.6
Fiscal impulse 7/	-0.4	0.6	0.6	-0.1	0.4	-1.6	0.0	0.1	0.1
Gross public sector debt 8/	53.3	60.1	57.6	56.2	57.7	58.2	58.6	58.9	59.3
In domestic currency (percentage of total debt)	69.7	67.6	69.3	68.1	67.0	65.7	65.5	65.2	65.2
In foreign currency (percentage of total debt)	30.3	32.4	30.7	31.9	33.0	34.3	34.5	34.8	34.8
Net public sector debt 9/	44.5	51.6	49.9	48.5	50.0	50.5	50.9	51.2	51.6

Sources: Ministry of Finance and Public Credit; and Fund staff estimates and projections.

1/ Data exclude state and local governments, and include state-owned enterprises and public development banks.

2/ Interest payments differ from official data due to adjustments to account for changes in valuation and interest rates.

3/ Includes transfers to state and local governments under revenue-sharing agreements with the federal government.

4/ This category differs from official data on physical capital spending due to adjustments to account for Pidiregas amortizations included in budget figures and the reclassification of earmarked transfers to sub-national governments.

5/ The 2020 PSBR is adjusted for some statistical discrepancies between above-the-line and below-the-line numbers.

6/ Adjusting revenues for the economic and oil-price cycles and excluding one-off items (e.g. oil hedge income and Bank of Mexico transfers).

7/ Negative of the change in the structural primary fiscal balance.

8/ Corresponds to the gross stock of public sector borrowing requirements, calculated as the net stock of public sector borrowing requirements as published by the authorities plus public sector financial assets.

9/ Corresponds to the net stock of public sector borrowing requirements (i.e., net of public sector financial assets) as published by the authorities.

Table 4a. Mexico: Summary Balance of Payments

(In billions of U.S. dollars)

				Proj.					
	2019	2020	2021	2022	2023	2024	2025	2026	2027
Current account	**-3.4**	**27.1**	**-4.8**	**-17.3**	**-18.2**	**-17.2**	**-16.1**	**-15.0**	**-15.1**
Merchandise goods trade balance	5.2	34.2	-10.9	-27.4	-20.8	-10.4	-14.1	-13.6	-15.2
Exports, f.o.b. 2/	460.6	417.2	494.8	564.1	577.4	597.1	622.8	654.0	685.9
o/w Manufactures	410.8	373.8	436.1	488.0	494.3	508.0	534.6	561.7	589.2
o/w Petroleum and derivatives 1/	25.8	17.7	29.2	43.9	39.5	37.6	36.4	35.6	35.6
Imports, f.o.b. 2/	455.2	383.0	505.7	591.5	598.2	607.5	636.9	667.7	701.2
o/w Petroleum and derivatives 1/	47.2	31.4	53.9	75.9	69.3	63.8	62.8	62.0	62.3
Services, net	-7.9	-11.2	-11.6	-13.0	-13.8	-13.5	-14.3	-15.1	-15.9
Primary income, net	-36.9	-36.7	-33.6	-32.0	-39.7	-51.7	-49.4	-51.4	-52.3
Secondary income (mostly remittances), net	36.2	40.9	51.3	55.1	56.2	58.6	61.8	65.2	68.3
Capital Account, net	**-0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Financial Account (Net lending (+)/Net borrowing (-))	**-16.1**	**21.3**	**-1.0**	**-17.4**	**-18.3**	**-17.2**	**-16.1**	**-15.0**	**-15.2**
Foreign direct investment, net	-23.7	-25.8	-33.0	-30.4	-32.9	-35.7	-38.7	-41.8	-45.1
Net acquisition of financial assets	6.0	5.6	0.4	5.8	6.2	6.7	7.2	7.9	8.7
Net incurrence of liabilities	29.7	31.4	33.4	36.2	39.1	42.4	45.9	49.7	53.8
Portfolio investment, net	-7.1	10.3	41.5	15.8	4.8	5.6	5.0	4.2	3.8
Net acquisition of financial assets	3.4	16.5	22.7	17.3	18.1	19.1	20.0	21.0	22.1
Net incurrence of liabilities	10.5	6.1	-18.9	1.5	13.4	13.5	15.0	16.8	18.3
Public Sector	3.5	0.5	-15.7	0.8	12.7	12.8	14.3	16.1	17.6
o/w Local currency domestic-issued bonds	1.3	-10.6	-13.6	-3.2	4.0	4.5	7.7	8.3	10.1
Private sector	7.0	5.6	-3.1	0.7	0.7	0.7	0.7	0.7	0.7
Securities issued abroad	7.0	5.4	0.0	0.2	0.2	0.2	0.2	0.2	0.2
Equity	0.0	0.2	-3.2	0.5	0.5	0.5	0.5	0.5	0.5
Pidiregas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives, net	1.7	-1.8	2.1	0.7	0.7	0.7	0.7	0.7	0.7
Other investments, net	10.4	26.7	-21.9	-1.4	7.6	10.6	15.3	20.3	23.9
Net acquisition of financial assets	13.9	23.1	-9.5	-1.2	7.9	10.9	15.6	20.6	24.1
Net incurrence of liabilities	3.5	-3.6	12.4	0.3	0.3	0.3	0.3	0.3	0.3
Change in Reserves Assets	2.6	12.0	10.3	-2.0	1.6	1.6	1.6	1.6	1.6
Total change in gross reserves assets	6.6	16.0	8.7	-2.0	1.6	1.6	1.6	1.6	1.6
Valuation change	4.0	4.0	-1.6	0.0	0.0	0.0	0.0	0.0	0.0
Errors and Omissions	**-12.7**	**-5.7**	**3.9**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
International Investment Position, net	**-615.0**	**-530.9**	**-544.0**	**-561.2**	**-561.8**	**-578.8**	**-594.8**	**-609.6**	**-624.6**
Memorandum items									
Hydrocarbons exports volume growth (in percent)	-22.1	10.1	-29.0	0.7	3.6	1.7	1.7	1.6	1.7
Non-hydrocarbons exports volume growth (in percent)	1.8	-5.0	6.0	5.3	-0.7	1.9	2.8	3.1	2.9
Hydrocarbons imports volume growth (in percent)	-12.9	-28.5	8.2	12.8	1.2	1.5	2.4	2.1	2.1
Non-hydrocarbons imports volume growth (in percent)	-0.4	-12.1	13.8	8.4	1.1	2.0	2.9	3.1	3.0
Crude oil export volume (in millions of bbl/day)	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Gross international reserves (in billions of U.S. dollars)	183.0	199.1	207.7	205.7	207.4	209.0	210.7	212.3	213.9
Gross domestic product (in billions of U.S. dollars)	1,269.0	1,089.8	1,296.0	1,443.4	1,509.4	1,556.5	1,615.9	1,680.3	1,749.5

Sources: Bank of Mexico, National Institute of Statistics and Geography, and Fund staff estimates.
1/ Crude oil, derivatives, petrochemicals, and natural gas.
2/ Excludes goods procured in ports by carriers.

Table 4b. Mexico: Summary Balance of Payments
(In percent of GDP)

	2019	2020	2021	2022	2023	2024	2025	2026	2027
				Proj.					
Current account	**-0.3**	**2.5**	**-0.4**	**-1.2**	**-1.2**	**-1.1**	**-1.0**	**-0.9**	**-0.9**
Merchandise goods trade balance	0.4	3.1	-0.8	-1.9	-1.4	-0.7	-0.9	-0.8	-0.9
Exports, f.o.b. 2/	36.3	38.3	38.2	39.1	38.3	38.4	38.5	38.9	39.2
o/w Manufactures	32.4	34.3	33.6	33.8	32.7	32.6	33.1	33.4	33.7
o/w Petroleum and derivatives 1/	2.0	1.6	2.3	3.0	2.6	2.4	2.3	2.1	2.0
Imports, f.o.b. 2/	35.9	35.1	39.0	41.0	39.6	39.0	39.4	39.7	40.1
o/w Petroleum and derivatives 1/	3.7	2.9	4.2	5.3	4.6	4.1	3.9	3.7	3.6
Services, net	-0.6	-1.0	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
Primary income, net	-2.9	-3.4	-2.6	-2.2	-2.6	-3.3	-3.1	-3.1	-3.0
Secondary income (mostly remittances), net	2.9	3.8	4.0	3.8	3.7	3.8	3.8	3.9	3.9
Capital Account, net	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Financial Account (Net lending (+)/Net borrowing (-))	**-1.3**	**2.0**	**-0.1**	**-1.2**	**-1.2**	**-1.1**	**-1.0**	**-0.9**	**-0.9**
Foreign direct investment, net	-1.9	-2.4	-2.5	-2.1	-2.2	-2.3	-2.4	-2.5	-2.6
Net acquisition of financial assets	0.5	0.5	0.0	0.4	0.4	0.4	0.4	0.5	0.5
Net incurrence of liabilities	2.3	2.9	2.6	2.5	2.6	2.7	2.8	3.0	3.1
Portfolio investment, net	-0.6	0.9	3.2	1.1	0.3	0.4	0.3	0.2	0.2
Net acquisition of financial assets	0.3	1.5	1.7	1.2	1.2	1.2	1.2	1.3	1.3
Net incurrence of liabilities	0.8	0.6	-1.5	0.1	0.9	0.9	0.9	1.0	1.0
Public Sector	0.3	0.0	-1.2	0.1	0.8	0.8	0.9	1.0	1.0
o/w Local currency domestic-issued bonds	0.1	-1.0	-1.0	-0.2	0.3	0.3	0.5	0.5	0.6
Private sector	0.5	0.5	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
Securities issued abroad	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equity	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
Pidiregas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives, net	0.1	-0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Other investments, net	0.8	2.4	-1.7	-0.1	0.5	0.7	0.9	1.2	1.4
Net acquisition of financial assets	1.1	2.1	-0.7	-0.1	0.5	0.7	1.0	1.2	1.4
Net incurrence of liabilities	0.3	-0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in Reserves Assets	0.2	1.1	0.8	-0.1	0.1	0.1	0.1	0.1	0.1
Total change in gross reserves assets	0.5	1.5	0.7	-0.1	0.1	0.1	0.1	0.1	0.1
Valuation change	0.3	0.4	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Errors and Omissions	**-1.0**	**-0.5**	**0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
International Investment Position, net	**-48.5**	**-48.7**	**-42.0**	**-38.9**	**-37.2**	**-37.2**	**-36.8**	**-36.3**	**-35.7**

Sources: Bank of Mexico, National Institute of Statistics and Geography, and Fund staff estimates.
1/ Crude oil, derivatives, petrochemicals, and natural gas.
2/ Excludes goods procured in ports by carriers.

Table 5. Mexico: Financial Soundness Indicators
(In percent)

	2016	2017	2018	2019	2020	2021	2022Q2
Capital Adequacy							
Regulatory capital to risk-weighted assets	14.9	15.6	15.9	16.0	17.7	19.5	18.7
Regulatory Tier 1 capital to risk-weighted assets	13.2	14.2	14.2	14.4	16.1	18.1	17.3
Capital to assets	9.9	10.4	10.7	11.0	10.7	11.8	10.8
Gross asset position in financial derivatives to capital	91.8	71.1	63.3	51.3	83.1	49.1	60.2
Gross liability position in financial derivatives to capital	96.5	76.0	63.9	52.6	85.1	49.7	59.7
Asset Quality							
Nonperforming loans to total gross loans	2.1	2.1	2.1	2.1	2.4	2.0	2.3
Provisions to Nonperforming loans	157.1	154.9	152.4	146.2	160.1	160.5	143.4
Earnings and Profitability							
Return on assets	1.7	2.0	2.2	2.2	1.2	2.1	1.9
Return on equity	16.3	19.6	20.9	20.5	11.7	18.6	17.4
Interest margin to gross income	73.8	73.3	74.5	74.3	76.0	72.7	76.0
Trading income to total income	4.4	5.0	4.5	5.8	5.5	6.7	9.4
Liquidity							
Liquid assets to short-term liabilities	31.4	32.0	31.6	31.1	35.7	36.3	38.5
Liquid assets to total assets	42.4	42.2	42.3	40.8	48.0	47.0	49.8
Customer deposits to total (noninterbank) loans	88.9	91.4	89.3	90.7	100.2	105.2	99.5
Trading income to total income	0.8	1.1	1.2	2.9	1.8	0.1	2.2

Sources: Mexican Authorities; and IMF Financial Soundness Indicators.

Table 6. Mexico: Financial Indicators and Measures of External Vulnerabilities

	2019	2020	2021	2022	Latest data available
Financial market indicators					
Exchange rate (per U.S. dollar, period average)	19.3	21.5	20.3	20.3	Jun-22
(year-to-date percent change, + appreciation)	-0.1	-11.5	5.6	-0.6	Jun-22
28-day treasury auction rate (percent; period average)	7.8	5.3	4.4	6.4	Jun-22
EMBIG Mexico spread (basis points; period average)	318.2	474.4	354.2	380.9	Jun-22
Sovereign 10-year local currency bond yield (period average)	7.6	6.3	6.9	8.4	Jun-22
Stock exchange index (period average, year on year percent change)	-8.8	-9.0	26.4	9.8	Jun-22
Financial system					
Bank of Mexico net international reserves (US$ billion)	180.9	195.7	202.4	200.4	Proj.
Financial system credit on non-financial private sector (year on year percent change) 1	3.0	1.5	4.1	10.7	Proj.
Nonperforming loans to total gross loans (deposit takers)	2.1	2.4	2.0	2.3	Jun-22
External vulnerability indicators					
Gross financing needs (billions of US$) 2/	102.2	76.4	94.3	81.2	Proj.
Gross international reserves (end-year, billions of US$) 3/	183.0	199.1	207.7	203.6	Jun-22
Change (billions of US$)	6.6	16.0	8.7	-2.9	Jun-22
Months of imports of goods and services	4.4	5.8	4.6	3.9	Proj.
Months of imports plus interest payments	4.2	5.5	4.4	3.7	Proj.
Percent of broad money	37.3	37.9	37.3	32.9	Proj.
Percent of portfolio liabilities	35.0	38.2	40.8	40.3	Proj.
Percent of short-term debt (by residual maturity)	209.3	242.8	315.2	284.2	Proj.
Percent of ARA Metric 4/	116.2	128.5	131.2	123.3	Proj.
Percent of GDP	14.4	18.3	16.0	14.9	Mar-22
Gross total external debt (in percent of GDP)	36.6	42.6	34.6	31.6	Proj.
Of which: In local currency	9.0	8.7	6.2	5.3	Proj.
Of which: Public debt	24.6	28.6	22.8	20.6	Proj.
Of which: Private debt	12.0	14.0	11.8	11.1	Proj.
Financial sector	2.1	2.1	1.8		
Nonfinancial sector	9.9	11.8	10.0		
Gross total external debt (billions of US$)	464.8	463.8	447.8	456.6	Proj.
Of which: In local currency	114.0	95.0	80.0	76.8	Proj.
Of which: Public debt	312.4	311.7	295.2	297.0	Proj.
Of which: Private debt	152.4	152.1	152.7	159.6	Proj.
Financial sector	26.8	23.0	22.9		
Nonfinancial sector	125.5	129.1	129.8		
External debt service (in percent of GDP)	9.3	10.2	8.0	6.2	Proj.

Sources: Bank of Mexico, National Banking and Securities Commission, National Institute of Statistics and Geography, Ministry of Finance and Public Credit, and Fund staff estimates.

1/ Includes domestic credit by banks, nonbank intermediaries, and social housing funds.

2/ Corresponds to the sum of the current account deficit, amortization payments, and the change in gross international reserves.

3/ Excludes balances under bilateral payments accounts. Includes SDR2.337 billion of the general SDR allocation and SDR 0.224 billion of the special SDR allocation in 2009, and SDR 8.542 billion in the general SDR allocation in 2021.

4/ The ARA metric was developed by the Strategy and Policy Review Department at the IMF to assess reserve adequacy. Weights to individual components were revised in December 2014 for the whole time series.

Table 7. Mexico: Baseline Medium-Term Projections

	2019	2020	2021	Proj. 2022	2023	2024	2025	2026	2027
National accounts (in real terms, contributions to growth) 1/									
GDP	-0.2	-8.1	4.8	2.1	1.2	1.8	2.1	2.1	2.1
Consumption	0.0	-7.0	5.1	4.5	0.9	1.3	1.7	1.7	1.7
Private	0.2	-7.0	4.9	4.3	0.6	1.0	1.4	1.4	1.4
Public	-0.2	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.3
Investment	-1.1	-3.8	1.9	1.0	0.4	0.3	0.4	0.4	0.4
Fixed	-1.0	-3.4	1.6	1.1	0.3	0.3	0.4	0.4	0.4
Private	-0.5	-3.2	1.5	1.0	0.3	0.3	0.3	0.3	0.3
Public	-0.4	-0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Inventories	-0.2	-0.4	0.2	-0.1	0.0	0.0	0.0	0.0	0.0
Exports of goods and services	0.5	-2.7	2.6	2.3	-0.2	0.7	1.1	1.2	1.1
Oil exports	-0.2	0.1	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
Non-oil exports	0.7	-2.8	2.8	2.3	-0.3	0.7	1.1	1.2	1.1
Imports of goods and services	-0.3	-5.1	4.7	3.3	0.4	0.8	1.2	1.3	1.2
Oil imports	-0.1	-0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Non-oil imports	-0.1	-4.9	4.7	3.3	0.4	0.8	1.1	1.2	1.2
Net exports	0.8	2.4	-2.2	-1.0	-0.7	-0.1	-0.1	-0.1	-0.1
Consumer prices									
End of period	2.8	3.2	7.4	8.5	4.8	3.5	3.2	3.1	3.0
Average	3.6	3.4	5.7	8.0	6.3	3.9	3.3	3.1	3.0
External sector									
Current account balance (in percent of GDP)	-0.3	2.5	-0.4	-1.2	-1.2	-1.1	-1.0	-0.9	-0.9
Non-hydrocarbon current account balance (in percent of GDP)	1.4	3.7	1.5	1.0	0.8	0.6	0.6	0.7	0.7
Exports of goods, f.o.b.	2.2	-9.4	18.6	14.0	2.4	3.4	4.3	5.0	4.9
Imports of goods, f.o.b.	-2.0	-15.9	32.0	17.0	1.1	1.5	4.8	4.8	5.0
Terms of trade (improvement +)	2.2	-1.2	-2.9	0.5	3.0	1.9	-0.4	0.2	-0.1
Crude oil export price, Mexican mix (US$/bbl)	56.0	35.8	64.8	91.4	79.6	74.6	70.9	68.2	67.0
Non-financial public sector									
Overall balance	-2.3	-4.4	-3.8	-3.8	-4.1	-2.7	-2.7	-2.7	-2.7
Primary balance	1.4	-0.5	0.0	0.7	0.3	1.8	1.8	1.8	1.6
Saving and investment 2/									
Gross domestic investment	21.2	19.2	20.2	21.0	21.3	21.4	21.4	21.4	21.4
Fixed investment	20.6	18.9	19.7	20.6	20.9	21.0	21.0	21.1	21.1
Public	2.5	2.7	2.9	2.8	2.9	2.9	2.9	2.9	2.9
Private	18.1	16.2	16.8	17.8	18.1	18.2	18.2	18.2	18.2
Gross domestic saving	20.9	21.7	19.8	19.8	20.1	20.3	20.4	20.5	20.6
Public	0.2	-1.7	-0.9	-1.0	-1.3	0.2	0.2	0.2	0.2
Private	20.7	23.4	20.8	20.8	21.4	20.1	20.2	20.3	20.4
Memorandum items									
Financial system credit to non-financial private sector (nominal y/y growth	3.0	1.5	4.1	10.7	8.1	6.5	6.6	6.5	6.4
Output gap (in percent of potential GDP)	-1.0	-4.7	-2.0	-0.6	-1.2	-1.1	-0.7	-0.3	-0.1
Total population 3/	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8
Working-age population 3/	1.3	1.2	1.1	1.1	1.0	0.9	0.9	0.8	0.8

Sources: Bank of Mexico, National Institute of Statistics and Geography, Ministry of Finance and Public Credit, Bloomberg, and IMF staff projections.
1/ Contribution to growth. Excludes statistical discrepancy.
2/ Reported numbers may differ from authorities' due to rounding.
3/ Based on CONAPO population projections.

Table 8. Mexico: Monetary Indicators 1/
(In billions of Pesos)

	2018	2019	2020	2021	Proj. 2022
Banco de México					
Net foreign assets	3,408	3,397	3,876	3,941	3,866
Net international reserves	3,471	3,457	3,966	4,254	4,173
Gross international reserves 2/	3,472	3,457	3,966	4,254	4,173
Reserve liabilities	1	0	0	0	0
Other net foreign assets	-63	-60	-90	-312	-306
Net domestic assets	-1,734	-1,654	-1,758	-1,500	-1,156
Net domestic credit	-1,622	-1,706	-1,640	-1,376	-1,558
Net credit to non-financial public sector	-1,525	-1,640	-1,778	-1,400	-1,558
Credit to non-financial private sector	0	0	0	0	0
Net credit to financial corporations	-97	-66	138	24	0
Net claims on other depository corporations	-97	-66	138	24	0
Net claims on other financial corporations	0	0	0	0	0
Capital account	54	-113	53	52	-466
Other items net	-59	-61	-64	-72	-64
Monetary base	1,674	1,742	2,118	2,441	2,710
Other Depository Corporations					
Net foreign assets	-12	-60	142	340	378
Foreign assets	860	738	940	1,013	1,125
Foreign liabilities	873	798	798	672	747
Net domestic assets	8,140	8,646	9,230	9,863	11,067
Net credit to the public sector	3,190	3,750	4,197	4,398	4,891
Claims on non-financial public sector	3,688	4,214	4,602	4,840	5,383
in pesos	3,528	4,037	4,400	4,661	5,189
in FX	160	178	202	178	194
Liabilities to the nonfinancial public sector	499	464	405	442	492
Credit to the private sector	6,304	6,976	6,708	7,011	7,759
Local Currency	5,538	6,198	5,984	6,238	6,924
Foreign Currency	766	778	724	773	835
Net credit to the financial system	937	868	689	806	825
Other	-2,282	-2,948	-2,364	-2,351	-2,408
Liabilities to the private sector	8,128	8,586	9,372	10,204	11,444
Liquid liabilities	7,327	7,688	8,572	9,248	10,385
Local currency	6,710	7,112	7,905	8,481	9,557
Foreign currency	617	575	667	766	828
Non liquid liabilities	801	898	800	956	1,060
Local currency	765	861	762	915	1,016
Foreign currency	36	38	38	41	44
Total Banking System					
Net foreign assets	3,396	3,336	4,017	4,285	4,244
Net domestic assets	6,406	6,992	7,472	8,363	9,911
Liquid liabilities	9,001	9,430	10,691	11,688	13,095
Non-liquid liabilities	801	898	800	956	1,060
Memorandum items					
Monetary base (percent change)	8.3	4.1	21.6	15.2	11.0
Currency in circulation (percent change)	8.9	3.6	23.0	16.8	11.0
Broad money (percent change)	4.5	4.7	13.4	9.5	11.0
Bank credit to the non-financial private sector (growth rate)	6.9	10.7	-3.8	4.5	10.7
Bank credit to the non-financial private sector (as percent of GDP)	26.8	28.5	28.6	26.7	26.5

Source: Bank of Mexico, National Institute of Statistics and Geography and Fund staff estimates.
1/ Data of the monetary sector are prepared based on the IMF's methodological criteria and do not necessarily coincide with the definitions published by Bank of Mexico.
2/ Excludes balances under bilateral payments accounts. Includes SDR2.337 billion of the general SDR allocation and SDR 0.224 billion of the special SDR allocation in 2009, and SDR 8.542 billion in the general SDR allocation in 2021.

Annex I. External Sector Assessment

<table>
<tr><td colspan="8">Overall Assessment: The external position in 2021 was broadly in line with the level implied by medium-term fundamentals and desirable policies. The rebalancing of Mexico's external position in 2021 was led by the economic reopening and recovery, domestically and elsewhere, and a smaller fiscal policy gap. The latter reflected the narrowing of the wide cross-country differences in the magnitude of pandemic-related fiscal policy support compared with the previous year. The current account deficit is expected to stabilize around 1 percent of GDP in the medium term.

Potential Policy Responses: While Mexico's external position at present is broadly in balance, further structural reforms to address investment obstacles are critical to boost growth and exports in the medium and long terms and to maintain external sustainability. The reforms should include tackling economic informality and governance gaps, private sector participation in energy, and reforming Pemex's business strategy and governance. The floating exchange rate should continue to serve as a shock absorber, with FX interventions used only to prevent disorderly market conditions. The IMF's Flexible Credit Line continues to provide an added buffer against global tail risks.</td></tr>
<tr><td>Foreign Asset and Liability Position and Trajectory</td><td colspan="7">Background. Mexico's NIIP is projected to improve from –41 percent of GDP in 2021 to around –35 percent of GDP over the medium term, driven mainly by the decline in foreign liabilities. Foreign assets in 2021 were mostly direct investment (18 percent of GDP) and international reserves (16 percent of GDP). Foreign liabilities were mostly direct investment (49 percent of GDP) and portfolio investment (39 percent of GDP). Gross public external debt was estimated at 23 percent of GDP at the end of 2021, of which roughly one-quarter was comprised of holdings of local currency government bonds.

Assessment. While the NIIP is sustainable and a relatively high share of the local currency denomination of foreign public liabilities reduces FX risks, the large gross foreign portfolio liabilities could be a source of vulnerability in case of global financial volatility. Vulnerabilities from exchange rate volatility are moderate, as most Mexican firms with FX debt have natural hedges and actively manage their FX exposures.</td></tr>
<tr><td>2021 (% GDP)</td><td colspan="2">NIIP: –41</td><td colspan="2">Gross Assets: 58</td><td>Debt Assets: 19</td><td>Gross Liab.: 99</td><td>Debt Liab.: 38</td></tr>
<tr><td>Current Account</td><td colspan="7">Background. In 2021, the CA balance moved to a deficit of 0.4 percent of GDP after posting a surplus of 2.5 percent of GDP in 2020, reflecting the recovery of import demand, including from the restocking of intermediate goods, with economic recovery. An increase in investment and a decline in saving contributed roughly equally to the change in the CA balance in 2021. The private sector saving-investment balance declined by 3.1 percentage points of GDP, more than offsetting the improvement in the public sector balance of 0.7 percentage point. In 2022, the current account deficit is expected to widen with higher global commodity prices, given Mexico's net commodity importer status. Other direct trade effects of the war in Ukraine are expected to be insignificant, given the limited trade linkages with Russia and other countries in eastern Europe. In addition, the domestic fuel price ceiling and the associated fuel subsidies will weaken the substitution and income effects of higher oil prices and amplify their impact on the CA balance. Taking these factors into consideration, the 2022 CA deficit is projected to increase to around 1 percent of GDP, with considerable forecast uncertainty, given risks from the COVID-19 pandemic and the war in Ukraine. Over the medium term, the CA balance is projected to stabilize around a deficit of around 1 percent of GDP.

Assessment. The EBA model estimates a cyclically adjusted CA norm of –1.2 percent of GDP in 2021. This implies a CA gap of –0.2 percent of GDP, with a range from –1.2 to 0.8 percent of GDP. The contribution from the overall policy gap is estimated at 1.3 percent of GDP, driven by the fiscal gap (1.2 percent). The latter reflects the relatively more accommodative fiscal stances of trading partners. IMF staff adjustments were made to account for the transitory impact of the COVID-19 pandemic on travel services (0.1 percent of GDP), the transport balance (0.6 percent of GDP), the household consumption composition shift (–0.3 percent of GDP), trade in medical products (0.1 percent of GDP), and remittances (–0.3 percent of GDP). Including these adjustments, the IMF staff assesses the midpoint CA gap at –0.2 percent of GDP, with a range of –1.2 to 0.8 percent of GDP.</td></tr>
<tr><td>2021 (% GDP)</td><td>CA: –0.4</td><td>Cycl. Adj. CA: –1.5</td><td>EBA Norm: –1.2</td><td>EBA Gap: -0.2</td><td>COVID-19 Adj.: 0.1</td><td>Other Adj.: 0</td><td>Staff Gap: -0.2</td></tr>
<tr><td>Real Exchange Rate</td><td colspan="7">Background. In 2021, the peso fluctuated in a narrow range of around 20 to 21 pesos per U.S. dollar. The average REER in 2021 appreciated by about 6 percent compared to the 2020 average, mostly driven by a nominal appreciation. As of July 2022, the REER had appreciated by 3 percent compared to its 2021 average.

Assessment. The IMF staff CA gap implies a REER gap of 0.5 percent (applying a semi-elasticity of 0.33). The EBA REER level and index models estimate an overvaluation of 7.7 percent and an undervaluation of 9.1 percent, respectively, in 2021. IMF staff's overall assessment, based on the CA gap, is a REER gap in the range of –2.6 to 3.5 percent, with a midpoint of 0.5 percent.</td></tr>
<tr><td>Capital and Financial Accounts: Flows and Policy Measures</td><td colspan="7">Background. In 2021, Mexico recorded a small amount of net financial account inflows. Net portfolio outflows increased compared to the previous year on account of both higher purchases of foreign assets by residents and larger sales of Mexican assets by nonresidents. The outflows were offset by a turnaround in other investment flows and continued strong net FDI inflows.

Assessment. The long maturity of sovereign debt and the relatively high share of local-currency-denominated debt reduce the exposure of government finances to FX depreciation and refinancing risks. The banking sector is resilient, and FX risks of nonfinancial corporate debt are generally covered by natural and financial hedges. However, the strong presence of foreign investors leaves Mexico exposed to capital flow reversals and risk premium increases.</td></tr>
<tr><td>FX Intervention and Reserves Level</td><td colspan="7">Background. The central bank remains committed to a free-floating exchange rate and uses discretionary FX intervention to prevent disorderly market conditions. At the end of 2021, gross international reserves were USD 208 billion (16 percent of GDP), up from USD 199 billion at the end of 2020, largely owing to the IMF's general SDR allocation. In 2021, no FX intervention was conducted.

Assessment. At 131 percent of the ARA metric and 254 percent of short-term debt (at remaining maturity), the level of foreign reserves at the end of 2021 remains adequate. IMF staff recommend that the authorities continue to maintain reserves at an adequate level over the medium term. The Flexible Credit Line arrangement continues to provide an additional buffer.</td></tr>
</table>

Annex II. Risk Assessment Matrix[1]

Risks	Likelihood	Impact	Policy Response
Commodity price shocks. A combination of continuing supply disruptions (e.g., due to conflicts and export restrictions) and negative demand shocks causes recurrent commodity price volatility and social and economic instability.	**High**	**Medium.** Oil price shocks weigh on fiscal expenditure because of retail fuel price smoothing. Oil and food price shocks feed through to headline and core inflation.	Monetary policy should respond if shocks feed into to core inflation and ensure that inflation expectations remain anchored.
Systemic social unrest. Rising inflation, declining incomes, and worsening inequality amplify social unrest and political instability, causing capital outflows from EMDEs, slowing economic growth, and giving rise to economically damaging populist policies (e.g., preserving fossil fuel subsidies).	**High**	**Medium.** A global wave of social unrest is likely to fall more lightly on Mexico in the current political alignment, but substantial pressure on basic goods prices could cause tension.	Tighten monetary policy to address rising inflation. Increase and better target social transfers to alleviate stress on vulnerable households. Accelerate investment plans in low-income regions.
De-anchoring of inflation expectations and stagflation. Supply shocks to food and energy prices sharply increase headline inflation and pass through to core inflation, de-anchoring inflation expectations and triggering a wage-price spiral in tight labor markets. Central banks tighten monetary policy more than envisaged leading to weaker global demand, currency depreciations in EMDEs, and sovereign defaults. Together, this could lead to the onset of stagflation.	**Medium**	**High.** Additional upside surprises from global prices or domestic food markets could cause medium and even long-term inflation expectations to rise substantially.	Monetary policy should respond decisively to ensure the policy rate remains contractionary.
Abrupt global slowdown or U.S. recession: Amid persistently high inflation driven by tight labor markets, supply disruptions and continued commodity price shocks, the Fed tightens policies faster and by more than anticipated, resulting in a "hard landing", a housing market correction, and a stronger U.S. dollar.	**Medium**	**High.** The Fed could tighten more and faster in response to persistently high inflation. The resulting U.S. "hard landing" would transmit to Mexico through reduced external demand and remittances as well as tighter financial conditions and capital outflows.	Tighten monetary policy if inflation in Mexico is affected by additional price pressures but decouple from Fed when appropriate. Frontload fiscal expenditure plans and delay revenue measures to provide support during the downturn without adding to domestic price pressures.

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path. The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Risks	Likelihood	Impact	Policy Response
Local COVID-19 outbreaks. Outbreaks in slow-to-vaccinate countries or emergence of more contagious vaccine-resistant variants force new lockdowns or inhibit commerce. This results in extended supply chain disruptions, slower growth, capital outflows, and debt distress in some EMDEs.	**Medium**	**Medium.** A more contagious or deadly variant could reverse declining hospitalizations and death. Border restrictions and nonpharmaceutical interventions (NPIs) in trade partners could cause renewed supply constraints. The tourism industry could see another substantial downturn.	Renew vaccination campaign and seek boosters with variants if available. Consider renewing pandemic-era support for key industries. Expand targeting transfer programs to protect the most vulnerable.
Deepening geo-economic fragmentation and geopolitical tensions. Broadening of conflicts and reduced international cooperation accelerate deglobalization, resulting in a reconfiguration of trade, supply disruptions, technological and payments systems fragmentation, rising input costs, financial instability, a fracturing of international monetary and financial system, and lower potential growth.	**High**	**Low.** Reduced global productivity and demand and higher input costs will weigh on Mexican growth, but nearshoring elements of the U.S. supply chain could have a net positive impact.	Implement structural reforms to ensure the economy can adjust flexibly to rotations in export demand, including labor market reforms to reduce the informality and allow for smoother sectoral reallocation.

Annex III. Debt Sustainability Analysis

A. Sovereign Risk and Debt Sustainability Analysis

Annex III. Figure 1. Mexico: Risk of Sovereign Stress

Horizon	Mechanical signal	Final assessment	Comments
Overall	...	Moderate	The overall risk of sovereign stress is judged to be moderate. The post-pandemic recovery is expected to slow slightly in 2023 as global conditions deteriorate, resulting in elevated debt levels and non-stabilization of debt by 2027. However, a return to trend growth and a tight fiscal stance will help contain the debt path and more favorable conditions will see debt decline over the extended 10-year period. While the balanced budget rule in the fiscal framework plays a role in containing debt, the impact on budget composition could be a long-run issue as expenditures on investment and deveopmental objectives are often restrained to ensure compliance with the rule.
Near term 1/			
Medium term	Moderate	Moderate	Medium-term risks are assessed as moderate. Fanchart analysis suggests that baseline projections are reasonable but risks remain around the non-stabilization of debt by the end of the projection period. GFN analysis indicates that financing needs will be broadly stable. The standardized stress tests suggest that additional financing needs could reach close to 15 percent in a stress scenario but the domestic banking and non-depository sectors could pick up slack. The balanced budget rule assists in containing debt but may have implications for budget composition.
Fanchart	Moderate	...	
GFN	Moderate	...	
Stress test	...	...	
Long term	...	Moderate	The persistence of medium-term factors may serve to affect the long-run outlook. The impact of a restrictive fiscal stance and the absence of structural reforms may pose a trade-off between long-run growth and budget balance, meaning that debt ratios may not achieve a declining trend.
Sustainability assessment 2/		Sustainable with high probability	The projected debt path and GFN are expected to increase somewhat over the main projection period but decline over the extended 10-year period. Debt is therefore judged to be sustainable but notable risks from further shocks remain, particularly given the global macroeconomic context and the tight fiscal stance underpinning debt dynamics.
Debt stabilization in the baseline			No

DSA Summary Assessment

Staff Commentary: The risk of Mexico experiencing sovereign stress is moderate overall and its public debt is assessed to be sustainable with high probability over the extended time horizon. While still manageable under most downside scenarios, fan chart analysis suggests that public debt ratios could increase materially in the medium-term, possibly constraining policy options and leading to moderate risks of sovereign stress compared to low risks in the near term.

Source: IMF staff calculations.

Note: The risk of sovereign stress is a broader concept than debt sustainability. Unsustainable debt can only be resolved through exceptional measures (such as debt restructuring). In contrast, a sovereign can face stress without its debt necessarily being unsustainable, and there can be various measures—that do not involve a debt restructuring—to remedy such a situation, such as fiscal adjustment and new financing.

1/ The near-term assessment is not applicable in cases where there is a disbursing IMF arrangement. In surveillance-only cases or in cases with precautionary IMF arrangements, the near-term assessment is performed but not published.

2/ A debt sustainability assessment is optional for surveillance-only cases and mandatory in cases where there is a Fund arrangement. The mechanical signal of the debt sustainability assessment is deleted before publication. In surveillance-only cases or cases with IMF arrangements with normal access, the qualifier indicating probability of sustainable debt ("with high probability" or "but not with high probability") is deleted before publication.

Annex III. Figure 2. Mexico: Debt Coverage and Disclosures

	CG	GG	NFPS	CPS	Other	Comments
1. Debt coverage in the DSA: 1/	CG	GG	NFPS	CPS (chosen)	Other	
1a. If central government, are non-central government entities insignificant?					n.a.	

2. Subsectors included in the chosen coverage in (1) above:

Coverage	#	Subsectors captured in the baseline	Inclusion	Comments
CPS / NFPS / GG: expected / CG	1	Budgetary central government	Yes	
CPS / NFPS / GG: expected / CG	2	Extra budgetary funds (EBFs)	Yes	
CPS / NFPS / GG: expected / CG	3	Social security funds (SSFs)	Yes	
CPS / NFPS / GG: expected	4	State governments	No	See commentary below.
CPS / NFPS / GG: expected	5	Local governments	No	See commentary below.
CPS / NFPS	6	Public nonfinancial corporations	Yes	
CPS	7	Central bank	No	
CPS	8	Other public financial corporations	Yes	

3. Instrument coverage:

Currency & deposits	Loans	Debt securities	Oth acct. payable 2/	IPSGSs 3/	Comments
Included	Included	Included	Missing	Included	See commentary below.

4. Accounting principles:

Basis of recording		Valuation of debt stock		
Non-cash basis 4/	Cash basis (chosen)	Nominal value 5/	Face value 6/ (chosen)	Market value 7/

5. Debt consolidation across sectors:

Consolidated	Non-consolidated
	(chosen)

Color code: chosen coverage; Missing from recommended coverage; Not applicable

Reporting on Intra-Government Debt Holdings

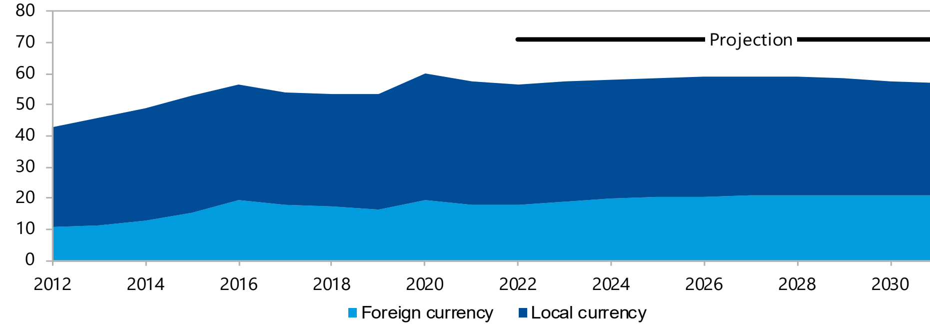
Issuer \ Holder	Budget. central govt	Extra-budget. funds (EBFs)	Social security funds (SSFs)	State govt.	Local govt.	Nonfin. pub. corp.	Central bank	Oth. pub. fin corp	Total
1 Budget. central govt		0	0	0	0	0	0	0	0
2 Extra-budget. funds	0		0	0	0	0	0	0	0
3 Social security funds	0	0		0	0	0	0	0	0
4 State govt.	0	0	0		0	0	0	0	0
5 Local govt.	0	0	0	0		0	0	0	0
6 Nonfin pub. corp.	0	0	0	0	0		0	0	0
7 Central bank	0	0	0	0	0	0		0	0
8 Oth. pub. fin. corp	0	0	0	0	0	0	0		0
Total	0	0	0	0	0	0	0	0	0

1/ CG=Central government; GG=General government; NFPS=Nonfinancial public sector; PS=Public sector.
2/ Stock of arrears could be used as a proxy in the absence of accrual data on other accounts payable.
3/ Insurance, Pension, and Standardized Guarantee Schemes, typically including government employee pension liabilities.
4/ Includes accrual recording, commitment basis, due for payment, etc.
5/ Nominal value at any moment in time is the amount the debtor owes to the creditor. It reflects the value of the instrument at creation and subsequent economic flows (such as transactions, exchange rate, and other valuation changes other than market price changes, and other volume changes).
6/ The face value of a debt instrument is the undiscounted amount of principal to be paid at (or before) maturity.
7/ Market value of debt instruments is the value as if they were acquired in market transactions on the balance sheet reporting date (reference date). Only traded debt securities have observed market values.

Staff Commentary: The classification of Mexico's fiscal accounts in this SRDSA matches that used in the IMF's Fiscal Monitor. State and Local governments are excluded from debt coverage given limits on their debt carrying capacity and the absence of the legal obligation on the part of the Federal government to guarantee or assume their debt. Staff are not aware of data on accounts payables, although the relevant information is assumed to be included in other data used in this assessment. Debt is not consolidated across the Federal government and Non-Financial Public Sector and the aggregate debt data represents the gross amount of all individual debt liabilities.

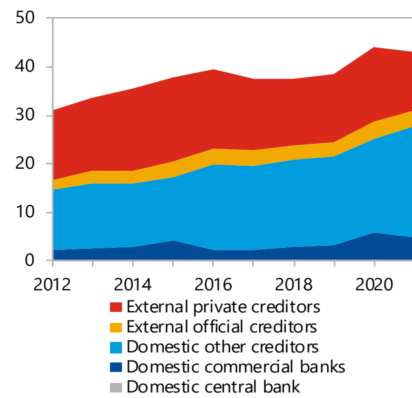
Annex III. Figure 3. Mexico: Public Debt Structure Indicators

Debt by Currency
(Percent of GDP)



Note: The perimeter shown is consolidated public sector.

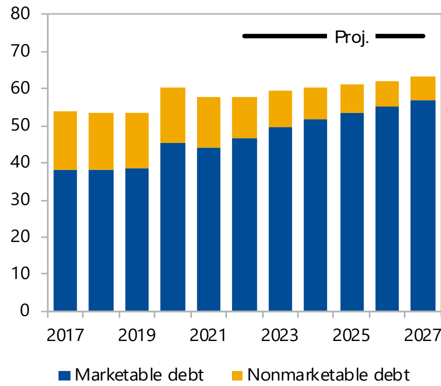
Public Debt by Holder
(Percent of GDP)



Public Debt by Governing Law, 2021
(Percent)

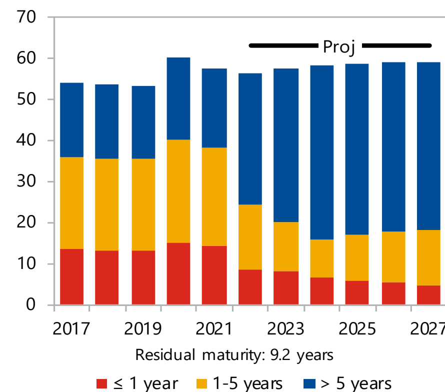
Note: The perimeter shown is general government.

Debt by Instruments
(Percent of GDP)



Note: The perimeter shown is general government.

Public Debt by Maturity
(Percent of GDP)



Note: The perimeter shown is general government.

Staff Commentary: The shares of foreign and domestic currency-denominated liabilities in total public debt are expected to be broadly stable in the projection period. The rising share of domestic other creditors reflects the increased holdings of public debt liabilities by domestic pension funds following recent pension reforms. While overall debt as a ratio to GDP will remain broadly constant, the share of liabilities with longer maturities is expected to rise until 2025 and then stabilize, in-line with the government's debt management strategy. Data on the structure of debt holders are taken from the Arslanalp-Tsuda database. These data excludes SOEs, development banks, and other entities included in the Public Sector fiscal accounts perimeter. Hence debt as a share of GDP is lower than in other SRDSA outputs.

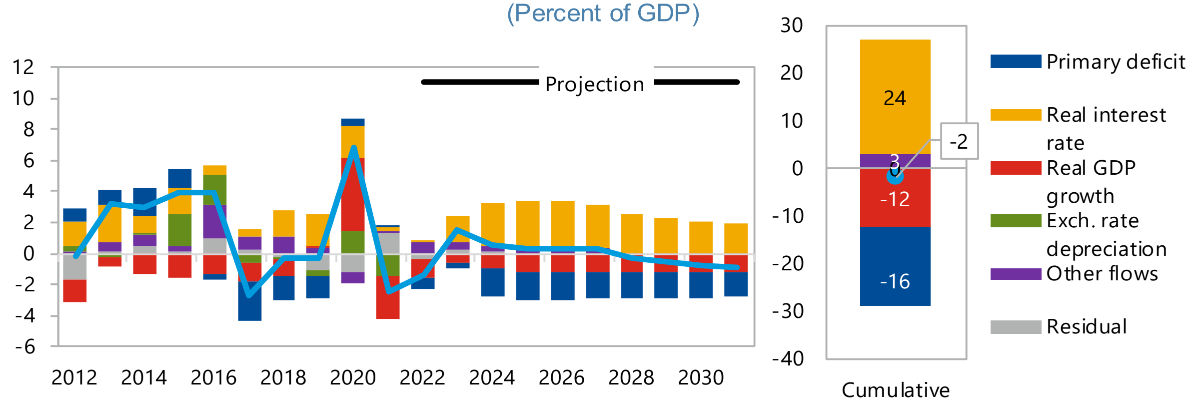
Annex III. Figure 4. Mexico: Baseline Scenario

(Percent of GDP unless indicated otherwise)

	Actual	Medium-Term Projection						Extended Projection			
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Public debt	57.6	56.2	57.7	58.2	58.6	58.9	59.3	58.9	58.4	57.6	56.8
Change in public debt	-2.5	-1.4	1.5	0.5	0.4	0.4	0.3	-0.3	-0.6	-0.7	-0.8
Contribution of identified flows	-3.3	-0.7	1.6	0.6	0.5	0.5	0.5	-0.2	-0.4	-0.6	-0.7
Primary deficit	0.0	-0.7	-0.3	-1.8	-1.8	-1.8	-1.6	-1.6	-1.6	-1.6	-1.6
Noninterest revenues	23.0	24.1	23.9	23.9	23.7	23.7	23.8	23.8	23.8	23.8	23.8
Noninterest expenditures	23.1	23.3	23.7	22.0	21.9	21.9	22.1	22.1	22.1	22.1	22.1
Automatic debt dynamics	-3.5	-0.7	1.4	2.0	1.9	1.9	1.8	1.5	1.2	1.1	1.0
Int. rate-growth differential	-2.5	-1.1	0.9	1.8	1.7	1.7	1.6	1.3	1.1	0.9	0.8
Real interest rate	0.3	0.1	1.6	2.8	2.9	2.9	2.8	2.5	2.3	2.1	1.9
Real growth rate	-2.7	-1.2	-0.6	-1.0	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
Real exchange rate	-1.5	…	…	…	…	…	…	…	…	…	…
Relative inflation	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other identified flows	0.1	0.8	0.5	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other transactions	0.1	0.8	0.5	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
Contribution of residual	0.8	-0.7	-0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Gross financing needs	12.4	12.6	12.3	11.5	10.9	11.2	11.4	11.3	11.3	11.5	11.3
of which: debt service	12.7	13.6	12.8	13.5	12.9	13.1	13.2	13.1	13.1	13.3	13.1
Local currency	10.6	11.6	10.9	11.3	10.2	10.5	10.3	10.2	10.2	10.5	10.2
Foreign currency	2.1	1.9	1.9	2.1	2.6	2.6	2.9	2.9	2.9	2.9	2.9
Memo:											
Real GDP growth (percent)	4.8	2.1	1.2	1.8	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Inflation (GDP deflator; percent)	7.1	8.9	5.7	3.4	3.1	3.0	3.0	3.0	3.0	3.0	3.0
Nominal GDP growth (percent)	12.2	11.2	6.9	5.3	5.3	5.2	5.1	5.1	5.1	5.1	5.1
Effective interest rate (percent)	7.6	9.1	8.7	8.6	8.4	8.2	8.0	7.4	7.0	6.8	6.5

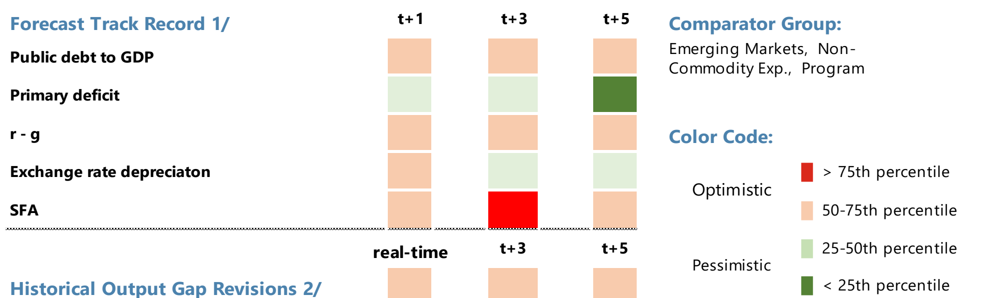
Contribution to Change in Public Debt

(Percent of GDP)



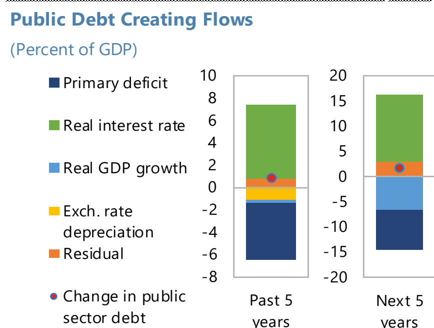
Staff commentary: As in 2021, the public debt to GDP ratio is expected to decline in 2022 with the economic recovery after the pandemic-related downturn in 2020 and exchange rate appreciation. However, with slowing GDP growth both globally and in Mexico in 2023, the public debt ratio is expected to increase again in that year despite the contribution from the primary budget deficit. Beyond 2023, Mexico's relatively low trend growth, in real and nominal terms, and a relatively high average interest rate on public debt mean that r-g dynamics will not contribute to lowering the public debt ratio in the medium-term. However, the primary budget surplus is expected to offset the unfavorable automatic debt dynamics. Mexico has strong track record in maintaining a prudent fiscal policy stance.

Annex III. Figure 5. Mexico: Realism of Baseline Assumptions

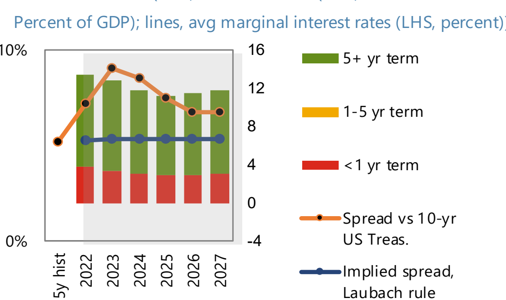


Public Debt Creating Flows

(Percent of GDP)

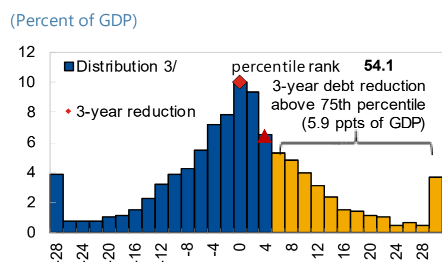


Bond Issuances (bars, debt issuances (RHS, Percent of GDP); lines, avg marginal interest rates (LHS, percent))



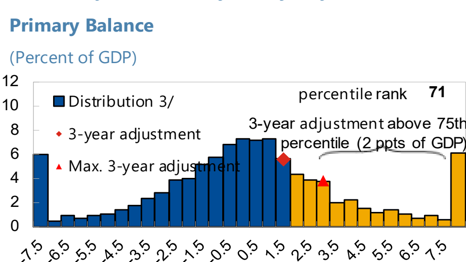
3-Year Debt Reduction

(Percent of GDP)



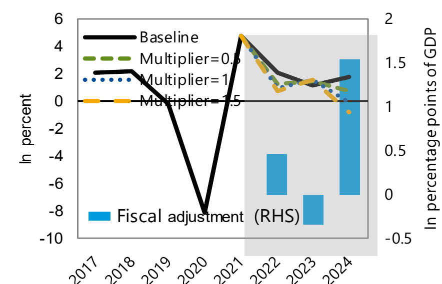
3-Year Adjustment in Cyclically-Adjusted Primary Balance

(Percent of GDP)



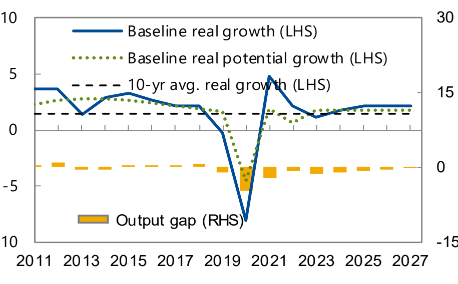
Fiscal Adjustment and Possible Growth Paths

(Lines, real growth using multiplier (LHS); bars, fiscal adj. (RHS)



Real GDP Growth

(In percent)



Staff Commentary: The forecast track record is generally within bounds for optimism, excepting the SFA projections. Debt creating flows are compositionally similar between the last and next 5 years when considering that the inclusion of data from the onset of the pandemic biases GDP growth's contribution downwards in the former. The lengthening of bond maturities marks a break with the past 5 years but reflects debt management objectives. Spreads reflect heightened risks and uncertainty in the early years of the projection before trending towards equilibrium rates. While the three-year debt and CAPB adjustments are above the median of the distribution of comparator countries' experience, they are well below Mexico's past maximum. The effect of fiscal adjustment on growth is broadly within the bounds of standard mulitplier assumptions. Baseline real growth exceeds and then converges to baseline real potential growth by the end of the projection period, consistent with the closing of the output gap by the end of the projection period.

Source: IMF Staff.

1/ Projections made in the October and April WEO vintage. Program status not used in creating comparator group due to lack of data.

2/ Data cover annual obervations from 1990 to 2019 for MAC advanced and emerging economies. Percent of sample on vertical axis.

3/ Starting point reflects the team's assessment of the initial overvaluation from EBA (or EBA-Lite).

Annex III. Figure 6. Mexico: Medium-Term Risk Analysis

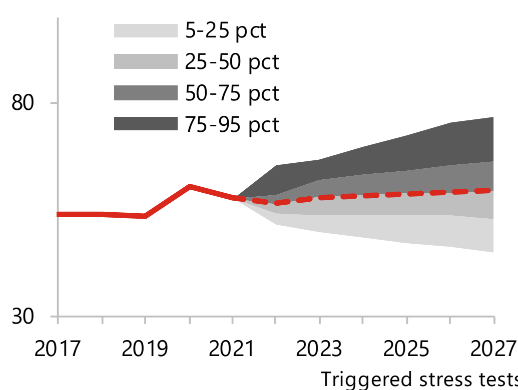
Debt Fanchart and GFN Financeability Indexes
(Percent of GDP unless otherwise indicated)

Module	Indicator	Value	Risk index	Risk signal
Debt fanchart module	Fanchart width	32.0	0.5	...
	Probability of debt not stabilizing (pct)	52.2	0.4	...
	Terminal debt level x institutions index	35.9	0.8	...
	Debt fanchart index	**...**	**1.7**	**Moderate**
GFN finance-ability module	Average GFN in baseline	11.6	4.0	...
	Bank claims on government (pct bank assets)	26.9	8.7	...
	Chg. in claims on govt. in stress (pct bank asse	12.1	4.1	...
	GFN financeability index	**...**	**16.8**	**Moderate**

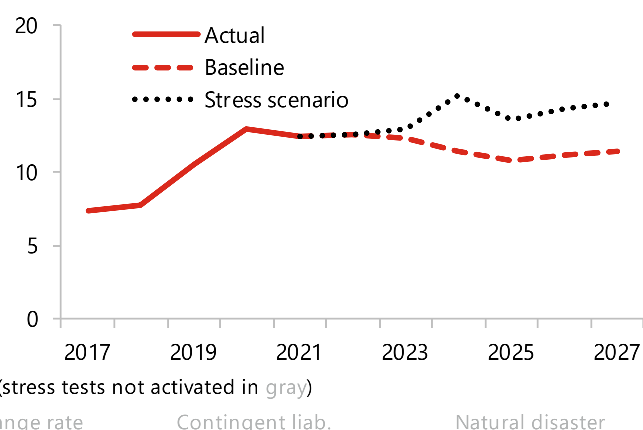
Adv. Econ., Non-Com. Exp, Program: 0, 25, 50, 75, 100

Legend: Interquartile range; Mexico

Final Fanchart
(Percent of GDP)



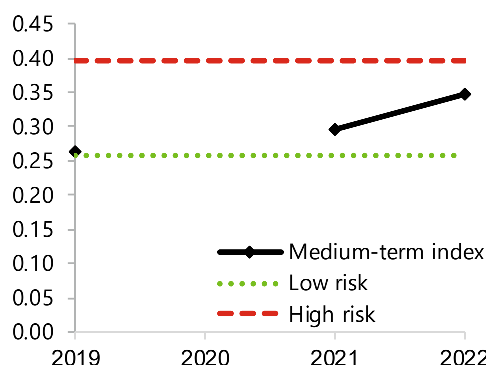
Gross Financing Needs
(Percent of GDP)



Triggered stress tests (stress tests not activated in gray)

Banking crisis Commodity prices Exchange rate Contingent liab. Natural disaster

Medium-Term Index
(Index number)



Medium-Term Risk Analysis

	Low risk threshold	High risk threhsold	Weight in MTI	Normalized level
Debt fanchart index	1.1	2.1	0.5	0.4
GFN finaceability index	7.6	17.9	0.5	0.3
Medium-term index (MTI)	0.3	0.4	...	0.3, Moderate

Prob. of missed crisis, 2022-2027 (if stress not predicted): 27.3 pct.

Prob. of false alarm, 2022-2027 (if stress predicted): 21.6 pct.

Staff Commentary: The medium-term analysis suggests a moderate risk of sovereign stress over that time horizon. The main issue suggested by the analysis is the possibility of substantial increases in the public debt ratio under low-probability downside scenarios. The increase in gross financing needs under a stress scenario is moderate. The change in bank claims under stress scenarios is small, but the initial share of government assets in banks' assets, while only 27 percent, is outside the 25-75 percentile interval for comparators. The banking system should be able to absorb the increased government financing needs under a stress scenario. Institutional investors other than banks, such as pension funds, could also likely absorb additional financing needs. No customized debt stress scenarios were triggered.

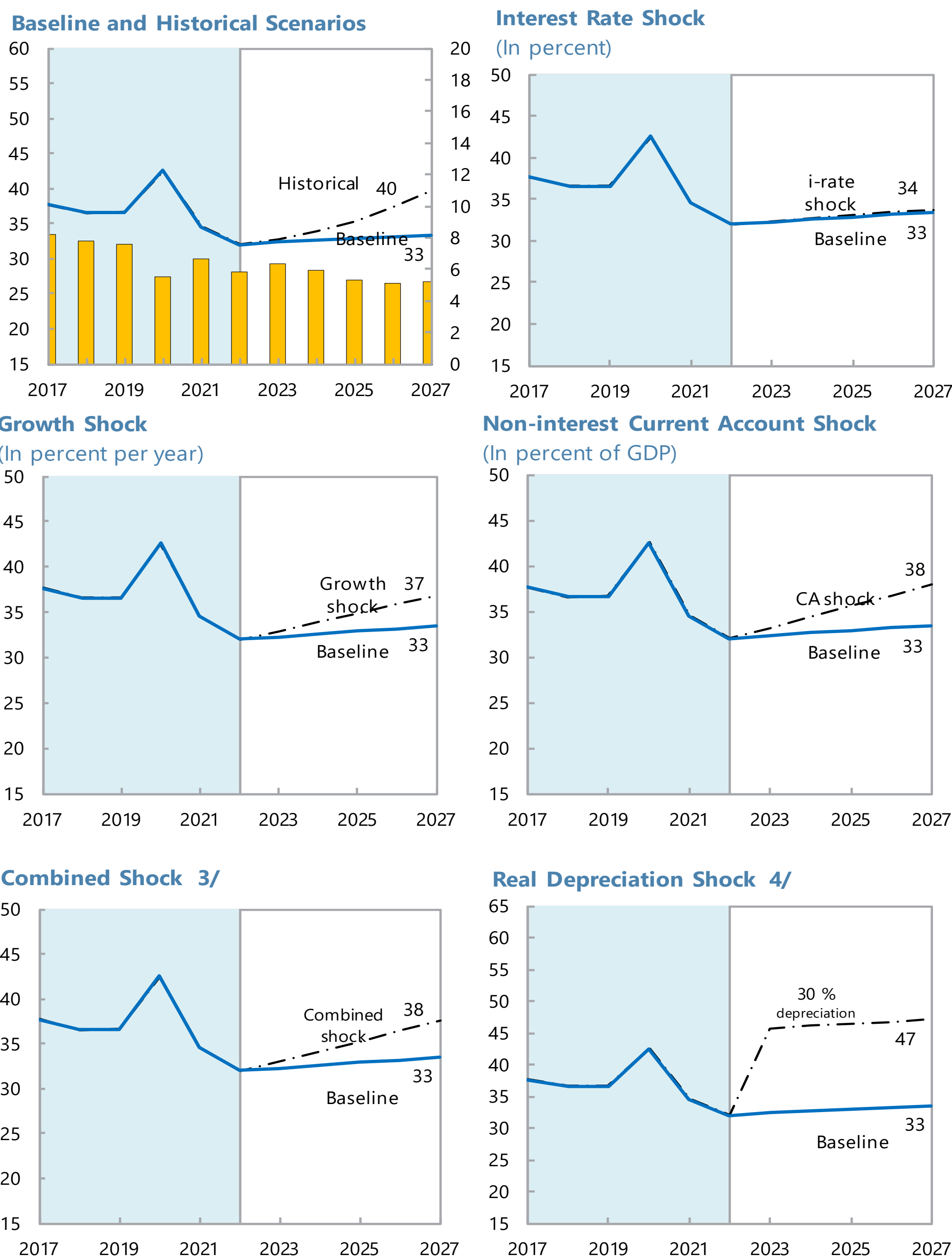
B. External Debt Sustainability

Mexico's external debt as a ratio to GDP is comparatively low and is projected to decline further below its pre-pandemic level in 2022. The decline is mainly due to the economic rebound after the pandemic, but also due to continued excess capacity and strong remittance inflows, which have contributed to small current account deficits. The main risks to the external debt trajectory relate to growth underperformance, higher risk premia, and large currency depreciation. However, their potential impact is mitigated by several factors, especially favorable maturity and currency structures of public and private external debt.

1. The baseline projections: Gross external debt is expected to decline to around 32 percent of GDP by end-2022, below the pre-pandemic ratio of 37 percent of GDP. The decline is mainly driven by strong nominal GDP growth (in U.S. dollar terms), but also by robust remittances at levels well above recent historical averages. In the medium-term, the external debt ratio is expected to remain broadly stable at around 32 percent of GDP.

2. Risks and mitigating factors: The major downside risks to the external debt trajectory are weaker-than-expected growth, possibly owing to a global slowdown and/or domestic policy missteps, and a sharp tightening of global financial conditions, leading to a spike in risk premia on Mexico's external debt liabilities, a weaker peso, and more capital flow volatility. Currency depreciation is a significant risk; for example, a 30 percent depreciation of the peso in real effective terms could raise the external debt to about 46 percent of GDP. However, several factors mitigate the impact of potential shocks on Mexico's external debt position. Rollover risks for the public sector external debt, which constitute around two-thirds of Mexico's external debt, are mitigated by a favorable maturity structure (more than 90 percent of debt has a residual maturity of more than one year), currency composition (around 30 percent of external public debt is denominated in peso), and prudent debt management by the government. Private sector external debt, which concentrated in the non-financial corporate sector, consists of mostly medium- and long-term maturities, while foreign exchange risks are well-covered by natural and financial hedges. The banking sector is well-capitalized and liquid and assessed to be resilient to large shocks.

Annex III. Figure 7. Mexico: External Debt Sustainability: Bound Tests 1/ 2/
(External debt in percent of GDP)



Sources: International Monetary Fund, Country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.
4/ One-time real depreciation of 30 percent.

Annex III. Table 1. Mexico: External Debt Sustainability Framework

(In percent of GDP, unless otherwise indicated)

	Actual							Projections						
	2017	2018	2019	2020	2021			2022	2023	2024	2025	2026	2027	**Debt-stabilizing non-interest current account 6/**
Baseline: External debt	37.7	36.6	36.6	42.6	34.5			**32.0**	**32.3**	**32.6**	**32.9**	**33.2**	**33.4**	**-2.0**
Change in external debt	-0.6	-1.1	0.1	5.9	-8.0			-2.5	0.3	0.3	0.2	0.3	0.3	
Identified external debt-creating flows (4+8+9)	-4.0	-2.3	-3.6	0.3	-7.8			-1.5	-1.3	-1.7	-2.1	-2.3	-2.4	
Current account deficit, excluding interest payments	-0.1	0.1	-1.8	-4.7	-1.3			-0.5	-0.9	-1.2	-1.2	-1.2	-1.2	
Deficit in balance of goods and services	-77.3	-80.6	-77.9	-77.6	-82.2			-86.1	-83.4	-82.7	-83.2	-84.0	-84.6	
Exports	37.7	39.3	38.8	39.9	40.2			41.8	40.6	40.6	40.8	41.2	41.5	
Imports	-39.5	-41.3	-39.0	-37.8	-42.0			-44.3	-42.8	-42.1	-42.5	-42.8	-43.2	
Net non-debt creating capital inflows (negative)	-3.0	-2.2	-2.5	-2.1	-1.8			-2.0	-2.2	-2.3	-2.4	-2.5	-2.6	
Automatic debt dynamics 1/	-0.9	-0.2	0.7	7.1	-4.6			1.0	1.7	1.7	1.5	1.4	1.3	
Contribution from nominal interest rate	1.8	1.9	2.1	2.2	1.7			1.7	2.1	2.3	2.2	2.1	2.0	
Contribution from real GDP growth	-0.8	-0.8	0.1	3.4	-1.7			-0.7	-0.4	-0.6	-0.7	-0.7	-0.7	
Contribution from price and exchange rate changes 2/	-2.0	-1.3	-1.4	1.4	-4.6			...	...	...	...	...	...	
Residual, incl. change in gross foreign assets (2-3) 3/	3.4	1.2	3.6	5.6	-0.3			-1.0	1.6	2.0	2.3	2.5	2.7	
External debt-to-exports ratio (in percent)	99.8	93.1	94.3	106.8	85.8			76.7	79.6	80.4	80.7	80.6	80.6	
Gross external financing needs (in billions of US dollars) 4/	95.4	95.4	95.6	60.3	85.6			83.4	93.1	90.6	84.0	84.9	89.9	
in percent of GDP	8.2	7.8	7.5	5.5	6.6	10-Year	10-Year	5.9	6.3	5.9	5.3	5.1	5.2	
Scenario with key variables at their historical averages 5/								**32.0**	**32.8**	**33.9**	**35.4**	**37.3**	**39.6**	**-0.9**
Key Macroeconomic Assumptions Underlying Baseline						Historical Average	Standard Deviation							
Real GDP growth (in percent)	2.1	2.2	-0.2	-8.1	4.8	1.5	3.6	2.1	1.2	1.8	2.1	2.1	2.1	
GDP deflator in US dollars (change in percent)	5.2	3.2	4.0	-6.6	13.6	-0.1	8.2	7.5	2.5	1.6	1.7	1.9	2.0	
Nominal external interest rate (in percent)	5.2	5.2	5.9	5.2	4.8	5.2	0.4	5.4	6.7	7.3	7.0	6.5	6.3	
Growth of exports (US dollar terms, in percent)	9.8	9.8	2.6	-11.8	20.2	4.0	8.7	14.0	0.7	3.5	4.4	5.0	4.9	
Growth of imports (US dollar terms, in percent)	8.9	10.3	-1.9	-16.9	32.4	4.2	12.5	16.0	0.1	1.6	4.9	4.9	5.0	
Current account balance, excluding interest payments	0.1	-0.1	1.8	4.7	1.3	0.5	1.7	0.5	0.9	1.2	1.2	1.2	1.2	
Net non-debt creating capital inflows	3.0	2.2	2.5	2.1	1.8	2.4	0.5	2.0	2.2	2.3	2.4	2.5	2.6	

1/ Derived as [r - g - r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock, with r = nominal effective interest rate on external debt; g = real GDP growth rate, e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as [-r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock. r increases with an appreciating domestic currency (e > 0) and rising inflation (based on GDP deflator).

3/ For projection, line includes the impact of price and exchange rate changes.

4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period, excluding reserve accumulation.

5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

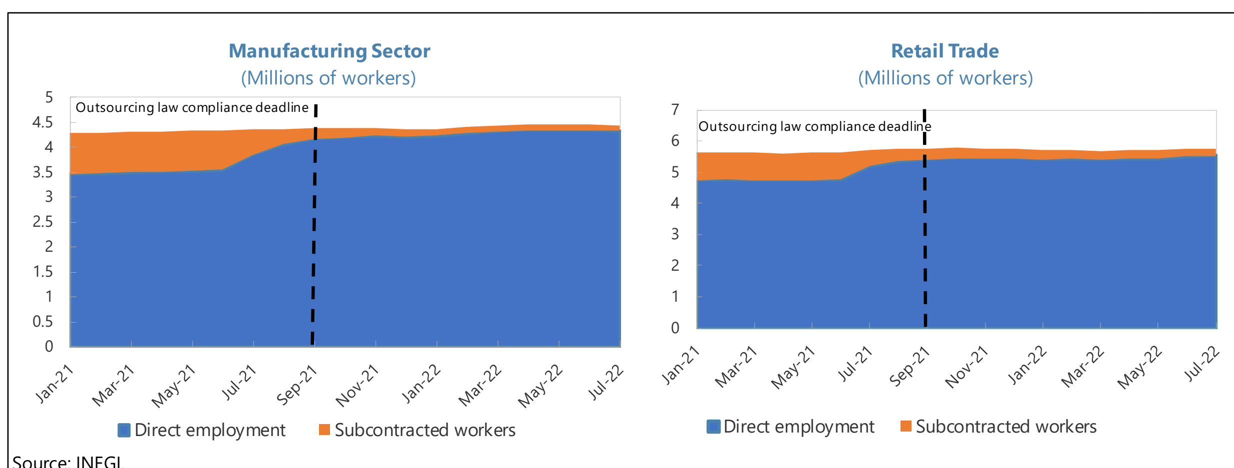
6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of the last projection year.

Annex IV. The Subcontracting Law, Employment, and GDP Measurement

The authorities have passed a new legislation restricting the subcontracting of the workforce in 2021. This annex reports that a large share of workers who used to be subcontracted transitioned to direct employment status. This has triggered a large decline in the production of those services sectors providing support to business. However, this may not reflect a reduction of activity as part of the value added that used to be generated in these sectors is now generated in the sectors employing workers directly.

1. Labor subcontracting in Mexico grew rapidly in the past two decades, from 6 percent of total employment in 2003 to 15 percent in 2018 in Mexico. According to the 2019 economic census, subcontracted workers accounted for more than 40 percent of employment in utilities and for 36 percent in financial services.

2. In April 2021, the authorities enacted new legislation restricting the subcontracting of the workforce, with the aim of preventing the violation of labor law and tax evasion. The new law bans service firms from providing employees to be supervised and managed by a third-party, while it still allows subcontracting of services if the employees are monitored by the firm providing the service.[1] The legislation also tightened registration and reporting requirements. Non-compliance with this new subcontracting law became a criminal offence.



Source: INEGI.

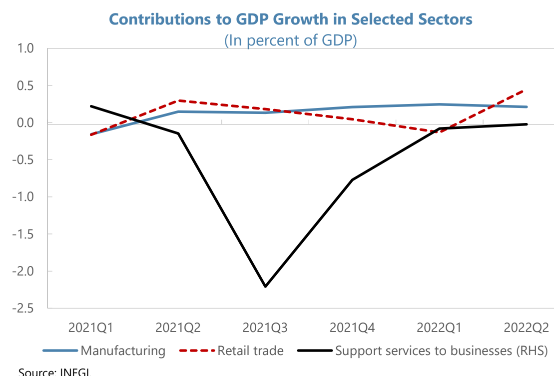
3. As a result, a sizeable share of the workforce transitioned from a subcontract to direct employment status in the second and third quarter of 2021.[2] In the manufacturing and retail trade sectors, for example, subcontracted employment was reduced by 87 percent and 70 percent, respectively, compared to the first quarter of 2021. At the same time, there was no apparent change in total employment in these sectors by the end of the third quarter, suggesting that most of the previously subcontracted workers were rehired as direct employees. The new law, therefore, does

[1] The provision of services considered to be specialized and not part of the core business of the company using these services remains permitted. Also, services can be provided by entities within the same group.

[2] The law required the transition to be completed by September 1, 2021.

not seem to have had a negative impact on aggregate employment even though labor costs for firms might have increased.

4. The transition had implications for GDP measurement since the value added from workers is recorded in the sector of contract rather than employment. As it was to be expected, provisional quarterly data indicate a decline in the real value added of support services to business, the sector of contract of previously subcontracted workers, in 2022Q2–Q3. Based on employment developments, one would have expected a similar increase in the value added of sector now directly employing the workers. However, provisional data report a broadly stable growth of value added in these sectors, with no substantial change in the ratio of value added to production yet, suggesting that the standard methodology used to compute quarterly national accounts may not yet fully capture the structural change.[3] Underlying economic conditions in the second half of 2021 could thus have been stronger than reported.[4] Even so, the pandemic recovery of the Mexican economy would still have been relatively slower compared to peers.



Source: INEGI.

[3] To ensure timely release, quarterly national accounts provide GDP estimates built on short term indicators like production indexes, before more comprehensive data are collected, with a pre-defined process and assumptions on the structure of the economy.

[4] The GDP growth deceleration may also partly reflect the impact of other shocks.

Annex V. Domestic Market Development, Foreign Investors and Peso Stability

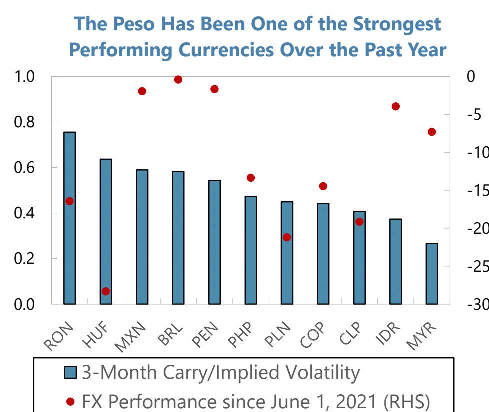
Despite continued portfolio outflows and tightening global financial conditions, the peso has been one of the better performing currencies over the past year, even strengthening versus the dollar. This annex looks at some of the drivers of the recent performance, including the importance of the increasing rate differential to the U.S. Further, with foreigners continuing to reduce their holdings of peso-denominated government bonds, the annex considers the impact of pension funds in the market. With the recent pension reforms, these funds are expected to play an increasingly important role.

1. Foreigners (nonresident investors) have been reducing their holdings of domestic, peso-denominated government securities since early 2015. The decline was recently in part driven by China's entry to the global bond index and a consequent loss of Mexico's weight. While generally gradual, the reductions temporarily accelerated during periods of increasing risk aversion, including in the COVID-19 pandemic. Despite the implied capital outflows, the peso and local-currency government securities markets have remained relatively stable.

A. Peso Stability

2. Despite the continued reduction in holdings of local-currency debt by foreigners over the past year, the peso has performed well, especially compared to other emerging market currencies. Even as the trade-weighted dollar index has risen by 8 percent over the last year, the peso has followed the dollar's appreciation. "Carry trades" likely explain part of this performance. Banxico's quick response to rising inflation pressures pushed the interest rate spread versus the U.S. to over 6 percent, close to previous highs in the past decade or so. Compared to other emerging markets, Mexico now has a relatively high ratio of carry to implied volatility, a common metric used to assess the attractiveness of carry trades. Nevertheless, there seems to be little correlation between recent currency performance and this measure, with countries with even higher ratios performing worse than the peso, suggesting that there have been other drivers behind the recent peso stability. Mexico's relatively strong policy framework is likely an important factor, as well as a recovery in other flows. Notably, the post-pandemic recovery in the U.S. and easing of COVID-19 restrictions have helped drive a strong recovery in remittances and tourism.

The Peso Has Been One of the Strongest Performing Currencies Over the Past Year



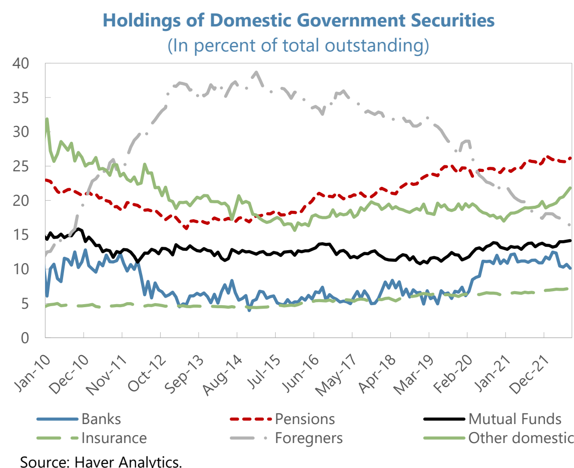
Source: Bloomberg.

B. Calm Domestic Government Security Market

3. The continued sales by foreigners have not had the important adverse impact on conditions and liquidity in markets for domestic government securities like they had in the past. Instead, markets have remained relatively calm, as domestic investors have been filling the absence of foreigners. Pension funds in particular have been buying domestic government

securities and became the biggest holders in mid-2020. The holdings of other institutional investors have also increased. The rapid growth of pension funds' investment is expected to continue in the coming years, partly supported by the gradual increase in contributions required by the recently implemented pension reforms (see Annex XIII).[1] A large portion of the new money into pension funds is expected to be invested in domestic government securities, given their investment strategies.[2]

4. In this context, if the risks discussed in the main text materialized, pension funds could play an important role in stabilizing the domestic government securities markets. For example, with an unchanged investment strategy, their annual purchases of additional domestic government securities could amount to roughly USD 7–10 billion even if their assets remained at 20 percent of GDP. Purchases of such amounts would match the highest value of annual sales of domestic government securities by foreigners recorded in the last ten years. However, tenors mostly held by foreigners could still face selling pressure, notably the very long-term government securities.[3]



Source: Haver Analytics.

[1] Banxico estimated that pension funds could grow from 20 percent of GDP in 2020 to 35-56 percent of GDP by 2040. See La Reforma del Sistema de Pensiones de México: Posibles Efectos sobre las Jubilaciones, la Dinámica del Ahorro Obligatorio y las Finanzas Públicas for more details.

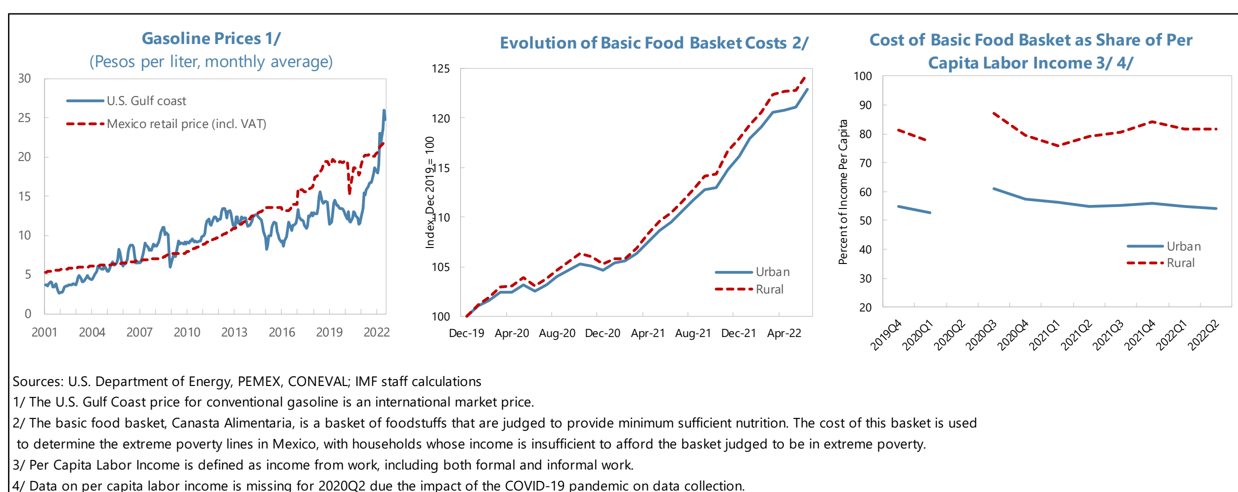
[2] The share of government securities in pension funds declined from nearly 100 percent in 1999 to around 50–60 percent in 2010 in response to the government's liberalization of pension funds asset allocation restrictions but the share stayed around the same since then.

[3] See El Mercado De Valores Gubernamentales en México for more details.

Annex VI. Fiscal Policies to Tackle the Effects of Inflation in Mexico

This annex considers the effects of rising fuel and food on households in Mexico and government policies to cushion their impact. Poverty – officially measured using the cost of a basic basket of necessities as a poverty line – has showed modest improvements since its peak in 2020 but rising prices are exerting pressure on the poor. The government's fuel pricing mechanism has helped to restrain the effect of fuel price volatility on headline inflation in 2022 but only by subsuming the sizable oil revenue gains that Mexico has accrued as an oil exporter. Measures to tackle rising food prices have leveraged and scaled up, albeit to a limited extent, pre-existing social and agricultural support programs. In addition, both public and private sectors have taken steps to limit the pass-through of high prices to consumers, though the impact is not clear.

1. Rising prices and other essential items have put further strains on the poor on the heels of an increase in poverty since the pandemic. By the end of 2020, rural poverty had posted a modest improvement, with around 56.8 percent of the rural population in poverty or extreme poverty compared to 57.7 percent in 2018. However, the same period also saw a deterioration of conditions in urban areas, with around 40.1 percent of urban households estimated to be in some form of poverty—up from 36.8 percent in 2018—as illness and public health restrictions affected the economy (CONEVAL, 2022). Despite signs of a modest recovery, rising inflation strained real incomes in 2021, with price pressures from processed foods, including imported ones, a key contributor (IMF, 2021). Since then, rising food price inflation has continued to exert pressure on the poor, with the price of the minimum food consumption basket—the minimum food basket that a household should be able to consume to ensure adequate nutrition and the extreme poverty line used in Mexico—rising by close to 2 percent for both rural and urban households between March and June of this year.



Sources: U.S. Department of Energy, PEMEX, CONEVAL; IMF staff calculations
1/ The U.S. Gulf Coast price for conventional gasoline is an international market price.
2/ The basic food basket, Canasta Alimentaria, is a basket of foodstuffs that are judged to provide minimum sufficient nutrition. The cost of this basket is used to determine the extreme poverty lines in Mexico, with households whose income is insufficient to afford the basket judged to be in extreme poverty.
3/ Per Capita Labor Income is defined as income from work, including both formal and informal work.
4/ Data on per capita labor income is missing for 2020Q2 due the impact of the COVID-19 pandemic on data collection.

2. The authorities have launched a wide-ranging package of measures to tackle the impact of rising inflation on households in 2022, with fuel subsidies front-and-center. As the effects of rising inflation began to hit households in early 2022, the Mexican government launched a package of measures to mitigate the impact under the name *Paquete Contra La Inflación y La*

Carestía (PACIC) in May. Fuel subsidies lie at the heart of PACIC and are expected to cost the Federal government around MEX$395.4 billion (1.4 percent of GDP) by the end the year. Meanwhile, efforts to contain rising food costs have largely sought to leverage pre-existing agricultural support programs but also include an agreement with major retailers to limit prices increases for 24 core food items at no cost to the Federal government.

Authorities' Estimates of Anti-Inflationary Measures in 2022

	Lastest Budgetary Cost, MEX$ mns	Percent of GDP
Policies Addressing Food Price Inflation	***72,823***	***0.25***
Sowing life ('*Sembrando Vida*')	29,904	0.10
Production for Well-being ('*Producción para el Bienestar*')	14,007	0.05
Guarantee Prices for Basic Food Products	11,373	0.04
Fertilizers	5,200	0.02
Supply and Acquisition of Milk	4,556	0.02
Rural Supply Program by Diconsa	2,228	0.01
Program for the Promotion of Agriculture, Livestock, Fisheries, and Aquaculture	1,606	0.01
Other Food Price Stabilization 1/	3,950	0.01
Domestic & agriculture electricity subsidy	***73,000***	***0.25***
Gasoline subsidy	***395,400***	***1.36***
Total	***541,223***	***1.86***

Source: SHCP.
1/ Includes freezing of toll rates and the reduction in import tariffs on basic foodstuffs.

3. **The affordability of fuel subsidies in 2022 ultimately hinges on the relative prices of the unrefined oil that Mexico exports and the refined oil that it imports.** As an exporter of unrefined oil, Mexico has benefitted from an increase in oil revenues due to rising oil prices at the same time that it has subsidized the higher cost of fuel for domestic consumers, who largely consume refined oil product imports. While domestic fuel subsidies are expected to cost MEX$395.4 billion, the windfall gain in oil revenues relative to the 2022 budget approved in 2021 is estimated at MEX$397.8 billion, suggesting that oil exports can cover the costs of the subsidy scheme. However, if there were another global fuel price spike with sharply higher refining margins ("crack spread"), the cost of the fuel subsidy could be larger than the increase in oil revenue. Maintaining a small net impact would then require some substantial expenditure adjustment in other areas.

4. **Despite large costs in 2022, the fuel pricing mechanism will ensure that subsidies decline with market prices and subsidies are expected to be substantially smaller in 2023.** Subsidies themselves are enshrined in the law by Presidential decree and their size is currently determined by a methodology outlined in 2019.[1] Under this methodology, shadow prices for different fuels are constructed. Where the actual fuel price exceeds that of the shadow price, the relevant excise rate is adjusted downwards to close the gap. Shadow prices are constructed using four components. First, a base price component is set at the fuel price as of November 2018, uprated with inflation every 15 days. A second component is a reference price that tracks contemporaneous trends in commodity markets - this is based on the U.S. Gulf Coast waterborne ticker. Finally, a transport cost component tracks trends in the cost of transporting fuel and a tax component is added to control for taxation. All-in-all, the formula aims to ensure that shadow prices track relevant trends in the cost of fuel while also attempting to smooth excess upward cost pressures. Given projected declines in global oil prices and inflation in 2023, shadow prices and

[1] See https://www.dof.gob.mx/nota_detalle.php?codigo=5583176&fecha=31/12/2019#gsc.tab=0 for the fuel pricing formula. The Presidential decree establishes that the statutory excise rate be suspended and fuel subsidies be implemented where actual fuel prices exceed the shadow price.

actual prices are expected to broadly converge, drastically reducing subsidies next year. Moreover, past experience evidences the authorities' willingness to remove subsidies in this situation.

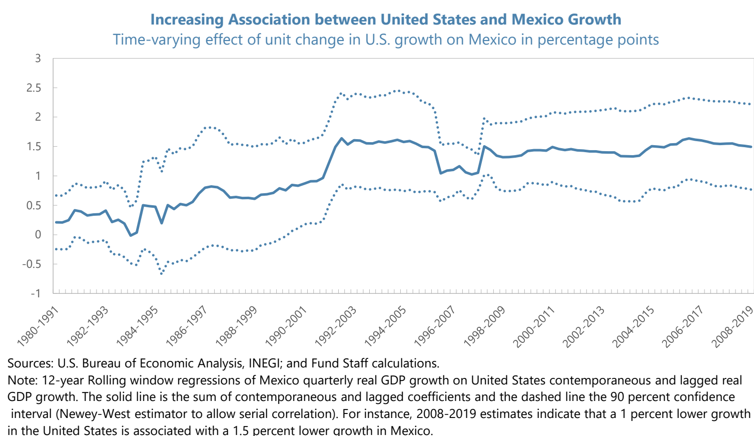
5. Fuel subsidies have helped to contain inflation in 2022. As global fuel prices rose after Russia's invasion of Ukraine, subsidies substantially contained retail fuel prices. Peaking in June, subsidies reduced prices by as much as 30 percent. With fuel at about 6 percent of the consumption basket, the direct effects of the fuel subsidy reduced headline inflation by about two percentage points, when it would have peaked at nearly 10 percent. This estimate of the impact of subsidies on inflation may also be a lower bound given second round effects, for example the effect of lower fuel prices on retail goods for which distribution is a significant production cost, or public transport costs where many cities have flexible pricing that responds to fuel prices. However, falling fuel prices since the early summer have reduced the effect of subsidies on inflation, with their effect now estimated at a modest 0.2 percent in direct contribution to containing inflation.

6. Meanwhile, the Mexican government has sought to leverage pre-existing supply-side policies funded by small budget reallocations to tackle food price inflation. Launched in 2019, the *Sembrando Vida* policy is aimed at addressing rural poverty, tackling environmental degradation, and reducing Mexico's dependence on imported foods by providing financial incentives to introduce more sustainable and higher-yielding farming techniques. *Producción para el Bienestar* follows a similar model but for small and medium grain producers while price guarantees for producers of some products and delivery of fertilizer to small-scale farmers in specific states have aimed at providing direct support to the agriculture sector. As the impact of shortages in agricultural inputs have continued to mount, the government has scaled up some of these schemes, extending the fertilizer program to nine states from five and also introducing an emergency fertilizer production program. Pre-existing policies aimed at households have also received greater attention during this period of rising food prices, including the Liconsa milk subsidy for households below the extreme poverty line and the provision of subsidized food at Diconsa stores, a network of community-owned stores supported by the government. The focus on pre-existing policies has provided the government with instruments to react relatively quickly to price pressures; however, the scale of these policies is somewhat limited at around 0.3 percent of GDP. Moreover, a lack of clarity on policy objectives may serve to hinder efficacy. For example, the objective of *Sembrando Vida* appears to be to both reduce rural poverty and reduce inflation by boosting food supplies. However, the requirement that recipients demonstrate land ownership likely excludes the poorest while focusing on smaller farmers may not represent the best way of increasing food supply.

7. Newer policies have attempted to limit the pass-through of higher prices to consumers directly but with unclear impact. In May, the President announced that a number of major retailers in Mexico had agreed to restrain price increases for 24 staple goods initially for six months with no fiscal or regulatory implications for the government. Additionally, the government also announced a reduction in tariffs for imports of 21 basic goods and five inputs for food production. Given domestic production of a number of these goods and the exemption from tariffs of imports under free trade agreements, the cost of this policy in terms of revenues foregone is expected to be small—around MEX$1.2 billion in 2022.

Annex VII. When the U.S. Sneezes, Does Mexico Catch a Cold?

This annex presents estimates of the effect of economic fluctuations in the U.S. on Mexico. As exports from Mexico to the U.S. rose threefold as a share of GDP since the start of the North America Free Trade Agreement (NAFTA), economic growth in Mexico is increasingly sensitive to business cycle fluctuations in the U.S. At the same time, remittances and capital flows increased as well, but there is no correlation between portfolio flows and business fluctuation and remittances rather seem countercyclical.



Sources: U.S. Bureau of Economic Analysis, INEGI; and Fund Staff calculations.
Note: 12-year Rolling window regressions of Mexico quarterly real GDP growth on United States contemporaneous and lagged real GDP growth. The solid line is the sum of contemporaneous and lagged coefficients and the dashed line the 90 percent confidence interval (Newey-West estimator to allow serial correlation). For instance, 2008-2019 estimates indicate that a 1 percent lower growth in the United States is associated with a 1.5 percent lower growth in Mexico.

1. Since the start of the NAFTA in the mid-90s, the Mexican economy has become increasingly integrated with the U.S. economy. In the manufacturing sector, about half of domestic value added is now driven by foreign demand. In the automotive industry, the share is 80 percent. Most exports are sent to the U.S. At the same time, reported remittances sent by Mexican workers located in the U.S. have increased steadily from slightly less than 1 percent of GDP in 2000 to almost 4 percent of GDP in 2021. The Mexican economy has also attracted foreign investors, with gross international liabilities increasing from about 50 percent of GDP in 2001 to about 100 percent of GDP in 2021.

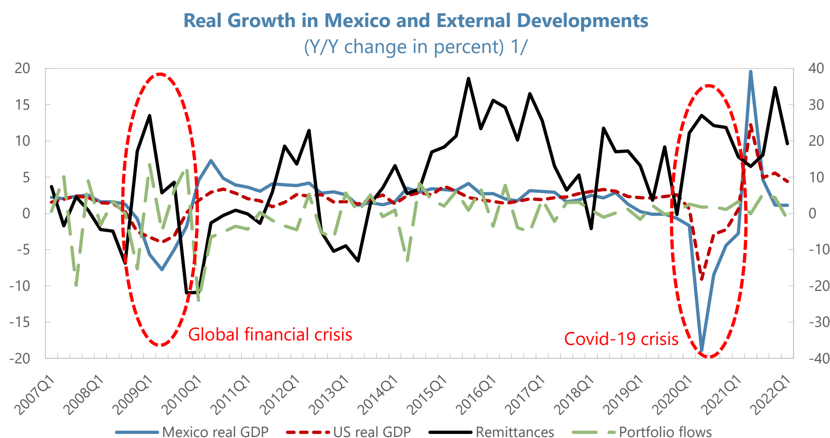
2. As a result of this rising integration, the Mexican business cycle has increasingly been associated with that of the U.S. A regression analysis with a rolling time window illustrates this pattern. A one-percent change in U.S. GDP was associated with a 1.5 percent change in Mexico GDP in the 2010s, compared to about 0.2 percent in the 1980s (Figure above). Much of the increase seems to reflect the trade channel. Even though the manufacturing sector accounts for only one-fifth of GDP, it explains about three-fourths of Mexico's short-term GDP fluctuations. Production in this sector is much more reactive to short-term developments than production elsewhere in the economy. In fact, there is a one-to-one short-term association between Mexico's manufacturing exports and production in the U.S. The relative greater importance of the manufacturing sector in Mexico compared to the U.S. (almost one-fifth of GDP versus about one-tenth in the U.S.) could explain why U.S. growth fluctuations could lead to relatively larger growth fluctuations in Mexico. Furthermore, during the post-pandemic recovery, Mexico benefited from a shift in U.S. consumption from services to goods, but this may be an additional headwind in the coming year, as the demand composition is expected to normalize.

3. By contrast, remittances seem to be countercyclical; they were increasing in both the GFC and the COVID-19 pandemic.[1] During the GFC, the increase partly reflected U.S. dollar

[1] For the latter crisis with exceptional travel restrictions, the reported boom may to some extent reflect the replacement of cash transfers by wire transfers which can be better observed.

appreciation, which boosted the value of the transfers in pesos. In the COVID-19 pandemic, the increase may also have reflected efforts to support relatives in times of need. At the same time, portfolio flows in Mexico are nearly uncorrelated with short term business fluctuations, likely reflecting offsetting forces. On the one hand, risk-off modes in U.S. recessions can lead to capital outflows in emerging markets, while monetary policy easing in the U.S. can encourage "search for yield" strategies. Furthermore, foreign direct investments, where longer-term considerations dominate, tend to be more resilient. The resilience of overall capital inflows during U.S. downturns also reflects Mexico's strong macroeconomic fundamentals.

Real Growth in Mexico and External Developments
(Y/Y change in percent) 1/



Sources: U.S. Bureau of Economic Analysis, INEGI, Banxico; and Fund staff estimates.
1/ year-on-year percent change in quaterly real GDP and remittances and year-on-year change in portfolio flows scaled with lagged nominal GDP.

Annex VIII. The Impact on Mexico's Exports to U.S. from 2014 U.S. Sanctions on Russia

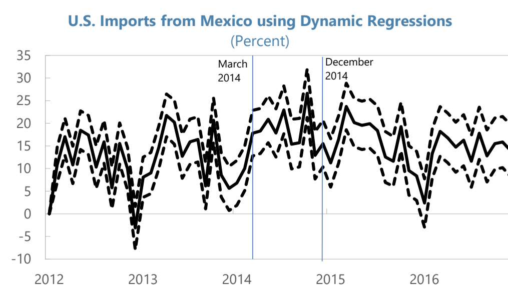
This annex presents an event study of how economic sanctions imposed by the U.S. on Russia in 2014 affected Mexico's exports to the U.S. While there are many differences between this event and the current episode, not least in global developments and the scale of the sanctions, this exercise can nevertheless offer clues on the possible impact on Mexico's exports from the current U.S. sanctions on Russia. Mexico's exports to the U.S. is found to get a boost following the 2014 U.S. sanctions on Russia, hinting towards positive trade diversion effects.

1. **The actual data suggest that Mexico's exports to the U.S. have increased after sanctions** by about USD 0.85 billion or 0.07 percentage points of 2012 GDP, comparing imports of 2015–16 to 2012–14 (table). Many factors may be at play behind the evolution of actual data. To gauge the impact associated with sanctions, we use two empirical approaches.[1]

Country	Pre-sanction US imports (billion $, percent of 2012 GDP)	Post-sanction US imports (billion $, percentage points of 2012 GDP)	Change in US imports (billion $, percentage points of 2012 GDP)
Mexico	23.89	24.74	0.85
	1.99%	2.06%	0.07%
Russian Federation	2.29	1.36	-0.93
	0.10%	0.06%	0.04%

2. **Dynamic regressions.** For each month in 2012–16, the log of nominal U.S. imports from Mexico, using granular HS 6-digit level, are regressed on: (i) time dummy representing the corresponding month; (ii) U.S. tariffs to Mexico at product level; and (iii) product fixed effects. The coefficient of the time dummy increases in the months following the U.S. sanctions in March and December 2014, suggesting positive effects on Mexico's exports after the sanctions.[2]

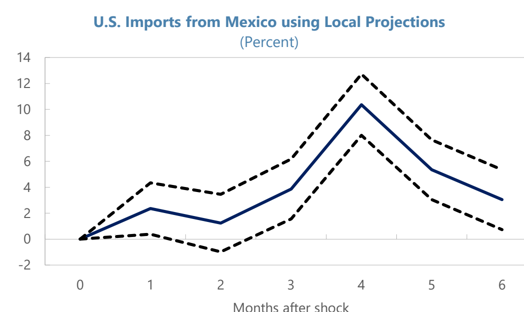
U.S. Imports from Mexico using Dynamic Regressions
(Percent)



Sources: UN Comtrade and USITC. Note: Regression result of monthly nominal U.S import growth from Mexico, compared to January 2012. The coefficients on the month of the dummy variables are plotted. The dotted lines show 95 percent confidence bands. See text for regression details.

3. **Local projections.** The accumulated change in the log of U.S. imports from Mexico is regressed on: (i) three lags of the dependent variable; (ii) current and three lags of shocks, with March and December 2014 as 1 and other months as 0; (iii) current and three lags of Mexican GDP; (iv) current and three lags of U.S. tariffs as above; and (v) product fixed effects. The impulse responses suggest a positive statistically significant effect with nominal exports from Mexico increasing by about 10 percent four months after the

U.S. Imports from Mexico using Local Projections
(Percent)



Sources: UN Comtrade and USITC.
Note: Local projection regression result of growth in U.S. nominal imports from Mexico, compared to the month of the shock. The dotted lines show 95 percent confidence bands. See text for regression details.

[1] Monthly U.S. import value data at HS 6-digit level is from UN Comtrade and DataWeb, USITC from 2012/01 to 2016/12. U.S. tariffs on Mexico are calculated from DataWeb, USITC.

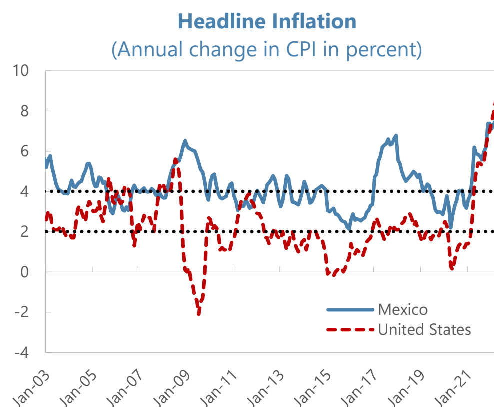
[2] In 2014, following Russia's invasion of Crimea, the U.S. issued four executive orders. The first three were in March and the last one was in December.

sanction. An important caveat to the two approaches is that it could capture other time-varying effects other than sanctions. As such, the analysis does not attribute causality. In addition, the local projections using shocks for the months of executive orders should somewhat mitigate this concern.

Annex IX. The Inflation Surge in Mexico in Perspective

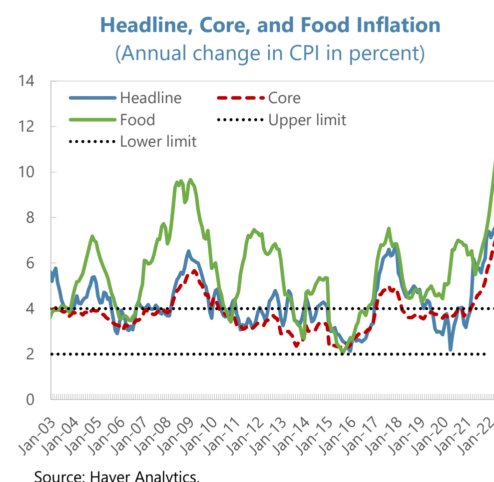
The current inflation surge in Mexico has important similarities and differences compared to other countries. Like elsewhere, inflation has consistently surprised on the upside and started around the same time, in early 2021. However, compared to others, the inflation surge in Mexico started from a position of weaker economic slack, and food prices played a more prominent role.

1. Like elsewhere, inflation has picked up in Mexico. Over the past year and a half, Mexico has experienced an inflation surge to multi-decade highs, as many other countries, including its main trading partner, the U.S. While similar in many aspects, the surge in Mexico and its drivers have differed in other dimensions. The current surge also differs from past inflation surges in Mexico.



Source: Haver Analytics.

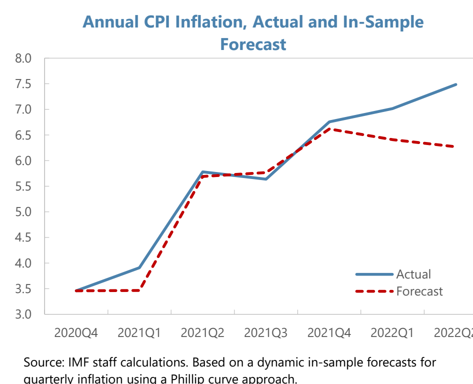
2. There are important similarities and differences between Mexico's experience compared to others.



Source: Haver Analytics.

- On similarities, the surge started in early 2021 with the rebound in global fuel prices. Subsequently, it involved sharp increases in the prices of goods, broadly in line with headline inflation in Mexico's case, and in food prices. As elsewhere, inflation has also consistently surprised on the upside, with large surprises in some months, leading to increasing concerns about a possible de-anchoring of inflation expectations. So far, only near-term inflation expectations have increased.

- An important difference is the greater role of food prices in the inflation surge in Mexico, contributing roughly half of the increase in inflation above the upper limit of Banxico's inflation target range. The large contribution is consistent with past patterns. Since the adoption of an inflation targeting regime in 2001, Mexico has experienced several episodes of food inflation running above target for a year or more. Some of these episodes also involved headline or even core inflation running above target, including in 2008 and in 2017–18, while in others, above-target dynamics only concerned food prices, including in 2011–13.

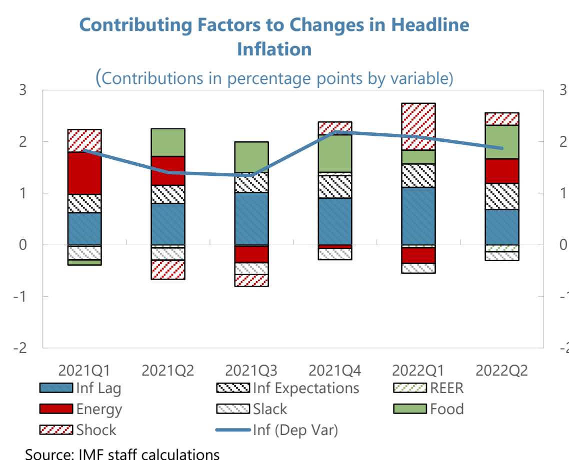


Source: IMF staff calculations. Based on a dynamic in-sample forecasts for quarterly inflation using a Phillip curve approach.

- Another important difference with some other countries is that the inflation surge started from a position of relatively more economic slack and

comparatively less macroeconomic policy stimulus in 2020–21. The unemployment gap as a source of inflationary pressures has thus been less of a concern than elsewhere. But the economic recovery from the pandemic has been uneven, and some sectors, especially in manufacturing, have experienced increases in capacity utilization to unprecedented levels, consistent with some shift in household demand toward goods. Producer prices for final goods have indeed risen ahead of headline CPI inflation, although much of this increase reflects prices for processed food.

3. **Empirical analysis confirms that rising energy and food prices resulted in the increase in headline inflation.** A Philips curve approach to analyze the inflation surge in 2021-22 suggests that the factors identified above explain much of the surge in headline inflation through the third quarter of 2021, notably rising energy and then food prices.[1] While these factors continue to explain much of the above-target inflation subsequently, residual cost push factors also contributed upward inflationary pressures, especially in the first quarter of 2022. In this respect, the current episode differs from that in 2017–18, which involved smaller residual pressures.[2]



Source: IMF staff calculations

4. **The estimated Philips curve suggests that both expected and lagged inflation contribute to current headline inflation.** The results presented in the table suggest roughly equal weights in the case of headline inflation (0.52 versus. 0.48).[3] This result is broadly in line with the conventional view of a relatively greater role of past inflation in contributing to current inflation dynamics in Mexico and other emerging market economies compared to advanced economies. The impact of past price surprises on inflation, including due to food and other supply shocks, will thus last relatively longer and can contribute to relatively higher inflation volatility.

5. **Standard determinants seem to explain relatively less of the variation in core inflation.** In particular, raw food prices, which correlates significantly with headline inflation, appear less

[1] A so-called hybrid Philips curve equation was estimated for the period of 2003–19, the period of inflation targeting by Banxico with a 3 percent inflation target, omitting the pandemic period, given exceptional volatility. Both expected and lagged inflation are among the explanatory variables in this kind of specification. The estimated curve also includes a measure of labor market slack and several relative prices (real effective exchange rate, energy, and food prices). The estimated equation was then used for a dynamic, in-sample forecast for 2021Q1 to 2022Q2, assuming that the explanatory variables other than past inflation were known to the forecaster at the end of 2020.

[2] The conclusions are broadly robust with respect to different specifications or different methodologies. For example, allowing for time-varying coefficients in the Philips curve estimation during the pandemic period leads to broadly similar contributions about the contributing factors, including residual shocks.

[3] The table presents least square estimates of a reduced-form hybrid Philips curve that accounts for relative price shocks:

$$\pi_t = \alpha + \beta\pi^e_{t,t+4} + (1-\beta)\pi_{t-1} + \delta X_t + \varepsilon_t$$

where π denotes inflation, and where $\pi^e_{t,t+4}$ stands for (survey-based) expectations of inflation at time *t+4* at time *t*, and the vector *X* includes other controls, including the unemployment gap and relative price shocks.

relevant as a determinant for core inflation. This is surprising since these items are important inputs for the processed foods industry, the prices of which are included in Mexico's core inflation measure. Similarly, the coefficient on U.S. core inflation seems small, relative to the overall import share in the economy. These results highlight that core inflation has fluctuated much less than headline inflation before the pandemic, suggesting that relative price shocks had a small pass-through to core. This experience seems less relevant in the current inflation episode.

Hybrid Philips Curve Estimates

Dependent variable	Headline inlfation (quarterly)		Core inflation (quarterly)	
Sample period	2003Q1 2019Q4	2003Q1 2020Q4	2003Q1 2019Q4	2003Q1 2020Q4
Constant	0.18	0.04	0.35	0.09
Inflation expectations [1]	0.52	0.52	0.58	0.53
Unemployment gap [2]	-0.06	-0.03	-0.06	-0.01
REER [3]	-0.03	-0.02		
Energy prices [3]	0.16	0.16		
Raw food prices [3]	0.20	0.20	0.02	0.02
US Core CPI [3]			0.13	0.15
R^2	0.75	0.77	0.34	0.33
D.W.	2.03	2.01	1.96	1.92

Source: IMF staff calculations.
[1] Mean of 12-month-ahead inflation expectations (scaled to match quarterly frequency). Source: Banxico.
[2] Quarterly change in relative price (scaled by lagged headline or core CPI).
[3] Geometric average of un- and underemployment (ex. agriculture) rates, gap relative to sample mean.

Annex X. Reforming the Fiscal Framework in Mexico: Freeing Fiscal Policy to Respond to Shocks

With fiscal contingencies all but depleted following the authorities' response to the pandemic in 2020, limited space in the 2022 and 2023 budgets, and mounting downside risks for 2023, the Mexican authorities have proposed reforms to the fiscal framework to enable the replenishment of their buffers for 2023. The proposals represent a quick and efficient repurposing of resources in light of immediate risks but increase complexity while doing little to improve reliability and tackle the pro-cyclical bias in fiscal policy. Comprehensive reforms aimed at addressing issues with the current framework will inevitably take time but could build on staff advice.

A. Background and Issues

1. Mexico's fiscal contingencies are low as downside risks to the global economy are rising. In responding to the COVID-19 pandemic in 2020, Mexico used its fiscal buffers as revenues fell short of budget projections, transferring 0.9 percent of GDP from stabilization funds to the budget. This transfer and the previous one of 0.5 percent of GDP in 2019 almost depleted these funds, leaving a remaining balance of 0.2 percent of GDP. While recourse to fiscal contingencies has not been necessary since, increased spending pressures relative to the budget mean that oil revenue surprises in 2022 are unlikely to be large enough to allow for replenishing the stabilization funds. With downside risks to the global and Mexican economies rising, a key issue is how Mexico can rebuild its capacity to respond to future shocks.

2. Two funds form the basis of the Federal government's fiscal contingencies in the fiscal framework and are a source of both general and extraordinary revenues in the budget. They are:

- ***Fondo Mexicano de Petróleo para la Estabilización y el Desarrollo* (FMP):** This is Mexico's sovereign wealth fund. It manages the (non-tax) oil revenues from PEMEX and private companies in the sector, collecting them and transferring them to the Federal government. The fund also executes financial transactions related to exploration and extraction contracts granted by the government. FMP is required to transfer a share of oil revenues to the Federal government for budgetary financing, with the size of the transfer equal to the amount included in the government's budget. Thereafter, as stipulated in the Federal Budget and Fiscal Responsibility Law (FBFRL), it must invest in Federal- and state-level stabilization funds (up to 2.22 and 0.64 percent of projected oil revenues, respectively) before it can accumulate reserves in a long-run savings account, the Long-Term Reserves. When oil revenues exceed 4.7 percent of GDP, the excess amount goes directedly to the Long-Term Reserves. Since 2018, reserves have been roughly equal to USD 1 billion (0.07 percent of GDP in 2022).[1] FMP transfers to the Federal government, representing non-tax oil revenues, are expected to be MEX$673 billion (2.3 percent of GDP) in 2022, up from MEX$364 billion (1.4 percent of GDP) in 2021.

- **Fondo de Estabilización de los Ingresos Presupuestarios (FEIP):** FEIP is a source of in-year financing for the budget when revenues fall short of budget projections. The primary source of

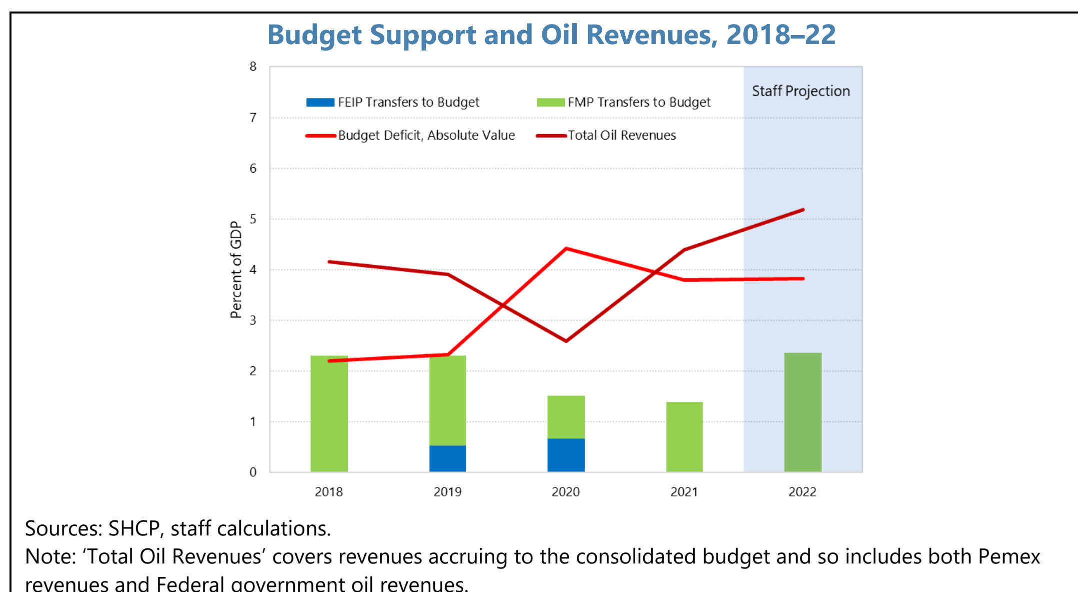
[1] https://www.fmped.org.mx/administracion-reserva.html

financing for FEIP comes from oil hedging operations, with a technical committee at Mexico's Ministry of Finance (SHCP) determining the volume of oil exports to be covered and a strike price for put options. Strike prices are generally consistent with the assumed oil price in the budget and 210–215 million barrels were hedged in this way between 2010 and 2017. However, a secondary source of financing for FEIP comes from transfers from FMP. In 2020, the FEIP received MEX$47 billion (0.2 percent of GDP) from oil hedging operations, MEX$9 billion (0.04 percent of GDP) from FMP transfers, and another MEX$9 billion (0.04 percent of GDP) from returns on its financial assets. Conversely, FEIP transferred a total of MEX$157 billion (0.7 percent of GDP) to the budget due to revenue shortfalls relative to budget projections. The balance of the fund marked MEX$9.5 billion (0.04 percent of GDP) by the end-2020 compared to MEX$158 billion (0.6 percent of GDP) in the previous year. Transfers to the fund equaled MEX$7.5 billion (0.01 percent of GDP) in 2021 and are expected to equal MEX$8 billion (0.03 percent of GDP) in 2022.

3. **Given prospects and recent patterns, existing financing mechanisms might not allow FEIP to be replenished.** The windfall oil revenue gains collected by FMP are increasingly being used by the budget as fuel-based spending pressures have risen, leaving little or no funds to rebuild the FEIP balance or build up FMP reserves. Moreover, while the authorities estimate that a balance of around MEX$100 billion in FEIP (0.35 percent of 2022 GDP and 0.33 percent of 2023 GDP) would provide for an adequate fiscal contingency for 2023, the balance in the fund was MEX$25.0 billion (0.09 percent of 2022 GDP) as of end-June 2022 and the aforementioned expected transfers to the fund in 2022 will only provide an additional 0.03 percent of GDP. The starting balance of the fund in 2023 could thus fall short of the MEX$100 billion target.

4. **A long-run consideration is whether the oil revenues and the hedging mechanism can provide sufficient resources for counter-cyclical policy in the future.** Recent PEMEX oil production has provided for a smaller oil revenue base, regardless of the oil price, increasing the likelihood of residual funds being too small for replenishing contingencies after they have been used. Moreover, as the oil hedge is not directly linked to Mexico's economic cycle, it need not function as an automatic fiscal stabilizer.

Budget Support and Oil Revenues, 2018–22



Sources: SHCP, staff calculations.
Note: 'Total Oil Revenues' covers revenues accruing to the consolidated budget and so includes both Pemex revenues and Federal government oil revenues.

B. Reforms Proposed in the 2023 Budget Package

5. Reforms to the fiscal framework proposed by the Mexican government seek to introduce new mechanisms for financing FEIP. Reforms to the FRBL proposed in the government's 2023 budget package would create a new funding mechanism for FEIP based on debt issuance. Under the proposals, where actual debt issuance falls short of that budgeted for the year, the government would create an IOU equivalent to the shortfall between actual debt issuance and the debt ceiling in the budget and deposit this in FEIP. In the next fiscal year, FEIP could then dispose of, or exchange, this asset at will to increase its liquidity. Liquidity in this instance need not be cash and the reforms enable FEIP to hold financial assets, though it still cannot incur financial liabilities.[2] In the first instance, assets relate to government paper. However, in principle, FEIP could also hold other instruments. Given that FEIP holds and contracts put options as per the oil hedging program, some precedent exists regarding FEIP's ability to conduct and manage financial transactions.

6. Under the reforms, the trade-off between financing FEIP and addressing immediate spending concerns is mitigated while diversifying the financing mechanism away from oil reduces vulnerability to trends in oil prices and production. Under the current framework, increasing financing for FEIP would likely entail greater transfers from FMP – meaning lower levels of financing to support the Federal government budget, state-level funds, and FMP's reserves as well as alterations to the apportionment methodology – or the exercising of put options on oil.[3] On the latter, as these put options can only be exercised when oil prices fall below that assumed in the government budget, this mechanism does not contribute to building contingencies prior to any shock as resources flowing into FEIP in this scenario are already earmarked for budget financing given an oil revenue shortfall. Additionally, the size of the funds available to FEIP, and therefore available for a counter-cyclical policy response, is limited by the amount of oil placed into the hedging mechanism. This places constraints on the financing base available for FEIP in the context of the importance of oil revenues in supporting the budget and a downward trend in production. Adding additional mechanisms for financing FEIP, including debt issuance, creates a broader financing base and one that can be tapped in advance of the realization of shocks.

7. The reforms represent a pragmatic step forward in enabling fiscal policy to respond to immediate downside risks, but comprehensive reform is necessary to improve flexibility and reliability while ensuring transparency and fiscal responsibility. The ratification of the proposed reforms before the end of 2022 are expected to free up MEX$20–30 billion for FEIP. The reforms could therefore provide large support to the contingencies required should the downside risks facing the domestic and global economy in 2023 materialize. By seeking to leave many of the parameters of the existing fiscal framework untouched, the reforms enable quick implementation at

[2] The type of financial asset that FEIP would be allowed to hold includes government securities or other types of liquid asset that could be sold, securitized, or collateralized.

[3] A transfer from FMP's reserves to FEIP is another possibility and would leave budgetary resources untouched. However, this requires that the Chamber of Deputies approve such a transfer. Existing legislation expedites this decision-making process where FMP reserves exceed 3 percent of GDP by the end of the previous year—a remote possibility with reserves standing at 0.07 percent of GDP in July 2022. FMP reserves can be used directly for budgetary needs even when they are below 3 percent of GDP but FEIP resources must be completely exhausted first and a two-thirds majority vote by the Chamber of Deputies is required.

a time when risks are concentrated in the near-term. But this approach also entails trade-offs, with complexity increasing as a result and knock-on consequences for transparency. Moreover, as the additional funding for FEIP is predicated on whatever headroom against the debt ceiling is left at year-end, the extent of financing is subject to uncertainty and therefore unreliable. Finally, the reforms do not address the pro-cyclical bias in the current fiscal framework resulting from both the PSBR and the Balanced Budget Rule (BBR) (see Annex X Table 1).

8. Longer-run options entail more comprehensive reforms to Mexico's fiscal framework. Reforms such as the establishment of a debt anchor, clarification and tightening of definitions and procedures, expanded expenditure rule coverage, and a focus on medium-term sustainability strategies would enhance the flexibility of fiscal policy while maintaining and strengthening fiscal responsibility. The table in this annex compares the features of the current fiscal framework with staff proposals along the lines discussed. As these proposals represent a notable departure from the existing framework, a medium-term sustainability strategy (itself a recommendation) could be used to anchor the transition.

Annex X. Table 1. Mexico: Fiscal Framework—Key Design Features and Reform Proposals

	Current Framework	Staff Proposals
Revenues	-	-
Expenditure	**The Structural Current Spending Rule (SCR)** requires that the real growth rate of structural current spending does not exceed potential output growth. Structural current spending is programmable spending excluding interest payments, fuel for electricity generation, CFE and PEMEX expenditures, and Federal government investment. It accounts for 36 percent of total public expenditures. Under Article 18 of the FBFRL any proposed increase of expenditures in the budget beyond the permitted growth must be accompanied by a revenue or spending cut initiative to neutralize its effect.	**A reformed expenditure rule** with greater coverage of public expenditure, including of some capital expenditures. Additionally, clearer and more transparent rules on the growth of structural expenditures that is linked to macroeconomic aggregates that are less prone to measurement volatility.
Deficit	**The Balanced-Budget Rule (BBR)** requires that the budget must be balanced on a cash basis, excluding investments by PEMEX and its subsidiaries. The coverage of this rule includes the Federal government, PEMEX and CFE, and IMSS and ISTE, and various trust funds**.** The rule is broadly procyclical.	**Removal of the Balanced-Budget Rule** to reduce procylicality of fiscal policy.
Debt	**The Public Sector Borrowing Requirement Rule (PSBR)** requires that the budget documentation sets a target for the public sector borrowing requirement for the current year and indicative targets are set for the medium-term, all with the aim of ensuring that borrowing requirements are non-increasing over time. Coverage of the rule includes all entities except for subnational governments and the central bank. **Restrictions on debt issuance by purpose.** Article 73 of the Constitution and the FBFRL restricts the issuance of debt to productive investment.	**The introduction of a debt anchor** would enable the removal of the debt issuance requirements as there is a cap on overall debt at the safe level. Debt issuance here could then be used for directly managing shocks, capital spending, and more transformational current spending (which would have to be balanced by revenue mobilization over medium-term as per Staff's fiscal policy advice). Establishing a debt ceiling could also help rationalize debt-financed capital spending. Specifying medium-/longer-term debt targets would ensure that debt isn't permanently elevated at, or close to, the anchor and this could be supported by a 4- or 5-year Sustainability Framework.
Escape Clauses	**Escape clauses** can be enacted based on five specified triggers: (i) financial cost of debt exceeding more than 25 percent of its level approved in the previous year due to interest increases; (ii) natural disaster costs exceeding more than 2 percent of programmable expenditure in the previous year; (iii) floating debt higher than 2 percent of programmable expenditure in the previous year; (iv) a greater than 2.5 percent reduction in tax revenues compared to the previous year; (v) a reduction of more than 10 percent in the oil price or shocks to oil production; and (vi) a cost higher than 2 percent of previous year programmable expenditure, when it implies the implementation of legal changes or fiscal policy measures that will benefit public by increasing costs or reducing revenues in a permanent way. Justification must include the reasons justifying the deficit and the precise size of financing as well as the number of years and measures expected to return budget equilibrium. Escape clauses were used in 2010-12 and 2014-16, meaning that the framework was only respected in 7 out of the 13 years to 2020. The inflexibility of the current framework is deemed to be a key factor in this (IMF 2020).	**Reformed escape clauses** would simplify and tighten the definitions of triggers, thereby increasing transparency. This would be enabled by more flexibility in other framework parameters along the lines above. The requirement to set out a plan to return to the fiscal rules should also be built into the reformed clauses and the role of Congress in the process of activating clauses should be made more transparent.

Annex XI. FSAP Key Recommendations

Key Recommendations	Time[1]
Cross-Cutting Themes	
Enhance the autonomy of regulatory government agencies and legal protection of supervisors (¶31)	NT
Assess and enhance the organizational structure and resource needs of individual agencies (¶32)	NT
Enhance the oversight of the Interbank Electronic Payment System (SPEI) relative to the PFMI and cybersecurity (¶34)	NT
Systemic Risk Analysis	
Monitor the dynamics of contingent credit lines and portfolio concentration closely and use Pillar 2 requirements to address relevant risks, as needed (¶27)	NT
Expand the liquidity stress test framework; incorporate in the Supervisory Review Process to inform Pillar 2 requirements for banks (¶27)	MT
Financial Sector Oversight	
Develop and publish a macroprudential policy strategy (¶35)	NT
Consider expanding the macroprudential toolkit with limits on loan-to-value and debt-service-to-income ratios (¶37)	MT
Ensure effective consolidated supervision of financial holding companies (¶40)	MT
Refine the risk-based supervisory methodology (CEFER) to effectively assess banks' adherence to adequate risk management practices (¶42)	NT
Continue developing the cybersecurity strategy for the financial system; improve cybersecurity regulatory and supervisory practices (¶44)	NT
Improve cyber response and recovery capabilities; conduct market-wide cyber crisis simulation exercises (¶44)	MT
Issue supervisory guidance on climate-related risk management, governance, and business strategies; introduce disclosure requirements of climate and ESG information (¶46–47)	NT
Financial Integrity	
Implement the remaining 2018 Mutual Evaluation Report recommendations (¶50–51)	NT
Systemic Liquidity and Crisis Management	
Review the liquidity risk mitigation framework for development banks (¶52)	NT
Explore options to enhance the ELA framework (¶55)	NT
Further strengthen mechanisms to ensure the credibility and feasibility of banks' financial contingency arrangements while preserving resolvability and cost-effective resolutions (¶57)	C
Introduce statutory bail-in powers and eliminate barriers to the effective use of the P&A and bridge bank tools (¶57)	MT
Shorten the resolution planning cycle for D-SIBs and midsize banks, and eliminate impediments to banks' resolvability (¶58)	C

Key Recommendations	Time[1]
Financial Development Issues	
Broaden the scope of regulated fintech activities; finalize the implementation of open finance (¶61-62)	NT
Establish a national climate finance strategy; set ambitious climate finance targets for development financial institutions (¶64)	MT
1/ C: continuous, I: immediate (less than one year), NT: short term (1–2 years), and MT: medium term (3–5 years).	

Annex XII. Recent Reforms in Tax Administration

A focus on improving tax administration and compliance under the current government has resulted in a wide range of reforms have contributed to the strong revenue performance through recent shocks. However, further revenue gains in this area may be harder to obtain as non-compliant behaviors adapt, the base of erosion and evasion narrows, and remaining issues require more complex solutions.

1. **Improving tax administration has been a central pillar of the government's fiscal policy agenda.** Under the current administration, revenue mobilization efforts in Mexico have centered on improving tax compliance. Notable reforms since 2019 have included:

- The abolition of the right to offset excess tax credits against other taxes, building on staff recommendations regarding tackling large-scale tax fraud;
- The requirement that digital platforms withhold taxes due on transactions in which they acted as intermediary;
- Implementation of General Anti-Abuse Rules (GAAR) and the prohibition of company mergers for tax purposes to tackle corporate tax planning; and
- Enaction of actions 2, 4 and 12 in the OECD's Base Erosion and Profit Shifting (BEPS) agenda.

2. **Administration reforms may have supported revenue performance in recent years but returns to efforts are expected to moderate over the medium-term.** Since 2019, income and corporate tax and VAT revenues have grown as a share of GDP, with expected increases of 1.0 and 0.6 percent of GDP between 2019 and 2022, respectively. This strong revenue performance is deemed to be at least partially due to the bedding-in of compliance policies and analysis of the VAT gap undertaken by the authorities suggests a reduction in VAT evasion of around MEX$170 billion between 2018 and 2021. However, given the successive shocks that Mexico has faced as well as changes to the structure of the labor market due to other reforms, isolating the impact of these measures is difficult, particularly given the deterrent effect that they may have had on taxpayer behavior. The effect of efforts in this area may run into diminishing returns due to adaptation of non-compliance behavior and, possibly, a smaller base of evasion and avoidance from which additional revenues can be obtained. The authorities' new focus on non-compliance at the border may also represent a tougher challenge given the overlap with security issues and the need for close coordination between the tax administration and the army, which has taken over the physical customs inspection functions.

Annex XIII. Mexico's Pension System

Mexico has reformed its pension system recently, including increases in contribution rates, a reduction in minimum years of contributions, higher minimum pensions, and caps on fees charged. Although the reforms will increase pension eligibility, they might adversely affect labor market incentives and push more workers in the informal market.

1. Mexico has reformed its pension system significantly in recent years. Starting in 2019, the means-tested social pension was replaced by a basic pension with increases in contribution rates and adjustments to minimum pensions and minimum contribution requirements following in 2021. These reforms have constituted radical changes to the pensions system envisioned in the 1997 reform and, given the lengthy transition period included in these earlier reforms, mean that the 1997 reform was never fully operational.

2. The 2020 reforms to the mandatory defined contributory system are underpinned by changes to key parameters:

- **An increase in contribution rates from 6.5–10 percent to 15 percent by 2030.** Currently, employees pay 1.125 percent of earnings, the government 0.225 percent (plus a social quota depending on earnings), and the employer 5.15 percent. This leads to a range of contribution rates from 6.5 percent for high earners to 10 percent for low earners. Total contributions are set to rise to 15 percent by increasing employer contributions to 13.875 percent for high earners, while lower earners will be subsidized by the government. The subsidies from the government will be concentrated on the low earners under the new rules. Government contributions will change from 2023, while contribution rates for employers will rise gradually until reaching their final values in 2030.

- **Lower minimum years of contributions needed to receive an earnings-related pension from 2021, with a steady increase thereafter.** Until 2020, the minimum years of contributions was close to 25 years. The 2021 reforms lowered this to 15 years in 2021 but provide for yearly increases so that a minimum of 20 years is reached by 2031. This both holds for the regular pension derived from the funded system as well as the minimum pension. This change has especially important implications for those who are covered by the post-1997 reform system who are close to retirement. Under the post-1997 system around 25 years of contributions were required to receive either an annuity or a phased withdrawal meaning that the first pensioners who were expected to retire under this system would do so in 2023. However, with the reduction in minimum years of contributions introduced in 2021, some pensioners immediately became eligible to collect a funded pension (likely in combination with a minimum pension) rather than receiving a lump-sum as expected under the old rules.

- **Significantly higher minimum pension levels.** Before 2021 there was only one minimum pension of almost MEX$40,000 per year, to be taken at the statutory retirement age without differentiation between previous earnings levels. From 2021 the minimum pension can be taken five years early and differs according to average career earnings (indexed to prices) and career length. Moreover, the lowest minimum pension increased to MEX$45,000 for someone with 20

years of contributions or more while, for an average wage earner, the minimum pension more than doubled to MEX$85,000 per year.

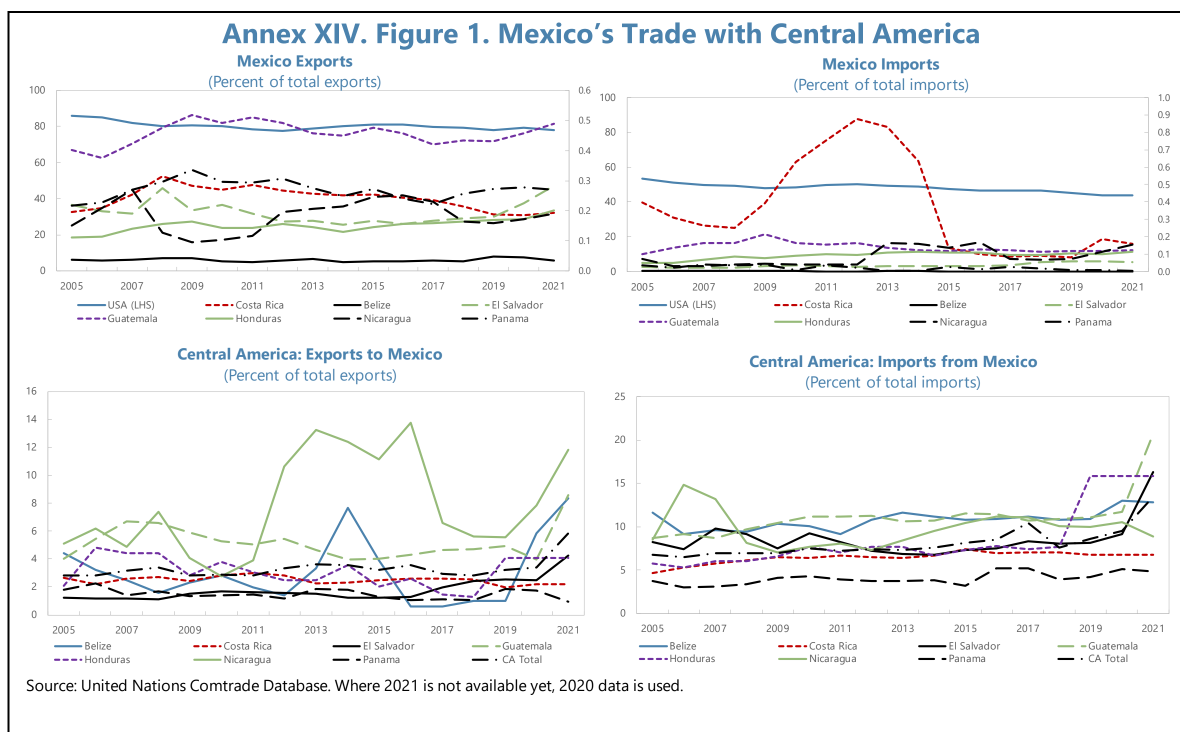
- **Caps on fees charged by AFOREs.** From 2022, fees cannot exceed average fees in Chile, Colombia, and the U.S.

3. Although the reforms are expected to have improved earnings-related pension eligibility and produce less generous benefits than under the old pay-as-you-go system over the medium-term, near-term pension spending will increase while labor market incentives may be adversely affected. Mitigating policies, such as the phased increase in the minimum qualifying period and the rise in contribution rates, will help to contain rising pension costs over the medium-term, but near-term expenditure will rise at a time when spending pressures are high (government spending on pensions already increased from 1.4 percent of GDP in 2000 to 4.0 percent of GDP in 2021). Meanwhile, the adverse effects on the labor market may be long-lived. By enabling early retirement, the reforms could result in a tangible decline in labor force participation amongst older workers. Moreover, the linking of the minimum pension to earnings history may reduce incentives to remain in (formal) employment except for those who are close to one of the earnings or career length thresholds. Finally, the increase in the contribution rate for employers may serve to increase the labor wedge, impacting employment and pushing more workers into the already large informal sector despite incentives for formal participation as a result of the government’s efforts to subsidize pension contributions for low earners.

Annex XIV. Mexico's Trade with Central America

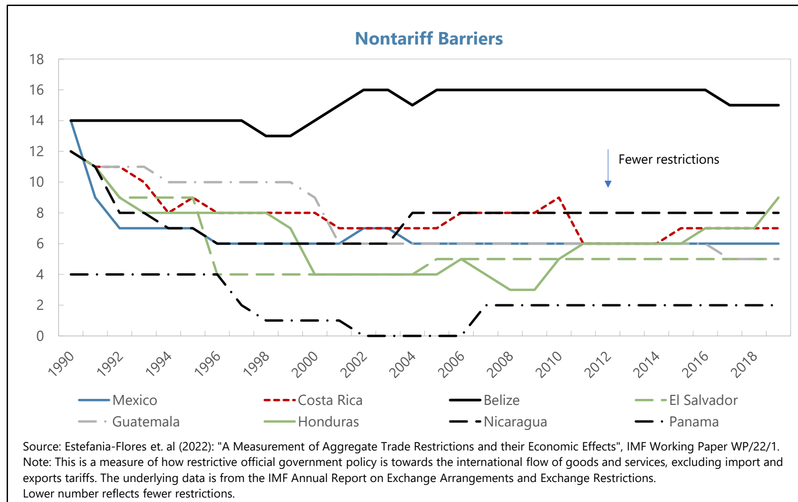
Mexico's trade with Central America is surprisingly low despite geographical proximity. Important gains could be made by further trade integration through converging trade rules and regulatory standards, strengthening infrastructure and human capital, reducing non-tariff barriers, and enhancing customs cooperation.

1. **Despite geographical proximity and a regional free trade agreement, Mexico's trade with Central America is very limited (Annex XIV Figure 1).** Mexico's exports to Central America constitute a mere 1.7 percent of its total exports in 2021, while the country's imports from Central America comprise 0.6 percent of total imports. Similarly, Central America's exposure to Mexico, though has increased over time, is low with around 5.8 percent of the region's total exports going to Mexico in 2021 and 13.5 percent of the imports coming from Mexico. In terms of individual countries, Nicaragua, Guatemala and Belize have the highest exposure in the region, with more than 8 percent of exports going to Mexico. Notably, Nicaragua's export exposure increased substantially following Mexico-Central America free trade agreement (signed in 2011 and implemented in 2013). The import exposure of Guatemala, El Salvador and Honduras are the highest with more than 15 percent of their imports coming from Mexico.



Source: United Nations Comtrade Database. Where 2021 is not available yet, 2020 data is used.

2. **Policies supportive of trade could boost growth for the region.** Mexico and its Central American neighbors could gain substantial benefits to growth from further trade integration as there is potential to increase both inter- and intra-regional trade (IMF 2017). Given the close match between the top products exported by Mexico and those imported by Central America (e.g., machinery and equipment is Mexico's second-most exported and Central America's second-most imported product), there is scope for Mexico to increase exports to this region (Annex XIV Figure 2).

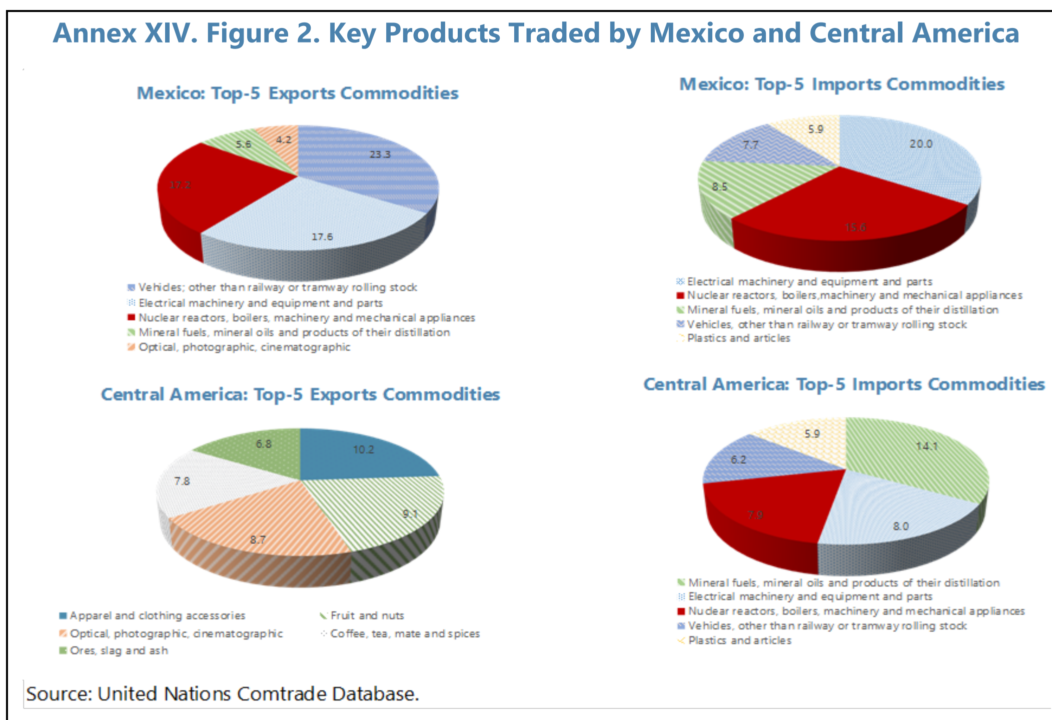


Source: Estefania-Flores et. al (2022): "A Measurement of Aggregate Trade Restrictions and their Economic Effects", IMF Working Paper WP/22/1.
Note: This is a measure of how restrictive official government policy is towards the international flow of goods and services, excluding import and exports tariffs. The underlying data is from the IMF Annual Report on Exchange Arrangements and Exchange Restrictions.
Lower number reflects fewer restrictions.

3. **Regional trade integration could be supported through convergence of trade rules and regulatory standards and trade facilitation measures.** Complementary policies like strengthening of infrastructure and human capital would—apart from increasing broader growth—help in enhancing trade linkages (IMF 2017).

4. **The Mexico-Central America free trade agreement resulted in liberalization of tariff lines by Mexico across a range of products from the region, with commitment to further tariff elimination (WTO 2015).** Compared to Central American countries, Mexico's overall nontariff trade restrictions is around the middle range. Some Central American countries have remained flat at high restriction levels for many years. Reducing nontariff trade barriers from both sides would facilitate further integration in the region.

Annex XIV. Figure 2. Key Products Traded by Mexico and Central America



Source: United Nations Comtrade Database.

5. Strengthened customs cooperation could go a long way in facilitating Mexico's trade with this region. Mexico could replicate in the Southern border the cooperation programs and mechanisms in place with the U.S. following the 1994 North American Free Trade Agreement (IMF 2022). This would help to improve coordination, infrastructure in the border areas, capacity development and risk management, and to reduce bottlenecks.

INTERNATIONAL MONETARY FUND

MEXICO

October 18, 2022

STAFF REPORT FOR THE 2022 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

Prepared By

The Western Hemisphere Department
(in consultation with other departments)

CONTENTS

FUND RELATIONS 2

RELATIONS WITH THE WORLD BANK 4

STATISTICAL ISSUES 5

FUND RELATIONS

(As of August 31, 2022)

The 2022 Article IV discussions were held in Mexico City during September 12—23, 2022. The team comprised Thomas Helbling (head), Jean-Marc Fournier, Swarnali Ahmed Hannan and Kevin Wiseman (all WHD), Carolina Claver (LEG), Samir Jahan (FAD), Faezeh Raei and Misa Takebe (SPR), and Jeffrey Williams (MCM). Nigel Chalk and Gaston Gelos (WHD) and Vikram Haksar (FSAP Mission Chief, MCM) attended the concluding meetings. Alfonso Guerra (OED) also participated. The team met with Finance Secretary Ramírez de la O, Governor Rodríguez Ceja, Labor Secretary Alcalde, Economy Secretary Clouthier, other government officials, and representatives of the financial and private sectors. The team was supported by Boele Bonthuis (FAD), Laila Azoor, Hugo Tuesta (WHD), and Mengqi Wang (2021 summer intern, University of Wisconsin-Madison).

Mexico has accepted the obligations of Article VIII, sections 2, 3, and 4. Comprehensive economic data are available for Mexico on a timely basis and economic data are adequate for surveillance. It subscribes to the SDDS.

Membership Status: Joined December 31, 1945

General Resources Account:	**SDR Million**	**Percent of Quota**
Quota	8,912.70	100.00
Fund holdings of currency	6,345.22	71.19
Reserve position in Fund	2,567.51	28.81
New Arrangement to Borrow	33.79	

SDR Department:	**SDR Million**	**Percent of Allocation**
Net cumulative allocation	11,393.62	100.00
Holdings	11,858.28	104.08

Outstanding Purchases and Loans: None

Latest Financial Arrangements:

Type	Arrangement Date	Expiration Date	Amount Approved (SDR Million)	Amount Drawn (SDR Million)
FCL	Nov 19, 2021	Nov 18, 2023	35,650.80	0.00
FCL	Nov. 22, 2019	Nov. 18, 2021	44,563.50	0.00
FCL	Nov. 29, 2017	Nov. 21, 2019	53,476.20[1]	0.00
FCL	May 27, 2016	Nov. 28, 2017	62,388.90	0.00
FCL	Nov 26, 2014	May 26, 2016	47,292.00	0.00
FCL	Nov. 30, 2012	Nov. 25, 2014	47,292.00	0.00
FCL	Jan. 10, 2011	Nov. 29, 2012	47,292.00	0.00
FCL	Mar. 25,2010	Jan. 09, 2011	31,528.00	0.00
FCL	Apr 17, 2009	Mar. 24, 2010	31,528.00	0.00

[1] Access was reduced from 62,388.90 to 53,476.20 SDR million on November 26, 2018.

Projected Payments to the Fund (SDR million):

	Forthcoming				
	2022	**2023**	**2024**	**2025**	**2026**
Principal					
Charges / Interest	0.00	0.15	0.15	0.15	0.15
Total	0.00	0.15	0.15	0.15	0.15

Exchange Arrangements: The currency of Mexico is the Mexican peso. Mexico's de-jure and de-facto exchange rate arrangements are free-floating. Mexico has accepted the obligations under Article VIII, Section 2(a), 3, and 4, and maintains an exchange system that is free of multiple currency practices and restrictions on the making of payments and transfers for current international transactions.

Article IV Consultation: The last Article IV consultation was concluded by the Executive Board on November 3, 2021. The staff report was published as IMF Country Report No. 20/293.

Technical Assistance

Year	**Dept.**	**Purpose**
2021	FAD	Public Assets and Liabilities Management
2020	FAD	Fiscal Framework and Council
2018	FAD	Public Investment Management Assessment
2018	FAD	Tax policy and Compliance
2018	FAD	Fiscal Transparency Evaluation
2017	STA	Government Financial Statistics
2017	FAD	Tax policy
2017	MCM	Central Securities Depositories
2017	FAD	Revenue Administration
2016	FAD	Revenue Administration
2016	FAD	Workshop on Supervision of Subnational Finances
2015	STA	Balance of Payments
2015	FAD	Supervision of Subnational Finances
2014	FAD	Tax Policy and Compliance
2014	FAD	Treasury
2014	STA	Sectoral Balance Sheets
2014	STA	National Accounts
2014	STA	Balance of Payments
2013	MCM	Post-FSAP Follow Up
2012	FAD	Pension and Health Systems

Resident Representative: None

RELATIONS WITH THE WORLD BANK

https://www.worldbank.org/en/country/mexico

STATISTICAL ISSUES

I. Assessment of Data Adequacy for Surveillance
General: Data provision is adequate for surveillance.
National accounts: The national accounts follow the recommendations of the *System of National Accounts, 2008 (2008 SNA)*. Economic activities, products, household final consumption expenditure, and government final consumption expenditure are classified according to updated international classifications. Data sources and statistical techniques are robust. A wide range of source data is available, including economic censuses conducted every five years and a vast program of monthly and annual surveys, administrative data, as well as a business register of economic units that is regularly updated. INEGI (the National Statistical Office) disseminates annual and quarterly GDP statistics, sectoral accounts, and balance sheets. The 2021 data ROSC update found that the national accounts are of a high quality. Since 2015, Mexico has made significant improvements on the methodological and dissemination aspects of data quality. There are still some areas for further improvements, such as implementing chained GDP volume indices with previous period annual weights, the treatment of goods for processing abroad, and the coverage of illegal activities. In addition, some government transactions on a quarterly basis are recorded on a cash basis rather than on an accrual basis. The ROSC mission identified the need for greater consistency in data recording between the Bank of Mexico (Banxico), and the Ministry of Finance (SHCP) and for regular reconciliation exercises among compilers to resolve some discrepancies involving data on the public sector. Three technical assistance missions took place over the past fiscal year; two on developing a preliminary work plan to implement the use of chain-linked volume measures in economic surveys and national accounts; and one with Banxico, SHCP, and INEGI on harmonization of national accounts and government finance statistics.
Prices: The concepts and definitions for both the CPI and PPI meet international standards. The CPI reference period is the second half of July 2018, and the basket is based on information from the National Survey of Household Expenditure 2012 and 2013, the 2014 Household Income and Expenditure Survey, and the 1999 COICOP classification. The PPI reference period is July 2019, and the basket of goods and weighting structure is based on the Economic Censuses and the System of National Accounts. The PPI covers agricultural, manufacturing, construction, and services sectors, which account for 79.2 percent of Mexican production. It excludes trade and some services.
Government finance statistics: Fiscal statistics are comprehensive and timely, except for the subnational sector. The authorities compile fiscal statistics following national concepts, definitions, and classifications to support domestic policy needs. The authorities also compile fiscal statistics in alignment with the *Government Finance Statistics Manual (GFSM2014)*. The 2021 Data ROSC mission pointed out that, while source data used for the national and international (*GFSM2014*) presentations are the same, differences in the classification of transactions and coverage of institutional units make it difficult for users to reconcile the

different presentations. It recommended publishing a table of all institutional units in the public sector and its subsectors, clearly grouping them according to: 1) the coverage of units used in the national presentation; 2) the coverage used in the international presentation; and 3) the subsectors of the public sector as described in the *GFSM2014*. A full adoption of uniform accounting standards at the sub-national level would help obtain an improved measure of public fixed investment in the national accounts.

Pension liabilities are partially reported, while government securities are reported at face value. The official debt statistics do not include the stock of T-bonds issued to the Bank of Mexico (Banxico) for liquidity management purposes, and the accounting practices adopted by the federal government and Banxico differ.

Monetary and financial statistics: The methodological foundations of monetary statistics are generally sound. Availability of data on other financial intermediaries such as insurance companies and pension funds allow for the construction of a financial corporation's survey with full coverage of the Mexican financial system. Mexico reports data on some indicators of the Financial Access Survey (FAS), including gender disaggregated data on the use of basic financial services and the two indicators (commercial bank branches per 100,000 adults and ATMs per 100,000 adults) adopted by the UN to monitor Target 8.10 of the Sustainable Development Goals.

Financial sector surveillance: Mexico regularly reports monthly Financial Soundness Indicators (FSIs) to the IMF for publication. Currently, Mexico reports 14 core and 9 encouraged indicators for deposit takers, 2 additional FSI for OFCs,1 additional FSI for households and 1 additional FSI for real estate markets. FSIs on the non-financial corporate sector are not reported. Reporting has been temporarily interrupted following the publication of May 2021 data in order to revise historical and current data according to IFRS9 standards and is expected to resume by the end of the year. The authorities have periodically produced updated FSIs in the interim according to the old standard on request.

External sector statistics (ESS): The 2021 data ROSC update found that ESS are of a high quality. In 2017, Banxico migrated the BOP and IIP statistics to the *Balance of Payments and International Investment Position Manual (BPM6*), sixth edition, with the publication of quarterly *BPM6*-based BOP data and IIP data . The *External Debt Statistics, Guide for Compilers and Users, 2013* (*EDS Guide*) is yet to be fully implemented. Remaining issues relate to: (i) including the intercompany external debt and SDR allocations in external debt statistics disseminated by Banxico; (ii) extending the market valuation of liabilities to all financial institutions (some external debt are presented at face value); and (iii) recording the interest of the public sector external debt on an accrual basis.

Consistency could be improved between the IIP and external debt. There are also differences between the balance of payments and national accounts, notably in the financial account transactions and positions. The authorities participate in the coordinated direct investment survey and coordinated portfolio investment survey and disseminate the data template on international reserves and foreign currency liquidity (reserve template) and quarterly external debt statistics.

II. Data Standards and Quality	
Mexico subscribed to the IMF's Special Data Dissemination Standard (SDDS) on August 13, 1996. Mexico's latest SDDS Annual Observance Report and metadata are available on the Dissemination Standards Bulletin Board. Mexico uses periodicity and timeliness flexibility options on central government debt and takes a timeliness flexibility option on general government operations. Mexico exceeds SDDS periodicity and timeliness requirements in many other data categories.	An updated data module Report on the Observance of Standards and Codes (ROSC update) for Mexico was published in December 2021.

Table 1. Mexico: Table of Common Indicators Required for Surveillance

As of October 17, 2022	Date of latest observation	Date received	Frequency of Data[7]	Frequency of Reporting[7]	Frequency of Publication[7]	Data Quality-Methodological Soundness[8]	Data Quality Accuracy and Reliability[9]
Exchange Rates	Oct. 2022	Oct. 2022	D	D	D		
International Reserve Assets and Reserve Liabilities of the Monetary Authorities[1]	Oct. 7, 2022	Oct. 2022	W	W	W		
Reserve/Base Money	Oct. 7, 2022	Oct. 2022	W	W	W	LO, O, O, LO	LO, O, O, O, O
Broad Money	Aug. 2022	Sep. 2022	M	M	M		
Central Bank Balance Sheet	Oct. 7, 2022	Oct. 2022	W	W	W		
Consolidated Balance Sheet of the Banking System	Aug. 2022	Sep. 2022	M	M	M		
Interest Rates[2]	Oct. 2022	Oct. 2022	D	D	D		
Consumer Price Index	Sep. 30, 2022	Oct. 2022	Bi-W	Bi-W	Bi-W	O, O, LNO, O	LO, LNO, O, O, LNO
Revenue, Expenditure, Balance and Composition of Financing[3]–Gen. Government[4]	Aug. 2022	Sep. 2022	M	M	M	LO, LO, LNO, LO	O, O, O, O, O
Revenue, Expenditure, Balance and Composition of Financing[3]–Central Government	Aug. 2022	Sep. 2022	M	M	M		
Stocks of Central Government and Central Government-Guaranteed Debt[5]	Aug. 2022	Sep. 2022	M	M	M		

Table 1. Mexico: Table of Common Indicators Required for Surveillance (concluded)

External Current Account Balance	Q2 2022	Aug. 2022	Q	Q	Q	LO, O, LO, LO	LO, O, O, O, LO
Exports and Imports of Goods and Services	Aug. 2022	Sep. 2022	M	M	M		
GDP/GNP	Q2 2022	Aug. 2022	Q	Q	Q	O, O, O, LO	O, O, LO, O, O
Gross External Debt	Q2 2022	Sep. 2022	Q	Q	Q	LO, O, LO, LO	LO, O, O, O, LO
International Investment Position[6]	Q2 2022	Sep. 2022	Q	Q	Q	LO, O, LO, LO	LO, O, O, O, LO

[1] Any reserve assets that are pledged or otherwise encumbered should be specified separately. Also, data should comprise short-term liabilities linked to a foreign currency but settled by other means as well as the notional values of financial derivatives to pay and to receive foreign currency, including those linked to a foreign currency but settled by other means.

[2] Both market-based and officially determined, including discount rates, money market rates, rates on treasury bills, notes, and bonds.

[3] Foreign, domestic bank, and domestic nonbank financing.

[4] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.

[5] Including currency and maturity composition.

[6] Includes external gross financial asset and liability positions vis-à-vis nonresidents.

[7] Daily (D); Weekly (W); Monthly (M); Quarterly (Q); Annually (A); Irregular (I); Not Available (NA).

[8] Reflects the assessment provided in the data ROSC conducted in July 2021, except for consumer prices, which is based on the ROSC conducted in 2012 and monetary statistics, which is based on the ROSC conducted in 2010. For the dataset corresponding to the variable in each row, the assessment indicates whether international standards concerning (respectively) concepts and definitions, scope, classification/sectorization, and basis for recording are fully observed (O), largely observed (LO), largely not observed (LNO), or not observed (NO).

[9] Same as footnote 8, except referring to international standards concerning source data, assessment and validation of source data, statistical techniques, assessment and validation of intermediate data and statistical outputs, and revision studies.