INFLATION REPORT

March 2023

Recent trends and macroeconomic forecasts 2023-2024

CENTRAL RESERVE BANK OF PERU

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Recent Trends and Macroeconomic Forecasts 2023 - 2024

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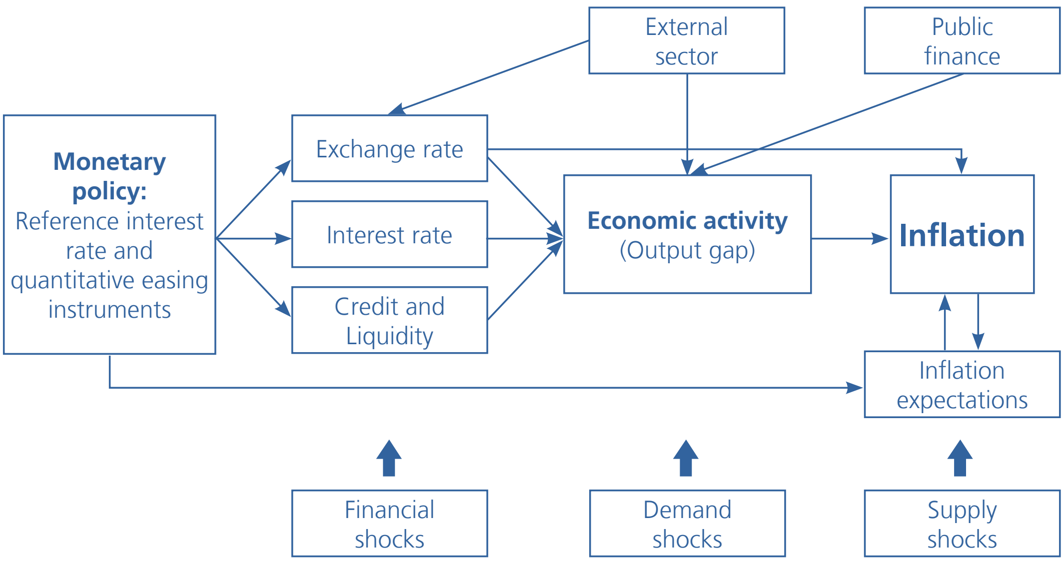

Central Reserve Bank of Peru

441-445 Santa Rosa. Lima 1

Telephone: 613-2000 - Fax: 613-2525

Mail: webmaster@bcrp.gob.pe

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CONTENT

Page

Boxes

This ***Inflation Report*** has been prepared using data on the balance of payments and the gross domestic product as of the fourth quarter of 2022, data on the monetary accounts as of February 2023, data on the monthly GDP rate as of January 2023, and data on the operations of the non-financial public sector, inflation, financial markets and the exchange rate as of February 2023.

Foreword

- According to the Constitution of Peru, the Central Reserve Bank of Peru (BCRP) is a public autonomous entity whose role is to preserve monetary stability. Its main functions are regulating the money supply and credit in the financial system, managing the country's international reserves, and reporting on the nation's finances.

- In order to consolidate this goal, the Bank's monetary policy is based on an inflation targeting scheme, with an inflation target between 1 and 3 percent. The Central Bank's inflation target is aimed at anchoring inflation expectations at a similar level to the inflation rate observed in developed economies and reflects the BCRP's permanent commitment with monetary stability.

- Since 2003, the Board of BCRP sets a benchmark rate for the interbank lending market each month, according to a previously announced schedule. Since this interest rate, which is the monetary operational target, affects the rate of inflation through several channels with time lags, this rate is set on the basis of inflation forecasts and inflation determinants.

- Inflation may deviate transitorily from the target range due to shocks that may temporarily affect the supply of goods and services. It should be pointed out that the effectiveness of monetary policy is assessed in terms of its success in maintaining inflation expectations within the target range and in returning them to this range within a reasonable timeframe if deviations are observed as a result of some economic shock.

- Additionally, the Central Bank implements preventive actions to preserve macro-financial stability and monetary policy transmission mechanisms. In this way, the mechanism of the benchmark interest rate is complemented through other monetary policy instruments such as injection and sterilization operations, reserve requirements, and interventions in the foreign exchange market to ensure the proper functioning of markets, reduce excessive volatility in the exchange rate, and prevent excessive variations in the volume and composition of credit in the financial system by currencies and terms.

- This Report includes the macroeconomic projections for 2022-2024 that support the monetary policy decisions of BCRP as well as an analysis of the risk factors that can modify such projections.

- This Inflation Report was approved by the Board of Directors of BCRP on March 16, 2023.

- The following Inflation Report will be published on Friday, June 16, 2023.

Summary

i. **Global economic activity** has shown a recovery since the third quarter of 2022 that has continued through the beginning of this year, outweighing the expectations of the December Inflation Report. World growth is projected at 2.4 percent, above the 2.3 percent previously estimated, supported by the partial reversal of supply shocks, strong labor markets and the recovery of China after the lifting of its sanitary restrictions. Global growth forecasts for 2024 remain unchanged at 2.9 percent.

ii. The **terms of trade** declined 10.4 percent in 2022, although they remained above pre-pandemic levels. This took place in a scenario in which the withdrawal of monetary stimulus and the slowdown in global economic growth negatively affected the prices of our export products, while geopolitical conflicts and supply chain disruptions generated upward pressures on import prices.

The terms of trade are foreseen to recover by 3.9 percent in 2023 and 0.9 percent in 2024. In 2023, industrial metal prices are expected to be higher than in the previous report due to better prospects for China's economy, while the prices of oil and foodstuffs, such as wheat and maize, are expected to be lower. In addition, higher gold prices are expected by 2024, in a context of high interest rates at the global level, which would boost the average price of exports.

iii. The **current account** went from a deficit of 2.3 percent of GDP in 2021 to a deficit of 4.3 percent in 2022, mainly due to a deterioration in the terms of trade. The current account deficit is projected to narrow to 1.4 percent of GDP in 2023, mostly as a result of a recovery in the terms of trade, higher volumes of mining exports, and a correction in freight costs. The deficit is expected to continue to narrow to 0.8 percent of GDP in 2024. Compared to the previous Report, the current forecasts for 2023 and 2024 incorporate a higher trade surplus due to the revision of the terms of trade on the upside.

iv. In 2022, **economic activity** in the country recorded a growth rate of 2.7 percent driven by the dynamism of private consumption, which was reflected in the expansion of the trade and services sectors.

Activity is projected to grow 2.6 percent in 2023, less than estimated in the December Report, considering the economic impact of social conflicts mainly on the growth of the mining and tourism sectors, as well as the adverse effect of climate on the agriculture and fisheries sector. After the moderation of social conflicts at the beginning of the year, economic activity is expected to become more dynamic in an environment of socio-political stability and recovery of business confidence. In 2024, the economy is expected to grow at a rate of 3.0 percent, driven mainly by domestic demand. GDP is expected to be close to its potential level over the projection horizon, without significant inflationary pressures being anticipated from the demand side.

v. The cumulative **fiscal deficit** over the last twelve months increased from 1.6 to 1.8 percent of GDP between December 2022 and February 2023, reflecting lower current income and higher capital expenditures, mainly by the National Government. The deficit is projected at 1.6 percent of output in 2023 and at 1.5 percent in 2024.

Debt net of non-financial Public Sector deposits is expected to remain around 21.2 percent of GDP over the forecast horizon. The **gross debt** is expected to continue its downward trend and would record 32.1 percent in 2024.

vi. In January 2023, the Board of Directors of BCRP decided to raise the BCRP benchmark rate by 25 basis points to 7.75 percent. Subsequently, between February and March 2023, the Board maintained the reference rate unchanged. The Bank communicated that this pause does not necessarily imply the end of the hike cycle and that it remains attentive to new information on the evolution of inflation and its determinants.

In terms of GDP, the balance of **liquidity injection operations** is equivalent to 3.9 percent of GDP as of March 1 (4.2 percent of GDP as of December 2022), of which S/ 15.1 billion correspond to government-secured loan portfolio repos (S/ 18.7 billion as of December 2022).

vii. **Credit to the private sector** grew 4.5 percent in 2022 and showed a slight slow down in its growth rate as of February 2023 (2.8 percent year-on-year). February's result was supported by the increase in the component of credit to individuals, mainly consumer loans. With this, the growth rate of credit to the private sector is projected to increase by 4.5 and 6.0 percent in 2023 and 2024, respectively.

viii. The year-on-year **inflation** rate increased from 8.45 to 8.65 percent between December 2022 and February 2023, a lower rate than the peak of 8.81 percent registered in June 2022. Inflation excluding food and energy prices rose from 5.71 to 5.87 percent in the same period, remaining above the target range. The different trend inflation indicators continued to be above the target range.

The inflation rate is projected at 3.0 percent for this year and at 2.4 percent for 2024, within the target range. This forecast assumes the reversal of the effect of transitory factors on the inflation rate (exchange rate, international fuel and grain prices) in a context in which inflation expectations return to the target range and economic activity is around its potential level.

ix. The balance of **Risks to the inflation projection** maintains an upward bias, although with a lower magnitude than in the December Report. The risks in the forecasts mainly consider the following contingencies: (i) lower demand should business and consumer confidence not recover due to persistent political instability; (ii) a slowdown in global growth, which would imply lower demand for our exports; (iii) intensification of geopolitical tensions, which could exacerbate and prolong the current energy and food crisis and the possibility of climatic events with high adverse impact on the economy, and (iv) upward pressures on the exchange rate, capital outflows and greater volatility in financial markets due to episodes of greater political uncertainty, disruptions in growth, or a tightening of international financial conditions.

SUMMARY OF INFLATION REPORT FORECAST

	2022	2023*		2024*	
		IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
Real % Change					
1. Gross Domestic Product	2.7	2.9	2.6	3.0	3.0
2. Domestic demand	2.3	2.5	2.1	3.1	2.9
a. Private consumption	3.6	3.0	2.8	3.0	3.0
b. Public consumption	-3.4	2.0	2.0	3.0	3.0
c. Fixed private investment	-0.5	1.0	-0.5	2.5	1.8
d. Public investment	7.1	0.0	1.0	4.0	4.0
3. Exports (good and services)	5.4	6.4	3.9	2.5	3.5
4. Imports (good and services)	4.0	4.6	1.9	2.9	2.9
5. Global economic growth	3.3	2.3	2.4	2.9	2.9
Memo:					
Output gap 1/ (%)	0.0	-0.5 ; 0.5	-0.5 ; 0.5	-0.5 ; 0.5	-0.5 ; 0.5
% change					
6. Inflation	8.5	3.0	3.0	2.4	2.4
7. Expected inflation 2/	6.3	4.2	4.5	3.3	3.3
8. Expected depreciation 2/	-5.1	-0.5	0.4	-0.4	0.9
9. Terms of trade	-10.4	-4.2	3.9	1.0	0.9
a. Export prices	1.8	-6.6	-0.7	0.9	1.2
b. Import prices	13.7	-2.4	-4.4	-0.2	0.3
% change					
10. Currency in circulation	-3.8	1.2	-1.0	0.0	0.0
11. Credit to the private sector	4.5	5.2	4.5	6.0	6.0
% GDP					
12. Gross fixed investment	25.4	25.0	24.2	24.9	24.0
13. Current account of the balance of payments	-4.3	-2.7	-1.4	-2.0	-0.8
14. Trade balance	3.9	2.9	5.1	2.8	5.0
15. Long-term external financing of the private sector 3/	5.7	1.8	1.7	1.7	0.9
16. Current revenue of the general government	22.1	21.2	20.9	21.0	20.8
17. Non-financial expenditure of the general government	22.0	21.2	20.9	21.1	20.9
18. Overall balance of the non-financial public sector	-1.6	-1.6	-1.6	-1.5	-1.5
19. Balance of total public debt	34.0	33.1	32.8	32.1	32.1
20. Balance of net public debt	21.2	21.6	21.4	21.6	21.2

RI: IR: Inflation Report
* Forecast.
1/ Differential between GDP and Potential GDP (in % of Potential GDP).
2/ Survey on expectations to the analysts and financial entities carried out at the time of publication of the respective Inflation Report. Data observed in the case of depreciation for 2022, and the average of expectations throughout year in case of inflation has been considered.
3/ Includes net direct investment, foreign assets investment from residents (AFP), foreign net portfolio investment, and private sector's long term disbursement. Positive sign indicates net inflow of foreign capital.

I. External sector

1. After stagnating in the first part of last year, world economic activity began to recover in the third quarter of 2022, continuing with this recovery so far this year and outweighing initial forecasts. In this context, the global growth forecast for 2023 has been revised slightly up, from 2.3 to 2.4 percent, while the growth estimate for 2024 remains unchanged at 2.9 percent.

   The revision with respect to the previous Report reflects the recent evolution of activity in the main economies, particularly in the services sector. The main factors underpinning this dynamic are the partial reversal of supply shocks, the strength of labor markets and the recovery of activity in China following the lifting of restrictions adopted in the wake of the COVID-19 pandemic. A less tight energy market than expected in the face of warmer than usual weather during the first months of the year has also played a role.

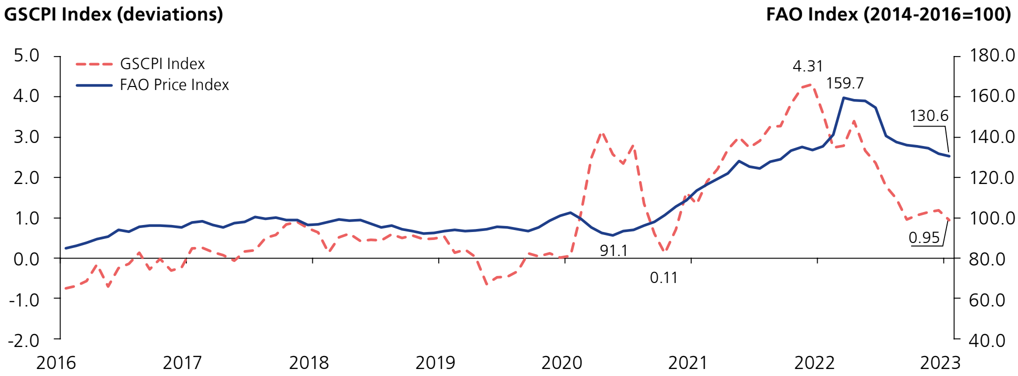
Recent developments in global economic activity

2. Overall economic activity has been supported by the reversal of some of the supply shocks and by a higher-than-expected evolution of domestic demand.

   So far this year, some supply shocks, which have affected growth since 2021, have continued to reverse. In particular, global supply chain constraints have moderated and were even below the historical average in February.

   In the same vein, food prices have continued to fall due to the favorable evolution of supply in the main producing countries and the normalization of shipments through the Black Sea. According to the price index calculated by FAO, in February 2023 food prices have accumulated eleven consecutive months of reduction.

Graph 1
GSCPI GLOBAL SUPPLY CHAIN PRESSURES INDEX* AND FAO PRICE INDEX

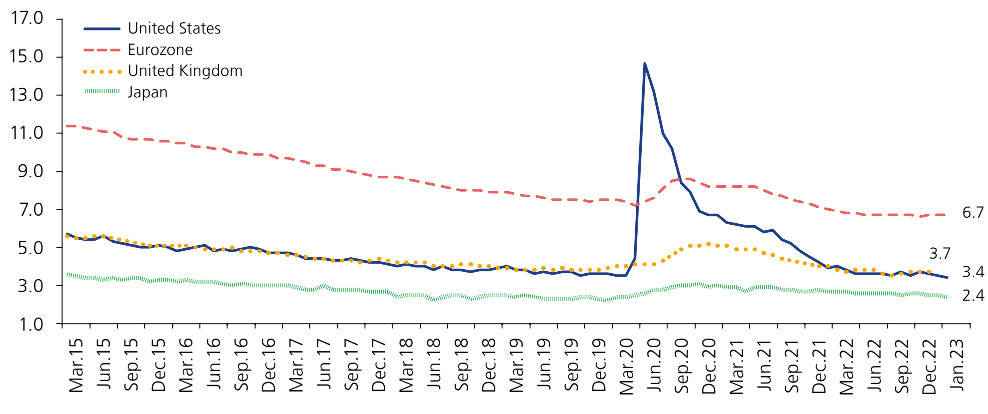


* The GSCPI is constructed from transportation costs (Baltic Dry Index, the Harpex index and BLS air freight cost indices) and PMI components for the United States, China, Eurozone, Japan, United Kingdom, South Korea and Taiwan.
Source: New York Federal Reserve.

For its part, energy prices showed a downward trend that exceeded the forecasts made in December. Gas prices fell, particularly in European markets, due to the implementation of energy saving policies, the anticipated build-up of inventories and the lower demand associated with a less colder than usual winter. The substitution of Russian gas supply by other suppliers of both natural gas (Norway) and liquefied natural gas (mainly the United States and Qatar) also played a role in the price reduction.

On the other hand, global economic activity has been favored by the economic recovery seen in China –which so far this year has eased the restrictions implemented because of the increase in COVID-19 cases– and by the strength of labor markets. Strong job creation and low unemployment rates (which in many cases are close to historic lows) have boosted domestic demand, particularly that oriented to the consumption of services.

Graph 2
UNEMPLOYMENT RATE: 2015-2023
(%)



Source: OCDE.

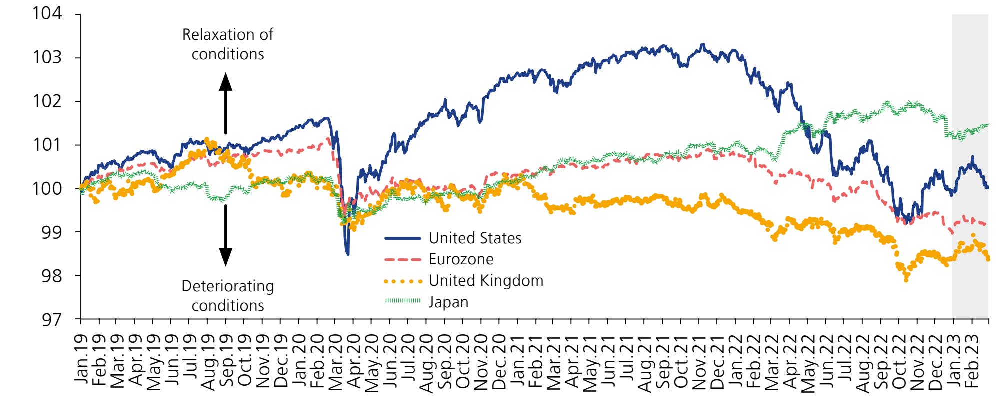
3. However, other factors remain as constraints to growth and introduce downside risks in the short term.

First, global financial conditions have tightened in recent months as expectations of interest rate hikes increased as a result of elevated inflation rates. These conditions have been further tightened more recently by stresses in the banking system associated with the collapse of Silicon Valley Bank (SVB) and problems at Credit Suisse.

Graph 3

FINANCIAL CONDITION INDEXES

(January 1, 2019 =100)



Source: Goldman Sachs.

This tightening of financial conditions, coupled with the decline in private savings surpluses generated during the pandemic and the impact of inflation on purchasing power, continue to limit further expansion in aggregate demand at the global level.

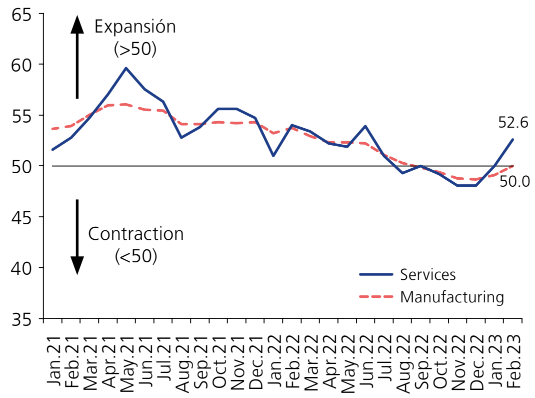
4. In line with these developments, global economic activity has been recovering in most of the major economies during the first two months of the year.

Activity indicators, particularly those for services, show an improvement reflected in the evolution of the global PMIs, which moved into the economic expansion zone in the manufacturing and services sectors, reaching their highest levels since August and June of last year, respectively.

Graph 4

Global PMI: World economic activity index for the manufacturing and services sectors

Diffusion index



Global PMI, by sector and country

I. Services

	Dec.21	Jun.22	Dec.22	Jan.23	Feb.23
Global	54.7	53.9	48.1	50.0	52.6
USA Markit	57.6	52.7	44.7	46.8	50.5
China Caixin	53.1	54.5	48.0	52.9	55.0
Eurozone	53.1	53.0	49.8	50.8	53.0
United Kingdom	53.6	54.3	49.9	48.7	53.3
Japan	52.1	54.0	50.3	52.3	53.6

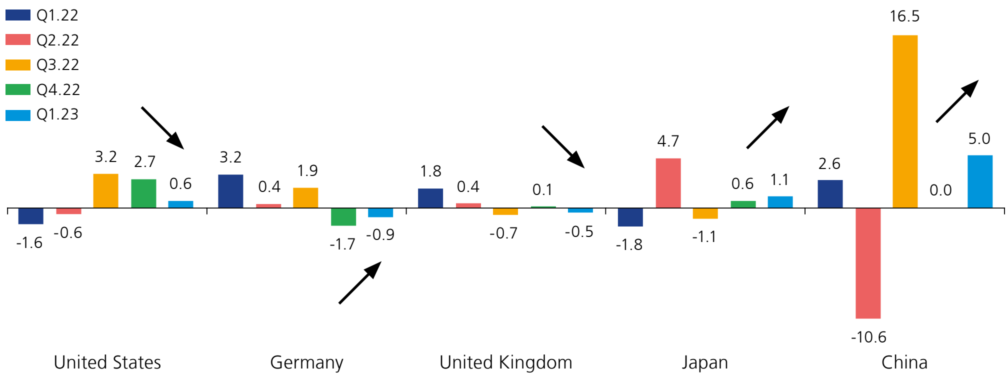
II. Manufacturing

	Dec.21	Jun.22	Dec.22	Jan.23	Feb.23
Global	54.3	52.2	48.7	49.1	50.0
USA Markit	57.7	52.7	46.2	46.9	47.3
China Caixin	50.9	51.7	49.0	49.2	51.6
Eurozone	58.0	52.1	47.8	48.8	48.5
United Kingdom	57.9	52.8	45.3	47.0	49.3
Japan	54.3	52.7	48.9	48.9	47.7

Source: JP Morgan.

With the exception of the United States and the United Kingdom, these developments have led to a recovery in the forecasts for growth rates in the first quarter of this year compared with those of the fourth quarter. Particularly noteworthy is the dynamism of China, where the economy has benefited from the lifting, at the end of 2022, of the restrictions that were introduced in response to the increase in COVID-19 cases.

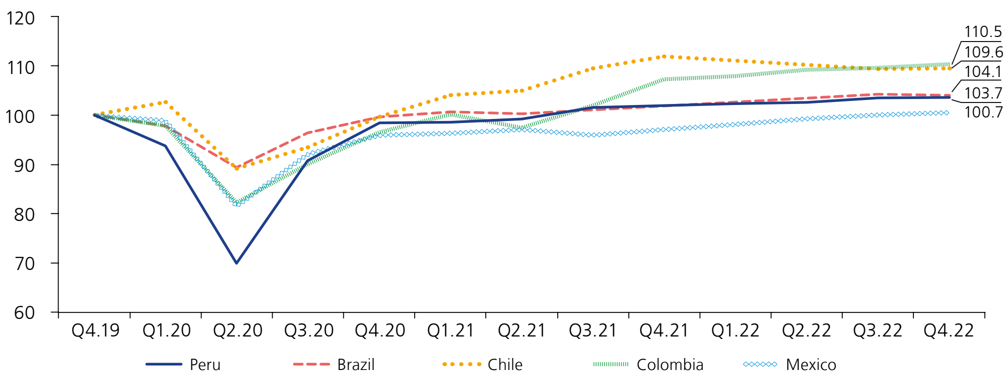
Graph 5
QUARTERLY GROWTH 2022-2023: MAJOR ECONOMIES
(annualized seasonally adjusted quarterly rate, %)



Source: Estimated from the medians of banks and investment houses.

On the contrary, most **Latin American economies** have shown little dynamism, which is consistent with what was reported in the December Report. Activity has been affected by the reduction in private spending, the impact of inflation on consumption and the adjustment of financial conditions as a result of higher interest rates. In some cases, the reduction in fiscal stimulus and idiosyncratic shocks that have affected consumer and investor expectations have also played a role. However, some monthly indicators –leading indicators of economic activity, PMI indices, among others– show a slight recovery during the first months of this year, mainly linked to the prospects of higher growth in China.

Graph 6
LATIN AMERICA: QUATERLY GDP*
(Index 100 = Q4.19)



* Seasonally adjusted series.
Source: Statistical institutes and central banks.

Recent inflation trends

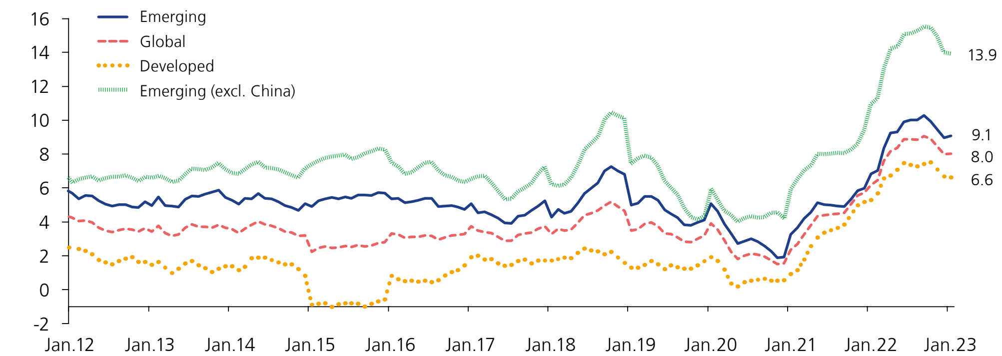
5. After decreasing in the second half of 2022, headline inflation moderated its downward trend in several countries and remains above central bank targets. Core inflation remained on an upward trend in several cases.

In the first months of 2023, global inflation remained at 8.0 percent: the slight reduction observed in developed economies (from 6.7 to 6.6 percent) was offset by the rise, of similar magnitude, registered in emerging economies (from 9.0 to 9.1 percent).

Graph 7

INFLATION: GLOBAL, DEVELOPED COUNTRIES AND EMERGING ECONOMIES

(12 months % chg.)



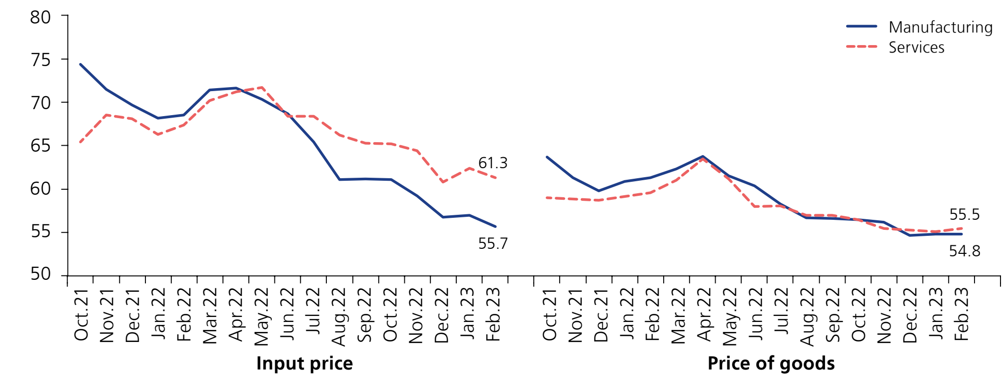
Source: Trading Economics, Statistical institutes and central banks.

High-frequency indicators suggest that upward price pressures persist mainly in the services sector, particularly those related to input costs.

Graph 8

PMI INDEX, PRICE COMPONENTS

(Oct-21 to Feb-23)



Source: JP Morgan.

In **developed economies**, the United States recorded a decrease in inflation, although at a slower pace than in previous months: from 6.5 percent in December to 6.0 percent in February. Downward pressures –mainly from the prices of energy and used cars– were offset by increases in the prices of services –particularly rents– and food. It should be pointed out that other types of inflation, such as personal consumption expenditures (PCE), showed, in contrast, an upward trend in both the total and core components.

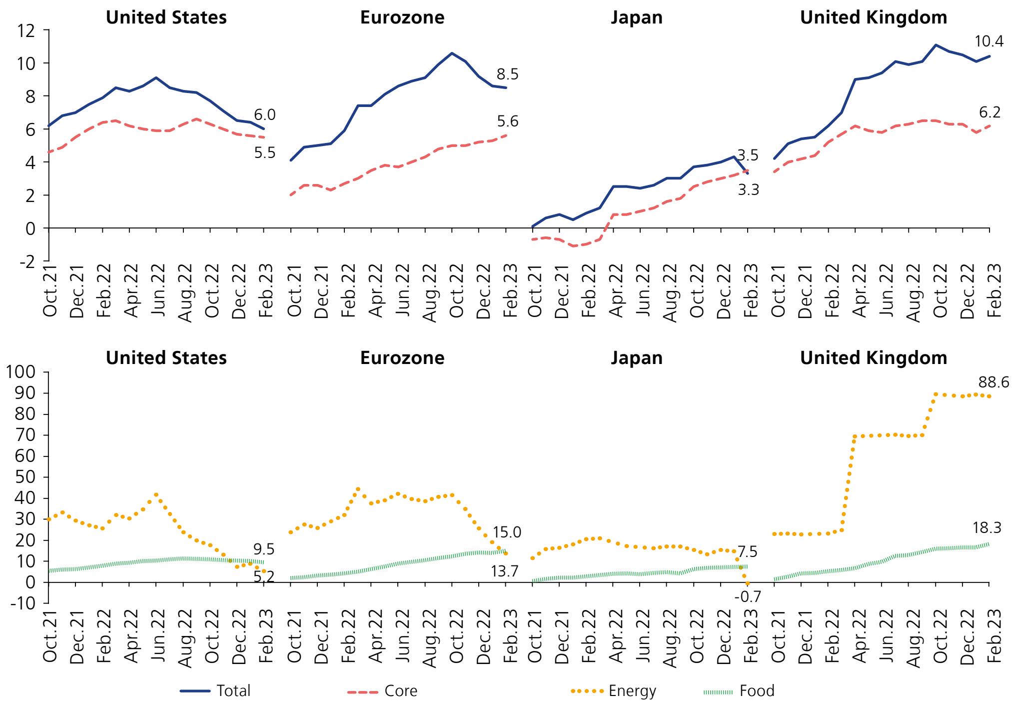
Table 1
UNITED STATES: INFLATION INDICATORS AND INFLATION EXPECTATIONS
(12 months % chg.)

	Dec.19	Dec.20	Dec.21	Jun.22	Sep.22	Dec.22	Jan.23	Feb.23
CPI Total	**2.3**	**1.4**	**7.0**	**9.1**	**8.2**	**6.5**	**6.4**	**6.0**
Of which:								
Food	1.8	3.9	6.3	10.4	11.2	10.4	10.1	9.5
Energy	3.4	-7.0	29.3	41.6	19.8	7.3	8.7	5.2
Underlying CPI	**2.3**	**1.6**	**5.5**	**5.9**	**6.6**	**5.7**	**5.6**	**5.5**
CPI "core core" *	**1.7**	**1.0**	**4.5**	**6.1**	**6.7**	**5.7**	**5.4**	**5.3**
Total PCE	**1.6**	**1.3**	**6.0**	**7.0**	**6.3**	**5.3**	**5.4**	**n.d.**
Of which:								
Food	0.4	-0.2	8.3	10.6	8.0	5.1	4.7	n.d.
Energy	2.2	2.0	4.8	5.1	5.4	5.4	5.7	n.d.
Underlying PCE	**1.6**	**1.5**	**5.0**	**5.0**	**5.2**	**4.6**	**4.7**	**n.d.**
Inflation expectations (next twelve months)								
Consumer (Fed NY)	2.5	3.0	6.0	6.8	5.4	5.0	5.0	4.2
Consumer (Michigan)	2.3	2.5	4.8	5.3	4.7	4.4	3.9	4.1

* Defined as total inflation minus food, energy and used cars.
Source: Trading Economics.

Likewise, total inflation continued to slow down in the Eurozone, although core inflation continued on the upward path of previous months, both in the Eurozone and in the United Kingdom.

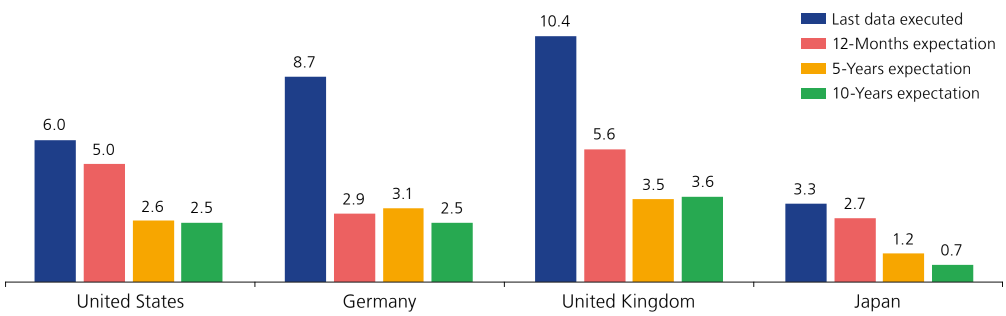
Graph 9
INFLATION IN DEVELOPED ECONOMIES: 2021-2023
(12-month % chg.)



Source: Central banks and statistical institutes.

Inflation expectations for the next twelve months in the main economies have declined slightly, in line with executed data, but remain above central banks' targets. Medium- and long-term expectations remain stable and within target, except in the case of the United Kingdom.

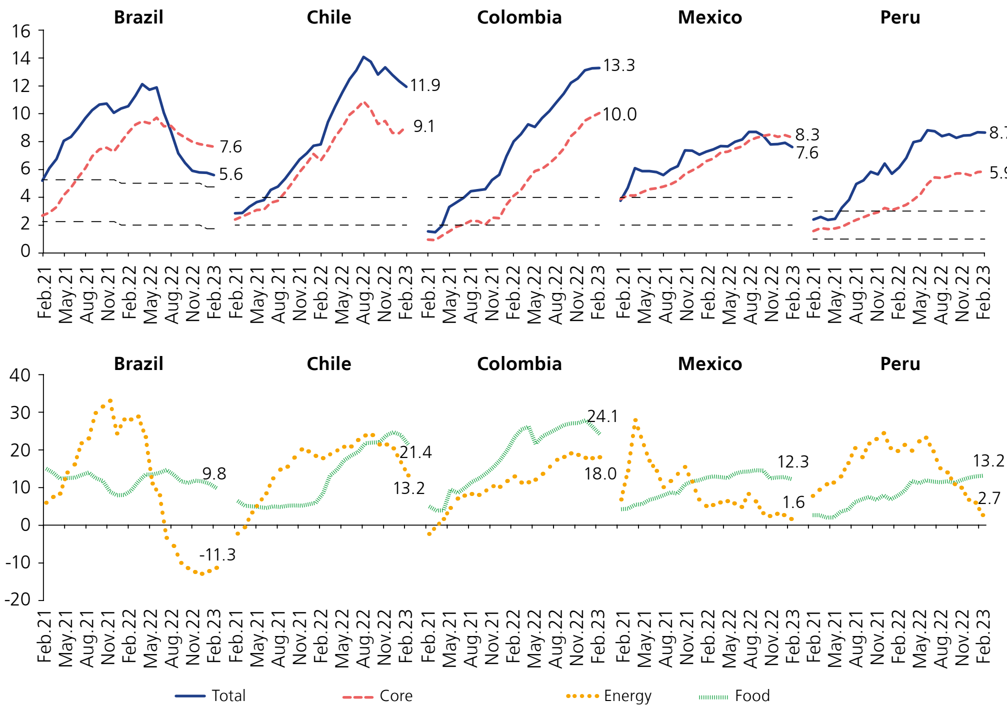
Graph 10
YEAR-ON-YEAR INFLATION AND INFLATION EXPECTATIONS
(%)



Note: Twelve-month inflation corresponds to consumer surveys (except Japan, where it is conducted with investors). The 5- and 10-year expectations correspond to break even inflation.
Source: Central banks.

Inflation in the **region's economies** behaved differently at the country level. Brazil and Chile recorded lower rates due to the reduction in the prices of some fuels, domestic gas and certain services. In contrast, inflation in Colombia, Mexico and Peru showed slight increases, with the case of Mexico standing out as core inflation has been outweighing total inflation since October 2022 due to higher prices of meals consumed away from home and housing rent, among other factors. In Colombia, the evolution of prices would be reflecting higher exchange rate and domestic demand pressures and a level of activity above its potential.

Graph 11
INFLATION IN LATIN AMERICA 2021-2023
(12-months % chg.)



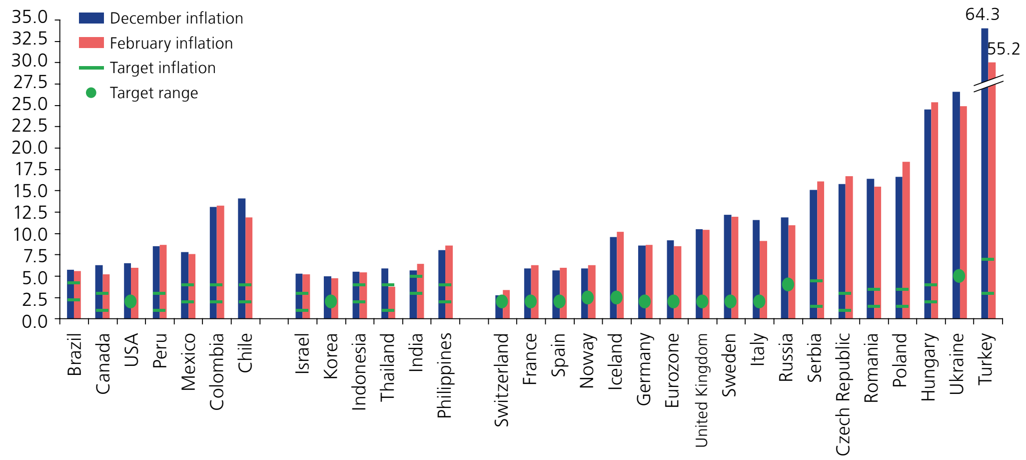
Note: In Brazil, the Energy component corresponds to the intra-household component. The food indices in Brazil and Peru include the subgroup of meals away from home.
Source: Central banks and national statistical institutes of each country.

Similarly, **other emerging economies with inflation targeting** continue recording inflation rates above the target range. Even in several European economies (such as Hungary, Serbia and the Czech Republic, among others) and Asia (such as India, the Philippines and Korea), inflation has increased with respect to December. Appreciatory pressures of the dollar at the global level continue to affect domestic inflation rates.

Graph 12

GLOBAL INFLATION AND INFLATION TARGETING

(Year-on-year inflation and inflation target in %)



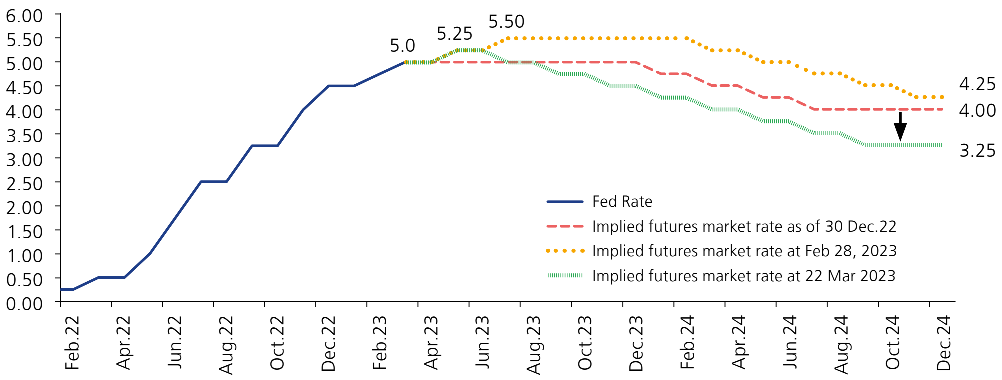
Note: Turkey has scale cut-off. Swiss inflation target is below 2%.
Source: New York Federal Reserve (Fed) and Reuters.

Monetary and fiscal policy responses

6. In this context of persistent inflationary pressures, most central banks have continued to withdraw monetary stimulus. The rate increases observed in the main developed economies are noteworthy, although the adjustments have been smaller than in previous months.

Graph 13

FED: RATE AND MARKET EXPECTATIONS*



* Data correspond to the upper band of the Fed's benchmark rates.
Source: New York Federal Reserve (Fed) and Reuters.

In February, the **Fed** raised its interest rate again by 25 bps, this hike being lower than those observed in November (75 bps) and December (50 bps). According to market expectations, around February, Fed rates were expected to reach a maximum of 5.5 percent during 2023. However, following the financial problems seen in the United States and Europe, this forecast has been revised downwards.

In March, the Fed raised again its rate by 25 bps, reduced the hawkish rhetoric in its statement and revised down the growth forecast for 2023 and 2024 and up the inflation forecast for this year.

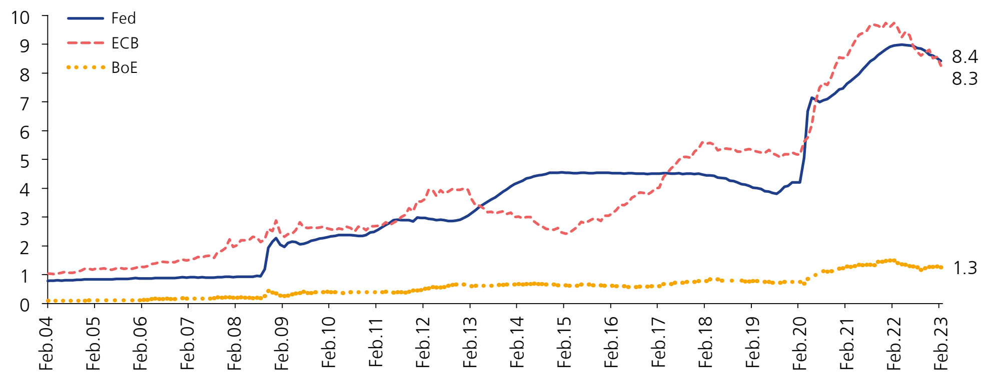
Table 2
FED PROJECTIONS*

	2023		2024		2025		Long term	
	Dec.22	Mar.23	Dec.22	Mar.23	Dec.22	Mar.23	Dec.22	Mar.23
Growth	0.5	0.4	1.6	1.2	1.8	1.9	1.8	1.8
Unemployment rate	4.6	4.5	4.6	4.6	4.5	4.6	4.0	4.0
Inflation (PCE)	3.1	3.3	2.5	2.5	2.1	2.1	2.0	2.0
Core Inflation (core PCE)	3.5	3.6	2.5	2.6	2.1	2.1	-	-
Note: Core PCE excludes food and energy.								
Interest rate (%)	5.1	5.1	4.1	4.3	3.1	3.1	2.5	2.5
Interest rate range (%)	4.9-5.6	4.9-5.9	3.1-5.6	3.4-5.6	2.4-5.6	2.4-5.6	2.3-3.3	2.3-3.6

* Includes 19 data from the individual projections of the members of the Fed at the end of the period.

In the same vein, the **ECB** continued with the hike cycle initiated in July 2022; raising the rate by 50 bps in February and March. This brought the interest rate on the main refinancing operations, the marginal lending facility and the deposit facility to 3.50 percent, 3.75 percent and 3.00 percent, respectively. The 50 bps adjustment in March took place despite the fears of the financial markets: in addition to the banking problems in the United States, there were also fears of Credit Suisse's situation.

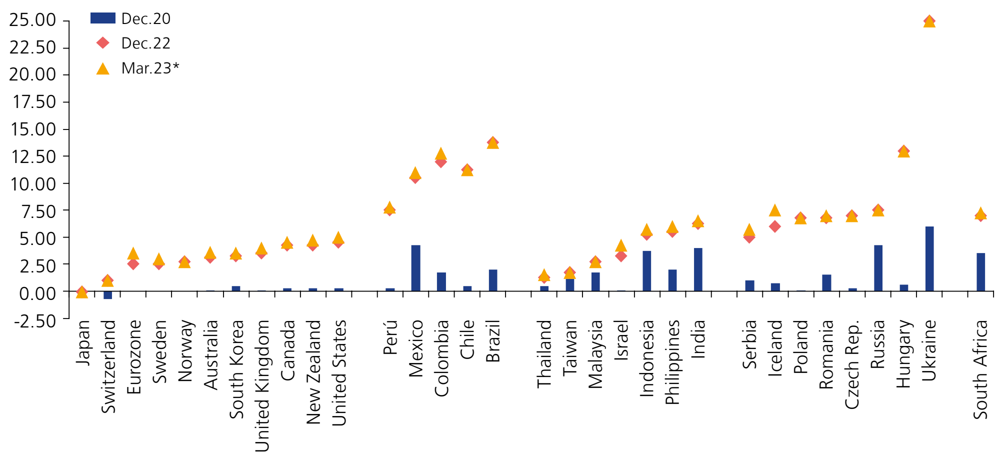
Graph 14
CENTRAL BANKS: TOTAL ASSETS
(Billions US$)



Note: Fed (United States Federal Reserve), ECB (European Central Bank) and BoE (Bank of England).
Source: Central banks and IMF.

The **emerging economies** also saw a smaller adjustment in interest rates after the significant hikes that most central banks implemented since 2021. So far this year, most central banks have kept their interest rates unchanged. In the region, The increase in Colombia (75 bps), where total and core inflation has continued to rise, is particularly noteworthy. Rate increases have also been recorded in Mexico (50 bps) and Peru (25 bps) and moderate increases were observed in Iceland, Serbia, the Philippines and Indonesia.

Graph 15
REFERENCE INTEREST RATE
(%)



* As of March 23.
Source: Central banks and statistical institutes

7. As regards the **fiscal stance**, most developed economies have not announced new measures since the last Report that would follow those adopted in 2022 with the aim of reducing the pressures of high energy prices on consumer spending and inflation. China has been an exception since the government has been communicating its intentions to develop policies aimed at stimulating housing spending and unlocking consumer savings accumulated during the pandemic. In this context, a State restructuring plan[1] and a growth target of around 5 percent for this year were announced at the start of the National People's Congress.

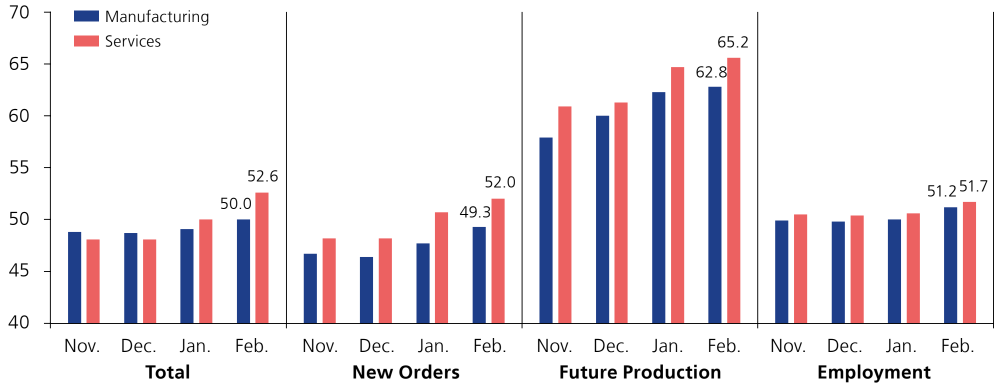
Global economic outlook

8. In line with the executed data, the forecast for global growth in 2023 has been revised up (from 2.3 to 2.4 percent). At the country level, China's revision stands out (from 4.8 to 5.2 percent) due to the lifting of the measures adopted in the face of the resurgence of COVID-19 cases and the announcement of stimulus measures to reactivate the economy.

1 The plan includes a 5 percent cut in the payrolls of State institutions, a restructuring of the Ministry of Science and Technology to "concentrate resources" in key sectors such as semiconductors and microchips, and a 7.2 percent increase in the military budget.

At the sector level, the services sector is expected to continue to show the greatest dynamism: the PMI components linked to future production and new orders show the greatest dynamism in this sector.

Graph 16
PMI MANUFACTURING AND SERVICES BY COMPONENTS
(Nov.22 to Feb.23)



Source: JP Morgan.

A growth rate of 2.9 percent is estimated for 2024, reflecting the normalization of some of the shocks that have been affecting the economy since 2021 and the partial reversal of monetary policy adjustments adopted in the face of inflationary pressures.

Table 3
GLOBAL GROWTH
(Annual percentage changes)

	PPP*	2022**	2023		2024	
			IR Dec.	IR Mar.	IR Dec.	IR Mar.
Developed economies	**42.2**	**2.6**	**0.6**	**0.7**	**1.4**	**1.4**
Of which						
1. United States	15.9	2.1	0.6	0.8	1.2	1.2
2. Eurozone	12.0	3.5	0.0	0.4	1.3	1.3
3. Japan	3.9	1.4	1.2	1.2	1.2	1.1
4. United Kingdom	2.3	4.1	-0.5	-0.8	0.7	0.7
5. Canada	1.4	3.5	1.1	1.0	1.9	1.6
6. Others	6.8	2.4	1.4	1.4	2.4	2.4
Developing economies	**57.8**	**3.9**	**3.6**	**3.7**	**4.0**	**4.1**
Of which						
1. China	18.7	3.0	4.8	5.2	4.8	5.0
2. India	7.0	6.7	6.0	6.0	5.5	6.0
3. Russia	3.1	-2.2	-2.9	-2.9	1.8	1.6
4. Latin America and the Caribbean	7.3	3.9	1.5	1.2	2.3	2.0
Argentina	0.7	5.4	0.5	0.0	2.0	1.8
Brazil	2.4	2.9	0.9	0.9	2.0	1.8
Chile	0.4	2.4	-0.5	-1.0	2.0	2.0
Colombia	0.6	7.5	1.8	0.5	2.8	1.5
Mexico	1.9	3.1	1.3	1.1	2.1	1.9
Peru	0.3	2.7	2.9	2.6	3.0	3.0
5. Others	21.7	4.6	3.8	3.8	3.8	3.8
World Economy	**100.0**	**3.3**	**2.3**	**2.4**	**2.9**	**2.9**

* Base 2021.
** Preliminary information.
Source: FMI, Consensus Forecast.

International financial markets

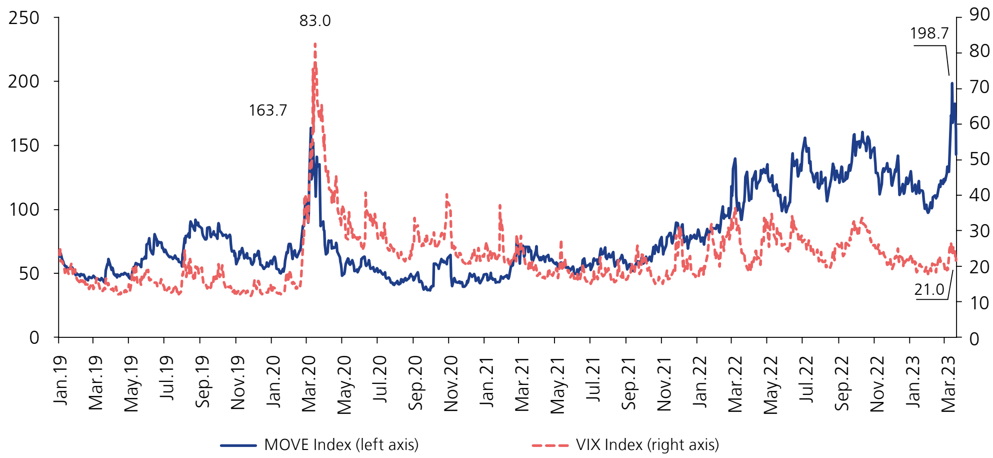
9. In the first two months of the year, financial markets showed significantly different performances.

   In January, financial markets reflected lower risk aversion in a context of positive corporate results and expectations that the Fed will not aggressively adjust its interest rate –as a result of the deterioration of some activity data, stagnation in wage growth and a consecutive drop in inflation–, offsetting uncertainty regarding the public debt ceiling and elevated geopolitical tensions.

   However, in February, expectations of interest rate hikes by the main central banks resurfaced as a result of the resilience of the labor market and the resistance of inflation's downward trend. In addition, relations between the United States and China deteriorated.

   The evolution observed in February determined the accumulated variations observed so far: the dollar appreciated against several currencies, sovereign yields increased for the most part, while commodity prices declined. Some stock markets recorded gains, supported by corporate results for the fourth quarter. In the first two months of the year, risk aversion remained relatively stable, but in the second week of March, the markets were affected by the collapse of Silicon Valley Bank, which generated greater risk aversion and high volatility in fixed-income assets. The U.S. Treasury bond market reached a volatility not seen since the financial crisis, especially in the short (2-year) tranche, which is the most sensitive to changes in the Fed's interest rate expectations.

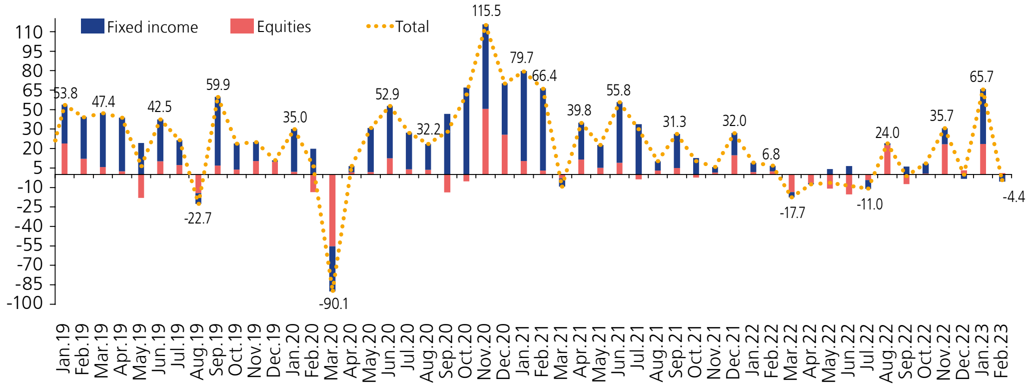
Graph 17
VOLATILITY INDICES OF SOVEREING YIELDS (MOVE) AND U.S. STOCK MARKETS (VIX), 2019-2022



Source: Reuters.

Moreover, strong capital inflows to emerging economies were recorded in the first two months of the year, supported mainly by January inflows in both fixed-income and equity markets.

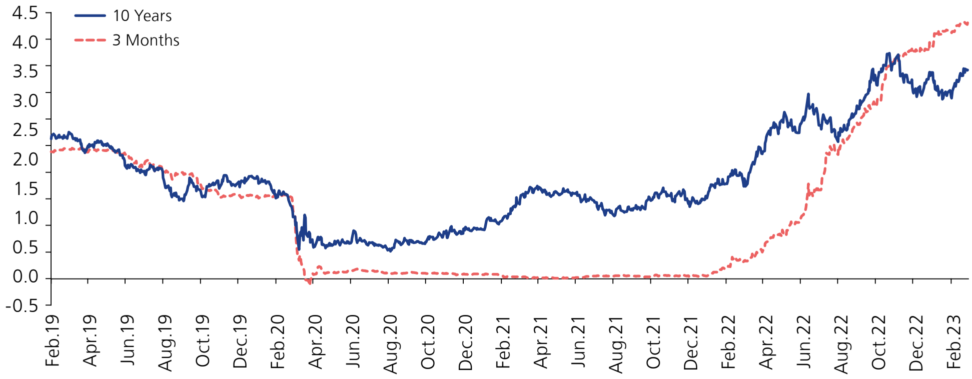
Graph 18
NON-RESIDENT CAPITAL FLOWS TO EMERGING MARKETS
(Billions of US$)



* The February 2023 figure is an estimate.
Source: IIF.

10. In **fixed-income markets**, sovereign yields in the main developed economies increased once again as a result of central banks' commitments to continue tightening monetary policy in a context of slow convergence of inflation towards its target, a strong labor market and a dynamic services sector.

Graph 19
U.S. SOVEREIGN YIELDS
(%)



Source: Reuters.

Emerging yields also rose over the same period, driven mainly by expectations of further monetary tightening at the global level, potential adjustments in domestic rates and idiosyncratic political and social shocks.

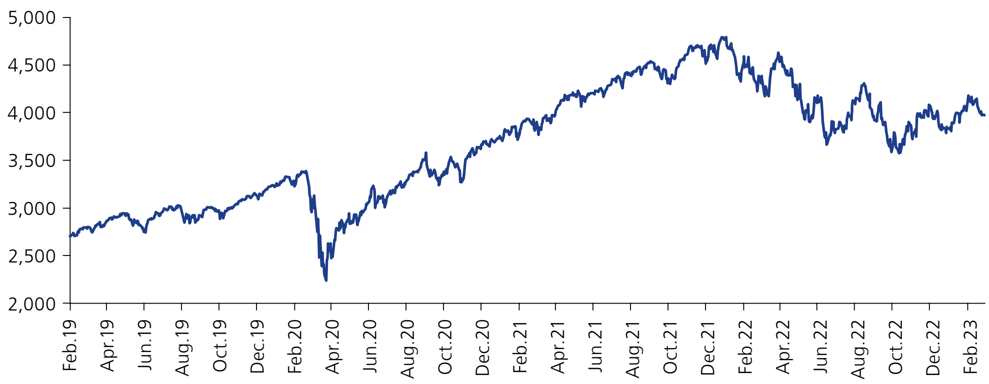
Table 4
10-YEAR SOVEREIGN BOND YIELDS*
(%)

	Dec.21 (a)	Dec.22 (b)	Feb.23 (c)	Difference (pbs.) (c) - (b)	Difference (pbs.) (c) - (a)
United States	1.51	3.88	3.94	6	243
Germany	-0.18	2.57	2.65	8	283
France	0.20	3.11	3.11	1	292
Italy	1.17	4.70	4.46	-23	329
Spain	0.56	3.65	3.59	-6	303
Greece	1.32	4.57	4.42	-15	311
Great Britain	0.97	3.66	3.82	16	285
Japan	0.07	0.41	0.50	9	44
Brazil	10.84	12.69	13.40	71	256
Colombia	8.19	13.01	13.24	23	505
Chile	5.65	5.26	5.78	52	13
Mexico	7.56	9.02	9.31	29	176
Peru	**5.90**	**7.97**	**8.09**	**12**	**219**
South Africa	9.80	10.79	11.17	38	137
India	6.45	7.33	7.44	11	98
Turkey	23.54	9.60	9.91	31	-1,363
Russia	8.29	9.28	9.65	37	136
China	2.78	2.84	2.92	8	14
South Korea	2.26	3.74	3.76	2	151
Indonesia	6.36	6.92	6.88	-4	52
Thailand	1.89	2.64	2.59	-5	69
Malaysia	3.59	4.04	3.92	-12	33
Philippines	4.71	6.67	6.17	-50	146

* Prepared as of February 28, 2023.
Source: Reuters.

11. In **equity markets**, most developed stock markets advanced, driven by better-than-expected fourth-quarter corporate earnings. In addition to this, the Fed's monetary stance moderated in January, although slight corrections were carried out during the following month.

Graph 20
US STOCK EXCHANGE (S&P 500)



Source: Reuters.

Emerging stock markets also showed different behaviors: the mostly upward trend seen in January reversed in February due to the change in expectations regarding international rates, the strengthening of the dollar, the fall in the prices of the main commodities and, in some cases, due to social and political factors.

Table 5
WORLD STOCK EXCHANGES*
(In indices)

		Dec.21 (a)	Dec.22 (b)	Feb.23 (c)	% chg.	
					(c) / (b)	(c) / (a)
VIX**	S&P 500	17.22	21.67	20.70	-1.0	3.5
United States	Dow Jones	28,538	34,086	33,508	-1.7	17.4
United States	S&P 500	4,766	3,840	3,970	3.4	-16.7
Germany	DAX	15,885	13,924	15,365	10.4	-3.3
France	CAC 40	7,153	6,474	7,268	12.3	1.6
Italy	FTSE MIB	27,347	23,707	27,478	15.9	0.5
Spain	IBEX 35	8,714	8,229	9,395	14.2	7.8
Greece	ASE	893	930	1,129	21.5	26.4
United Kingdom	FTSE 100	7,385	7,452	7,876	5.7	6.7
Japan	Nikkei 225	28,792	26,095	27,446	5.2	-4.7
Brazil	Ibovespa	104,822	109,735	104,932	-4.4	0.1
Colombia	COLCAP	1,411	1,286	1,188	-7.7	-15.8
Chile	IPSA	4,308	5,262	5,395	2.5	25.2
Mexico	IPC	53,272	48,464	52,758	8.9	-1.0
Argentina	Merval	83,500	202,085	247,459	22.5	196.4
Peru	**Ind. Gral.**	**21,112**	**21,330**	**21,576**	**1.2**	**2.2**
South Africa	JSE	73,709	73,049	77,734	6.4	5.5
India	Nifty 50	17,354	18,105	17,304	-4.4	-0.3
Turkey	XU100	1,858	5,509	5,237	-4.9	181.9
Russia	RTS	1,596	971	946	-2.5	-40.7
China	Shangai C.	3,640	3,089	3,280	6.2	-9.9
South Korea	KOSPI	2,978	2,236	2,413	7.9	-19.0
Indonesia	JCI	6,581	6,851	6,843	-0.1	4.0
Thailand	SET	1,658	1,669	1,622	-2.8	-2.1
Malaysia	KLCI	1,568	1,495	1,454	-2.8	-7.2
Philippines	Psei	7,123	6,566	6,556	-0.2	-8.0

* Prepared as of February 28, 2023.
** Data and variations are expressed in points.
Source: Reuters.

12. In **foreign exchange markets**, the dollar appreciated in February after the Fed internalized higher interest rates. Despite this, the DXY index remains below the levels observed in October 2022 (when it reached its highest levels in two decades).

Graph 21
DXY DOLLAR INDEX

Source: Reuters.

As for emerging economies, several currencies in the region appreciated, benefiting from risk appetite in January, although this trend moderated in February.

Table 6
EXCHANGE RATES*
(In U.M. per dollar, except euro and pound sterling)

		Dec.21 (a)	Dec.22 (b)	Feb.23 (c)	% chg. ** (c) / (b)	% chg. ** (c) / (a)
Dollar index DXY***	US Dollar Index	95.97	103.52	104.87	1.3	9.3
Euro	Euro	1.137	1.070	1.058	-1.2	-7.0
United Kingdom	Pound	1.353	1.210	1.202	-0.6	-11.2
Japan	Yen	115.08	131.11	136.20	3.9	18.4
Brazil	Real	5.570	5.286	5.237	-0.9	-6.0
Colombia	Peso	4065	4847	4857	0.2	19.5
Chile	Peso	851	848	827	-2.4	-2.8
Mexico	Peso	20.49	19.47	18.30	-6.0	-10.7
Argentina	Peso	102.68	176.74	197.15	11.5	92.0
Peru	**Sol**	**3.991**	**3.807**	**3.795**	**-0.3**	**-4.9**
South Africa	Rand	15.99	17.00	18.35	7.9	14.7
India	Rupee	74.47	82.72	82.64	-0.1	11.0
Turkey	Lira	13.32	18.69	18.88	1.0	41.8
Russia	Ruble	74.56	72.50	75.05	3.5	0.7
China	Yuan (onshore)	6.352	6.897	6.933	0.5	9.1
South Korea	Won	1188	1261	1323	4.9	11.4
Indonesia	Rupee	14250	15565	15245	-2.1	7.0
Thailand	Bath	33.23	34.61	35.22	1.8	6.0
Malaysia	Ringgit	4.164	4.400	4.485	1.9	7.7
Philippines	Peso	50.99	55.67	55.32	-0.6	8.5

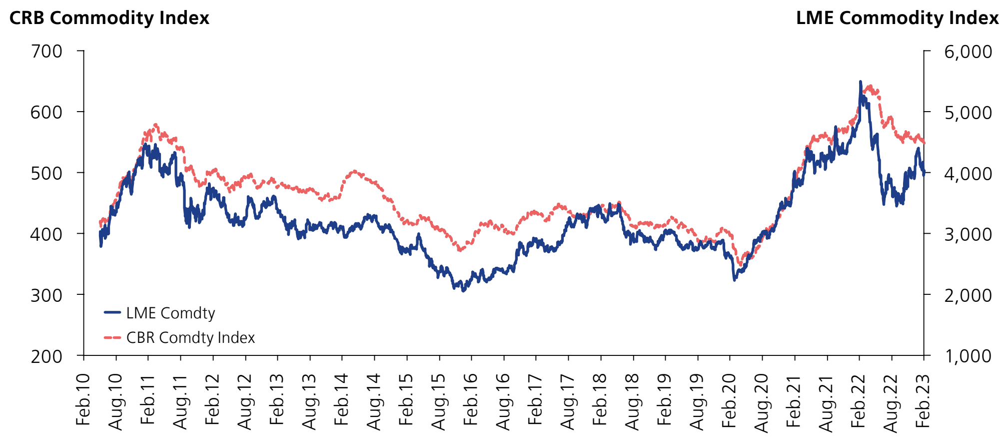
* Prepared as of February 28, 2023.
** A rise (fall) in the index implies an appreciation (depreciation) of the dollar, except for the euro and the pound.
*** A rise (fall) in the index implies an appreciation (depreciation) of the dollar against the basket of currencies consisting of the euro, yen and pound. The index is composed of the euro, the yen, the pound, the Canadian dollar, the Swedish krona and the Swiss franc.
Source: Reuters.

Commodity prices

13. Between January and February, the prices of most industrial metals were revised up with respect to the December Report, while energy-related commodity prices were revised down.

The upward revision of the prices of basic metals was associated, on the demand side, to the improved growth outlook in China, the main commodity consumer, due to the reopening of its economy after its zero tolerance policy on COVID-19 was lifted. This offset the strengthening of the dollar associated with the expectation of a more aggressive adjustment in interest rates.

Graph 22
LME AND CRB COMMODITY INDEXES



Source: Reuters.

On the supply side, prices continued to be affected by the interruptions in production due to force majeure cuts (such as legal disputes, protests and accidents) and high energy costs.

Copper

14. The average price of copper increased 7 percent in the last two months, from US$ 3.79 the pound in December 2022 to US$ 4.06 the pound in February 2023. This recovery comes after the price of this metal fell by 12 percent in cumulative terms in 2022.

In the last two months the average price of copper rose, supported by expectations of an increase in Chinese demand following the reopening of its economy. Increased demand is also observed in renewable industries in the United States –strengthened by the Inflation Reduction Act that encourages demand for electric cars– and from industries located outside China –the Middle East and other Asian countries.

On the supply side, there were fears of lower copper availability associated with interruptions in mine production in the main producing countries. In Chile, the main export port was partially closed after a fire damaged four conveyor belts. In Peru, protests disrupted the mining corridor, damaging exports from Las Bambas and Antapaccay mines, while in Panama, First Quantum announced the suspension of production at its Cobre Panama mine due to contractual problems. Finally, in Indonesia, torrential rains caused landslides, partially interrupting production at its main mines.

In this context of increased demand and limited supply, inventories are at historically low levels, as reflected in the fall of inventories on the London Stock Exchange to similar levels as in 2005.

Table 7

SUPPLY AND DEMAND FOR REFINED COPPER [1/]

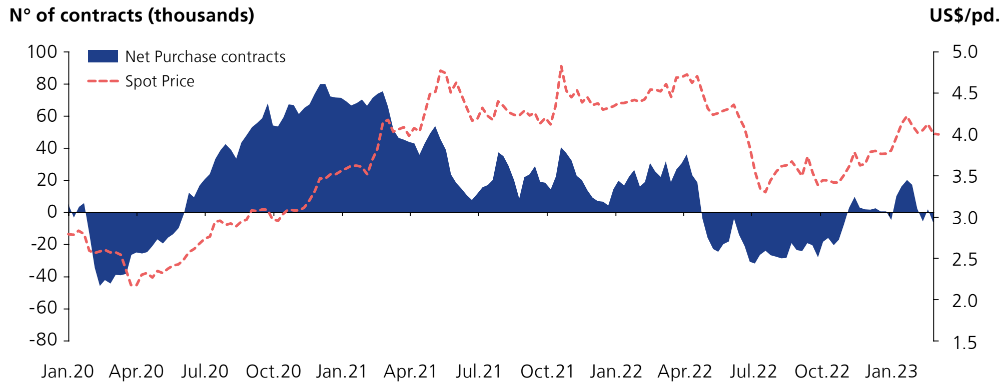
(Thousands of metric tons of copper)

	2018	2019	2020	2021	2022	% chg. 2022/2021
Global Mine Production	20,597	20,612	20,680	21,100	21,811	3.4%
Global Refined Production (Primary and Secondary)	24,089	24,084	24,589	24,801	25,672	3.5%
Global Refining Utilization	24,457	24,350	24,975	25,256	26,048	3.1%
Refining Balance [2/]	-368	-265	-386	-455	-376	--

1/ ICSG reports for February 2023.
2/ The refined products balance is calculated as the subtraction between the global production of refined products (supply) and their utilization (demand).
Source: ICSG.

These developments have coincided with a recovery in non-commercial demand during January. However, towards the end of February, the number of non-commercial net purchase contracts for copper returned to negative territory not seen since November, reflecting investors' caution over expectations that the Fed's interest rate hike will affect demand for this metal.

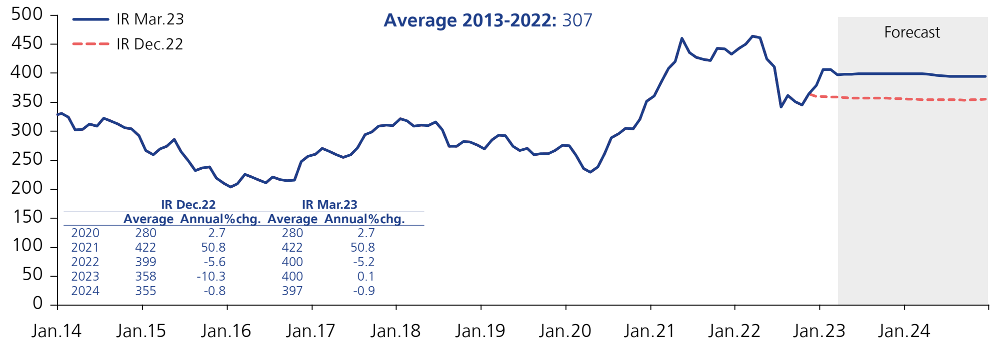
Graph 23
COPPER: NON-COMMERCIAL CONTRACTS



Note: The Commodity Futures Trading Commission's Speculative Net Copper Positions is a weekly report reflecting the difference between the total volume of long (or buy) and short (or sell) copper positions in the market opened by non-commercial traders. The report only includes the U.S. futures markets in the United States (Chicago and New York Stock Exchanges).
Source: Comex.

Because of this, the projection for the copper price has been revised up with respect to the estimate in the December Report. This revision is limited by the increase in copper refining capacity in China scheduled for this year and by the expansion of world mine capacity.

Graph 24
COPPER: JANUARY 2014 - DECEMBER 2024
(ctv. US$/pd.)



	IR Dec.22		IR Mar.23	
	Average	Annual%chg.	Average	Annual%chg.
2020	280	2.7	280	2.7
2021	422	50.8	422	50.8
2022	399	-5.6	400	-5.2
2023	358	-10.3	400	0.1
2024	355	-0.8	397	-0.9

Source: Reuters and BCRP.

Zinc

15. The average international price of zinc increased to US$ 1.43 a pound in February 2023, a level 1 percent higher than that recorded in December 2022, following a cumulative drop of 9 percent in 2022.

The average price of zinc increased due to its scarcity, reflected in falling world inventories. High energy costs continue to threaten smelter production, mainly in

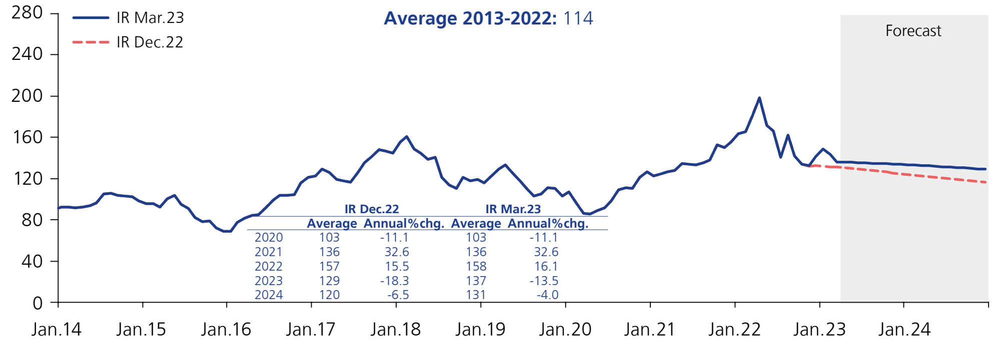
Europe, where refined zinc supply remains constrained due to high energy costs[2]. For its part, smelters in China, where approximately half of the world's refined zinc production is obtained, also face restrictions due to energy consumption and access to imported concentrates (mainly due to environmental measures imposed on the sector).

In line with these developments, the price of zinc is expected to correct on the upside from what was estimated in the previous report due to the improved outlook for demand associated with the reopening of the Chinese market. Moreover, the market is also expected to continue recording a global supply deficit associated with smelter closures, so prices will remain at historically high levels[3]. In the medium term, the normalization of smelter production and the increase in mine supply should generate downward pressure on prices.

Graph 25

ZINC: JANUARY 2014 - DECEMBER 2024

(ctv. US$/pd.)



	IR Dec.22		IR Mar.23	
	Average	Annual%chg.	Average	Annual%chg.
2020	103	-11.1	103	-11.1
2021	136	32.6	136	32.6
2022	157	15.5	158	16.1
2023	129	-18.3	137	-13.5
2024	120	-6.5	131	-4.0

Source: Reuters and BCRP.

Gold

16. Following a cumulative increase of 1 percent in 2022, in February 2023 the average price of gold was US$ 1,853 the ounce, 3 percent higher than in December 2022.

The price of gold increased due to greater global demand for the metal by the central banks of emerging economies as well as due to the strong demand for safe assets amid high risk aversion associated with geopolitical and war tensions. Gold purchases by retail investors were also observed. According to the World Gold Council, 2022 was the strongest year for gold demand in more than a decade.

The gold price forecast for the projection horizon has been revised up with respect to the December estimate, in line with the data up to February. High risk aversion

2 Only Nyrstar announced the restart of its smelter operations in Budel in the Netherlands in November 2022.

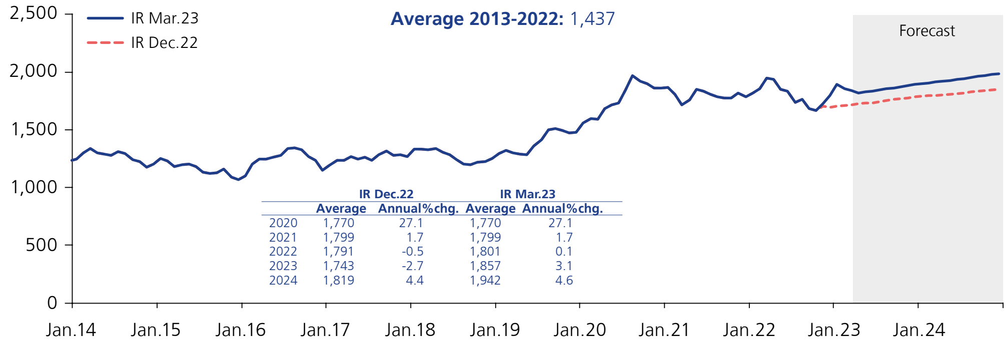
3 However, some smelting capacity expansions are expected in India, Bulgaria, Canada, Indonesia, Russia, Spain and Turkey, which would counterbalance the refining deficit towards the end of the year.

(associated with the conflict in Ukraine) and the persistence of inflationary pressures support the price upward.

Graph 26

GOLD: JANUARY 2014 - DECEMBER 2024

(US$/oz.tr.)



	IR Dec.22		IR Mar.23	
	Average	Annual%chg.	Average	Annual%chg.
2020	1,770	27.1	1,770	27.1
2021	1,799	1.7	1,799	1.7
2022	1,791	-0.5	1,801	0.1
2023	1,743	-2.7	1,857	3.1
2024	1,819	4.4	1,942	4.6

Source: Reuters and BCRP.

Gas

17. For its part, after having accumulated a 2 percent drop last year, the gas price for the European market (UK BNP) fell 56 percent in February 2023 compared to December 2022. It should be pointed out that despite the sharp reduction, gas prices in the European market remain well above the **Henry Hub** natural gas price.

    The price fall in the Henry Hub natural gas is explained by a lower than expected demand for heating purposes, given the less cold weather registered this year at this time, and by the high levels of gas production in the United States, part of which was destined to the European market through exports of liquefied natural gas (LNG). This oversupplied market was reflected in the rapid build-up of inventories in the United States, which showed levels well above the average ones observed over the last five years.

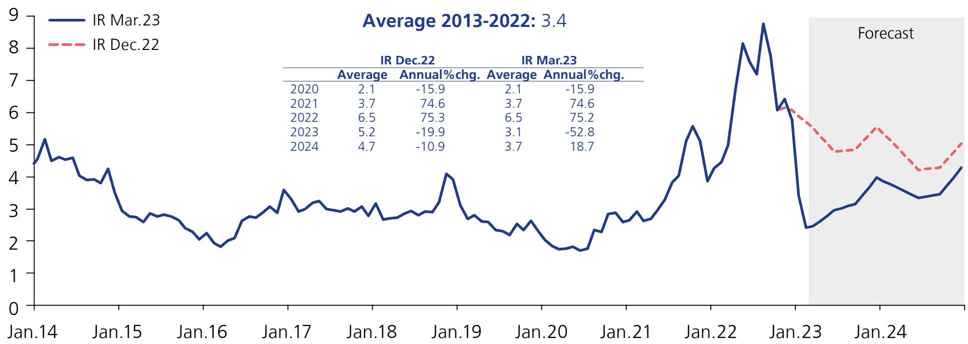
    In Europe, the supply of LNG (mainly from the United States and Qatar) contributed to the reduction in the price, which had been under downward pressure due to the build-up of inventories and lower consumption. The latter factor is due to a warmer winter than expected and to the energy saving measures adopted. The European Union has also increased natural gas imports through Norwegian pipelines, which allowed it to satisfactorily replace the Russian supply.

    The average price of the Henry Hub natural gas projected for the forecast horizon has been revised down, in line with a less tight market at the global level than foreseen in the December Report. Despite this, however, natural gas prices will remain at higher levels than at the onset of the energy crisis due to higher costs for Russian gas substitutes. Upward pressures associated with higher growth in China are also anticipàted.

Graph 27

NATURAL GAS HENRY HUB: JANUARY 2014 - DECEMBER 2024

(US$/Mbtu)



	IR Dec.22		IR Mar.23	
	Average	Annual%chg.	Average	Annual%chg.
2020	2.1	-15.9	2.1	-15.9
2021	3.7	74.6	3.7	74.6
2022	6.5	75.3	6.5	75.2
2023	5.2	-19.9	3.1	-52.8
2024	4.7	-10.9	3.7	18.7

Source: Reuters and BCRP.

Oil

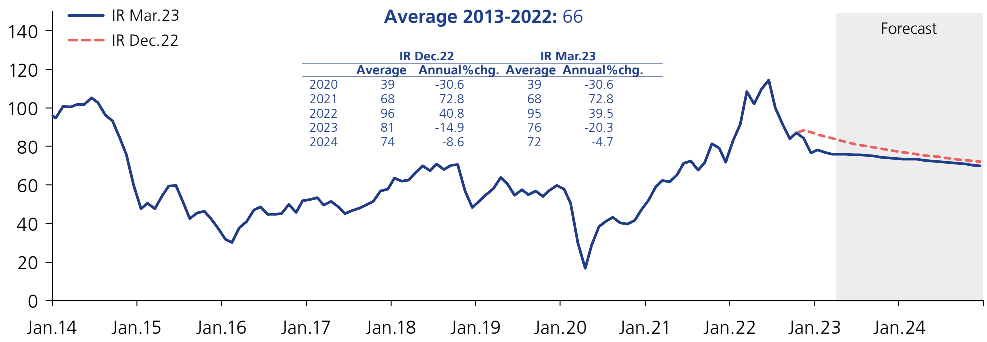
18. The average price of **WTI oil** remained around a monthly average of US$ 77 the barrel in the first two months of 2023, after recording a cumulative increase of 7 percent in 2022.

Oil prices continued to fluctuate around a very narrow range. Prospects of a slowdown in energy demand in many OECD markets –associated with recession risks amid heightened expectations of aggressive monetary tightening by central banks– was counterbalanced by prospects of a recovery in Chinese demand due to the reopening of China's economy.

On the supply side, OPEC+ maintained its production levels since the last reduction made in October. However, the price of oil was subject to upward pressures after Russia announced a production cut of 500 thousand barrels per day starting in March and after the European Union implemented bans on imports of Russian crude oil and petroleum products transported by sea, which came into effect on December 5 and February 5, respectively. These pressures were counterbalanced by the increase in U.S. production and the announcement of the sale of 26 million barrels,of crude oil from the Strategic Reserves after having sold 180 million barrels in 2022.

In the forecast horizon, prices are expected to remain around current levels, which is a revision on the downside from what was projected in December, although prices would remain above the ten-year average. Low inventory levels and limited spare production capacity in OPEC+ countries (which are even recording problems in meeting production quotas) are offset by the outlook for weak demand resulting from tightening monetary conditions at the global level.

Graph 28
WTI OIL: JANUARY 2014 - DECEMBER 2024
(US$/bl)



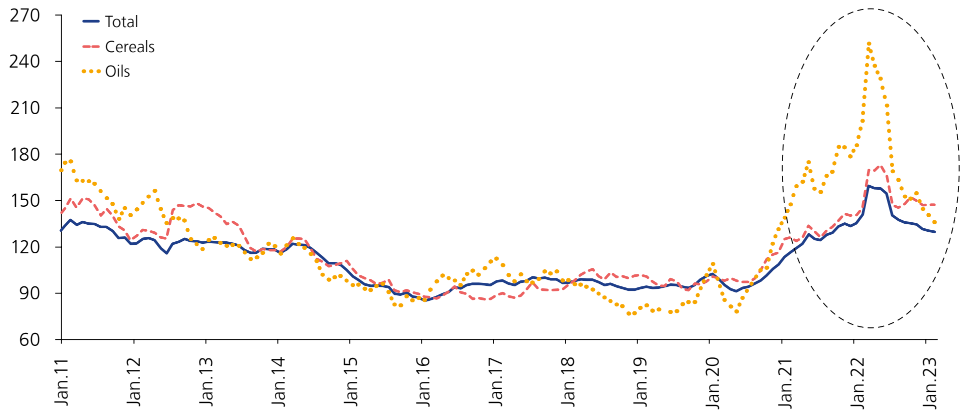
	IR Dec.22		IR Mar.23	
	Average	Annual%chg.	Average	Annual%chg.
2020	39	-30.6	39	-30.6
2021	68	72.8	68	72.8
2022	96	40.8	95	39.5
2023	81	-14.9	76	-20.3
2024	74	-8.6	72	-4.7

Source: Reuters and BCRP.

Food

19. Food prices continued to fall in the first two months of the year. According to the FAO index –which includes the prices of cereals, sugar, oil, meat and dairy products–, food prices have been falling for eleven consecutive months, although they remain above their historical averages.

Graph 29
FAO FOOD PRICE INDEX*
(Base 2014 - 2016 = 100)

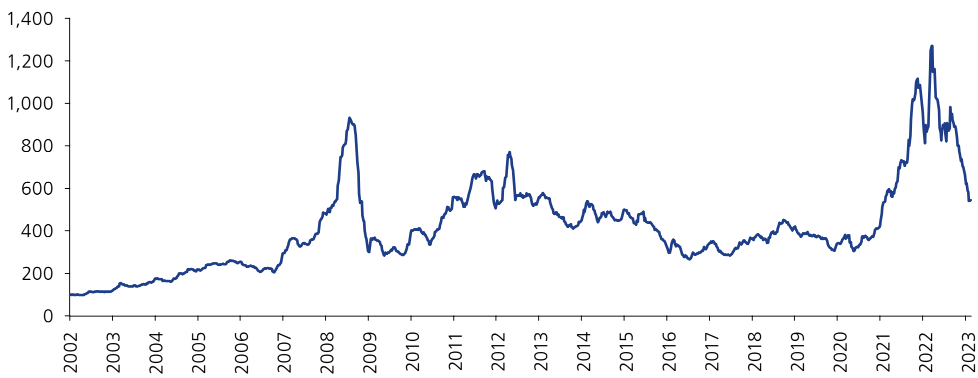


* The real price index is the nominal price index deflated by the World Bank's manufacturing unit value index.

By product, the drop in the index is mainly explained by the decline in vegetable oil prices, which counterbalanced a slight increase in cereal prices. The latter continued to be affected by the impact of the war on production in Ukraine and Russia (both of which account for around 27 percent of world wheat exports and 15 percent of world maize exports). Although it has been possible to market part of the supply through the Black Sea, logistical and production problems persist in the areas affected by the conflict. Other factors that affected grain prices were adverse weather conditions in South America.

One factor that limited the rise in grain prices and put downward pressure on the price of other foodstuffs was the fall in the price of fertilizers. This drop is partly explained by the decrease in the price of natural gas and by greater accessibility to the supply of the countries in conflict. Despite this, however, fertilizer prices remain at higher levels than before the war, and there is a risk that fertilizers exported by Russia and Belarus may face new marketing sanctions.

Graph 30
GREEN MARKETS NORTH AMERICA FERTILIZER PRICE INDEX
(Index, Jan 07, 2002=100)



Source: Reuters.

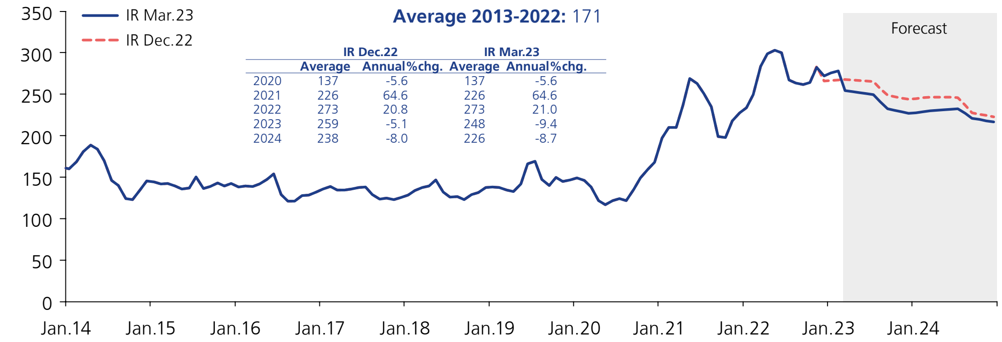
(a) The price of **maize** increased by 2 percent in the last two months and recorded an average monthly price of US$ 276 the ton in February 2023. The price of maize accumulated an increase of 19 percent at the end of 2022 with respect to December 2021.

This price increase was basically associated with fears of lower production for the 2022/2023 season, in a context of low inventories. On the one hand, production prospects in South America for the 2022/2023 season deteriorated, particularly in Argentina, due to poor crop conditions caused by the drought associated with La Niña event and to unusual frosts and snowfalls in February. Lower planted area was also reported in the United States and Europe. In addition, a 28.7 percent drop in grain exports has been recorded so far in the case of Ukraine in the 2022/23 season[4], as these exports have been affected by a lower crop and logistical difficulties caused by the Russian invasion.

Despite these developments, the price forecasts for the projection horizon have been revised down due to the prospects of a better production in the United States in the 2023/2024 season –in view of the favorable weather conditions expected– and the seasonal entry of the South American crop, which will keep the world market well supplied in the coming months. In addition, it is also assumed that the grain export corridor through the Black Sea will continue functioning.

4 According to the Ministry of Agriculture.

Graph 31
CORN: JANUARY 2014 - DECEMBER 2024
(US$/ton)



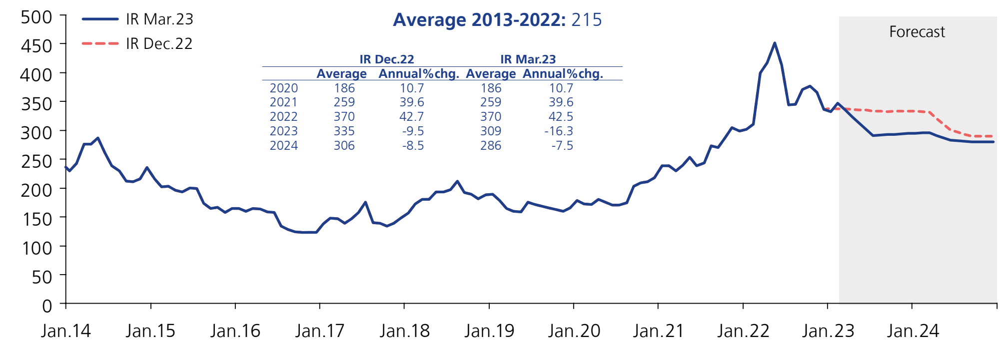
Source: Reuters and BCRP.

(b) Since the last Report, **wheat** prices have increased by 2 percent, reaching a level of US$ 344 the ton in February 2023. In December 2022, wheat prices had accumulated an increase of 13 percent with respect to the end of 2021.

Wheat prices increased due to a deterioration in the supply outlook, associated with fears of a low quality winter wheat crop in the United States due to the drought that has been affecting the producing areas. The increase has occurred in a context of a still tight world market, which is reflected in low inventory levels: world inventories for the 2022/23 season would be reduced to a four-year low, while inventories in the main exporting countries would be at a nine-year low. On the demand side, an increase is observed in U.S. consumption.

The wheat price estimated for the forecast horizon has been revised down from the price forecast in the December Report. As in the case of maize, improved conditions are expected for the following 2023/24 season, in line with the strong increase in wheat planted areas.

Graph 32
WHEAT: JANUARY 2014 - DECEMBER 2024
(US$/ton)



Source: Reuters and BCRP.

However, risks are skewed to the upside since the global wheat market is still tight and vulnerable to possible disruptions in trade flows from the Black Sea region.

(c) After accumulating an increase of 7 percent in 2022, the price of **soybean oil** recorded an average of US$ 1,398 the ton in February 2023, 7 percent lower than the price in December 2022 (US$ 1,508).

The average price of soybean oil decreased due to increased production in the United States and Brazil (which offset the lower supply from Argentina) and lower world demand for imports due to the replenishment of inventories made in previous months by the main soybean oil importing countries. There was also a greater supply of substitute oils and a recovery of sunflower oil exports from Ukraine. Finally, another factor that also contributed to the price drop was the U.S. Environmental Protection Agency's decision to increase the proportion of biofuel use by only 1 percent in the 2023-2025 period and to allow the use of rapeseed (canola) oil for such use.

Considering these recent developments, prices are projected to trade below the previous report's estimate. The main uncertainty in this projection lies in the evolution of oil prices and the impact of weather conditions on planting in South America.

Graph 33
SOYBEAN OIL: JANUARY 2014 - DECEMBER 2024
(US$/ton)

	IR Dec.22		IR Mar.23	
	Average	Annual%chg.	Average	Annual%chg.
2020	690	8.1	690	8.1
2021	1,417	105.3	1,417	105.3
2022	1,647	16.2	1,635	15.4
2023	1,475	-10.5	1,329	-18.7
2024	1,336	-9.4	1,258	-5.3

Source: Reuters and BCRP.

II. Balance of payments

Balance of external accounts

20. The **current account** recorded a deficit of 4.3 percent of GDP in 2022. This higher defici than that observed in 2021 (2.3 percent of GDP) reflected the high international prices of food and energy, the increase in the volume of imported goods, higher payments abroad for freight and lower prices of industrial metals, in a context of a slowdown in global growth. This trend was limited by the lower deficit in primary income due to the lower profits of companies with foreign direct investment (FDI) in the country.

Table 8
BALANCE OF PAYMENTS
(Millions US$)

	2022	2023*		2024*	
		IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
I. CURRENT ACCOUNT BALANCE	**-10,644**	**-7,026**	**-3,898**	**-5,772**	**-2,343**
% GDP	*-4.3*	*-2.7*	*-1.4*	*-2.0*	*-0.8*
1. Trade Balance	**9,565**	**7,538**	**13,844**	**7,812**	**14,233**
a. Exports	65,835	65,125	68,179	67,027	70,327
Of which:					
i) Traditional	*47,348*	*44,901*	*48,600*	*45,119*	*49,289*
ii) Non-Traditional	*18,232*	*19,977*	*19,351*	*21,682*	*20,820*
b. Imports	56,269	57,587	54,334	59,215	56,094
2. Services	-8,295	-6,831	-6,847	-5,538	-5,388
3. Primary income (factor income)	-17,367	-13,277	-16,515	-13,555	-16,700
4. Secondary income (transfers)	5,452	5,545	5,620	5,509	5,513
Of which: Remittances	3,724	3,869	3,873	3,985	3,989
II. FINANCIAL ACCOUNT 1/	**-8,562**	**-7,026**	**-6,699**	**-7,172**	**-4,843**
1. Private sector	-9,527	-4,861	-4,512	-4,837	-2,524
a. Long term	*-14,055*	*-4,861*	*-4,512*	*-4,837*	*-2,524*
b. Short-term	*4,528*	*0*	*0*	*0*	*0*
2. Public sector 2/	965	-2,165	-2,187	-2,335	-2,319
III. NET ERRORS AND OMISSIONS	**-3,007**	**0**	**0**	**0**	**0**
IV. BALANCE OF PAYMENTS	**-5,089**	**0**	**2,801**	**1,400**	**2,500**
IV= (I+III) - II = (1-2)					
1. Change in NIR balance	-6,612	0	2,801	1,400	2,500
2. Valuation effect	-1,523	0	0	0	0

1/ The financial account and its components (private and public sector) are expressed as assets net of liabilities. Therefore, a negative sign implies an inflow of external capital.
2/ Considers the purchase and sale between residents and non-residents of government bonds issued abroad or in the local market.
I.R.: Inflation Report.
* Forecast.
Source: BCRP.

The 2023 current account is expected to show a lower deficit than in 2022, reflecting the recovery of the terms of trade, the correction of freight costs and the slow down in domestic demand. In 2024, the deficit would continue to decrease, considering a recovery of the world economy and the lower incidence of global supply shocks on international trade, as these factors that would positively affect the trade surplus and the services deficit, respectively. The reduction in the deficit considered for the projection horizon would be greater than that foreseen in the previous Report, due to the impact of the projected increase in the terms of trade and higher expectations of global economic growth in 2023 on the balance of goods.

21. The **financial account** in 2022 recorded an external financing flow of US$ 8,562 million (3.5 percent of GDP). The increase in the net debtor position was lower than in 2021 due to: (i) lower sales of external portfolios assets, mainly due to lower liquidity requirements by AFPs; (ii) lower demand for government financing, in a context of economic recovery and a better health scenario, and (iii) the sale of sovereign bonds by non-residents.

Net capital inflows in 2023 are expected to be lower than in 2022, in line with a lower deficit in the current account and lower demand for external financing. The trend is expected to continue in 2024, given the downward projection of private investment for the projection horizon.

Terms of trade and trade balance of goods

22. In 2022 the **terms of trade** recorded a contraction of 10.4 percent. This is explained by the higher increase in import prices –notably imports of oil, food and industrial inputs– than that observed in export prices amid a context marked by the withdrawa of global monetary stimulus, slowing global economic growth, supply chain disruptions and geopolitical conflicts. The 2022 decline was the largest in the last fourteen years.

In 2023, the terms of trade are estimated to grow 3.9 percent, which contrasts with the 4.2 percent decline projected in the December Report. The current forecast incorporates a revision on the upside for industrial metal prices, as a result of a more optimistic outlook for China's growth and disruptions in production because of extraordinary reasons. In addition, oil prices are projected to remain at similar levels to current levels, which implies a lower price compared to the previous report. Finally, lower food prices are also expected, mainly for wheat and maize, due to the increase in U.S. production.

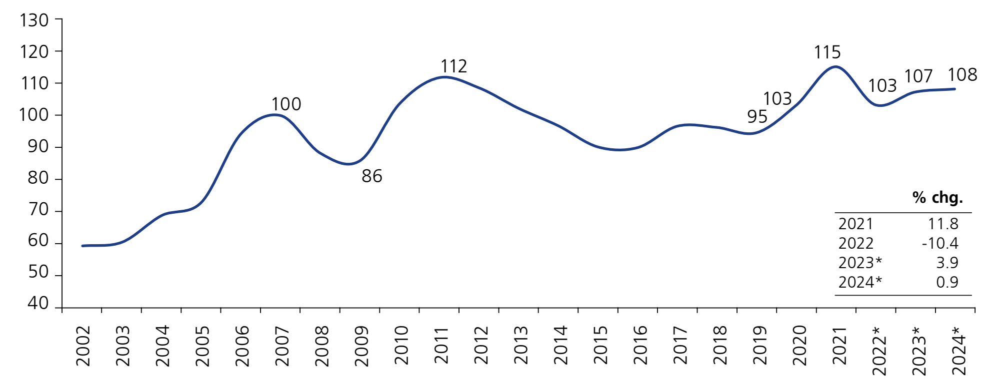
The terms of trade would grow 0.9 percent in 2024, a rate similar to that forecast in the December Report (1.0 percent). A higher gold price –due to the persistence of contractionary monetary policies– is expected, which would boost the price of exports. However, this effect would be offset by the slight recovery in the price of imported goods, which contrasts with the price fall expected in the previous Report.

Table 9
TERMS OF TRADE: 2022 - 2024

	2022	2023*		2024*	
		IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
Terms of Trade					
% chg. annual (Average)	**-10.4**	**-4.2**	**3.9**	**1.0**	**0.9**
Price of Exports					
% chg. annual (Average)	**1.8**	**-6.6**	**-0.7**	**0.9**	**1.2**
Copper (US$ cents per pound)	*400*	*358*	*400*	*355*	*397*
Zinc (US$ cents per pound)	*158*	*129*	*137*	*120*	*131*
Lead (US$ cents per pound)	*98*	*92*	*95*	*86*	*81*
Gold (US$ per troy ounce)	*1,801*	*1,743*	*1,857*	*1,819*	*1,942*
Price of Imports					
% chg. annual (Average)	**13.7**	**-2.4**	**-4.4**	**-0.2**	**0.3**
Oil (US$ per barrel)	*95*	*81*	*76*	*74*	*72*
Wheat (US$ per ton)	*370*	*335*	*309*	*306*	*286*
Maize (US$ per ton)	*273*	*259*	*248*	*238*	*226*

* Forecast.
Source: BCRP.

Graph 34
TERMS OF TRADE, 2002-2024
(Index 100 = 2007)

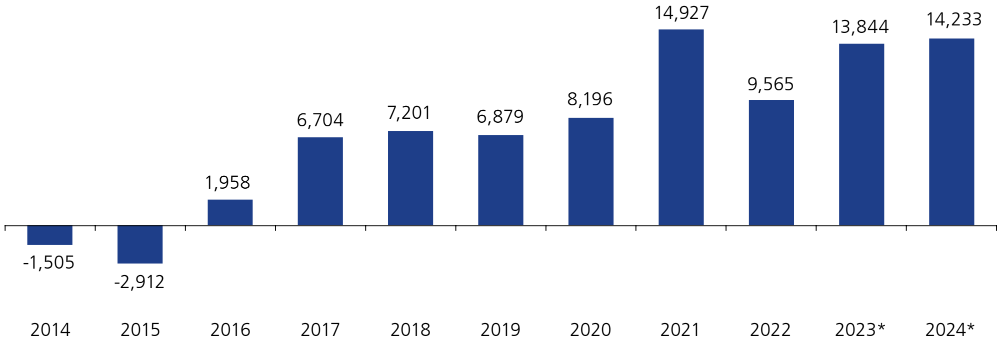


* Forecast.
Source: BCRP.

23. The **goods trade balance** showed a surplus of US$ 9,565 million in 2022, US$ 5,362 million lower than that recorded in the same period of 2021 (US$ 14,927 million). This lower balance is explained by the contraction in the terms of trade, attributed to the increase in the prices of oil, food and industrial inputs, which influenced the higher price paid for imported goods. In addition, in a context of a tightening of monetary policy at the global level, lower primary production and the weakening of global demand for our exports contributed to this result as well.

The trade balance is projected to amount to US$ 13.8 billion in 2023 and US$ 14.2 billion in 2024, showing higher surpluses than thsose forecast in the December Report, with higher terms of trade levels over the forecasts horizon and lower demand for imported products in 2023 accounting for this revision on the upside.

Graph 35
BALANCE OF TRADE IN GOODS, 2014-2024
(Millions US$)



* Forecast.
Source: BCRP.

24. **Exports** amounted to US$ 65,835 million in 2022, a balance US$ 2,684 million higher than recorded in 2021 (growth of 4.3 percent). This increase is mainly due to the higher value of shipments of non-traditional products (11.4 percent year-on-year), driven by the higher prices and volume of fishery, chemical, iron and steel, and non-metallic mining products. On the other hand, growth in the value of traditional exports (1.6 percent year-on-year) contributed to a lesser extent, as the fall in prices –mainly the price of copper– offset the higher volume shipped.

    The forecast of export volumes for 2023 incorporates the gradual recovery of mining production from Las Bambas and Cuajone, as well as the production of projects that started activities such as Quellaveco, while the estimate for 2024 is consistent with the evolution of world growth. Compared to the previous Report, the higher levels of export value expected in both years are supported by a higher average export price in 2023 and higher growth in 2024. However, production stoppages at some copper, gold and zinc mines caused by social protests in early 2023 are likely to have a negative impact on annual growth in the volume of exported goods.

25. **Imports** totaled US$ 56,269 million in 2022, which represents an increase of US$ 8,046 million (16.7 percent) over the previous year. This increase is in line with the rise in the international prices of oil, industrial inputs and food following the geopolitical conflict between Russia and Ukraine.

    The value of imports in 2023 is expected to decrease 3.4 percent due to the correction in input prices. The lower value of imports compared to the December Report is associated with the slowdown in the growth of the volume of imported goods as a result of a lower dynamism of domestic demand, and with a higher rate of contraction in the price of oil imports and imports of food, such as wheat, soybean oil and maize. On the other hand, the value of imports in 2024 is expected to grow at a higher rate (3.2 percent) than estimated in the previous report because of lower estimated declines in the import prices of petroleum, wheat and soybean oil.

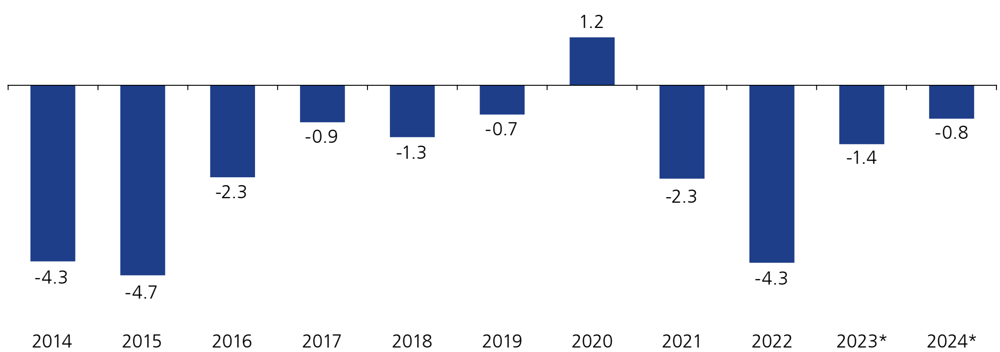
Current account

26. The **current account balance** went from a deficit of 2.3 percent of GDP in 2021 to a deficit of 4.3 percent in 2022. This higher deficit reflected: (i) the increase in the value of imports, mainly associated with high international food and energy prices and, to a lesser extent, with higher import volumes, and (ii) the widening of the services deficit, explained by higher freight and travel expenditures, given the gradual resumption of international flights in light of the easing of sanitary restrictions.

The current account deficit is expected to narrow to 1.4 percent of GDP in 2023, mainly due to an improvement in the trade balance as a result of an increase in the terms of trade and lower domestic demand. The reduction in the services deficit, given the contraction in freight costs, and the lower deficit in primary income, will also contribute to the expected reduction in the current account deficit. In 2024 the deficit is expected to continue narrowing to 0.8 percent of GDP.

Compared to the previous Report, the current estimates for 2023 and 2024 incorporate a higher trade surplus. In the case of 2023, this change reflects the reduction in the value of imports due to a revision on the downside of both the growth of volume, mainly in industrial inputs and food –given a more moderate growth in domestic demand and incomes– and in the growth of prices, as well as an increase in the value of exports as the average price of products exported abroad is projected to decrease less than expected in the December Report. The revision in the case of 2024 is due to a higher projected level of export prices.

Graph 36
CURRENT ACCOUNT, 2014-2024
(Percentage of GDP)



* Forecast.
Source: BCRP.

The current forecasts for the services account consider a faster correction in freight costs, as observed as of the fourth quarter of 2022. However, lower outflows from reduced transportation costs would be offset by lower inbound tourism revenues, considering the closure of airports and land terminals registered at the beginning of the year.

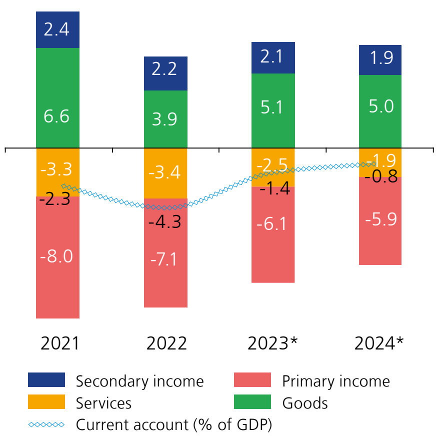
27. The year-on-year increase in the current account deficit can be broken down into two main factors: that attributed to domestic absorption (higher nominal demand for foreign goods and services) and that related to the return paid to factors of production (foreign capital) and foreign debt instruments.

The widening of the deficit in 2022 responded to higher domestic absorption (2.8 p.p.), specifically due to a negative price effect: 2.3 p.p. related to goods (terms of trade) and 0.5 p.p. linked to services (freight). The lower deficit in the forecasts horizon is expected to be supported by a positive contribution of domestic absorption in 2023 and 2024: the price effect would be positive in both years due to the recovery of the terms of trade and the correction of freight costs.

For its part, the yield paid on net external liabilities would not affect the current account result in 2023, since the effect of lower profits, after the expected correction in the price of exports, would offset higher interest payments on medium and long-term debt.

Table 10
DETERMINANTS OF THE VARIATION IN THE CURRENT ACCOUNT DEFICIT, 2021-2024

CURRENT ACCOUNT
(% GDP)



* Forecast.

CHANGE IN DEFICIT
(p.p. of GDP)

	2022/ 2021	2023/ 2022	2024/ 2023
A. Domestic absorption	**-2.8**	**-2.1**	**0.5**
1. Price Effect	**-2.8**	**-1.4**	**0.4**
1.1 Terms of Trade	-2.3	-0.8	0.2
1.2 Freight	-0.5	0.7	0.2
2. Volume effect	**-0.1**	**0.7**	**0.1**
2.1 Goods	-0.4	0.5	-0.4
2.2 Services*	0.3	0.2	0.5
B. Yield paid on net external liabilities	**0.5**	**0.0**	**0.3**
1. Foreign Direct Investment	**0.6**	**0.3**	**0.2**
2. Medium and long-term debt	**-0.1**	**-0.3**	**0.1**
C. Other**	**0.3**	**0.8**	**-0.2**
TOTAL (A + B + C)	**-2.1**	**2.9**	**0.6**

* Includes changes in the volume of Transport and changes in the volume and price of non-transport services.
** Includes the variation of current transfers.
Source and Preparation: Economic Analysis Department.

28. According to data up to the fourth quarter of 2022, the current account deficit of most countries in the region continued to widen. In Mexico and Chile, this increase is mainly explained by the widening of the trade deficit resulting from the fall in the terms of trade. In Brazil, it is due to the increase in the services deficit and in the primary income account; while in Colombia, the current account result is explained by the primary income deficit.

Table 11
CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS
(Annualized, percentage of GDP)

	2019	2020	2021	2022	2023*
Brazil	-3.6	-1.9	-2.9	-2.9	-2.5
Chile	-5.2	-1.7	-6.6	-9.0	-4.9
Colombia	-4.6	-3.4	-5.6	-6.3	-3.9
Mexico	-0.3	2.5	-0.6	-0.9	-0.2
Peru	-0.7	1.2	-2.3	-4.3	-1.4

* Projection. For Brazil, approximated using the latest central bank projections in billions of dollars for the current account and 2022 growth for GDP.
Source: Central banks of each country.

Financial account

29. The 2022 **financial account** showed a net capital inflow of US$ 8,562 million, equivalent to 3.5 percent of GDP. This financing flow was US$ 7,065 lower than in 2021, which is mainly explained by lower public sector financing due to the absence of General Government bond issuances and the net sale of sovereign bonds acquired by non-residents.

The lower net inflow of long-term private capital resulting from lower sales of external portfolios assets and the low level of bonds issued by resident companies in international markets contrtbuted as well, but to a lesser extent.

A lower increase in the financial account debit position is expected in 2023 compared to 2022, which is explained by lower net long-term financing to the private sector. Likewise, a lower requirement for external liabilities (loans and bonds) is expected given the projection of private investment. In 2024, the private sector is expected to record lower long-term loans. As a result, the increase in total external financing would be lower at the end of the forecast horizon, in line with a smaller current account deficit.

The flow of financing for 2023 and 2024 has been revised down compared to the previous Report due to a lower expected increase in the net debit position of the long-term private financial account, consistent with the lower levels of private investment projected.

30. **Long-term private sector external financing** totaled US$ 14,055 million during 2022, US$ 2,620 million less than in the previous year. This result is explained by the slower pace of sales of external portfolio assets –given the AFP's reduced need for liquidity– and the reduced number of bond issuances that resident companies made in international markets.

Private financial inflows in 2023 would be lower than in 2022 due to the resumption of purchases of external portfolio assets, a reduction in net lending –lower disbursements and higher amortizations– and a fall in FDI liabilities –mainly reinvestment. In 2024, private capital inflows would decrease as a result of lower long-term loans and a greater increase in portfolio investment.

Table 12
FINANCIAL ACCOUNT OF THE PRIVATE SECTOR [1/]
(Millions US$)

	2021	2022	2023*		2024*	
			IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
PRIVATE SECTOR (A + B)	**-37**	**-9,527**	**-4,861**	**-4,512**	**-4,837**	**-2,524**
% GDP	*0.0*	*-3.9*	*-1.8*	*-1.7*	*-1.7*	*-0.9*
A. LONG TERM (1 - 2)	**-16,675**	**-14,055**	**-4,861**	**-4,512**	**-4,837**	**-2,524**
1. ASSETS	**-8,731**	**-2,705**	**2,964**	**2,925**	**3,300**	**3,458**
Direct investment	1,735	-194	868	1,227	445	565
Portfolio investment [2/]	-10,466	-2,511	2,096	1,698	2,855	2,892
2.LIABILITIES [3/]	**7,944**	**11,350**	**7,824**	**7,437**	**8,137**	**5,981**
Direct investment	7,455	10,602	8,404	8,885	8,796	9,130
Portfolio investment [4/]	1,097	-848	865	200	900	0
Long-term loans	-608	1,596	-1,445	-1,648	-1,559	-3,148
B. SHORT-TERM	**16,638**	**4,528**	**0**	**0**	**0**	**0**

1/ Expressed in terms of assets net of liabilities. Thus, an inflow of capital has a negative sign. An increase (a fall) in an external asset has a positive (negative) sign.
2/ Includes equities and other foreign assets of the financial and non-financial sector. Includes financial derivatives.
3/ A positive sign corresponds to an increase in net external liabilities.
4/ Considers the net purchase of shares by non-residents through the Lima Stock Exchange (BVL), registered by CAVALI. Includes bonds and similar.
* Forecast.
Source: BCRP.

Compared to the previous Report, the projection for the long-term private financial account includes: (i) a higher flow of FDI assets in 2023 and 2024 and (ii) lower bond issuances in international markets in 2023 and 2024, as a result of the revision of private investment in these years on the downside. Considering these factors, the current forecasts for both years imply lower net debt positions than those considered in the December Report.

31. **Public sector external financing** was negative by US$ 965 million during 2022, in contrast to the debit position of US$ 15.59 billion in 2021. This is mainly explained by lower issuances of securities by the General Government and non-financial public sector companies and, to a lesser extent, by the net sale of sovereign bonds held by non-residents, lower loan disbursements, as well as by a base effect on the BCRP's liabilities, given that in 2021 the IMF allocated Special Drawing Rights (SDR) for a total of US$ 1,811 million.

The flow of financing to the public sector is projected to recover in 2023, as a result of non-residents' resumption of sovereign bond purchases, considering a context of lower local uncertainty. The increase in the public sector's debt position would be slightly higher in 2024, an effect explained by an acceleration in the pace of sovereign bond purchases by non-residents, offset in part by lower disbursements.

Compared to the previous Report, the flow of financing to the public sector is projected to be similar in 2023. This projection incorporates higher disbursements due to an updated schedule of disbursements of loans arranged with international organizations, which would be counterbalanced by lower bond purchases by non-residents in a context of global uncertainty. The forecast for the net debit position of the financial account in 2024 remains at similar levels to those expected in December.

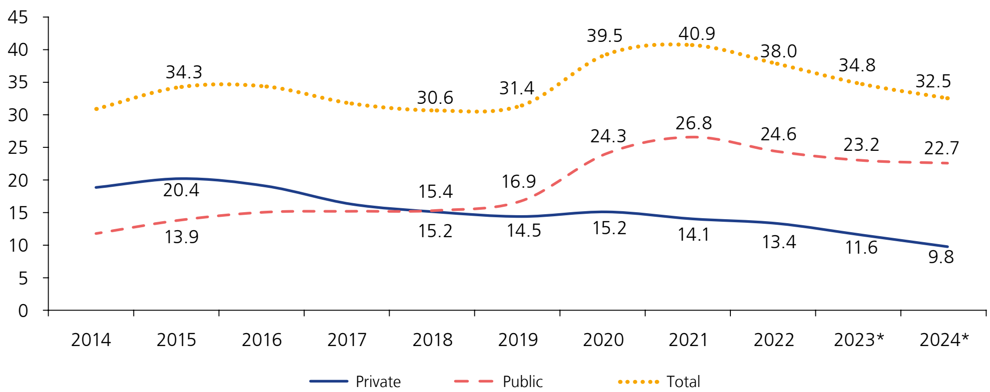
Table 13
FINANCIAL ACCOUNT OF THE PUBLIC SECTOR [1/]
(Millions US$)

	2021	2022	2023*		2024*	
			IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
I. ASSETS	**57**	**-139**	**140**	**221**	**140**	**140**
II. LIABILITIES (1 + 2 + 3) [2/]	**15,647**	**-1,104**	**2,305**	**2,408**	**2,475**	**2,459**
1. Portfolio investment	**11,481**	**-1,880**	**2,147**	**1,014**	**1,466**	**1,450**
Issuance	11,172	600	0	0	0	0
Amortizations	0	-658	-173	-173	-391	-389
Other operations (a - b) [3/]	310	-1,822	2,320	1,187	1,857	1,839
a. Sovereign bonds purchased by non-residents	-316	-1,888	2,320	1,192	1,857	1,839
b. Global bonds purchased by residents	-626	-66	0	4	0	0
2. Loans	**2,354**	**777**	**158**	**1,394**	**1,009**	**1,009**
Disbursements	2,789	1,837	1,241	2,475	2,031	2,031
Amortizations	-435	-1,060	-1,083	-1,081	-1,021	-1,021
3. BCRP: other operations [4/]	**1,811**	**0**	**0**	**0**	**0**	**0**
III. TOTAL (I - II)	**-15,590**	**965**	**-2,165**	**-2,187**	**-2,335**	**-2,319**

1/ Medium and long-term debt. Therefore, an inflow of capital has a negative sign. An increase (a fall) of an external asset has a positive (negative) sign.
2/ A positive sign corresponds to an increase in external liabilities.
3/ For the purchase and sale between residents and non-residents of government bonds issued abroad or in the local market.
4/ Includes Special Drawing Rights (SDR) allocations.
* Forecast.
Source: BCRP.

32. The balance of the **private sector's medium- and long-term external debt** is expected to fall from 13 percent of GDP in 2022 to 10 percent at the end of the projection horizon, the lowest level in the last 10 years. For its part, **public external debt** would fall from 25 to 23 percent over the same period.

Graph 37
BALANCE OF MEDIUM AND LONG-TERM EXTERNAL DEBT
(Percentage of GDP)



* Forecast.
Source: BCRP.

Net International Reserves

33. As of March 22, **net international reserves** had accumulated an increase of US$ 2,421 million with respect to the end of 2022, thus amounting to US$ 74,305 million.

This higher balance, which results mostly from an increase in the balance of deposits of financial intermediaries, particularly banks, was slightly offset by the sale of dollars to the public sector.

The level of international reserves considered over the projection horizon can cover more than 5 times the balance of short-term external liabilities and 4 times the sum of these liabilities plus the current account deficit. In addition, Peru has a successor arrangement to the IMF's Flexible Credit Line (FCL), for up to approximately US$ 5.4 billion to face eventual contingencies. The agreement seeks to strengthen the economy's resilience in the face of global uncertainty due to fears of a recession and tighter international financial conditions that have been affecting economic activity and inflation at the global level.

Graph 38

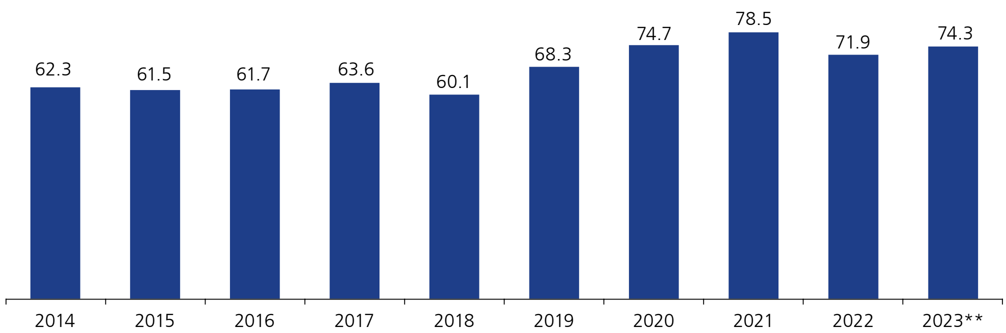
NET INTERNATIONAL RESERVES, 2014 - 2023

(Billions US$)

	2019	2020	2021	2022*	2023*	2024*
Reserves as a percentage of:						
a. GDP	29.4	36.3	34.7	29.4	27.8	27.1
b. Short-term external debt	498	543	589	503	512	529
c. Short-term external debt plus current account deficit	444	657	424	288	404	456

1/ Includes the balance of short-term debt plus one-year amortizations of the private and public sector.

* Forecast.



** As of March 22, 2023.
Source: BCRP.

III. Economic activity

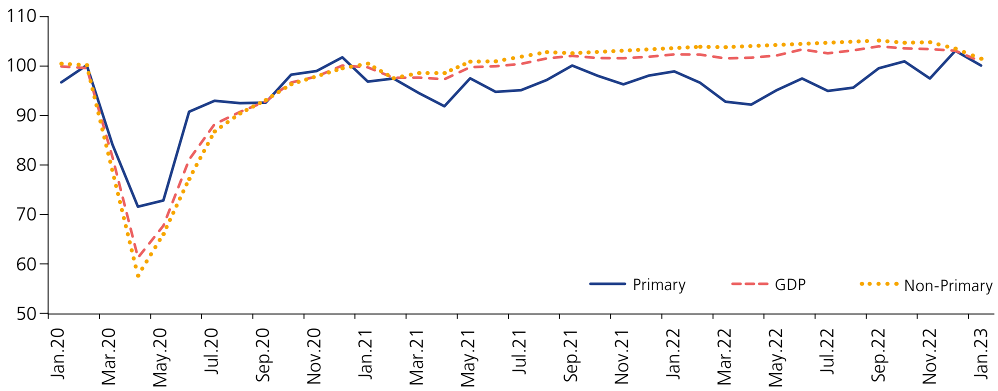
Sectoral GDP

34. Economic activity grew 2.7 percent in 2022, recording a 0.6 percent growth rate in primary activities, driven by the recovery of production in the sectors of agriculture and hydrocarbons. In addition, the improvement in the health situation with respect to 2021 also contributed to a 3.2 percent increase in non-primary activity, mainly in sectors such as trade and services., although this recovery in activity was offset by the declines observed in some primary sectors such as metal mining, fishing and primary manufacturing. Social conflicts and lower ore grades contributed to the decline in the case of mining, while fishing was affected by the lower catch of species for human and industrial consumption, which in turn had an impact on primary manufacturing, which recorded a lower production of fishmeal and fish oil and canned and frozen fish products.

Additionally, the social conflicts observed between December 7 and 25, 2022, mainly in southern regions of the country, affected economic activity in non-primary sectors such as services, trade and manufacturing, and resulted in a lower GDP for the year than expected in the December Report (2.9 percent).

The monthly seasonally adjusted indicator of economic activity has contracted consecutively in recent months. While this indicator was 3.4 percent above the pre-pandemic level (fourth quarter of 2019) at the close of 2022, in January 2023 it declined again and was 1.2 percent above the pre-pandemic level. The drop seen last month is attributed to the impact of social conflicts on economic activity (see Box 1).

Graph 39
SEASONALLY ADJUSTED ECONOMIC ACTIVITY INDEXES
(Base 100 = 4Q-2019)



Source: BCRP.

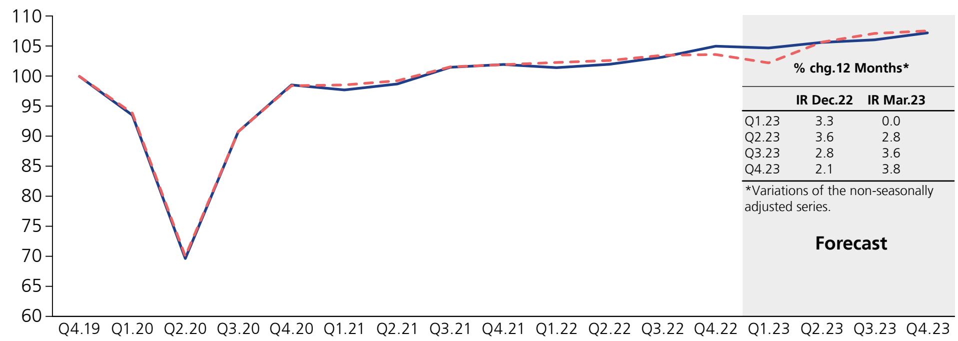
35. In 2023, the economy is expected to grow 2.6 percent due to the expected recovery of the primary sectors, mainly metal mining: a positive effect is estimated from projects that have recently come into operation, such as Quellaveco, and from the reactivation of mines that halted operations in 2022. However, the pace of growth in most non-primary sectors is expected to slow down due to the lower dynamism of private consumption and public investment that is usually observed in the first year in office of the new subnational authorities. In 2024, economic activity is expected to grow 3.0 percent, as tourism and restaurant activities are expected to reach their pre-pandemic levels.

Table 14
GDP BY ECONOMIC SECTORS
(Real % change)

	2021	2022	2023*			2024*	
			January	IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
Primary GDP	**6.4**	**0.6**	**1.2**	**6.3**	**5.1**	**2.8**	**3.0**
Agriculture and Livestock	4.6	4.3	1.9	2.4	2.2	2.7	2.7
Fishing	9.9	-13.7	33.0	11.6	5.0	3.5	3.5
Metallic mining	10.5	-0.2	-3.6	8.6	7.0	2.8	3.1
Hydrocarbons	-4.6	4.0	-3.5	4.7	4.7	4.9	4.9
Manufacturing	3.2	-2.9	13.3	6.9	5.3	2.0	2.0
Non-primary GDP	**15.7**	**3.2**	**-1.8**	**2.0**	**1.9**	**3.1**	**3.1**
Manufacturing	25.2	2.3	-3.3	2.0	1.0	3.0	3.0
Electricity and water	8.5	3.9	3.3	5.0	4.6	3.9	3.9
Construction	34.9	3.0	-11.7	1.3	1.0	3.2	3.2
Trade	17.8	3.3	1.2	2.4	2.2	3.5	3.5
Services	11.9	3.4	-1.2	2.0	2.1	2.9	2.9
Gross Domestic Product	**13.6**	**2.7**	**-1.1**	**2.9**	**2.6**	**3.0**	**3.0**

IR: Inflation Report.
* Forecast.
Source: BCRP.

Graph 40
GDP FORECAST, 2019-2023
(Seasonally adjusted index, 4Q2019 = 100)



	Q4.19	Q1.20	Q2.20	Q3.20	Q4.20	Q1.21	Q2.21	Q3.21	Q4.21	Q1.22	Q2.22	Q3.22	Q4.22	Q1.23	Q2.23	Q3.23	Q4.23
IR Dec.22	100	94	69	91	99	98	99	102	102	101	102	103	105	105	106	106	107
IR Mar.23	100	94	70	91	98	99	99	102	102	102	103	104	104	102	106	107	108

Source: BCRP.

The growth forecasts for 2023 have been revised on the downside with respect to the previous report (2.9 percent), taking into account the economic impact of the conflicts resulting from the political tensions that restarted on January 4 and the effect of the rains recorded in the second week of March. Social unrest directly affected activity in agriculture, mining, commerce and some services such as tourism, due to the blocking of roads and the closure of land terminals and airports. In addition, business and consumer confidence was negatively affected, which moderated private spending.

a) The **agriculture sector** grew 4.3 percent in 2022, mainly as a result of higher agricultural production oriented to the foreign market (blueberries, olives, mangos, grapes, avocados and cocoa) under favorable weather conditions that improved the yields of these products.

   In 2023, the sector is expected to grow 2.2 percent, less than expected in the previous report (2.4 percent), due to a slowdown of activity in the livestock subsector as a result of the problems associated with avian flu in the first quarter of the year and to the lower availability of soybean because of a lower supply from Bolivia. A growth rate of 2.7 percent is expected in 2024, considering a recovery of agriculture for the domestic market under a scenario of lower fertilizer prices.

   After recording a water deficit until November 2022, water storage in coastal reservoirs has been recovering steadily. As of March 13, storage in the main reservoirs already outweighed 50 percent of the 5-year average on the same date.

b) Activity in the **fishing sector** decreased by 13.7 percent in 2022, mainly due to lower catches of anchovy for indirect human consumption (-21.9 percent) and lower catches of species for direct human consumption (-11.4 percent).

   On the one hand, the lower catch of *anchoveta* was the result of a lower quota balance that was left for the second season of 2021 in the north-central zone, the establishment of targeted fishing bans and the suspension of the first fishing season of 2022 in the same zone –after reaching the quota planned for fishing juvenile fish– and the late start of the second fishing season. On the other hand, the lower output of fish for direct human consumption was the result of a significant reduction in landings of species such as scallops (-53.6 percent), perico (-11.8 percent), squid (-11.6 percent) and other species due to the negative effect of sea temperature anomalies observed during the year[5] .

   In 2023, output in the sector would grow 5.0 percent, a lower rate than forecast in the previous report (11.6 percent), given the sea surface temperature anomalies that are expected to persist until mid-fall. The growth forecast for 2024 remains unchanged at 3.5 percent.

c) In 2022, output in the sector of **metal mining** decreased 0.2 percent due to (i) the lower extraction of zinc (-10.7 percent), mainly due to lower production from Compañía Minera Los Quenuales as a result of the depletion of the Iscaycruz unit and the lower production of Nexa and Antamina due to lower ore grades; (ii) the lower extraction of silver (-7.6 percent) due to lower production from Los Quenuales, Ares and Buenaventura as a result of the suspension of operations at the Uchucchacua unit due to the implementation of measures to improve operating efficiency; and (iii) the lower extraction of molybdenum (-7.5 percent), due to lower production from Southern and Las Bambas.

5 The ENFEN Warning System upgraded the warning of El Niño episode to "Coastal La Niña Warning" in February, and between May and November 2022.

In contrast, copper production was higher (4.1 percent) as a result of the start of production at Quellaveco and higher extraction at most of the mines, with the exception of Antapaccay, Southern and Las Bambas. The latter two mines halted operations for more than 50 days during the year because of social conflicts.

In 2023, the sector is expected to grow 7.0 percent, driven by higher production from Quellaveco. The revision on the downside of the forecasts for the year is associated with the impact of social conflicts on production in the first two months of the year and with lower production plans announced by the companies. A growth rate of 3.1 percent is expected for 2024 due to higher molybdenum extraction from Quellaveco.

d) Activity in the **hydrocarbons** sector's in 2022 recorded a growth rate of 4.0 percent compared to 2021 due to higher oil and natural gas extraction. Oil production was boosted by increased extraction at lot 95 due to the drilling of new wells, while natural gas extraction increased due to higher domestic demand (lot 88) and higher external demand (lots 56 and 57).

In the months of January and February 2023, oil production was affected by the lower extraction of lot 95, due to the lower availability of barges and the standstill of the pipeline operations. However, as of March 9, the lot produced at a rate of 19 mbd due to the greater availability of barges. Moreover, after stopping operations in 2020, lots 192 and 8 continue not to operate. Likewise, lot 67 has been standstill since October 2022 due to social problems. On the other hand, compared to the same quarter of 2022, natural gas extraction would increase due to higher domestic demand.

In 2023, the sector is expected to grow 4.7 percent considering a normalization of natural gas and natural gas liquids production. In 2024, the sector would grow 4.9 percent due to higher production from jungle lots following the normalization of oil extraction.

e) Activity in the **primary manufacturing** subsector fell 2.9 percent in 2022, mainly due to lower production of fishmeal and fish oil, as well as to lower hydrocarbon refining.

The growth forecast for the subsector in 2023 has been revised down, from 6.9 to 5.3 percent, considering lower fishing activity. On the other hand, an increase of 2.0 percent is expected for 2024.

f) Ouput in **non-primary manufacturing** grew 2.3 percent in 2022. This result was mainly due to higher production of investment-oriented and input-oriented goods, an increase being observed in the production of metal products and food preserves, respectively. This was in part offset by lower output in the branches of mass consumer goods, such as furniture and miscellaneous manufactured goods.

Non-primary manufacturing growth forecasts for 2023 have been revised down, from 2.0 to 1.0 percent. Despite this, however, the subsector's output would still be above pre-pandemic levels. A year-on-year growth rate of 3.0 percent is also expected for 2024.

g) The **construction** sector recorded a growth rate of 3.0 percent in 2022, mainly due to the higher execution of public works. During this period, domestic consumption of cement –the main indicator of the sector's activity– decreased 0.7 percent compared to 2021.

Since social conflicts would have affected cement dispatches during the first quarter of 2023, the sector's growth forecast for 2023 is revised on the downside to 1.0 percent, which is consistent with the downward revision on private investment. In 2024, construction is forecast to grow 3.2 percent, driven by higher investment.

h) In 2022, the **trade** sector grew 3.3 percent, driven by higher wholesale sales (3.4 percent), retail sales (2.3 percent), and sales of motor vehicles and motorcycles (4.6 percent), all of which grew after visitor capacity restrictions were lifted. The slowdown in the sector's growth observed in December 2022 would be associated with the social conflicts recorded in that month.

In 2023, the sector's activity is expected to increase 2.2 percent, while in 2024, it is expected to grow 3.5 percent.

i) Activity in the **services** sector grew 3.4 percent in 2022, boosted by the elimination of curfews and restrictions on visitor capacity in establishments as well as by mass vaccination.

The main service branches that explain the sector's dynamism during the year were: (i) lodging and restaurants (23.2 percent); (ii) transportation and storage (10.2 percent) due to increased air and land passenger transportation as a result of the elimination of travel restrictions, and (iii) other services (5.4 percent). On the other hand, a decrease was observed in financial and insurance services (-7.0 percent) and telecommunications (-1.3 percent), the latter due to lower cell phone calls after the return of face-to-face activities and the use of applications.

In 2023, the sector is expected to grow by 2.1 percent. This forecast considers a prolongation of the impact of the pandemic on tourism-related industries, such as transportation and lodging. In addition, it also considers an impact of the social conflicts in the first months of the year since, as in the case of commerce, a slow down in the sector is observed for this reason. In 2024, the sector is expected to grow 2.9 percent and the types of services are expected to reach pre-pandemic levels.

Expenditure-side GDP

36. The growth of economic activity in 2022 was supported by domestic demand (2.3 percent), mainly by the growth of private consumption (3.6 percent), reflecting the evolution of the labor market and the withdrawals of pension savings that were allowed. However, this effect was offset by inflationary dynamics and by social conflicts that impacted household confidence. Other factors that contributed to a lesser extent were the increase in the volume of exports and the expansion of public investment, the latter being explained by the spending usually observed in the last year of subnational authorities' terms of office. On the other hand, private investment

declined 0.5 percent due to the impact of political uncertainty on businessmen's expectations.

The reduction in the GDP growth rate in 2023 (2.6 percent) compared to that of 2022 (2.7 percent) is explained by the expected slowdown in private consumption and the contraction of private investment in a context of weak business confidence. In 2024, private consumption is expected to accelerate its growth and private investment is expected to recover, with which activity would record a growth rate of 3.0 percent.

Compared to the December Report, the growth projection for 2023 has been lowered due to the slowdown of private spending associated with social conflicts, which are expected to cease in the short term, and to a slower recovery of real incomes. The forecasts also assume that public investment will expand 1.0 percent due to the positive impact of the *Con Punche Peru* plan. The growth projection for 2024 is maintained unchanged (3.0 percent) with domestic demand as the main growth driver, and in a scenario of socio-political and macroeconomic stability.

Table 15
GDP BY TYPE OF EXPENDITURE
(Real percentage changes)

	2021	2022	2023*		2024*	
			IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
Domestic demand	**14.7**	**2.3**	**2.5**	**2.1**	**3.1**	**2.9**
Private consumption	12.4	3.6	3.0	2.8	3.0	3.0
Public consumption	10.6	-3.4	2.0	2.0	3.0	3.0
Private investment	37.4	-0.5	1.0	-0.5	2.5	1.8
Public Investment	24.9	7.1	0.0	1.0	4.0	4.0
Change on inventories (contribution)	-2.5	0.2	0.0	0.0	0.0	0.0
Exports	**13.7**	**5.4**	**6.4**	**3.9**	**2.5**	**3.5**
Imports	**18.4**	**4.0**	**4.6**	**1.9**	**2.9**	**2.9**
Gross Domestic Product	**13.6**	**2.7**	**2.9**	**2.6**	**3.0**	**3.0**

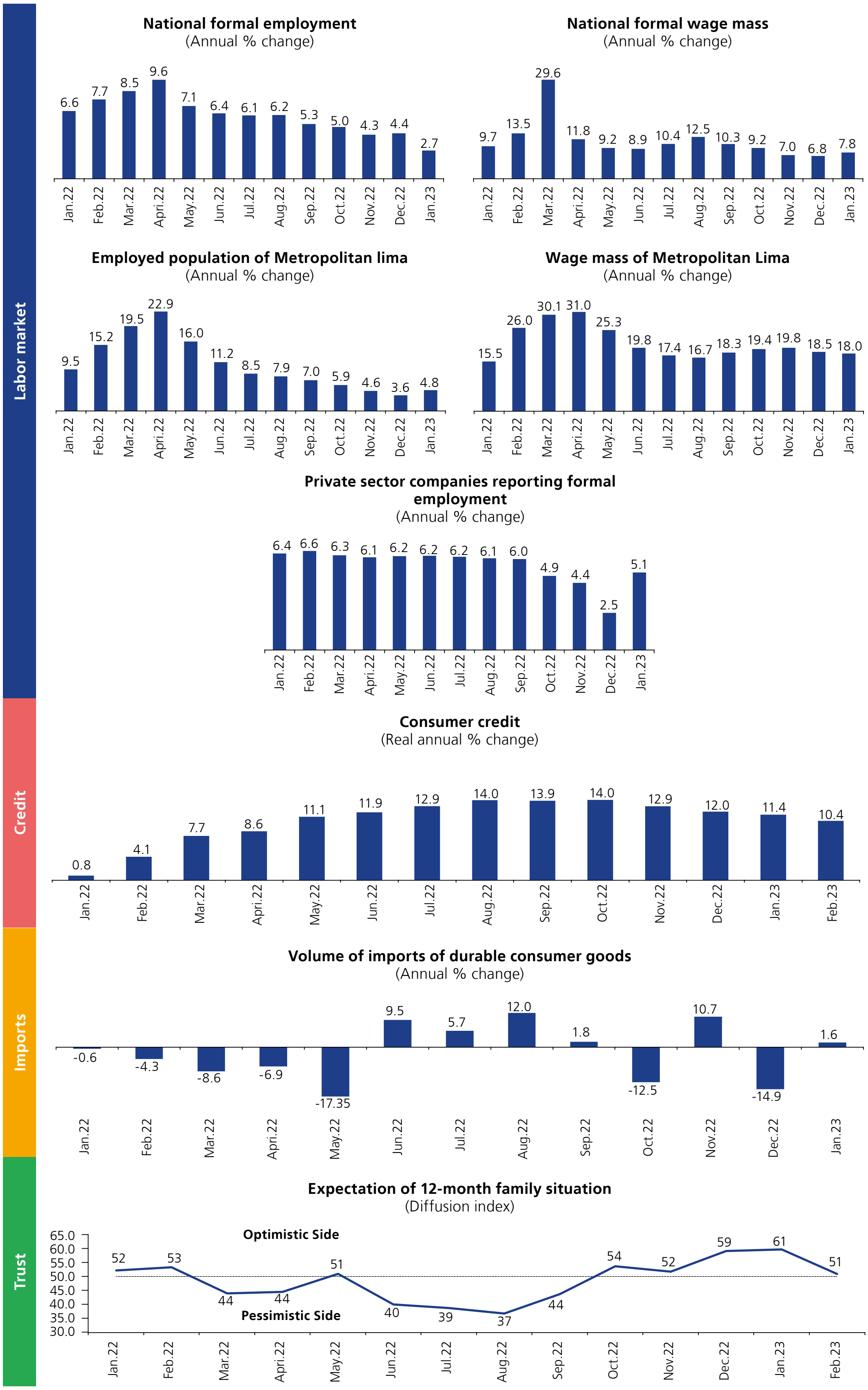
IR: Inflation Report.
* Forecast.
Source: BCRP.

37. Most indicators related to **private consumption** grew in recent months, although at a slower pace after reaching their pre-pandemic levels. In the labor market, jobs continued recording positive growth rates, especially those related to the commerce and services sectors. Such impact has reflected in the increase of the formal wage bill at the national level and in the number of private sector companies reporting employment. The same has been observed in the indicators of employed population and wage bill In Metropolitan Lima, according to INEI's Permanent Employment Survey. Likewise, consumer credit grew, both in vehicle loans and in the use of credit cards, although at lower rates.

On the other hand, consumer confidence, measured through agents' expectations about their future family's economic situation, decreased in February after showing an improvement between December and January. The volume of imports of consumer durable goods showed a mixed evolution, decreasing in December and recovering slightly in January due to automobile purchases.

Graph 41

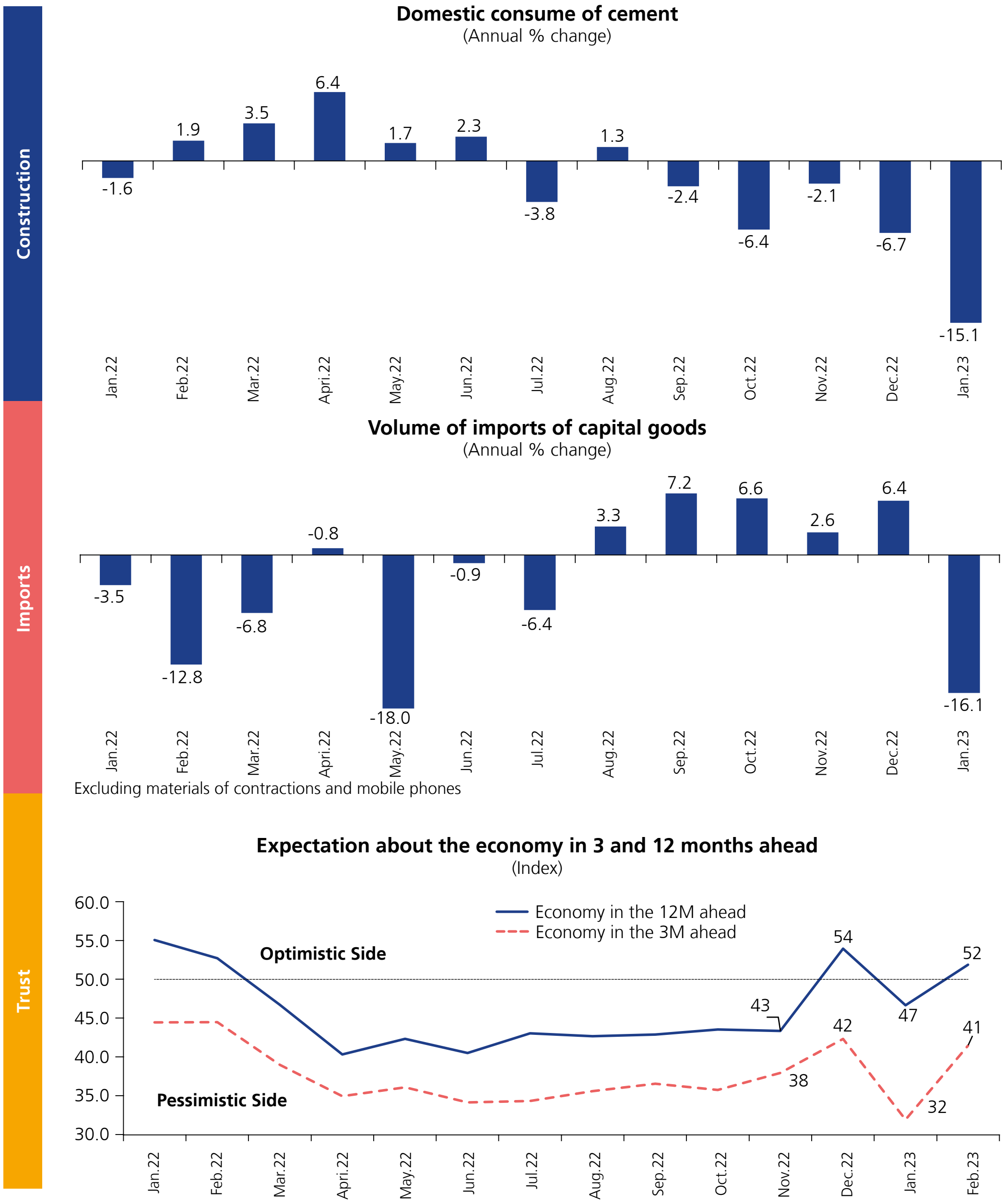
INDICATORS RELATED TO PRIVATE CONSUMPTION



Source: BCRP, INEI, SUNAT and Apoyo Consultoría.

38. Most of the leading indicators related to **private investment** continue to show an unfavorable performance due to the persistence of political uncertainty. Domestic cement consumption contracted in December and January due to the lower dynamism of private works and self-construction, as well as due to road blockages, mainly in the south of the country. The volume of imports of capital goods, excluding construction materials and cell phones, fell in January due to lower imports of machinery and equipment for the setors of transportation, marketing and information technology. For their part, expectations about the economic situation in 3 months and in 12 months' time declined considerably in January, although they recovered in February due to the lower intensity of social conflicts.

Graph 42
INDICATORS RELATED TO PRIVATE INVESTMENT



Source: BCRP, SUNAT and cement companies.

39. The February **Survey on Macroeconomic Expectations** shows that agents project a growth rate between 2.0 and 2.6 percent for this year and a rate between 2.6 and 3.0 percent for 2024.

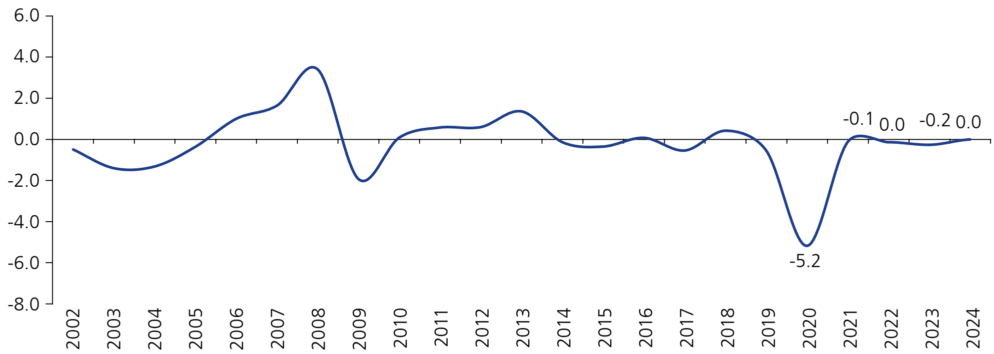
Table 16
SURVEY OF MACROECONOMIC EXPECTATIONS: GDP GROWTH
(Percentage changes)

	IR Jun.22	IR Sep.22	IR Dec.22	IR Mar.23*
Financial entities				
2023	2.6	2.5	2.3	2.2
2024	3.0	2.7	2.7	2.7
Economic analysts				
2023	2.7	2.4	2.3	2.0
2024	3.0	2.9	2.5	2.6
Non-financial firms				
2023	3.0	3.0	3.0	2.6
2024	3.2	3.0	3.0	3.0

* Survey conducted as of February 28.
Source: BCRP.

40. The output gap, calculated as the difference between GDP and potential GDP, is estimated at -0.2 percent for 2023. This gap measures inflationary demand pressures on the level of activity, since potential GDP characterizes the short and medium-term productive capacity of the economy over the business cycle. It is estimated that the economy will remain at a level close to its potential GDP.

Graph 43
OUTPUT GAP
(% of potential GDP)



Source: BCRP.

41. **Private consumption** in 2022 grew 3.6 percent, this outcome being linked to the recovery of the labor market (mainly in the formal sector), monetary incentives granted by the government, the availability of 100 percent of CTS deposits, and the

authorized withdrawal of private pension funds amounting to the equivalent of up to 4 tax units. However, consumption growth was offset by inflationary dynamics and political uncertainty, which impacted spending capacity and consumer confidence, respectively.

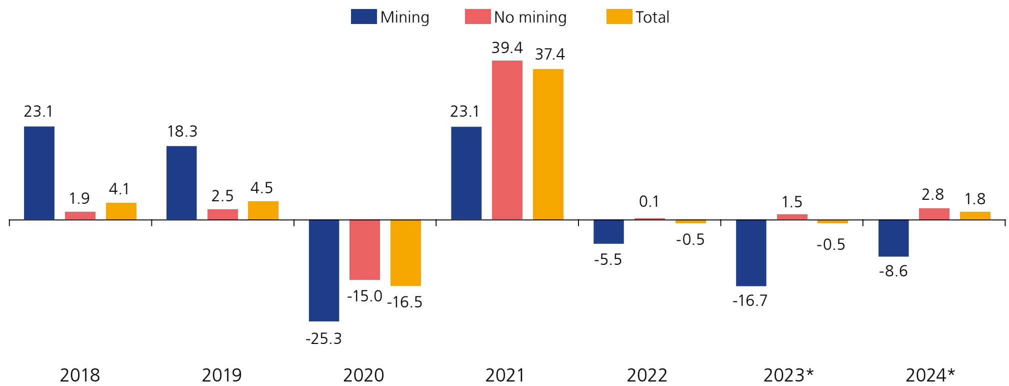
In 2023, private consumption is expected to slow down once the available sources of savings have dissipated. Compared to the December forecast, the projection for private consumption has been lowered from 3.0 to 2.8 percent due to the social tensions that have arisen since the last Report and due to the slower recovery of real incomes. The private consumption forecast assumes a stable environment where social conflicts cease in the short term and consumer confidence gradually recovers. On the other hand, the 3.0 percent growth projection is maintained for 2024.

42. In 2022, **private investment** recorded a ontraction of 0.5 percent, which is explained by the impact of political uncertainty and social conflicts on business expectations (which remained in the pessimistic range for most of the year) and consequently, on investment decisions. The mining sector's contraction in the year is explained by the effect of social conflicts and by the slower pace of investment disbursements for the Quellaveco project.

Private investment is expected to contract again by 0.5 percent in 2023 in a scenario of slow recovery of business confidence, which would have a negative impact on new investment project decisions. In 2024, on the other hand, investment is expected to recover (1.8 percent) mainly due to expected disbursements in non-mining sectors once socio-political tensions have dissipated.

investment growth forecasts for 2023 and for 2024 have been lowered compared to the previous report, from 1.0 to -0.5 percent in 2023 and from 2.5 to 1.8 percent in 2024. The forecasts for both years include the mining projects of Quellaveco, Magistral, San Gabriel and Reposición Antamina.

Graph 44
PRIVATE INVESTMENT
(Real annual % chg.)



* Forecast.
Source: BCRP.

a. Investments in the **mining sector** in 2022 totaled US$ 5,364 million and included mainly the investments of Anglo American Quellaveco (US$ 1,067 million), Antamina (US$ 459 million) and Yanacocha (US$ 422 million). The projection for the 2023-2024 period considers the completion of the construction of the Quellaveco projects (with a total investment of US$ 5.5 billion) in 2023, as well as the San Gabriel construction phase (US$ 0.4 billion) which is expected to start in this year. On the other hand, the construction phase of the Reposición Antamina project (US$ 1.6 billion) is expected to start in 2024.

b. Progress continues on the expansion of Jorge Chávez International Airport. The second runway and the new control tower will start operations this year, while the construction of the new passenger terminal is in its initial stage, with a 2025 delivery date.

   As for the modernization of the Callao North Pier, as of January 2023 it recorded an advance of 50.4 percent. In May 2022, the concessionaire reached an agreement with the Government to expand the cargo handling capacity and improve the design of the following phases, which is expected to increase the amount of the investment from US$ 895 million to US$ 1,095 million. On the other hand, DP World said that the Muelle Bicentenario project started construction works in September 2021 and that in January 2023 it recorded an accumulated progress of 60.1 percent. The company estimates that the dock will begin operations in early 2024.

Table 17

MAJOR INVESTMENT PROJECTS: 2023-2024

SECTOR	INVERSTOR	PROJECTS
MINING	Angloamerican Buenaventura Antamina	Quellaveco San Gabriel Antamina Replacement
HYDROCARBONS	Cálidda Gas Natural del Peru Promigas Surtigas	Massification of natural gas Massification of natural gas Piura
ELECTRICITY	ISA Peru CSF Continua Misti Engie	500 kV Mantaro - Carapongo Solar plant in Arequipa Punta Lomitas wind power plant
INDUSTRY	Yura Cementos Interoceánicos	Cement manufacturing improvement project Cement and lime plant
INFRAESTRUCTURE	Consorcio Nuevo Metro de Lima Grupo Volcan Lima Airport Partners Shougang Hierro Peru APM Terminals DP World Callao Consorcio Transportadora Salaverry Covi Peru	Lima Metro Line 2 Chancay Port Terminal Jorge Chavez Airport Terminal Expansion Marcona Port Terminal Modernization of Muelle Norte Expansion of Muelle Sur Salaverry Port Pucusana-Ica road network

Source: Information on companies, newspaper and specialized media

c. For the 2023-2024 period, **Proinversion** reports a portfolio of US$ 9.1 billion in investment projects to be awarded according to its latest report of February 2023.

Table 18
MAIN PROJECTS TO BE IMPLEMENTED THROUGH CONCESSION ARRANGEMENTS IN 2022-2024+
(Millions US$)

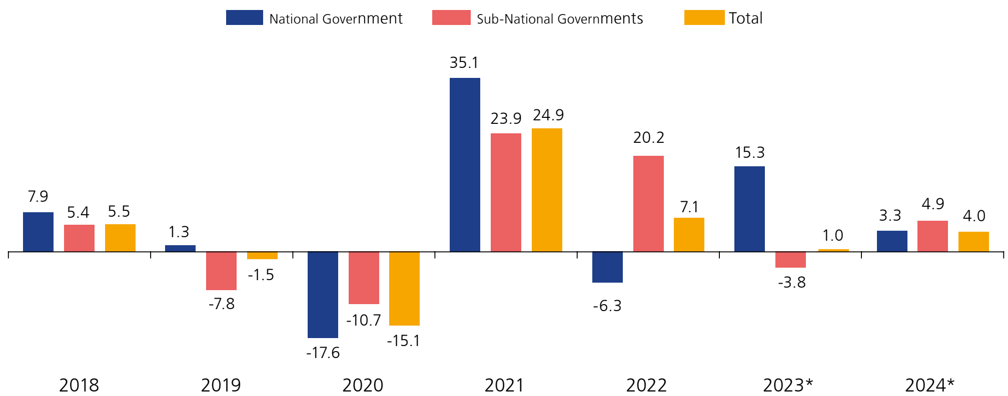
	Estimated investment
To be called	**9,100**
Peripheral Ring Road	2,380
Longitudinal of the Sierra road project, Section 4	929
Ancon Industrial Park	762
500 kV Transmission Line Huanuco –Tocache - Celendín - Trujillo and 500 kV Transmission Line Celendín - Piura link	611
Headworks and Conduction for the Drinking Water Supply in Lima	480
New San Juan de Marcona Port Terminal	410
Essalud Piura and Ancash	323
Broadband AWS-3 and 2.3 GHz	267
Huancayo - Huancavelica Railway	263
Improvement of Tourist Services in the Choquequirao Archeological Park, Cusco-Apurimac Regions	260
Schools in risk: Metropolitan Lima	255
National Hospital Hipólito Unanue	250
500 kV Transmission Line and Piura Nueva - Frontera Substation	217
Treatment system for wastewater Huancayo	172
220 kV Transmission Line Belaunde Terry - Tarapoto Norte	164
Schools in Risk: Ate-San Juan de Lurigancho	140
220 kV Transmission Line Piura Nueva - Colán	139
220 kV Transmission Line Ica - Poroma and 220 kV Transmission Line Caclic - Jaen Norte	132
IPC- Wastewater Treatment for effluent dumping or reuse - Trujillo	129
Central Military Hospital	115
Schools at Risk: Comas - San Martín de Porres	91
IPC -Wastewater Treatment System for Puerto Maldonado	88
IPC -Wastewater Treatment for effluent dumping or reuse, Chincha province, Ica, Peru	73
Schools at Risk: Villa María del Triunfo	68
High Performance Schools: COAR Centro	59
Improvement and enlargement of the sewage and wastewater treatment system in Cajamarca	58
IPC -Wastewater Treatment for effluent dumping or reuse, Cusco	46
Improvement schools in Cusco	44
Transmission Line Nueva Carhuaquero and Tumbes Substation	38
Ilo desalination plant	37
IPC -Wastewater Treatment for effluent dumping or reuse, Cañete	34
IPC -Wastewater Treatment for effluent dumping or reuse, Tarapoto	26
Solid waste Treatment in Minsa	24
Others	16

Source: Proinversión.

43. **Public investment** increased 7.1 percent in 2022, this increase being explained by investment by subnational governments, in line with the spending observed in the last year of municipal and regional authorities' term of office. This effect was offset by lower investment at the National Government level, given the lower requirements needed to address the COVID-19 health emergency.

In 2023, public investment is projected to record a growth rate of 1.0 percent. This forecast assumes that the growth in public investment by the national government will be greater than the drop in investment by subnational governments that is usually observed in the year following municipal and regional elections. In 2024, public investment is estimated to expand by 4.0 percent.

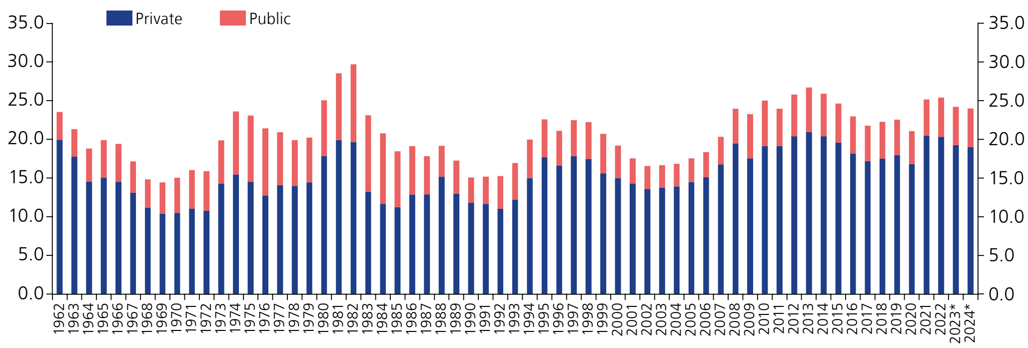
Graph 45
PUBLIC INVESTMENT
(Real % change)



Memo: Public investment is made up of investment by the National Government, Subnational Governments and investment by public companies.
* Forecast.
Source: BCRP

44. **Gross fixed investment**, as a percentage of GDP, is expected to fall from 25.4 to 24.2 percent between 2022 and 2023 due to the drop in private investment. A further contraction of this indicator is expected in 2024, with which it would represent 24.0 percent of output in that year. For investment to recover, it is necessary to preserve economic and financial stability, consolidate an adequate business environment, and carry out reforms to support the economy's productivity.

Graph 46
GROSS FIXED INVESTMENT: PRIVATE AND PUBLIC, 1962-2024
(% of real GDP)



* Forecast.
Source: BCRP.

45. **Domestic savings** are projected to increase from 17.8 percent of GDP in 2022 to 19.8 percent in 2023 due to an increase in private savings of 2.2 percentage points of GDP as a result of higher interest rates in the economy and the reduction in inflation effects on household spending. In addition, considering the reduction in gross

domestic investment, the external financing requirement would decrease from 4.3 to 1.4 percent of GDP this year.

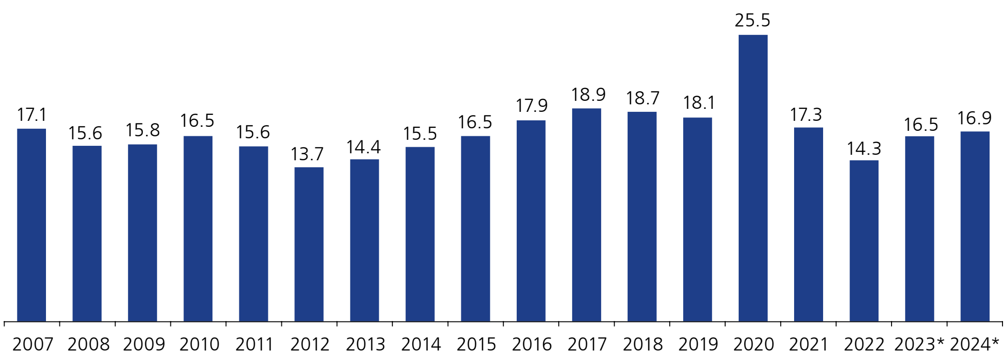
Table 19
SAVING-INVESTMENT GAP
(% of nominal GDP)

	2021	2022	2023*		2024*	
			IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
1 Domestic Gross Investment 1/	21.7	22.1	21.6	21.2	21.7	21.1
2 Domestic Saving	19.4	17.8	19.0	19.8	19.6	20.3
External Gap (=2-1)	-2.3	-4.3	-2.7	-1.4	-2.0	-0.8
1.1 Private Domestic Gross Investment 1/	17.0	17.1	16.7	16.3	16.7	16.2
1.2 Private Saving	17.3	14.3	15.6	16.5	16.2	16.9
Private Gap (=1.2-1.1)	0.2	-2.7	-1.1	0.2	-0.5	0.7
2.1 Public Investment	4.7	5.1	4.9	4.9	4.9	5.0
2.2 Public Saving	2.1	3.4	3.3	3.3	3.4	3.4
Public Gap (=2.2-2.1)	-2.5	-1.6	-1.6	-1.6	-1.5	-1.5

IR: Inflation Report
* Forecast.
1/ Includes change on inventories.
Source: BCRP.

After recording a historical high of 25.5 percent of GDP in 2020, private savings contracted to 14.3 percent of GDP in 2022, which is explained by consumption growth as well as by the effect of inflation on spending. In 2024, private savings are expected to increase to 16.9 percent, in a scenario where inflation returns to the target range. Taking into account the sequential reduction in gross domestic investment, the external gap is projected to decrease to -0.8 percent of GDP.

Graph 47
PRIVATE SAVINGS: 2007-2024
(% GDP)



* Forecast.
Source: BCRP.

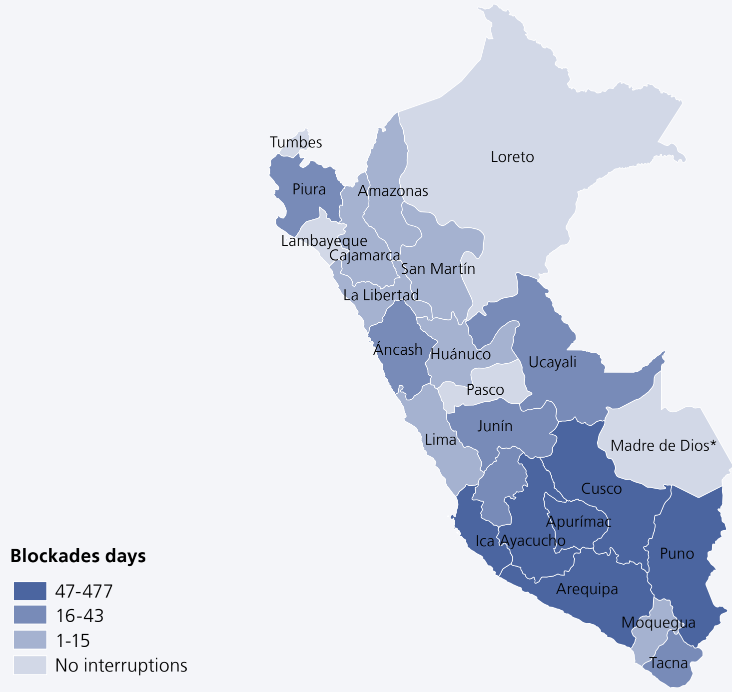
Box 1
IMPACT OF THE INTERRUPTION OF ECONOMIC ACTIVITIES AT THE REGIONAL LEVEL

The country's road network was affected by several interruptions in December 2022 and January 2023 as a result of protests carried out by groups of demonstrators to the recent Peruvian political crisis[6]. However, the number of blockades and their duration in the various regions of the country has been heterogeneous.

For example, according to information from PROVÍAS Nacional, an agency of the Ministry of Transportation and Communications (MTC)[7], 83.5 percent of the total number of blockade-days recorded in the last two months were concentrated in the regions of Puno, Apurímac, Cusco, Ica, Ayacucho and Arequipa, all located in the southern part of the country. In addition, out of a total of 19 regions that recorded some road interruptions, these six regions were the most affected ones by blockades.

Roadblocks have affected the normal development of national and regional economic activity. This impact is reflected, on the one hand, in the deterioration of various indicators such as economic growth, employment and expectations and, on the other hand, in price increases. These impacts are more significant in those regions where the blockades have been more intense. However, there is another group of regions (Madre de Dios, Moquegua and Tacna) that have also been indirectly affected by the roadblocks due to the fact that they are border regions with those where the blockades are concentrated.

PERU: BLOCKING OF DAYS 1/ ACCORDING TO REGIONS 2/



1/ The variable blockage-days is the result of multiplying the total number of road interruptions by the average duration in days according to regions.
2/ Information from December 2022 and January 2023 are considered.
* Regions economically affected due to connectivity with departments in conflict.
Source: Ministry of Transportation and Communications - PROVÍAS Nacional.

6 http://wsgcv.proviasnac.gob.pe/sgcv_emergenciavial

7 The information on road interruptions has been obtained from Reporte Diario de Emergencias en la Red Vial Nacional No Concesionada de PROVÍAS Nacional – MTC. These reports include all the road interruptions observed between 01/12/2022 and 01/31/2023, caused by social unrest, strikes, vandalism or sabotage that led to interrupted traffic and consider them emergencies. Data on the emergency's date of occurrence as well as the date when the information was downloaded have been used in order to have consistent information.

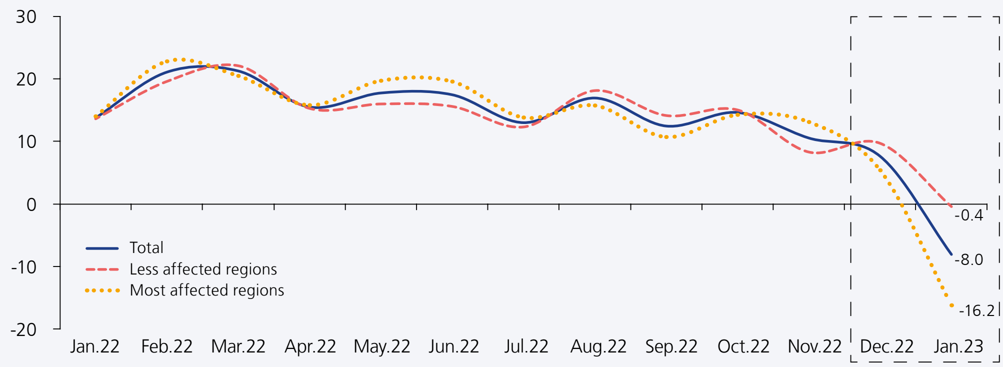
In order to evaluate the initial impact of road traffic interruptions on various economic indicators, the country's regions have been classified into two groups[8]: (i) regions that recorded the highest number of blockade-days or those that, due to connectivity, have been affected (Apurímac, Arequipa, Ayacucho, Cusco, Ica, Puno, Madre de Dios, Moquegua, Tacna), and (ii) regions that have not recorded roadblocks, in addition to those that recorded some blockades that were not very intense (Ancash, Cajamarca, Amazonas, La Libertad, Pasco, San Martín, Loreto, Lambayeque, Tumbes). It is worth noting that the 9 regions in the first group are also among the 13 regions with the highest number of social conflicts, demonstrations or confrontations[9].

Economic Activity

Based on the information obtained from payment vouchers issued through SUNAT's Sistema de Emisión Electrónica (SSE)[10], we have been able to approach the effect of the social conflicts observed in December 2022 and January 2023 on the level of regional economic activity.[11] During these months, the total invoiced through vouchers issued by formal companies in the non-primary sector of the economy declined to 7.6 percent in December (after recording a 15.6 percent growth rate in the January-November period) and then fell by 8 percent during January after the extension of the social conflicts.

AMOUNT ISSUED BY ELECTRONIC PAYMENT VOUCHERS IN THE NON-PRIMARY SECTORS

(Real 12-months % chg.)



When the information was analyzed by group of regions, the drop observed was greater in the regions where demonstrations and blockades had intensified. The drop in the total amount invoiced through electronic payment vouchers in these areas of the country was significantly higher in January (-16.2 percent) than in the regions less affected by the blockades (-0.4 percent).

Similarly, the impact has not been homogeneous across economic sectors. Activities such as commerce and some services, particularly sensitive to the shutdowns, recorded a greater contraction

8 Our analysis does not include the departments of Lima, as it is an economically differentt region, nor the regions of Ucayali, Junín and Huancavelica, regions located in the central part of the country and bordering those regions in conflict.

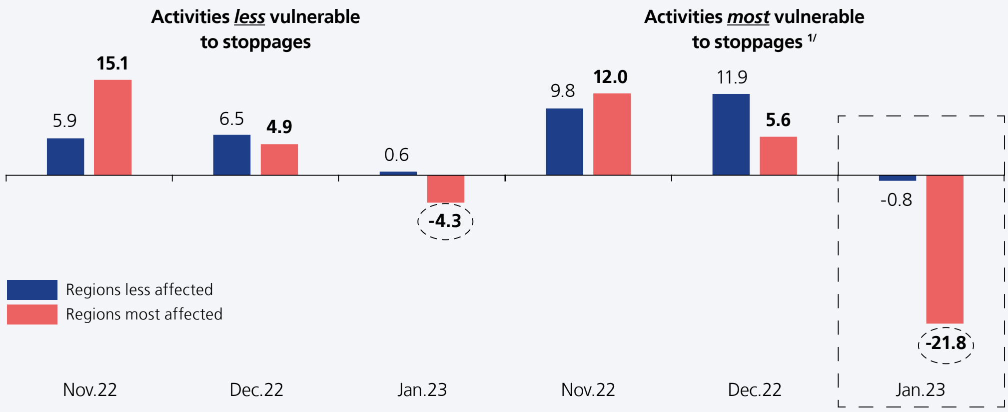
9 According to information from the Daily Report on Political Crisis and Social Protest of the Ombudsman's Office, Defensoría del Pueblo.

10 This box was prepared using information from the Electronic Payment Vouchers system updated as of February 17, 2023.

11 Although electronic bills and invoices predominate, the list of payment documents that can be issued through SUNAT's Electronic System is extensive and includes receipts for fees, invoices, payment vouchers, credit or debit notes, among others.

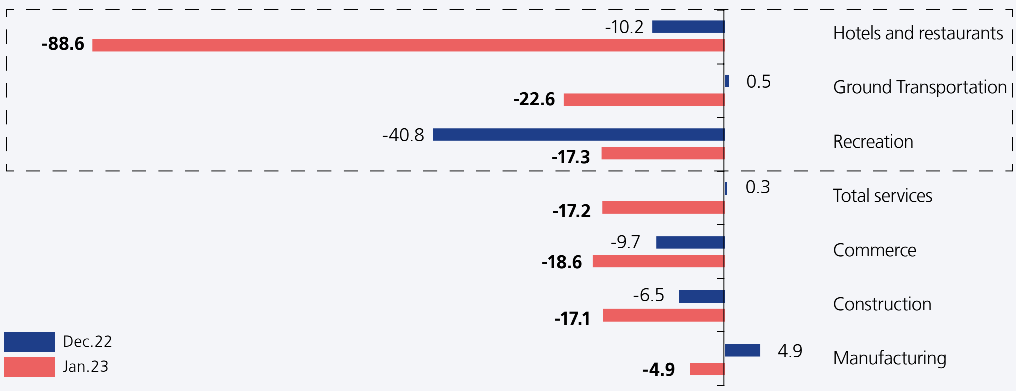
(-21.8 percent compared to -4.3 percent in the rest of the sectors).[12] Tourism-related services, such as hotels and restaurants, and land transportation were the most affected and recorded growth differentials of up to 89 percentage points with respect to the same activities in the regions less affected by the social conflicts.

DIFFERENTIATED EFFECTS OF STOPPAGES BY GROUPS OF REGIONS AND ECONOMIC ACTIVITIES. AMOUNT ISSUED BY ELECTRONIC PAYMENT VOUCHERS IN NON-PRIMARY SECTORS
(Real 12-month % chg.)



1/ Includes activities pertaining to the commerce sector and hotel and restaurant services, land and air transportation, leisure, financial intermediation, among others.

GROWTH DIFFERENTIAL BETWEEN THE REGIONS MOST AND LEAST AFFECTED BY THE SHUTDOWNS AFFECTED BY THE STOPPAGES: AMOUNTS ISSUED BY ELECTRONIC PAYMENT VOUCHERS
(Percentage points, real 12-months % chg.)



Expectations

The social conflicts have not only had an impact on the level of activity, but also on short-term business confidence, which could delay economic recovery in the coming months. According to the Survey on Macroeconomic Expectations, although a deterioration in 3-month expectations was recorded in several of the country's regions, this has been markedly greater in the areas most exposed to demonstrations and standstills.

12 This includes services such as hotels and restaurants, ground transportation, leisure, financial intermediation, and air transportation, among others.

In particular, in the regions most affected by the blockades, the indicators quickly shifted to the pessimistic range in December 2022 and their decline worsened during January. Moreover, indicators of expectations recorded drops of between 17 and 27 points in December with respect to the values reported in November 2022.[13] In contrast, in the regions less exposed to the standstills, the declines in these same indicators only reached a maximum of 4 points during the same period of analysis.

RESULTS OF THE SURVEY OF MACROECONOMIC EXPECTATIONS BY REGIONS MOST AND LEAST EXPOSED TO THE SHUTDOWNS [1/]

	Indicator	Nov.22	Dec.22	Jan.23	Feb.23	Dec.22-Nov.22	Jan.23-Nov.22	Feb.23-Nov.22
Less affected regions [1/]	Sector in 3 months	45.8	52.3	42.5	45.0	6.5	-3.3	-0.8
	Company in 3 months	50.5	57.4	47.7	50.0	7.0	-2.8	-0.5
	Demand in 3 months	53.2	50.9	49.0	43.3	-2.3	-4.2	-10.0
	Investment in 3 months	50.0	54.3	50.5	46.7	4.3	0.5	-3.3
	Hiring of personnel in 3 months	49.5	51.9	48.1	48.3	2.3	-1.4	-1.2
Most affected regions [2/]	Sector in 3 months	48.8	45.5	26.3	50.7	**-3.3**	**-22.5**	**2.0**
	Company in 3 months	51.6	50.5	32.2	53.0	**-1.2**	**-19.4**	**1.4**
	Demand in 3 months	59.8	46.3	32.4	56.9	**-13.5**	**-27.5**	**-2.9**
	Investment in 3 months	56.7	47.2	35.3	48.5	**-9.4**	**-21.3**	**-8.2**
	Recruitment in 3 months	52.5	48.6	35.0	45.5	**-3.9**	**-17.5**	**-6.9**

1/ Most affected regions: Ica, Madre de Dios, Apurímac, Arequipa, Ayacucho, Cusco, Moquegua, Puno, Tacna.
2/ Least affected regions: Ancash, Pasco, Amazonas, Cajamarca, La Libertad, Lambayeque, Tumbes, Loreto, San Martin.

It is worth mentioning that expectations in the regions most affected by the blockades had recovered significantly by February and had almost returned to the levels recorded in November, with the exception of the indicators of investment and hiring intentions.

13 Above 50 points: optimistic range. Below 50 points: pessimistic range.

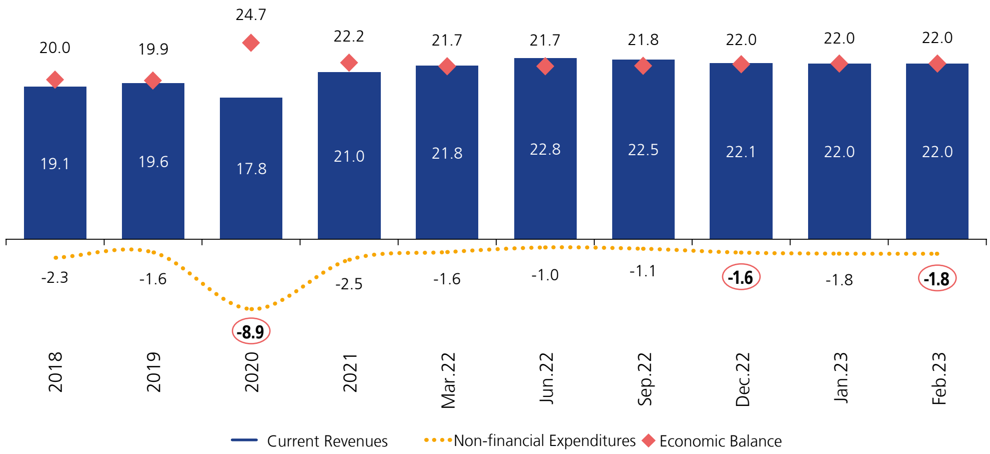
IV. Public finances

46. The accumulated fiscal deficit in the last twelve months increased from 1.6 to 1.8 percent of GDP between December 2022 and February 2023. This increase was mainly due to higher capital expenditures by the General Government as a percentage of GDP and higher interest payments on domestic debt, as well as to the lower growth of current revenue.

Graph 48

ECONOMIC BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2018-2023

(Accumulated last 12 months - % GDP)



Memo: The economic balance is calculated as current revenues - non-financial expenditure + others (capital income and primary result of state-owned companies) – payment of debt service.
Source: MEF, SUNAT and BCRP.

In nominal terms, revenues increased mainly as a result of higher tax revenues of the National Government, which were driven by the adoption of higher income tax payment coefficients. By components, higher revenues were recorded from the income tax –mostly from tax payments of domiciled legal entities and also from the regularization of income tax payments– as well as from the domestic value added tax (VAT).

The nominal increase in non-financial expenditure is explained by higher expenses in: (i) other capital expenditures, mainly due to the transfer of funds to the Energy Social Inclusion Fund for the massification of the use of natural gas and due to the transfers granted by the family housing program (*Bono Familiar Habitacional* and *Bono del Buen Pagador*); (ii) remunerations, due to higher payments to teachers and health personnel; (iii) transfers, due to the extraordinary bonus given to the beneficiaries of the programs Juntos, Pension 65 and Contigo, and (iv) gross capital formation, mainly from the National Government. It is worth mentioning that the greatest expansion in expenditure related to gross capital formation was recorded mainly in the Public Order and Security, Sanitation, Transportation, Education and Health functions.

47. The **fiscal deficit** between 2022 and 2023 would remain at 1.6 percent of GDP, 0.8 percentage points lower than the 2.4 percent of GDP established by the fiscal rule (Law No. 31541[14]). Although the dynamism of revenues is expected to be lower –mainly due to income tax regularization payments–, non-financial expenditures –mainly other capital expenditures- would decline in a similar proportion in terms of output.

In 2024, the deficit in terms of output is expected to decrease slightly to 1.5 percent of GDP, 0.5 percentage points lower than the fiscal rule of 2.0 percent of GDP (Law No. 31541). Current income is expected to increase in real terms due to the greater dynamism of economic activity, offset in part by higher expenditures on goods and services and gross capital formation.

Table 20
NON-FINANCIAL PUBLIC SECTOR
(% GDP)

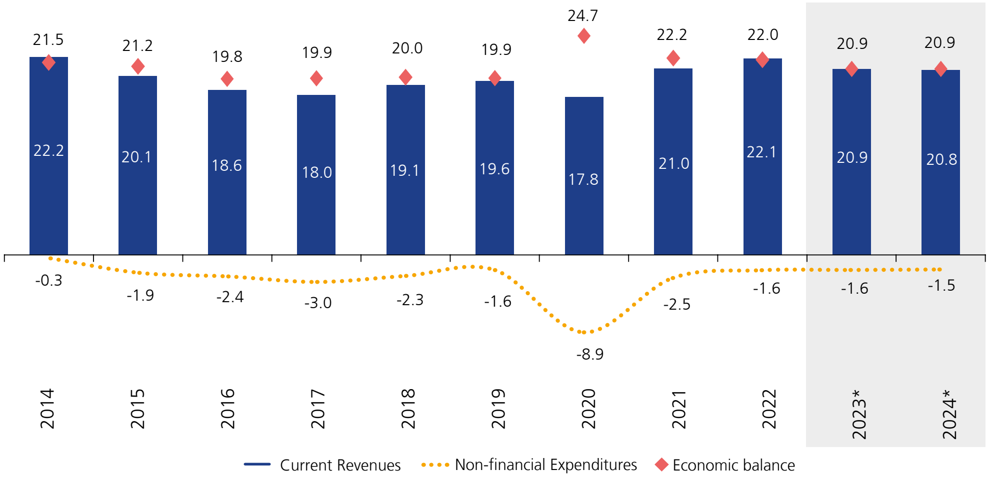
	2022	2023*			2024*	
		February 1/	IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
1. General government current revenues	**22.1**	**22.0**	**21.2**	**20.9**	**21.0**	**20.8**
Real % change	*4.8%*	*2.8%*	*-2.6%*	*-1.8%*	*3.1%*	*3.2%*
2. General government non-financial expenditure	**22.0**	**22.0**	**21.2**	**20.9**	**21.1**	**20.9**
Real % change	*-1.8%*	*-0.5%*	*-1.5%*	*-0.5%*	*3.7%*	*3.6%*
Of which:						
Current expenditure	15.9	15.9	15.8	15.6	15.8	15.6
Real % change	*-8.1%*	*-7.5%*	*0.6%*	*2.3%*	*3.7%*	*3.4%*
Gross capital formation	4.7	4.7	4.7	4.6	4.7	4.7
Real % change	*9.9%*	*11.7%*	*2.5%*	*3.2%*	*4.4%*	*4.9%*
3. Others 2/	**-0.2**	**-0.2**	**0.1**	**0.1**	**0.2**	**0.2**
4. Primary balance (1-2+3)	**-0.1**	**-0.2**	**0.1**	**0.0**	**0.1**	**0.0**
5. Interests	**1.6**	**1.6**	**1.7**	**1.6**	**1.6**	**1.6**
6. Overall Balance	**-1.6**	**-1.8**	**-1.6**	**-1.6**	**-1.5**	**-1.5**

1/ Ratios on % of GDP and real % changes represent accumulated in the last 12 months as of November.
2/ Includes capital income of the general government and primary balance from state-owned companies.
* Forecast
IR: Inflation Report.

Compared to the December Report, the fiscal deficit forecasts are maintained at 1.6 and 1.5 percent of GDP for 2023 and 2024, respectively, within the framework of similar revisions in General Government revenues and expenditures. However, there is an upward bias in the deficit, which will depend on the need to make expenditures associated with the damages caused by this year's climatic phenomena.

14 Approved on August 4, 2022.

Graph 49
ECONOMIC BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2014 - 2024
(% GDP)



Memo: The economic balance is calculated as current revenues - non-financial expenditures + others (capital income and primary result of state-owned companies) – payment of debt service.* Forecast.
Source: BCRP.

Current income

48. **Current income** would show a real contraction of 1.8 percent in 2023 and would represent 20.9 percent as a percentage of GDP, 1.2 percentage points less than the rate recorded at the end of 2022. The lower dynamism of revenues is explained by the lower revenue forecast from the regularization of the annual income tax payment, in line with the improvement recorded in payments on account in 2022 and with lower export and fuel prices. In addition, extraordinary revenues of the magnitude recorded in 2022 are not expected.

Table 21
CURRENT REVENUES OF THE GENERAL GOVERNMENT
(% GDP)

	2022	2023*			2024*	
		February 1/	IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
TAX REVENUES	**17.2**	**17.2**	**16.4**	**16.2**	**16.2**	**16.2**
Income tax	7.5	7.5	6.3	6.5	6.1	6.2
Value Added Tax (VAT)	9.4	9.3	9.5	9.2	9.5	9.3
Excise tax	1.0	0.9	1.0	1.0	1.1	1.1
Import duties	0.2	0.2	0.2	0.2	0.2	0.2
Other tax revenues	1.9	1.9	1.8	1.7	1.7	1.7
Tax returns	-2.7	-2.6	-2.5	-2.4	-2.4	-2.3
NON-TAX REVENUES	**4.9**	**4.8**	**4.8**	**4.7**	**4.8**	**4.6**
Contributions to social security	2.0	2.0	2.1	1.9	2.2	2.0
Own resources and transfers	1.4	0.8	1.4	1.3	1.4	1.4
Royalties and likely	1.0	1.0	0.8	0.9	0.7	0.8
Other	0.5	1.1	0.4	0.5	0.4	0.5
TOTAL	**22.1**	**22.0**	**21.2**	**20.9**	**21.0**	**20.8**

1 / Represents accumulated in the last 12 months as of November.
* Forecast
IR: Inflation Report.

The downside revision on the forecasts –from 21.2 to 20.9 percent of GDP– takes into account the lower growth of economic activity and the effect of lower imports on tax revenues, factors that would be partially offset by the upside revision on the prices of export commodities.

Current income is projected to increase by 3.2 percent in real terms in 2024, as part of a revised recovery in export prices. The revision of income on the downside as a percentage of GDP, from 21.0 to 20.8 percent of GDP, reflects the 2023 revenue starting point already outlined.

Non-financial expenditures

49. **Non-financial expenditures** would record a real reduction of 0.5 percent in 2023, and as a percentage of GDP would register 20.9 percent, a rate 1.1 percentage points lower than in 2022. This reflects the reduction in expenditures for the COVID-19 Emergency and for Reactivation, which amounted to S/ 13.4 billion in 2022, while this year this would basically reflect the payments made to honor the government-secured loans from the financial system. This would be offset by the *Con Punche Peru* program, which would contribute to neutralize the effects observed on public investment when new sub-national government authorities come to office.

It is worth mentioning that the real growth in spending has been revised up with respect to the level forecast in the previous report, with higher public investment contributing to this increase within the framework of the measures being implemented by the Government and the greater dynamism shown in the first two months of the year, together with higher disbursements in social programs as part of the *Con Punche Peru* program.

Table 22
NON-FINANCIAL EXPENDITURE OF THE GENERAL GOVERNMENT
(% GDP)

	2022	2023*			2024*	
		February 1/	IR Dec.22	IR Mar.23	IR Dec.22	IR Dec.22
Current expenditure	**15.9**	**15.9**	**15.8**	**15.6**	**15.8**	**15.6**
National Government	10.5	10.5	10.7	10.5	10.6	10.5
Regional Governments	3.6	3.6	3.4	3.4	3.3	3.3
Local Governments	1.8	1.7	1.7	1.7	1.8	1.8
Capital expenditure	**6.1**	**6.2**	**5.4**	**5.3**	**5.4**	**5.4**
Gross capital formation	**4.7**	**4.7**	**4.7**	**4.6**	**4.7**	**4.7**
National Government	1.5	1.6	1.7	1.7	1.7	1.7
Regional Governments	1.0	1.0	1.0	0.9	0.9	0.9
Local Governments	2.2	2.2	2.0	2.0	2.0	2.0
Others	**1.4**	**1.5**	**0.7**	**0.7**	**0.7**	**0.7**
Total	**22.0**	**22.0**	**21.2**	**20.9**	**21.1**	**20.9**
National Government	13.4	13.5	13.1	12.9	13.0	12.9
Regional Governments	4.6	4.6	4.3	4.4	4.2	4.2
Local Governments	4.0	3.9	3.8	3.7	3.9	3.9

1 / Represents accumulated in the last 12 months as of November.
* Forecast
IR: Inflation Report

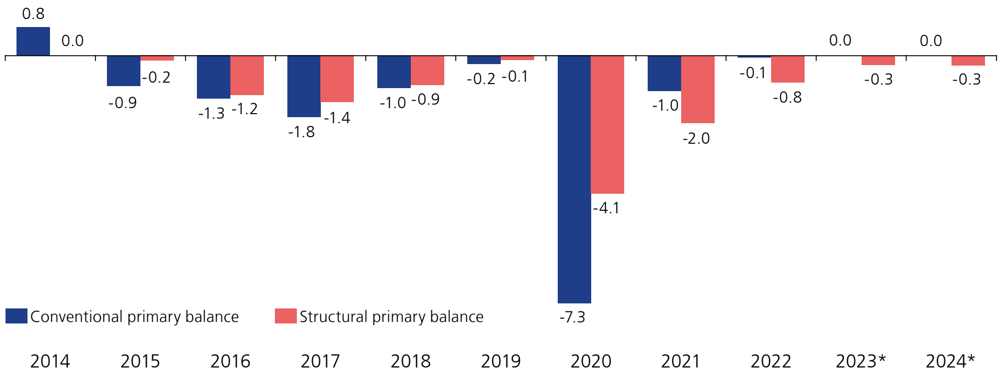
In 2024, spending is expected to grow by 3.6 percent in real terms and to represent 20.9 percent of GDP, a similar rate to that projected for 2023. This higher outcome includes a 4.9 percent increase in the General Government's gross capital formation after the learning period of the new subnational authorities.

Fiscal Stance

50. The **structural primary balance** excludes the effects of discretionary fiscal policy decisions and cyclical and transitory components affecting the economy on government revenues and expenditures. The structural primary deficit is estimated at 0.3 percent of potential GDP in 2023 and 2024, both ratios being higher than the 0.1 percent estimated for 2019. The trend in the structural primary deficit reflects a gradual reduction in the expansionary fiscal stance, in line with an output gap close to zero.

In this sense, a context in which activity is not below its potential does not require an additional fiscal impulse, which could generate demand pressures that would in turn affect inflationary expectations.

Graph 50
CONVENTIONAL AND STRUCTURAL PRIMARY BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2014-2024
(% GDP and Trend GDP)



* Forecast.
Memo: For 2020, the structural primary balance is calculated using trend GDP.
Source: BCRP.

Financing and debt

51. The projection of **financing requirements** for 2023 and 2024 has been increased with respect to the December Report, although the increase is projected to be greater towards the end of the forecast horizon. These adjustments respond mostly to the expected evolution of nominal fiscal deficits for both years. As regards the **sources of financing**, a greater increase in external disbursements is estimated, which is offset by a lower issuance of sovereign bonds and a lower use of public deposits in 2023. The revision of external disbursements on the upside is mainly due to an update of the disbursement schedule for loans arranged with international organizations. On the other hand, a greater use of public deposits is foreseen by the end of the projection horizon.

Table 23

FINANCIAL REQUIREMENT AND FINANCING OF THE NON-FINANCIAL PUBLIC SECTOR

(Million soles)

	2022	2023*			2024*	
		Jan-Feb	IR Dec.22	IR Mar.23	IR Dec.22	IR Mar.23
I. USES	**20,010**	**-1,543**	**22,172**	**22,660**	**29,457**	**29,942**
1. Amortization	4,683	251	6,027	6,024	12,902	12,918
a. External	3,896	148	4,006	4,009	3,810	3,834
b. Domestic	788	103	2,020	2,015	9,092	9,083
Of which: recognition bond	*553*	*94*	*550*	*549*	*550*	*550*
2. Overall Balance[1/]	15,327	-1,794	16,145	16,636	16,555	17,025
II. SOURCES	**20,010**	**-1,543**	**22,172**	**22,660**	**29,457**	**29,942**
1. Disbursements and others	14,970	1,599	22,333	24,201	26,297	26,349
a. External credits	7,063	146	4,777	9,146	7,797	7,849
b. Global and Sovereign bonds	7,908	1,453	17,555	15,055	18,500	18,500
2. Variation in deposits and others [2/]	5,040	-3,142	-161	-1,541	3,160	3,593
Note:						
% GDP						
Gross public debt balance	34.0	33.3	33.1	32.8	32.1	32.1
Net public debt balance	21.2	21.4	21.6	21.4	21.6	21.2
Balance of public deposits	12.8	11.9	11.5	11.5	10.5	10.8

1/ Negative sign indicates surplus.
2/ Positive sign indicates reduction of deposits.
* Forecast
IR: Inflation Report

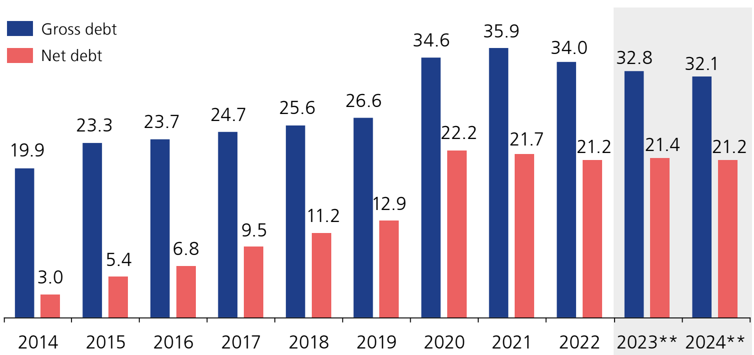
52. The **gross debt** of the Non-Financial Public Sector would fall from 34.0 to 32.8 percent of GDP between 2022 and 2023, to finally register 32.1 percent at the end of the projection horizon. Gross debt forecasts for 2023 and 2024 would be lower than the maximum established by the macro-fiscal debt rule of 38.0 percent of GDP, mandated by Law No. 31541. The current forecasts imply that Peru's gross debt stands out as one of the lowest in the region.

For its part, the **debt net** of non-financial Public Sector deposits would increase from 21.2 to 21.4 percent of GDP between 2022 and 2023, and would decline slightly to 21.2 percent of output by the end of the projection horizon.

Graph 51

NON-FINANCIAL PUBLIC SECTOR DEBT: 2014- 2024

(% GDP)



GROSS DEBT IN LATAM: 2022-2023

(% GDP)

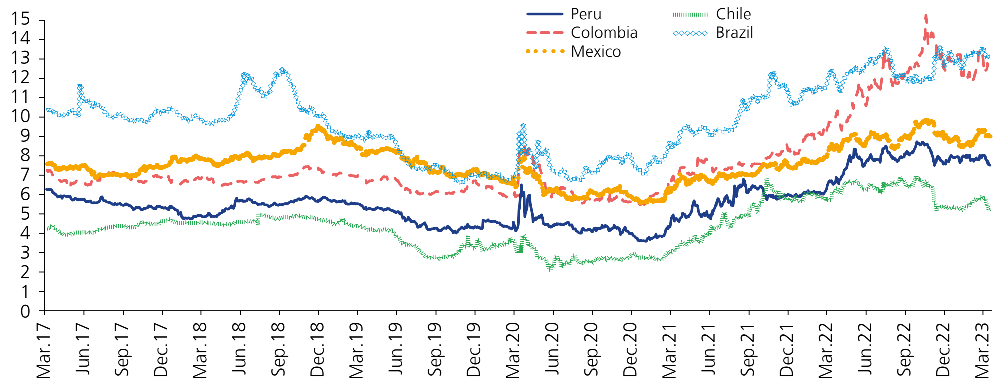
Gross Debt (% GDP)	2022*	2023**
Peru	**34.0**	**32.8**
Chile	36.2	36.9
Paraguay	39.3	38.9
Mexico	56.8	58.7
Ecuador	58.9	56.2
Colombia	61.1	60.0
Uruguay	61.2	62.6
Brazil	88.2	88.9

* Projection for all countries except Peru.
** Forecast.
Source: BCRP and WEO (October 2022).

53. The yield rates of fixed-rate Public Treasury Bonds (BTP) in soles accumulated an average reduction of 29 bps between December 30, 2002 and March 20, 2023, influenced by: (i) the demand for safe haven assets after the bankruptcy of Silicon Valley Bank, which was reflected in the reduction of the yield rates of the US Treasury bonds (23 bps.), and (iii) the change in expectations about the Federal Reserve's rates.

In the case of the yield curve of global bonds in dollars, a reduction in yields (30 bps) has been observed so far in the first quarter, mainly in the short end of the curve. In particular, the yield on the Peruvian 10-year bond decreased from 5.45 percent to 5.16 percent in a similar period, which was in line with the lower interest rate of the U.S. bond (39 bps.). However, while Peruvian bond yields in the quarter have declined, they are above Brazilian and Colombian bonds, but below Chilean and Mexican bonds.

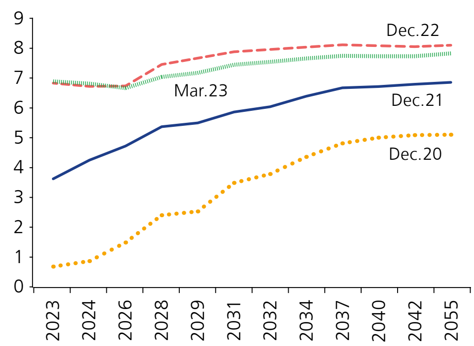
Graph 52
10 YEAR SOVEREIGN BOND YIELDS IN DOMESTIC CURRENCY
(%)



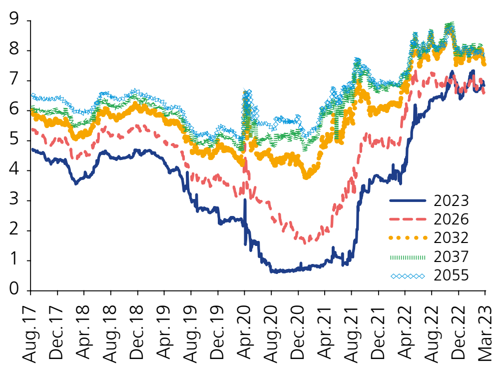
* As of March 20.
Source: MEF and Reuters.

Graph 53

YIELD CURVE
(In %)



YIELD BY MATURITY
(In %)



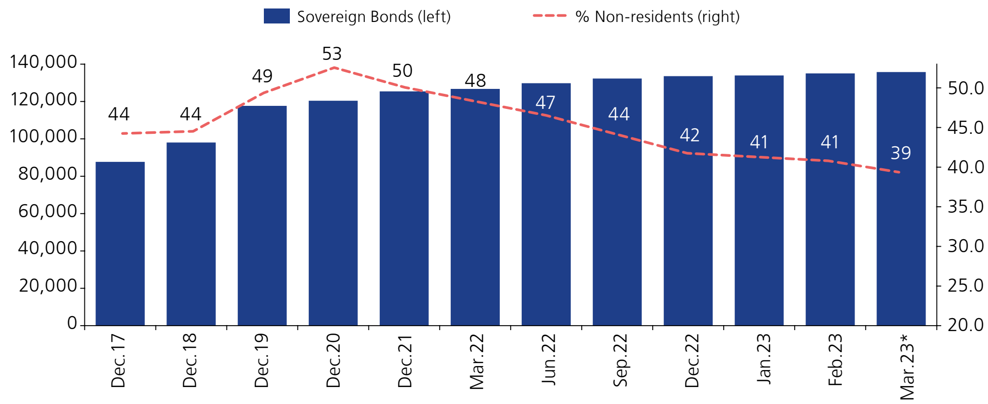
* As of March 20.
Source: MEF

The balance of sovereign bonds amounted to S/ 135.5 billion as of March 22, 2023, this balance being higher by S/ 2.2 billion than the balance on December 30, 2022. It is worth mentioning that in the first quarter of the year, AFPs and banks were the main bond demanders, while non-resident investors stood out on the supply side. Non-resident investors reduced their sovereign bond holdings by S/ 2.5 billion between December 2022 and March 2023, thus reducing their share from 42 to 39 percent.

Graph 54

SOVEREIGN BOND BALANCE AND PARTICIPATION OF NON-RESIDENT INVESTORS

(Amounts in millions of soles and participation in %)



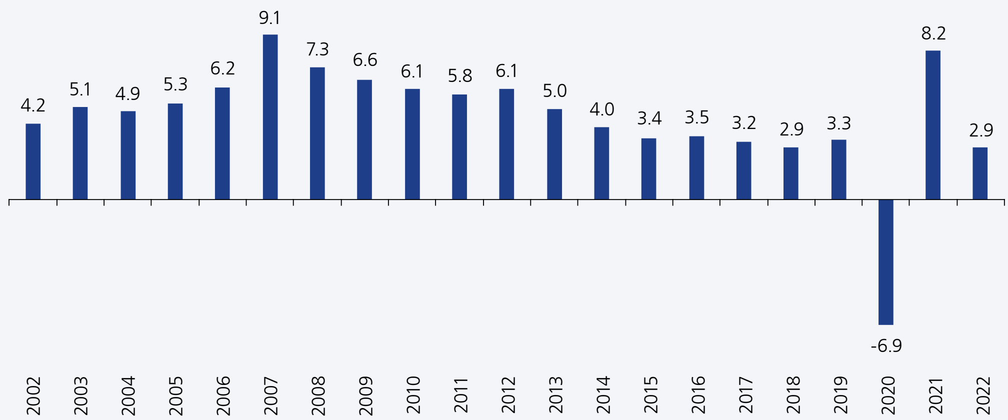
* As of March 22.
Note: As of February 2021, excludes inflation-linked bonds, Global Depositary Notes (GDN) and Euroclear transactions of non-residents. As of March 2021, nominal sovereign bonds and VAC are included and GDN are excluded.
Source: BCRP, CAVALI, MEF, and SBS.

Box 2
QUALITY OF PUBLIC SPENDING AND POTENTIAL GDP

The evolution of potential GDP depends on different components, such as the accumulation of production factors and the evolution of productivity. Factor accumulation reflects the economy's gross fixed investment, the growth of the working-age population and human capital. Productivity, in turn, measures the capacity to obtain goods from the accumulated factors, which depends on technological, regulatory, tax and institutional factors, among other factors.

It is estimated that the potential GDP growth rate in Peru over the last 15 years, discounting the strong fluctuations caused in 2020 and 2021 by the COVID19 pandemic, has shown a decreasing trend.

GROWTH RATE OF POTENTIAL GDP
(%)



Among other factors, the decreasing behavior of potential GDP would be the result of the slow down in gross fixed investment (both public and private) registered as from 2015. In this context, a particular element, the possible lower level of GDP growth as a consequence of inefficiency in public procurement processes (acquisition of goods and contracting of services and works), is analyzed below.

Estimates of redundant and unproductive use of public resources

The redundant or unproductive use of State resources could negatively affect potential growth to the extent that it results in less physical capital or lower quality infrastructure.[15]

In a 2018 study[16] the Inter-American Development Bank (IDB) points out that spending in Latin American and Caribbean countries (LAC) is inefficientl due to the lack of a professional civil service, negligence in administrative decision-making and corruption, which implies raising the cost of inputs used to produce public services.

15 Studies on the subject define the inefficient use of resources as "waste" because the marginal allocation of resources does not contribute to the growth of production.

16 IDB (2018) "Better spending for better lives". IDB. Washington DC.

The IDB conducted an analysis on the inefficiency of public spending during the 2015 and 2016 periods associated with technical efficiency, generated by the payment of salaries above the market, leaks in transfer programs and cost overruns in public procurement. In the case of Peru, it is estimated that there was a waste of resources of around 2.5 percent of GDP (lower than the average of 4.4 percent for LAC countries), of which 1.8 percent of GDP corresponds to public procurement[17].

The study used extrapolations from previous research results to estimate the waste of state resources. Among the primary sources used were the report of the Infrastructure Transparency Initiative (CoST, 2012), which estimated losses of between 10 and 30 percent caused by mismanagement and corruption in construction projects; OECD studies on waste in public projects (which reported a waste ratio between 7 and 25 percent) and available information on the costs of corruption generated by the Odebrecht case (around 26 percent of the projects), which were combined with international corruption perception indexes by country.

On the other hand, an IMF study[18] made estimates of inefficiencies from the estimated efficiency frontier with data for 164 countries. The paper employed data envelopment analysis (DEA) and also stochastic efficient frontier estimation. Its results indicate that low-income developing countries face an efficiency gap of 53 percent, emerging market countries face a gap of 34 percent and advanced economy countries a gap of 15 percent. In addition, the study estimates that the median efficiency gap for the sample used is one-third of the resources allocated to the public investment process.

For its part, the Office of the Comptroller General of the Republic (CGR) has produced reports using the results of ex-post control services to estimate the economic damage suffered by the state due to dysfunctional conduct or corruption incurred by public officials. In a 2021 report the CGR[19] estimates the patrimonial damage or economic loss based on 3.036 ex-post control services audited between 2017 and 2020. The amount of the transaction examined and the patrimonial damage were identified for each audited service, which allowed the calculation of a patrimonial damage ratio for each generic expenditure item and level of government in the available sample. The CGR's work extrapolates the ratios found in the transactions subject to control over the total expenditure accrued in each generic item, which results in an aggregate estimate of S/ 22 billion, equivalent to 3.1 percent of the 2020 GDP.

Estimates for Peru (2021)

If we take into account the size of public spending in Peru in 2021 (21.0 percent of GDP) and the composition between procurement of goods and services and investments, we can extrapolate the measurements made by the works outlined above to get an idea of the impact of redundant and unproductive use of resources as a result of inefficiencies in the public procurement process.

17 Of the total 2.5 percent of GDP, 1.8 percent of GDP is due to government purchases, 0.4 percent of GDP to leakages in transfers, and 0.3 percent of GDP to misalignment of public wages.

18 IMF(2020) "Well Spent. How Strong Infrastructure Governance Can End Waste in Public Investment". International Monetary Fund. Washington DC.

19 CGR(2021) Incidencia de la corrupción y la inconducta funcional en el Perú 2020. Documento de Política en Control Gubernamental. Contraloría General de la República del Perú.

ESTIMATE OF WASTE OF RESOURCES IN PUBLIC ACQUISITIONS

Methodology	Ambit	Waste 2021	
		% GDP	Mill. S/
BID (2018)	Acquisitions (bbss and capital)	1.9	16,394
FMI (2020)	Investments	1.4	12,557
CGR (2021)	Acquisitions (bbss and capital)	1.2	10,853

The above table shows that resource losses would represent between 1.2 and 1.9 percent of GDP. The lower figure (1.2 percent of GDP), which is obtained by applying the ratio between equity loss and purchase value found in the CGR document to total procurement in 2021, would represent losses associated only with functional errors and possible corruption, while the higher estimate (1.9 percent of GDP) is obtained by applying the percentage of losses due to technical inefficiency and corruption estimated by the IDB to procurement in 2021. In either case, the range of wasted resources is substantial.

Efforts are currently underway to improve the procurement process in the public sector. Actions are being carried out to improve, among other aspects, the development of the legal framework of the public procurement system (which will guide the logistics of government entities, including not only the procurement process, but also the management of acquisitions and their use for public service); progress in multiannual budget programming, which would allow a better link between budgeting and strategic planning; and the expansion of the coverage of concurrent control, which seeks to reduce the incidence of corruption in public procurement processes.

Reducing inefficiencies in public procurement is essential as this will allow that more resources be allocated to reducing the country's large economic and social infrastructure gap, thereby improving the quantity and quality of public services while supporting potential GDP growth as well.

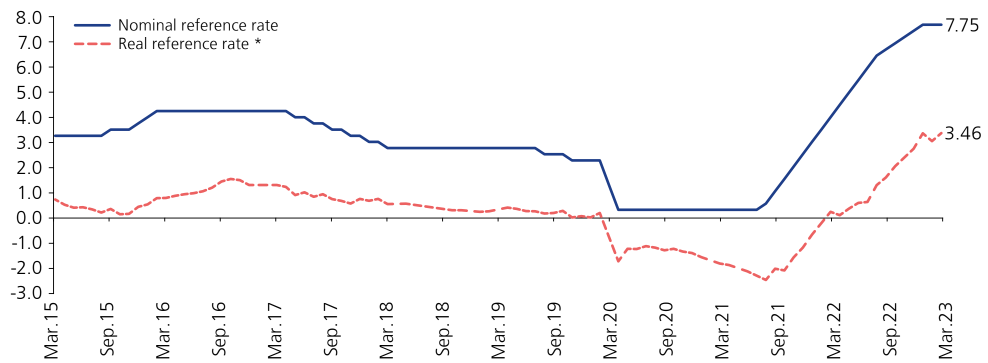
V. Monetary policy and financial conditions

Monetary policy actions

54. In January 2023, the Board of Directors of BCRP raised the BCRP benchmark rate by 25 basis points to 7.75 percent. Subsequently, between February and March 2023, the Board decided to keep the benchmark rate unchanged, emphasizing that this decision does not necessarily imply the end of the interest rate hike cycle. Future adjustments in the benchmark rate will be conditional on new information on inflation and inflation determinants, including the macroeconomic effects of recent social developments.

    In March 2023, the real benchmark rate was 3.46 percent (above the estimated neutral real rate of 1.50 percent), after reaching an all-time low of -2.53 percent in August 2021.

Graph 55
REFERENCE INTEREST RATE
(In %)



* With expectation on inflation.
Source: BCRP.

55. Monetary policy decisions between January and March 2023 took into account the following factors:

    - The twelve-month inflation rate was 8.65 percent in February 2023, still above the BCRP's inflation target range (between 1 and 3 percent).

- The 12-month inflation rate excluding food and energy prices in February 2023 (5.87 percent) was also above the upper limit of the target range.

- The significant increase in international energy and food prices observed since the second half of last year, accentuated by international conflicts, has led to a strong increase in global inflation rates at the global level to levels not seen in many years and to levels significantly above the inflation targets of central banks, both in advanced economies and in the region. In Peru, this has been accentuated by the social conflicts recorded since December.

- Year-on-year inflation is projected to decline from March onwards and to return to the target range in the fourth quarter of this year, due to the moderation of the effect of international food and energy prices, the reversal of supply shocks in the agricultural sector and a reduction in inflation expectations in the rest of the year, even though the monthly rate of inflation in March is expected to be higher than in previous months due to cyclical and seasonal factors.

- Twelve-month inflation expectations decreased from 4.62 percent in January to 4.29 percent in February, a rate still above the upper limit of the inflation target range. Inflation expectations for 2023 also decreased from 4.73 to 4.50 percent.

- Most of the leading indicators and expectations about the economy remain in the pessimistic range.

- The growth outlook for world economic activity has improved slightly, although global risks remain due to the effects of restrictive monetary policy in advanced economies, the impact of inflation on consumption and international conflicts.

56. The decision on the benchmark rate takes into account inflation forecasts and inflation determinants, such as the evolution of the output gap, changes in international prices, the exchange rate, and supply factors that may affect the formation of economic agents' expectations[20].

Since 2021, BCRP has made the necessary adjustments to its monetary policy stance to ensure that inflation expectations return to the target range within a reasonable period ot time in a context of higher international food and energy prices. In the absence of a timely response, the central bank would have had to adopt a more restrictive monetary policy in order to regain credibility regarding inflation control. In such a scenario, the increases in the reference rate necessary to control inflation would have been larger and, consequently, the potential impact on economic activity would have been greater.

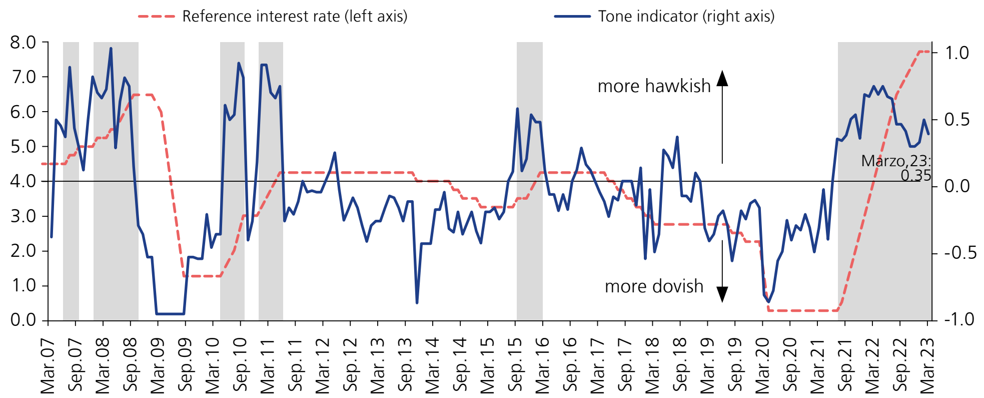
20 Inflation expectations refer to the rate at which economic agents expect the price level of an economy to increase. The lower and more stable these expectations are, the better companies and households will be able to make better price and wage decisions.

57. With respect to the tone of monetary policy, the tone indicator used by BCRP shows a hawkish stance since July 2021, one month before the interest rate increase adopted in August of that year. However, the value of the indicator has decreased in recent months.

Graph 56

REFERENCE INTEREST RATE AND MONETARY POLICY TONE INDICATOR*

(% and index value)



* For the monetary policy tone indicator, the positive values of the index mean a tone in favor of a contractionary position (hawkish), while negative values imply communication with an expansive position (dovish). Shaded areas correspond to periods of rising interest rates.
Source: BCRP.

Monetary Operations

58. The Central Bank's operations were aimed at ensuring adequate liquidity levels in the interbank market. To this end, between January 1 and February 28, 2023, BCRP injected liquidity through the net placement of securities repos (S/ 1,106 million) and the net placement of auctions of Public Treasury term deposits (S/ 300 million). These operations were in part offset by the net placement of CDV BCRP (S/ 3,985 million), the amortization of government-secured loan portfolio repos (S/ 3,646 million), the net placement of term deposits and overnight deposits (S/ 3,297 million), the net maturity of currency repos (S/ 330 million), the net placement of BCRP CDs (S/ 232 million), the sale of foreign currency in the interbank spot market (US$ 1 million, equivalent to S/ 4 million), and the maturity of loan portfolio repos (S/ 11 million).

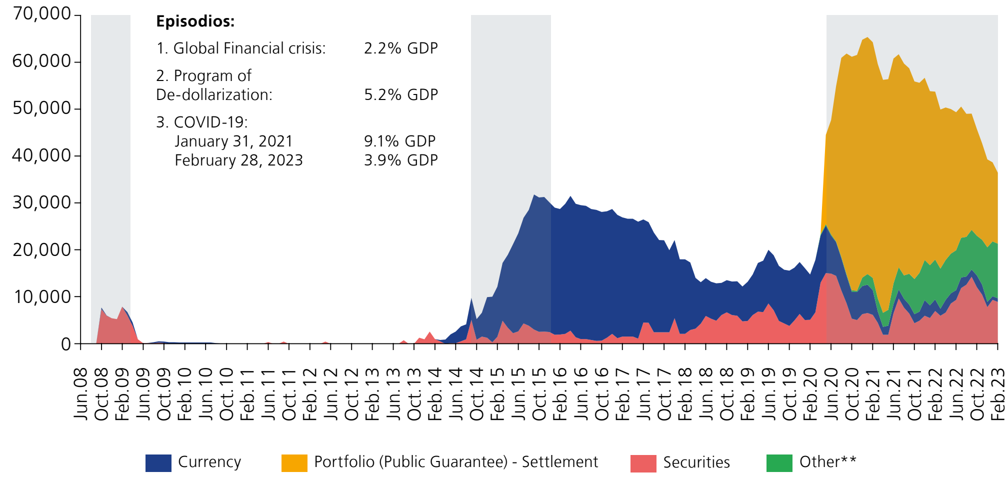
Thus, on February 28, 2023, the balance of injection operations was S/ 36,407 million, while the balance of CDBCRP, CDV BCRP and CDR BCRP was S/ 29,700 million on the same date. On the other hand, the balances of auctions of Public Treasury funds and the settlement of BTP purchases were S/ 6,796 million and S/ 5,313 million, respectively.

In terms of GDP, the balance of liquidity injection operations is equivalent to 3.9 percent of GDP, of which S/ 15,075 million correspond to government-secured repos of credit portfolio.

Graph 57

BALANCE OF MONETARY INJECTION OPERATIONS OF BCRP*

(In mill. S/)



* As of February 28, 2023.

** The item "Other" includes the purchase of Public Treasury bonds, in line with article 61 of the BCRP Organic Law, and Repos operations of portfolio loans.

Source: BCRP.

59. Between November and December 2022, BCRP purchased Public Treasury Bonds (BTP) in the secondary market with maturities up to 2040. These operations are part of the group of instruments available to the BCRP to regulate liquidity in the financial system. Thus, BTPs with maturities between 2028 and 2037 for a total value of S/ 3,235 million were auctioned in 2022. This amount of BTPs, together with the purchases made in 2020 and 2021, implies a balance of S/ 5,313 million of BTPs purchased by BCRP as of February 28, 2023. It is worth mentioning that, as of March 20, BCRP has allotted S/ 241 million through auctions of BTPs, of which S/ 84 million has been settled on the same date.

    It should be pointed out that Article 61 of the BCRP's Organic Law establishes that the issuing entity is empowered to purchase securities issued by the Public Treasury in the secondary market, provided that the annual increase in the holdings of such securities, valued at their acquisition price, does not exceed 5 percent of the balance of the monetary base at the close of the preceding year.

60. The balance of repo operations and Public Sector deposits have decreased as a share of BCRP assets, whereas, on the other hand, the share of BCRP instruments and currency in circulation has increased. The balance of repo operations went from representing 12.1 percent of the BCRP's net assets in December 2022 to 10.4 percent as of February 28, 2023. On the liabilities side of BCRP, the share of Public Sector deposits decreased from 29.2 percent in December 2022 to 26.0 percent as of February 28, 2023. For their part, the share of BCRP instruments (BCRP CDs, BCRP CDVs, BCRP CDRs, and term and overnight deposits) as BCRP net liabilities increased from 9.4 percent in December 2022 to 11.5 percent as of February 28, 2023. In addition, the share of currency in circulation decreased from 23.5 percent in December 2022 to 15.2 percent as of February 28, 2023.

Table 24

SIMPLIFIED BALANCE SHEET OF THE BCRP*

(As % of Net Assets)

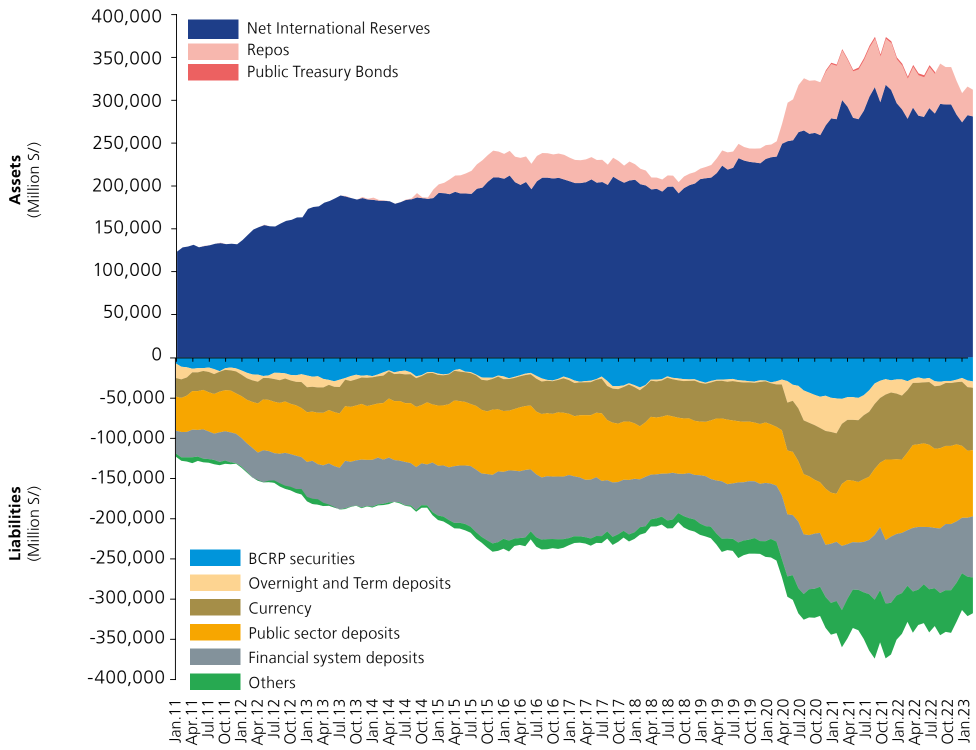
	Dec.21	Dec.22	Feb.23
I. Net assets	**100%**	**100%**	**100%**
Net International Reserves	**84.6%**	**86.3%**	**87.9%**
	(US$78,495 mills.)	**(US$71,883 mills.)**	**(US$73,884 mills.)**
Repos	**14.8%**	**12.1%**	**10.4%**
Sovereign bonds	**0.6%**	**1.6%**	**1.7%**
II. Net liabilities	**100%**	**100%**	**100%**
1. Total public sector deposits	**26.0%**	**29.2%**	**26.0%**
In domestic currency	23.9%	25.5%	22.6%
In foreign currency	2.1%	3.6%	3.4%
2. Total financial system deposits	**22.2%**	**23.2%**	**22.8%**
In domestic currency	3.9%	4.1%	4.1%
In foreign currency	18.4%	19.2%	18.7%
3. BCRP instruments	**11.8%**	**9.4%**	**11.5%**
CD BCRP	3.9%	3.8%	4.1%
CDV BCRP	3.4%	4.6%	4.8%
CDR BCRP	0.4%	0.0%	0.0%
Term deposits	3.2%	0.0%	2.1%
Overnight deposits	0.9%	1.0%	0.5%
4. Currency	**22.6%**	**23.5%**	**15.2%**
5. Others*	**17.4%**	**14.7%**	**14.0%**

* Includes assets and other accounts.

The result of these operations is reflected in the change in the size and composition of the Central Bank's balance sheet. Thus, on February 28, 2023, BCRP assets amounted to S/ 320,805 million, a sum equivalent to 35.3 percent of GDP, lower than that observed in 2015 during the de-dollarization program (39.2 percent of GDP)[21].

Graph 58

EVOLUTION OF THE BCRP BALANCE SHEET: 2011 - 2023



As of February 2023.
Source: BCRP.

21 This amount includes Net International Reserves, Repos and Treasury Bonds.

Financial markets

61. In January 2023, the benchmark rate increased by 25 basis points to 7.75 percent, while in February and March this rate remained at 7.75 percent. Thus, between January and March 2023, the overnight interest rate was close to the reference level for the period (7.75 percent).

Table 25

INTEREST RATE IN DOMESTIC CURRENCY [1/]

(%)

		Dec.19	Dec.20	Dec.21	Mar.22	Jun.22	Sep.22	Dec.22	Mar.23	Historical average [2/]
Passive	90-day corporate prime	2.8	0.2	2.6	4.3	6.1	7.4	8.1	8.0	3.5
	TIPMN	2.3	1.0	1.1	1.5	2.2	2.7	3.0	3.5	2.2
	FTIPMN	1.5	0.1	1.0	2.0	2.9	3.5	3.7	3.9	2.2
	Deposits up to 30-day	2.3	0.0	1.9	3.5	5.1	6.5	7.4	7.4	3.2
	Individuals	1.6	0.2	0.7	1.2	1.0	3.3	3.7	3.5	2.3
	Business	2.3	0.0	1.9	3.5	5.1	6.5	7.4	7.4	3.2
	On 31 to 90-day term deposits	2.7	0.2	2.2	3.8	5.5	6.8	7.5	7.9	3.4
	Individuals	1.8	0.5	0.8	1.7	2.2	3.5	3.7	3.9	1.9
	Business	2.8	0.2	2.2	3.9	5.7	7.0	7.8	8.2	3.5
	On 91 to 180-day term deposits	3.0	0.4	2.4	4.0	6.2	6.9	7.6	7.3	3.6
	Individuals	2.3	0.5	0.9	2.3	4.1	4.6	4.8	5.0	2.5
	Business	3.1	0.3	2.6	4.3	6.4	7.4	8.5	8.5	3.8
	On 181 to 360-day term deposits	3.3	0.7	2.9	4.4	6.1	7.3	7.6	7.9	3.9
	Individuals	3.3	1.3	2.9	3.6	5.4	6.6	6.9	7.1	3.7
	Business	3.3	0.4	2.9	4.7	6.4	7.6	7.8	8.3	4.0
	CTS	2.2	1.9	2.3	2.8	2.2	3.5	2.6	3.3	3.1
Active	90-day corporate prime	3.3	0.7	3.1	4.8	6.7	8.1	9.2	9.0	4.3
	TAMN	14.4	12.1	11.2	11.8	12.7	13.5	14.5	14.8	15.7
	FTAMN	18.2	17.6	20.9	23.3	24.7	27.5	28.3	29.9	20.6
	Corporates	3.8	2.5	3.2	5.0	6.8	8.2	8.9	9.4	5.1
	Large companies	6.0	4.6	5.7	6.8	8.3	9.4	10.6	11.2	6.7
	Medium-sized enterprises	9.3	6.1	8.8	10.8	11.9	13.4	14.1	15.0	10.0
	Small business	18.0	17.2	19.3	20.3	20.4	21.6	22.5	23.7	20.2
	Micro business	31.3	30.1	32.3	35.6	35.2	35.3	36.3	39.0	32.5
	Micro business [3/]	44.5	22.6	38.8	37.3	39.2	39.3	39.3	40.0	39.9
	Consumer	40.9	39.5	41.8	42.4	44.6	47.4	49.6	50.2	41.9
	Consumer [3/]	43.1	41.5	40.4	43.5	43.5	45.8	47.7	48.3	43.3
	Mortgage	7.0	6.4	6.9	7.1	8.1	9.5	9.9	10.1	8.3

1/ Annual rates for operations in the last 30 working days. In the case of credits and term deposits, it corresponds to the banking companies.
2/ Average since September 2010. In the case of consumer credit, it is the average since October 2019.
3/ Corresponds to the average of the financial system.
As of March 20.
Source: BCRP and SBS.

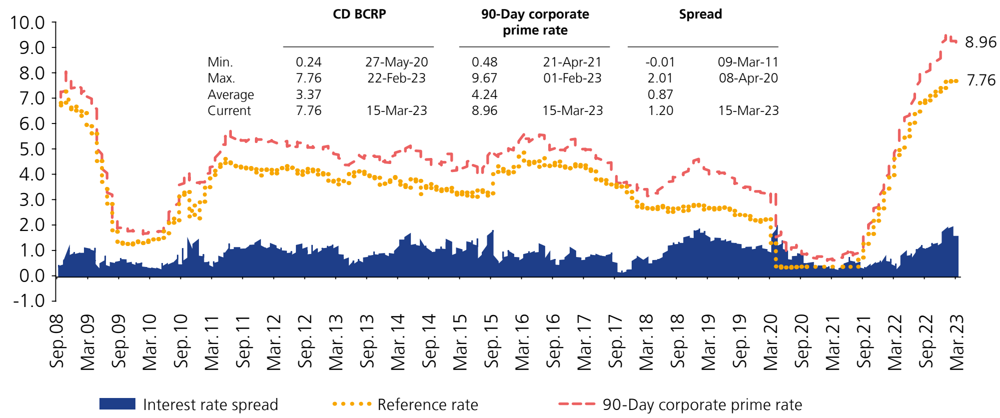
Lending and deposit prime rates, which are highly representative of the market and financial conditions, and which quickly absorb changes in the benchmark rate, decreased in the first quarter of 2023. Thus, in overnight and twelve-month terms, interest rates accumulated average reductions of 41 and 17 basis points, respectively. It should be pointed out that in February 2023, prime interest rates reached historical highs since January 2005, in a context of greater demand for liquid assets in general. In March 2023, prime rates have decreased, reflecting the greater availability of funds and liquid assets. By maturity term, the largest reductions in the quarter were seen in the overnight lending rate (62 basis points) and the twelve-month lending rate (64 basis points). The spreads between the 3-month, the 6-month and the 12-month lending rates with respect to the benchmark rate are below pre-pandemic levels.

In the second week of March, the spread between the corporate prime lending rate and the 3-month CD BCRP (1.20 percent) has decreased from one of the highest levels reached recently. In this context, the central bank continues to carry out operations with the objective of ensuring the proper functioning of the market through the issuance of longer maturity BCRP CDs and repo placements.

Graph 59

INTEREST RATE IN S/: 90-DAY CORPORATE PRIME AND 3-MONTH CD BCRP

(%)



*As of March 15

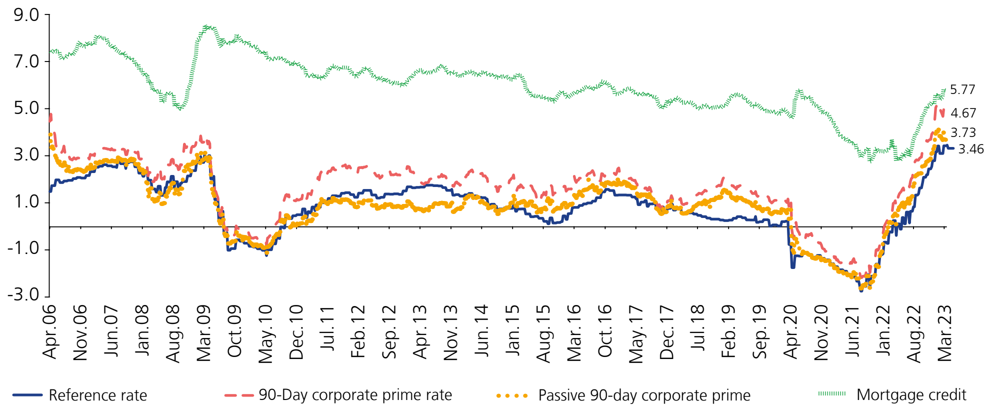
Source: BCRP and SBS.

Interest rates for the different lending segments also rose between December 2022 and March 2023. Banks' segment of loans to microenterprises showed the largest increase during the quarter, with its interest rate rising from 36.3 percent in December 2022 to 39.0 percent in March 2023. During the same pepriod, the interest rate for the mortgage sector increased from 9.9 to 10.1 percent, in line with the upward trend observed in the yield rate of the 10-year sovereign bond until February 2023.

Similarly, banks' deposit rates have continued to trend upward in the first quarter of 2023, but at a slower rate than in the fourth quarter of 2022. For individuals, the interest rates paid on deposits increased by an average of 16 basis points. Similarly, interest rates paid on interest-bearing corporate deposits increased by an average of 29 basis points. On the other hand, the average rate on CTS deposits at banks increased from 2.6 percent to 3.3 percent between December 2022 and March 2023.

62. Real interest rates in domestic currency also showed higher levels in the first quarter of 2023, in line with the evolution of nominal interest rates. Thus, between December 2022 and March 2023, the reference rate in real terms increased by 64 basis points, while the 90-day prime lending rate, the 90-day prime deposit rate and the mortgage loan rate rose by 14, 28 and 59 basis points, respectively.

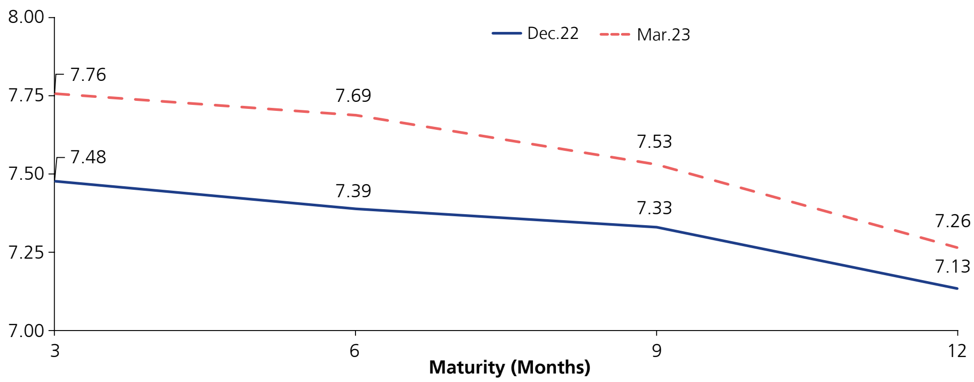
Graph 60
EX-ANTE REAL INTEREST RATES IN SOLES
(%)



As of March 20, 2022. Nominal interest rates are deflated using inflation expectations.
Source: BCRP and SBS

63. The yield curve of Certificates of Deposit (CD-BCRP) continues to show an inverted shape in the first quarter of 2023, which reflects market's expectation on the future evolution of the benchmark rate. Thus, between December 2022 and March 2023 interest rates have risen by 28, 30, 23 and 13 basis points at 3, 6, 9 and 12 month terms, respectively.

Graph 61
CD BCRP YIELD CURVE[1/]
(%)

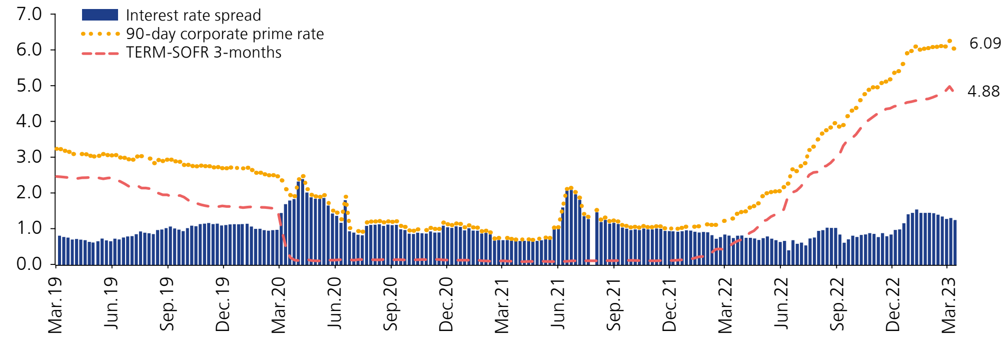


[1/] Rate of return of the primary and secondary market of CD BCRP.
As of March 20.
Source: BCRP.

64. In the case of operations in dollars, most interest rates incorporated the 25 basis point increase in the Federal Reserve's policy rate in the first quarter of 2023. Between December 2022 and March 2023, the average monthly interbank interest rate rose from 4.32 percent to 4.75 percent. Lending and prime lending rates at terms between overnight and 6 months increased by an average of 3 and 21 basis points, respectively. The spread between the prime lending rate and the 3-month term SOFR

rate decreased from 138 basis points in December 2022 to 121 basis points in March 2023.

Graph 62
INTEREST RATE IN US$: 90-DAY CORPORATE PRIME AND TERM-SOFR 3-MONTH
(%)



As of March 20.
Source: Chicago Mercantile Exchange and BCRP.

Likewise, banks' interest rates on dollar deposits showed an upward trend. Interest rates on individual dollar deposits recorded an average increase of 57 basis points, slightly lower than that of corporate deposits (average of 58 basis points).

Table 26
INTEREST RATE IN FOREIGN CURRENCY [1/]
(%)

		Dec.19	Dec.20	Dec.21	Mar.22	Jun.22	Sep.22	Dec.22	Mar.23	Historical average [2/]
Passive	90-day corporate prime	1.6	0.2	0.3	0.6	1.7	3.5	4.7	5.0	1.1
	TIPMEX	0.8	0.3	0.2	0.2	0.4	0.8	1.2	1.6	0.6
	FTIPMEX	1.2	0.1	0.1	0.1	0.5	1.5	2.3	3.0	0.7
	Deposits up to 30-day	1.4	0.1	0.1	0.1	0.8	2.2	3.6	4.3	0.8
	Individuals	1.3	0.0	0.1	0.1	0.5	1.1	1.1	1.8	0.6
	Business	1.4	0.1	0.1	0.1	0.8	2.2	3.6	4.3	0.8
	On 31 to 90-day term deposits	1.5	0.3	0.2	0.3	0.8	2.4	3.3	4.5	1.1
	Individuals	1.0	0.2	0.2	0.2	0.4	0.9	1.7	2.2	0.6
	Business	1.6	0.3	0.2	0.3	0.8	2.6	3.4	4.7	1.1
	On 91 to 180-day term deposits	1.3	0.3	0.5	0.4	1.2	2.4	3.4	3.6	1.0
	Individuals	1.0	0.2	0.3	0.3	0.9	1.6	2.1	2.7	0.8
	Business	1.6	0.3	0.6	0.5	1.4	3.1	4.6	4.9	1.2
	On 181 to 360-day term deposits	1.4	0.3	0.6	0.6	1.7	2.7	3.8	4.1	1.2
	Individuals	1.2	0.3	0.4	0.6	1.4	2.1	3.2	3.8	1.1
	Business	1.8	0.3	0.7	0.8	1.8	3.5	4.9	5.0	1.3
	CTS	1.3	1.0	0.9	1.1	1.0	1.3	1.1	1.0	1.5
Active	90-day corporate prime	2.7	1.0	1.0	1.4	2.6	4.3	6.0	6.1	2.1
	TAMEX	7.6	6.1	6.7	6.7	6.9	8.3	9.3	10.1	7.6
	FTAMEX	7.1	6.3	7.6	8.1	8.1	10.8	10.9	12.9	7.7
	Corporates	3.2	2.0	2.1	2.5	2.8	4.8	6.1	7.1	3.1
	Large companies	5.5	4.5	5.7	6.8	8.3	9.4	7.8	8.7	6.7
	Medium-sized enterprises	6.6	5.9	5.9	6.5	6.5	8.1	8.8	10.3	7.8
	Small business	8.8	5.3	10.3	9.4	13.3	12.7	12.2	14.6	11.6
	Micro business [3/]	7.7	4.8	17.1	10.2	14.3	10.6	9.4	11.7	13.1
	Consumer [3/]	35.3	33.5	33.9	32.9	34.6	33.7	37.1	40.8	35.1
	Mortgage	5.6	5.4	5.0	5.1	6.9	7.3	8.3	7.8	6.9

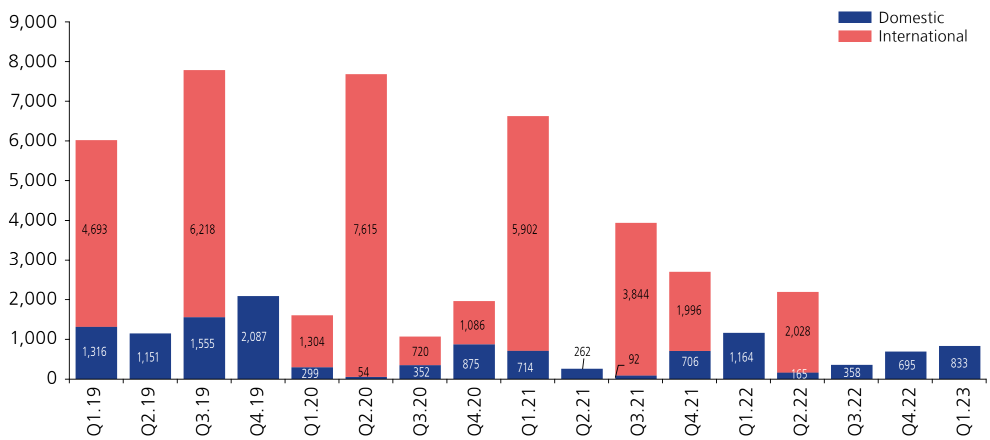
1/ Annual rates for operations in the last 30 working days. In the case of credits and term deposits, it corresponds to the banking companies.
2/ Average since September 2010. In the case of consumer credit, it is the average since October 2019.
3/ Corresponds to the average of the financial system.
As of March 20.
Source: BCRP and SBS.

Fixed income market

65. In the first quarter of 2023, Peruvian companies only accessed financing in the local capital market. The low level of placements in the local and foreign markets responds to: i) the tightening of monetary policy at the global level which increases the cost of borrowing for issuers, ii) the prospects of recession at the global level which affects the demand for auctions of risky securities, iii) the increase in the yield rates of US government bonds, which has been reflected in Peruvian sovereign bonds, and iv) the lower confidence of a rapid recovery in the Peruvian economy which could discourage the supply and demand for placements.

    Securities for a total of S/ 833 million were placed through public offerings in the local market, this amount being above that placed in the fourth quarter of 2022 (S/ 695 million) and above the quarterly average placed between 2019 and 2022 (S/ 740 million). On the other hand, for the third consecutive quarter Peruvian corporations did not make new bond placements in the international market. In contrast, non-resident entities have continued to issue securities in soles: securities for a total of S/ 532 million were placed during the first quarter of 2023, as of March 20. This amount is above the total sold in the fourth quarter of 2022 (S/ 249 million) but below the quarterly average recorded between 2019 and 2022 (S/ 543 million).

Graph 63
PLACEMENTS OF PRIVATE SECTOR BONDS



As of March 20.
Source: Reuters and SMV.

66. The value of portfolios managed by institutional investors showed a slight recovery in the first quarter of 2023, amid a negative environment for local and international financial assets.

    In the case of AFPs, the investment portfolio increased from S/ 105.9 billion to S/ 108.4 billion between December 30, 2022 and March 17, 2023. It is estimated that after Law No. 31478 ("Law authorizing the extraordinary withdrawal of private pension funds in the context of the COVID-19 pandemic in 2022") was enacted, around 3.1 million AFP members withdrew a total of S/ 22.0 billion (69 percent of the initial estimate) from their funds, this amount being equivalent to 2.3 percent of GDP. Between 2020 and 2022, extraordinary withdrawals, which were requested by around 14.6 million members, amounted to S/ 88.0 billion (9.4 percent of GDP). In that period, the Central Bank carried out repo operations with AFPs amounting to S/ 17,208 million with maturity terms of up to 3 months, which prevented the liquidation of significant amounts of securities in a short period of time. As of March 20, 2023, these operations show a zero balance.

For mutual funds, assets under management have increased slightly from S/ 28.3 billion in December 2022 to S/ 28.8 billion in February 2023. The number of participants has also increased from 341.2 to 341.4 thousand in the same period. For insurance companies, the portfolio increased from S/ 57.1 billion to S/ 58.0 billion between September and December 2022.

Foreign Exchange Market

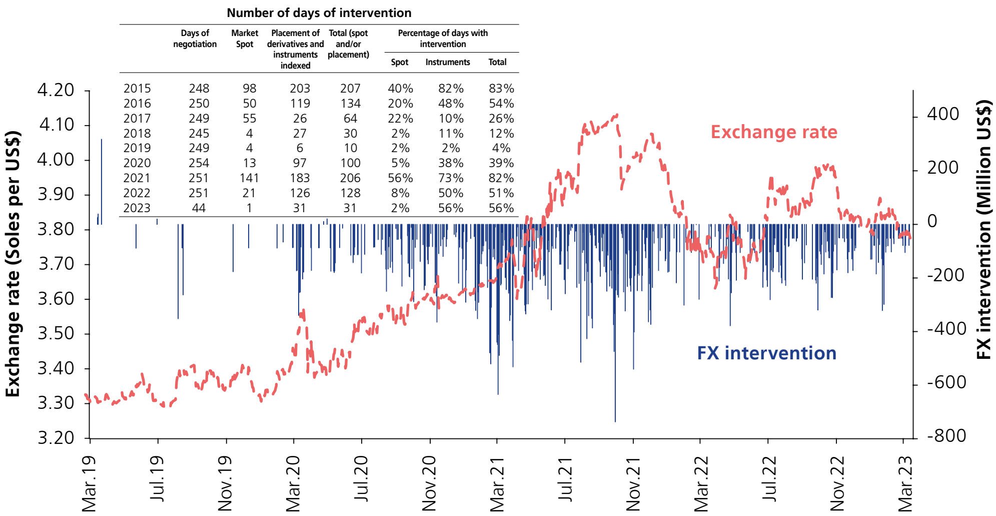
67. The dollar-PEN exchange rate continues to be influenced by changes in risk sentiment towards assets of emerging economies and by local political risk. In the first quarter of 2023, the PEN recorded an appreciation of 0.7 percent. In **January 2023**, the exchange rate depreciated by 1.05 percent due to the uncertainty generated since December 2022 as a result of the lack of consensus between the legislative and executive branches to determine a date to hold earlier elections, which caused social protests. In this context, the demand for dollars increased in the local exchange market, especially the demand for dollars from the corporate sector in the spot market and the demand from non-resident investors in the derivatives market.

In international financial markets, the dollar weakened at the global level (1.4 percent in January) in risk-on environment for risky assets favored by expectations of more moderate US monetary policy actions due to the correction of different inflation metrics and to a decrease in the perception of recession risk in the US. In **February 2023**, the exchange rate appreciated by 1.35 percent in a context with a strengthening dollar at the global level (2.7 percent), a feeling of greater risk aversion due to the persistence of inflation in the United States that would signal a more restrictive monetary policy, a monthly drop in the price of copper (3.0 percent), a lower demand for dollars from the non-financial sector in the local exchange market, and high local political noise due to social protests. **As of March 20,** the exchange rate appreciated slightly by 0.4 percent, while the dollar weakened by 1.5 percent following the collapse of Silicon Valley Bank. On March 13, the exchange rate depreciated by 1.27 percent, the second largest negative daily change in the quarter, in a context marked by high risk aversion due to problems in the U.S. banking sector.

In such a context, the BCRP intervention in the foreign exchange market decreased during the first quarter of 2023 compared to the previous quarter, while on the other hand, exchange rate variability increased. It is worth mentioning that uncertainty has continued in the first quarter in financial markets and that aversion towards risky assets has shown a high variability.

Graph 64

EXCHANGE RATE AND FX INTERVENTION [1/]



Number of days of intervention

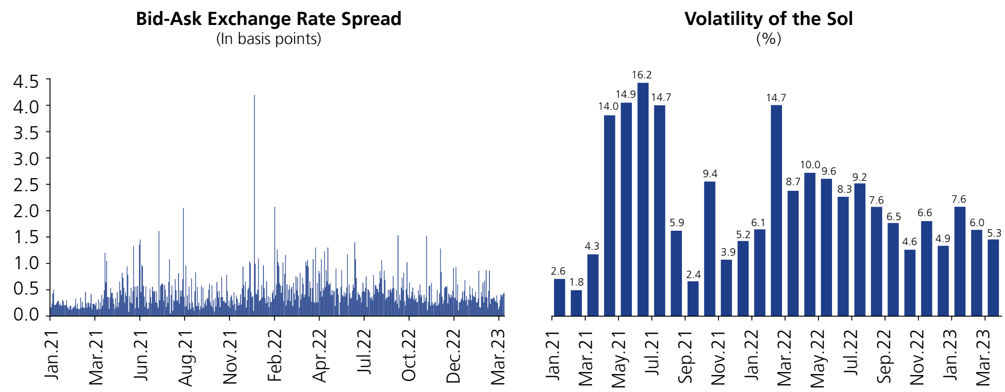
	Days of negotiation	Market Spot	Placement of derivatives and instruments indexed	Total (spot and/or placement)	Percentage of days with intervention		
					Spot	Instruments	Total
2015	248	98	203	207	40%	82%	83%
2016	250	50	119	134	20%	48%	54%
2017	249	55	26	64	22%	10%	26%
2018	245	4	27	30	2%	11%	12%
2019	249	4	6	10	2%	2%	4%
2020	254	13	97	100	5%	38%	39%
2021	251	141	183	206	56%	73%	82%
2022	251	21	126	128	8%	50%	51%
2023	44	1	31	31	2%	56%	56%

1/ Includes Net purchases of US$ in the spot market and placement of CDLD BCRP, CDR BCRP, and FX swaps.
As of March 20.
Source: BCRP.

The average volatility of the PEN increased in the first quarter of 2023 –particularly in January– compared to the fourth quarter of 2022, due to the high level of local political noise perceived. This time, however, the higher volatility was not reflected in the exchange rate bid-ask spreads, which fluctuated between 0.1 and 0.9 basis points between December 2022 and March 2023, below the range observed in the fourth quarter (0.1 and 1.5 basis points).

Graph 65

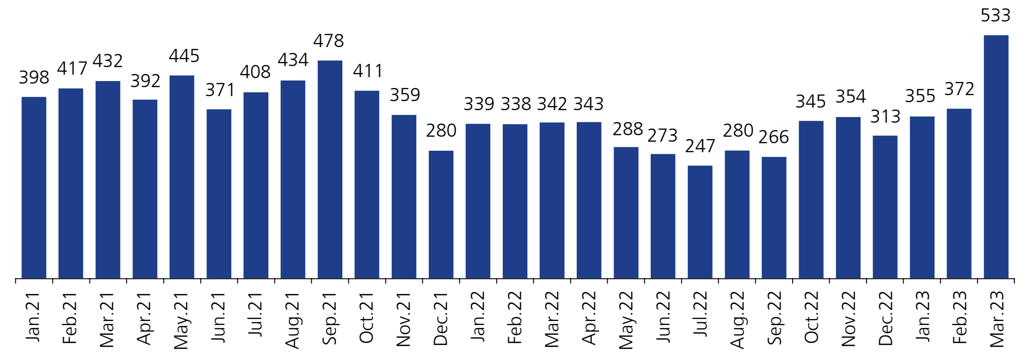
EXCHANGE RATE SPREAD AND VOLATILITY



Annualized monthly daily standard deviation.
As of March 20.
Source: Reuters and BCRP.

Average daily trading in the spot interbank foreign exchange market so far in the first quarter of 2023 (US$ 420 million) has been higher than in the third and fourth quarters of 2022 (US$ 264 million and US$ 337 million, respectively), which is associated with the high demand for dollars from non-financial sector clients in the spot market, mainly in January.

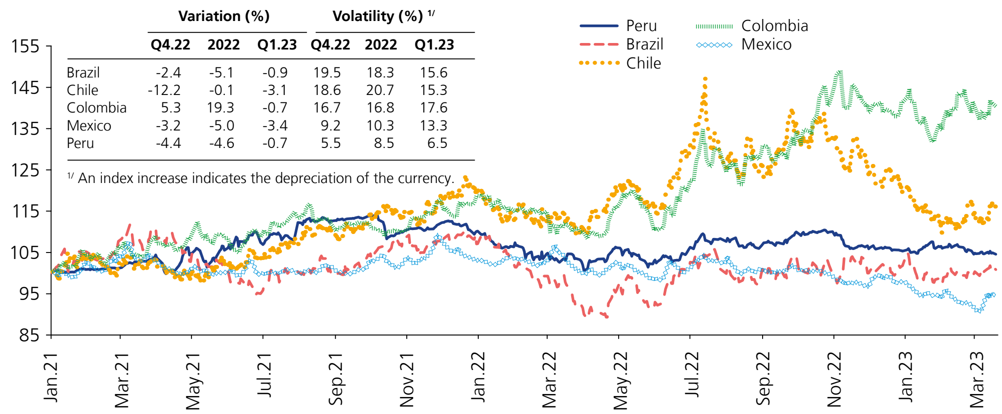
Graph 66
AVERAGE AMOUNT TRADED IN INTERBANK SPOT MARKET
(Million US$)



As of March 20.
Source: BCRP.

In the region, the performance of the Peruvian currency was lower than that of its peers due to the uncertainty associated with the political crisis that began in December 2022. However, although the volatility of the dollar-PEN exchange rate in the first quarter of 2023 is higher than in the fourth quarter of 2022, it is still the lowest in the region, which is associated with the solid macroeconomic fundamentals of the Peruvian economy.

Graph 67
EXCHANGE RATE INDEX [1/]
(Dec 31, 2020=100)

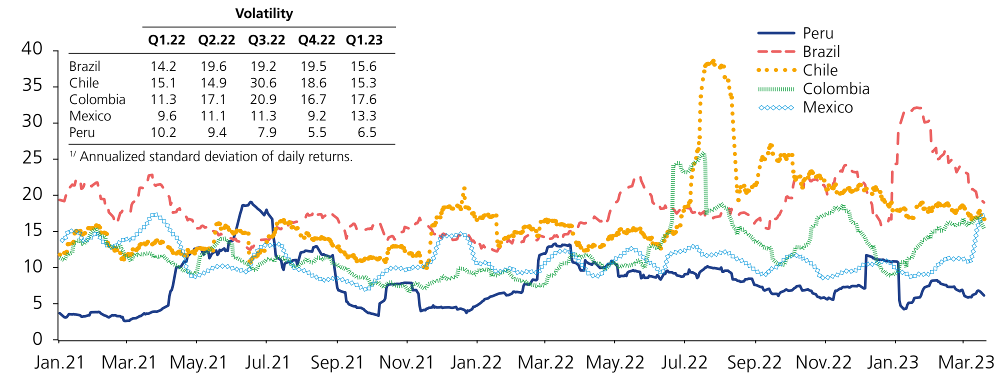


	Variation (%)			Volatility (%) [1/]		
	Q4.22	2022	Q1.23	Q4.22	2022	Q1.23
Brazil	-2.4	-5.1	-0.9	19.5	18.3	15.6
Chile	-12.2	-0.1	-3.1	18.6	20.7	15.3
Colombia	5.3	19.3	-0.7	16.7	16.8	17.6
Mexico	-3.2	-5.0	-3.4	9.2	10.3	13.3
Peru	-4.4	-4.6	-0.7	5.5	8.5	6.5

[1/] An index increase indicates the depreciation of the currency.

[1/] Annualized standard deviation of daily returns.
As of March 20.
Source: BCRP and Reuters

Graph 68
EXCHANGE VOLATILITY*

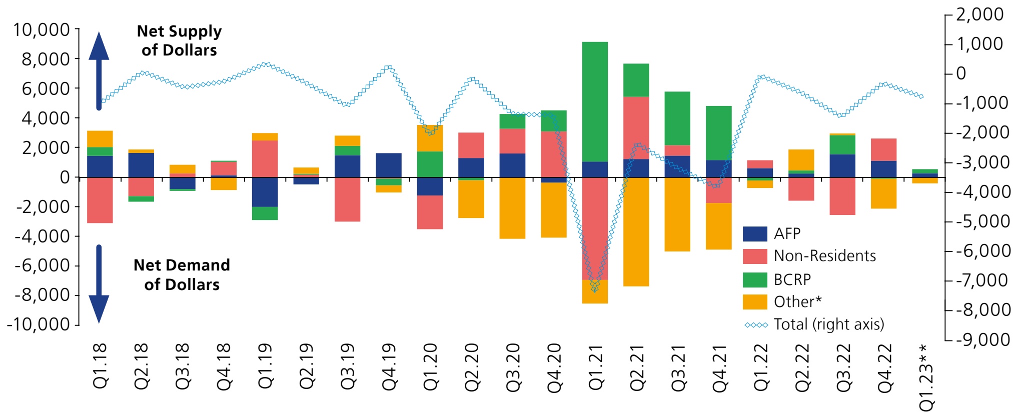


	Q1.22	Q2.22	Q3.22	Q4.22	Q1.23
Brazil	14.2	19.6	19.2	19.5	15.6
Chile	15.1	14.9	30.6	18.6	15.3
Colombia	11.3	17.1	20.9	16.7	17.6
Mexico	9.6	11.1	11.3	9.2	13.3
Peru	10.2	9.4	7.9	5.5	6.5

* Standard deviation of the annualized daily return in the last 30 days.
Data as of March 20.
Source: Reuters.

68. Foreign exchange flows from market participants in the first quarter of 2023, as of March 20, registered a net demand for dollars (US$ 512 million), which represents a change from the net dollar supply observed in the fourth quarter of 2022 (US$ 14 million). In the spot market there was a net demand for dollars (US$ 733 million), mainly from companies in the corporate sector; while in the derivatives market there was a net supply (US$ 221 million), mainly from non-resident investors and AFPs.

Graph 69
FLOWS TO THE FOREIGN EXCHANGE MARKET (SPOT AND DERIVATIVES)
(Million US$)



	2021	Q1.22	Q2.22	Q3.22	Q4.22	2022	Q1.23
Spot	-6,891	-1,482	2,017	2,816	-2,071	1,281	-733
Derivatives	-10,287	1,787	-2,338	-4,064	2,085	-2,529	221
Total	**-17,178**	**305**	**-321**	**-1,248**	**14**	**-1,248**	**-512**
Variation in Global Exchange Position of Banks	-328	-77	107	-25	108	113	238
BCRP intervention	17,506	-229	213	1,273	-123	1,134	273

* Other includes companies in the corporate sector, mining and retail sector.
** As of March 20.
Source: BCRP.

Non-resident investors' demand for dollars in the spot market in the first quarter amounted to US$ 433 million, a sum above that observed in the fourth quarter of 2022 (US$ 79 million). In the derivatives market, the net supply in the first quarter (US$ 416 million) was below the net supply of forwards observed in the fourth quarter of 2022 (US$ 1,578 million). Moreover, during the period, foreign investors decreased their holdings of treasury bonds (BTP) by S/ 2,263 million (S/ 1,531 million in March).

In the first quarter of 2023, the AFPs supplied around US$ 252 million, below the net amount supplied in the fourth quarter of 2022 (US$ 1,096 million). On the other hand, net purchases of external securities by AFPs in the period totaled US$ 469 million, a figure above that recorded in the fourth quarter of 2022 (US$ 168 million).

In the case of the non-financial sector, between December 2022 and March 2023 entities showed a net demand of US$ 512 million: (i) companies in the corporate sector registered a net demand of US$ 3,328 million, mainly in the spot market (US$ 3,003 million). This lower amount than the total recorded in the fourth quarter of 2022 (US$ 4,514 million) reflects a reduction in dollarization by economic agents due to precautionary reasons; (ii) companies in the mining sector recorded a net supply of US$ 2,411 million in the spot market, a figure above the net supply in the fourth quarter of 2022 (US$ 2,270 million), associated with the sale of dollars due to the beginning of the income tax regularization period; (iii) the retail sector recorded a net supply of US$ 507 million in the spot market, above the net supply in the fourth quarter of 2022 (US$ 244 million).

Banks' overall position decreased from US$ 114 million in December 2022 to US$ -125 million in March 2023. Banks' balance of net sales of Non-Delivery Forwards (NDF) with non-resident investors decreased by US$ 782 million between the fourth quarter of 2022 and the first quarter of 2023, reflecting the lower demand for dollars from non-resident investors observed in foreign exchange market flows.

Between December 2022 and March 2023, BCRP intervened in the foreign exchange market through auctions of FX Swaps-sales at fixed rates and sales of dollars in the spot market in order to minimize volatility in the price of the PEN, in a context marked by high uncertainty in the global and local foreign exchange market. Thus, FX Swaps-sales at fixed rates for a total of S/ 12,017 million were placed at terms of 3, 6 and 9 months and FX Swaps-sales at fixed rates for a total of S/ 11,236 million matured. The percentage of days on which BCRP intervened in the foreign exchange market in 2023 (56 percent) is higher than that recorded in March 2022 (34 percent).

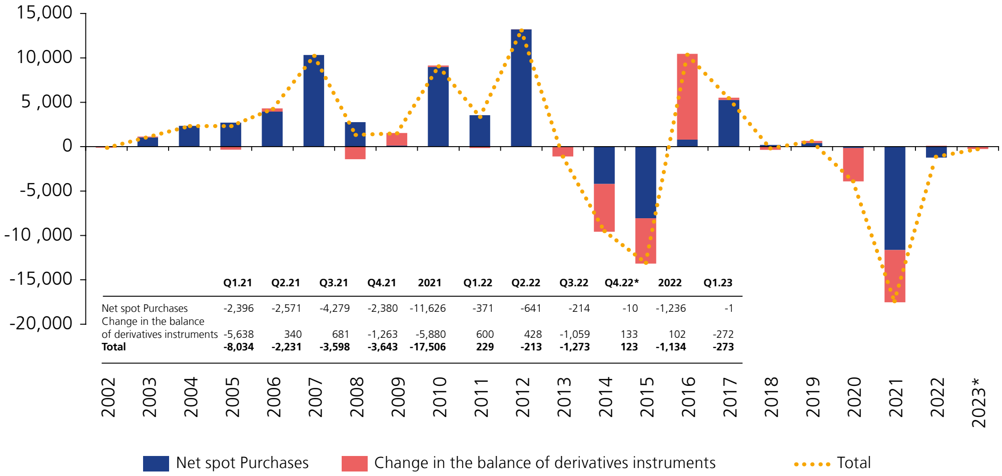
The accumulated balance of FX Swaps-sale as of March 20 was S/ 38.8 billion (3.7 percent of GDP), which presents an average residual term of 255 days in March 2022, higher than in December 2019 (62 days) and December 2020 (107 days), but lower than the average residual term in December 2021 (293 days). The increase in average maturity terms is associated with demand for hedging over a longer horizon.

As of March 20, the BCRP has made a net sale of US$ 273 million in the foreign exchange market through sales in the spot market (US$ 1 million) and the net placement of FX swaps (US$ 272 million). The average monthly intervention in the foreign exchange market during the most volatile period –from January to November 2021– was US$ 1,568 million, higher than that observed in the period of the Global Financial Crisis (US$ 1,296 million), higher than the one recorded between February 2013 and April 2016 (US$ 614 million) and higher than that observed in the period between December 2021 and March 2023 (US$ 104 million).

Graph 70

FX INTERVENTION OF THE BCRP

(Million US$)



	Q1.21	Q2.21	Q3.21	Q4.21	2021	Q1.22	Q2.22	Q3.22	Q4.22*	2022	Q1.23
Net spot Purchases	-2,396	-2,571	-4,279	-2,380	-11,626	-371	-641	-214	-10	-1,236	-1
Change in the balance of derivatives instruments	-5,638	340	681	-1,263	-5,880	600	428	-1,059	133	102	-272
Total	**-8,034**	**-2,231**	**-3,598**	**-3,643**	**-17,506**	**229**	**-213**	**-1,273**	**123**	**-1,134**	**-273**

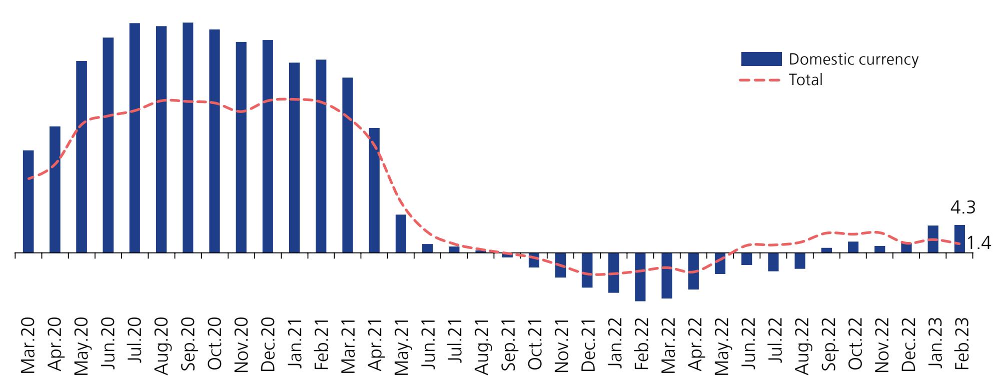
*As of March 20.
Source: BCRP.

In this context of lower net demand for dollars in the local exchange market, BCRP has net offered dollars to banks in the first quarter of 2023 through net placements of FX Swaps-sale and net sales of dollars in the spot market. It is worth pointing out that in addition to the adequate level of international reserves it has, BCRP enjoys high credibility and has access to credit lines such as the IMF's Flexible Credit Line (FCL), which is only available to countries with very solid macroeconomic fundamentals. The greater interventions of BCRP in the foreign exchange market in 2021 to offer dollars in the spot market, and mainly in the derivatives markets, have contributed to offset the extraordinary upward pressures on the exchange rate.

Liquidity

69. The year-on-year growth rate of private sector deposits interrupted its upward trend in February 2023 recording a rate of 1.4 percent in annual terms, after experiencing an increasing trend between June and November 2022, and during January 2023. By currency, deposits in soles grew by 4.3 percent year-on-year, while deposits in dollars decreased by 3.5 percent in the last 12 months to February.

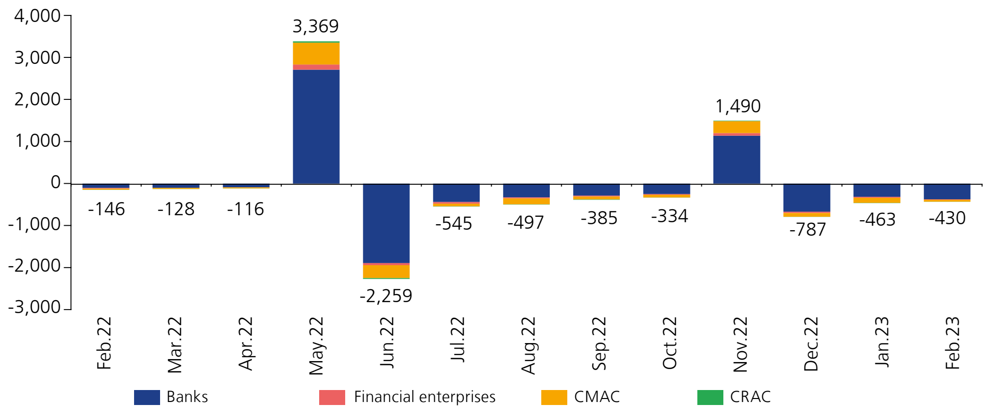
Graph 71
DEPOSITS OF THE PRIVATE SECTOR BY CURRENCY
(Annual % change)



Source: BCRP.

Laws were passed in 2021 and 2022 that allowed the withdrawal of CTS deposits, which explains, to a large extent, the drop in private sector deposits during these years. As a result of the first law passed in May 2021 and in force until December 2021, which allowed the withdrawal of 100 percent of CTS deposits, an estimated total of S/ 12,539 million deposit funds was withdrawn. A similar law was then approved in May 2022 (in force since June) that allowed withdrawals until December 2023. Since the measure was passed, the greatest drop in CTS deposits was observed in banks (S/ 3,403 million) and in municipal savings banks (S/ 618 million). In May, before this measure was implemented, the balance of CTS deposits was S/ 14,391 million, while in February 2023, the balance was S/ 10,181 million.

Graph 72
MONTHLY FLOWS OF C.T.S. DEPOSITS
(Million S/)



The dollarization ratio of private sector deposits increased from 35.7 percent in December 2022 to 35.9 percent in February 2023. This is explained both by the increase in the dollarization rate of corporate deposits (from 40.0 percent to 40.2 percent) and by the decrease in the dollarization rate of individual deposits (from 32.6 percent to 32.5 percent).

In 2022, deposits in domestic currency grew 1.5 percent, while credit to the private sector in domestic currency grew 2.5 percent. The difference between both variables is expected to persist in 2023 (deposits in soles would grow 7.5 percent and credit to the private sector in domestic currency would grow 5.9 percent), while in 2024, the gap is expected to narrow (with growth rates of 10.4 and 7.3 percent being estimated, respectively).

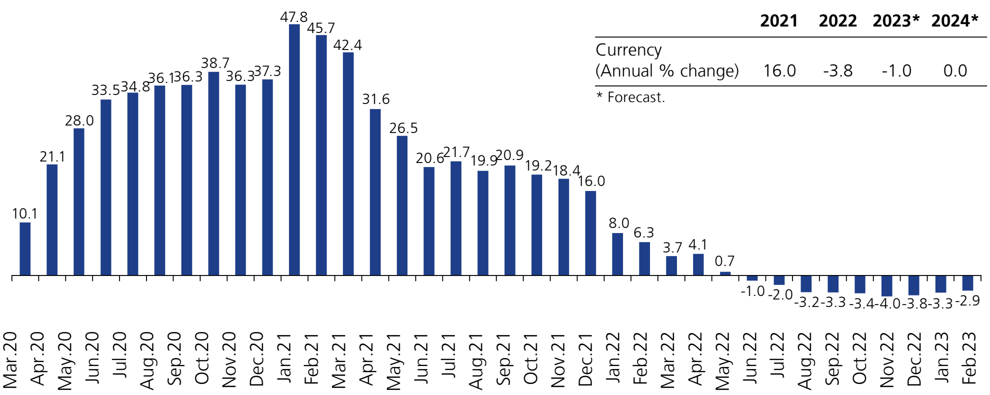
Table 27
MONETARY AND CREDIT ACCOUNTS OF THE DEPOSITORY CORPORATIONS (END-OF-PERIOD)
(Annual % change)

	Dec.19	Dec.20	Dec.21	Mar.22	Jun.22	Sep.22	Dec.22	Jan.23	Feb.23	Dec.23*	Dec.24*
Currency in circulation (End-of-period)	4.7	37.3	16.0	3.7	-1.0	-3.3	-3.8	-3.3	-2.9	-1.0	0.0
Deposits in domestic currency	12.3	33.0	-5.4	-7.1	-1.9	0.8	1.5	4.2	4.3	7.5	10.4
Total deposits 1/	10.1	23.6	-3.3	-2.4	1.1	3.0	1.5	2.0	1.4	5.0	7.1
Broad money in domestic currency	10.6	32.2	-0.7	-4.2	-1.3	0.1	0.5	2.4	2.7	5.4	7.9
Total broad money 1/	9.6	25.1	0.0	-0.6	1.3	2.3	0.9	1.4	0.9	3.8	5.7
Credit to the private sector in domestic currency	10.1	19.4	5.6	7.7	6.7	4.2	2.5	1.9	0.4	5.9	7.3
Total credit to the private sector 1/	6.9	10.7	4.4	7.2	6.1	6.0	4.5	4.1	2.8	4.5	6.0
Total credit to the private sector (without Reactiva Peru Program) 1/	6.9	-5.5	9.2	13.9	13.2	13.0	11.2	10.7	9.1	7.8	7.5

1/ Balances are valuated at constant exchange rate of December 2022.
*F orecast.

70. Currency in circulation declined 3.8 percent year-on-year in December 2022, and 2.9 percent in February 2023. After growing at historically high rates during the State of Emergency[22], the growth rate of **currency in circulation i**s expected to continue to slow down in the following months since the factors that favored its increase in currency in previous years have offset. Thus, currency would grow at a slower pace than nominal GDP and is expected to return to its pre-pandemic trend in the medium term. More specifically, variation rates of -1.0 percent and 0.0 percent are estimated for for 2023 and 2024, respectively.

Graph 73
CURRENCY
(Annual % change)



	2021	2022	2023*	2024*
Currency (Annual % change)	16.0	-3.8	-1.0	0.0

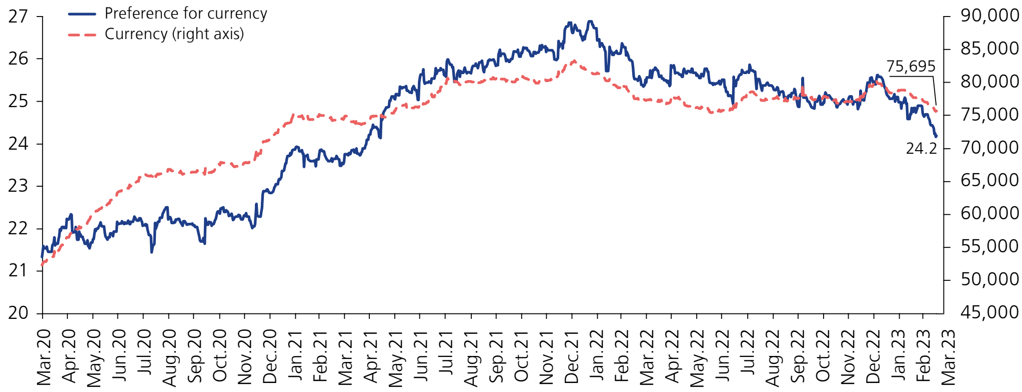
* Forecast.

* Forecast.
Source: BCRP.

22 Precautionary cash savings would have been driven mainly by transfers to families through the bonds granted by the State.

71. After growing steadily between April 2020 and December 2021, the preference for cash continued to decline during 2022 and early 2023, and recorded 24.2 percent in March 2023.

Graph 74
CURRENCY AND PREFERENCE FOR CURRENCY
(In millions soles and %)



Source: BCRP.

Credit to the private sector

72. **Credit to the private sector** slowed down its pace of growth in February 2022. Although it grew 4.5 percent during 2022 (4.4 percent in 2021), it showed a slow down in February 2023 (2.8 percent), compared to January 2023. Excluding the loans granted under the Reactiva Peru program, the year-on-year growth rate of credit was 11.2 percent in 2022 and 9.1 percent in February 2023.

73. The dynamism of credit has been driven mainly by credit to individuals, which went from growing at a rate of 15.7 percent in December 2022 to a rate of 14.6 percent in February 2023, showing a slowdown compared to the previous months. This slowdown in credit to individuals is mainly due to the lower pace of growth observed in consumer loans (19.9 percent in February 2023). On the other hand, mortgage loans also showed a deceleration during the last month, recording a growth rate of 7.3 percent year-on-year in February 2023.

74. Credit to businesses shows a contraction associated with the amortizations of the loans granted under the Reactiva Peru program. In February 2023, credit to companies decreased by 3.6 percent, although when the Reactiva Peru loans are excluded, it increased by 5.7 percent. The largest drop in credit was observed in the segment of medium, small and micro companies (-4.5 percent), while the segment of loans to corporations and large companies showed a 2.8 percent drop.

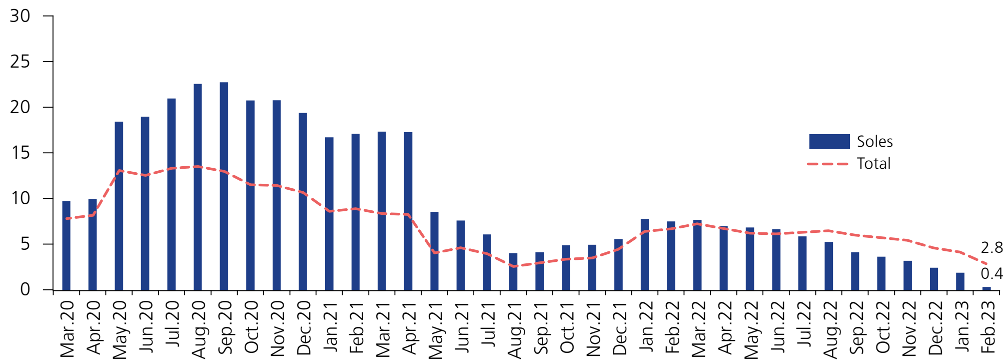
Table 28
CREDIT TO THE PRIVATE SECTOR [1/]
(Annual growth rate)

	Dec.19	Dec.20	Dec.21	Mar.22	Jun.22	Sep.22	Dec.22	Feb.23
Business	**4.2**	**19.7**	**3.9**	**5.0**	**1.2**	**0.3**	**-1.3**	**-3.6**
Corporate and large companies	4.3	6.4	8.0	10.7	4.2	3.8	1.3	-2.8
Medium-sized enterprises, Small and Micro business	4.2	35.6	-0.0	-0.6	-1.8	-3.1	-4.0	-4.5
Individuals	**11.4**	**-3.2**	**5.3**	**11.6**	**15.8**	**17.1**	**15.7**	**14.6**
Consumer	13.3	-7.2	3.9	15.1	21.7	23.6	21.4	19.9
Car loans	12.0	-2.2	7.3	13.4	12.3	17.6	15.9	17.3
Rest	13.4	-7.3	3.8	15.1	22.0	23.8	21.6	20.0
Mortgage	8.6	2.9	7.2	7.2	8.2	8.8	7.9	7.3
TOTAL	**6.9**	**10.7**	**4.4**	**7.2**	**6.1**	**6.0**	**4.5**	**2.8**
Memo:								
Businesses without Reactiva	**4.2**	**-7.0**	**11.8**	**15.4**	**11.5**	**10.4**	**8.4**	**5.7**
Total without Reactiva Peru	**6.9**	**-5.5**	**9.2**	**13.9**	**13.2**	**13.0**	**11.2**	**9.1**

1/ Balances are valuated at constant exchange rate on December 2022.
Source: BCRP.

75. Since the beginning of 2022, there has been a slow down in credit in soles and an increase in credit in dollars, mainly in the corporate sector. As of February 2023, credit in soles has grown 0.4 percent, while credit in dollars has grown 11.2 percent in the same period.

Graph 75
CREDIT TO THE PRIVATE SECTOR IN DOMESTIC CURRENCY
(Annual % change)



CREDIT TO THE PRIVATE SECTOR [1/]
(Annual % change)

	Dec.20	Mar.21	Jun.21	Sep.21	Dec.21	Mar.22	Jun.22	Sep.22	Dec.22	Feb.23
Domestic currency	19.4	17.3	7.6	4.2	5.6	7.7	6.7	4.2	2.5	0.4
Foreign currency	-11.0	-14.0	-4.3	-1.7	0.3	5.7	4.3	12.4	11.9	11.2
Total	10.7	8.4	4.5	2.8	4.4	7.2	6.1	6.0	4.5	2.8

1/ Balances are valuated at constant exchange rate on December 2022.
Source: BCRP.

Dollarization of credit and liquidity

76. The dollarization ratio of credit to the private sector, measured at constant exchange rates, showed a trend shift with respect to previous years. In February 2023, it registered 23.9 percent, a higher level than that observed in December 2022 (23.5 percent). An increase was observed in the dollarization ratio of credit to companies, which rose from 33.7 to 34.7 percent between December 2022 and February 2023,

whereas the dollarization ratio of credit to individuals, on the other hand, remained at 7.1 percent during the same period. The dollarization ratio of the mortgage segment went from 9.0 percent in December 2022 to 8.9 percent in February 2023, while that of consumer loans remained at 5.9 percent in the same period.

Table 29
RATIO OF DOLLARIZATION OF CREDIT TO THE PRIVATE SECTOR [1/]
(%)

	Dec.19	Dec.20	Dec.21	Mar.22	Jun.22	Sep.22	Dec.22	Feb.23
Business	**40.3**	**30.1**	**29.5**	**30.2**	**32.1**	**33.0**	**33.7**	**34.7**
Corporate and large companies	53.7	45.8	44.5	45.6	49.0	50.4	51.4	53.4
Medium-sized enterprises	41.9	24.4	22.7	23.0	23.9	25.2	26.1	27.3
Small business and Micro business	6.4	4.5	3.8	3.7	3.4	3.4	3.4	3.3
Individuals	**10.1**	**9.0**	**7.8**	**7.8**	**7.6**	**7.5**	**7.1**	**7.1**
Consumer	6.8	6.1	6.0	6.4	6.3	6.3	5.9	5.9
Car loans	16.6	18.8	14.4	12.7	12.0	11.3	11.0	10.9
Credit cards	8.0	6.5	12.9	12.3	12.3	12.7	11.6	12.0
Rest	5.7	5.4	4.3	5.0	4.9	4.7	4.5	4.4
Mortgage	15.0	13.1	10.3	9.8	9.4	9.2	9.0	8.9
TOTAL	**28.5**	**22.9**	**22.0**	**22.3**	**23.1**	**23.5**	**23.5**	**23.9**

1/ Balances are valuated at constant exchange rate on December 2022.
Source: BCRP.

Non-performing loans

77. The ratio of non-performing loans also showed a trend shift in the last month. Thus, in February 2023 this ratio was 4.07 percent, 0.10 percentage points higher than in December 2022 (3.97 percent). Higher non-performing loans in credit to companies would explain this result, mainly as a result of an increase in the rate of non-performing loans granted to the corporate segment, medium-sized companies, and micro and small businesses. Likewise, the rate of non-performing loans has also increased in credit to individuals in the same period, particularly in credit associated with credit cards.

Table 30
NON-PERFORMING LOANS INDEX
(%)

	Dec.19	Dec.20	Dec.21	Mar.22	Jun.22	Sep.22	Dec.22	Feb.23
Business	**3.71**	**3.73**	**4.60**	**4.80**	**4.81**	**5.04**	**5.09**	**5.24**
Corporate and large companies	0.62	1.04	1.08	1.28	1.45	1.46	1.39	1.48
Medium-sized enterprises	8.24	6.27	9.49	9.99	10.16	11.29	11.65	12.03
Small business and Micro business	6.29	6.06	6.54	6.63	6.37	6.47	6.37	6.40
Individuals	**2.85**	**4.91**	**2.57**	**2.45**	**2.53**	**2.54**	**2.54**	**2.61**
Consumer	2.81	5.92	2.23	2.14	2.31	2.47	2.51	2.60
Credit cards	5.33	12.70	6.28	6.18	6.43	6.71	6.58	7.01
Vehicular	3.75	5.85	3.72	3.74	3.54	3.46	3.37	3.22
Rest	1.46	3.07	1.35	1.28	1.39	1.52	1.57	1.60
Mortgage	2.91	3.51	3.01	2.87	2.84	2.64	2.57	2.61
Average [1/]	**3.24**	**4.00**	**3.76**	**3.82**	**3.84**	**3.98**	**3.97**	**4.07**

1/ The non-performing loans index is the percentage of direct loans that are overdue or in the judicial collection. Likewise, this indicator includes credits to companies, natural persons, sovereign credits, to multilateral organizations, and to companies and public sector organizations.
Source: BCRP.

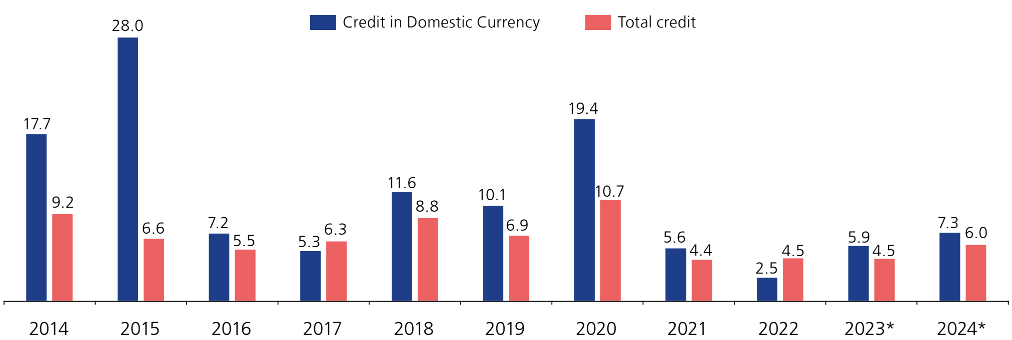
Projection of credit to the private sector

78. After showing a significant increase in the credit-to-GDP ratio in 2020, credit to the private sector is expected to grow at a slower pace than nominal GDP in 2023 and 2024. The credit-to-GDP ratio, which is expected to stabilize at pre-pandemic levels, would show a rate of 42.1 percent of GDP in 2023 (after having recorded 53.1 percent in 2020, 45.5 percent in 2021, and 44.5 percent in 2022). This forecast also assumes the recovery of economic activity (with a 33.5 percent nominal GDP growth rate with respect to 2019 and a 10.4 percent growth rate with respect to 2022).

Credit in domestic currency is also expected to increase. Thus, credit to the private sector in domestic currency would grow 5.9 percent in 2023 and 7.3 percent in 2024, taking into account the disappearance of the statistical effect of the strong increase observed in 2020 and the beginning of the amortizations of the loans granted under the Reactiva Peru program. Total credit would grow 4.5 percent in 2023 (7.8 percent excluding Reactiva loans) and in 2024, it is expected to grow by 6.0 percent (7.5 percent excluding Reactiva loans). As a result, the credit dollarization ratio is foreseen to continue to fall and is estimated to reach 21.6 percent by the end of 2024.

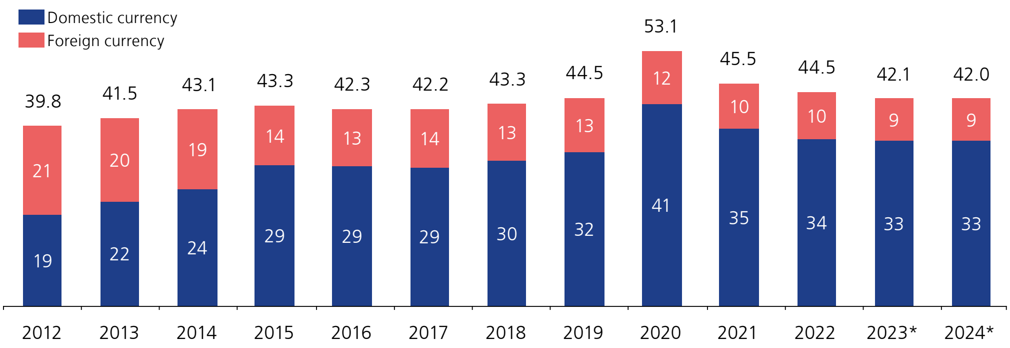
In line with forecasts for credit to the private sector, the growth of liquidity would pick up slightly (after remaining flat in 2021) and the growth of currency in circulation would moderate, although both are expected to grow at lower rates than nominal GDP in 2023 and 2024. The ratio of liquidity to GDP would fall from 47.6 percent in 2022 to 44.8 percent in 2023 and to 44.5 percent in 2024, while depository corporations' ratio of currency in circulation would contract from 8.5 percent in 2022 to 7.6 percent in 2023, and to 7.2 percent in 2024.

Graph 76
CREDIT TO THE PRIVATE SECTOR
(% change)



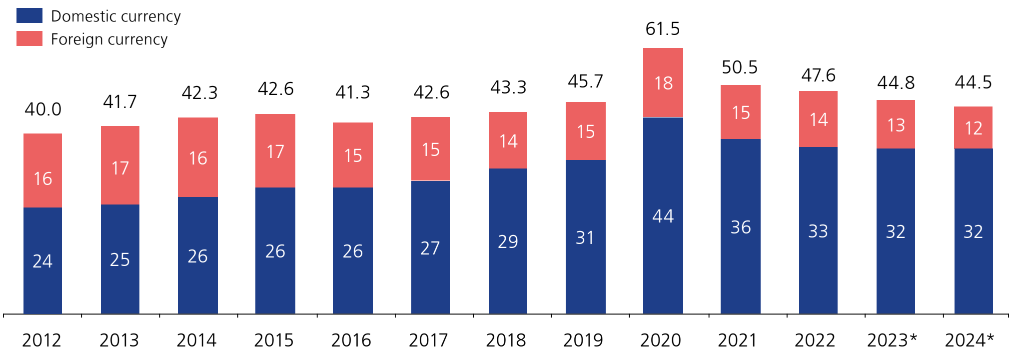
* Forecast.
Source: BCRP.

Graph 77
RATIO CREDIT/GDP
(%)



Note: calculated with constant exchange rate (December 2022)
*Forecast.
Source: BCRP.

Graph 78
RATIO LIQUIDITY/GDP
(%)



Note: calculated with constant exchange rate (December 2022)
*Forecast.
Source: BCRP.

Box 3

EVOLUTION OF HIGH QUALITY LIQUID ASSETS IN DOMESTIC CURRENCY

Liquidity regulation

The concepts of high quality liquid assets (HQLA) and liquidity coverage ratio (LCR) are part of the Basel III regulatory reform[23] whose importance lies in promoting that regulated entities manage their HQLA in order that they are sufficient to absorb the financial or economic shocks that may occur in the short term (within a 30 calendar day timeframe). The evolution of these metrics in domestic currency is analyzed in this box for a period of time covering three events: the pandemic, the suspension of the LCR and monetary policy adjustment.

In Peru, the Superintendency of Banking and Insurance Companies (SBS) approved the Liquidity Risk Management Regulation[24], an adaptation of international standards, through SBS Resolution N° 9075-2012. Although it defined from the beginning that the regulatory limit of the LCR is 100 percent, it also included amending regulations that established a period of time to allow the progressive compliance of this limit, setting the limit at 80 percent between January 2014 and December 2017, at 90 percent in 2018, and at 100 percent as of January 2019.

Since Peru is a dual currency economy, the LCR is calculated separately for assets denominated in domestic currency (DC) and assets denominated in foreign currency (FC). A total LCR where the LCR in FC is expressed in soles is also reported. The calculation of the LCR is constructed based on daily balances so that:

$$LCR = \frac{HQLA + Mín\,(B,\ 0{,}75 * C)}{C}$$

Where:
B: 30-days incoming flows
C: 30-days outgoing flows

The above expression shows the close link between the HQLA and LCR concepts: the level of LCR is directly proportional to the HQLA buffer. According to SBS regulations, HQLA are characterized by their rapid conversion to cash, the low volatility of their value, and/or their low correlation with risky assets.

The October 2022 resolution (SBS N° 03296-2022), effective as of January 2024, has introduced several amendments. It highlights that there can be two categories of HQLA: Level 1 assets, which include cash, funds available in BCRP and debt securities issued by BCRP or the Central Government, and Level 2 assets, such as debt securities of foreign governments with a higher relative risk than those of Level 1 and corporate bonds. Weighting factors are applied so the higher the liquidity of an asset (lower risk), the closer the weighting factor is to 100 percent.

Minimum liquidity requirements and monetary policy

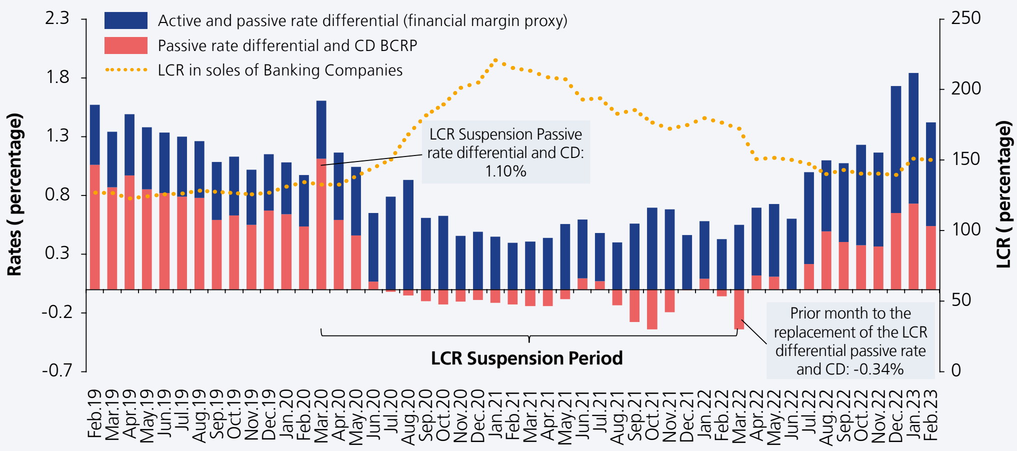
Under an inflation targeting scheme, BCRP does not predetermine a level of monetary aggregates, but rather these are determined by the demand of the financial system, given the benchmark rate and its pass-through effect on the rest of the market interest rates.

23 Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools (BIS 2013).

24 The SBS compiles the daily balances of regulated entities through Annex No. 15-b on the Liquidity Coverage Ratio.

Bech and Keister (2017)[25] argue that liquidity regulations have the potential to impact monetary policy transmission. In the framework of international standard regulation, Bech and Keister suggest that compliance with the LCR generates incentives to hold liquid assets and decrease short-term funding[26]. Such incentives could put upward pressure on interest rates for terms longer than the regulatory target, a benefit that materializes with a positive rate differential (LCR premium).

LCR IN SOLES OF BANKING COMPANIES AND EVOLUTION OF CORPORATE PREFERENTIAL RATE DIFFERENTIALS



Source: BCRP and SBS.
Own elaboration. All interest rates included correspond to the term of 3 months

In the Peruvian case, this relationship was not evident during the LCR suspension period because financial conditions remained loose due to the extraordinary quantitative easing actions implemented during the pandemic. During the suspension of the LCR, the spread of the 3-month prime deposit rate minus the rate of a BCRP CD with the same maturity term, had a decreasing trend until it reached a minimum of -0.34 percent in March 2022. This spread returned to positive values as from April 2022, this period coinciding with the reestablishment of the regulatory limit and with financial institutions' lower availability of liquid assets.

In addition to the regulatory limit of the LCR, entities subject to reserve requirements (ESRR) are required to provision intra-monthly funds to comply with the BCRP reserve requirements. Thus, the LCR includes the assets that constitute the reserve requirement funds and other assets, which are liquid investments in high quality debt instruments. The liquidity requirement corresponding to the LCR depends on the composition of the balance sheets of the ESRR: the higher the outflows an entity has in the short term (30 days) with respect to the incoming flows, the higher the requirement of high quality liquid assets.

25 Bech, Morten and Todd Keister (2017). Liquidity regulation and the implementation of monetary policy. Journal of Monetary Economics. Elsevier, vol. 92(C), pp. 64-77.

26 These authors argue that short-term funding does not offer an incremental benefit in meeting the LCR requirement.

A useful concept for studying LCR dynamics is the minimum HQLA level (HQLA_min) that meets the minimum regulatory level of 100 percent, assuming constant inflows and outflows. The HQLA_min is defined as follows[27] :

$$HQLA\_\min = C - \min(B, 0.75 * C)$$

Between the end of 2019 and February 2022, the minimum HQLA at the level of all ESRR fluctuated between 15 and 17 percent of total obligations subject to reserve requirements (TOSR). This regulatory pressure metric was higher for banks than for non-banks. In the same vein, the effective HQLA (percentage of total TOSR) of ESRR increased from 31 percent at the end of 2019 to a peak of 45 percent end-2020, declining progressively thereafter to 36 percent in February 2023.

Although in aggregate terms ESRR maintain both HQLA ratios above pre-pandemic levels, non-banks have recorded less slack. If we calculate the difference between the effective HQLA and the Minimum HQLA ratios, we obtain a measure of HQLA excess with respect to what is required by the LCR rule. When this excess is positive, it indicates that the LCR is above the minimum of 100 percent. After peaking for the period in 2020, both banks and non-banks maintain a positive HQLA Excess. As of February 2023, non-banks have an excess HQLA of 7.7 percent, below that of banks (12.8 percent).

EVOLUTION OF MINIMUM HQLA, EFFECTIVE HQLA AND EXCESS OF HQLA

	Group	Year Dec.19	Dec.20	Dec.21	Dec.22	IR Mar.23 Feb.23	Evolution
HQLA min (% TOSR average 30 days)	TOTAL	14.9	15.9	15.9	16.0	17.3	
	Banks	17.5	16.7	15.5	16.9	18.5	
	Non-banks	7.1	9.0	9.8	7.8	8.6	
Excess of HQLA over LCR rule (% TOSR average 30 days)	TOTAL	15.9	29.0	23.5	17.1	18.7	
	Banks	9.7	24.4	17.4	10.4	12.8	
	Non-banks	8.5	17.2	7.4	7.0	7.7	
Effective HQLA (% TOSR average 30 days)	TOTAL	30.8	44.9	39.5	33.2	36.0	
	Banks	27.2	41.2	32.9	27.3	31.3	
	Non-banks	15.6	26.2	17.3	14.8	16.3	

HQLA components

The composition of banks' HQLA has changed in recent years, which depends both on the liquidity management of financial institutions and on the availability of liquid assets in the market. Thus, between May 2020 and March 2022, the share of funds available in BCRP was 31 percent of the total HQLA on average, higher than the average of 3 percent observed in 2019. This change in composition is mainly explained by the extraordinary liquidity slack due to the Covid-19 crisis[28]. The

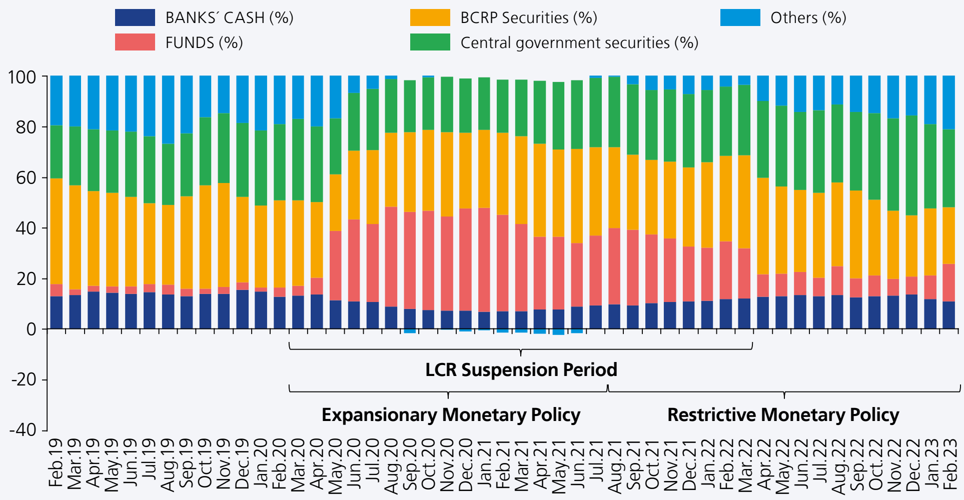
27 This metric is calculated by equating the LCR ratio with 100 percent. In this formula, the minimum HQLA corresponds to the difference between outflows and the minimum between incoming flows and 75 percent of outflows (C - min[B, 0.75xC]).

28 The preference for available funds during periods of uncertainty and, in turn, a lower appetite for liquid investments (eg. securities issued by BCRP and/or the Central Government) given the low interest rates recorded in the period.

share of available funds in BCRP decreased as from April 2022 and recorded an average value of 9 percent until February 2023. Between January 2019 and February 2023, banks' cash component remained relatively stable at an average level of 11 percent of total HQLA.

DISTRIBUTION OF HQLA COMPONENTS IN DOMESTIC CURRENCY OF BANKING COMPANIES

(As a percentage of total HQLA)



While the amount of liquid investments increased significantly between mid-2020 and early 2021, the percentage of BCRP and Central Government securities of total HQLA remained relatively stable. However, in 2022 the level of investments in BCRP securities decreased, while the level of investments in Central Government securities has increased[29].

In conclusion, the regulation of liquidity risk in the financial system could have an impact on interest rates. In the last three years there have been significant changes in financial institutions' level and composition of HQLA. As of February 2023, the level of HQLA of financial institutions as a percentage of TOSR is slightly above those observed prior to the pandemic.

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29 In 2022, the attractiveness of the rate of BCRP CDs decreased, the slope of BCRP CDs with maturities between 12 and 3 months became negative, declining from 60 basis points in December 2021 to -35 basis points in December 2022. The opposite happened In the case of BTPs as their slope decreased, which generated room to profit from the price gains of existing holdings.

Box 4
NEW GOVERNMENT GUARANTEED CREDIT PROGRAMS AND LOAN RESCHEDULING

Although many of the credit programs implemented during the crisis in many countries are no longer in force, some new programs have been implemented recently or some previously adopted programs have been extended. A common feature of these programs is that they attempt to focus coverage on smaller companies, which are usually more vulnerable to the impact of negative shocks.

In addition, other measures have been adopted with the aim of facilitating loan rescheduling. These measures are usually taken when an increase in non-performing loans is expected in the context of adverse shocks to the economy.

GUARANTEED CREDIT PROGRAMS IN THE REGION

Country	Entity	Program	Description
Chile	FOGAPE	FOGAPE Chile Supports	Guarantees for working capital loans, investments, and refinancing for all microenterprises with annual sales up to US$106 billion and those up to US$4.4 million that meet certain conditions.
Colombia	FNG*	Automatic guarantee for microcredit operations	Guarantees for working capital, fixed investment, and capitalization loans for microenterprises (up to 50% coverage).
		Financial leasing guarantee	Supports contracts to finance assets used in production and/or marketing activities (up to 40% coverage).
		Preferential SME guarantee	Guarantees for working capital, fixed investment and capitalization loans for small and medium-size companies (up to 50% coverage).
Peru	COFIDE	FAE Tourism	Guarantees for working capital loans, fixed assets, financial consolidation or purchase of debt for MSMEs in the tourism sector.
		FAE Texco	Guarantees for working capital loans, fixed assets, financial consolidation or purchase of debt for MSMEs in the textile and apparel sector.
		Impulso MYPERU	Guarantees for all MSE loans that meet certain conditions. Subsidy "Bono al Buen Pagador de Impulso MYPERU" (BBP)

* Selected programs.

The recent Peruvian experience

There are currently two active credit support programs for companies in Peru, FAE Turismo and FAE Texco, and there is another one in the implementation phase, the recently created Programa Impulso MYPERU[30] . According to information from the last auction carried out (February 7, 2023), the current programs, FAE Turismo and FAE Texco, have been assigned guarantees to loans for more than S/ 400 million.

The FAE Tourism Program was created in June 2020 to grant state-guaranteed loans to MSEs in the tourism sector, which has been one of the sectors most affected by the social confinement adopted to curb the expansion of Covid-19. The program has undergone several modifications, including the total amount allocated (currently S/ 600 million) and the type of credit guaranteed, since initially it consisted only of working capital and today it also includes fixed assets, financial

30 Created by Law No. 31658 of December 30, 2022 and regulated by Ministerial Resolution No. 066-2023-EF/15 of February 13, 2023.

consolidation and debt purchase, as well as the possibility of having access to rescheduling and grace periods.

The FAE Texco Program was created in May 2022 to guarantee loans to MSEs in the textile and apparel sector to be used as working capital, the acquisition of fixed assets, and/or financial consolidation and purchase of debt. The maximum amount of the program is S/ 800 million.

On the other hand, the Impulso MYPERU Program stands out for the magnitude of the maximum amount considered (S/ 2 billion). This program will grant targeted guarantees for loans oriented to working capital, the acquisition of fixed asset and debt consolidation for micro and small enterprises until December 31, 2023. It includes a Compensation to Good Payer bond that will reduce interest rates by 5 to 7 percentage points (the subsidy will be up to S/ 280 million). According to the MEF, the Program is expected to benefit some 140 thousand MSEs.

BUSINESS SUPPORT PROGRAMS IN PERU

	FAE Tourism (extension)	FAE Texco	Impulso MYPERU
Standards	DU N° 004-2022, DU N° 026-2022	DU N° 012-2022, DU N° 026-2022	Law N° 31658
Beneficiary	MIPYME Tourism	MYPE in the textile and apparel sector	MYPE of all productive sectors
Objective	Guarantee to ESF and COOPAC to finance loans for MIPYME Tourism	Guarantee to ESF and COOPAC to finance loans for MYPE in the textile and apparel sector.	Guarantee ESF and COOPAC to finance loans for MYPE. Grant a subsidy mecha-nism "Bono al Buen Pagador de Impulso MYPERU" (BBP)
Destination of government guarantee	Working capital, fixed assets, financial consolidation or debt purchase	Working capital, fixed assets, financial consolidation or debt purchase	Working capital, fixed assets, debt consolidation
Maximum credit	S/ 750 thousand	S/ 100 thousand	S/ 90 thousand
Validity	June 30, 2023	June 30, 2023	December 31, 2023
Maximum credit term	60 months, with 18 months grace period	60 months, except for working capital (36 months), with an 18-month grace period	60 months, with 12 months grace period
State guarantee limit	S/ 600 million (3 times the available balance of S/200 million)	S/ 800 million (4 times the available balance of S/ 200 million)	S/ 2,000 million
Coverage; percentage of guarantee	Less than S/ 90,000: 98% Between S/ 90,001 and S/ 750,000: 95%.	Less than S/ 10,000: 95% Between S/ 10,001 and S/ 50,000: 80% Between S/ 50,001 and S/ 100,000: 70%	Less than S/ 30,000: 98% Between S/ 30,001 and S/ 90,000: 90%
Rescheduling	Yes, until June 30, 2023	No	No

The following graph shows the amounts of guarantees provided for all programs implemented since the pandemic.

STATE-GUARANTEED CREDIT PROGRAMS: MAXIMUM AMOUNTS ALLOCATED
(Million S/)

Reactiva Peru	FAE MYPE	PAE MYPE	FAE Turismo	FAE Agro	FAE Texco
52,197	1,456	373	295	208	111

Source: COFIDE.

Additionally, the possibility of rescheduling loans is also in effect under the Reactiva Perú Program. This facility was approved in May 2022 (DU N° 011-2022) and although it was originally intended to be valid until December 2022, it was extended until June 30, 2023 (DU N° 026-2022).[31]

RESCHEDULING PROGRAMS

	Reactive Peru rescheduling (DU No. 011-2022, DU No. 026-2022)
Beneficiary and Validity	Companies June 30, 2023
State guarantee destination	Rescheduling of loans within the framework of the Reactiva Peru program
State guarantee allocation	The National Government Guarantee extends its term in accordance with the new payment schedules.
Maximum credit or conditions	Requirements: a) Have guaranteed credit with the "Reactiva Perú" Program, b) in case of credits between S/ 90,001 to S/ 10 million, a drop in the level of sales greater than or equal to 30% must be demonstrated in the year 2021 compared to the year 2019.
Maximum term of rescheduling	ESFs are authorized to establish a new additional grace period of up to 24 months. In case of the tourism sector, a grace period of up to 12 additional months to the aforementioned period can be established, subject to the evaluation of the ESF. As of February 2023, the ESFs are authorized to provide new rescheduling and grace periods for companies that have rescheduled their loans in accordance with the provisions of DU No. 011-2022.
Operations with the BCRP	No. The guarantee of the National Government of the credits that have been the subject of operations with the BCRP remains in force until the ESF, which requests to benefit from this program, cancels the capital and interest of these.
State guarantee limit and/or rescheduling	S/ 10 billion
Coverage; % guarantee	The National Government guarantee maintains the same coverage percentage agreed in the initial conditions.

As for the possibility of rescheduling other types of loans, the SBS issued regulations in this regard between December 2022 and January 2023[32] in the context of the protests and social unrest that was observed in several regions of the country in that period. The latest regulation has established that the total term of loans cannot be extended for more than 6 months and that rescheduling applies to debtors with a normal rating or with potential problems.

Experiences in other countries

In Chile, the Tax Debt Relief Law and Fogape Chile Apoya Program[33] was enacted at the end of November 2022. In addition to establishing a series of tax relief measures, the Law essentially creates a new fund to guarantee loans to small and medium-sized enterprises (Fogape). More specifically, the guarantee funds of Fogape Chile Apoya Program, which amounted approximately to US$ 1.2 billion, were awarded among 16 financial institutions via a tender process on December 26, 2022. Loans may be granted under the program until December 31, 2023.

The main objective of these loans, aimed at individuals and/or legal entities whose annual net sales do not exceed 100,000 tax units (approximately US$ 4.4 million), is to provide financial support to promote business reactivation in a targeted manner, i.e. especially to those companies operating in the economic sectors most affected by the economic consequences of the pandemic.

31 The Operating Regulations of the Reactiva Peru Program were amended on February 21, 2023 (RM N° 074-2023-EF/15).

32 Oficio Multiple No. 54961-2022-SBS dated December 22, 2022 and Oficio Multiple No. 03583-2023-SBS dated January 25, 2023.

33 The FOGAPE Covid and FOGAPE Reactiva programs applied in Chile were described in the June 2021 Inflation Report, in the Box entitled “New credit programs to support companies through secured loans in the new stage of COVID-19 and central bank liquidity facilities”.

PROGRAM FOGAPE CHILE APOYA

Beneficiaries	All microbusinesses up to UF 2,400 of annual sales (approx. US$ 106,000)
	Companies between UF 2,401 and UF 100,000 (approx. US$ 4.4 million) in annual sales, which meet at least one of the following criteria: Belong to • Belonging to a group of economic activities defined as prioritized. • Not having received financing in the Fogape Covid and Fogape Reactiva Programs • Having been a beneficiary of previous programs: PAR Chile Recupera (CORFO), Levantemos tu Pyme (I and II), Emergencia productiva zonas cero, Recuperemos tu barrio, Recupera tu barrio zona cero or Recupera tu Pyme (Sercotec) • SMEs affected by events of rural violence, according to information provided by the Ministry of the Interior.
Types of credit	Working capital, investments and debt refinancing.
Credit amount	It will depend on the situation of the company and the credit evaluation carried out by the financial institution.
Maximum interest rate	TPM+ 5%
Benefits	• Client does not pay commission for the guarantee. • Stamp and Stamp Tax is not charged • No prepayment commission will be charged • First installment from 12 months.
Validity	Until December 31, 2023

Source: BancoEstado.cl.

Another program implemented in Chile is the 10 percent State Guarantee for the down payment ("footing" or *pie*) of mortgage loans, which started on March 1, 2023, with BancoEstado being the first financial institution to implement it. This action is part of a bill submitted by the Government and approved by Congress, to create a Special Guarantee Fund to support the construction sector. The requirements to have access to the 10% State Guarantee for mortgage loans are: (i) to be a natural person; (ii) the loan must be for financing a first home; (iii) the value of the home must not exceed 4,500 tax units (approximately US$ 198 thousand), and (iv) the person requesting the loan must not have received any type of state subsidy or benefit for financing the home.

As regards loan rescheduling in Chile, in January 2023, the Association of Banks (ABIF) and the Ministry of Finance announced a series of measures aimed at reactivating the economy, including the rescheduling of loan payments, especially with a focus on mortgage loans and loans to SMEs.

On the other hand, and in contrast with what happens in Chile and Peru, where guaranteed credit programs are usually applied on a transitorily basis, in Colombia there is the National Guarantee Fund (FNG), which has permanent guaranteed credit programs for MSMEs. The following diagram describes some of the FNG's programs:

FNG GUARANTEES (COLOMBIA)

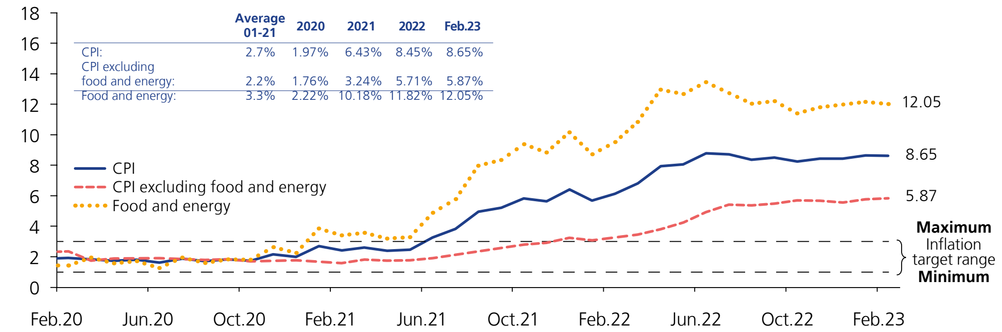
Program	Description
Special guarantee product for women	Supports women microentrepreneurs, with the aim of promoting social inclusion and contributing to closing the gap of access to credit.
Guarantee for rotating quotas	Supports operations aimed at financing working capital needs through the rotating quota scheme
Replenishment of the cargo vehicle fleet - scrapping	Created to generate greater efficiencies and productivity in the cargo transportation sector
Automatic guarantee for business microcredit operations	It allows backing the credits required by microbusinesses for working capital and fixed investment.
Victims of violence – microcredit	Supports natural persons who suffer harm in their lives, serious deterioration in their personal integrity and/or property, due to acts of the internal armed conflict
Financial leasing guarantee	It supports the contracts destined to finance assets used in activities of production and/or commercialization of goods or provision of services;
Preferential SME guarantee	It supports credits for working capital, acquisition of fixed assets and business capitalization to a specific group of entrepreneurs called preferred customers
Multipurpose business guarantee	Allows supporting the credits required by MIPYME for working capital, fixed investment, business capitalization and economic development, among other financing needs

VI. Inflation and Balance of Inflation Risks

Recent inflation trends

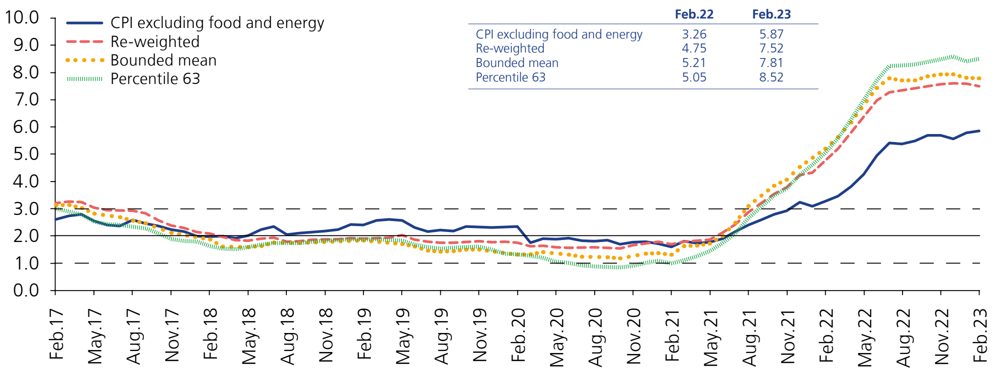
79. Year-over-year **inflation** increased from 8.45 percent in December 2022 to 8.65 percent in February 2023, after peaking at 8.81 percent in June 2022. The items that contributed most to the 12-month change in inflation in February were meals consumed away from home, local transportation, chicken meat, personal care products, and potatoes. Inflation excluding food and energy prices increased from 5.71 to 5.87 percent in the same period, above the target range. The different trend inflation indicators also showed values above the target range.

Graph 79
INFLATION
(Last 12-month % change)



Source: BCRP.

Graph 80
MEASUREMENTS OF THE INFLATIONARY TREND
(Last 12 months % change)

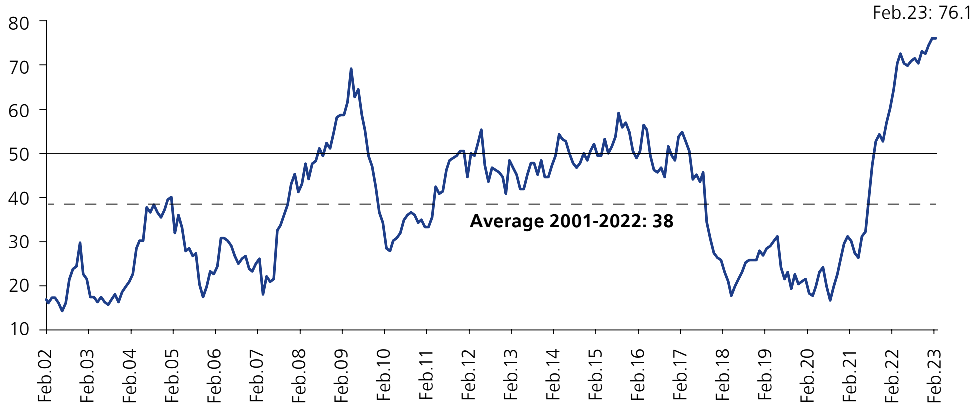


Memo:
1. CPI excluding food and energy: CPI excluding food, fuel and electricity.
2. Re-weighted: Reduces the weight of items with greater volatility, considers the original weights of each item over the standard deviation of their monthly percentage changes.
3. Bounded mean: Weighted average of the percentage change of prices between the 34th and 84th percentiles.
4. Percentil 63: Corresponds to the percentage changes of the item placed in the 63th percentile.
Source: BCRP.

80. Out of a total of 186 items included in the Consumer Price Index, 76 percent recorded a year-on-year variation higher than 3 percent.

Graph 81

PERCENTAGE OF CPI ITEMS WITH YEAR-ON-YEAR PRICE CHANGE HIGHER THAN 3%



	Feb.22	Mar.22	Apr.22	May.22	Jun.22	Jul.22	Aug.22	Sep.22	Oct.22	Nov.22	Dec.22	Jan.23	Feb.23
Index	65	70	73	70	70	71	72	70	73	73	74	76	76
Number of items:													
Items with variation higher than 3%	120	131	135	131	130	132	133	131	136	135	140	143	143
Items with variation lower than 3%	66	55	51	55	56	54	53	55	50	51	48	45	45

Source: BCRP.

81. It is worth pointing out that the items most closely linked to the exchange rate, international prices and contracts linked to the Wholesale Price Index (WPI) contributed 0.11 percentage points to cumulative inflation between January and February (0.52 percent). For reference purposes, it is worth mentioning that, in December 2020, these same items contributed 0.7 percentage points to annual inflation (2.0 percent), while in 2021 they contributed 3.6 percentage points to annual inflation (6.4 percent) and in 2022, 2.1 percentage points to annual inflation (8.46 percent).

Table 31

ITEMS LINKED TO THE EXCHANGE RATE, INTERNATIONAL PRICES AND TO THE WHOLESALE PRICE INDEX (WPI)

	Weight 2009	% chg. 12 m. Dec.21	Weighted contribution	Weight Dec.21	% chg. 12 m. Dec.22	Weighted contribution	Cumulated % chg Jan. Feb.23	Weighted contribution
CPI	**100.00**	**6.43**	**6.43**	**100.00**	**8.46**	**8.46**	**0.52**	**0.52**
1. Items linked to the exchange rate, international prices and WPI	**28.47**	**13.31**	**3.63**	**26.56**	**7.82**	**2.08**	**0.44**	**0.11**
1.1 Items linked to the exchange rate	**14.06**	**4.25**	**0.54**	**14.58**	**5.19**	**0.76**	**0.15**	**0.02**
1.2 Items linked to international prices and exchange rate	**9.83**	**28.52**	**2.51**	**7.99**	**11.40**	**0.91**	**2.22**	**0.18**
Linked to food commodities	7.03	21.32	1.35	5.84	15.21	0.89	3.59	0.22
Linked to Fuels	2.79	47.20	1.15	2.15	1.05	0.02	-2.02	-0.04
1.3 Items related to WPI	**1.64**	**11.57**	**0.22**	**1.37**	**7.90**	**0.11**	**1.32**	**0.02**
1.4 Items related to the exchange rate, WPI and international prices	**2.95**	**9.50**	**0.35**	**2.62**	**11.46**	**0.30**	**-3.94**	**-0.11**
2. Rest	**71.54**	**3.86**	**2.81**	**73.44**	**8.69**	**6.38**	**0.55**	**0.41**

Source: BCRP.

82. As for the evolution of inflation during 2023, between January and February, the general price level increased 0.52 percent. This result is mainly explained by the increase in the prices of the food and beverages group (1.2 percent), which contributed 0.49 percentage points to inflation during the period. This reflects the increase in the prices of chicken meat, meals consumed away from home, and legumes, which together contributed 0.49 percentage points to inflation.

Table 32
INFLATION
(% change)

	Weight	Dec.20	Dec.21	Dec.22	2023 Feb.23-Dec.22*	2023 Feb.23-Feb.22
CPI	**100.0**	**1.97**	**6.43**	**8.46**	**0.52**	**8.65**
1. CPI excluding food and energy	**55.3**	**1.76**	**3.24**	**5.59**	**0.32**	**5.87**
a. Goods	17.4	1.5	2.6	5.3	0.6	5.3
b. Services	37.9	1.9	3.6	5.7	0.2	6.1
Education	8.6	2.0	1.6	3.9	0.8	4.7
Health	1.5	1.2	2.8	7.3	0.4	7.5
Local transportation	9.1	2.5	3.7	12.3	-0.7	13.2
Others	18.7	1.6	1.7	3.2	0.4	3.3
2. Food and Energy	**44.7**	**2.22**	**10.18**	**12.02**	**0.75**	**12.05**
a. Food and beverages	**40.0**	**2.2**	**8.0**	**12.6**	**1.2**	**13.2**
Meals inside the home	24.5	2.9	9.8	14.5	1.2	15.6
Meals outside the home	15.5	1.0	4.5	9.7	1.1	9.4
b. Fuel and electricity	**4.8**	**2.1**	**24.4**	**6.8**	**-3.1**	**2.7**
Fuel	2.1	-4.2	47.2	1.0	-2.0	-1.7
Electricity	2.6	6.7	9.5	11.5	-3.9	6.3

* Cumulative percentage change.
Source: BCRP.

83. At a disaggregated level, the items with the highest positive contribution to inflation in the January-February period were chicken meat, meals consumed away from home, fresh vegetables, other fresh fruits and personal care products.

Table 33
ITEM WITH THE HIGHEST WEIGHTED CONTRIBUTION TO INFLATION: JANUARY - FEBRUARY 2023

Positive	Weight	% chg.	Contr.	Negative	Weight	% chg.	Contr.
Chicken meat	2.7	7.1	0.17	Potatoes	0.7	-15.5	-0.20
Meals outside the home	15.5	1.1	0.17	Fresh maritime fish	0.7	-23.5	-0.16
Fresh legumes	0.2	69.6	0.15	Electricity	2.6	-3.9	-0.11
Other fresh fruits	0.6	8.5	0.05	Avocado	0.2	-14.8	-0.04
Personal care products	4.0	1.1	0.04	International air transport	0.5	-6.4	-0.04
Root or bulb vegetables	0.5	7.9	0.04	National ground transportation	0.3	-11.9	-0.03
Eggs	0.7	3.3	0.03	Vehicle fuels	1.1	-1.9	-0.02
Other tubers	0.1	28.4	0.03	Domestic gas	0.8	-2.7	-0.02
Tomato	0.2	15.2	0.02	Grapes	0.1	-13.7	-0.01
Primary education	1.6	1.5	0.02	National air transport	0.2	-7.0	-0.01
Total			**0.72**	**Total**			**-0.63**

Food

The prices of livestock products, such as chicken meat and eggs, rose 7.1 and 3.3 percent, respectively.

Chicken meat recorded a 9.0 percent price increase in February due to the lower volume traded (-6 percent with respect to January 2023 and -7 percent with respect to February 2022), while the price of eggs rose 6 percent that month. This result was influenced by the increase in summer temperatures, which affects poultry feed and, in the case of eggs, increases their perishability, as well as by the sanitary problem derived from avian influenza. Supply was also affected by the poultry industry's difficulty in obtaining supplies in a timely manner due to the road blockades registered in the country since the last week of November 2022. In addition, production costs increased due to the lower availability and higher price of soybean meal, the poultry feed ingredient.

Prices of fresh vegetables recorded the highest increase among perishable agricultural products (69.6 percent). The price of peas, the main component of this category, rose 95.9 percent due to the lower entry of the product from the central highlands. The supply of the *serrana* and *americana* varieties was 52 and 44 percent lower, respectively, in the January-February period than in the same period of 2022, due to lower crops both because of the lack of rainfall between September and November 2022 and because of the higher cost and lower application of fertilizers. In addition, crops were also affected by other climatic disturbances, such as the occurrence of frosts in the high Andean areas.

Prices of "root or bulb vegetables" rose by an average of 7.9 percent. The price of carrots (root vegetables) rose 34.6 percent due to the higher price of the product that comes from Junín, the main supplying region in the first half of the year. Plantings in Junín decreased 11 percent in the July-September period compared to the same period of the previous season, influenced by the lack of rainfall and the higher price of fertilizers.

In contrast, potato prices declined by an average of 15.5 percent due to higher supplies from Huánuco, the main source of supply in January and February. This result was influenced by the rains in February, which accelerated crops. The supply of "yellow" potatoes from Huanuco increased from 99 MT per day in January to 113 MT per day in February, while the supply of "white" potatoes increased from 476 to 588 MT per day in the same period.

Prices for meals consumed away from home increased by an average of 1.1 percent, showing a similar increase to that observed in the prices of food consumed inside the home (1.2 percent).

Services

Primary school fees rose 1.5 percent in February due to the increase in tuition corresponding to the beginning of the 2023 school year, when students will return to daily face-to-face classes. In 2022 face-to-face classes were held only on some days of the week, and were complemented with virtual classes. Secondary school fees also increased for the same reason (1.4 percent). Tuition in primary education in public schools increased by an average of 2.0 percent and by 16.3 percent in private schools, while tuition in secondary education increased by an average of 2.2 percent and by 15.9 percent in private schools.

Energy

Electricity rates decreased 3.9 percent in the January-February period, mainly due to the rate adjustment carried out in February that included the reduction of the premium for renewable energy resources (RER) as a result of a higher spot price. The reduction was also associated with the quarterly adjustment of the generation price level and the additional charges on the main transmission component. The lower surcharge for the Electric Social Compensation Fund also played a role in this reduction.

Vehicle fuel prices decreased by an average of 1.9 percent in the January-February period, mainly reflecting the lower price of gasohol in January as a result of a lower retail margin. This reduction was partially offset that month by a 0.1 percent increase in the refinery price, a much smaller variation than that observed in the international parity price (6.8 percent).

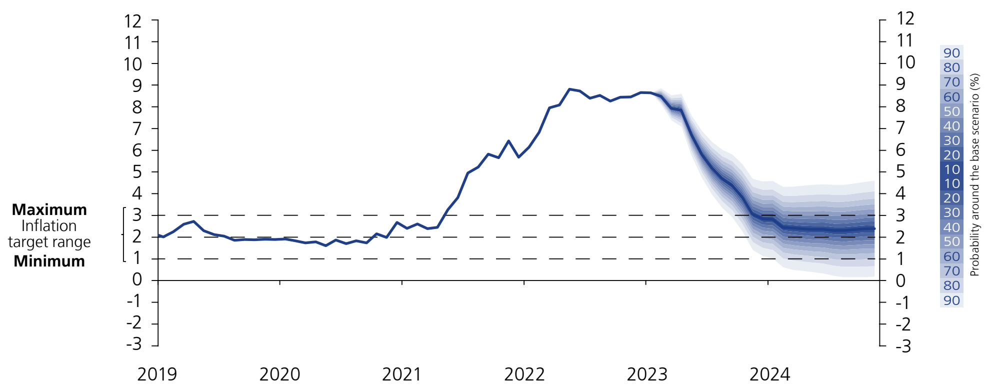
The price of the domestic gas cylinder decreased 1.8 percent in January due to the downward adjustment of the price band at the end of December, decreasing further by 0.9 percent in February as a result of the reduction in the bottling and retail marketing margin. This margin reduction offset the increase in the refinery price as a result of the upward adjustment of the price band on January 26.

Forecasts

84. The BCRP adopts monetary policy actions in response to inflation forecasts and inflation determinants, taking into account all available macroeconomic and financial information. Inflation determinants include inflation expectations, imported inflation (which brings with it the effect of the exchange rate) and inflationary pressures on both demand and supply.

    Based on available information, and taking into account the gradual recovery of economic activity and the persistence of global inflation (particularly international energy and food prices), annual inflation is projected to return to the target range by the end of 2023. This forecast assumes the reversal of the effect of transitory factors on the inflation rate (exchange rate, international fuel and grain prices), in a context in which economic activity is close to its potential level, financial conditions remain slightly restrictive and inflation expectations show a decreasing trend towards the target range.

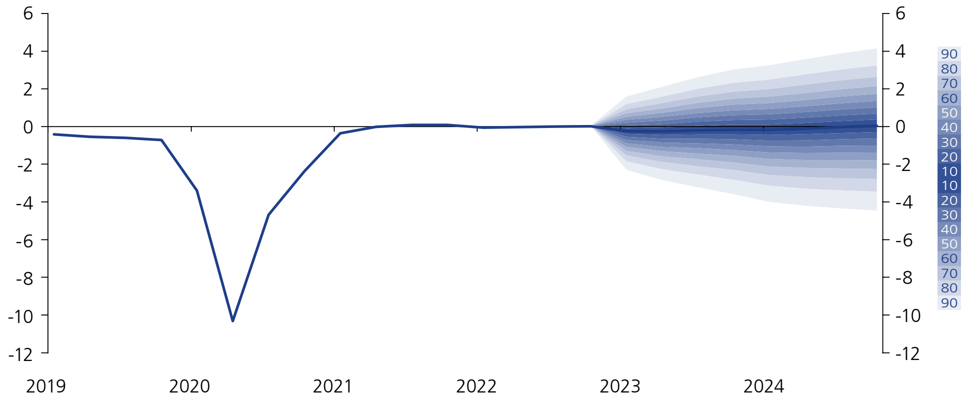
Graph 82
INFLATION FORECAST: 2023 - 2024
(Last 12-month % change)



Note: This Fanchart presents the distribution of possible values of the inflation over the forecast horizon. Its central line is the distribution mode and shows the projection of the base scenario presented in this Inflation Report. Each pair of bands of the fan (each tone or shade) accumulates a 10% probability, and indicates the possible values for the evolution of the inflation in the forecast horizon associated with this level of confidence.
Source: BCRP.

85. Business confidence, which showed lower values at the end of last year and at the beginning of this year, will gradually recover over the forecast horizon and the terms of trade are expected to remain favorable. As a result, the output gap is expected to remain close to zero.

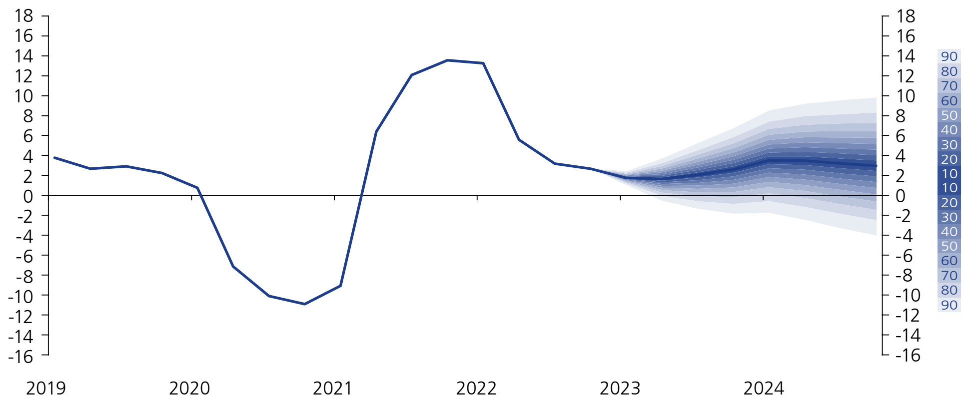
Graph 83
OUTPUT GAP FORECAST: 2023-2024
(As a percentage of potential output, quarterly average)



Note: This Fanchart presents the distribution of possible values of the output gap forecast over the forecast horizon. Its central line is the distribution mode and shows the projection of the base scenario presented in this Inflation Report. Each pair of bands of the fan (each tone or shade) accumulates a 10% probability, and indicates the possible values for the evolution of the output gap in the forecast horizon associated with this level of confidence.
Source: BCRP.

86. In line with the evolution of the output gap, economic activity is expected to show a moderate growth rate.

Graph 84
OUTPUT GROWTH FORECAST: 2023-2024
(Moving average percentage change 4 quarters)

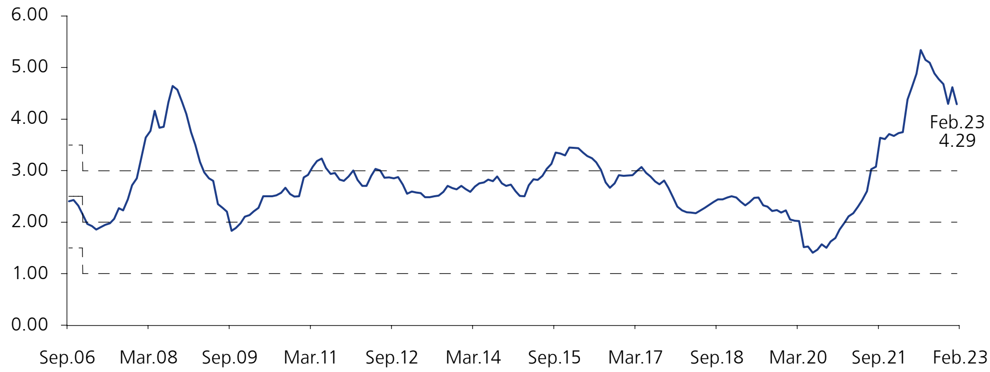


Note: This Fanchart presents the distribution of possible values of the output growth forecast over the forecast horizon. Its central line is the distribution mode and shows the projection of the base scenario presented in this Inflation Report. Each pair of bands of the fan (each tone or shade) accumulates a 10% probability, and indicates the possible values for the evolution of the output growth in the forecast horizon associated with this level of confidence.
Source: BCRP.

87. Inflation expectations, calculated based on surveys conducted among representatives of financial and non-financial firms, as well as among economic analysts, reveal that the inflation rate is expected to be between 4.0 and 5.5 percent in 2023 (it was

expected to be between 4.2 percent and 4.6 percent in the December 2022 Inflation Report) and between 3.0 and 4.0 percent in 2024 (a similar rate was foreseen in the December 2022 Inflation Report). Moreover, in February 2023, expectations of inflation in twelve months' time rose to 4.29 percent, climbing temporarily above the upper limit of the inflation target range.

Graph 85
EXPECTATIONS OF INFLATION FOR THE NEXT YEAR
(% points)



Source: BCRP.

Table 34
SURVEY ON INFLATION EXPECTATIONS
(%)

	IR Jun.22	IR Sep.22	IR Dec.22	IR Mar.23
Financial entities				
2023	3.55	4.00	4.60	5.00
2024			3.50	3.50
2025				3.00
Economic analysts				
2023	3.80	4.00	4.20	4.00
2024			3.00	3.00
2025				2.80
Non-financial firms				
2023	4.00	4.30	4.50	5.50
2024			4.00	4.00
2025				3.85

* Survey conducted as of February 28.
Source: BCRP.

88. Another determinant of inflation is the imported component, which combines the effect of the international prices of the products that our country imports (such as crude oil, wheat, soybeans and maize) with the effect of the variation of the exchange rate (PEN against the U.S. dollar).

Average import prices are projected to fall by 4.4 percent in 2023, mainly due to the lower prices of oil and some foodstuffs, such as maize, wheat and soybeans. A 0.3 percent increase in the prices of these products is expected for 2024. As for the expected US dollar/PEN exchange rate, the surveys conducted in February show expected levels between S/ 3.85 and S/ 3.90 per dollar for 2023 and expected levels between S/ 3.85 and S/ 3.92 per dollar for 2024.

Table 35
SURVEY ON MACROECONOMIC EXPECTATIONS: EXCHANGE RATE
(S/ per US$)

	IR Jun.22	IR Sep.22	IR Dec.22	IR Mar.23
Financial entities				
2023	3.80	3.85	3.90	3.85
2024			3.90	3.85
2025				3.80
Economic analysts				
2023	3.90	3.90	4.00	3.85
2024			4.00	3.92
2025				3.94
Non-financial firms				
2023	3.86	3.90	3.95	3.90
2024			3.96	3.90
2025				3.90

* Survey conducted as of February 28.
Source: BCRP.

The aforementioned effects are expected to contribute to the return of inflation to the target range over the projection horizon.

Balance of risks to the inflation forecast

89. Risks to the inflation projection continue to be skewed to the upside, although they are likely to weigh less than estimated in the previous Report, considering the following:

- **Domestic demand shocks**

  Persistent political instability has been undermining consumer and business confidence, which increases the risks of slower growth in consumption and private investment. This effect would be greater if social upheaval were to continue. In addition, the execution of public spending would be delayed both by the change of subnational authorities and by social unrest. Lower private investment leads to lower capital accumulation and, therefore, to lower potential growth. Moreover, domestic uncertainty would lead to an increase in the risk premium, which would trigger a depreciation of the local currency.

  Therefore, this contingent scenario would result in the very short term in higher inflation associated with the depreciation of the PEN, although in the medium term lower demand is expected to persist and lead to a lower increase in inflation. The expected impact of this risk has increased compared to the December Report.

- **External demand shocks**

  There is still a risk of a slow down in global growth, which would imply a lower demand for our main export products (external demand). This contingent scenario could be generated by: (i) tighter international financial conditions due to banking crises in developed countries or due to a more accelerated withdrawal of monetary stimulus in advanced economies as a result of their efforts to control inflation and its possible impact on inflation expectations; (ii) greater geopolitical tensions; (iii) new disruptions in global supply chains (technological war between China and the United States and trade tensions between the European Union and the United States); (iv) the impact of inflation on consumption; and (v) the likely slowdown in China's economic growth. The expected impact of this risk remains unchanged from the December 2022 Inflation Report.

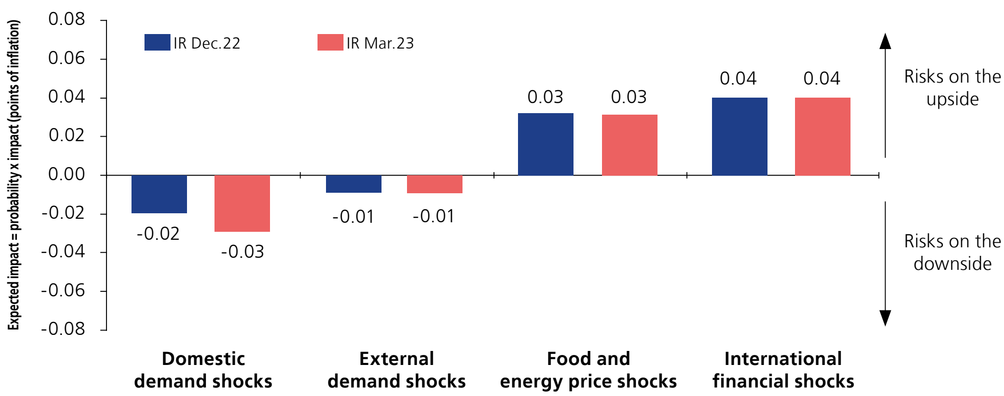
- **Food and energy price shocks**

  Geopolitical tensions in Eastern Europe and China continue with a moderate risk of escalation, which still generates fears of global food shortages. In addition, recent trade tensions between the United States, China and other economies could generate new risks of disruption in the global supply chain. These potential events could translate into higher fuel, food, fertilizer and transportation costs. There are domestic components of this risk associated with social unrest that interrupt some economic activities and hinder the movement of perishable goods and the supply of markets, as well as adverse weather events that could have an impact on the production and distribution of agriculture products. The expected impact of this risk remains unchanged with respect to the December forecast.

- **Financial shocks**

  The greater speed of early withdrawal of monetary stimulus in advanced economies or increased risk aversion due to banking crises in developed countries, and political uncertainty and its effect on economic growth, could generate episodes of capital outflows. Likewise, on the domestic side, the effects of political uncertainty on economic growth could increase country risk and amplify capital outflows. Together with volatility in financial markets, these factors could generate upward pressure on the exchange rate and thus contribute to generate higher inflation. The expected impact of this risk remains unchanged from the December Inflation Report.

Graph 86
BALANCE OF RISKS AGAINST THE BASE SCENARIO



Source: BCRP.

Box 5
INFLATION EXPECTATIONS IN EPISODES OF HIGH INFLATION

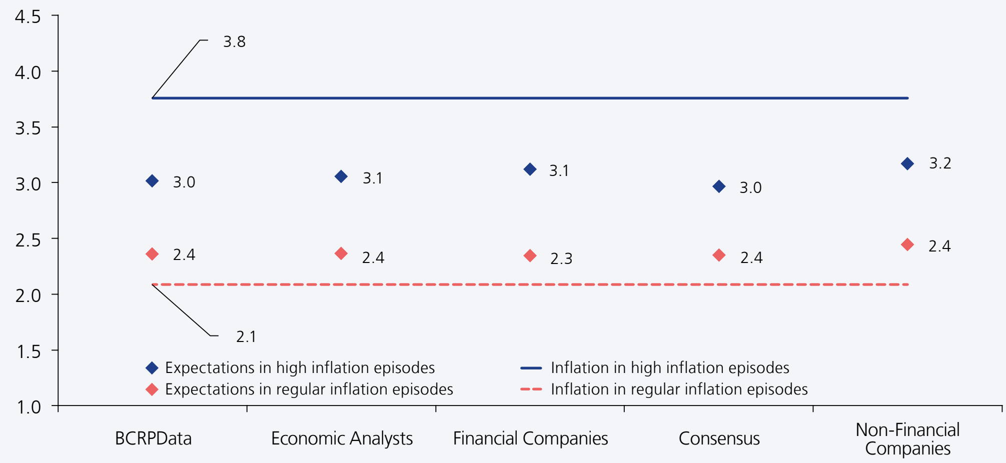
The Central Reserve Bank of Peru (BCRP) monitors the evolution of inflation expectations with the aim of reacting in a timely manner to changes in the public's perception of the future level of inflation. Considering the possibility that people may form their expectations differently in episodes of high inflation, this Box explores this possible non-linearity. We find evidence that supports the existence of a differentiated pattern of expectation formation that suggests a greater attention of agents in periods of high inflation.

EPISODES OF HIGH VOLATILITY

Episodes	Dates	Duration (months)	Max. Inflation
1	May.04 - Jan.05	9	4.6
2	Oct.07 - Jun.09	21	6.7
3	Jul.11 - Oct.12	16	4.7
4	Mar.15 - Jun.16	16	4.6
5	Sep.16 - May.17	9	4.0
6	Jun.21 - Dec.22	19	8.8

For the purposes of this Box, "episodes of high inflation" are considered to be those episodes in which the inflation level remains above the upper limit of the target range (i.e., over 3 percent) for at least nine consecutive months. The table above reports the dates of such high inflation episodes.

AVERAGE INFLATION EXPECTATIONS BY INFLATIONARY EPISODES

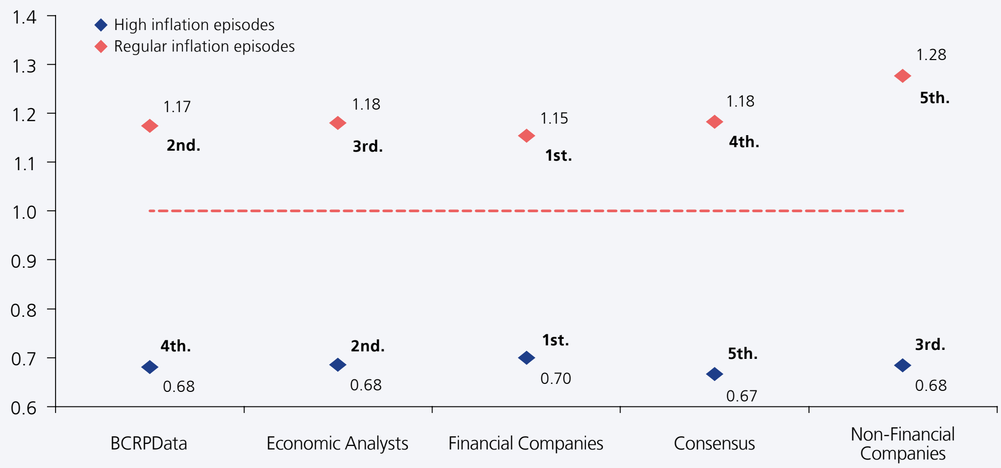


Nota: Monthly data from February 2002 to December 2022. All expectations measures are on inflation, 12 Months ahead. BCRPData corresponds to the expectations published on the BCRP website. Likewise, economic analysts, financial companies and non-financial companies correspond to the inflation expectations of economic analysts, business financieras and Non-financial firms in the BCRP macroeconomic expectation survey, respectively. Finally, Consensus corresponds to the expectations published in the Consensus Forecast magazine.

The averages of the different types of inflation expectations in both types of episodes (regular inflation and high inflation) for each type of agent are provided in the previous graph, which highlights that, during high inflation episodes, expectations are located below average inflation. On the other hand, the opposite occurs during regular inflation episodes. In other words, average inflation expectations are above average inflation. This evidences that agents do not substantially correct their expectations in response to current inflation dynamics.[34]

The following graph shows that, in general, agents tend to underestimate future inflation in contexts of high inflation and to overestimate it in regular inflation contexts. The graph shows the forecasts bias per measure of expectations in each type of episode. It is observed that the forecasts bias changes systematically from being greater than 1 (overestimate) in regular inflation episodes to being less than 1 (underestimate) in high inflation episodes. Of note is the improvement in the quality of the forecasts of non-financial firms, which go from having the highest bias in regular inflation periods (ranking 5th in a group of 5 forecasts) to having the third lowest bias in high inflation episodes.

FORECAST BIAS OF INFLATION EXPECTATIONS DUE TO EPISODES OF INFLATION 1/



1/ The bias indicator has a reference value of one, since it has the following functional form: $bias = \frac{\sum \text{Inflation forecast}}{\sum \text{Observed inflation}}$. Thus, an index greater than one indicates overestimation while an index less than one indicates underestimation.
Nota: Monthly data from February 2002 to December 2022. All expectations measures are on inflation, 12 Months ahead. BCRPData corresponds to the expectations published on the BCRP website. Likewise, economic analysts, financial companies and non-financial companies correspond to the inflation expectations of economic analysts, business financieras and Non-financial firms in the BCRP macroeconomic expectation survey, respectively. Finally, Consensus corresponds to the expectations published in the Consensus Forecast magazine.

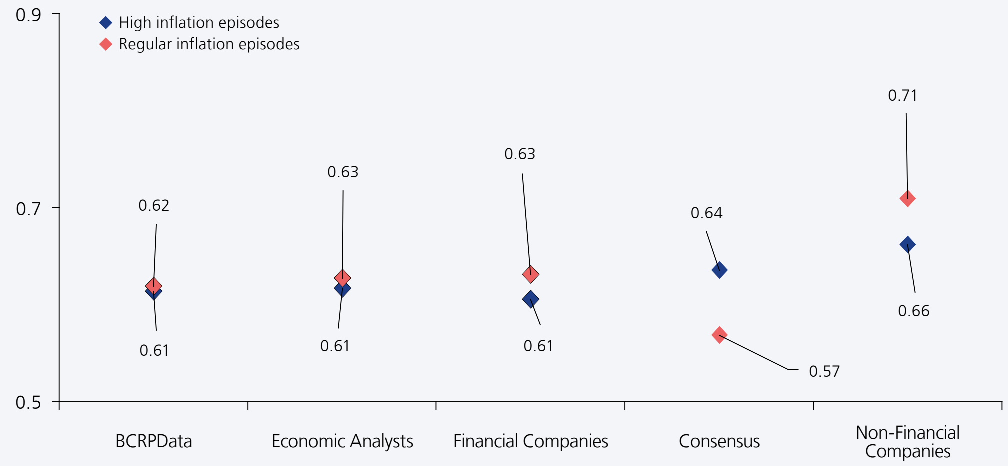
The graph below provides the normalized root mean square error (RMSE) for each expectations metric in each type of inflationary episode.[35] In the case of BCRPData, economic analysts' and financial firms' expectations, the prediction error is similar in both types of episodes after discounting for changes in volatility. In contrast, changes are reported in the cases of C*onsensus forecast* and non-financial companies' expectations. In the case of C*onsensus forecasts,* the quality

34 It is common to infer investors' expectations through break-even expectations. In the Peruvian case, these are calculated as the difference between BTP 2024 and VAC 2024. However, this metric is excluded from the information discussed in this Box because only a small proportion of the sample of this study is available. In addition, the BTP-VAC 2024 spread may include risk premia independent of investors' inflation expectations.

35 The calculation of the normalized RMSE is the result of standardizing the RMSE for changes in inflation volatility. In this way, it seeks to reduce the impact of higher volatility on the RMSE; therefore, the normalized RMSE reveals information that is better associated with agents' predictive capacity. In periods of high inflation the RMSE is therefore divided by the standard deviation of inflation in that regime and multiplied by the standard deviation of inflation in the regular regime.

of their predictions is reduced, while in the case of non-financial companies, the accuracy of their forecasts improves notably.

ROOT OF THE RELATIVE MEAN SQUARE ERROR OF INFLATION EXPECTATIONS BY INFLATION EPISODES [1/]



1/ The functional form of the relative root mean square error (RMSE) is as follows: $\sqrt{\frac{\sum(\text{Inflation forecast - observed inflation})^2}{\text{Number of observations}}}$.
Nota: Monthly data from February 2002 to December 2022. All expectations measures are on inflation, 12 Months ahead. BCRPData corresponds to the expectations published on the BCRP website. Likewise, economic analysts, financial companies and non-financial companies correspond to the inflation expectations of economic analysts, business financieras and Non-financial firms in the BCRP macroeconomic expectation survey, respectively. Finally, Consensus corresponds to the expectations published in the Consensus Forecast magazine.

This indicartes that economic analysts and financial firms remain equally attentive when forming their expectations in each type of episode. On the other hand, non-financial firms seem to be more attentive when forming expectations in episodes of high inflation. The attentiveness of the agents interviewed in *consensus forecast* seems to decline in high inflation episodes. Or at least, these agents would not correct their expectations in a timely manner in the transition period to high inflation episodes.

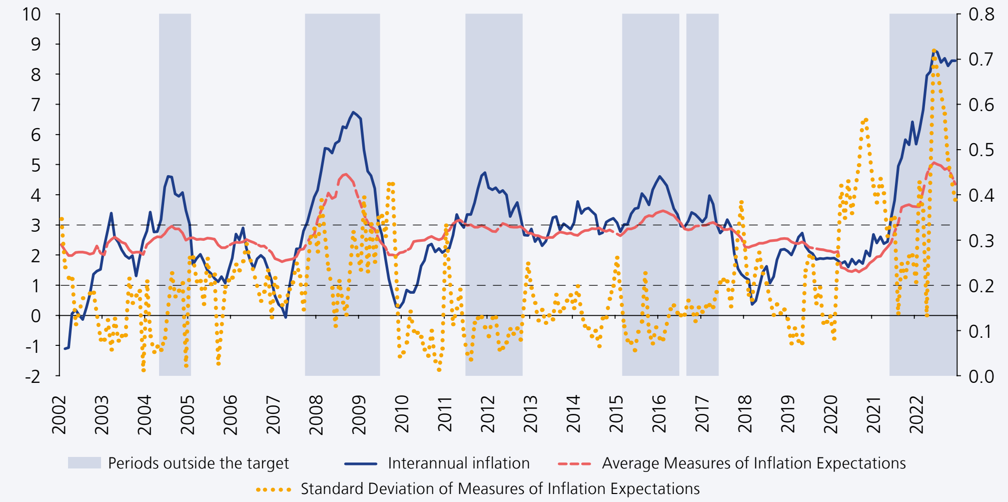
In addition, tests are implemented to include relevant information in the forecasts[36] with the aim of determining the ability of an individual forecast to improve the combined accuracy of several forecasts.[37] The second table provides the results of the hypothesis tests at 95 percent confidence. A result arising is that if we ignore the potential nonlinearity arising from episodes of high inflation, the expectations of nonfinancial firms do not have the ability to improve the projection obtained by combining the types of inflation expectations (the "linear" column of the second table).

Non-linearity is important during periods of high inflation, since uncertainty increases in these episodes and therefore there is greater disagreement among economic agents about the possible path of future inflation. This is relevant, as it may affect the consensus on the inflation anchor. The last graph shows that, during periods of high inflation, the measure of disagreement between the various agents in the economy, measured by the interquartile range, increases notably.

36 An encompassing test evaluates whether an individual forecast has the ability to improve accuracy when combined with other forecasts. The test implemented in this Box is developed in: Harvey, David and Newbold. Paul, "Tests for multiple forecasts encompassing." Journal of Applied Econometrics 15.5 (2000): 471-482.

37 As this is an evaluation of individual forecasts, it excludes BCRPdata expectations which is an average of individual forecasts.

INFLATION EPISODES AND DISPERSION OF INFLATION EXPECTATIONS AMONG VARIOUS MEASURES



Note: Monthly data from February 2002 through December 2022. The average and interquartile range of for each month across all measures of inflation expectations is calculated all measures of inflation expectations 12 months ahead: BCRPData, economic analysts, financial companies and non-financial companies and Consensus. The interquartile is the standard deviation measure, robust to outliers, and is the indicator of disagreement about future inflation.

The same exercise is replicated with a version of this statistical test that is robust to the nonlinearity arising from high inflation episodes. The results are provided in the second column of the following table. During episodes of regular inflation, the expectations of economic analysts are sufficient to obtain an adequate inflation forecast. On the other hand, in episodes of high inflation, all types of inflation provide useful information to improve the quality of the combined forecast.

RELEVANCE OF INDIVIDUAL PROJECTION OF DIFFERENT INFLATION EXPECTATIONS

	Relevant projection	
	Linear	**Non-linear**
	In regular inflation episodes or in linear estimation	
Economic analysts	✓	✓
Financial Companies	✓	×
Non-financial firms	×	×
Consensus forecasts	✓	×
	In episodes of high inflation	
Economic analysts	-	✓
Financial Companies	-	✓
Non-financial firms	-	✓
Consensus forecasts	-	✓

Note: Monthly data from February 2002 through December 2022. All measures of expectations are for inflation 12 months ahead. The tests are done on the following specification: $e^1_{t,t+h} = \gamma_0 + \sum_{i=2}^{F} \gamma_i (e^1_{t,t+h} - e^i_{t,t+h}) + \hat{\gamma}_0 d_t + \sum_{i=2}^{F} \hat{\gamma}_i d_t (e^1_{t,t+h} - e^i_{t,t+h}) + \bar{e}_{t,t+h}$, , where e refers to the prediction error of each inflation expectation. Also, the variable d_t is an indicator variable that is triggered in high inflation episodes, this is only taken into account in the non-linear specification. The null hypothesis is: the individual projection does not improve the accuracy of the combined projection. Thus, the symbol, ✓ (×), indicates that the null hypothesis is rejected (cannot be rejected) at 95 percent confidence.

This Box explores the possibility of a nonlinear pattern in agents' formation of expectations. The results seem to indicate that nonlinearity exists and is relevant. A systematic change is observed in the bias of expectation formation, as well as a lower prediction error after controlling for higher volatility. Furthermore, a greater attention of agents is observed in high inflation scenarios, which makes their forecasts more relevant in such a context.

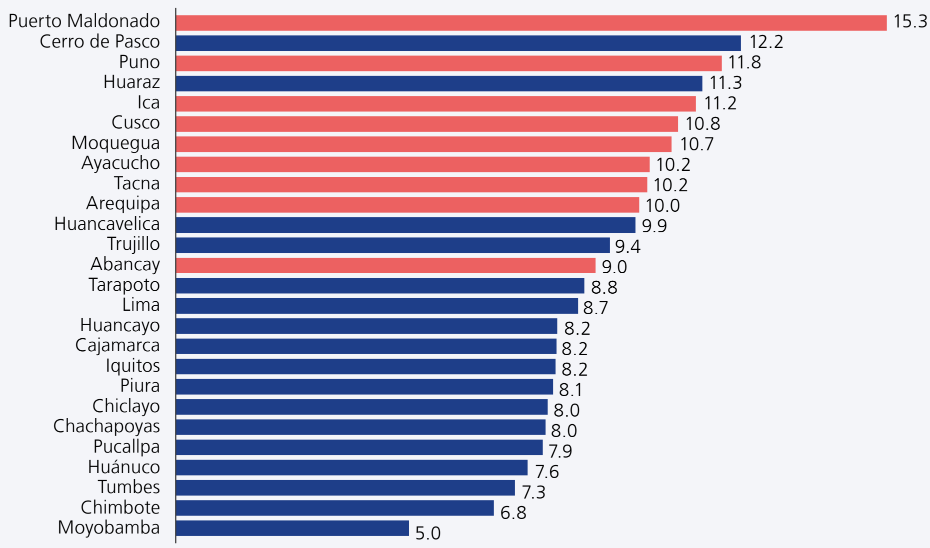
Box 6
ROAD BLOCKADES AND REGIONAL PRICE EVOLUTION

Road blockades in the national road network have affected the normal supply of goods and services in different parts of the country, especially in the southern region of Peru. As a result, the consumer price index (CPI) and its components experienced greater increases in the areas most exposed to roadblocks, either directly or indirectly, between December 2022 and January 2023, the impact being greater in the latter month.

Nine cities belonging to the regions most affected by the protests were among the 13 that showed the highest CPI increases. The city of Puerto Maldonado, located in the department of Madre de Dios, registered the highest inflation rate in January 2023 (15.3 percent), even though this region did not record any roadblocks in the period analyzed. This high increase in inflation would have been associated with connectivity problems, since this region is bordered by the departments of Puno, Cusco and Ucayali, the regions that concentrated the highest number and duration of road blockades.

Other cities with a high rate of road interruptions, which in turn reported significant increases in the CPI, were Ica, Ayacucho, Arequipa and Abancay. In addition, stoppages in this group of cities affected supplies in the regions of Moquegua and Tacna, which also experienced higher price increases.

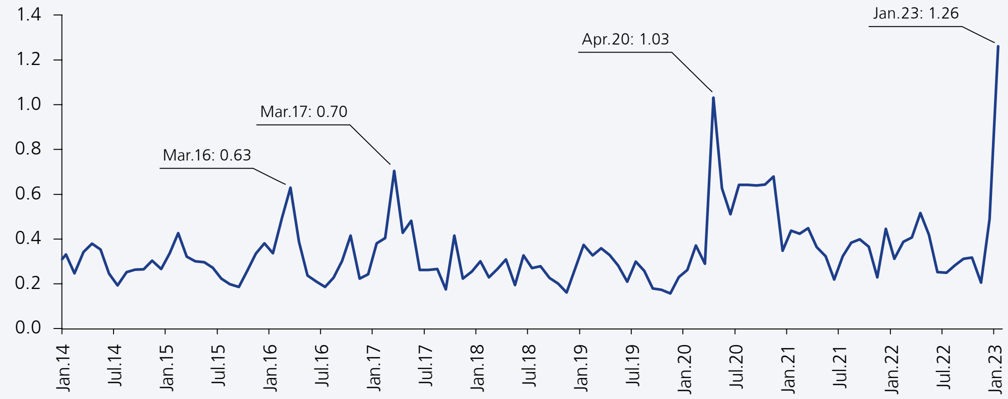
INFLATION ACCORDING TO MAIN CITIES, JANUARY 2023
(%)



Source: National Institute of Statistics and Informatics (INEI).

The greater increase in prices in the areas affected by the road blockages is also reflected in the increase in the dispersion of inflation rates by city. More specifically, the standard deviation of such inflation levels increased sharply in January, reaching a maximum value of 1.26, a figure unheard of (since regional information has been available) and well above its long-term average value of 0.32 (average 2012-2021).

DISPERSION OF INFLATION BY CITIES, 2014-2023
(In standard deviations)

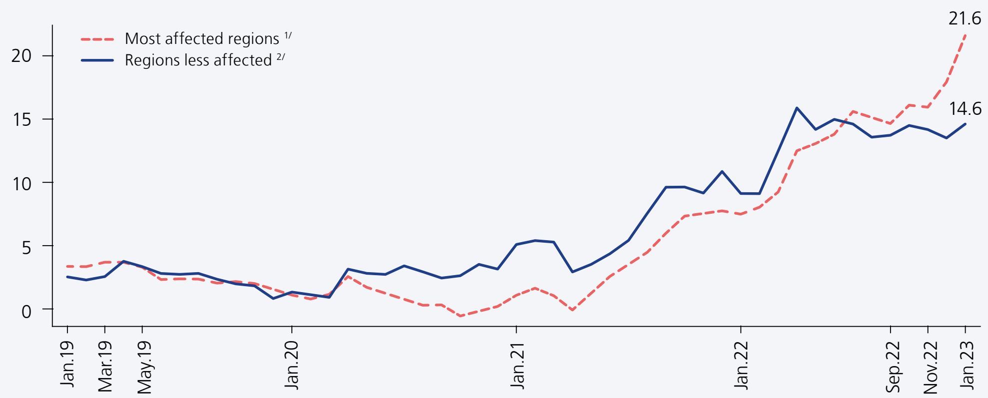


Source: National Institute of Statistics and Informatics (INEI).

Impacts of blockades by group of regions

At a more aggregated level, the regions most affected by the blockades reached total inflation rates of 9.6 and 10.7 percent in December 2022 and January 2023, respectively. These rates are 0.6 and 1.6 points higher than those observed in the less affected regions in the same period.[38] In addition, it should be pointed out that, in the months prior to the beginning of the roadblocks (December 2022), inflation in the the group of regions less affected by the blockades was consistently higher than in the most affected regions and that this trend changed after the blockades began.

INCREASE IN FOOD PRICES ACCORDING TO REGIONS MOST AND LESS AFFECTED BY BLOCKADES, 2019-2023
(%)



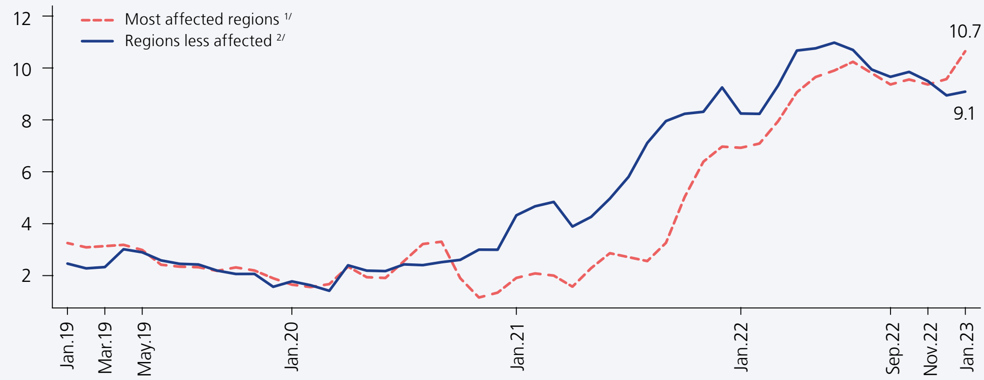
1/ Apurímac, Arequipa, Ayacucho, Cusco, Ica, Puno, Madre de Dios, Moquegua and Tacna.
2/ Ancash, Cajamarca, Amazonas, La Libertad, Pasco, San Martín, Loreto, Lambayeque and Tumbes.
Source: INEI - Regional Information System for Decision Making (SIRTOD).

One of the categories of the basic family basket of goods and services that showed the largest increases during January 2023 is Food and Beverages. It was reported that, on average, prices

38 The methodology used for classification purposes is outlined in Box 1 of this Inflation Report. The regions selected as most affected are: Apurimac, Arequipa, Ayacucho, Cusco, Ica, Puno, Madre de Dios, Moquegua and Tacna. On the other hand, the regions selected as the least affected are: Ancash, Cajamarca, Amazonas, La Libertad, Pasco, San Martin, Loreto, Lambayeque and Tumbes.

increased 7.0 points more in the areas most affected by the blockades (21.6 percent) than in those less affected (14.6 percent). Some heterogeneity was also observed by types of products, with milk, cheese and eggs (+9.3 points); edible fats and oils (+6.5 points); and meats (+6.4 points) being the groups of products that registered the greatest differences between the most and the least affected regions.

INCREASE IN FOOD PRICES ACCORDING TO REGIONS MOST AND LESS AFFECTED BY BLOCKADES, 2019-2023
(%)



1/ Apurímac, Arequipa, Ayacucho, Cusco, Ica, Puno, Madre de Dios, Moquegua and Tacna.
2/ Ancash, Cajamarca, Amazonas, La Libertad, Pasco, San Martín, Loreto, Lambayeque and Tumbes.
Source: INEI - Regional Information System for Decision Making (SIRTOD).
Elaboration: Department of Social and Regional Policies.

INFLATION IN DIFFERENT CLASSES OF PRODUCTS ACCORDING TO REGIONS MOST AND LESS AFFECTED BY BLOCKADES, 2022-2023
(%)

	December 2022			January 2023		
	More affected 1/	Less affected 2/	Difference (p.p.)	More affected	Less affected	Difference (p.p.)
General Consumer Price Index	**9.6**	**9.0**	**0.6**	**10.7**	**9.1**	**1.6**
Food and drinks	**17.9**	**13.5**	**4.4**	**21.6**	**14.6**	**7.0**
Milk, cheeses and eggs	24.9	17.2	7.7	26.2	16.9	9.3
Edible fats and oils	16.7	11.5	5.2	17.4	10.9	6.5
Meats and meat preparations	7.5	3.0	4.5	10.7	4.3	6.4
Fruits	18.3	18.1	0.2	22.8	17.7	5.1
Other Food Products	11.7	8.8	2.9	13.6	8.8	4.8
Bread and cereals	22.1	17.4	4.7	22.2	17.7	4.5
Sugar	21.4	18.8	2.6	20.2	17.6	2.6
Fish and Seafood	4.3	4.2	0.1	7.6	6.5	1.1
Average			3.3			4.9

1/ Apurímac, Arequipa, Ayacucho, Cusco, Ica, Puno, Madre de Dios, Moquegua and Tacna.
2/ Ancash, Cajamarca, Amazonas, La Libertad, Pasco, San Martín, Loreto, Lambayeque and Tumbes.
Source: INEI - Regional Information System for Decision Making (SIRTOD).

Expectations

The road blockades of December and January not only had a direct impact on inflation but also on the expectations that businessmen have regarding the prices of their inputs, but also on the prices of their products. For example, the price increase of an input that was expected in the 3 months between November 2022 and January 2023 was 6.4 points higher in the regions most affected by the blockades than in the less affected areas. Similarly, the expected change in the 3-month selling price index during the same period was 7.4 points higher in the areas most exposed to the blockades.

This expected 3-month increase in input prices and sale prices in the regions most affected by the blockades was reversed in February 2023. Thus, when compared to the expected levels recorded in November, input price expectations fell -15.1 points more in the regions most affected by the blockades than in those less affected. Moreover, although to a lesser extent, this behavior was also observed in 3-month sales price expectations (-2.0 points).

EXPECTATIONS ABOUT THE AVERAGE PRICE OF SALES AND INPUTS, 2022-2023

Expectations	State	2022			2021		Changes (p.p.)		
		October [1/]	November	December	January	February	Dec.22/ Nov.22	Jan.23/ Nov.22	Feb.23/ Nov.22
Price of inputs at 3 months	Most affected (a)	63.2	58.8	59.4	68.6	51.9	0.6	9.8	-6.9
	Less affected (b)	62.0	52.7	55.8	56.1	60.8	3.1	3.4	8.2
	Difference (a-b)						**-2.5**	**6.4**	**-15.1**
Sale price for 3 months	Most affected (a)	65.8	64.8	63.2	65.4	58.3	-1.6	0.7	-6.5
	Less affected (b)	64.1	62.9	55.7	56.3	58.4	-7.2	-6.7	-4.5
	Difference (a-b)						**5.7**	**7.4**	**-2.0**

1/ Average January-October 2022.
Source: BCRP - Survey of Macroeconomic Expectations.

In conclusion, the blockades on the national road network have had direct and indirect impacts on inflation in most regions. The most affected regions have been those with the highest number and duration of roadblocks, as well as the regions bordering the conflict zones. In addition, in January there was a greater increase in input and 3-month sales price expectations in the regions most affected by the blockades, although this was reversed in February.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