



INFLATION REPORT

December 2023

**Recent trends
and macroeconomic
forecasts
2023-2025**

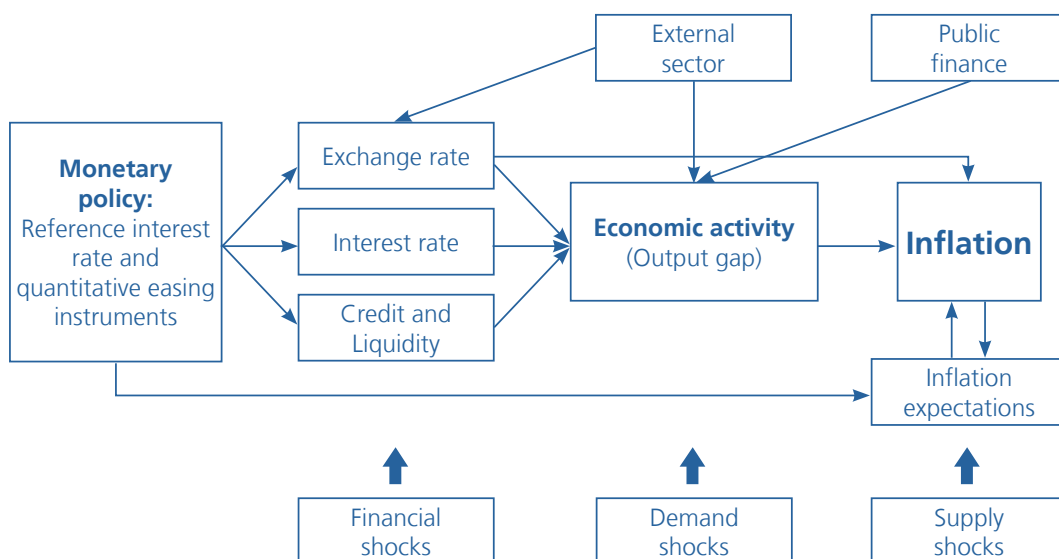


CENTRAL RESERVE BANK OF PERU

INFLATION REPORT

Recent Trends and Macroeconomic Forecasts 2023 - 2025

December 2023



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This **Inflation Report** has been prepared with information as of the third quarter of 2023 on the Balance of Payments and Gross Domestic Product; as of October 2023 on the monetary accounts and monthly GDP; and as of November 2023 on inflation, Non-Financial Public Sector operations, financial markets and exchange rates.

Foreword

- The Central Reserve Bank of Peru (BCRP) is a public autonomous organization mandated by the Constitution of Peru to maintain monetary stability. The primary roles of the institution include overseeing the monetary supply and credit, administering international reserves, and providing reports on the country's financial status.
- The Bank's monetary policy is designed to fulfill its mandate through the implementation of an inflation targeting scheme. The inflation target, which ranges from 1 to 3 percent, aims to stabilize inflation expectations at a level comparable to those of advanced countries and to build a lasting commitment to monetary stability.
- The Board of Directors of BCRP has been determining the benchmark rate for the interbank loan market on a monthly basis since 2003, according to a pre-established timetable. The interest rate serves as the primary tool for monetary policy, influencing the inflation rate over time and through several channels. Consequently, the interest rate is established by considering inflation predictions and factors that influence inflation.
- Inflation may momentarily fluctuate beyond the desired range due to the occurrence of unexpected events that may temporarily impact the availability of goods and services. Furthermore, it is important to note that the efficacy of monetary policy is assessed based on its ability to sustain inflation expectations within the desired range and promptly restore them to that range in the event of any economic shock.
- Furthermore, the BCRP carries out proactive measures to safeguard macro-financial stability and, in turn, maintain the effectiveness of monetary policy transmission mechanisms. The benchmark rate is supplemented by other monetary policy instruments, including injection and sterilization operations, reserve requirements, and interventions in the exchange rate. These measures are implemented to ensure the smooth operation of markets, decrease excessive volatility in the exchange rate, and prevent significant fluctuations in the volume and composition of credit in the financial system, considering different currencies and terms.
- The Inflation Report encompasses the macroeconomic projections for the timeframe of 2023-2025, which underpin the monetary policy determinations of BCRP. Additionally, it outlines the risk factors that have the potential to lead to deviations from these projections.
- The Inflation Report was approved at the Board of Directors' meeting held on December 14, 2023.
- The following Inflation Report will be released on Friday, March 15, 2024.



Summary

- i. In the third quarter of the year, **global economic activity** performed better than anticipated in the September Inflation Report, particularly in the services industry. In this context, the projections for worldwide economic expansion in 2023 have been adjusted upwards, from 2.8 to 3.0 percent. Nevertheless, commencing in the fourth quarter of this year, global economic activity started to slow down, likely throughout 2024. Consequently, the global economic growth rate will drop to 2.7 percent that year, followed by a recovery to 3.0 percent in 2025. This will occur in the context of lower inflation and interest rates.
- ii. The **terms of trade** recorded a year-on-year growth of 2.8 percent during the January-September 2023 period, due to a greater drop in import prices than export prices. This evolution is the result of increased food supply in the main producing countries, and prospects for a more balanced global oil market.

Over the next two years, lower prices are expected deteriorated demand prospects and the expected higher supply. Thus, the terms of trade are forecast to increase by 4.1 percent in 2023 (previously 3.0 percent), decrease by 1.8 percent in 2024 (previously 1.3 percent increase), and end the forecast horizon with 1.3 percent growth.

- iii. The accumulated **current account** in the last four quarters went from a deficit of 4.0 percent of GDP in 2022 to a deficit of 0.7 percent in the third quarter of 2023. This evolution responded to the fall in import volumes -due to the decline in domestic demand-, to the favorable evolution of the terms of trade, to the reduction in the profits of companies receiving Foreign Direct Investment and, to a lesser extent, to a smaller balance of services deficit -due to lower maritime freight prices- and to higher transfer shipments from abroad. The current account deficit is expected to remain on the decreasing trend observed during the year and close 2023 at 0.1 percent of GDP, rise to 0.8 percent in 2024 and reaching 1.2 percent of GDP in 2025, in line with greater demand for imports supporting a recovering economic activity.
- iv. **National economic activity** shrank by 0.7 percent in January-October 2023 period. Social conflicts and negative weather conditions (which continued throughout the year) at the start of the contraction period and impaired productive capacity, income and confidence in the private sector. Such adverse shocks went hand in hand with deteriorating household budgets resulting from persistent and significant increases in food prices (international grain price hikes, followed by higher fertilizer costs, droughts and the El Niño event) and lower demand for non-traditional products in the North American market.

On the expenditure side, this evolution was mainly characterized by the contraction of private and subnational government investment and a steep slowdown in private consumption. On the supply side, non-primary sectors were affected by shrinking private spending, mainly manufacturing, construction and services activities. Primary activities, especially agriculture, fishing and associated manufacturing, were adversely affected by weather anomalies that hurt crop yields and the availability of anchovy (Peruvian





pilchard). In addition, unscheduled maintenance operations by mining companies will hurt copper and molybdenum outputs.

Economic activity is expected to fall by 0.5 percent in 2023, in contrast to the 0.9 percent growth forecast announced in the September Report. As the transitory events of 2023 are not expected to recur in the same magnitude, economic activity is bound to recover in 2024 -especially in the second half of the year- and in 2025, with a growth rate of 3.0 percent in both years. This would make projected rates for the Peruvian economy some of the highest region wide. The baseline scenario assumes a moderate coastal El Niño event, forecast in the latest ENFEN report as the most likely scenario.

- v. The cumulative **fiscal deficit** over the last 12 months increased from 1.7 percent in 2022 to 2.7 percent of GDP in November 2023, as a consequence of deteriorating current incomes. Slower economic activity and lower *commodity* prices account for the upside revision of the fiscal deficit projection to 2.5 percent of GDP in 2023, expected however to fall within the fiscal rule of 2.0 and 1.5 percent of GDP in 2024 and 2025, respectively.

Consistent with these fiscal deficit forecasts, **debt** -net of non-financial Public Sector deposits- is expected to increase from 21.0 to 23.9 percent of GDP between 2022 and 2025. **Gross debt** is projected to remain stable, assuming greater use of Public Sector deposits to finance the fiscal deficit. Thus, public debt would increase from 33.8 to 33.1 percent of GDP between 2022 and 2025.

- vi. Between September and December 2023, the Board of Directors of BCRP decided to cut the **benchmark rate** by 25 basis points four times, thus lowering the benchmark rate from 7.75 to 6.75 percent. The announcements of these decisions emphasized that not necessarily would they imply a cycle of successive interest rate reductions and that future adjustments in the benchmark rate will be conditioned to new information on inflation and its determinants.
- vii. **Credit to the private sector** grew by 0.7 percent in annual terms in November 2023 (4.6 percent in 2022), mainly reflecting the evolution of economic activity. In the future, there is an anticipation that the demand for credit will improve in accordance with the projected growth of the Gross Domestic Product (GDP). Therefore, it is anticipated that the rate of credit growth to the private sector will increase to 3.5 and 5.0 percent in 2024 and 2025, respectively.
- viii. The year-on-year **inflation** rate continued to decrease significantly since June, from 7.89 percent in May to 3.64 percent in November. The drop is due to the correction in some food prices such as onions and, in recent months, lemons, as well as meals away from home and local transportation. Inflation excluding food and energy fell from 5.11 to 3.09 percent in the same period, very close to the target range.

An inflation rate of 3.1 percent is expected in 2023, or a downward revision with respect to the 3.8 percent expected in the September Report. This change is due to the faster reversal of the impact of supply shocks on food prices experienced in recent months. Year-on-year inflation is expected to remain relatively stable in the first

quarter, return to the target range at the beginning of the second quarter of 2024 and close that year at 2.3 percent and 2.0 percent in 2025.

This would make Peru one of the first economies in the region to bring inflation, particularly non-food and energy inflation (core inflation), back within its target range.

- ix. The upward bias of the **balance of risks to the inflation projection** slipped down relative to the previous Report. Risks to the forecasts include mainly the following contingencies: (i) internal supply shocks such as a strong or severe coastal El Niño oscillation in the summer of 2024, which could disrupt certain economic activities, the transport of perishable goods and the supply of domestic markets, and translate into higher food prices and transportation costs; or external supply shocks such as higher transportation costs due to restrictions in access to maritime routes (Panama Canal due to global El Niño or in the Suez Canal due to geopolitical conflicts); (ii) domestic demand shocks due slower recovery of consumer and business confidence, which could deteriorate the outlook for private spending; (iii) external demand shocks due to a slowdown in global growth, which would imply lower demand for our main export products; and (iv) financial shocks due to upward pressure on the exchange rate, capital outflows and greater volatility in international markets due to episodes of greater political uncertainty or increased volatility in international financial markets.





SUMMARY OF INFLATION REPORT FORECAST

	2022	2023*		2024*		2025*
		IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
Real % change						
1. Gross Domestic Product	2.7	0.9	-0.5	3.0	3.0	3.0
2. Domestic demand	2.3	-0.3	-1.6	3.0	2.9	2.9
a. Private consumption	3.6	1.2	0.2	3.0	2.7	2.8
b. Public consumption	-3.4	2.0	2.0	2.0	2.0	2.0
c. Fixed private investment	-0.4	-5.3	-7.3	1.8	1.8	3.0
d. Public investment	7.7	1.5	1.0	4.0	4.0	4.5
3. Exports (good and services)	6.1	2.8	3.0	3.3	3.1	3.8
4. Imports (good and services)	4.4	-2.0	-1.2	3.4	2.7	3.3
5. Global economic growth	3.4	2.8	3.0	2.7	2.7	3.0
Note:						
Output gap ^{1/} (%)	0.8	-1.5 ; -0.5	-1.8 ; -0.8	-1.0 ; 0.0	-1.3 ; -0.3	-0.7 ; 0.3
% change						
6. Inflation (end-of-period)	8.5	3.8	3.1	2.4	2.3	2.0
7. Expected inflation ^{2/}	6.3	4.1	3.9	3.0	3.1	2.5
8. Expected depreciation ^{2/}	-5.1	-3.1	-1.3	0.9	0.4	0.9
9. Terms of Trade	-10.5	3.0	4.1	1.3	-1.8	1.3
a. Export prices	1.8	-3.6	-2.7	2.2	-1.0	1.8
b. Import prices	13.7	-6.5	-6.6	0.9	0.7	0.5
Nominal % change						
10. Currency in circulation	-3.8	-5.0	-7.2	-1.0	-2.5	0.0
11. Credit to the private sector	4.6	1.0	0.7	4.0	3.5	5.0
% GDP						
12. Gross fixed investment	25.3	23.3	23.0	22.8	22.9	23.0
13. Current account of the balance of payments	-4.0	-1.3	-0.1	-1.2	-0.8	-1.2
14. Trade Balance	4.2	5.8	6.1	5.7	5.4	5.6
15. Long-term external financing of the private sector ^{3/}	5.9	1.1	0.6	1.3	0.8	1.6
16. Current revenue of the general government	22.1	20.2	20.0	20.3	20.3	20.5
17. Non-financial expenditure of the general government	22.0	20.9	20.7	20.8	20.7	20.5
18. Overall balance of the non-financial public sector	-1.7	-2.4	-2.5	-2.0	-2.0	-1.5
19. Balance of total public debt	33.8	32.9	32.9	32.8	33.3	33.1
20. Balance of net public debt	21.0	21.7	22.4	22.4	23.5	23.9

IR: Inflation Report

* Forecasts.

1/ Differential between GDP and tren GDP (in % of trend 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. Global economic activity has significantly surpassed forecasts since the previous Inflation Report. The United States is currently undergoing a modest deceleration, as shown by many indicators. Conversely, the anticipation of a rapid decline in China's economy has decreased with the publication of third-quarter results. Due to these events, the estimated growth rate for 2023 has been raised from 2.8 to 3.0 percent.

A slowdown is expected through 2024 starting in the fourth quarter of this year, a trend related to the lagged impact of monetary policy on financial and credit conditions, lower labor market gains and high levels of private debt in the major economies. A divergence between the major economies is currently evident, as the United States and China exhibit relatively high rates compared to other economies like Germany and the United Kingdom.

The conflict in the Middle East is a new risk factor in the central scenario, in addition to other possible supply shocks, such as a strong global El Niño. Other risk factors were mentioned in the September Report. Particularly, a slower convergence of inflation towards the target could imply an additional adjustment, or a slower easing of monetary policy by the main central banks.

Recent developments in global economic activity

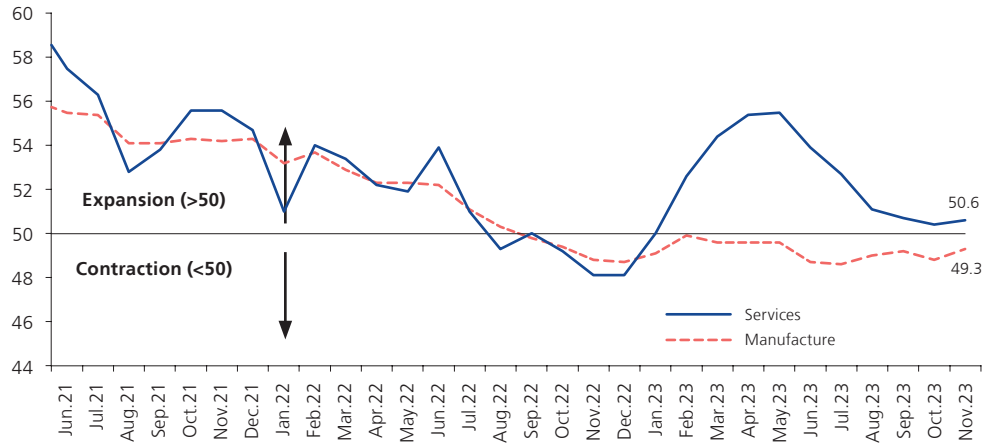
2. Overall, the global economy has shown resilience despite tightening financial conditions and global uncertainty, among other factors. High rates of expansion in the United States and China offset low growth in the eurozone and the United Kingdom.

However, in October and November, the global economy showed evidence of less dynamism. The services sector, which has led growth, slowed down, while the manufacturing sector continued to contract in sectors affected, among other factors, by the weak momentum of world trade and high energy prices.





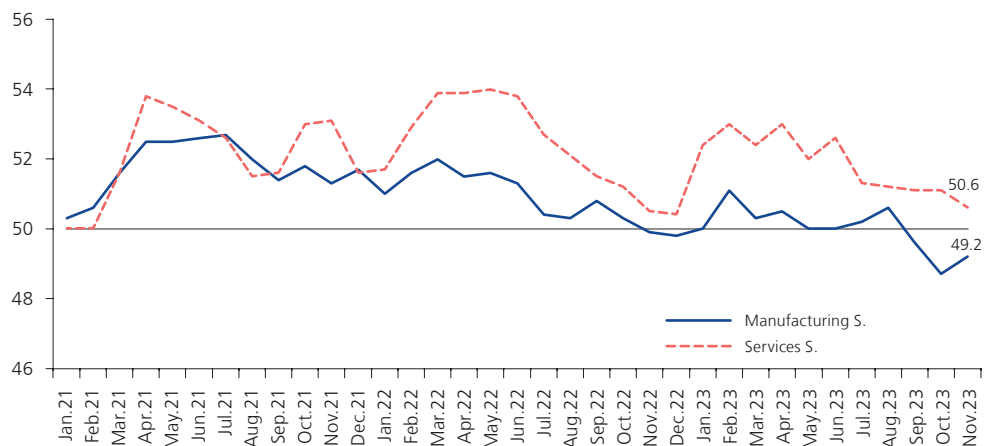
Graph 1
GLOBAL PMI: WORLD ECONOMIC ACTIVITY INDEX FOR MANUFACTURING AND SERVICES SECTORS
(Diffusion index)



Source: S&P Global.

The decline in the manufacturing sector and the deceleration in the services sector can be attributed, in part, to sliding savings surpluses and reducing labor markets gains. This is reflected in the consistent decrease, spanning four consecutive months of the employment component within the global services PMI. Similarly, the employment component of the global manufacturing PMI has stayed in the contraction zone for the past two months. Meanwhile, export orders are continuously declining, pointing to a slower pace of international trade.

Graph 2
PMI GLOBAL EMPLOYMENT: EMPLOYMENT SUB-INDEX
(Diffusion index)



Source: JP Morgan y S&P.

- Third-quarter economic performance of developed economies was better than expected, particularly in the United States. Third-quarter growth of 4.9 percent, the highest since late 2021, reflected a recovering domestic demand. After low growth in the second quarter, private consumption, particularly of durable goods,

rebounded supported by high employment. For its part, investment was boosted by non-residential construction, where some projects are driven by corporate relocation supported, in turn, by government incentives to purchase locally-manufactured goods (such as electric cars).

In addition, residential investment continued to contract due to high lending rates, although the decline has been less than expected due to low inventories and the limited availability of second homes for sale.

Table 1
QUARTERLY GROWTH OF THE MAIN ECONOMIES
 (% change of the seasonally adjusted GDP serie)

	Q1.22	Q2.22	Q3.22	Q4.22	Q1.23	Q2.23	Q3.23
United States*	-0.4	-0.1	0.8	0.6	0.6	0.5	1.2
Germany	1.0	-0.1	0.4	-0.4	0.0	0.1	-0.1
United Kingdom	0.5	0.1	-0.1	0.1	0.3	0.2	0.0
Japan	-0.6	1.2	-0.1	-0.1	0.9	1.1	-0.5
China	0.8	-2.3	3.7	0.8	2.3	0.5	1.3

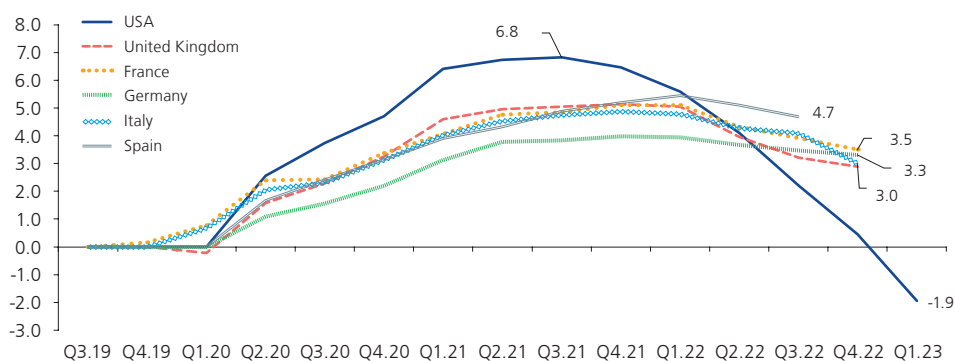
Source: OCDE.

* Implied quarterly growth rate with annualised growth of 4.9% in Q3.23

However, monthly frequency indicators point to lower fourth quarter growth so far. At sector level, manufacturing remains in the contraction zone and services, although on a rising trend (above 50), rates are below those in the first half. At the spending component level, private consumption, reflected in retail sales, is affected by higher borrowing costs, lower gains in the labor market (both in job creation and wage growth) and persisting high prices in the services sector.

Likewise, savings surpluses created during the pandemic declined, particularly in the United States. IMF estimates U.S. household savings surpluses declined significantly and are below those of other developed economies.

Graph 3
ACCUMULATED SAVINGS SURPLUSES IN DEVELOPED ECONOMIES
 (% GDP)



Source: IMF (October, 2023) in base Soyres, Moore, and Ortiz (2023).





4. Strong performance of the United States contrasts with other developed economies, including the Eurozone and the United Kingdom. The contracting German economy stands out, as it continued to be affected by the evolution of the manufacturing sector, heavily dependent on international trade. In contrast, a dynamic services sector (particularly tourism) favored growth in Italy and Spain. This trend towards a moderation in the region's expansion has continued so far in the fourth quarter.

Japan's economic activity has been favored by external demand, particularly by higher exports of automobiles and auto parts. Export sector dynamic evolution has been reinforced by the depreciation of the yen in the face of the divergence between the Bank of Japan's monetary policy and the rest of the major economies.

Table 2
PMI MANUFACTURING AND SERVICES
(Diffusion index)

	Dec.22	Mar.23	Jun.23	Jul.23	Aug.23	Sep.23	Oct.23	Nov.23
PMI Manufacturing								
India	57.8	56.4	57.8	57.7	58.6	57.5	55.5	56.0
Japan	48.9	49.2	49.8	49.6	49.6	48.5	48.7	48.1
China	49.0	50.0	50.5	49.2	51.0	50.6	49.5	50.7
USA	46.2	49.2	46.3	49.0	47.9	49.8	50.0	49.4
Brazil	44.2	47.0	46.6	47.8	50.1	49.0	48.6	49.4
United Kingdom	45.3	47.9	46.5	45.3	43.0	44.3	44.8	46.7
France	49.2	47.3	46.0	45.1	46.0	44.2	42.8	42.6
Italy	48.5	51.1	43.8	44.5	45.4	46.8	44.9	44.4
Germany	47.1	44.7	40.6	38.8	39.1	39.6	40.8	42.3
PMI Services								
India	58.5	57.8	58.5	62.3	60.1	61.0	58.4	56.9
Japan	51.1	55.0	54.0	53.8	54.3	53.8	51.6	51.7
China	48.0	57.8	53.9	54.1	51.8	50.2	50.4	51.5
USA	44.7	52.6	54.4	52.3	50.5	50.1	50.6	50.8
Brazil	51.0	51.8	53.3	50.2	50.6	48.7	51.0	51.2
United Kingdom	49.9	52.9	53.7	51.5	49.5	49.3	49.5	50.5
France	49.5	53.9	48.0	47.1	46.0	44.4	45.2	45.3
Italy	49.9	55.7	52.2	51.5	49.8	49.9	47.7	49.5
Germany	49.2	53.7	54.1	52.3	47.3	50.3	48.2	48.7

Source: PMI S&P.

Expansion > 50

Contraction < 50

5. Within emerging economies, **China's** economic activity in the third quarter was stronger than expected. However, the release of indicators for October and November gave a mixed signal about the current state of the economy. At the sectoral level, services continued to expand, albeit at a slower pace, while manufacturing reversed the positive trend observed in the third quarter.

These events continue to reflect weak external and domestic demand. In particular, domestic demand is hampered by modest recovery of domestic consumption and the unfavorable evolution of investment, specifically real estate. The current economic scenario remains coupled with persistently low inflation rates. Moreover, in November, consumer prices dropped again for the third time this year so far.

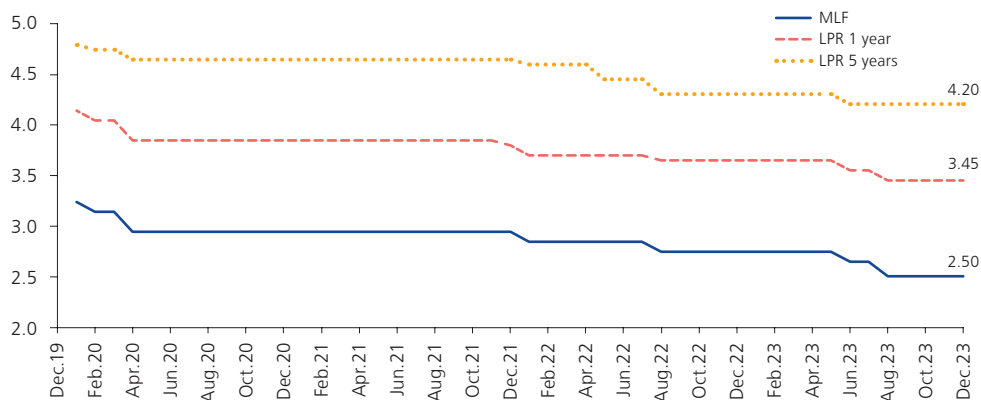
Table 3
CHINA: SELECTED INDICATORS

	2021	2022	2023						
			Mar.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
PMI services - S&P 1/			57.8	53.9	54.1	51.8	50.2	50.4	51.5
PMI non manufacturing - official 1/			58.2	53.2	51.5	51.0	51.7	50.6	50.2
PMI manufacturing - S&P 1/			50.0	50.5	49.2	51.0	50.6	49.5	50.7
PMI manufacturing - official 1/			51.9	49.0	49.3	49.7	50.2	49.5	49.4
Industrial Production 2/			3.9	4.4	3.7	4.5	4.5	4.6	6.6
Fixed Asset Investment 3/			5.1	3.8	3.4	3.2	3.1	2.9	2.9
Retail Sales 2/			10.6	3.1	2.5	4.6	5.5	7.6	10.1
Exports 2/			14.8	-12.4	-14.5	-8.8	-6.2	-6.4	0.5
Imports 2/			-1.4	-6.8	-12.4	-7.3	-6.2	3.0	-0.6
Bank loans 2/			11.8	11.3	11.1	11.1	10.9	10.9	10.8
Consumer price index 2/			0.7	0.0	-0.3	0.1	0.0	-0.2	-0.5
Housing price index 2/			-0.8	0.0	-0.1	-0.1	-0.1	-0.1	-0.2
Producer price index 2/			-2.5	-5.4	-4.4	-3.0	-2.5	-2.6	-3.0

1/ 50 neutral level
2/ Annual % Chg.
3/ Accumulated Annual % Chg.
Source: Trading Economics.

Given the current circumstances, the Chinese government has proposed additional measures to offset the decreased economic activity and prevent a deflationary spiral. Notably, there was a proposal to issue sovereign bonds valued at 1 trillion yuan (equivalent to around USD 137 billion) with the aim of boosting investment in infrastructure. The central bank maintained its support measures and announcements, mostly through credit and liquidity provisions, while keeping key interest rates steady to mitigate the devaluation of the yuan.

Graph 4
CHINA: INTEREST RATE (%)



Note: The MLF (medium-term lending facility) rate is the policy rate at which the PBoC lends to large commercial banks. LPR rates (loan prime rates) serve as a reference for new loans: at 1 year, for corporate and domestic loans; at 5 years, for mortgages. These are based on a weighted average of the lending rates of 18 commercial banks.
Source: Trading Economics.

- In **Latin America**, economic activity among the region’s countries continued to diverge.

Mexico and Brazil continued to perform strongly. Mexico benefited from an increase in exports to the United States, displacing China as the main supplier, due to geopolitical

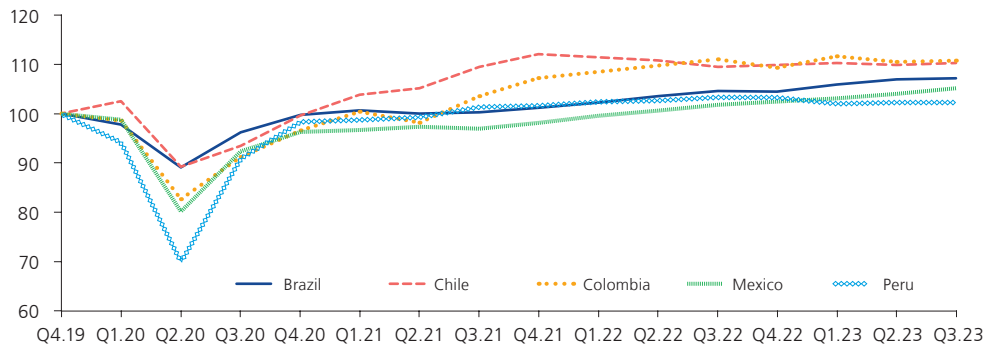




tensions and the T-MEC trade agreement (which includes North American countries). In Brazil, the dynamism of private consumption stands out in a context of fiscal stimulus and lower political uncertainty.

The rest of the economies have shown less dynamism in a context in which domestic demand has been affected by the adjustment in monetary and credit conditions, and by the shrinking savings surpluses generated during the pandemic, particularly in Chile and Colombia.

Graph 5
LATIN AMERICA: QUARTERLY GDP*
(Index, 100 = Q4.19)

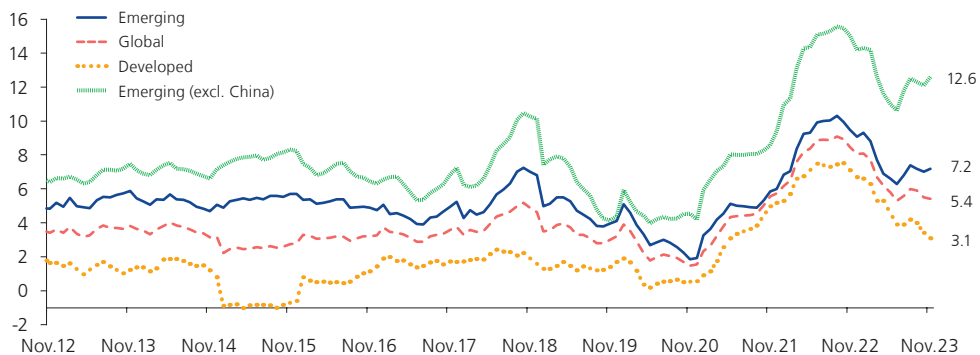


*Seasonally adjusted series.
Source: Statistical institutes and central banks.

Recent inflation trends

- 7. In October and November, inflation remained on the downward path observed during most of the year. Remarkably, the slight inflation spike July and August concentrated in a few countries (United States, Turkey, Russia and Brazil).

Graph 6
INFLATION: GLOBAL, DEVELOPED COUNTRIES AND EMERGING ECONOMIES
(% chg., 12 Months)



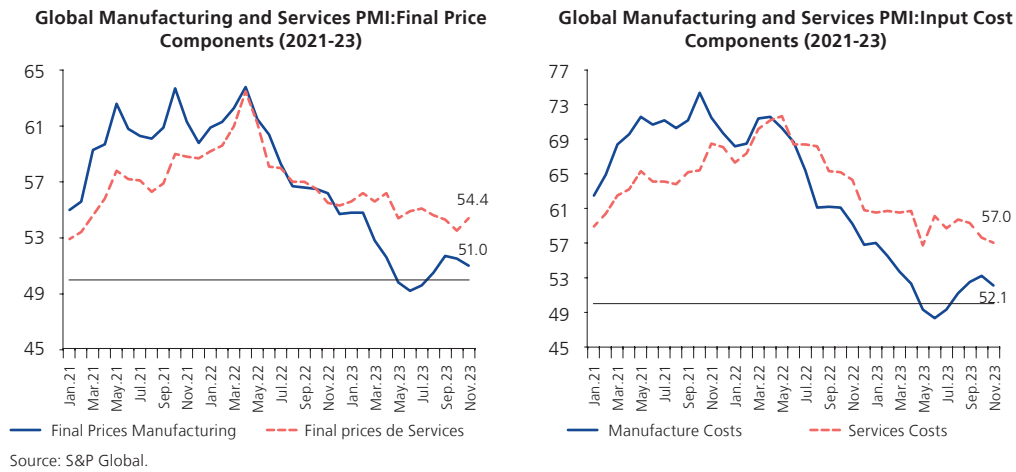
Source: Reuters.
Elaborated: BCRP.

	Inflation (% chg., 12 Months)										
	Sep.22	Dec.22	Mar.23	Apr.23	May.23	Jun.23	Jul.23	Aug.23	Sep.23	Oct.23	Nov.23
Global	9.1	8.1	6.7	6.2	5.8	5.3	5.6	6.0	5.9	5.5	5.4
Developed	7.4	6.7	5.3	5.3	4.6	3.9	3.9	4.2	4.0	3.4	3.1
Emerging	10.3	9.1	7.7	6.9	6.6	6.3	6.8	7.4	7.2	7.0	7.2
Developed (excl USA)	6.9	6.9	5.6	5.6	5.1	4.6	4.4	4.5	4.2	3.4	3.1
Emerging (excl China)	15.6	14.2	12.6	11.6	11.0	10.6	11.8	12.5	12.3	12.1	12.6

Source: Reuters.
Elaborated: BCRP.

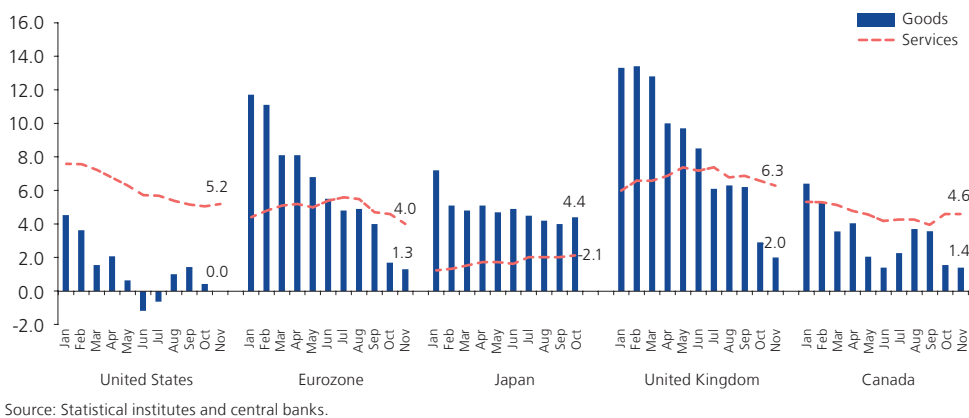
As in previous months, the greatest inflationary pressures were seen in the services sector, due to the post-pandemic recomposition of demand and a shortage of labor. Thus, in aggregate terms, the PMI price and cost sub-indices in the services sector are above the same sub-indices in the manufacturing sector.

Graph 7
GLOBAL PMI: FINAL PRICES AND INPUT COSTS



As shown in the following graph, inflationary pressures on goods have been on a downward trend in most countries, while service inflation pressures have decreased only slightly and in some cases, such as in Japan and Canada, have even shown a slight upward trend.

Graph 8
DEVELOPED ECONOMIES: PRICES OF GOODS AND SERVICES (%)

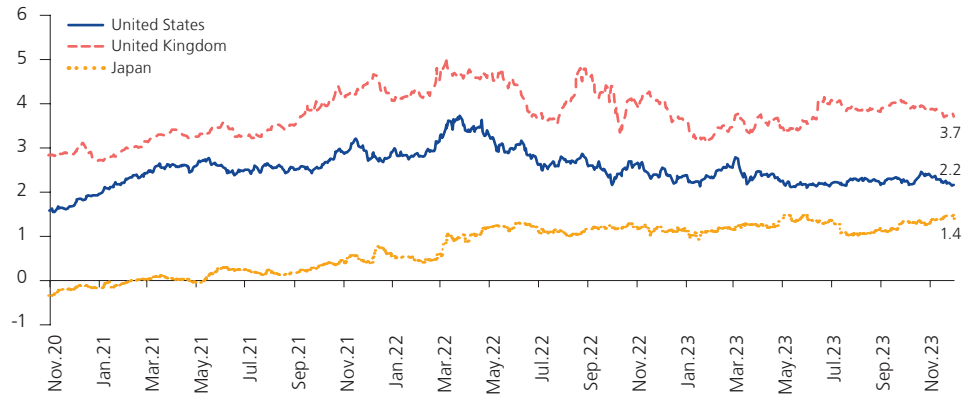


Regarding inflation expectations, the inflation *breakeven*-which measures the difference between nominal and inflation-linked bonds-shows that expected 5-year inflation is around target in the United States, while in the United Kingdom, expectations remain above target, albeit on gentle downward path. In Japan, they still remain below 2 percent, even though current rates are above target.





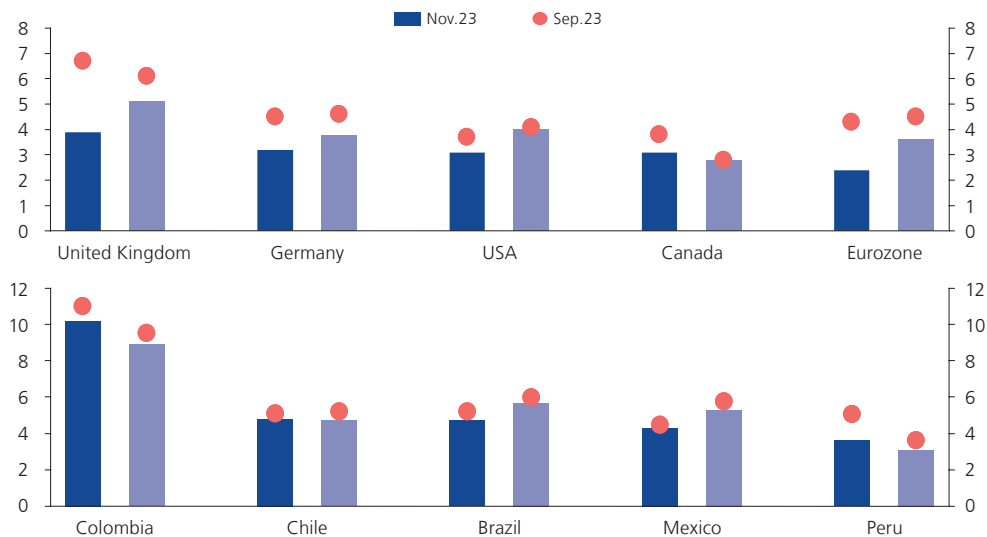
Graph 9
5- YEAR BREAKEVEN INFLATION RATE
(%)



Source: Reuters.

In the case of emerging economies, inflationary pressures also continued to abate. The appreciation pressures of most currencies against the dollar played a role, in addition to the impact of monetary policy on inflation and the reversal of supply shocks.

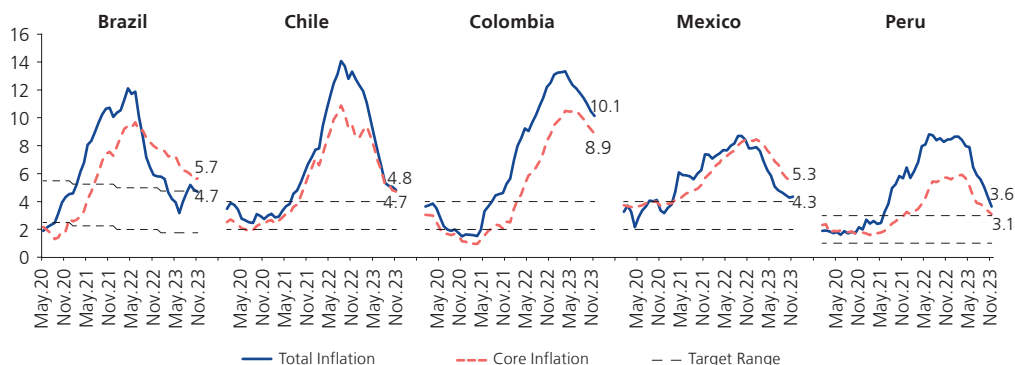
Graph 10
TOTAL INFLATION AND CORE INFLATION
(%)



Note: total inflation in dark blue; core inflation in light blue.
Source: Central banks of each country

Across Latin America, inflation remained on its downward trend, although at a somewhat slower pace, excepting in Peru. In Brazil and Mexico, core inflation remained above total inflation. Total and core inflation rates in Peru were among the lowest.

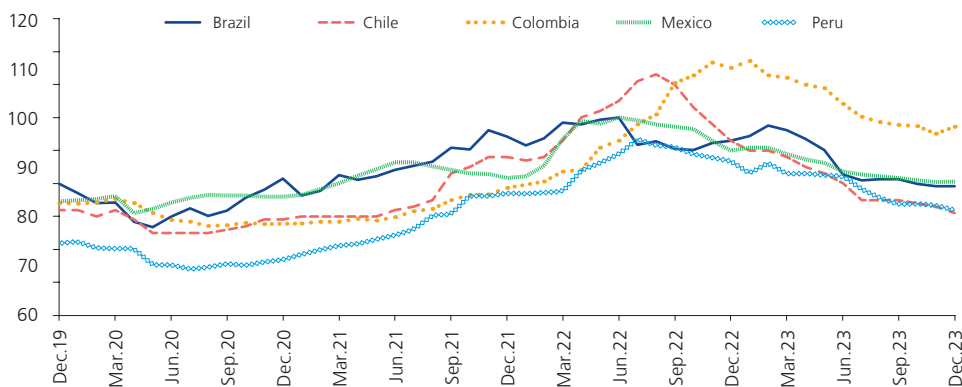
Graph 11
INFLATION IN LATIN AMERICA 2020-2023
(%)



Source: Central banks and national statistical institutes of each country.

Inflation expectations for the next 12 months also point to a continued sloping trend. After peaking between the second and fourth quarters of 2022, expectations have been declining and, in most cases, approach pre-pandemic expectations. In Brazil and Chile, 12-month expectations have returned to the target range and in Peru they are close to their target range.

Graph 12
INFLATION EXPECTATIONS 12 MONTHS
(Percentage change)



Note: For Brazil, corresponds to the average 12-month inflation expectation recorded in the reference month. For Mexico, it is obtained by interpolation based on expectations as of December 2023 and 2024.
Source: Central banks of each country

Monetary and fiscal policy responses

- In recent months, most central banks of the main developed economies kept their rates at the maximum levels reached during the ongoing tightening cycle.

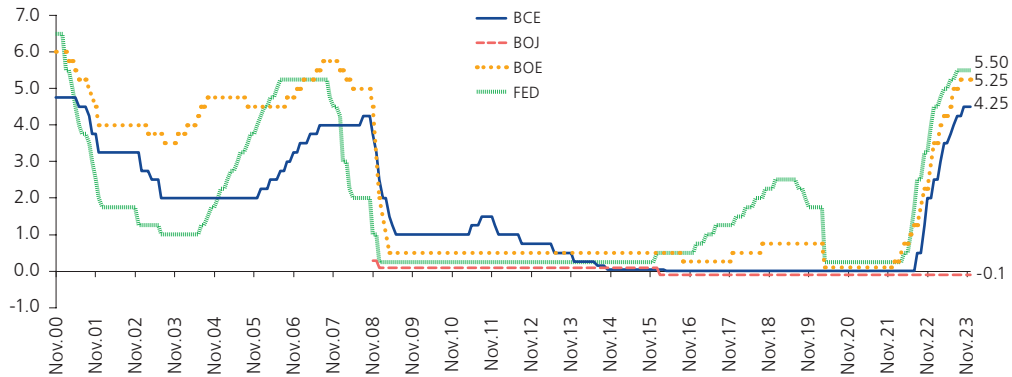
No additional rate hikes are expected from the main central banks –the Fed, the ECB and the BoE– in the forecast period. However, they reaffirmed that rates would





remain at high levels if there is insufficient evidence of inflation convergence towards their respective targets. Market expectations are for rate cuts to begin in 2024 and continue through 2025.

Graph 13
MONETARY POLICY INTEREST RATE
(%)



Source: Central banks of each country

At the close of this Report, the risks of a more restrictive monetary policy by the Fed have been reduced after the decrease in inflation (measured through different indicators) and the evidence of a lower pace of economic activity. Similarly, the Fed's latest forecasts have revised the GDP growth projections for 2024 upwards, and inflation and interest rates downwards.

Table 4
FEDERAL RESERVE PROJECTIONS OF USA:
MACROECONOMICS VARIABLES, 2023-2026*

	2023		2024		2025		2026		Long Run	
	Sep.23	Dec.23	Sep.23	Dec.23	Sep.23	Dec.23	Sep.23	Dec.23	Sep.23	Dec.23
Growth Rate	2.1	2.6	1.5	1.4	1.8	1.8	1.8	1.9	1.8	1.8
Unemployment Rate	3.8	3.8	4.1	4.1	4.1	4.1	4.0	4.1	4.0	4.1
Inflation (PCE)	3.3	2.8	2.5	2.4	2.2	2.1	2.0	2.0	2.0	2.0
Core Inflation (PCE core)	3.7	3.2	2.6	2.4	2.3	2.2	2.0	2.0	-	-

Note: Underlying PCE excludes food and energy.

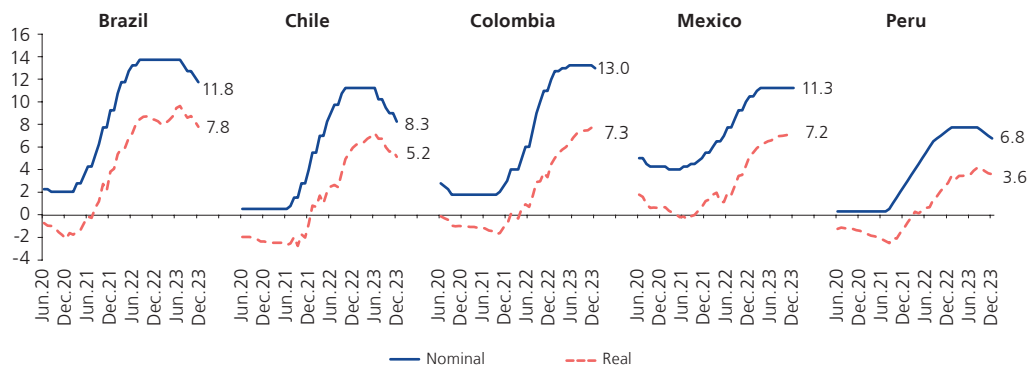
Interes Rate (%)	5.6	5.4	5.1	4.6	3.9	3.6	2.9	2.9	2.5	2.5
Interest rate range (%)	5.4-5.6	5.4	4.4-6.1	3.9-5.4	2.6-5.6	2.4-5.4	2.4-4.9	2.4-4.9	2.4-3.8	2.4-3.8

* Includes 18 data from individual Fed members' end-of-period projections.

Most emerging economies' central banks reduced interest rates in line with lower pressures on the output gap and reduced inflationary pressures. In the case of the countries in the region, except for Mexico, central banks reduced their interest rates. In the cases of Chile, Brazil, Peru and Colombia, the reductions were 125, 100, 75

and 25 bps, respectively. Considering the reduction in inflationary expectations, real rates showed relative stability, with the reference rate in Peru remaining the lowest in nominal and real terms. With these reductions, the interest rate differential with respect to those of the United States and other developed economies has narrowed.

Graph 14
MONETARY POLICY INTEREST RATES IN LATIN AMERICA 2020-2023
 (%)



Note: Real rates based on 12-month inflation expectations.
 Source: Statistical institutes and central banks of each country

9. In terms of **fiscal policy**, in the United States, consensus was reached in the US for a temporary financing package to cover the budget needs for the October 2023 - September 2024 fiscal year, thus avoiding a government *shutdown* until at least January 2024. The persistent political polarization to reach fiscal agreements resulted in a change in Moody's sovereign debt rating outlook (from stable to negative). In August of this year, Fitch cut the credit rating from AAA to AA+ for similar reasons.
10. In the eurozone, as mentioned in previous reports, fiscal consolidation has begun following measures to support households and businesses to offset the effects of high energy prices. However, this process risks being interrupted by the possibility of an economic contraction.

Global economic outlook

11. In line with better-than-expected forecasts and signs of resilience in several developed economies, the **global growth forecast** is again revised upward for 2023 (from 2.8 to 3.0 percent). Of particular note is the case of the United States, whose growth rate (revised from 1.8 to 2.4 percent) contrasts with the low rates in the Eurozone and the United Kingdom.

As projected in the September Report, global economic activity is expected to slow down from the fourth quarter onwards, continuing through 2024. In this sense, global





growth is projected to drop to 2.7 percent in 2024, basically due to the evolution of developed economies. As previously mentioned, this lower growth is supported by the lagged effect of the adjustment of monetary policies, lower gains in the labor market, the reduction of private savings surpluses and the lower pace of the real estate markets in the main economies.

Table 5
GLOBAL GROWTH
(Annual % changes)

	PPP*	2022	2023		2024		2025
			IR Sep.	IR Dec.	IR Sep.	IR Dec.	IR Dec.
Developed economies	41.7	2.7	1.5	1.7	1.1	1.1	1.9
<i>Of wich</i>							
1. United States	15.5	2.1	1.8	2.4	1.0	1.2	2.0
2. Eurozone	12.0	3.5	0.5	0.5	0.9	0.7	2.0
3. Japan	3.8	1.1	1.2	1.6	0.9	0.9	0.8
4. United Kingdom	2.3	4.0	0.3	0.5	0.4	0.4	1.5
5. Canada	1.4	3.4	1.4	1.4	1.1	0.9	2.3
Developing economies	58.2	4.0	3.7	3.9	3.9	3.9	3.9
<i>Of wich</i>							
1. China	18.6	3.0	4.9	5.0	4.8	4.8	4.5
2. India	7.2	6.8	6.0	6.3	6.0	6.0	6.0
3. Russia	2.9	-2.2	0.1	2.0	1.3	1.3	1.0
4 Latin America and the Caribbean	7.2	3.9	1.6	2.0	1.7	1.7	2.4
Argentina	0.7	5.2	-2.0	-2.5	0.6	-1.0	2.5
Brazil	2.3	2.9	2.0	3.0	1.5	1.5	2.0
Chile	0.4	2.4	-0.5	-0.5	2.0	2.0	2.0
Colombia	0.6	7.5	1.0	1.3	1.7	2.0	3.0
Mexico	1.8	3.1	2.5	3.2	1.4	1.8	2.0
Peru	0.3	2.7	0.9	-0.5	3.0	3.0	3.0
World Economy	100.0	3.4	2.8	3.0	2.7	2.7	3.0

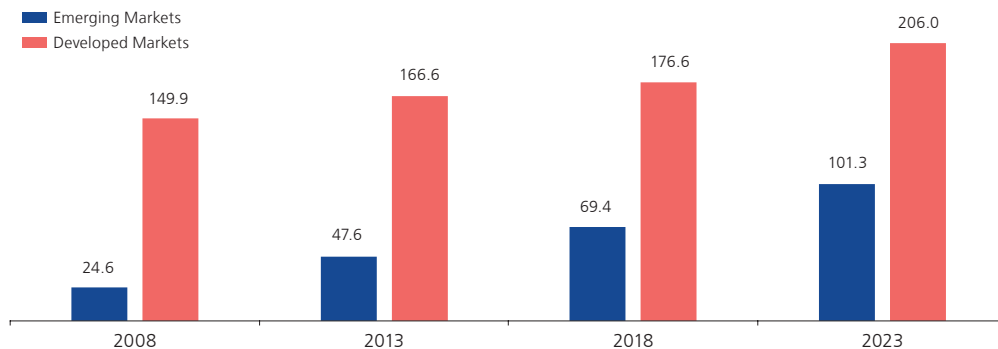
* Base 2022.
Source: IMF, Consensus Forecast, and Peru (BCRP).

As mentioned, the probability of a recession in the United States has abated significantly as well as fear of a sharp slowdown in China in line with performance data for the second half. However, several risk factors mentioned in the September Report could affect growth on the downside.

- First, central banks in developed economies may maintain restrictive stances beyond expectations, particularly due to a slower convergence of inflation towards the target, resulting in additional and longer-than-expected financial tightening.
- Financial tightening would take place in a context of high indebtedness in both the public and private sectors (both households and companies). Furthermore, recent IIF data show that, between January and October, the number of

companies filing bankruptcy increased in most developed countries (in the United States, approximately 20 percent higher).

Graph 15
TOTAL DEBT LEVEL
(USD billions, 3rd quarter of each year)



Source: IIF.

- Potential supply shocks may create renewed new inflationary pressures in a context of an economic slowdown. A downside risk is the occurrence of a more severe and widespread global El Niño event than projected, generating novel effects on the cost of food.

Other potential supply shocks could occur in the energy market, particularly due to a worsening of geopolitical tensions in the Middle East. Global supply chains could also be affected by an increase in trade tensions between the United States and China or by climatic factors impacting in particular, maritime transport (e.g., insufficient water in the Panama Canal). Recently, the risk of suspension of shipping operations through the Red Sea has emerged.

- Other risks are associated with the deterioration of bank balance sheets in the United States, the deadlock in negotiations over the public debt ceiling in the United States, and problems in the housing market in China.

International financial markets

- Recent developments in financial markets were strongly influenced by expectations regarding the Fed's monetary policy. The rate hike cycle is expected to have concluded given lower inflation and the moderate economy and labor market's advancement that influenced the depreciation of the dollar, the recovery of stock markets and the fall in U.S. sovereign bond yields; in the latter case, difficulties in approving the budget and the revision on the downside by Moody's slowed down the downward slip.





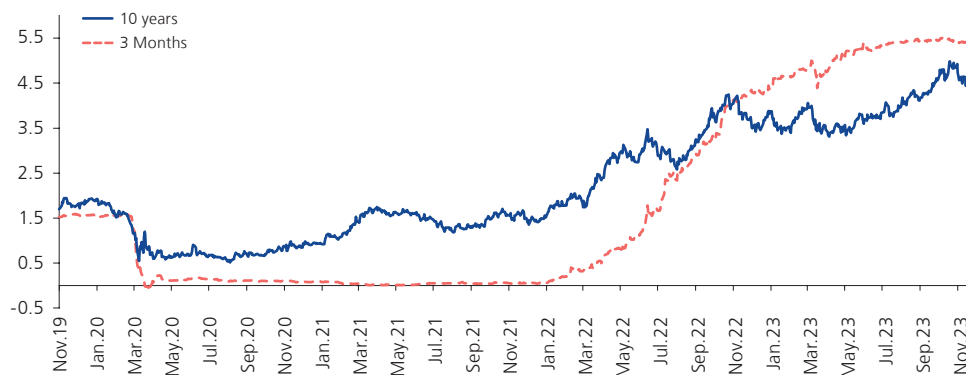
In the same vein, expectations of rate hikes in the eurozone and the United Kingdom declined significantly in the face of the negative evolution of activity and the accelerated fall in inflation, which also put downward pressure on their sovereign bond yields.

Another relevant factor was China's better-than-expected economic performance and the announcement of stimulus measures, particularly to strengthen the real estate sector. This reduced the fears of a sharp slowdown in the Chinese economy, which were highlighted in the September Report.

In addition, the conflict in the Gaza Strip limited demand for riskier assets at the beginning of October. However, these tensions have eased at the close of this Report. The situation in the Middle East remains a factor of uncertainty and adds to other geopolitical events outlined in previous reports (such as the war in Ukraine and tensions between China and the United States).

- 13. In **fixed income markets**, US sovereign yields declined on expectation that the Fed has completed its interest rate hiking cycle and reduced concerns about the government's fiscal position. The 10-year yield declined by 25 bps to 4.33 percent in the period under review, although showing high volatility with yields of up to 5 percent during the period. Bond yields between 1 and 5 years showed larger declines (between 34 and 36 bps.).

Graph 16
U.S. SOVEREIGN YIELDS
(%)



Source: Reuters.

In Europe, yields also declined in line with expectations around major central bank policy. Across the region, yields also declined in line with expectations about Fed policy and higher growth in China.

Table 6
10-YEAR SOVEREIGN BOND YIELDS*
 (%)

	Dec.22 (a)	Sep.23 (b)	Nov.23 (c)	Difference (pbs)	
				(c) - (b)	(c) - (a)
United States	3.88	4.57	4.33	-25	45
Germany	2.57	2.84	2.45	-39	-13
France	3.11	3.40	3.02	-38	-9
Italy	4.70	4.78	4.23	-55	-48
Spain	3.65	3.93	3.47	-46	-18
Greece	4.57	4.34	3.67	-66	-90
United Kingdom	3.66	4.44	4.17	-26	51
Japan	0.41	0.76	0.67	-9	26

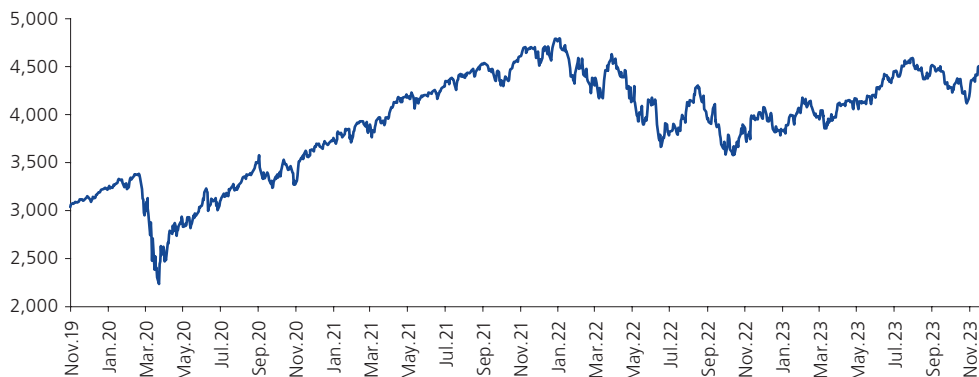
Brazil	12.69	11.65	10.90	-75	-179
Colombia	13.01	11.78	10.80	-99	-221
Chile	5.26	6.30	5.71	-58	45
Mexico	9.02	9.87	9.39	-48	37
Peru	7.97	7.46	7.21	-25	-76
South Africa	10.79	12.37	11.57	-80	78
India	7.33	7.22	7.28	7	-5
Turkey	9.60	25.52	24.29	-123	1469

Russia	9.28	11.28	10.92	-36	164
China	2.84	2.68	2.69	0	-15
South Korea	3.74	4.01	3.70	-32	-4
Indonesia	6.92	6.89	6.61	-29	-31
Thailand	2.64	3.14	2.95	-19	31
Malaysia	4.04	3.97	3.82	-15	-22
Philippines	6.67	6.35	6.10	-25	-57

* As of November 30, 2023.
 Source: Reuters.

14. In **equity markets**, rallying U.S. stock markets advanced strongly in line with the previously mentioned expectations regarding the Fed’s monetary policy. In addition, corporate earnings were higher than expected in the third quarter, although several companies cut their revenue forecasts for the coming quarters. At sector level, technology, real estate and financial stocks (the most sensitive to interest rate variations) led the market rally, offsetting the decline in energy stocks (affected by lower oil prices).

Graph 17
US STOCK EXCHANGE (S&P 500)
 (Index)



Source: Reuters.





Simultaneously, European stock markets rose, boosted by allayed fears of a strongly aggressive stance from the ECB and the BoE, and by stimulus from China. Geopolitical tensions also eased at the end of the period.

Similarly, Latin American stock markets were up, benefiting from high risk appetite and the beginning of interest rate reduction cycles in several economies. Argentina's stock market was particularly strong, with the biggest increase in the wake of election results.

Table 7
WORLD STOCK EXCHANGES*
(Indices)

		Dec.22 (a)	Sep.23 (b)	Nov.23 (c)	% chg.	
					(c) / (b)	(c) / (a)
VIX**	S&P 500	21.67	17.52	12.92	-4.6	-8.8
United States	Dow Jones	33,147	33,508	35,951	7.3	8.5
United States	S&P 500	3,840	4,288	4,568	6.5	19.0
United States	Nasdaq	10,466	13,219	14,226	7.6	35.9
Germany	DAX	13,924	15,387	16,215	5.4	16.5
France	CAC,40	6,474	7,135	7,311	2.5	12.9
Italy	FTSE MIB	23,707	28,243	29,737	5.3	25.4
Spain	IBEX 35	8,229	9,428	10,058	6.7	22.2
Greece	ASE	930	1,209	1,275	5.4	37.1
United Kingdom	FTSE 100	7,452	7,608	7,454	-2.0	0.0
Japan	Nikkei 225	26,095	31,858	33,487	5.1	28.3
Brazil	Ibovespa	109,735	116,565	127,331	9.2	16.0
Colombia	COLCAP	1,286	1,122	1,147	2.2	-10.8
Chile	IPSA	5,262	5,833	5,819	-0.3	10.6
Mexico	IPC	48,464	50,875	54,060	6.3	11.5
Argentina	Merval	202,085	562,569	813,394	44.6	302.5
Peru	Ind. Gral.	21,330	22,528	21,934	-2.6	2.8
South Africa	JSE	73,049	72,383	75,534	4.4	3.4
India	Nifty 50	18,105	19,638	20,133	2.5	11.2
Turkey	XU100	5,509	8,335	7,949	-4.6	44.3
Russia	RTS	971	1,008	1,115	10.7	14.9
China	Shangai C.	3,089	3,110	3,030	-2.6	-1.9
South Korea	KOSPI	2,236	2,465	2,535	2.8	13.4
Indonesia	JCI	6,851	6,940	7,081	2.0	3.4
Thailand	SET	1,669	1,471	1,380	-6.2	-17.3
Malaysia	KLCI	1,495	1,424	1,453	2.0	-2.9
Philippines	Psei	6,566	6,321	6,224	-1.5	-5.2

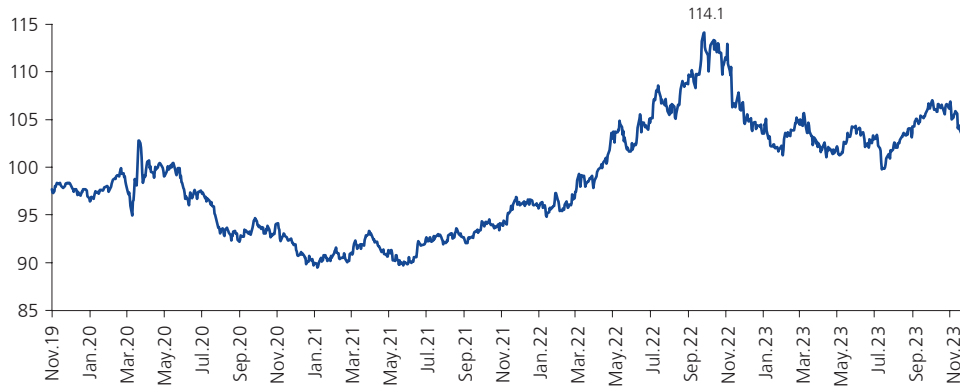
* As of November 30, 2023.

**Data and variations are expressed in points.

Source: Reuters.

15. Regarding **foreign exchange markets**, the dollar depreciated across the board since the third week of October. Expectations regarding the Fed were reinforced by inflation data and signs of moderation in the labor market. The other factors mentioned above also contributed to the fall in demand for assets perceived as safe.

Graph 18
DXY DOLLAR INDEX



Source: Reuters.

In line with this global trend, several emerging currencies appreciated against the dollar. In Latin America, in most countries, appreciation rates were lower than in other emerging economies. This was partly due to the beginning of the cycle of rate cuts in several countries in the region and lower prices of some commodities.

Table 8
EXCHANGE RATES*

(In U.M. per dollar, except euro and pound sterling)

		Dec.22 (a)	Sep.23 (b)	Nov.23 (c)	% chg. **	
					(c) / (b)	(c) / (a)
Dollar index DXY***	US Dollar Index	103.52	106.22	103.50	-2.6	0.0
Euro	Euro	1.070	1.057	1.089	3.0	1.7
United Kingdom	Pound	1.210	1.220	1.262	3.5	4.3
Japan	Yen	131.11	149.35	148.19	-0.8	13.0
Brazil	Real	5.286	5.032	4.921	-2.2	-6.9
Colombia	Peso	4,847	4,075	4,008	-1.7	-17.3
Chile	Peso	848	891	870	-2.3	2.6
Mexico	Peso	19.47	17.40	17.38	-0.1	-10.8
Argentina	Peso	176.74	350.00	360.45	3.0	103.9
Peru	Sol	3.807	3.785	3.739	-1.2	-1.8
South Africa	Rand	17.00	18.92	18.85	-0.3	10.9
India	Rupia	82.72	83.03	83.36	0.4	0.8
Turkey	Lira	18.69	27.37	28.86	5.4	54.4
Russia	Ruble	72.50	97.00	89.97	-7.2	24.1
China	Yuan (onshore)	6.897	7.301	7.136	-2.3	3.5
South Korea	Won	1,261	1,352	1,299	-3.9	3.0
Indonesia	Ruppe	15,565	15,450	15,505	0.4	-0.4
Thailand	Bath	34.61	36.51	35.31	-3.3	2.0
Malaysia	Ringgit	4.400	4.694	4.657	-0.8	5.8
Philippines	Peso	55.67	56.69	55.46	-2.2	-0.4

* As of November 30, 2023.

** A rise (fall) in the index means an appreciation (depreciation) of the dollar, except for the euro and the pound sterling.

*** A rise (fall) in the index means an appreciation (depreciation) of the dollar against the currencies basket consisting of the euro, yen and pound sterling, Canadian dollar, the Swedish krona and the Swiss franc.

Source: Reuters.



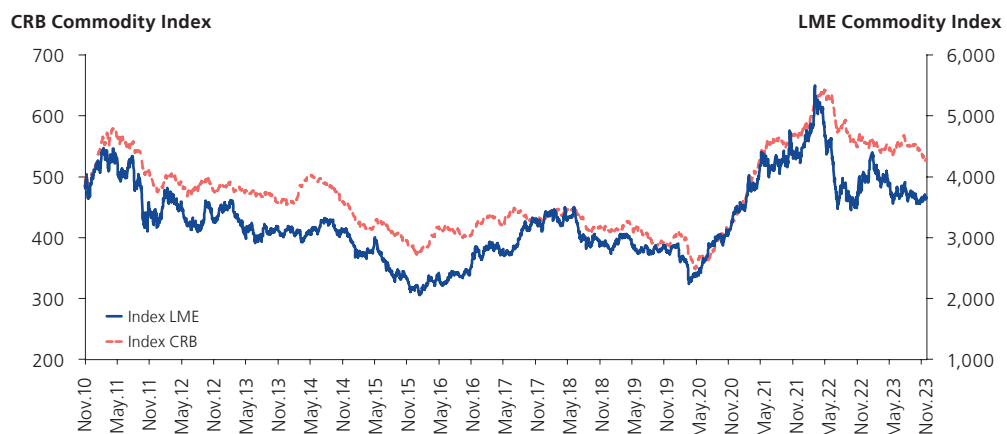


Commodity prices

16. **Industrial metals** continued to face downward pressures due to the negative evolution of the manufacturing sector globally, shrinking real estate investment in China, supply surpluses and rising inventories. The drop in demand was partially offset by demand from the so-called green industries (particularly the production of solar panels in China) and, recently, by the Chinese government's support measures for the real estate sector.

Oil prices declined due to the prospects of a more balanced global market. Higher production in the United States and Brazil counterbalanced OPEC+ supply cuts (mainly voluntary and unilateral cuts by Saudi Arabia and Russia). The onset of conflict in the Middle East introduced temporary upward price pressures.

Graph 19
LME AND CRB COMMODITY INDICES



Source: Reuters.

Copper

17. The average price of copper decreased from USD 3.75 the pound in September to 3.71 in November 2023, a 2 percent drop since December 2022.

This downward trend in recent months is due to the slowdown in global demand (particularly from developed economies) and the prospects of lower Chinese demand, connected to the crisis in the real estate sector. This second factor was partially reversed by the Chinese government's announcement of measures to support this sector and by the demand from some specific industries (particularly the so-called green industries, i.e. solar panels).

On the supply side, mine and smelter expansion projects scheduled for the remainder of this year and in 2024 continue to come online with minimal interruptions.

The world’s refined copper market eliminated the global deficit of 440 thousand tons in 2022 and moved almost to equilibrium, according to estimates by the International Copper Study Group. These forecasts do not incorporate recent supply constraints in the face of the suspension of production at First Quantum’s Cobre Panama mine (which accounts for approximately 1 percent of world mine production).

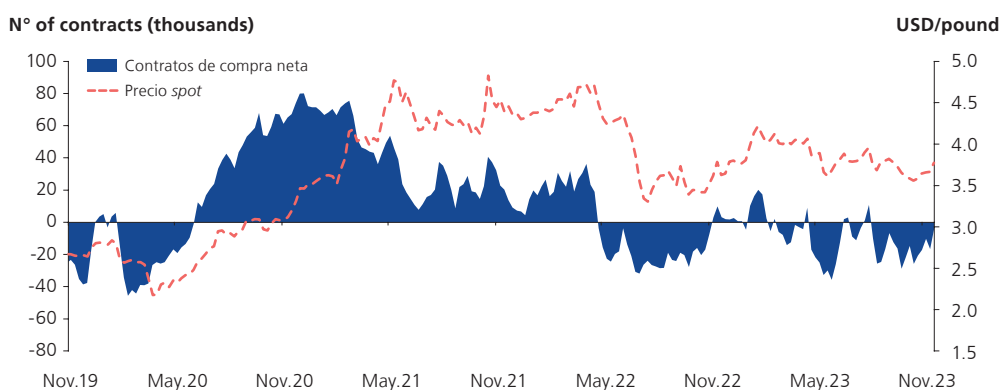
Table 9
SUPPLY AND DEMAND FOR REFINED COPPER ^{1/}
 (Thousands of metric tons of copper)

	2019	2020	2021	2022	2023	2024
Global Mine Production	20,669	20,768	21,296	21,947	22,360	23,195
Global Refined Production (Primary and Secondary)	24,159	24,669	24,958	25,395	26,329	27,534
Global Refining Utilization	24,321	24,953	25,216	25,835	26,357	27,066
Refining Balance ^{2/}	-162	-284	-258	-440	-27	467

^{1/} ICSG November 2023 monthly report and October 2023 projection report
^{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 also been reflected in a drop in non-commercial demand. Speculative investment funds negatively affected the value of copper during this period. The number of non-commercial net purchase contracts for copper remained in negative territory, reflecting the adverse sentiment of non-commercial investors on the prospects of a recovery of copper demand from China these two months.

Graph 20
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. Commission is a weekly report that reflects the difference between the total volume of long (or buy) and short (or sell) copper positions in the market opened by non-commercial traders. (or short (or sell) positions in the market opened by non-commercial (speculative) traders. The report only includes the U.S. futures markets in the United States (Chicago and New York Stock Exchanges).
 Source: Comex.

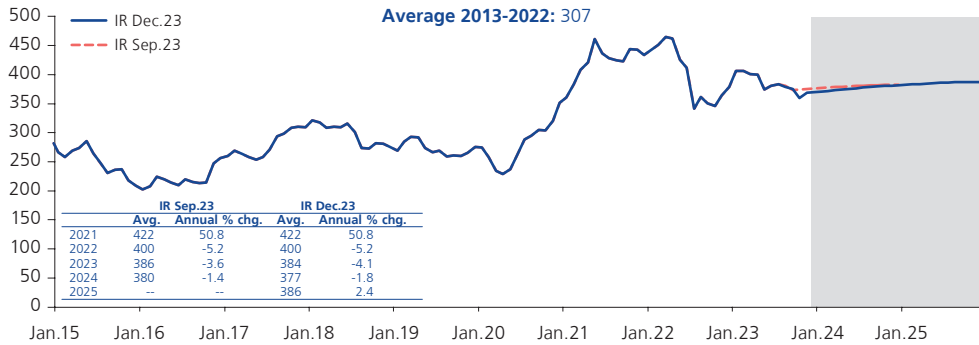
In this regard, and in line with executed data, the copper price forecast has been revised slightly down from the September Inflation Report estimate. This scenario is consistent with the favorable supply outlook assuming weather-related





mine production interruptions (particularly from El Niño) will not be significant and that the Chinese government's environmental restrictions will not affect refining.

Graph 21
COPPER: JANUARY 2015 - DECEMBER 2025
(ctv. USD/pound)



Source: Reuters and BCRP.

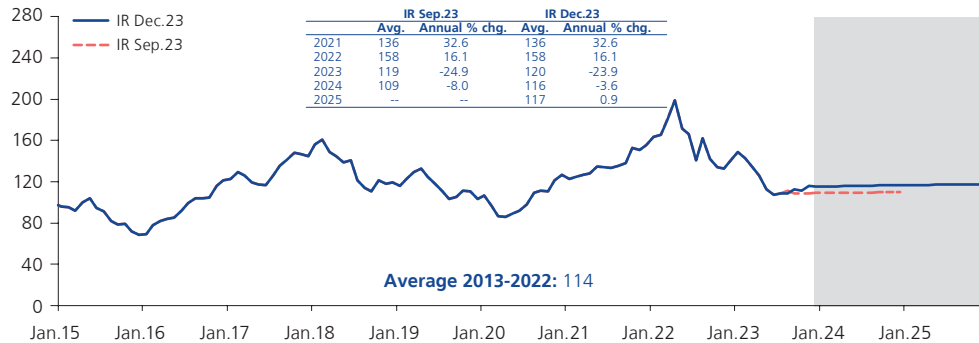
Zinc

- 18. The average international price of zinc climbed to USD 1.15 the pound in November 2023, 2 percent higher than in September 2023. However, the price of this metal accumulated a drop of 18 percent compared to December 2022.

The upward trend in the last two months is explained by higher demand in China. Stimulus measures targeting infrastructure investments and government support for real estate developers have boosted demand for galvanized steel. In addition, measures to support green and renewable energy projects will continue to drive global zinc consumption. However, further rises were limited by weak global demand associated with the lower global growth expected in 2024 as noted above. In addition, global supply has also improved as higher refinery profit margins are incentivizing higher utilization rates and European smelter tightening eases. This is reflected in a global market supply surplus. The International Zinc and Lead Study Group (ILZSG) reported a global supply surplus of 476 thousand tons in the first 9 months of 2023, up from a deficit market in 2022.

In line with these developments, the price of zinc is expected to remain around current levels, which implies a revision on the upside with respect to projections in the September Inflation Report. Consequently, the price would hover around the levels observed in 2013-2022. The main uncertainty factors are linked to demand in the real estate sector (mainly in China and the United States) and potential changes in supply. Regarding the latter, it is important to note that the zinc refining industry is particularly sensitive to environmental regulations.

Graph 22
ZINC: JANUARY 2015 - DECEMBER 2025
 (ctv. USD/pound)



Source: Reuters and BCRP.

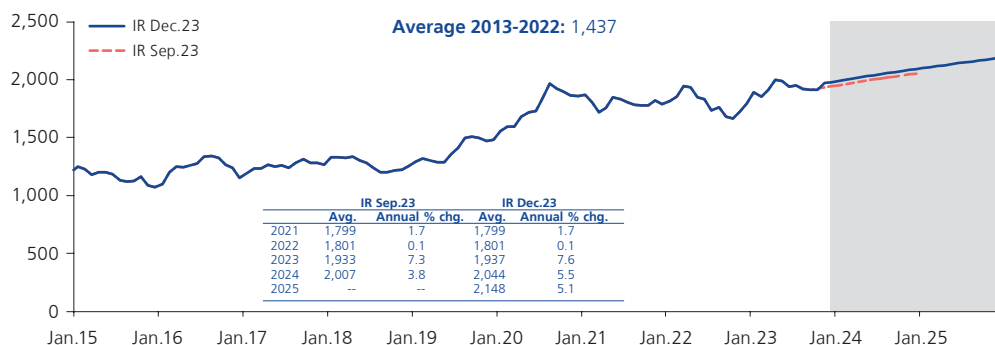
Gold

- The average gold price was USD 1,986 the troy ounce in November 2023, 3 percent higher than in September 2023, accumulating an 11 percent increase over December 2022.

Gold prices rose on increased demand for safe-haven assets in response to the conflict between Israel and Hamas. Gold also benefited from the expectation of the end of the rate hike cycle by the main central banks, particularly the Fed and the ECB. In addition, some central banks continued their net purchases of gold as a strategy to diversify their currency holdings, particularly in China, Russia and Turkey.

In line with executed data, the gold price forecast is revised upwards with respect to the September Report. This revision reflects the increase in geopolitical risks, expectations regarding the stability of the Fed's interest rates and the lower likelihood of a stronger dollar (after the sustained appreciation recorded between 2021 and 2022).

Graph 23
GOLD: JANUARY 2015 - DECEMBER 2025
 (USD/tr.ou.)



Source: Reuters and BCRP.





Gas

20. The average **Henry Hub natural gas** price rose 3 percent with respect to September 2023, a total 51 percent drop compared to December 2022. The price in the European market (UK BNP) fell by 9 percent in November 2023 compared to September 2023. As a result, the price of gas accumulated a 61 percent drop compared to December 2022. Prices in the European market remain above the Henry Hub natural gas price.

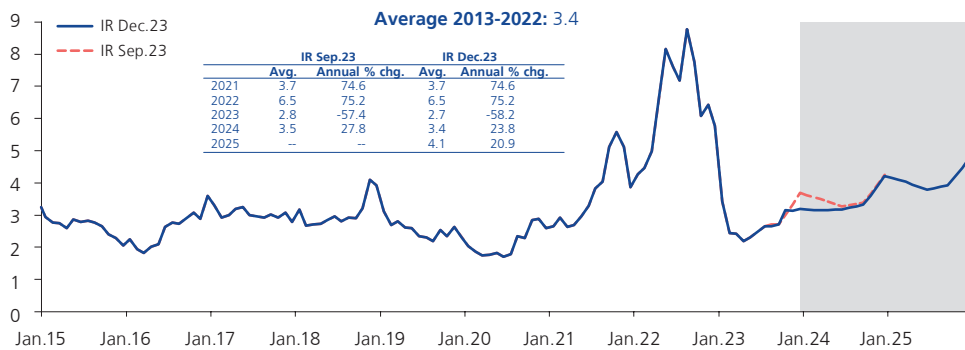
The price increase in the Henry Hub natural gas price is explained by higher demand for liquefied natural gas (LNG) exports, mainly to Europe, which reduced the available supply of natural gas in the U.S. market. Also, heating demand has increased more than expected due to colder-than-expected weather.

Despite the recent rise, the Henry Hub gas price remains well below the December 2022 price, due to the high levels of natural gas production in the United States, which reflected in the rapid build-up of inventories exceeding the five-year average.

The price in Europe decreased in the last two months due to lower household consumption and a drop in industrial demand. This occurred in a context of a well-supplied market due to LNG imports from the United States and the normalization of supply from Australia (after the Chevron strike). Likewise, Norway regularized its production after the completion of maintenance at its natural gas facilities. In consequence, inventories have reached historical highs for this time of year and are close to 99 percent of storage capacity.

For the forecast horizon, the average price of Henry Hub natural gas has been revised downward due to higher-than-expected U.S. production and high inventories. However, natural gas prices will remain at higher levels than at the beginning of the energy crisis, especially in Europe, where substitute sources for Russian gas have higher costs.

Graph 24
NATURAL GAS HENRY HUB: JANUARY 2015 - DECEMBER 2025
(USD/MBTU)



Source: Reuters and BCRP.

Oil

- 21. In the last two months, the average **WTI oil** price fell by 13 percent (from USD 89 the barrel in September to USD 78 the barrel in November). With this, the oil price reversed the upward trend of previous months and cut to 1 percent the accumulated increase so far this year.

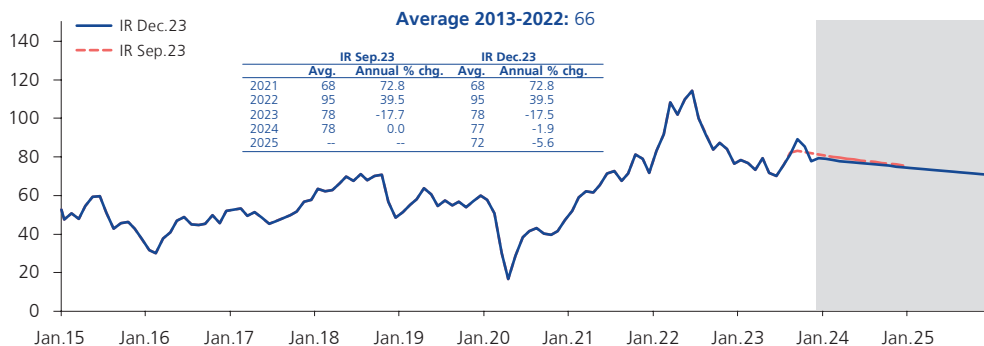
The recent decline in oil prices reflected a less tight global market than previously estimated. The International Energy Agency (IEA) projects a smaller global deficit for the fourth quarter due to increased supply from non-OPEC countries, including the United States, Brazil and China. Likewise, supply from OPEC countries with a smaller share of output increased more than expected, partially offsetting cuts by major OPEC countries, such as Saudi Arabia and Russia, which are expected to last until the first quarter of next year¹.

Demand is expected to remain weak due to the impact of the economic slowdown on energy consumption, particularly from 2024 onwards.

This downward trend in oil prices was partially and temporarily counterbalanced by the beginning of the conflict in the Gaza Strip and by the fear this conflict may involve producing countries such as Iran. Likewise, the United States’ announcement of crude oil purchases to begin rebuilding its strategic reserves (now at 40-year lows) also put upward pressure on the price.

For the projection horizon, the average oil price has been revised downward with respect to the September Inflation Report, due to expectations of a more balanced world market.

Graph 25
WTI OIL: JANUARY 2015 - DECEMBER 2025
(USD/b)



Source: Reuters and BCRP.

1 Saudi Arabia announced a unilateral production cut of one million barrels while Russia announced a production cut of 300,000 barrels per day to be increased to 500,000 barrels per day in the first quarter of 2024.



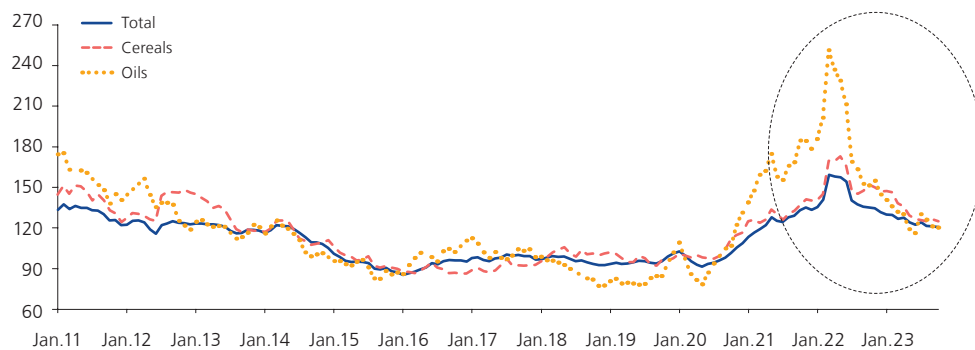


Food

22. Most **food prices** continued to slide, mainly due to increased supply in the main producing countries.

FAO's index - including cereals, sugar, oil, meat and dairy products – reveals food prices fell 8.5 percent in the first ten months of the year, although they remain above their historical averages. Falling vegetable oils' prices stand out, along with the correction in the price of cereals.

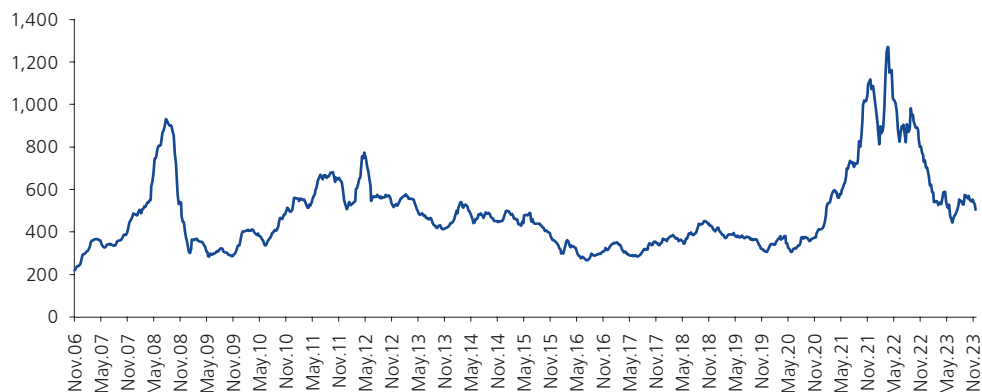
Graph 26
FAO FOOD PRICE INDEX*
(Base 2014 - 2016 = 100)



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

The favorable outlook for maize relates to higher yields in the United States. For wheat, it results from increased volumes from Russia and Ukraine. Lower prices for most foods are also influenced by the normalization of the global supply chain and lower fertilizer costs, although the latter remain at levels unseen since 2014.

Graph 27
GREEN MARKETS NORTH AMERICA FERTILIZER PRICE INDEX
(Index, Jan 07, 2002=100)



Source: Reuters.

Increased supplies have led to a downward review of most food prices, despite considerable uncertainty about market conditions over the forecast horizon.

The greatest uncertainty and risk factor is the magnitude of the impact of the global El Niño oscillation on the main food products. In addition to grains and oil, outlined in this report, other imported products such as sugar and rice may also be hit.

- (a) The price of **maize** fell by 5 percent in the last two months, reaching an average monthly quotation of USD 174 the ton in November 2023, thus accumulating a 31 percent drop with respect to December 2022.

The price of maize decreased due to a well-supplied global market thanks after the arrival of record crops from Brazil and the United States that account for more than half of the world’s grain exports. In addition, the new humanitarian corridor to ship grain from Ukraine through new Black Sea routes prevented the standstill of exports by the world’s fourth largest maize exporter.

Despite the decline, prices remain at historically high levels, supported by reduced shipments from Ukraine and Argentina and some logistical difficulties in specific markets (low river levels in the U.S. Midwest and port congestion in Brazil that kept logistics costs high).

In this context, forecasts are revised downwards due to the prospects of better crops in the United States for the 2023/2024 season and a higher-than-expected seasonal inflow of the South American crop. The recovery in production would raise inventories in the four main exporting countries (United States, Brazil, Ukraine and Argentina) to the highest level in five years.

Graph 28
MAIZE: JANUARY 2015 - DECEMBER 2025
 (USD/ton)



Source: Reuters and BCRP.





The main risk of this forecast is the impact of the global El Niño event. Although the occurrence of this event is partially incorporated in current prices, there is a probability of a greater-than-expected impact (particularly on South American supply).

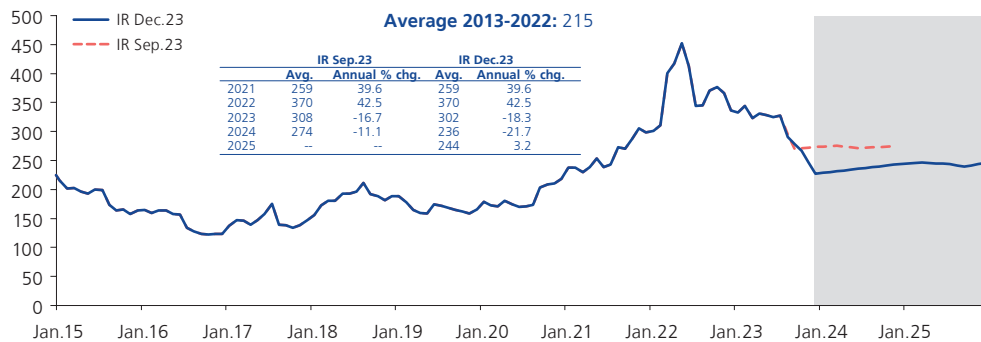
- (b) Since the last Report, **wheat** prices fell 12 percent, to reach USD 244 the ton in November 2023 and accumulating a drop of 28 percent so far this year.

Wheat prices were pressured downward by a weaker ruble and record Russian crops that reduced demand for U.S. wheat. Rains in Australia and Argentina which partially alleviated fears of drought for the 2023-2024 season also helped reduce wheat prices. In addition, the normalization of the world wheat market after the supply chain disruptions associated with the war in Ukraine and the reduction in fertilizer prices are contributing to the price decline.

The projected timeframe shows a downward revision in wheat prices compared to the projections provided in the September Inflation Report. The revision is backed by a well-stocked market resulting from an unexpectedly significant influx of exports from Russia and increased wheat production projections in the United States and the European Union.

Risks are skewed to the upside. Like maize, markets are vulnerable to possible disruptions in trade flows from the Black Sea region and the impact of the global El Niño event against the backdrop of tight inventories that remain at eleven-year lows in the main exporting countries.

Graph 29
WHEAT: JANUARY 2015 - DECEMBER 2025
(USD/ton)



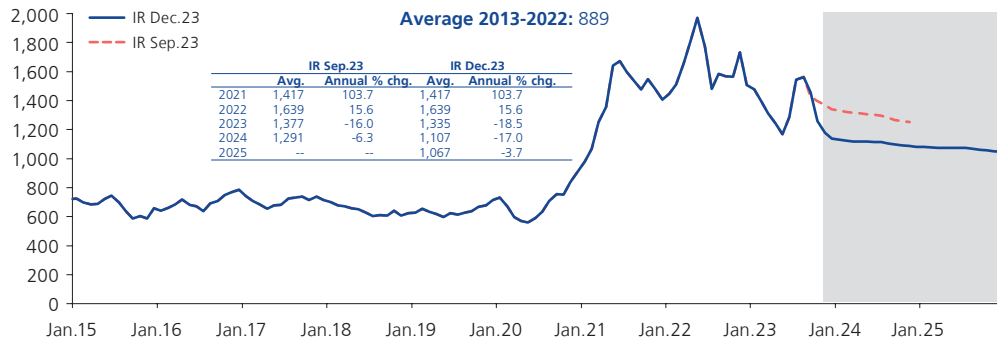
Source: Reuters and BCRP.

- (c) **Soybean oil** price averaged USD 1,183 the ton in November 2023, 19 percent lower than the September 2023 price of USD 1,456 the ton, to a total 22 percent drop with respect to December 2022.

The average soybean oil price decreased due to a drop in demand, particularly from China, that recorded a greater demand for substitute vegetable oils. This occurred against the backdrop of a well-supplied market due to the seasonal arrival of the soybean crop from the United States and Brazil. Despite the fall, prices remain high, supported in part by growing biodiesel production capacity in the United States.

In view of these recent developments, prices are projected to trade below the previous inflation report estimate. The main uncertainty in this projection lies in the evolution of oil prices. Other risk factors include the impact of the global El Niño on soybean production in Brazil.

Graph 30
SOYBEAN OIL: JANUARY 2015 - DECEMBER 2025
 (USD/ton)



Source: Reuters and BCRP.





II. Balance of payments

Terms of trade and goods trade balance

23. The **terms of trade** grew 2.8 percent year-on-year in the January-September 2023 period, due to the greater drop in import prices –primarily for foodstuffs such as soybean oil, oil and its byproducts, and industrial inputs such as plastics and iron and steel– as compared to lower export prices-basically for zinc, copper, coffee, natural gas, and oil.

The price of most foodstuffs declined as a result of increased supply in the main producing countries and, in the case of soybean oil, also of downward pressures on demand. For its part, the decline in oil prices reflects the prospects for a more balanced global market, in response to increased supply in OPEC and non-OPEC countries and weak demand due to the economic crisis.

Table 10
TERMS OF TRADE: 2022 - 2025

	2022	2023*			2024*		2025
		Jan.-Sep.	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
Terms of Trade							
Annual % chg. (average)	-10.5	2.8	3.0	4.1	1.3	-1.8	1.3
Price of exports							
Annual % chg. (average)	1.8	-4.4	-3.6	-2.7	2.2	-1.0	1.8
Copper (USD cents per pound)	400	389	386	384	380	377	386
Zinc (USD cents per pound)	158	122	119	120	109	116	117
Lead (USD cents per pound)	98	97	96	98	96	100	100
Gold (USD per troy ounce)	1,801	1,931	1,933	1,937	2,007	2,044	2,148
Price of imports							
Annual % chg. (average)	13.7	-7.1	-6.5	-6.6	0.9	0.7	0.5
Oil (USD per barrel)	95	77	78	78	78	77	72
Wheat (USD per ton)	370	320	308	302	274	236	244
Maize (USD per ton)	273	242	230	227	199	197	204
Soybean oil (USD per ton)	1,639	1,383	1,377	1,335	1,291	1,107	1,067

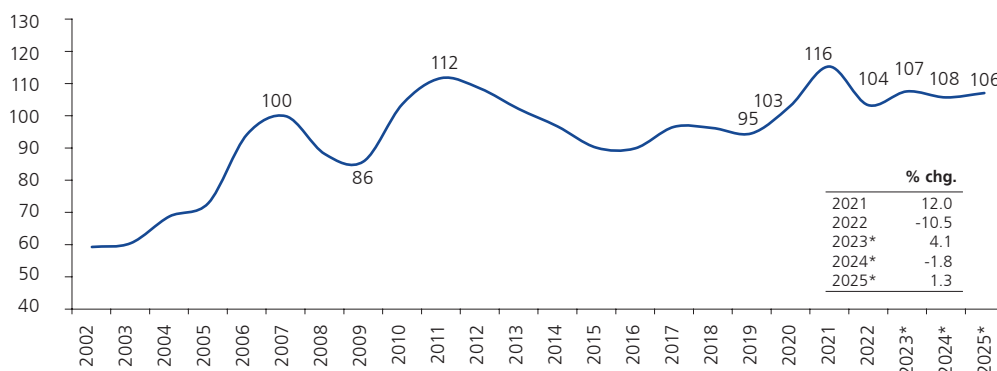
* Forecast.
Source: BCRP.

The terms of trade are projected to rise 4.1 percent in 2023, higher than the 3.0 percent forecast in the previous report, due to a lower expected fall in export prices and a higher reduction in import prices.

Deteriorating leading indicators of activity, coupled with supply surpluses and inventory accumulation, coincided to weaken the outlook for major industrial metals in the medium term. As a result, average exports' price is expected to decline by 1.0 percent in 2024 making the terms of trade to decline by 1.8 percent that year, in contrast to the 1.3 percent hike projected in the previous report.

Metal prices are projected to recover in 2025, resulting in a favorable outlook for global economic growth following the normalization of global financial, supply chain and geopolitical conditions that will drive terms of trade growth of 1.3 percent in 2025.

Graph 31
TERMS OF TRADE, 2002-2025
 (Index 100 = 2007)



* Forecast.
 Source: BCRP.

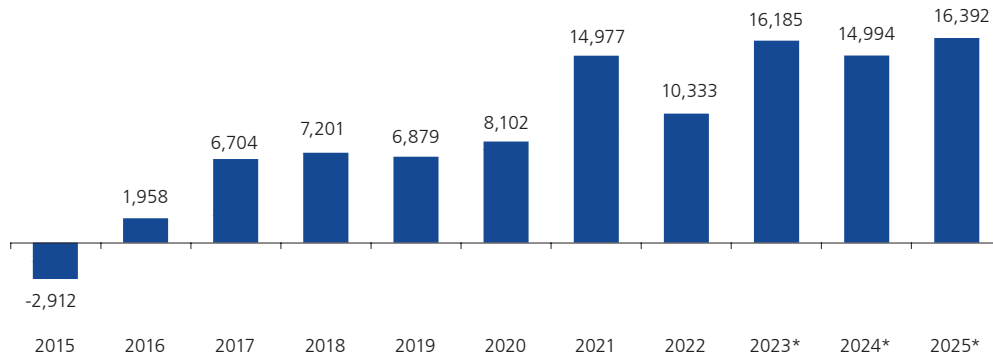
- The **goods trade balance** surplus reached USD 12,095 million between January and September 2023, USD 4,749 million higher than the amount recorded in the same period of 2022 (USD 7,346 million). The year-on-year expansion responded to the greater drop in imports (by USD 5,429 million) compared to the decrease in (by USD 680 million).

The trade balance is projected to reach a surplus of USD 16,185 million in 2023, decline to USD 14,994 million in 2024 and recover to USD 16,392 million in 2025. The projected drop in 2024 is mainly due to lower metal price forecasts, slower growth in shipments of traditional products and the recovery of imports. The higher growth of the global economy and the complete normalization of weather conditions (which affected the fishmeal and agro-export sectors this year) will allow the trade surplus to rise in 2025.





Graph 32
GOODS TRADE BALANCE, 2015-2025
(Million USD)



* Forecast.
Source: BCRP.

25. Exports amounted to USD 49,002 million between January and September 2023, USD 680 million (-1.4 percent) lower than in the same period of 2022 as a consequence of lower value of shipments of traditional products (-1.0 percent), and falling export prices (-6.3 percent), especially gas, zinc and copper. The increase in the volume of traditional exports partially offset the effect of the fall in prices on the value of sales abroad.

The forecast for the value of exports for 2023 was revised upwards, as a result of a lower expected drop in export prices for both traditional and non-traditional products, as well as higher shipments of copper, gas and zinc recorded in the third quarter. This expected evolution will be mitigated by the downward revision of demand for non-traditional textile products.

The effect of adverse weather conditions due to El Niño Southern Oscillation (ENSO) is expected to persist during the first half of 2024, affecting both the traditional and non-traditional agricultural and fisheries sectors, thus warranting a revision on the downside in the growth rate of exported volumes. This, together with a slide in metal prices, will result in lower export value by 4.4 percent estimated in the previous report to 0.9 percent in the current edition.

Exports are projected to recover by 2025, to reach 5.4 percent growth supported by higher foreign shipments -mainly of products from the non-traditional agriculture sector and the traditional fishing sector- following the normalization of weather conditions, as well as higher metal prices, after the normalization of the global economic scenario.

26. Imports totaled USD 36,907 million between January and September 2023, a contraction worth USD 5,429 million (-12.8 percent) year-over-year due to sloping volume of imports, specifically industrial inputs (textiles, paper, iron and steel) and

construction materials, and prices, particularly of industrial inputs, oil and oil products, and foodstuffs.

Imports were revised slightly upward for 2023, in view of events observed as of September, namely less steep slide in the volume of imports, mainly of inputs. For the fourth quarter, higher imports of capital goods are expected to prevent possible damages from the coastal El Niño, but lower imports of inputs and consumer goods, in line with the evolution of domestic demand. Meanwhile, for 2024, on the downside are lower expected volumes of imports due to a slightly lower growth in private spending.

It is estimated that imports will increase by 4.3 percent in 2025 to USD 53,991 million, a development explained by faster imports volumes and recovering price of industry inputs made possible by the projected increase in private spending and the regularization of local primary production due to the reversal of adverse weather conditions and non-primary production due to better consumer and business confidence.

Results of external accounts

27. The reduction in the **current account deficit** between the end of 2022 and the third quarter of 2023, in cumulative terms, responded mainly to the larger trade surplus, following declining private spending and lower oil, industrial inputs and food imports' prices further reinforced by the lower deficit in primary income, due to higher interest income from both the public and private sectors, the effect of lower freight rates on the balance of services, and more remittances sent from abroad.

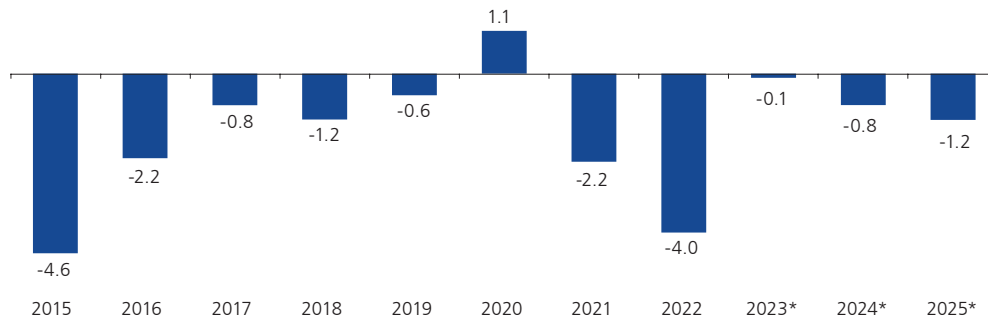
Based on the trend in the first three quarters of the year, the current account deficit is expected to close 2023 at 0.1 percent of GDP. This sharp reduction is aligned with the projected fall in private spending, which has increased savings in this sector and, therefore, reduced the country's external financing needs. In 2024, the recovery of private spending is expected to boost demand for imports; likewise, the normalization of primary production will increase the profits of companies provided with foreign direct investments (FDI). Under normal weather conditions, this last effect would be reinforced in 2025, allowing for normal agriculture and fishing activities. Thus, the current account deficit is projected to increase to 0.8 and 1.2 percent of output in 2024 and 2025, respectively.

Compared to previous report estimates, a lower current account deficit is expected for both 2023 and 2024. Lower projected economic growth is expected to affect FDI corporate earnings in both years, and the higher trade surplus in 2023 will contribute to the revision. It is worth noting that the current forecasts incorporate a larger deficit in the services balance, in response to the revision on the upside of the freight expenses following still lower water levels in the Panama Canal. It is projected that from the second quarter of 2024 onward, freight rates will resume the sliding path they had followed before the aforementioned event, going back to pre-pandemic levels in 2025.





Graph 33
CURRENT ACCOUNT: 2015-2025
(% GDP)



* Forecast.
Source: BCRP.

Table 11
BALANCE OF PAYMENTS
(Million USD)

	2022	2023*		2024*		2025*	
		Q3.23 3/	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
I. CURRENT ACCOUNT BALANCE	-9,908	-1,831	-3,430	-286	-3,375	-2,213	-3,419
% GDP	-4.0	-0.7	-1.3	-0.1	-1.2	-0.8	-1.2
1. Trade Balance	10,333	15,083	15,771	16,185	16,402	14,994	16,392
a. Exports	66,235	65,555	65,438	66,179	68,301	66,771	70,383
Of which:							
i) Traditional	47,760	47,408	47,190	47,704	48,946	47,802	49,577
ii) Non-Traditional	18,221	17,919	18,032	18,274	19,138	18,762	20,631
b. Imports	55,902	50,473	49,667	49,994	51,899	51,777	53,991
2. Services	-8,642	-7,780	-7,685	-7,755	-6,548	-6,884	-6,008
3. Primary income (factor income)	-17,373	-15,618	-18,126	-15,390	-19,770	-17,019	-20,463
4. Secondary income (transfers)	5,773	6,484	6,610	6,675	6,540	6,696	6,660
Of which: Remittances	3,708	4,226	4,169	4,374	4,294	4,505	4,640
II. FINANCIAL ACCOUNT 1/	-9,246	-1,873	-4,124	236	-6,875	-4,913	-5,959
% GDP	-3.8	-0.4	-1.5	0.1	-2.4	-1.8	-2.1
1. Private Sector	-10,203	-3,431	-3,087	-656	-3,689	-2,241	-4,747
a. Long-term	-14,587	-4,673	-3,087	-1,619	-3,689	-2,241	-4,747
b. Short-term	4,385	1,242	0	963	0	0	0
2. Public Sector 2/	957	1,558	-1,037	892	-3,186	-2,672	-1,213
III. NET ERRORS AND OMISSIONS	-4,427	-4,454	0	66	0	0	0
IV. BALANCE OF PAYMENTS	-5,089	-4,411	695	-456	3,500	2,700	2,540
IV= (I+III) - II = (1-2)							
1. Change in NIR balance	-6,612	-2,967	1,268	250	3,500	2,700	2,540
2. Valuation effect	-1,523	1,444	573	707	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.

3/ Shows the cumulative last four quarters to the third quarter of 2023.

IR: Inflation Report.

* Forecast.

In this table the Balance of Payments accounts are presented under a new format, due to the adoption of the Sixth Edition of the IMF Balance of Payments Manual (reclassification of transactions, new items and changes in the denomination of certain items). Balance of Payments Manual (reclassification of transactions, new items and changes in the denomination of certain items)

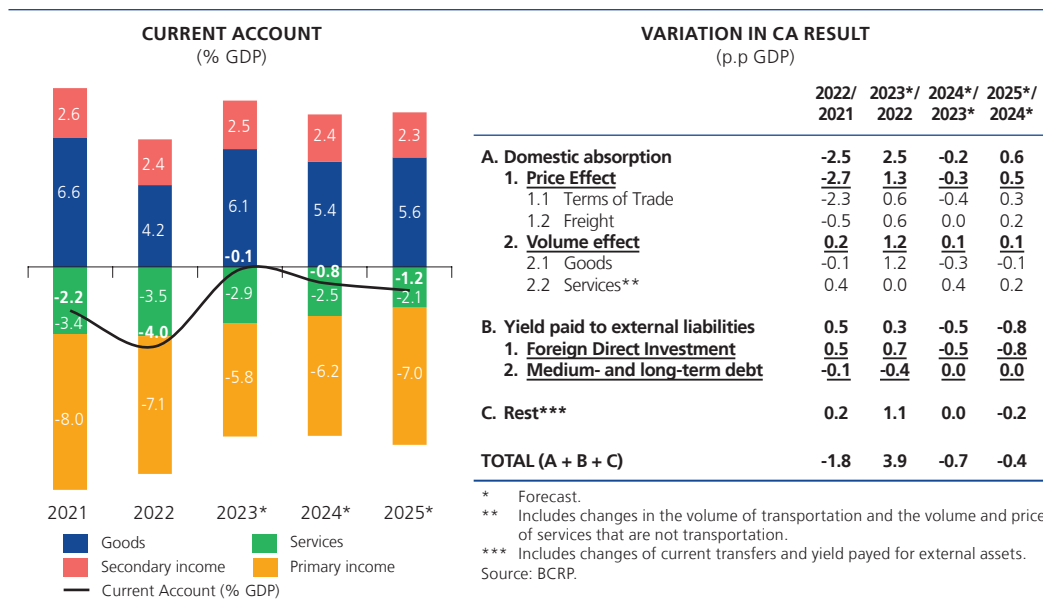
28. Current account results may obey to two main factors, one attributed to domestic absorption (higher nominal demand for goods and services from abroad) and another related to the return paid to the factors of production (capital) and Peru's liabilities abroad (debt instruments).

The lower deficit in 2023 may be due to lower domestic absorption (2.5 p.p.), mainly due to a lower demand for imported goods (1.3 p.p.). To a lesser extent, the decline

in the cost of services (freight) and the average price of imports will contribute. Lower payment to external liabilities will reinforce this dynamic, due to lower profits earned by companies with FDI in the country following lower metal prices and a contracted local economy.

The expected climbing trend in the current account deficit over the projection horizon is expected to result mostly from higher external liability yields, particularly from direct investment. The recovery of economic activity, particularly in 2025 under normal weather conditions, will underpin the increase in profits of FDI corporates.

Table 12
**DETERMINANTS OF THE VARIATION
IN THE CURRENT ACCOUNT RESULT, 2021-2025**



29. Annualized data as of the third quarter of 2023 shows the current account deficit of most of the countries in the region has narrowed with respect to 2022 results. In all countries under review, this smaller deficit is explained by a stronger trade balance. The lower deficit in the services balance also contributed to this result in Chile and Brazil. Finally, in Colombia and Mexico, larger foreign current transfers reinforced the decreasing trend of the current account deficit.

Table 13
LATIN AMERICA: CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS
(Annualized, in % GDP)

	2019	2020	2021	2022	Q1.23	Q2.23	Q3.23	2023*
Brazil	-3.6	-1.9	-2.8	-2.8	-2.7	-1.8	-1.9	-1.7
Chile	-5.2	-1.7	-6.6	-9.0	-6.9	-4.5	-3.5	-3.4
Colombia	-4.6	-3.4	-5.6	-6.2	-3.6	-5.1	-3.6	-3.4
Mexico	-0.3	2.5	-0.7	-1.3	-1.4	-0.7	-0.1	-0.8
Peru	-0.6	1.1	-2.2	-4.0	-3.0	-1.9	-0.7	-0.1

* Forecast.
Source: Central banks of each country.





30. The projected current account points to Peru's economy requiring less **foreign financing** in coming years. On the one hand, gross domestic investment will fall from 22.1 percent in 2022 to 20.0 percent of GDP in 2025, due to a 2.1 p.p. reduction in private investment. On the other, domestic savings are projected to rise from 18.1 to 18.8 percent of GDP over the same period, driven by increased private savings from 14.7 to 15.3 percent of output. The latter development is aligned with higher interest rates, increased uncertainty, and slower private consumption.

Table 14
GAP SAVINGS - INVESTMENT
(Accumulated last 4 quarters, % nominal GDP)

	2022	2023*			2024*		2025*
		Q3 1/	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
1. Domestic gross investment 2/	22.1	19.9	19.9	19.5	19.7	19.9	20.0
2. National savings	18.1	19.2	18.6	19.4	18.6	19.1	18.8
External gap (=2-1)	-4.0	-0.7	-1.3	-0.1	-1.2	-0.8	-1.2
1.1 Private investment 2/	17.0	15.0	14.9	14.5	14.8	14.8	14.9
1.2 Private savings	14.7	17.1	16.0	16.9	15.6	16.1	15.3
Private gap (=1.2-1.1)	-2.3	2.1	1.1	2.4	0.8	1.2	0.4
2.1 Public investment	5.1	4.9	5.0	5.0	5.0	5.1	5.1
2.2 Public savings	3.4	2.1	2.6	2.5	3.0	3.0	3.6
Public gap (=2.2-2.1)	-1.7	-2.8	-2.4	-2.5	-2.0	-2.0	-1.5

IR: Inflation Report.

* Forecast.

1/ Accumulated last four quarters.

2/ Includes change on inventories.

Source: BCRP.

Financial account

31. The accumulated **financial account** for the last four quarters to the third quarter of 2023 showed a net capital inflow of USD 1,873 million, USD 7,372 million lower than the inflow recorded in 2022. To a greater extent, this reduction is explained by the resumption of purchases of foreign assets by AFPs and mutual funds, although it was partly offset by a reduction in the creditor position of the short-term capital account, reflecting the lower purchase of foreign assets from the non-financial sector and greater liquidation of assets from the banking sector. Amortizations and lower public sector issuance also contributed to the reduction in net capital inflows, although to a lesser extent.

A lower flow of net long-term financing to the private sector is projected for 2023, reflecting a combination of internal and external factors. On the one hand, AFPs restarted their investments abroad, after acknowledging numerous withdrawals by members in the last two years. Secondly, the contraction of economic activity and low mineral prices led to deteriorating FDI corporates' profits in Peru, impairing reinvestments. Finally, deteriorating business confidence led to a drop in investment, which translated into lower financing requirements by private sector companies through loans and debt instruments.

In the next two years, a greater inflow of capital is expected, since the expected recovery of economic activity will lead to higher profits and their reinvestment.

Table 15
FINANCIAL ACCOUNT OF THE PRIVATE SECTOR 1/
(Million USD)

	2022	2023*			2024*		2025*
		Jan.-Sep.	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
PRIVATE SECTOR (A + B)	-10,203	-1,728	-3,087	-656	-3,689	-2,241	-4,747
% GDP	-4.2	-0.9	-1.1	-0.2	-1.3	-0.8	-1.6
A. LONG-TERM (1 - 2)	-14,587	-2,258	-3,087	-1,619	-3,689	-2,241	-4,747
1. ASSETS	-2,906	3,060	4,016	5,116	6,004	5,230	5,268
Direct investment	-448	1,393	1,343	1,538	1,575	1,573	1,607
Portfolio investment 2/	-2,458	1,667	2,674	3,578	4,429	3,657	3,661
2. LIABILITIES 3/	11,682	5,318	7,103	6,734	9,693	7,471	10,015
Direct investment	10,848	5,006	7,740	6,717	11,620	9,414	11,411
Portfolio investment 4/	-760	-364	-411	-258	4	-33	255
Long-term loans	1,594	676	-226	276	-1,931	-1,910	-1,651
B. SHORT-TERM	4,385	530	0	963	0	0	0

1/ Expressed in terms of assets net of liabilities. Therefore, 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 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.

5/ Shows the cumulative last two semesters up to the first half of 2023.

* Forecast.

Source: BCRP.

In contrast to 2022 and 2023, where a negative flow of net external financing to the public sector was observed due to the lower demand for sovereign bonds, a positive flow of net financing to the public sector is projected for 2024 and 2025, as a result of the resumption of sovereign bond purchases by non-residents, in a scenario of recovering economic activity and the absence of measures to weaken confidence in the liquidity of the sovereign bond market.

Table 16
FINANCIAL ACCOUNT OF THE PUBLIC SECTOR 1/
(Million USD)

	2022	2023*				2024*		2025*
		S1.23 4/	Q3.23 4/	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
I. ASSETS	-145	248	156	179	-28	140	140	140
II. LIABILITIES (1 + 2) 2/	-1,102	-955	-1,402	1,217	-920	3,326	2,812	1,353
1. Portfolio investment	-1,880	-2,345	-2,380	-658	-2,108	1,909	1,033	415
Issuance	600	0	0	0	0	0	0	0
Amortizations	-658	-1,801	-1,801	-1,801	-1,801	-404	-394	-1,300
Other operations (a - b) 3/	-1,822	-544	-579	1,144	-306	2,313	1,426	1,715
a. Sovereign bonds purchased by non-residents	-1,888	-771	-806	1,008	-475	2,313	1,426	1,715
b. Global bonds purchased by residents	-66	-227	-227	-135	-169	0	0	0
2. Loans	779	1,390	978	1,874	1,188	1,418	1,779	938
Disbursements	1,838	2,482	2,091	2,977	2,290	2,481	2,842	2,262
Amortizations	-1,060	-1,092	-1,113	-1,103	-1,102	-1,063	-1,063	-1,324
III. TOTAL (I - II)	957	1,203	1,558	-1,037	892	-3,186	-2,672	-1,213

1/ Expressed in terms of assets net of liabilities. Therefore, an inflow of capital has a negative sign. An increase (a fall) in 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/ Shows the cumulative last two semesters up to the first half of 2023.

* Forecast.

Source: BCRP.

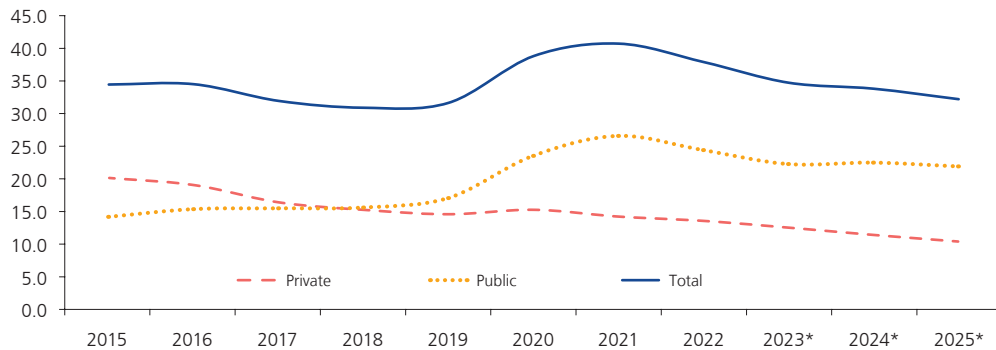
32. The private sector's **medium- and long-term external debt stock** is expected to fall from 13.4 percent in 2022 to 10.1 percent of GDP at the end of the projection horizon,





thus reaching its lowest level in the last 10 years. For its part, public external debt would fall by a similar proportion, from 24.5 to 21.9 percent, over the same period.

Graph 34
BALANCE OF MEDIUM- AND LONG-TERM EXTERNAL DEBT
(% GDP)

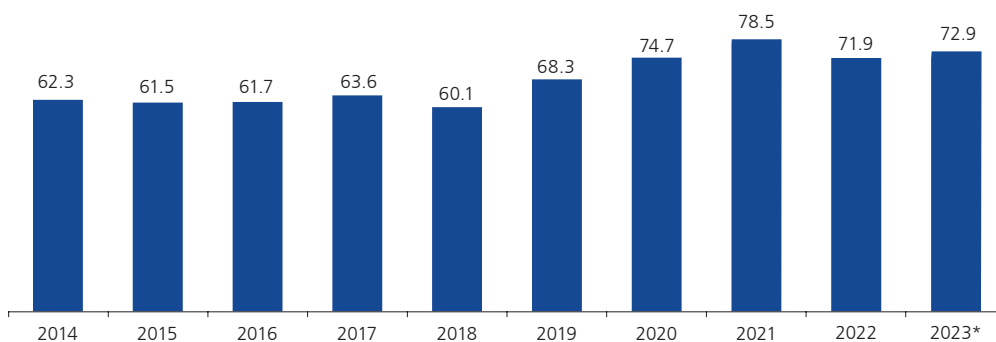


* Forecast.
Source: BCRP.

Net International Reserves

33. As of December 18, the Net International Reserves (NIRs) had grown by USD 997 million since the end of the previous year, to USD 72,880 million, mainly attributed to a higher balance of Public Sector deposits (USD 1,346 million) and financial intermediaries (USD 758 million). These factors were partially offset by foreign exchange sales operations with the public sector for USD 3,044 million.

Graph 35
NET INTERNATIONAL RESERVES, 2014 - 2023
(Billion USD)



* Al, 18 de diciembre de, 2023
Source: BCRP.

Table 17
INTERNATIONAL COVERAGE INDICATORS

	2019	2020	2021	2022*	2023*	2024*	2025*
<u>International Reserves as a percentage of:</u>							
a. GDP	29.4	36.3	34.7	29.3	27.0	27.1	26.7
b. Short-term external debt 1/	498	538	578	468	487	468	483
c. Short-term external debt plus current account deficit	455	642	421	285	478	411	398

1/ Includes short-term debt balance plus redemption (1-year) of private and public sector.
* Forecast.
Source: BCRP.

III. Economic activity

Sectoral GDP

34. Various supply shocks left their mark on 2023 economic activity, some of which have had a second-round effect on income and agents' confidence. In the first place, the strong climatic anomalies derived from the coastal El Niño oscillation lasted most of the year (between April and November), as heavy rainfall in the north and anomalous sea and environmental temperatures. This shock was compounded by droughts in southern Peru at the end of 2022. Both factors reduced yields of fruit products on the coast and in the highlands, while warm sea temperature anomalies affected the availability of anchovy (Peruvian pilchard).

Secondly, the avian flu outbreak in November 2022 significantly slowed down poultry production in 2023, a development further aggravated by the late start of vaccination (in May instead of January). Thirdly, it is worth noticing the social turmoil that started in December 2022 and lasted though more moderately until April 2023. This period of turbulence was characterized by road blockades and protests that directly impacted non-primary activities such as trade, construction and transportation, and primary activities such as mining.

Finally, several of the shocks, which are considered exogenous -or beyond the control of a country's authorities- had a second-round effect on the private sector's earnings and confidence. This, together with the loss of household purchasing power following rising food prices, curtailed activity in non-primary sectors such as non-primary manufacturing, commerce, construction and services.

Consequently, the estimated seasonally adjusted GDP indicator², after contracting 1.3 percent in the first quarter, remained practically unchanged in the second and third

2 BCRP has been using the TRAMO-SEATS methodology since 2003 and the JDemetra+ software, developed by the National Bank of Belgium, Eurostat and the Deutsche Bundesbank, since 2021. JDemetra+ is built on the TRAMO-SEATS and X-13ARIMA-SEATS algorithms, and is the recommended deseasonalization software of the European Statistical System and the European System of Central Banks. In addition to the algorithms used, the BCRP directly deseasonalizes the GDP series, using monthly frequency series while the calculation of the deseasonalization factors is updated periodically.

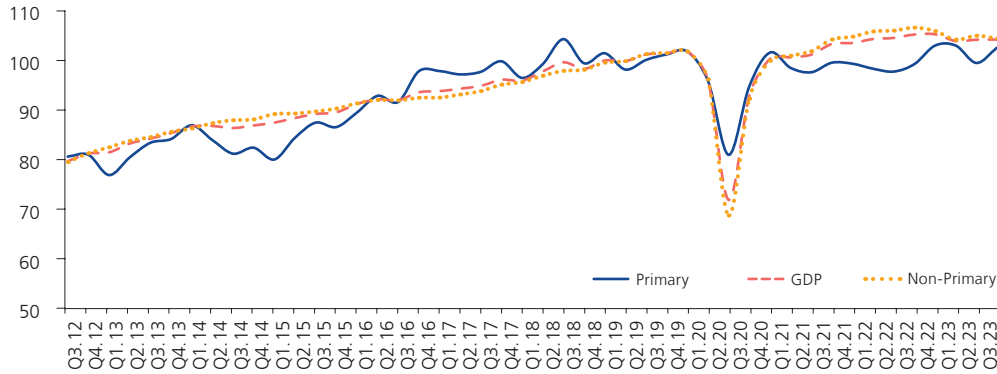
There are several recommended deseasonalization methodologies that may differ in their exact values, but not in the trends for analysis. Seasonalization factors, regardless of the methodology used, are subject to end-of-sample periods and may change over time.





quarters of 2023. The quantification of the impact of each of the aforementioned supply shocks on 2023 growth can be seen in Box 1 below.

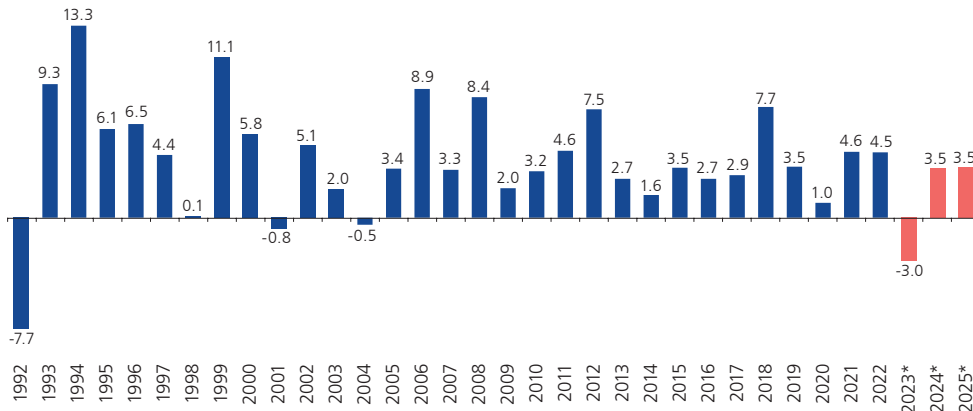
Graph 36
SEASONALLY ADJUSTED ECONOMIC ACTIVITY INDEXES
(Base 100 = 4Q-2019)



Source: BCRP.

35. Against this backdrop, the 2023 GDP forecasts have been revised from 0.9 percent rise in the September Inflation Report to a 0.5 percent drop in this Report. The revision is due to the results recorded in the third quarter for non-primary activities such as manufacturing, construction, and services. This reflects the continued pessimistic business expectations and lower consumer confidence during the third quarter. Likewise, the impact of the coastal ENSO on agriculture has been greater than previously expected, and has resulted into this industry’s output slide, the largest since 1992.

Graph 37
AGRICULTURE AND LIVESTOCK GDP
(Real % change)



* Forecast.
Source: BCRP.

The estimated 0.5 percent activity contraction in 2023 results from an expected 1.3 percent drop in non-primary GDP, with manufacturing and construction as

the hardest hit industries. Primary sectors' output, with the exception of metal mining and hydrocarbons, is also projected to decline, due to adverse weather events, the avian flu outbreak, and road blockages. Mining is expected to record an 8.4 percent increase, following the entry into operation of the Quellaveco mine and the lower number of standstill days in mining activity with respect to 2022.

Growth of 3.0 percent is forecast for 2024, the same rate estimated in the previous report, due to the reversal of supply shocks and the recovery of private spending, as inflation returns to the target range and private sector confidence is restored. A similar rate of expansion is estimated for 2025, assuming normal weather conditions for agriculture, fishing and associated manufacturing, as well as a stable social and economic climate to improve economic agents' confidence.

Table 18
GDP BY ECONOMIC SECTORS
(Real % change)

	2022	2023*			2024*		2025*
		Jan.-Oct.	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
Primary GDP	0.9	3.1	2.5	2.5	2.8	2.8	3.1
Agriculture and livestock	4.5	-4.0	-2.0	-3.0	2.6	3.5	3.5
Fishing	-11.4	-21.3	-26.4	-17.6	10.5	10.5	14.4
Metallic mining	0.0	10.0	8.8	8.4	2.4	2.0	2.2
Hydrocarbons	4.0	1.7	2.2	0.9	3.6	2.9	3.8
Manufacture	-2.5	-0.3	-4.2	-1.7	3.2	3.9	4.1
Non-Primary GDP	3.2	-1.6	0.4	-1.3	3.1	3.1	3.0
Manufacture	2.2	-8.8	-3.5	-8.0	2.9	3.1	3.0
Electricity and water	3.9	4.3	4.3	3.7	3.9	3.9	3.0
Construction	3.0	-9.3	-3.7	-8.0	3.2	3.2	3.4
Commerce	3.3	2.5	3.0	2.5	3.5	3.2	2.7
Services	3.3	-0.4	1.0	-0.2	2.9	3.0	3.0
GDP	2.7	-0.7	0.9	-0.5	3.0	3.0	3.0

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

36. The baseline scenario assumes the occurrence, in the summer of 2024, of strong and moderate **global El Niño (ENSO) and coastal ENSO**, respectively. In the September Report, the most likely scenario was also a moderate coastal El Niño event.

The previous report included the information published on September 14 by the committee in charge of the National Study of the El Niño Phenomenon (ENFEN), which predicted 98 percent likelihood of warm conditions in the Niño 1+2 region for the summer of 2024. For this report, we consider a moderate event for that time. Although the October 27-November 24 reports pointed to a strong coastal El Niño in the summer of 2024 as the most probable scenario, the strengthening and persistence of the South Pacific Anticyclone (SPA) reduced the probability of an event of this magnitude for that horizon.





For its part, in the Central Pacific area, the occurrence of strong conditions in the summer of 2024 remains the most likely scenario.

Table 19
ESTIMATED PROBABILITIES OF EL NIÑO DURING THE SUMMER 2024
(%)

Date of communiqué ENFEN	Region	Probability	Of which:		
			Weak	Moderate	Strong or very strong
September 14	Eastern Pacific (Niño 1+2)	98	16	56	26
October 27		100	3	47	50
November 24		95	17	38	40
December 15		97	20	54	23
September 14	Central Pacific (Niño 3.4)	100	16	67	17
October 27		100	2	48	50
November 24		100	4	31	65
December 15		100	3	41	56

Memo: The shaded number indicates the most likely scenario.
Source: ENFEN.

In addition, the September Report assumed strong coastal El Niño conditions until December 2023. However, the December 15 ENFEN bulletin pointed to a more likely moderate coastal El Niño through February 2024.

37. Regarding forecasts for each economic sector:

a) **Agricultural activity** in 2023 shows the effect of temporary impacts, such as the road blockages at the beginning of the year and the drought in the Andes; and persistent impacts, such as avian flu and the prolongation of the coastal El Niño.

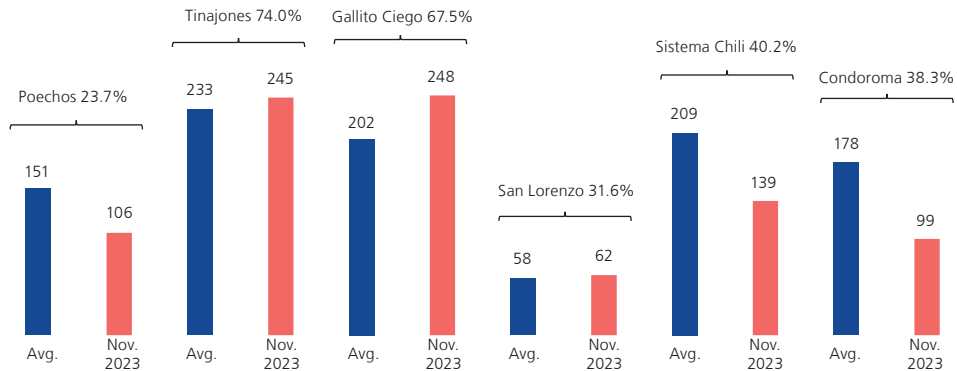
In the third quarter, the persistence of warm anomalies caused by the coastal El Niño hampered or delayed the flowering of fruit trees in coastal regions, particularly blueberries, mangoes, avocados, and olives. Soil saturation due to excess rainfall resulted in lower production of other coastal products, such as rice, organic bananas, and lemons. In addition, a longer avian flu reduced poultry, poultry meat and egg production. As a result, sector production is expected to fall further in 2023 compared to the previous report, by 3.0 instead of 2.0 percent.

On the contrary, for 2024, the sector's growth is revised upwards, from 2.6 to 3.5 percent. This is in a scenario of a weakening of the coastal El Niño, which would allow for greater production in the highlands and the northern coast, due to better weather conditions.

The sector is also expected to grow by 3.5 percent by 2025 due to the recovery of both agricultural and livestock production, following coastal and global El Niño, and avian flu, events.

As of November 30, water storage in the main reservoirs, compared to the average of the last five years, fluctuated between 67 percent of total useful volume in Tinajones and Gallito Ciego and below 41 percent in Poechos, San Lorenzo, Sistema Chili and Condorama.

Graph 38
STORED VOLUME OF MAIN RESERVOIRS ^{1/}
(In million cubic metres)

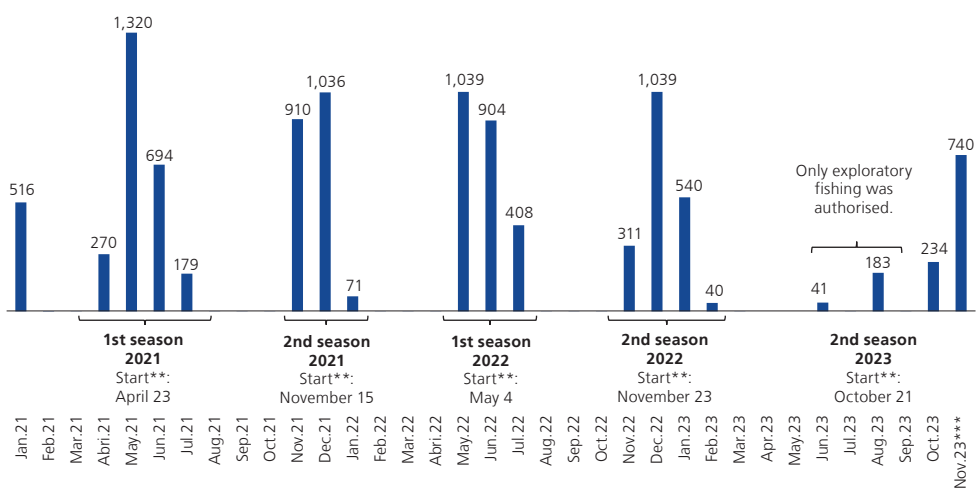


^{1/} As of November 30, 2023, the average cover the last five years (2018-2022) as of the same date. The percentage listed in each reservoir is the volume stored as a percentage of the total useful volume.
Source: Board of Users and Special Irrigation Projects.

- b) The **fishing sector** dropped 8.3 percent year-on-year in the third quarter of 2023, mainly due to the lower catch of anchovy (-61.4 percent). Quarterly contraction is due to extended fishing ban in July, followed by the authorization of exploratory fishing in August.

In October, the second anchovy (Peruvian pilchard) fishing season was authorized in the north-central zone, for a maximum catch of 1.7 million MT. At the end of November, 1.0 million MT were caught, equivalent to 59 percent of the quota.

Graph 39
ANCHOVY CATCH FOR INDUSTRIAL CONSUMPTION IN NORTH-CENTRAL ZONE*
(Thousands of tonnes)



* Information as of September 30.
* Date of start of exploratory fishing in the seasons that have taken place.
*** Preliminary data.
Source: IMARPE, Ministry of Production.

The sector’s activity is expected to decline by 17.6 percent in 2023 as a consequence of the suspension of the first anchovy fishing season, the early





opening of the second season in October and predictions that moderately warm anomalous Peruvian sea temperature would prevail until February next year³. Given that in 2024 the sector may still be affected by the warm sea anomalies, growth of 10.5 percent is expected. By 2025, when neutral conditions are expected, the sector may grow by 14.4 percent.

- c) **Metal mining** grew 8.9 percent the third quarter of 2023 through larger mining of most metals, particularly copper (8.7 percent), ahead of the start-up of the Quellaveco mine at the end of the third quarter of 2022⁴. Additionally, Constancia and Cerro Verde recorded higher production driven by increased ore processing.

Similarly, higher molybdenum production (19.6 percent) was accounted for by Quellaveco's starting to mine this mineral in May 2023, added to Cerro Verde's output. Larger higher (7.9 percent) zinc output this quarter was due to increased processing by Antamina, Shouxin and Raura. The latter resumed operations in April 2022, after having been on standstill since April 2020 due to the COVID-19 health emergency.

Likewise, Yanacocha and Minera Boroo Misquichilca recorded higher gold production. The latter was driven by the Carbonaceous Minerals Optimization Project aimed at extending the mine's useful life.

For 2023, the sector forecast is revised from 8.8 to 8.4 percent, due to various maintenance shutdowns scheduled in the fourth quarter, including Cerro Verde, Chinalco and Antapaccay. By 2024, the sector is forecast to grow 2.0 percent, driven mainly by Quellaveco's higher moly output. By 2025, sector production would grow 2.2 percent due to higher output from Toromocho and Buenaventura.

- d) **Hydrocarbons sector** activity increased 9.0 percent in the third quarter of the year, driven by higher extraction of natural gas liquids and natural gas and higher domestic demand, met by output from Block 88, and to a base effect, since during the third quarter of 2022 resulting from impaired production from Blocks 56 and 57's scheduled maintenance operations and breakdowns.

Oil production fell 10.8 percent, due to lower extraction from Block 95 (east). Low river flows curtailed the availability of oil transport barges. Lower output from Block 67, on a standstill since October 2022 due to social conflicts, also contributed to lower deliveries.

Subsequently, in October and November, maintenance operations affected the production of Blocks 56, 57 and 88. This factor, together with the lower availability of barges in Block 95, led to reviewing 2023 sector growth forecast down from 2.2 to 0.9 percent.

3 ENFEN bulletin N°20-2023 points to more likely that the moderate warm conditions in the Peruvian coast (Niño 1+2 region) will remain until February 2024, and will decrease in the following months.

4 The company produced 78 thousand metric tons of copper during this quarter.

In 2024 and 2025, the sector may grow 2.9 and 3.8 percent, respectively, associated with a normalization of oil extraction in jungle blocks.

- e) Activity in the **primary manufacturing subsector** grew 0.2 percent in the third quarter of 2023, mainly due to higher oil refining as the units in the last refining phase of the new Talara Refinery came online.

The forecasts for the entire sub-sector in 2023 are revised from a 4.2 percent drop to a smaller 1.7 percent decline, mainly accounted for by higher fishing activity in the last quarter of the year. An increase of 3.9 percent is expected in 2024 and 4.1 percent in 2025.

- f) **Output in non-primary manufacturing** contracted 11.6 percent in the third quarter of 2023. The branches recording the greatest reduction in production were those of goods targeting foreign markets, such as canned food, apparel, and yarns and fabrics; and inputs, such as processed wood, glass, and animal feed.

Non-primary manufacturing is projected to fall 8.0 percent in 2023, so the subsector's output remains still below pre-pandemic levels. Year-over-year growth of 3.1 percent is expected in 2024 and 3.0 percent in 2025.

- g) The **construction sector** declined 9.2 percent in the third quarter of 2023, due to lower private and independent construction projects.

For 2023, the forecasts for the sector's activity are revised downward, from a 3.7 percent drop to 8.0 percent. For 2024 and 2025, growth of 3.2 and 3.4 percent is forecast due to the recovery of public and private investment.

- h) In the third quarter of 2023, **trade** grew 2.6 percent, driven by higher wholesale (2.5 percent), retail (3.1 percent) and motor vehicle (1.6 percent) sales.

By 2023, the sector's activity is expected to increase 2.5 percent. In 2024 and 2025, the sector would grow 3.2 and 2.7 percent, respectively.

- i) **Services** slipped 0.6 percent in the third quarter of the year, mainly due to sliding financial services and insurance activity (-9.4 percent).

Telecommunications slowed down by 3.1 percent due to lower telephony services, as well as slumping Internet consumption as face-to-face activities resumed. The lodging and restaurants sector decreased 0.1 percent due to a drop in the restaurant sub-sector, as a result of lower demand driven by higher food prices.

Taking into account this negative third-quarter performance, the forecasts for the sector in 2023 are revised from a growth of 1.0 percent to a decline of 0.2 percent. For 2024 and 2025, the sector is expected to grow 3.0 percent each year.





Expenditure-side GDP

38. On the expenditure side, the year-on-year contraction of output between January and September (-0.6 percent) in 2023 is explained by (i) the contraction of private investment, in a context of deteriorating business confidence and declining residential investment; (ii) a loss of dynamism in private consumption, affected by the drop in households' confidence and the impact of accumulated inflation on their purchasing power; (iii) the slower pace of public spending, resulting from lower investment by subnational governments in their first year in office; (v) the drawdown of inventories accumulated in previous quarters, mainly in manufacturing and mining; and (iv) lower foreign demand for non-traditional products, mainly textiles.

The execution observed in the third quarter and the stagnation of private expectations explain the 1.4 percent points smaller growth in 2023, compared to the September Report forecast.

Growth forecasts for 2024 remain at 3.0 percent, assuming a moderate coastal El Niño event. The expected advance in economic activity in 2024 will be supported by the recovery of business confidence, if the aforementioned supply shocks reverse and social and political stability is regained to boost private investment and employment, and foster consumption. Household spending will increase due to lower interest rates and companies are expected to rebuild inventories depleted in 2023.

Growth in 2025 will be underpinned by the ongoing recovery of consumption and private investment in an environment of socio-political and macroeconomic stability that will continue to increase business confidence.

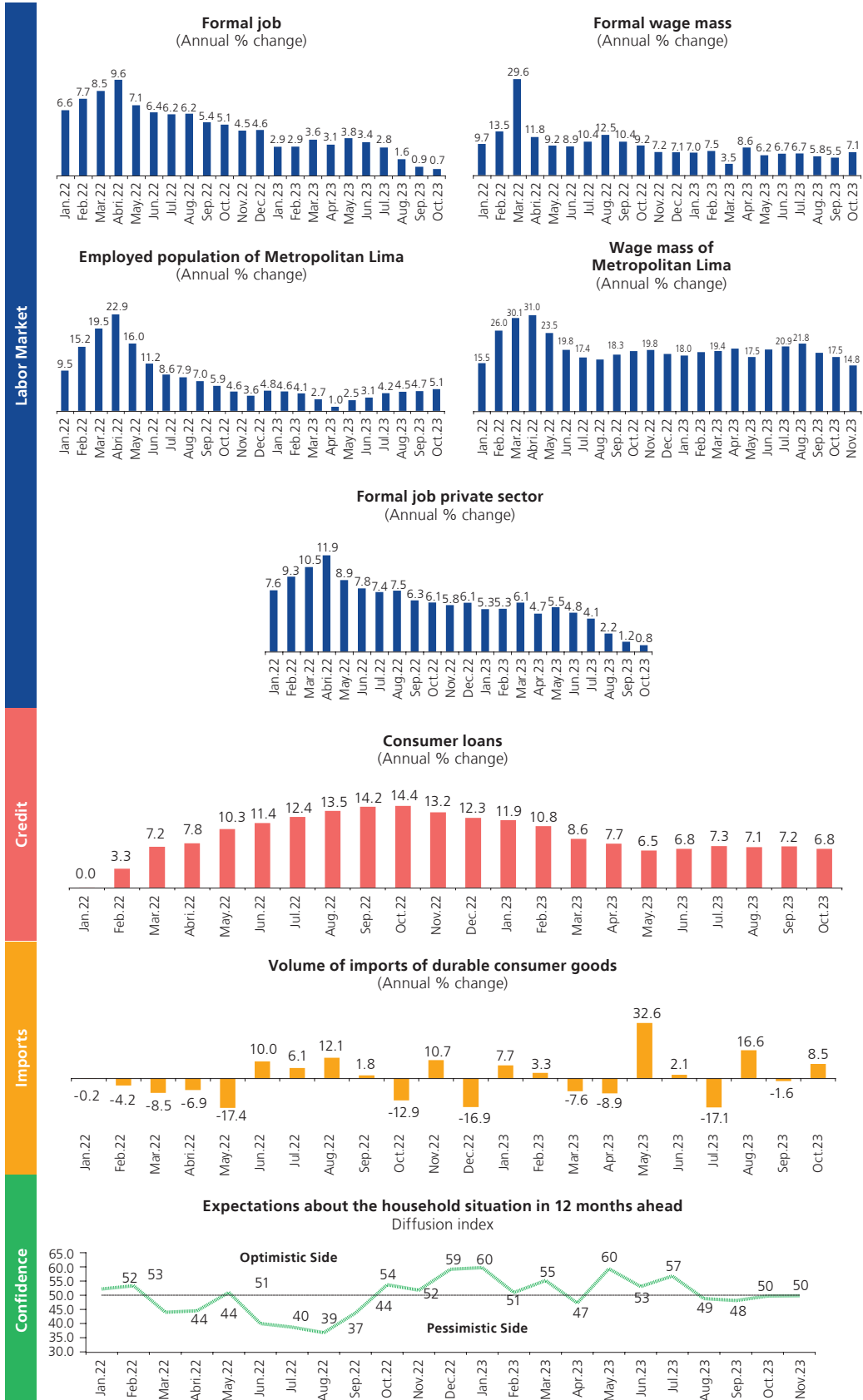
Table 20
DOMESTIC DEMAND AND GDP
(Real % change)

	2022	2023*			2024*		2025*
		Jan.-Sep.	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
Domestic demand	2.3	-2.2	-0.3	-1.6	3.0	2.9	2.9
Private consumption	3.6	0.2	1.2	0.2	3.0	2.7	2.8
Public consumption	-3.4	-0.1	2.0	2.0	2.0	2.0	2.0
Private investment	-0.4	-8.9	-5.3	-7.3	1.8	1.8	3.0
Public investment	7.7	-1.0	1.5	1.0	4.0	4.0	4.5
Change on inventories (contribution)	0.1	-0.4	-0.3	-0.5	0.2	0.3	0.0
Exports	6.1	3.6	2.8	3.0	3.3	3.1	3.8
Imports	4.4	-2.7	-2.0	-1.2	3.4	2.7	3.3
Gross Domestic Product	2.7	-0.6	0.9	-0.5	3.0	3.0	3.0

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

39. Most of the **present and leading indicators related to private consumption** point to a slowdown in recent months: consumer credit showed less dynamism in October, mainly due to less use of credit cards; the volume of consumer durables' imports fell back in September, although it picked up again in October; and consumer confidence, measured through agents' expectations about their future family economies, remained in the pessimistic range in September, although it improved slightly in October and reached a neutral position in November.

Graph 40
INDICATORS RELATED TO PRIVATE CONSUMPTION



Source: BCRP, INEI, SUNAT, and APOYO.

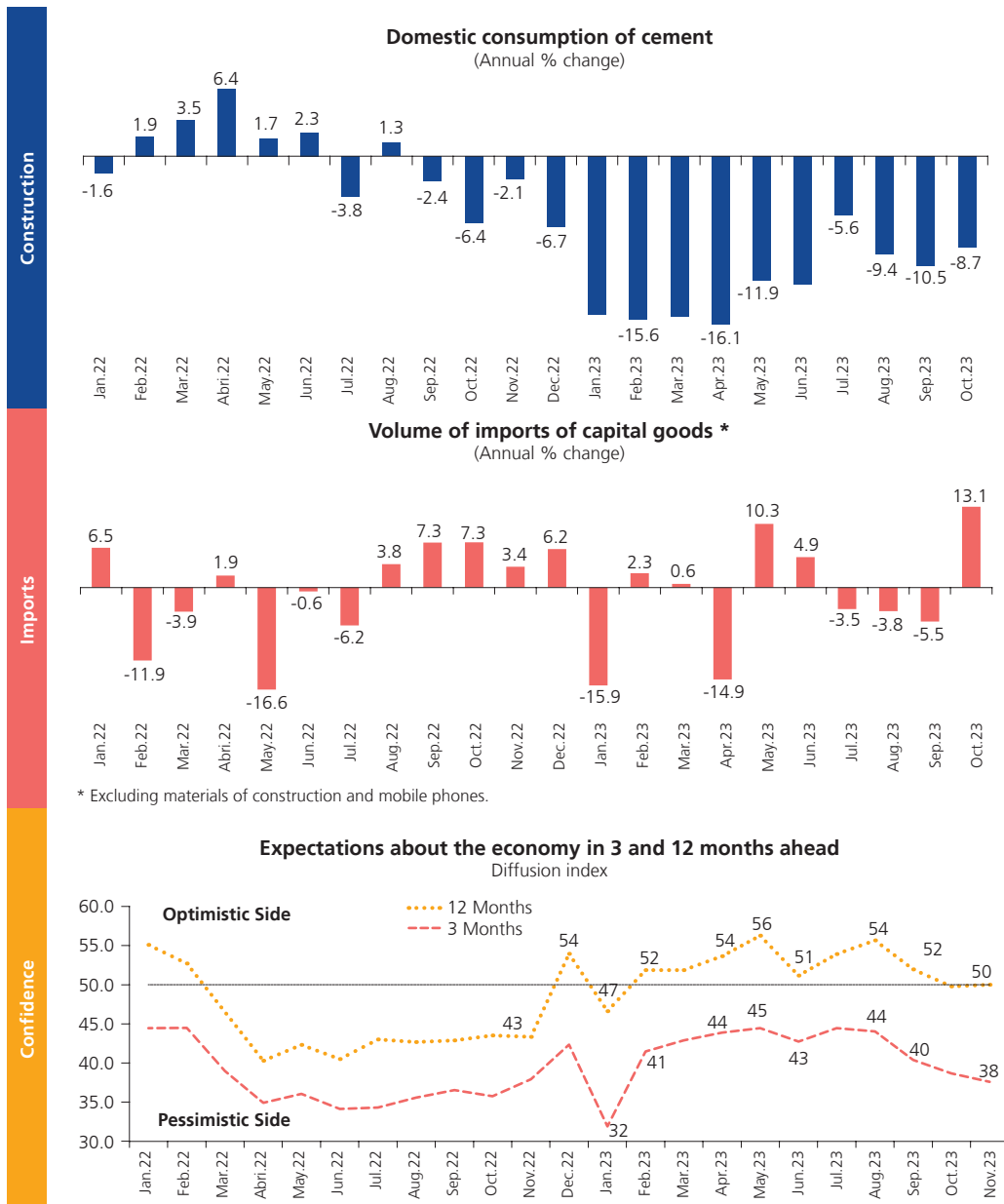




Formal jobs nationwide and the wage bill continued to increase with respect to 2022; however, there is a marked downward trend in job growth due to the drop in agricultural jobs affected by the coastal El Niño oscillation.

- 40. Most of the **contemporaneous and leading for private investment indicators** evolved negatively in recent months. Domestic cement consumption continues to decline due to slow private residential construction and public investment compared to the previous year. Imports of capital goods excluding construction materials and cell phones declined from July to September, although they bounced back in October. In addition, 3-month expectations for the economy remain in pessimistic ground and on a downward trend, while 12-month expectations have also been reduced and are in a neutral position.

Graph 41
INDICATORS RELATED TO PRIVATE INVESTMENT



Source: BCRP, SUNAT, and cement companies.

41. The November **Survey on Macroeconomic Expectations** shows that agents project a rate of change in economic activity of between -0.1 and 1.0 percent for the current year, a range between 2.0 and 2.5 percent for 2024 and between 2.5 and 3.0 percent in 2025.

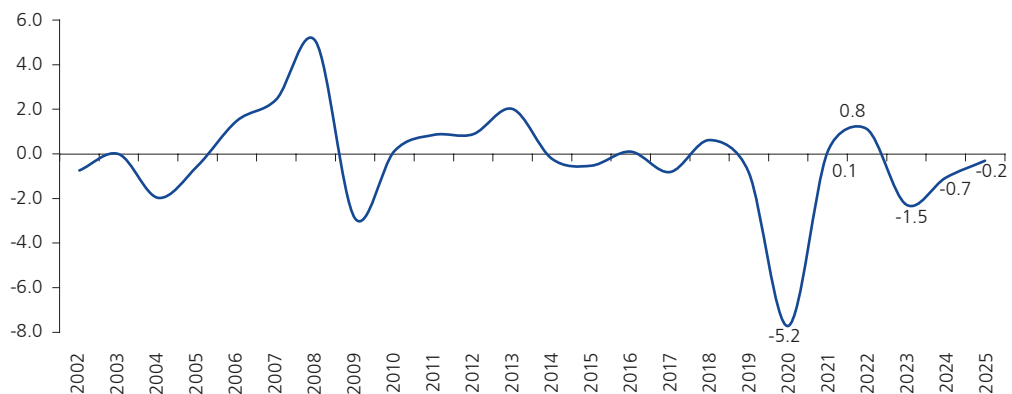
Table 21
MACROECONOMIC EXPECTATIONS SURVEY: GDP GROWTH
 (% change)

	IR Mar.23	IR Jun.23	IR Sep.23	IR Dec.23*
Financial entities				
2023	2.2	1.9	1.1	0.0
2024	2.7	2.5	2.3	2.0
2025				2.5
Economic analysts				
2023	2.0	1.9	1.0	-0.1
2024	2.6	2.7	2.6	2.5
2025				3.0
Non-financial firms				
2023	2.6	2.3	1.9	1.0
2024	3.0	3.0	2.6	2.3
2025				3.0

* Survey conducted on November 30.
 Source: BCRP.

42. The **output gap**, defined as the difference between GDP and potential GDP, is estimated at -1.5 percent for 2023. This negative gap is the result of the aforementioned factors that degraded domestic demand (lower business confidence, lower income and spending due to the indirect effects of supply shocks), placing the observed GDP temporarily below potential. With the partial reversal of these effects, the negative output gap is expected to narrow to -0.7 percent in 2024 and further shrink in 2025 to -0.2 percent of potential GDP.

Graph 42
OUTPUT GAP
 (% of potential GDP)



Source: BCRP.

Private consumption in the January-September 2023 period increased by 0.2 percent. The slower pace results from low household confidence and the effect of accumulated inflation on purchasing power. These factors are projected to determine





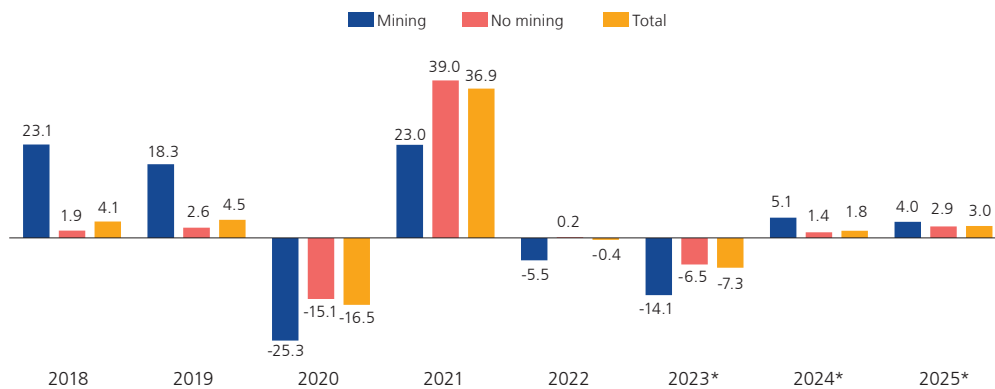
growth by the same amount in 2023, which implies downward revision vis-à-vis the projections in the September Report (1.2 percent).

Consumption is expected to pick up in coming years and expand by 2.7 and 2.8 percent in 2024 and 2025, respectively, as inflation converges to the target range and assuming an environment of socio-political and macroeconomic stability to bolster private confidence, investment and employment.

- 43. Private investment** contracted 8.9 percent year-on-year between January and September 2023, because of the fall in business expectations, social conflicts and adverse weather events. The lack of recent large-scale projects and lower residential investment also played a role. As a result, private investment is expected to fall by a greater magnitude (-7.3 percent) compared to estimates in September (-5.3 percent).

In an environment of social and political stability and a reversal of the strong supply shocks, business confidence will begin to recover. In addition, improved local and global financial conditions will encourage credit, to boost business investment spending. All of this will allow private investment to start growing at rates of 1.8 and 3.0 percent in 2024 and 2025, respectively.

Graph 43
PRIVATE INVESTMENT
(Real % change)



* Forecast.
Source: BCRP.

Table 22
PRIVATE INVESTMENT
(Real % change)

	Weight with respect to GDP in 2022 1/	2019	2020	2021	2022	2023*		2024*		2025*
						IR Sep.	IR Dec.	IR Sep.	IR Dec.	IR Dec.
Private investment	20.3	4.5	-16.5	36.9	-0.4	-5.3	-7.3	1.8	1.8	3.0
Residential investment	6.7	4.7	-14.5	35.4	1.3	-6.9	-11.3	2.5	2.8	3.0
Non-residential investment	13.7	4.4	-17.5	37.7	-1.3	-4.6	-5.4	1.5	1.3	3.0
Mining investment	2.2	18.3	-25.3	23.0	-5.5	-18.0	-14.1	-7.7	5.1	4.0
Non mining investment	11.5	1.3	-15.4	41.1	-0.4	-2.0	-3.7	3.0	0.7	2.8

1/ To price 2007.
* Forecast.
Source: BCRP.

- a. **Mining** investments between January and October 2023 totaled USD 3,591 million, mainly by Antamina (USD 447 million), Anglo American Quellaveco (USD 345 million) and Southern (USD 268 million). The projection for the 2024-2025 period takes account of the construction of Phase II of the Toromocho Expansion project and the start of construction of the Antamina, Zafranal and Corani Replacement projects.
- b. In **non-mining sectors**, works at Jorge Chávez International Airport moved forward at an investment of USD 2 billion. The second runway and the new control tower came into operation this year. For its part, the new passenger terminal will be ready by the end of 2024.

Meanwhile, the first phase of the construction of the Chancay Port Terminal continues, with operations expected to start by the end of 2024 at an investment worth USD 1.3 billion. The expansion of the south pier of Callao Port (Bicentennial Pier) will also be completed in 2024 after an investment reaching USD 350 million. For its part, work continues on Line 2 of the Lima Metro, where Section I, which connects Santa Anita district to Lima's *Evitamiento* beltway, has been completed and work has begun on a branch of Line 4. In addition, Viettel Peru won the concession for the 2.3 GHz and AWS-3 bands for 4G mobile and internet connection after committing investments for USD 600 million to provide this technology to more than 3,800 locations within two years.

Table 23
MAIN ANNOUNCEMENTS OF PRIVATE INVESTMENT PROJECTS: 2024-2025

SECTOR	INVESTOR	PROJECTS
MINING	Antamina	Replacement of Antamina
	Zafranal	Zafranal
	Chinalco	Expansion of Toromocho Mine stage 2
	Bear Creek Mining	Corani
	Buenaventura	San Gabriel
HYDROCARBONS	Cálida Gas Natural del Perú	Wide-Scale Use of Natural Gas
	Promigas Surtigas	Distribution of Natural Gas
ELECTRICITY	Huallaga Hydro	Hydropower plant Huallaga I
	Luz del Sur	Hydropower plant Santa Teresa II
	Hydro Global Perú	Hydropower plant San Gaban III
INDUSTRY	Siderperú	Plant capacity expansion
	Aceros Arequipa	Plant capacity expansion
	Unacem	Environmental Sustainability Program
	Arca continental Lyndley	Environmental Sustainability Program
TRANSPORT	Consorcio Nuevo Metro de Lima	Line 2 of the Metro network of Lima and Callao
	Cosco Shipping Ports Chancay	Chancay I Port Terminal
	Lima Airport Partners	Expansion of International Airport (Jorge Chavez)
	Shougang Hierro Perú	Marcona Port Terminal (Marcona)
	APM Terminals	Modernization of Muelle Norte
	DP World Callao	Expansion of Muelle Sur
TELECOMUNICATIONS	Viettel Perú	Mobile Services with 4G technology
	América Móvil Perú	Fibre optic networks

Source: Información de Business, diarios y medios especializados.





- c. For 2024-2025, **Proinversión** investment promotion board reports a portfolio of investment projects totaling USD 10.4 billion.

Table 24
PROYECTOS DE INVERSIÓN: POR CONCESIONES, 2024-2025+
(Millones de USD)

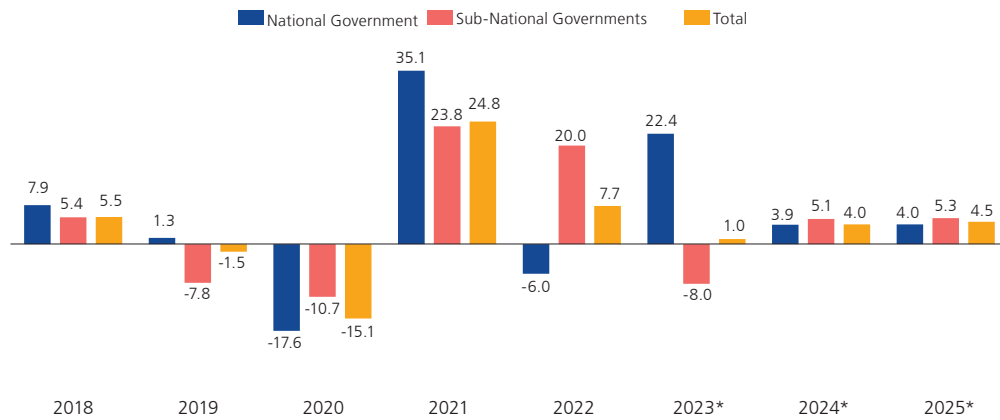
	Estimated investment
To be called	10,441
Peripheral Ring Road	2,380
Longitudinal of the Sierra road project, Section 4	914
Ancon Industrial Park	762
Chinecas Project.	650
Integral Water System Chancay Valley - Lambayeque	619
IPC- Wastewater Treatment for effluent dumping or reuse - Trujillo	409
Marcona Port Terminal	405
Huancayo - Huancavelica Railway	340
Group 1: Transmission Plant Projects 2023 - 2032	337
Group 2: Transmission Plant Projects 2023 - 2032	334
Header works for water supply in Lima (1st stage)	330
Schools in risk: Metropolitan Lima	255
National Hospital Hipólito Unanue	250
Choquequirao Tourism Project	190
Maintenance of the Cajamarca hospital	176
Chimbote International Terminal	172
Treatment system for wastewater Huancayo	172
Treatment System for wastewater - Desalination Plant Paita and Talara	150
Schools in Risk: Ate-San Juan de Lurigancho	140
Group 3: Transmission Plant Projects 2023 - 2032	131
Central Military Hospital	116
Hospital Villa El Salvador - HEVES	114
Ilo desalination plant	110
Treatment system for wastewater - San Martin	105
Group 4: Transmission Plant Projects 2023 - 2032	98
Schools at Risk: Comas - San Martín de Porres	91
IPC -Wastewater Treatment System for Puerto Maldonado	89
Lima Convention Centre	78
Schools at Risk: Villa María del Triunfo	70
IPC -Wastewater Treatment for effluent dumping or reuse, Chinchá province, Ica, Peru	70
Reinforcement of infrastructure, equipment and maintenance of Cusco School	60
Wide-scale use of natural gas - Southwest Concession	60
IPC- Wastewater Treatment System in Cajamarca	56
Desalination Plant - Lambayeque	49
IPC -Wastewater Treatment for effluent dumping or reuse, Cusco	44
IPC -Wastewater Treatment for effluent dumping or reuse, Cañete	33
Rural Sanitation Loreto	26
Management of solid waste treatment in health establishments of Minsa	24
Operation and maintenance of the Instituto Nacional del Niño	16
Cable Car - Historic Centre of Lima - Cerro San Cristobal	16

Source: Proinversión.

- 44. Public investment** shrank 1.0 percent year-on-year in the January-September 2023 period, as the dynamism in national government projects was outweighed by the fall in subnational government spending.

As a result, projected public investment growth was restated from 1.5 to 1.0 percent for 2023. The estimate continues to assume that national government investment growth will be higher than the drop in subnational government investment typical of local authorities' first year in office. For 2024, the growth projection for public investment remains at 4.0 percent and is expected to grow 4.5 percent in 2025.

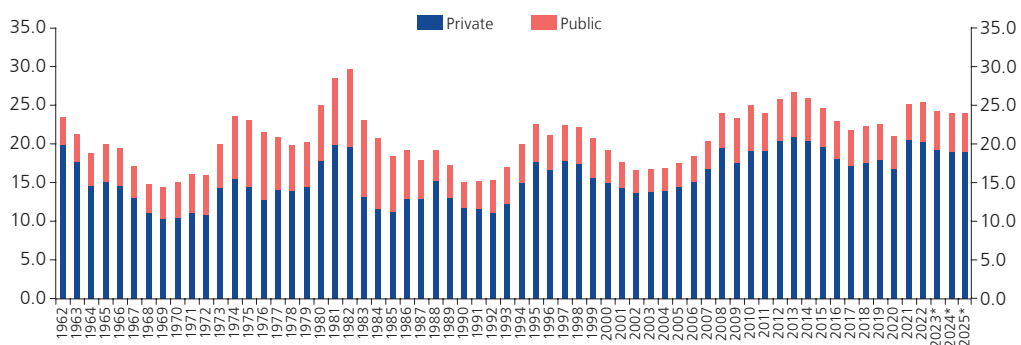
Graph 44
PUBLIC INVESTMENT
(Variación % real anual)



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

45. Gross fixed investment, as a percentage of GDP, is projected to decline from 25.3 to 23.0 percent between 2022 and 2023 due sliding private investment, and is estimated to remain around that level over the projection horizon. For investment to recover, economic and financial stability must be preserved, consolidated in an adequate business environment, and accompanied by reforms to support the economy's productivity and higher potential GDP growth.

Graph 45
GROSS FIXED INVESTMENT: PRIVATE AND PUBLIC, 1962-2025
(% of real GDP)



* Forecast.
Source: BCRP.



**Box 1****SHOCKS AFFECTING THE PERUVIAN ECONOMY IN 2023**

Shocks are unanticipated events that tend to distort the normal performance of an economy. This section identifies and measures the main shocks that affected the Peruvian economy in 2023. We estimate the impact of these shocks could reach 2.7 percentage points of GDP, which explains the contraction in activity observed throughout this year. This scenario was not entirely foreseeable at the beginning of the year, as some of these shocks have had a greater impact than expected. Below is a list of the main shocks and an estimate of the impact of each of them on the Peruvian economy.

Description of shocks

This year the country has been hit by climatic, epidemiological, economic and social shocks, namely:

a) Drought

The drought in the Andean region, from August 2022 to December 2022, was a high impact climatic event. Small and medium-sized Andean agriculture depends on rain to supply over 62 percent of the domestic agricultural demand.

The drought at the end of last year hit the high mountain region in the first half of 2023 curtailing potato, maize, quinoa crops and pasture and forage and other Andean products, mainly from the departments of Cusco and Puno. This vast drought was characterized by an accumulated rainfall deficit of 45.6 percent in the southern highlands from August to December 2022. A similar event occurred during the 1982-83 El Niño Southern Oscillation that resulted in a rainfall deficit of 50 percent in the southern highlands⁵, and ranked among the most severe droughts in the last 40 years.

b) Avian influenza

In November 2022, the H1N5 virus, or avian influenza, first reached Peru, slowing down poultry industry (poultry meat and eggs) since 2023. This supply shock occurred as the sector recovered from a demand shock due to the COVID-19 pandemic (March 2020 - October 2022).

The virus reached Peru through wild birds on their migratory route from north to south of the American continent (United States, Mexico, Colombia, Ecuador and Peru), in a wave of avian influenza coming from Europe. To protect poultry activity from this highly pathogenic virus, the National Agrifood Health and Quality Service (Senasa) declared a sanitary emergency until December 2023, after an influenza vaccine program in force since May 2023. This measure was successfully applied in other countries, including Mexico and Ecuador.

The most vulnerable commercial poultry population was the informal sector (representing about 20 percent) and backyard (domestic) poultry. In contrast, in the formal poultry industry (which provides

5 Ministry of Agriculture (1992) Primer compendio estadístico agrario 1950-91, Lima: Ministerio de Agricultura - Oficina de Estadística Agraria, December 1992.

approximately 80 percent of the supply), the risk of spreading the virus has been minimized, and to date there are no recorded cases.

c) Social conflicts

During the first months of the year, social conflicts shook up to six regions across the country, whose combined share of national GDP⁶ reaches 17.6 percent. These conflicts started in December 2022 and lasted through April 2023. During this period, the conflicts were characterized by road blockages and social protests that affected commerce, construction, transportation -among other services- and even mining (which experienced input supply and output transport issues due to the blockage of the southern mining road corridor).

Conflicts peaked in January when a high number of roads were blocked by demonstrators⁷ (including the southern mining corridor). In February and March, conflicts focused in the southern Andean highlands (Arequipa, Cusco, Puno and Apurímac). As time passed, demonstrations became less frequent and intense. By April, protests focused on Puno, although the local economy did not come to a total standstill.

d) El Niño

Temperatures due to coastal El Niño started to rise in February and continue strongly to date. Thus, on March 16, the Multisectoral Commission in charge of the National Study of the “El Niño” Oscillation (EFEN) issued a coastal El Niño alert. This climatic shock has mainly affected the agriculture and fishing sectors.

Anomalous warmth temperatures result in lower availability of anchoveta as their reproductive cycle is affected, less food (phytoplankton) is available, and species sink hampering catch. Although these anomalies bring an abundance of other species, such as squid, jack mackerel and mackerel, this does not make up for the losses in industrial fishing (since losses occur in primary manufacturing, due to lower fishmeal and fish oil production). The anomalies have also prevented opening the first fishing season in the north-central zone, due to the large presence of juveniles (71 percent by number and 60 percent by weight).

Regarding the agriculture sector, in contrast with 2017, the 2023 coastal El Niño affected a larger area (the entire coast), and longer high temperature anomalies (more than ten months), resulting in the absence a winter season needed by fruit tree growth (blueberries, grapes, avocados, and mangoes), predominantly grown on the north coast. Other produce from the north coast (rice, limes, sugar cane, and cotton) and on the rest of the coastal band (potatoes, olives, grapes, and cotton) were also affected.

In addition, the coastal El Niño also affects non-primary sectors. A warm winter affected the textile and apparel industry, as expected sales for the fall-winter season did not materialize. In the construction sector, the uncertainty regarding the start of a strong coastal El Niño could partly

6 Based on 2021 GDP data by department.

7 79 roads blocked on January 19 (“Toma de Lima”), according to ProVías Nacional. In February, a maximum of 43 roads were recorded blocked in a single day and 25 blockages in March.





explain lower private investment. This situation is compounded by slow government prevention works⁸, reduced family income, the partial halt of independent construction works during the pandemic, and the pessimistic expectations about the evolution of the economy.

e) Business confidence

Private investment is closely linked to the level of confidence that entrepreneurs have regarding market conditions and the stability of their businesses. In an environment characterized by high uncertainty, business expectations tend to deteriorate and companies postpone investments, which in turn leads to lower production growth.

The successive events experienced by Peru's economy throughout 2023 have adversely impacted business confidence, as gaged through companies' expectations regarding the sector in which they operate over the next three months.

f) Lower non-traditional exports

Exports, mainly textile and chemical products, slipped throughout the year. In the case of textile products, lower exports are the result of lower demand from the United States due to high inventories and lower consumption in that country. With respect to chemical products, the reduction in exports is due to lower demand from Latin American countries (the main export destination) and excess inventories from end customers.

g) Lower sub-national investments

Between January and November 2023, subnational public investment fell 9.8 percent in real terms, due to lower investment by local governments. This decrease in investment is linked to the change of authorities in January 2023. Evidence suggests that recently inaugurated authorities tend to spend less from the government budget, as they require a learning period, or because they decide to scrap projects started by their predecessors.⁹

Measuring economic impact

To estimate the impact of drought, avian flu, social conflicts, coastal El Niño, lower non-traditional exports and lower public investment, counterfactual scenarios were formulated where the economy did not experience such shocks, making it possible to determine the impact of each of these events separately.

Estimates of the impact of a coastal El Niño look at the indirect impacts in each sector. The supply and use tables (COU) of the Peruvian economy were used to estimate the Leontief multipliers taking into account cross-sector impacts through lower input requirements. The lower demand for

8 As of December 4, 41.4 percent of the Emergency Expenditure - El Niño Oscillation (according to Friendly Consultation), and 68.4 percent of the Natural Disaster Intervention Fund - FONDES (while subnational governments have an execution of around 52 percent).

9 Box "Subnational Public Investment and the Cycle of Changing Authorities" in the September 2018 Inflation Report discusses this in more detail. <https://www.bcrp.gob.pe/docs/Publicaciones/Reporte-Inflacion/2018/setiembre/ri-setiembre-2018-recuadro-5.pdf>

inputs ends up contracting the demand for products, thus generating a contraction greater than initially estimated (multiplier effect).

To estimate the effect of business expectations on GDP, a relationship between private investment and expectations was initially modeled. Subsequently, two private investment scenarios were projected using two forecasts of expectations, one with more information than the other. The impact on GDP is determined as the difference between the GDPs associated with each investment path¹⁰.

Considering all these specifications, the shocks described above would have an impact of -2.7 percentage points of GDP in 2023. The shock that would subtract the most points from the Peruvian economy would be an El Niño, followed by the social conflicts at the beginning of the year.

IMPACT OF THE 2023 SHOCKS ON THE PERUVIAN ECONOMY
(pp. of GDP)

Shock	Impact on GDP 2023 (pp.)
Droughts	-0.1
Bird flu	-0.1
Social conflicts	-0.8
The coastal El Niño	-1.1
Loss of business confidence	-0.3
Lower non-traditional exports	-0.2
Lower investment by subnational governments	-0.1
TOTAL	-2.7

Final comments

In 2023, a combination of shocks affected the Peruvian economy. These shocks would explain this year’s economic contraction, which this Report estimates at -0.5 percent.

The lower activity has been characterized by a drop in domestic demand, associated with both the slowdown in private consumption and lower private investment. On the sectoral side, it translated into contracted agriculture and livestock production, lower fishing and its by products, and the construction and services industries.

Public policies, which have a certain margin of maneuver to attenuate or counterbalance an economic contraction, partially attenuated the impacts of the shocks under review. However, despite these efforts, the magnitude of the shocks resulted in a smaller GDP for the year.

The current contractionary scenario was not foreseeable at the beginning of the year. However, ongoing updating of information revealed stronger shocks strengthened and a greater negative impacts on the economy that, therefore, were progressively incorporated into the regularly published forecasts.

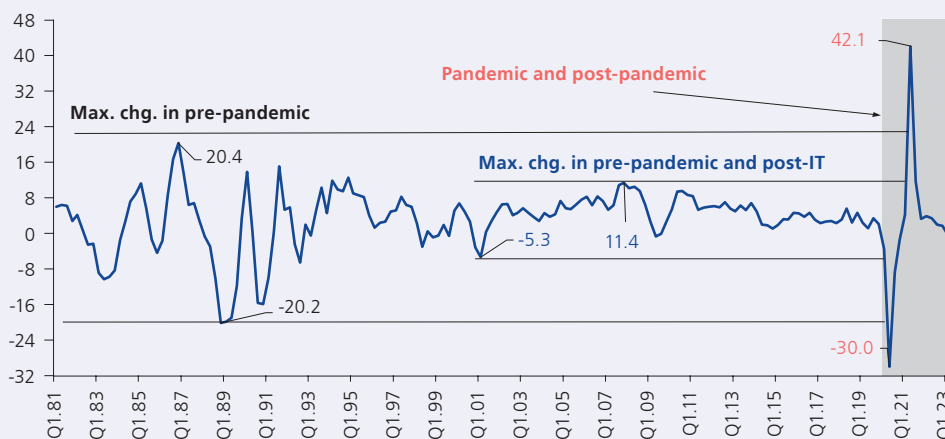
10 In the June 2023 Inflation Report expectations were presumed to be above those for 2021. However, they are still (on average) below 2022 figures.



Box 2
BUSINESS CYCLE DATING

Global macroeconomic and financial uncertainty has increased notably since the beginning of the COVID-19 pandemic. Amidst such increased volatility, it is challenging to identify the position of the economy in the economic cycle for the post-pandemic periods. On the one hand, macroeconomic stabilization measures must be tailored to the economy's position in the business cycle. On the other, accurate diagnosis of changes in trend growth is central to the design of measures aimed at maintaining sustainable economic growth. In this box, the business cycle is estimated using the work of Florián and Martínez (2019) as a reference¹¹.

GDP GROWTH (PERU, 1981-2023)
(Real % change respect to the same quarter of previous year)



As shown in the previous graph, Peruvian GDP growth recorded unprecedented sample variability during the COVID-19 pandemic, due to the initial impact of the quarantine and the subsequent rebound effect one year later. In particular, the minimum and maximum year-to-year growth rates (-30.0 and 42.1 percent) far outweigh the extreme values since records started to be kept (-20.2 and 20.4 percent in the fourth quarter of 1986 and 1988, respectively). This atypical variation recorded during the pandemic makes the usual methodologies for decomposing GDP between cycle and trend not the most appropriate¹².

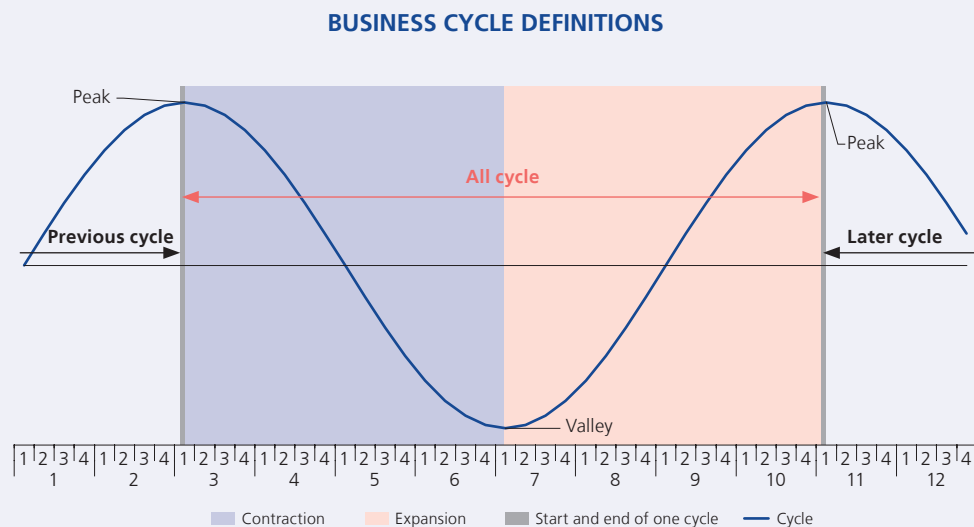
Therefore, two methodological adjustments designed to model large increases in sampling variability are incorporated into the work of Florián and Martínez (2019). These adjustments are taken from Lenza and Primiceri (2019)¹³ and Holston, Laubach, and Williams (2023)¹⁴, and consist of:

11 Florián, D. and Martínez, M., 2019. Identifying and dating the business cycle in Peru from an unobservable components model: 1980-2018. *Revista Moneda*, (179), pp.25-30.
 12 For example, Clark, P., 1987. The cyclical component of US economic activity. *The Quarterly Journal of Economics*, 102(4), pp.797-814.
 13 Lenza, M. and Primiceri, G., 2020. How to Estimate a VAR after March 2020 (No. w27771). National Bureau of Economic Research.
 14 Holston, K., Laubach, T. and Williams, J., 2023. Measuring the Natural Rate of Interest after COVID-19. FRB of New York Staff Report, (1063).

- First-order adjustment: correction in cycle and trend GDP levels according to the Oxford Rigorousness Index, as shown in Ritchie et al. (2020)¹⁵.
- Second-order adjustment: discrete and pronounced increases in volatility since the first quarter of 2020¹⁶.

Economic cycle

As shown in the graph below, a complete economic cycle is defined as the number of periods it takes for the cyclical component of GDP to move from one peak to another. Likewise, every cycle is composed of two phases: contraction and expansion. The transition from a peak to a trough (lowest point of the cycle) will be called an economic contraction, while the transition from a trough to a peak will be called an economic expansion.



The graph and table reveal the presence of seven distinct economic cycles, encompassing periods of expansion and contraction, that have occurred since 1980. These encompass two supplementary cycles in addition to the ones identified by Florián and Martínez (2019). The final cycle recorded by the authors corresponded to the one that commenced in the fourth quarter of 2013 and was still in progress at the time of the study. According to this update, it is predicted that this cycle ran for a duration of 23 quarters. Florián and Martínez (2019) demonstrate that the Peruvian economy tends to have longer periods of expansion than recession.

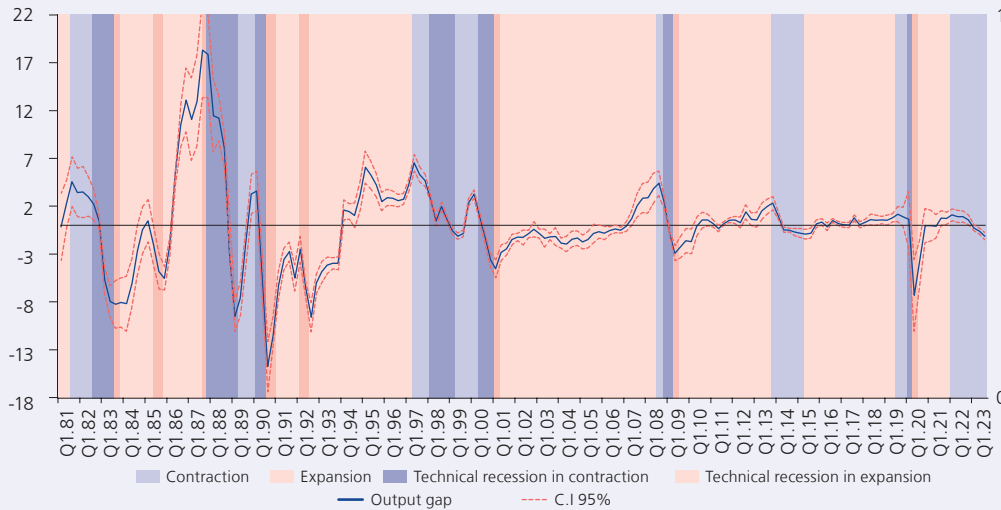
15 Ritchie, H., Mathieu, E., Rodés-Guirao, L., Appel, C., Giattino, C., Ortiz-Ospina, E., Hasell, J., Macdonald, B., Beltekian, D., and Roser, M., 2020. Coronavirus pandemic (COVID-19). Our world in data. URL: <https://ourworldindata.org/covid-stringency-index>. The authors construct an index that seeks to quantify the degree of restrictions imposed during the pandemic. The index is constructed as a composite measure based on nine response indicators, including school closures, workplace closures, and travel bans. This stringency index ranges from 0 to 100, with 100 representing the greatest restrictions.

16 A specification that also addresses the sharp increase in pandemic volatility can be found in: Perez (2021). Trend-Cycle Decomposition of GDP: A Flexible Filter. BCRP, DT 2021-008.





BUSINESS CYCLE, EXPANSION AND RECESSION
(% deviation of GDP respect to its trend)



The COVID-19 pandemic adds a full cycle between the third quarter of 2019 (peak) through the fourth quarter of 2021. The valley of this cycle was reached in the second quarter of 2020 when the most severe economic effects of the pandemic hit. The last identified cycle, the current one, is estimated to have started in the first quarter of 2022 and is still in a contraction phase.

DATE OF THE BUSINESS CYCLE

Cycle	Period	Duration (# of quarters)
1	1981Q3-1987Q2	24
Contraction	1981Q3-1983Q2	8
Expansion	1983Q3-1987Q2	16
2	1987Q3-1997Q1	39
Contraction	1987Q3-1990Q2	12
Expansion	1990Q3-1997Q1	27
3	1997Q2-2008Q2	45
Contraction	1997Q2-2000Q4	15
Expansion	2001Q1-2008Q2	30
4	2008Q3-2013Q3	21
Contraction	2008Q3-2009Q1	3
Expansion	2009Q2-2013Q3	18
5	2013Q4-2019Q2	23
Contraction	2013Q4-2015Q1	6
Expansion	2015Q2-2019Q2	17
6	2019Q3-2021Q4	10
Contraction	2019Q3-2020Q1	3
Expansion	2020Q2-2021Q4	7
7	2022Q1-...	7
Contraction	2022Q1-...	7

These estimates show that the concepts of technical recession and economic contraction are not equivalent. An economy is in technical recession if it records at least two consecutive declining

quarters of its seasonally adjusted GDP. This definition is simple, and very limited in scope. First, it does not take into account the depth of the decline in output. For example, to date it is estimated that a reduction in seasonally adjusted GDP (-1.3 percent) may have occurred only in the first quarter of 2023 in the current period of economic contraction, but its magnitude has led to three consecutive quarters of year-on-year decline in 2023. Based on this factor, the business cycle dating table also includes the criterion of a year-on-year reduction in GDP in at least two consecutive quarters. This identifies 10 periods of technical recession since the 1980s.

DATES OF TECHNICAL RECESSIONS UNDER DIFFERENT CRITERIA

Seasonally adjusted real GDP 1/			Real GDP 2/		
Technical recession	Period	Duration (# of quarters.)	Technical recession	Period	Duration (# of quarters.)
1	1981Q4-1983Q3	8	1	1982Q3-1984Q1	7
2	1985Q2-1985Q3	2	2	1985Q3-1986Q1	3
3	1987Q4-1989Q2	7	3	1988Q1-1989Q3	7
4	1990Q1-1990Q4	4	4	1990Q3-1991Q1	3
5	1992Q1-1992Q3	3	5	1992Q2-1992Q3	2
6	1998Q1-1999Q1	5	6	1998Q4-1999Q1	2
7	2000Q2-2001Q1	4	7	2000Q4-2001Q1	2
8	2003Q3-2003Q4	2			
9	2008Q4-2009Q2	3	8	2009Q2-2009Q3	2
10	2020Q1-2020Q2	2	9	2020Q1-2020Q4	4
			10	2023Q1-2023Q4	3

1/ Technical recession is that period in which 2 or more quarters the quarterly change of seasonally adjusted GDP is negative.

2/ Technical recession is that period in which 2 or more quarters the interannual change of GDP is negative.

Secondly, the concept of a technical recession is limited in scope by focusing on only one variable. For example, the National Bureau of Economic Research (NBER) Business Cycle Dating Committee defines a recession as a significant decline in economic activity that is widespread throughout the economy and lasts more than a few months. It assesses three criteria, namely depth, diffusion and duration.

In the third place, the concept of technical recession ignores the position of economic activity in the business cycle. Thus, technical recessions can be observed in both the contraction and expansion phases of the business cycle. Although it is more likely to identify technical recessions in the contraction phase, they have been recorded both in the transition from contraction to expansion (technical recessions 1, 4, 7, 8 and 9) and in economic expansions (technical recessions 2 and 5). It is also important to mention that complete economic cycles without recession (*soft landing*) can be observed, as in the fifth identified cycle (between the fourth quarter of 2013 and the second quarter of 2019). The latter is usually associated with high potential growth rates.

Moreover, it is noteworthy that the recovery periods of the economic cycles identified tend to consolidate gradually. This occurs as the economy moves away from the contraction phase and advances into the expansion phase, reflected by a progressive increase in economic activity. In addition, GDP growth rates in the first quarters of the expansion phase have been driven mainly by private consumption. This has been observed in several business cycles, in which the private spending component contributed significantly to speed up growth recorded between the first and

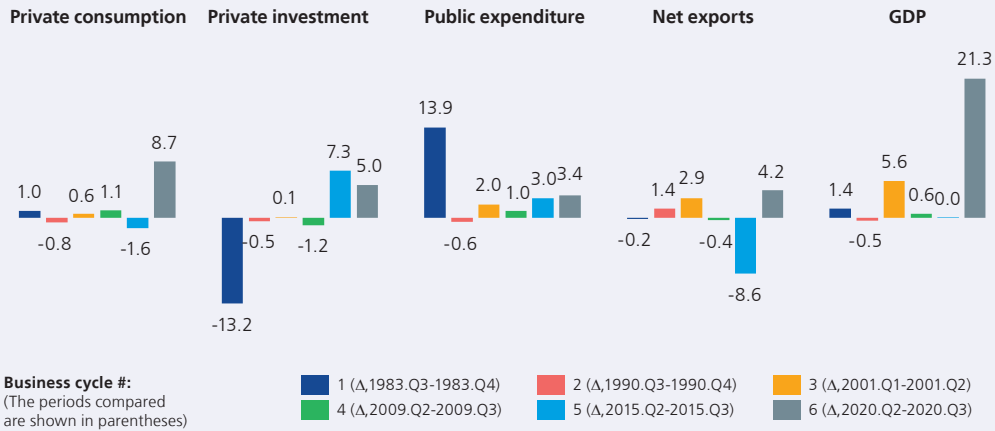




second quarters of the expansions in cycles 1, 3, 4 and 6¹⁷. To a lesser extent, public spending has also contributed in cycles 1, 3, 4, 5 and 6. Finally, private investment has played a positive role in accelerating growth in the last 2 complete economic cycles (5 and 6), in line with improving business confidence in those periods (increases of 3 and 19 percentage points, respectively, in the index of business expectations about the economy one year ahead).

START PHASE OF RECOVERY PERIODS OF BUSINESS CYCLE

(% contributions to growth acceleration: second quarter vs first quarter of recovery)



Significantly, technical recessions and economic contractions have markedly different monetary policy implications. While there is a link between these definitions, the connection is complex and can lead to misinterpretations. This is particularly evident when observing recessions in the expansion phase of the cycle and even business cycles devoid of technical recessions. The relevant concept for monetary authorities corresponds to business cycle phases rather than technical recessions because economic contractions or expansions are directly linked to aggregate demand and therefore with inflation. Consequently, identifying the economic cycle is central to the appropriate and timely design of monetary policy.

Updating the GDP decomposition exercise between cycle and trend - with the necessary adjustments to deal with the effects of the pandemic - allows us to identify seven economic cycles since 1980.

The methodological adjustments necessary to incorporate the pandemic into the sample permit determining the beginning of the current economic cycle in the second quarter of 2022, which would still be in a contractionary phase.

17 For example, in cycle 6, the year-on-year rate of change of GDP went from -30.0 to -8.7 percent between the second and third quarters of 2020 (respectively, the first and second quarters of the expansion phase). Private consumption accounted for 8.7 percentage points of the 21.3 percentage point difference between the two rates.

Box 3

THE 2017 COASTAL EL NIÑO AND VULNERABILITY OF PERUVIAN HOUSEHOLDS.

This box explores the vulnerability of Peruvian households to extreme weather events, using the 2017 Coastal El Niño (Coastal ENSO) as a reference¹⁸. We compare the main socioeconomic characteristics of households in the hardest and least hit provinces during ENSO and review the relationship of this event with a household’s probability of being poor.

Socioeconomic characterization of provinces hardest hit by ENSO

To classify households by their exposure to the 2017 NPS, the 3-month Standardized Precipitation Index (SPI) of the National Meteorology and Hydrology Service of Peru (SENAMHI) is used at province level. The SPI is a standardized measure that identifies conditions of accumulated precipitation deficit and excess. For example, a 3-month SPI with a value of 2.5 in March 2017 indicates that the cumulative precipitation level from January to March 2017 was 2.5 standard deviations above the historical distribution mean.

PROVINCES MOST AFFECTED BY FEN 2017



Source: SENAMHI – SPI.

Departament	Total affected population	Total population	Number of provinces most affected	Total number of provinces	%
Amazonas	417,365	417,365	7	7	100
Ancash	552,094	1,139,115	6	20	30
Apurímac	0	424,259	0	7	0
Arequipa	0	1,460,433	0	8	0
Ayacucho	376,590	650,940	5	11	45
Cajamarca	666,023	1,427,527	5	13	38
Callao	0	1,046,953	0	1	0
Cusco	382,650	1,315,220	4	13	31
Huancavelica	85,508	367,252	3	7	43
Huánuco	234,850	759,962	4	11	36
Ica	399,995	893,291	2	5	40
Junín	225,618	1,316,894	1	9	11
La Libertad	299,588	1,888,972	4	12	33
Lambayeque	1,244,821	1,244,821	3	3	100
Lima	9,960,866	10,135,009	8	10	80
Loreto	194,481	981,897	2	6	33
Madre de Dios	0	161,204	0	3	0
Moquegua	0	182,017	0	3	0
Pasco	0	272,136	0	3	0
Piura	737,059	1,929,970	4	8	50
Puno	56,720	1,226,936	1	13	8
San Martín	488,022	862,459	6	10	60
Tacna	0	349,056	0	4	0
Tumbes	183,274	234,698	2	3	67
Ucayali	418,055	548,998	1	4	25
Total	16,923.579	31,237.384	68	194	35

By convention, an SPI above 2.0 implies “extremely wet” conditions, i.e., precipitation well above normal (see McKee et al ,1993)¹⁹. Therefore, this criterion is used to identify households most exposed to ENSO, which is consistent with the fact that the 2017 event was characterized by anomalous heavy

18 The 2017 Coastal ENSO was caused by an increase in sea surface temperature in El Niño 1+2 region of the Pacific Ocean (off the Ecuadorian and North Peruvian coasts) from December 2016 to April 2017. This resulted in anomalous rainfall during 2017, mainly in the first half of the year.

19 McKee, Thomas B.; Doesken, Nolan J. and Kleist, John (1993) The relationship of drought frequency and duration to time scales. Eighth Conference on Applied Climatology.





rainfall. Specifically, a province is considered to have been more affected by the 2017 Coastal ENSO if it experienced extreme wet conditions (SPI ≥ 2) in any month of the first half of 2017²⁰. Thus, out of a total of 194 provinces²¹, 68 provinces in 18 departments would have been the most affected by ENSO.

The above figure shows that, using a stringent threshold for characterizing cumulative rainfall anomalies, about 35 percent of the provinces in Peru (54 percent of the population as per the 2017 Census) were heavily exposed to that year’s ENSO. This includes provinces across all natural regions, including the Andean mountain range and the Amazon forest²². However, the other provinces and households were not fully immune from anomalous rainfall. For example, apart from the 68 most affected provinces, another 108 provinces had a 3-month SPI greater than 1.0 and less than 2.0 in some month of the first half of the year, indicating moderate or severe anomalies with respect to their historical averages. This box uses the “most affected provinces” characterization.

A review of housing characteristics shows that nationwide those households located in provinces more affected by the 2017 ENSO had greater access to basic services and a were in better physical environment relative to their peers than in less affected provinces. Indeed, these households showed higher rates of access to sewerage and electricity and were built with more adequate wall, roof and floor materials.

However, these differences could only reflect the fact that the most affected provinces are located mainly on the coast and in the north of the country, where economic development is higher compared to the high Andean and southern provinces. If we compare the characteristics of the most and least affected provinces only in regions on the northern coast, we shall see that most of the differences become non-significant, although households in the most affected provinces would have less access to sewerage and houses’ exterior walls were lower quality.

CHARACTERISTICS OF HOUSING AT THE NATIONAL LEVEL, 2017 CENSUS
(In percentage points)

At the national level	Most affected provinces	Least affected provinces
Access to water through public network	90.3	90.5
Sewerage through public network	72.2	60.5
Access to electric lighting	90.0	85.2
Suitable material on exterior walls	74.5	55.9
Appropriate roofing material	92.6	91.1
Adequate material on floors	75.6	59.8
Only Tumbes, Piura, Lambayeque and La Libertad	Most affected provinces	Least affected provinces
Access to water through public network	88.9	87.9
Sewerage through public network	76.1	78.9
Access to electric lighting	88.2	88.8
Suitable material on exterior walls	43.9	55.4
Adequate roofing material	93.7	91.9
Adequate material on floors	59.0	60.5

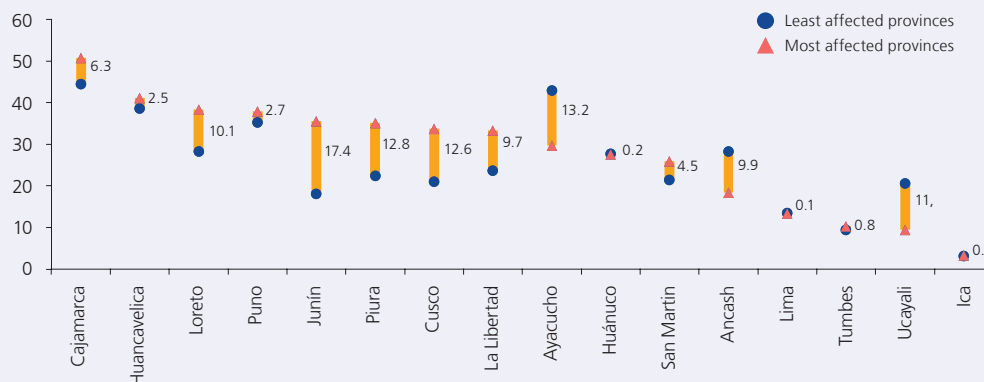
Note: The most affected provinces are those that had a 3-month SPI greater than 2.0 during the first half of 2017, indicating conditions “extremely humid.” The suitable material for exterior walls refers to brick, cement or wood; on concrete ceilings, wood, tiles or corrugated board; and on floors, parquet, sheets, tiles, wood or cement.
Source: 2017 National Household Census

- 20 Although ENSO also caused dry conditions in some Andean areas, for the purposes here, only those areas that suffered abnormal rainfall are considered as affected.
- 21 For the provinces of Datem del Marañón and Putumayo, in the department of Loreto, there is no information available from the SPI, so they are not included in our analysis.
- 22 Although the most notorious cases were the provinces of the northern coast where flooding was recorded, a Coastal ENSO usually changes the rainfall dynamics throughout the national territory.

INEI's 2018 Provincial Poverty Map compares the prevalence of provinces' monetary poverty. The poverty rate estimates are based on information from the 2017 Census and the 2017 and 2018 National Household Survey (ENAHO). Comparing the difference in average poverty rates across provinces within the same department shows that, in most cases, the provinces hardest hit by ENSO were poorer than their counterparts.

Piura and La Libertad regions stand out as two of the northern coastal regions most impacted by ENSO, and where the provinces most sensitive to rainfall showed, on average, a poverty rate 10 percentage points higher than their less impacted counterparts. The department of Lambayeque is not analyzed because all its provinces were impacted by the FEN.

**DIFFERENCE IN THE WEIGHTED MONETARY POVERTY RATE
AMONG THE PROVINCES MOST AND LESS AFFECTED BY FEN 2017**
(In percentage points)



Note: 1/ The calculation of weighted poverty uses the total population of each province as a weight, taking into consideration whether they were provinces affected or not.

2/ It should be considered that, in the departments of Amazonas and Lambayeque, all provinces were affected; meanwhile, in the departments of Apurímac, Arequipa, Callao, Madre de Dios, Moquegua, Pasco and Tacna, none of the provinces were affected. Therefore, they are omitted from the analysis.

Source: SENAMHI – SPI. INEI – Poverty Map 2018. INEI – 2017 National Household Census.

El Niño Southern Oscillation and changes in poverty

To analyze ENSO's relationship with household poverty, we estimate whether living in a province affected by the 2017 ENSO is associated with a change in the probability of being poor. To do so, we use ENAHO 2016 to 2018 panel version data as the most relevant for the event: 2016 is the year prior to ENSO, when ENSO had not yet hit; 2017 was the year of ENSO impact, and 2018 followed and when reconstruction projects were still in their initial stage.

Specifically, we use a probabilistic model in which the dependent variable Y_{it} takes the value of 1 if the household is poor in year t and 0 otherwise. The Probit specification models the conditional probability that Y_{it} is equal to 1 (equivalent to the conditional expectation of Y_{it}) with the standard normal cumulative distribution function as follows:

$$\Pr(Y_{it} = 1 | X_t, X_{t-1}, FEN_{1718}) = \mathbb{E}[Y_{i,t} | X_t, X_{t-1}, FEN_{1718}] = \Phi(X'_{it}\beta + X'_{it-1}\beta + \gamma FEN_{1718})$$

In this specification, we include a set of control variables from the same period (X_t), as well as characteristics of the previous year (X_{t-1}). Since monetary poverty is a persistent condition, one of





the variables included in this last vector is the previous year's poverty condition (Y_{it-1}). This allows us to capture the variability in the poverty situation that is due to the persistence of this condition. Other variables concern demographic and human capital characteristics of the head of household, in addition to shocks that the household may have experienced.

However, the main variable of interest in our analysis is FEN_{17-18} , which takes the value of 1 if the household was in one of the provinces most affected by ENSO (FEN is the Spanish acronym) in 2017 and 2018, and 0 otherwise. Since no provinces were affected by ENSO in 2016, the variable takes the value of 0 for all households that year. The most affected provinces are ranked based on the 3-month SPI value during the first half of the year, with the cutoff of 2 standard deviations. Thus, a positive and significant value of $\hat{\gamma}$ would indicate that residing in an area more exposed to ENSO when the event occurred (2017 and 2018) correlates with a higher probability of being poor compared to 2016, when there was no El Niño, and to the least affected provinces in 2017 and 2018.

The results show that a household living in a province affected by extreme humidity during ENSO was approximately 1.4 percentage points more likely to be poor the following year, compared to households living in non-exposed provinces and households when there was no ENSO. This result is robust and significant for the two specifications. Thus, using Specification 2, we find that while a household in a year without ENSO or in an area less affected by it has a 14.8 percent probability of being poor, another household in an exposed area has a 16.2 percent probability.

PROBABILITY OF FALLING OR MAINTAINING IN POVERTY ACCORDING TO THE PRESENCE OF FEN (Marginal effects)

	Specification 1 2016 - 2018	Specification 2 2016 - 2018
Coastal El Niño Phenomenon		
FEN_{17-18}	0.014*	0.014*
Persistence of poverty		
Poor _(t-1)	0.313***	0.314***
Demographic characteristics		
Age (years) _(t-1)	-0.000	-0.000
Male _(t-1)	0.027***	0.027***
Members in the household _(t-1)	0.011***	0.011***
Number of children between 0 and 5 years _(t-1)	0.048***	0.048***
Number of children between 6 and 15 years old _(t-1)	0.015***	0.015***
Human capital		
Head of household employed	0.012	0.012
Years of schooling _(t-1)	-0.010***	-0.010***
Physical disability _(t-1)	0.035***	0.035***
Shocks		
Economic shock _(t)		-0.013
Health shock _(t)		0.004
Fixed effects^{a/}		
Observations	✓ 16,162	✓ 16,162

a/ They include dichotomous variables by year, by geographic area (urban and rural) and by natural region (coast, mountains and jungle).
* p-value<0.05; ** p-value<0.01; p-value<0.001.

Final Comments

Anomalous precipitation from strong or extreme coastal El Niño events affects a large percentage of the Peruvian population. Taking the 2017 coastal El Niño as a reference, about 54 percent of

the Peruvian population would have been in areas with precipitation extremely above the historical average.

Although households in the most affected localities appear to have better access to adequate housing at the national level (which is usually associated with better living conditions and economic capacity), within the same department these households tend to be poorer. In addition, exposure to ENSO raises the probability that the household's expenditures will be below the poverty line in the time period immediately following the weather event.

In addition to investing in infrastructure for the preservation of life and the resilience of economic activities, adequate disaster risk management should also include emergency economic support measures that are properly targeted to the most vulnerable households in the face of climate shock.



**Box 4****ESTIMATES OF THE SUPPLY-DEMAND BALANCE IN THE ELECTRICITY SECTOR 2023-2026**

Electricity is a key production input in all economic sectors and its secure and timely availability is a fundamental condition for sustaining economic growth. Therefore, this box presents estimates and forecasts of the Balance of Supply and Demand (BOD) of the electricity sector. In particular, reserve margin forecasts²³ are useful in determining potential risks of insufficient future electricity generation that could result in interrupted service supply or transitory increases in generation prices in the short-term market.

On the one hand, the available supply is the generation capacity adjusted for the availability of inputs. In 2022, the effective power²⁴ of the generation plants of the National Interconnected Electric System (SEIN) was 13,190 MW, but the available supply of generation was 8,906 MW. The difference results from the fact that certain conditions, mainly climatic, reduce the supply, such as low water (which affects hydroelectric generation, mainly between May and November every year) and the availability of sunlight (which affects solar power plants), as well as limitations in the transport capacity of natural gas used by thermal power plants and maintenance of the different types of power plants²⁵.

On the other, peak demand is the highest level of electricity consumption in a power grid during a specific time period. In 2022, maximum demand was 7,467 MW. As this figure was lower than the available supply, the reserve margin was positive by 1,439 MW. This margin was equivalent to 19.3 percent of maximum demand.

Information on generation projects and economic activity growth forecasts are used to project available supply and electricity demand for the coming years. For the available supply, we consider a cumulative increase (December 2026 vs. December 2022) of 2,801 MW (7.1 percent per year average). This increase considers 8 generation projects reported by the SEIN Economic Operation Committee (COES) that would come in line in that period, namely 2 hydroelectric plants, 1 oil-fired plant and 4 wind power plants, subject to the above supply conditions. Moreover, we consider an expected growth of the maximum demand in the electricity sector of 2.2 percent average per year, equivalent to an accumulated increase of 680 MW, which includes demand from projects, as well as an average annual GDP growth of 2.1 percent²⁶.

Under these assumptions, it is estimated that the reserve margin will remain above 30 percent over the next three years. This trajectory implies that, unless there are interruptions in the supply, transportation or distribution of natural gas or restrictions in transmission lines, no risk of interruption or rationing is foreseen during this period. However, these assumptions imply that, in the low water months at the end of the forecast horizon, it may be necessary for demand to be met transitorily by oil-fired thermal power plants (which operate at higher marginal costs), which would

23 The reserve margin is calculated as the available supply of generation minus the maximum demand, expressed as a percentage of the maximum demand.

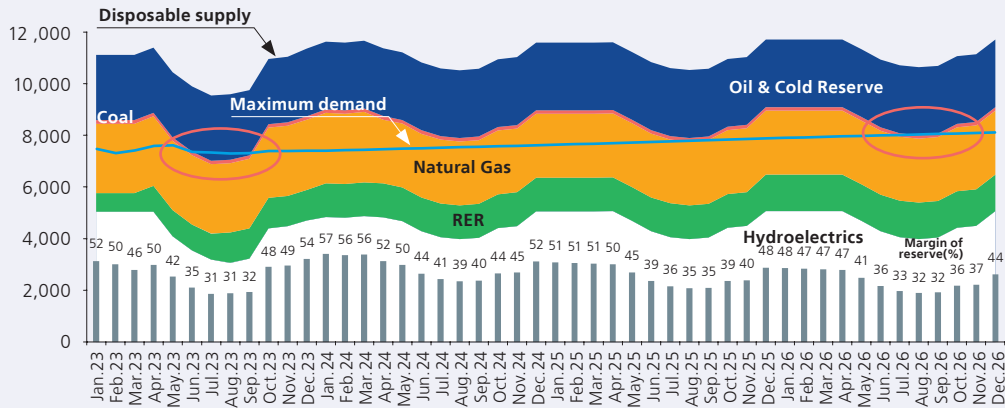
24 Effective power is the maximum supply of electric power at a given instant under optimum operating conditions.

25 It should be noted that in Peru, generation plants include hydroelectric (39 percent) and thermal natural gas (NG) (32 percent) plants. Oil-fired plants account for 20 percent and renewables provide 8 percent. The remaining 1 percent of the effective capacity corresponds to coal-fired plants.

26 GDP growth forecasts from this Inflation Report are considered: -0.5 percent in 2023 and 3.0 percent per year in the 2024-2026 period.

be reflected in temporary increases in the spot price in those months²⁷. It should be noted that, in the event that the low water periods last longer than expected, the reserve margin would be lower, which could lead to more frequent dispatch from the more expensive plants and, therefore, higher costs for service users. Therefore, it is important to continue gradually expanding the grid as demand grows.

ESTIMATE OF THE SUPPLY-DEMAND BALANCE OF THE ELECTRICITY SECTOR 2022-2026 (MW)



Memo: The participation of wind power plants would increase from 8% of the available supply in 2012 to 12.1% in 2026. This is because almost 700 MW enter in that period.
 Source: COES and BCRP.

27 Other dry periods considered in this box are December 2022; and December 2023 to April 2024, considering changes due to the El Niño oscillation.

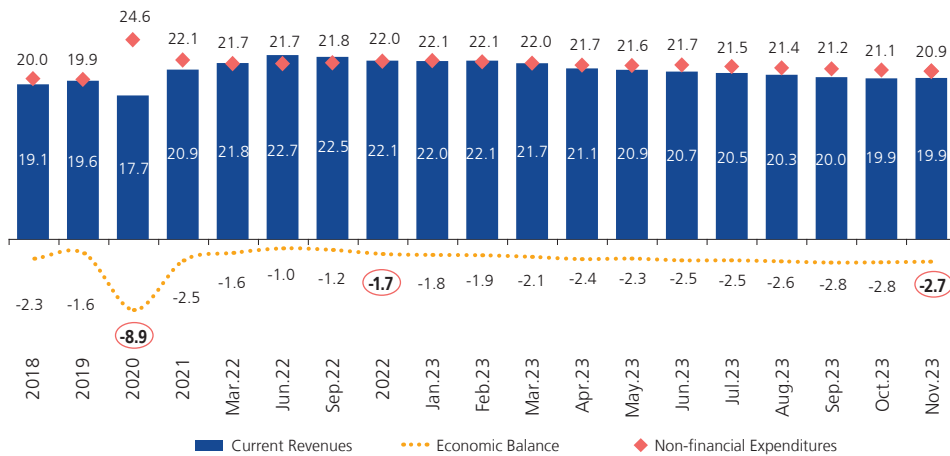




IV. Public finances

- 46. The cumulative fiscal deficit over the last twelve months increased from 1.7 to 2.7 percent of GDP between December 2022 and November 2023, primarily due to the decline in government’s current income, although partly mitigated by smaller non-interest spending as a percentage of GDP.

Graph 46
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.

Smaller current income in terms of output resulted mainly from lower tax revenues and, to a lesser extent, reduced non-tax revenues. The reduction in tax revenues is explained by declining domestic demand, lower value of imports and falling export prices. By component, lower income tax was collected, mostly from domiciled legal entities and through regularization, and from value added tax (IGV in Peru), particularly on imports. Among non-tax revenues, lower canon and oil and gas royalties were collected.

Non-financial expenditures decreased as a percentage of GDP but increased in nominal terms. The nominal increase in non-financial expenditures results from higher expenses for (i) remunerations, mainly due to the wage payment raises for different types of government workers and court-mandated payments; (ii) goods and services, as a result of higher spending for the *Con Punche Perú* and *Emergencia-FEN* programs, as well as the increase in spending not related to the health emergency; and (iii) gross capital formation, due to higher execution in the public order and security, education and planning functions, mainly by the central government.

47. Based on the evolution through November, the **fiscal deficit** is projected to reach 2.5 percent of GDP in 2023 given smaller tax revenues, that were only slightly higher - by 0.1 p.p. - than the limit set by the fiscal rule of 2.4 percent of GDP (Law No. 31541).

For 2024 and 2025, the deficit in terms of output is assumed fall to 2.0 and 1.5 percent of GDP, respectively, in accordance with the ceiling established by the fiscal rule. These forecasts consider increased current income, driven by the recovery of economic activity and higher imports' value. In addition, the projection for 2024 considers additional revenues derived from the sale of an electricity company, as well as a higher primary result of state-owned companies towards the end of the projection horizon (explained, in part, by the entry into full commercial operation of the Talara Refinery).

Given this revenue projection, expenditure programming is assumed to be in line with the fiscal deficit ceilings mentioned above, which take into account the end of extraordinary spending incurred due to the pandemic and other temporary programs.

Table 25
NON-FINANCIAL PUBLIC SECTOR
(% GDP)

	2022	2023*		2024*		2025*	
		November ^{1/}	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
1. General government current revenues	22.1	19.9	20.2	20.0	20.3	20.3	20.5
<i>Real % change</i>	4.7%	-11.3%	-7.1%	-9.4%	3.6%	4.5%	4.6%
2. General government non-financial expenditure	22.0	20.9	20.9	20.7	20.8	20.7	20.5
<i>Real % change</i>	-1.5%	-5.6%	-3.1%	-5.3%	2.3%	2.7%	2.7%
<i>Of which:</i>							
<i>Current expenditure</i>	15.9	15.6	15.6	15.4	15.4	15.3	15.0
<i>Real % change</i>	-7.7%	-4.0%	-0.6%	-3.0%	2.1%	2.1%	2.0%
<i>Gross capital formation</i>	4.7	4.5	4.6	4.6	4.6	4.7	4.8
<i>Real % change</i>	9.9%	-0.4%	1.1%	0.0%	3.1%	4.9%	4.9%
3. Other 2/	-0.2	0.0	-0.1	-0.1	0.1	0.1	0.2
4. Primary balance (1-2+3)	-0.1	-1.0	-0.8	-0.8	-0.3	-0.3	0.2
5. Interests	1.6	1.7	1.6	1.7	1.7	1.7	1.7
6. Overall Balance	-1.7	-2.7	-2.4	-2.5	-2.0	-2.0	-1.5

1 / Ratios on % of GDP and real % changes represent accumulated in the last 12 months as of May.

2 / Includes capital income of the general government and primary balance from state-owned companies.

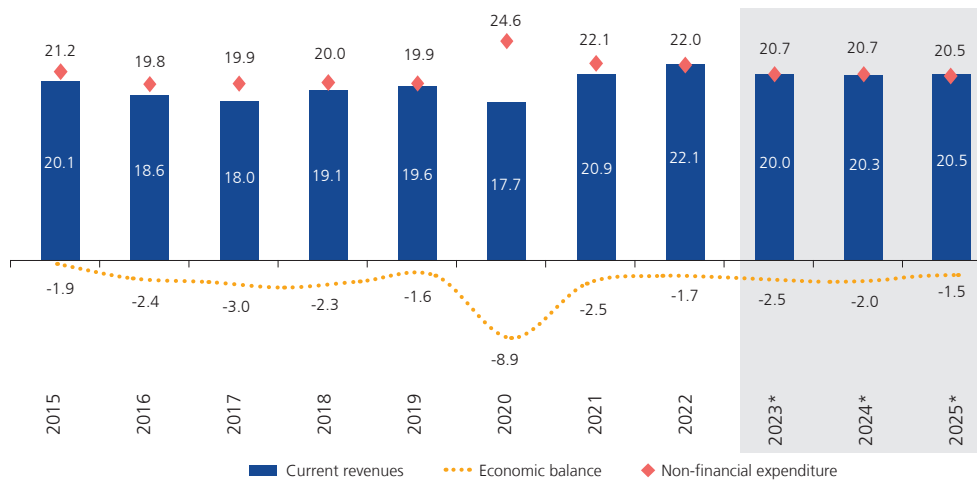
* Forecast.

IR: Inflation Report.





Graph 47
ECONOMIC BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2015 - 2025
 (% 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.
 * Forecast.
 Source: BCRP.

Current income

48. Current income is expected to contract by 9.4 percent on real terms in 2023. It will reach 20.0 percent of GDP, i.e. 2.1 percentage points lower than at the end of 2022.

The decline in revenues can be attributed primarily to the continuous decline in domestic demand and the decrease in prices of export minerals (such as zinc and copper) and hydrocarbons (such as natural gas). These factors have had a negative impact on income tax, General Sales Tax (IGV), and other revenues associated with the mining and hydrocarbons sectors. Furthermore, the decreased value of imports, particularly of industrial raw materials and fuels, would lead to a decrease in the import value-added tax (IGV) applied. The fall in income tax revenues can be attributed to the implementation of reduced payment on account coefficients, utilization of credit balances from the previous year, and a reduction in the collection of income tax regularization.

The revision on the downside of GDP forecasts for 2023 -from 20.2 to 20.0 percent of GDP- takes into account the lower growth recorded up to November with respect to the September Report forecast. This adjustment considers the significant slowdown of economic activity, which translates into a lower forecast for income tax and domestic IGV collection. Likewise, it also considers the extraordinary revenue of 2023 from the transfer of Banco de la Nación funds to the Public Treasury made in November.

In 2024, current income is projected to increase by 4.5 percent in real terms to 20.3 percent of GDP. This evolution will respond to a greater extent than expected recovery

of economic activity and the growth of imports, which will translate into higher income tax, IGV and ISC excise tax collections. For its part, among non-tax revenues, higher revenues from social contributions are expected, because of greater job creation.

For 2024, the revenue projection is maintained with respect to the previous report as a percentage of GDP (20.3 percent); in 2025, it is estimated that revenues will reach 20.5 percent of GDP, influenced by higher commodity prices and a faster primary GDP, with a positive impact on income tax and IGV (Value Added Tax).

Table 26
CURRENT REVENUES OF THE GENERAL GOVERNMENT
(% GDP)

	2022	2023*			2024*		2025*
		November ^{1/}	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
TAX REVENUES	17.2	15.2	15.5	15.3	15.6	15.5	15.7
Income tax	7.4	6.3	6.5	6.3	6.3	6.3	6.4
Value Added Tax (VAT)	9.4	8.4	8.4	8.4	8.6	8.6	8.7
Excise tax	1.0	0.9	1.0	0.9	1.0	1.0	1.0
Import duties	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other tax revenues	1.9	1.8	1.9	1.8	1.9	1.8	1.8
Tax returns	-2.7	-2.4	-2.4	-2.4	-2.3	-2.4	-2.4
NON-TAX REVENUES	4.9	4.7	4.7	4.7	4.7	4.8	4.8
Contributions to social security	2.0	2.0	1.9	2.0	2.1	2.0	2.1
Own resources and transfers	1.4	0.8	1.3	1.5	1.4	1.4	1.5
Royalties and likely	1.0	0.7	0.9	0.7	0.8	0.8	0.8
Other	0.5	1.2	0.6	0.5	0.5	0.5	0.5
TOTAL	22.1	19.9	20.2	20.0	20.3	20.3	20.5

1 / Represents accumulated in the last 12 months as of November.

* Forecast.

IR: Inflation Report.

Non-financial expenditure

49. Non-financial expenditures are projected to record a real reduction of 5.3 percent in 2023, and as a percentage of GDP to 20.7 percent, 1.3 percentage points lower than in 2022. This decrease mainly reflects a reduction in COVID-19-related expenses, lower requirements to honor government credit guarantees, lower expenses accrued by the Fuel Price Stabilization Fund, and a statistical effect associated with the capital contribution to Petroperú in 2022. This evolution would be partially offset in part offset by higher spending under the *Con Punche Perú* and *Emergencia-FEN* programs, as well as higher payroll spending, in line with executed data.

Expenditure is expected to grow by 2.7 percent in real terms in 2024 -to 20.7 percent of GDP- similar to the figure projected for 2023. This real growth includes higher





current expenditures, especially in goods and services and salaries, in line with recent wage provisions; as well as greater gross capital formation, following the learning period for subnational authorities. By 2025, expenditures are expected to account for 20.5 percent of expenditure-side GDP, mainly current expenditures, as temporary measures adopted in previous years come to an end.

The current baseline scenario incorporates a slight downside revision on the non-financial expenditure ratios for 2023 and 2024, although these will remain above the level recorded before the pandemic (2015-2019 average of 20.2 percent of GDP). For 2023, the ratios are revised from 20.9 to 20.7 percent of GDP due to the revision on the downside of current expenditures, particularly on goods and services and transfers. For 2024, they are revised from 20.8 to 20.7 percent of GDP, due to a lower current expenditure forecast, as public finances consolidate and spending under *Con Punche Peru* programs ends.

Table 27
NON-FINANCIAL EXPENDITURE OF THE GENERAL GOVERNMENT
(% GDP)

	2022	2023*			2024*		2025*
		November ^{1/}	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
Current expenditure	15.9	15.6	15.6	15.4	15.4	15.3	15.0
National Government	10.6	10.1	10.1	9.9	10.4	10.1	9.9
Regional Governments	3.6	3.8	3.7	3.8	3.4	3.5	3.4
Local Governments	1.8	1.7	1.8	1.7	1.7	1.7	1.7
Capital expenditure	6.1	5.3	5.4	5.3	5.3	5.4	5.4
Gross capital formation	4.7	4.5	4.6	4.6	4.6	4.7	4.8
National Government	1.5	1.7	1.7	1.8	1.7	1.8	1.9
Regional Governments	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Local Governments	2.2	1.8	1.9	1.8	1.9	1.9	1.9
Other	1.4	0.8	0.7	0.7	0.7	0.7	0.7
TOTAL	22.0	20.9	20.9	20.7	20.8	20.7	20.5
National Government	13.4	12.5	12.5	12.4	12.7	12.5	12.4
Regional Governments	4.6	4.8	4.8	4.8	4.4	4.6	4.5
Local Governments	4.0	3.6	3.7	3.6	3.7	3.6	3.6

^{1/} Represents accumulated in the last 12 months as of November.

* Forecast.

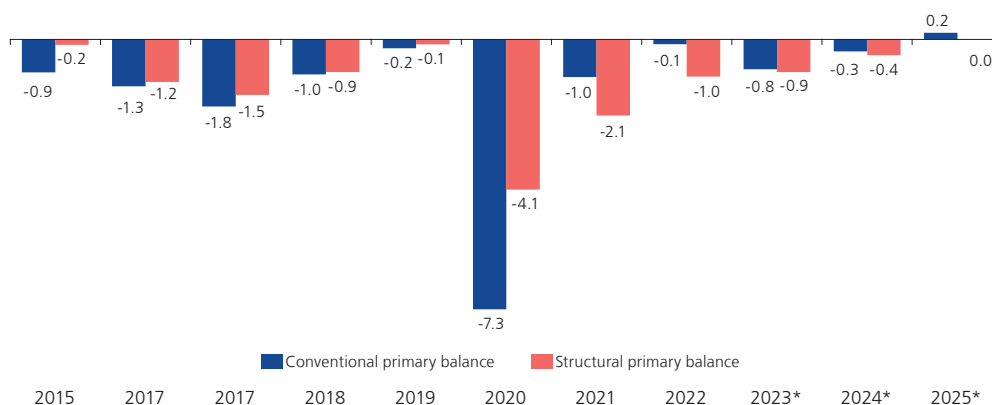
IR: Inflation Report.

Fiscal stance

50. The **structural primary outcome** excludes the effects on government revenues and expenditures of discretionary fiscal policy decisions and cyclical and transitory

components affecting the economy. The structural primary deficit is estimated to be 0.9 and 0.4 percent of potential GDP for 2023 and 2024, respectively, both higher than the estimated deficit of 0.1 percent for 2019. At the end of the projection horizon, a zero structural primary outcome is expected. The trend in the structural primary deficit indicates a steady decrease in the expansionary fiscal policy, which aligns with the closing of the production gap by the end of the projected period.

Graph 48
CONVENTIONAL AND STRUCTURAL PRIMARY BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2015-2025
 (% GDP and Trend GDP)



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

Financing and debt

- With respect to the September Report, the higher projection of **financing requirements** for 2023 is mainly due to the higher expected nominal fiscal deficit. As for the **sources of financing**, we foresee increased use of the public's deposits. Meanwhile, the forecasts for 2024 remain relatively constant with respect to the previous report.

Financing requirements would increase in 2023 compared to the previous year, due to the increase in domestic and external debt amortization linked to the Debt Management Operation in the second quarter, as well as the greater fiscal deficit.





Table 28
FINANCIAL REQUIREMENT AND FINANCING OF THE NON-FINANCIAL PUBLIC SECTOR
(Million Soles)

	2022	2023*			2024*		2025*
		Jan-Nov	IR Sep.23	IR Dec.23	IR Sep.23	IR Dec.23	IR Dec.23
I. USES	20,639	36,420	49,493	50,124	31,939	32,075	26,003
1. Amortization	4,680	24,759	25,285	25,344	10,375	10,482	8,796
a. External	3,893	9,380	9,876	9,912	3,746	3,856	8,099
b. Domestic	788	15,379	15,409	15,432	6,630	6,626	697
<i>Of which: recognition bond</i>	553	534	565	563	550	550	550
2. Economic balance 1/	15,959	11,661	24,209	24,780	21,564	21,593	17,207
II. SOURCES	20,639	36,420	49,493	50,124	31,939	32,075	26,003
1. Disbursements and others	14,974	34,008	45,209	36,907	31,017	32,664	26,676
a. External credits	7,066	6,045	10,851	8,345	9,017	10,664	8,676
b. Global and Sovereign bonds	7,908	27,962	34,358	28,562	22,000	22,000	18,000
2. Variation in deposits and others 2/	5,665	2,413	4,284	13,217	922	-589	-673

Note:

Percentage of GDP

Gross public debt balance	33.8	32.2	32.9	32.9	32.8	33.3	33.1
Net public debt balance	21.0	21.0	21.7	22.4	22.4	23.5	23.9
Balance of public deposits	12.8	11.2	11.2	10.4	10.4	9.8	9.2

1/ Negative sign indicates surplus.

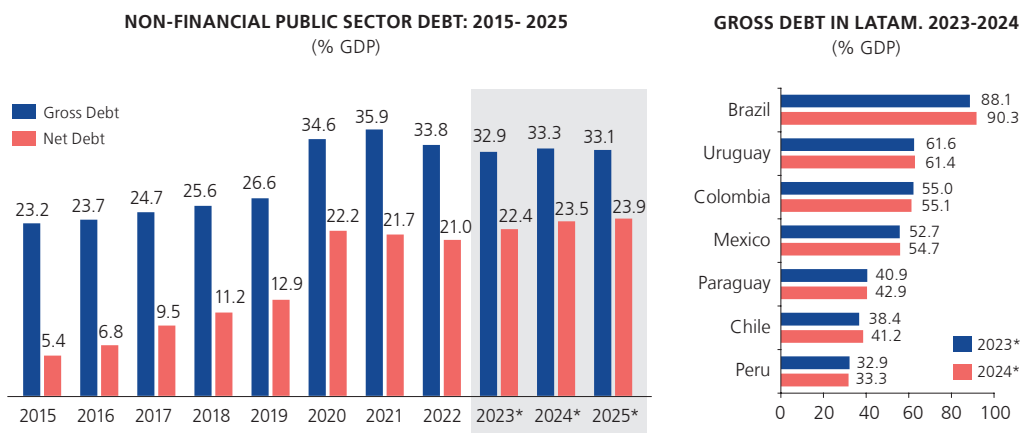
2/ Positive sign indicates reduction of deposits.

* Forecast.

IR: Inflation Report.

52. In line with the projected fiscal deficit trajectory, **debt** -net of non-financial Public Sector deposits- would increase from 21.0 to 22.4 percent of GDP between 2022 and 2023 and would stand at 23.9 percent of GDP by the end of the projection horizon. Non-Financial Public Sector **gross debt** is projected to drop from 33.8 to 32.9 percent of GDP between 2022 and 2023, eventually settling at 33.1 percent by the end of the projection horizon. Gross debt forecasts for 2023 and 2024 would be lower than the maximum required by the macro-fiscal debt rule of 38.0 percent of GDP, mandated by Law No. 31541.

Graph 49



* Forecast.

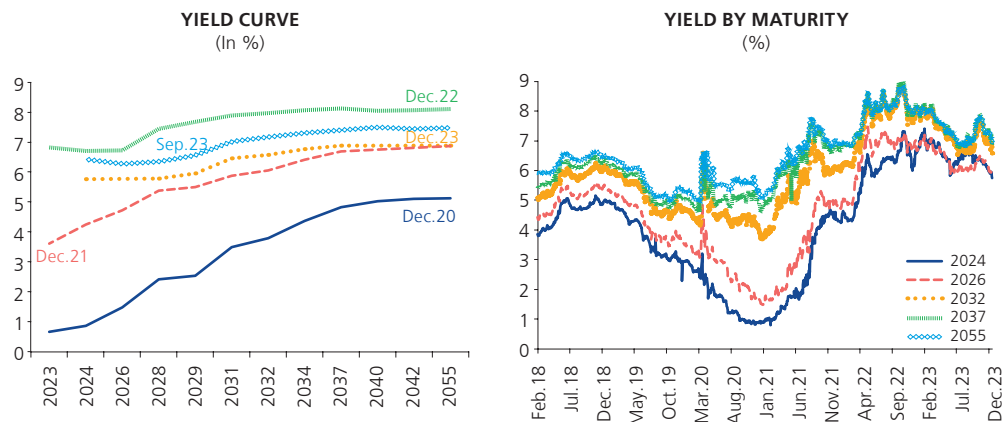
Source: BCRP and WEO (October 2023).

The difference between the projected increase in net debt to 2025 and the decrease in gross debt in that period is due to the expected management of public deposits,

which are projected to decrease as a percentage of GDP. The fiscal and debt forecasts show that a robust fiscal position would be maintained exhibiting one of the lowest public debt levels in the region.

- 53. The yield curve of the Public Treasury Bonds (BTP), with fixed interest rate in Sol (sovereign), fell 53 basis points on average between September and December 2023.

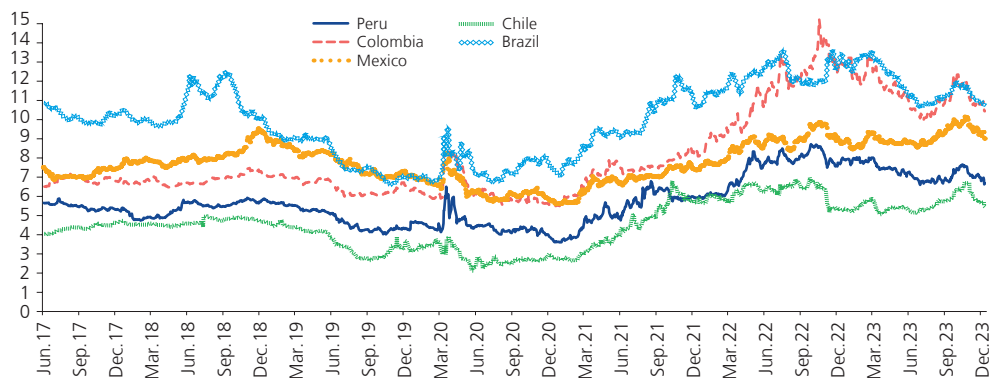
Graph 50



* As of December 15.
Source: MEF.

In the period under review, a reduction in 10-year local currency government bond yields was observed in most countries in the region. Specifically, Colombian and Brazilian bonds experienced the largest reductions, by 142 and 82 basis points, respectively. Chilean and Mexican bonds fell by 85 and 82 basis points, respectively. In Peru, the yield rate fell from 7.23 to 6.68 percent between September 30 and December 15.

Graph 51
10 YEAR SOVEREIGN BOND YIELDS IN DOMESTIC CURRENCY (%)



* As of December 15.
Source: MEF y Reuters.

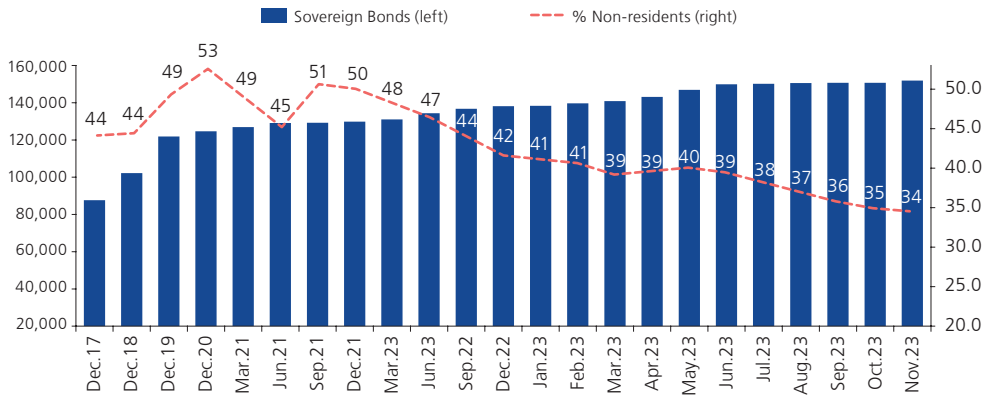




Yields on global dollar bonds have experienced a decline in all tranches of the yield curve so far in the fourth quarter. In particular, the Peruvian 10-year bond declined from 6.29 percent to 5.50 percent over a similar horizon, while the U.S. bond yield declined from 4.57 percent to 3.93 percent.

The balance of sovereign bonds, as of November 30, stood at S/ 151.6 billion, or S/ 1.2 billion higher than the balance as of September 30. In the fourth quarter, non-resident investors are the main bond bidders, while banks stand out on the demand side. The share of non-resident investors has continued to slip, standing at 34.2 percent of total bonds as of November 30.

Graph 52
SOVEREIGN BOND BALANCE AND PARTICIPATION OF NON-RESIDENT INVESTORS
(Amounts in millions of soles and participation in %)



Note: As of February 2021, excludes inflation-linked bonds, Global Depository Notes (GDN) and Euroclear transactions of non-residents. As of March 2021, nominal sovereign bonds and VAC are included and GDN are excluded.
* Preliminary data as of November 30.
Source: BCRP, CAVALI, MEF, and SBS.

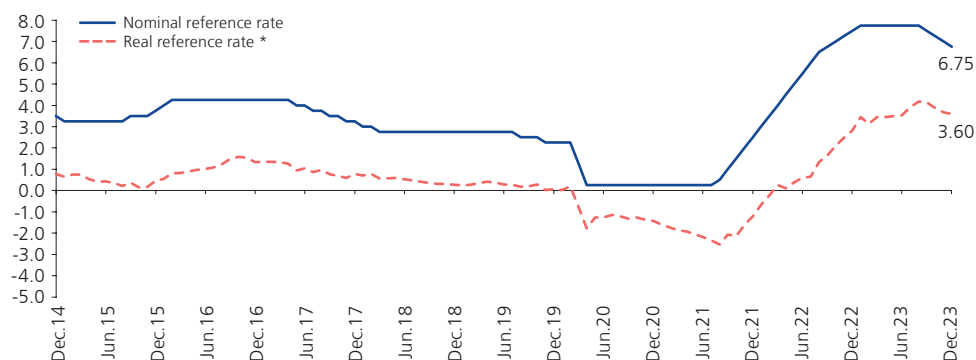
V. Monetary policy and financial conditions

Monetary policy actions

54. In September and December 2023, the Board of Directors of BCRP decided to cut the benchmark rate by 25 basis points each time, thus bringing the benchmark rate down from 7.75 to 6.75 percent. The communication of these decisions emphasized that this does not necessarily imply a cycle of successive interest rate reductions. It was also pointed out that future adjustments in the benchmark rate will be conditioned to new information on inflation and its determinants.

Previously, starting in August 2012 the Board of Directors of BCRP had raised the benchmark rate to finally reach 7.75 percent in January 2023, in response to the significant increase in global inflation since 2021. It kept this rate unchanged between February and August. Finally, between September and December, the benchmark rate accumulated a cut of 100 basis points.

Graph 53
REFERENCE INTEREST RATE
(%)



* With expectation on inflation.
Source: BCRP.

55. Monetary policy decisions between October and December 2023 took into consideration that:



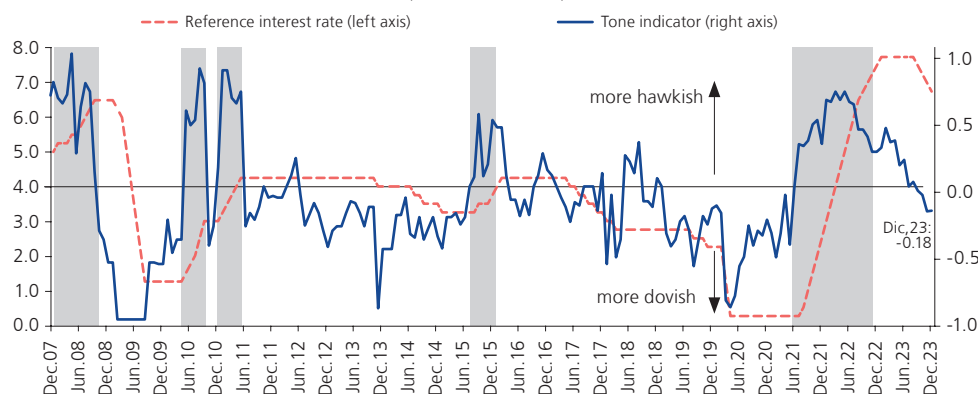


- Between September and November 2023, the twelve-month inflation rate slipped from 5.04 percent to 3.64 percent and the twelve-month non-food and energy inflation rate decreased from 3.61 percent to 3.09 percent. Both indicators have been declining since the beginning of 2023, but remain above the upper limit of the target range (between 1 and 3 percent).
- After their significant increase since the second half of 2021, most countries' inflation rates have been on a downward trend along the year. In Peru, a more marked downward trend has been observed since June, as some of the transitory effects on inflation due to restrictions in the supply of certain foods dissipate.
- Year-on-year inflation is projected to reach the target range within the next few months, and year-on-year inflation excluding food and energy is projected to be within the target range by the end of 2023. This would be explained by the moderation of the effect of international prices of several items, the reversal of supply shocks in the agricultural sector and the projected reduction in inflation expectations. However, there are risks associated with climatic factors, mainly from the El Niño oscillation.
- Between September and November 2023, twelve-month inflation expectations decreased from 3.38 to 3.15 percent, but remained above the upper limit of the inflation target range.
- The leading indicators and economic predictions for November exhibit a combination of positive and negative outcomes, while the majority still lean towards a pessimistic outlook. The social disputes and coastal El Niño have had a more significant impact than anticipated, resulting in disruptions to economic activity and domestic demand.
- The forecast for global economic growth indicates a slowdown amidst reduced inflationary pressures. Furthermore, there is a persistent global risk stemming from the repercussions of international wars and the deceleration of economic growth in China.

BCRP has introduced the necessary monetary policy stance adjustments to ensure that inflation expectations return to the target range within a reasonable timeframe, in response to the significant increase in global inflation that occurred mainly between 2021 and 2022, particularly due to higher international food and energy prices. In the absence of a timely response, the central bank would have had to adopt a tighter monetary policy to regain credibility with respect to inflation control. In such a scenario, the increases in the benchmark rate necessary to control inflation would have been larger and, consequently, the potential impact on economic activity would have been greater.

56. With respect to the tone and communication signals of monetary policy, the tone indicator used by the BCRP in November and December was at its lowest levels of all 2023. Since September 2023, this index is consistent with a dovish monetary policy stance.

Graph 54
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

57. BCRP operations were aimed at ensuring adequate liquidity in the interbank market. To this end, between September 1 and November 30, 2023, BCRP sterilized net liquidity for S/ 4,802 million, which includes the net maturity of Securities Repos (S/ 4,686 million), the amortization of the Government-Secured Repo Portfolio (S/ 1,634 million), the net placement of BCRP CDRs (S/ 1,548 million), the net placement of BCRP CDRs (S/ 1,548 million), the net maturity of Currency Repos (S/ 1,435 million), the net maturity of auctions of Public Treasury term deposits (S/ 307 million) and the maturity of Portfolio Repo (S/ 20 million). These operations were partially offset by the net maturity of Term and Overnight Deposits (S/ 2,421 million), the settlement of Public Treasury Bond purchases (S/ 1,761 million) and the net maturity of BCRP CDs (S/ 645 million).

As a result of the above, the total balance of injection operations was S/ 32,431 million as of November 30, 2023, while the balance of BCRP Certificates of Deposit (BCRP CD, BCRP CDV and BCRP CDR) was S/ 35,040 million as of the same date. For its part, the balances of auctions of Public Treasury term deposits and the settlement of purchases of Public Treasury Bonds were S/ 6,538 million and S/ 10,095 million at the end of November, respectively. All these operations contribute to maintaining

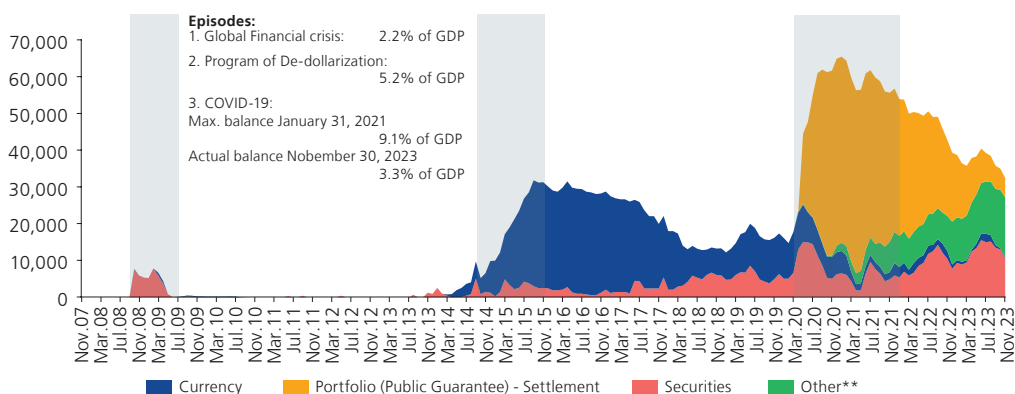




an adequate level of structural liquidity, which leads to the interbank interest rate remaining above its reference level.

In terms of nominal GDP, at the end of November, the balance of liquidity injection operations was equivalent to 3.3 percent of GDP, of which S/ 5,285 million corresponded to government-secured repos of credit repos guaranteed by the national government.

Graph 55
BALANCE OF MONETARY INJECTION OPERATIONS OF BCRP
(In mill. S/)



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.
As of November 30, 2023.
Source: BCRP.

For monetary regulation purposes, BCRP purchased Public Treasury Bonds (BTP) in the secondary market with maturities up to 2040 since March 2023. Thus, the accumulated increase in the year, as of December 21, of the holdings of securities issued by the Public Treasury in the secondary market, valued at their acquisition price, amounted to S/ 4,456 million. This amount considers BTP purchases in the secondary market (S/ 5,262 million) minus the liquidation of global bonds last June (S/ 806 million). The maximum amount for the annual increase in holdings of these securities is set forth in Article 61 of the BCRP's Organic Law at S/ 4,650 million, or 5 percent of the monetary base at the end of the previous year.

- 58. As for the Central Bank's Balance Sheet, a slight change in both its size and composition is observed. On the one hand, the balance of repo operations decreased from 9.9 to 7.4 percent of the BCRP's net assets between August and November 2023. On the other, the share of public sector deposits in BCRP's net liabilities decreased from 27.3 percent in August 2023 to 25.6 percent as of November, while that of financial system deposits rose from 21.4 percent to 22.1 percent in the same period. Finally, BCRP sterilization instruments (BCRP CDs, BCRP CDVs, BCRP CDRs, and term and overnight deposits) reduced their share of BCRP net liabilities from 13.9 percent in August 2023 to 13.5 percent in November 2023; currency in circulation, likewise, increased its share slightly from 24.0 percent to 24.1 percent between the end of August and November 2023.

Table 29
SIMPLIFIED BALANCE SHEET OF THE BCRP
 (As % of Net Assets)

	Dec.21	Dec.22	Aug.23	Nov.23
I. Net assets	100%	100%	100%	100%
Net International Reserves	84.6%	87.5%	87.3%	89.2%
	(USD 78,495 mills.)	(USD 71,883 mills.)	(USD 71,853 mills.)	(USD 71,751 mills.)
Repos	14.8%	10.8%	9.9%	7.4%
Sovereign bonds	0.6%	1.7%	2.7%	3.4%
II. Net liabilities	100%	100%	100%	100%
1. Total public sector deposits	26.0 %	28.5%	27.3%	25.6%
In domestic currency	23.9%	24.9%	21.6%	20.2%
In foreign currency	2.1%	3.6%	5.7%	5.4%
2. Total financial system deposits	22.2%	22.0%	21.4%	22.1%
In domestic currency	3.9%	4.3%	4.1%	4.6%
In foreign currency	18.4%	17.7%	17.3%	17.5%
3. BCRP instruments	11.8%	9.6%	13.9%	13.5%
CD BCRP	3.9%	4.0%	11.2%	11.0%
CDR BCRP	0.4%	0.0%	0.1%	0.6%
CDV BCRP	3.4%	4.2%	0.0%	0.0%
Term deposits	3.2%	1.1%	2.2%	1.5%
Overnight deposits	0.9%	0.4%	0.4%	0.3%
4. Currency	22.6%	25.5%	24.0%	24.1%
5. Other*	17.4%	14.4%	13.6%	14.7%

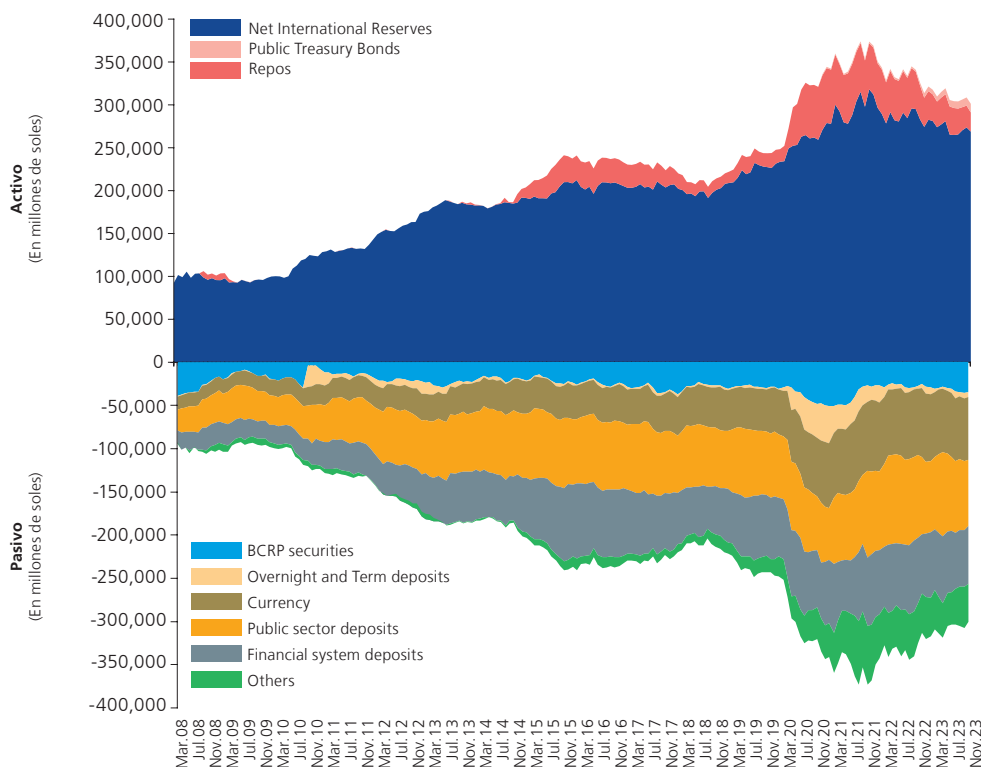
* Includes assets and other accounts.

** Information as of 30 November, 2023

Source: BCRP.

As a result, in November 2023 BCRP's assets will amount to S/ 300,781 million, equivalent to 30.4 percent of GDP, lower than at the end of 2022 (33.3 percent).

Graph 56
EVOLUTION OF THE BCRP BALANCE SHEET: 2008 - 2023



Source: BCRP.





Financial markets

59. Domestic currency interest rates decreased in the fourth quarter of 2023, in line with the reduction of the BCRP benchmark rate from 7.50 percent in September to 6.75 percent in December. Lower credit risk credit segments, and banks' term deposits over 30 days, reflected the easing of monetary conditions in Sol to a greater extent.

Table 30
INTEREST RATE IN DOMESTIC CURRENCY 1/
(%)

	Dec.19	Dec.20	Dec.21	Dec.22	Jun.23	Sep.23	Dec.23	Hist. Avg. ^{2/}
Passive								
90-day corporate prime	2.8	0.2	2.6	8.1	8.2	7.6	6.9	3.8
TIPMN	2.3	1.0	1.1	3.0	3.9	4.0	3.6	2.3
FTIPMN	1.5	0.1	1.0	3.7	3.7	3.6	3.3	2.3
Deposits up to 30-day	2.3	0.0	1.9	7.4	7.8	7.4	6.8	3.5
Individuals	1.6	0.2	0.7	3.7	3.3	2.8	2.8	2.4
Business	2.3	0.0	1.9	7.4	7.8	7.4	6.8	3.5
On 31 to 90-day term deposits	2.7	0.2	2.2	7.5	8.1	7.7	6.8	3.7
Individuals	1.8	0.5	0.8	3.7	5.4	7.1	6.1	2.1
Business	2.8	0.2	2.2	7.8	8.3	7.9	7.0	3.8
On 91 to 180-day term deposits	3.0	0.4	2.4	7.6	8.1	7.5	6.5	3.8
Individuals	2.3	0.5	0.9	4.8	7.2	7.2	6.1	2.7
Business	3.1	0.3	2.6	8.5	8.8	7.9	7.1	4.1
On 181 to 360-day term deposits	3.3	0.7	2.9	7.6	7.7	7.1	5.8	4.1
Individuals	3.3	1.3	2.9	6.9	7.3	6.2	5.1	3.8
Business	3.3	0.4	2.9	7.8	7.9	7.7	6.2	4.2
CTS	2.2	1.9	2.3	2.6	2.6	2.5	2.3	3.1
Active								
90-day corporate prime	3.3	0.7	3.1	9.2	9.3	8.6	7.7	4.6
TAMN	14.4	12.1	11.2	14.5	15.7	16.0	15.9	15.7
FTAMN	18.2	17.6	20.9	28.3	28.9	28.7	29.2	21.1
Corporates	3.8	2.5	3.2	8.9	9.1	8.7	8.2	5.3
Large companies	6.0	4.6	5.7	10.6	10.6	10.6	10.2	6.9
Medium-sized enterprises	9.3	6.1	8.8	14.1	14.5	14.0	13.5	10.3
Small business	18.0	17.2	19.3	22.5	22.8	22.5	22.7	20.3
Micro business	31.3	30.1	32.3	36.3	37.9	38.3	37.7	32.8
Micro business 3/	44.5	22.6	38.8	39.3	42.0	42.7	44.2	40.1
Consumer	40.9	39.5	41.8	49.6	52.3	54.5	56.3	42.6
Consumer 3/	43.1	41.5	40.4	47.7	50.4	52.7	54.0	44.9
Mortgage	7.0	6.4	6.9	9.9	9.6	9.2	9.1	8.4

1/ Rates in annual terms of banks' transactions in the last 30 days.

2/ Average since September 2010. In the case of consumer credit, it is the average since October 2019.

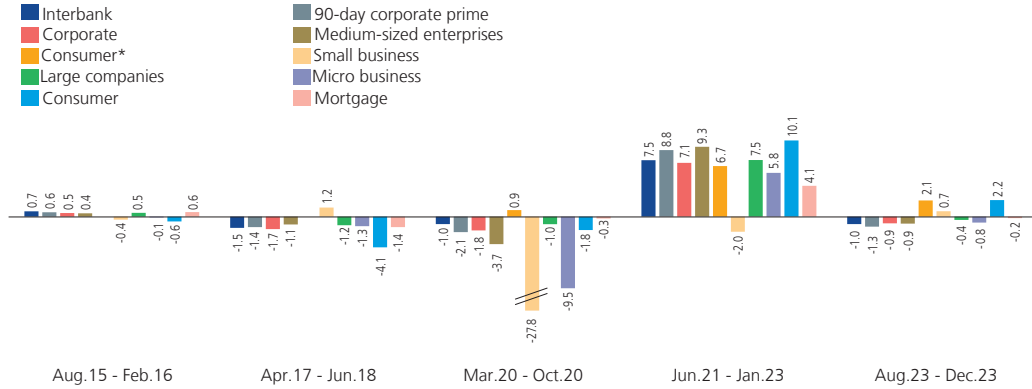
3/ Corresponds to the average of the financial system.

As of December 15.

Source: BCRP and SBS.

Lending and deposit prime interest rates, which are highly representative of the market and the financial conditions of banks, and which absorb changes in the benchmark rate more quickly, decreased in the fourth quarter of 2023. Thus, between September and December, lending and deposit interest rates for *overnight* and twelve-month terms accumulated average reductions of 73 and 54 basis points, respectively. By maturity, the three-month (93 basis points) and twelve-month (90 basis points) lending rates experienced the largest reductions this quarter. Spreads between the 3, 6 and 12-month prime lending rate and the reference rate remain below pre-pandemic levels.

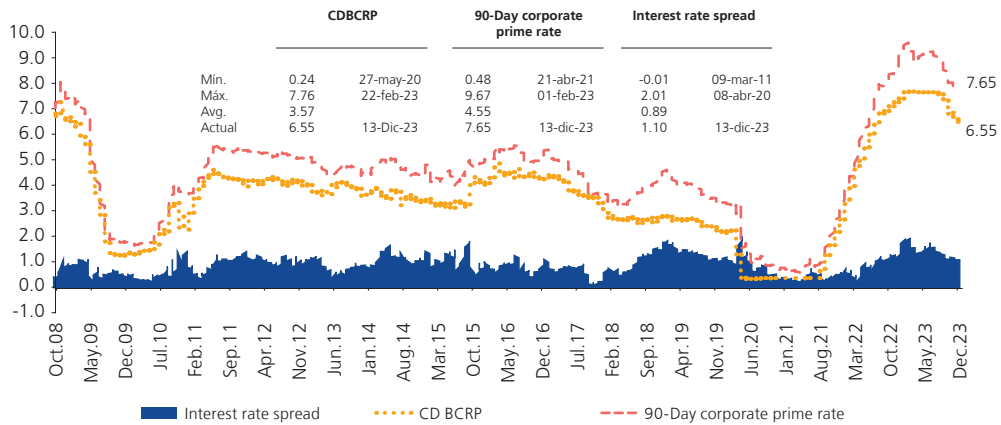
Graph 57
VARIATION OF SOL INTEREST RATES
 (In basis points)



* Financial system average
 As of December 15.
 Source: BCRP and SBS.

The spread between the corporate prime lending rate and 3-month BCRP CDs in December (1.10 percent) has come down from its peak in the last two years (1.93 percent in February 2023) leading BCRP to engage in ongoing operations through longer maturity BCRP CD issues and repo placements.

Graph 58
90-DAY CORPORATE PRIME INTEREST RATE AND 3-MONTHS CD-BCRP
 (%)



* As of December 15.
 Source: BCRP and SBS.

By credit segment, the interest rates of most segments decreased between September and December 2023. The micro, medium and corporate segments at banks show the largest interest rates cuts (67, 49 and 49 basis points, respectively). On the other hand,



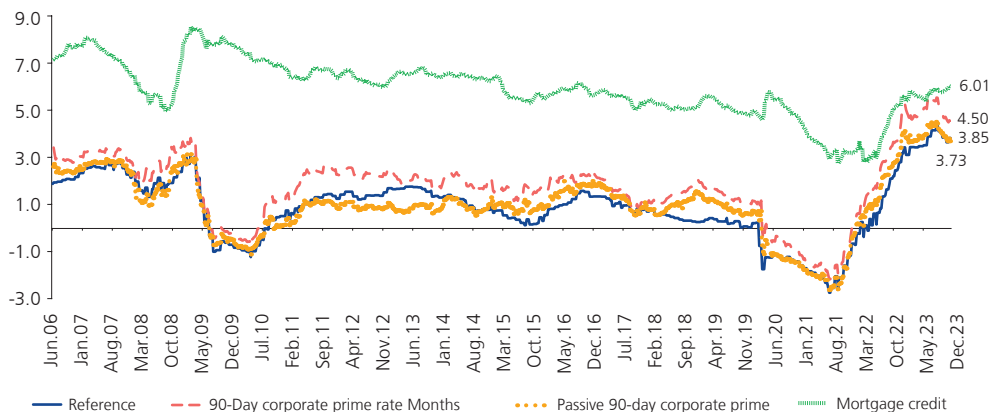


the consumer and microenterprise segments of the financial system experienced the largest interest rate hikes (141 and 126 basis points, respectively) due to the more non-performing loans in these segments and higher maximum interest rates applicable as of November 1 (from 82.94 to 101.86 percent). Over the same horizon, the mortgage sector interest rate decreased from 9.2 to 9.1 percent, respectively, while the yield rate of the 10-year sovereign bond decreased from 7.2 percent in September to 6.7 percent in December, in line with the lower yield rate of the U.S. 10-year bond (64 basis points).

As for passive interest rates for banks, all decreased in the fourth quarter of 2023, mainly corporate rates. By type of depositor, interest rates paid to individuals and companies decreased by an average of 82 and 92 basis points, respectively. Corporate prime rates for terms between overnight and twelve months decreased by an average of 54 basis points.

Real interest rates in domestic currency recorded lower levels in the fourth quarter of 2023, in line with lower inflation expectations and nominal interest rates. Thus, between September and December 2023, the reference rate in real terms decreased by 29 basis points, while the 90-day prime lending and deposit rates fell by 72 and 49 basis points, respectively.

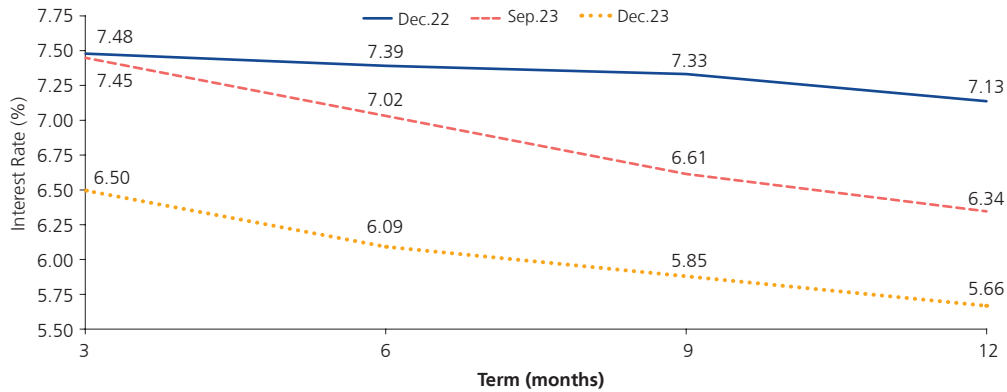
Graph 59
REAL EX-ANTE INTEREST RATE IN SOLES (%)



As of December 15. Nominal interest rates are deflated using inflation expectations.
Source: BCRP and SBS.

- 60. Yield rates on the Certificates of Deposit (CD-BCRP) curve decreased in the fourth quarter of 2023, incorporating the 75 basis point reduction in the benchmark rate. The yield curve maintains an inverted shape, reflecting the market's expectation of expected movements in the benchmark rate in coming months. Thus, interest rates between September and December 2023 have decreased by 95, 93, 76 and 68 basis points at the 3-, 6-, 9- and 12-month terms, respectively.

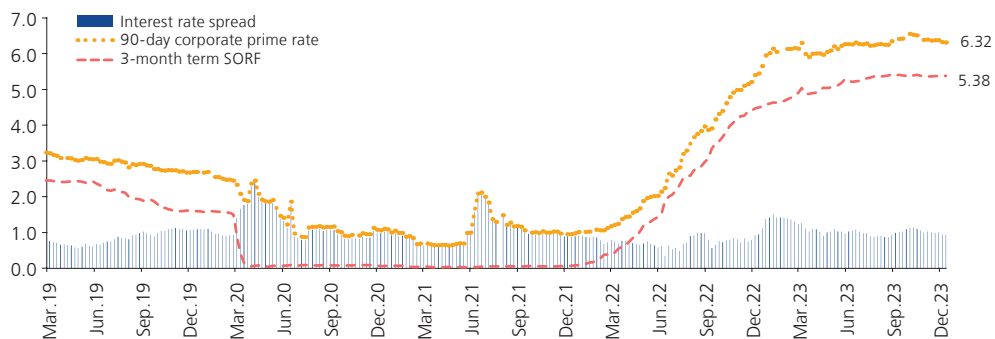
Graph 60
YIELD CURVE OF CD-BCRP SECURITIES ^{1/}
(%)



^{1/} Yield rate of the primary and secondary market of BCRP CDs.
As of December 15.
Source: BCRP.

61. In the dollar money market, local market interest rates continue to be influenced by tight financial conditions in the United States. The average *overnight* interbank interest rate remained at 5.50 percent in the fourth quarter of 2023, in line with the pause in the pace of increases in the Federal Funds Rate. Prime lending and deposit rates at 1-month increased by 4 and 1 basis point, respectively; while at the 3- and 6-month terms, rates declined by an average of 14 and 10 basis points, respectively; the 3-month Term SOFR decreased by 3 basis points. The spread between the prime lending rate and the 3-month Term SOFR rate decreased from 110 basis points in September to 93 basis points in December.

Graph 61
INTEREST RATE IN DOLLARS: CORPORATE PRIME LENDING AND 3-MONTH CME TERM-SOFR
(%)



As of December 15.
Source: Chicago Mercantile Exchange, BCRP.

In the credit market, in the fourth quarter of 2023 the higher cost of financing in the foreign market has been transferred to most segments, mainly to those with





higher credit risk. The interest rate on mortgage credit increased from 7.9 percent in September to 8.2 percent in December, while the yield on the 10-year global bond decreased from 6.1 percent to 5.1 percent over the same horizon.

Most dollar deposit rates for individuals and banks also decreased in the fourth quarter of 2023. Interest rates for individuals increased by 30 basis points for terms between 31 and 90 days, while for the rest of the terms, rates decreased by an average of 40 basis points; for companies, lower interest rates were observed for terms between 31 and 90 days (-10 basis points) and between 181 and 360 days (-19 basis points). This behavior could respond to the market's expectation of a reduction a lower monetary policy rate in the United States in the first half of 2024. The CTS deposit interest rate decreased from 1.11 percent in September to 0.90 percent in December.

Table 31
INTEREST RATE IN FOREIGN CURRENCY 1/
(%)

	Dec.19	Dec.20	Dec.21	Dec.22	Jun.23	Sep.23	Dec.23	Hist. Avg. ^{2/}
Passive								
90-day corporate prime	1.6	0.2	0.3	4.7	5.1	5.4	5.3	1.3
TIPMEX	0.8	0.3	0.2	1.2	1.7	1.9	1.9	0.6
FTIPMEX	1.2	0.1	0.1	2.3	3.1	3.1	3.3	0.8
Deposits up to 30-day	1.4	0.1	0.1	3.6	4.6	4.8	5.1	1.0
Individuals	1.3	0.0	0.1	1.1	2.3	3.3	3.1	0.7
Business	1.4	0.1	0.1	3.6	4.6	4.9	5.1	1.0
On 31 to 90-day term deposits	1.5	0.3	0.2	3.3	4.6	4.9	4.7	1.3
Individuals	1.0	0.2	0.2	1.7	2.9	3.5	3.8	0.8
Business	1.6	0.3	0.2	3.4	4.8	5.2	5.1	1.3
On 91 to 180-day term deposits	1.3	0.3	0.5	3.4	4.4	4.2	3.8	1.2
Individuals	1.0	0.2	0.3	2.1	4.0	3.8	3.3	0.9
Business	1.6	0.3	0.6	4.6	5.0	5.0	5.3	1.4
On 181 to 360-day term deposits	1.4	0.3	0.6	3.8	4.3	4.3	3.7	1.3
Individuals	1.2	0.3	0.4	3.2	4.3	3.4	2.8	1.2
Business	1.8	0.3	0.7	4.9	5.0	5.7	5.5	1.5
CTS	1.3	1.0	0.9	1.1	1.0	1.1	0.9	1.5
Active								
90-day corporate prime	2.7	1.0	1.0	6.0	6.3	6.5	6.3	2.3
TAMEX	7.6	6.1	6.7	9.3	10.4	10.8	11.1	7.8
FTAMEX	7.1	6.3	7.6	10.9	12.7	13.0	13.5	8.0
Corporates	3.2	2.0	2.1	6.1	7.1	7.6	7.3	3.3
Large companies	5.5	4.5	5.7	7.8	8.5	8.8	8.8	6.8
Medium-sized enterprises	6.6	5.9	5.9	8.8	10.2	10.2	9.9	7.9
Small business	8.8	5.3	10.3	12.2	12.5	13.3	12.8	11.6
Micro business	11.0	8.5	7.4	12.7	13.4	19.0	15.8	16.2
Micro business 3/	7.7	4.8	17.1	9.4	11.9	11.9	16.5	13.2
Consumer	36.1	35.1	33.4	41.0	41.2	42.5	45.9	31.5
Consumer 3/	35.3	33.5	33.9	37.1	40.8	41.5	44.0	36.3
Mortgage	5.6	5.4	5.0	8.3	8.10	7.9	8.2	7.0

1/Rates in annual terms of banks' transactions in the last 30 days.

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 December 15.

Source: BCRP and SBS.

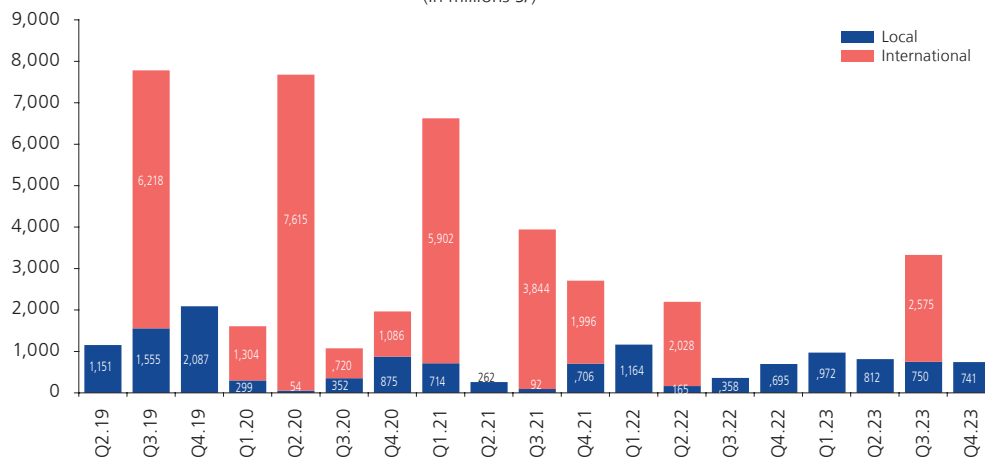
Fixed income market

62. In the fourth quarter of 2023, the issuance of Peruvian corporate securities in the capital markets was less active compared to the prior quarter of 2023. The decrease in private sector bond placements in both local and foreign markets can be attributed to several factors. Firstly, issuers are facing higher costs of borrowing due to the current restrictive monetary policy conditions worldwide. Secondly, the global economic growth rates are expected to remain low, which negatively impacts the demand for

risky securities in auctions. Thirdly, the relatively high yield rates of US government bonds make them more appealing compared to domestic bonds. Fourthly, poor business confidence further discourages bond placements. Lastly, the effects of pension fund withdrawals have led to a reduced demand for long-term securities in the local capital market.

In the local market, a total of S/ 741 million was placed through public offerings so far in the fourth quarter of 2023, below the level of the third quarter of 2023 (S/ 750 million), and similar to the quarterly average between 2019 and 2022 (S/ 740 million). Two companies placed bonds (S/ 872 million and USD 450 million) in the international market, so far this year. In addition, non-resident entities have issued sol-denominated securities worth S/ 219 million soles in the fourth quarter of 2023, which is below the total sold in the third quarter of 2023 (S/ 535 million), and below the quarterly average between the years 2019 and 2022 (S/ 543 million).

Graph 62
PRIVATE SECTOR BOND PLACEMENTS
(In millions S/)



As of December 15.
Source: Reuters and SMV.

- 63. The value of portfolios managed by institutional investors recovered slightly in the fourth quarter of 2023.

In the case of AFPs, the investment portfolio increased from S/ 105.9 billion to S/ 119 billion between December 30, 2022 and December 8, 2023, on a continuous recovery path after significant withdrawals by contributors due to Law No. 31478 ("Law allowing the exceptional withdrawal of private pension funds in the context of the COVID-19 pandemic in 2022") and other previous regulations that are estimated to have caused extraordinary withdrawals of up to S/ 88.0 billion (9.4 percent of GDP) between 2020 and 2022.

Mutual funds' assets under management increased from S/ 28.1 billion in December 2022 to S/ 31.7 billion in November 2023. The number of participants rose slightly from 341.2 to 343.3 thousand in the same period. Insurance companies' portfolio under management rose from S/ 58.0 billion to S/ 61.9 billion between December 2022 and October 2023.





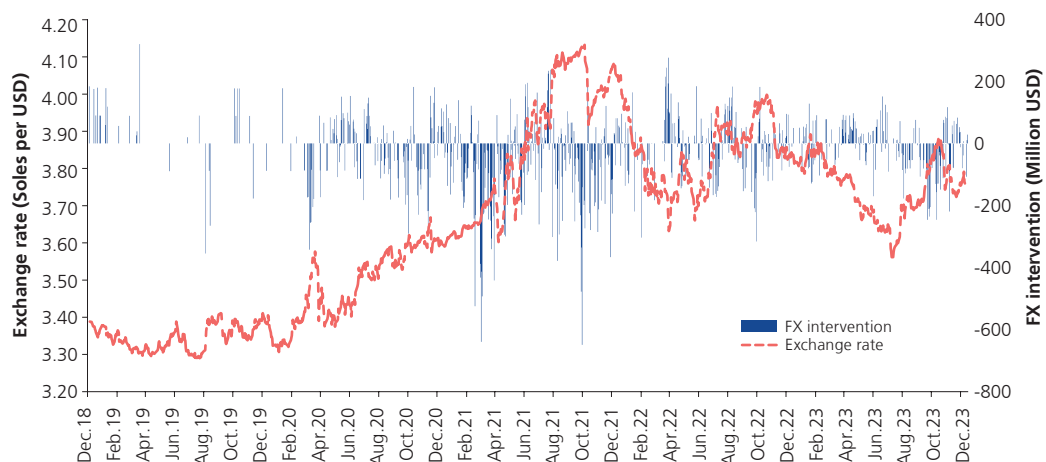
Foreign exchange market

64. The exchange rate decreased from S/ 3.785 per dollar on September 30 to S/ 3.760 per dollar on December 15. The quarterly appreciation of the Sol (0.7 percent) occurs in an environment of high sensitivity to risk sentiment and international dollar swings. The increase in U.S. Treasury bond yields to a 16-year high influenced the negative performance during October 2023 (1.5 percent depreciation of the Sol and 0.5 percent strengthening of the dollar). At the local level, the greater demand for dollars, the beginning of the easing of the benchmark rate, and with it the reduction in the monetary policy rate differential, and the weakness in activity indicators, also partly explain the recent upward trend in the Peruvian PEN exchange rate. On October 20, 2023, the exchange rate reached its highest level (S/ 3.881 per dollar) in the last nine months (S/ 3.892 per dollar on January 25, 2023).

In November, the Sol experienced a significant increase of 2.63 percent, marking the highest monthly appreciation since November 2022 (3.26 percent). This positive trend was driven by favorable conditions for risky investments, which were influenced by the release of US employment data. The data further supported the belief that the Federal Reserve will maintain stable monetary policy rates until the end of the year. As of December 15th, the Sol decreased in value by 0.6 percent, while the dollar index fell by 0.9 percent. This was a result of the Federal Reserve adopting a more dovish communication tone in December 2023.

Amidst the current scenario of heightened fluctuations in exchange rates, the interventions carried out by the BCRP in the foreign currency market aimed to mitigate the impact of exchange rate pressures. During the fourth quarter, there was ongoing uncertainty in the financial markets, resulting in a significant fluctuation in the demand for high-risk investments.

Graph 63
EXCHANGE RATE AND FX INTERVENTION 1/

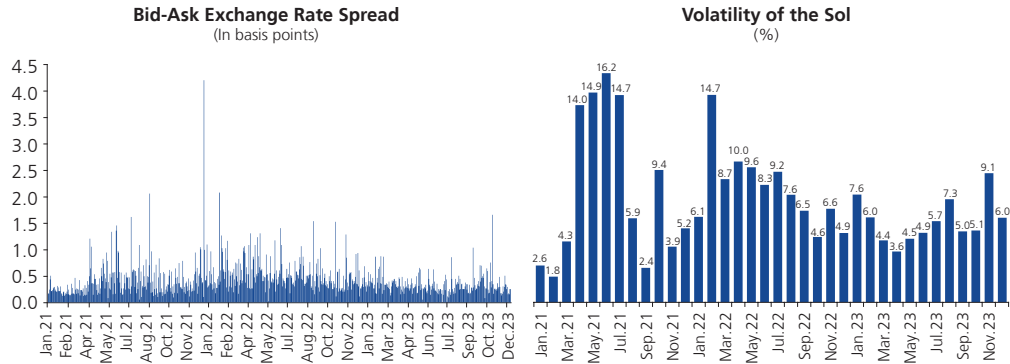


1/ Includes Net purchases of USD in the spot market and placement of CDLD BCRP, CDR BCRP, and FX swaps.
As of December 15.
Source: BCRP.

On average, the Peruvian Sol turned more volatile in the fourth quarter, particularly in November, with respect to the first, second and third quarters. This higher volatility

was also reflected in the exchange rate *bid-ask* spreads, which fluctuated between 0.08 and 1.65 basis points between October and December 2023, above the third quarter range (0.00 and 1.03 basis points).

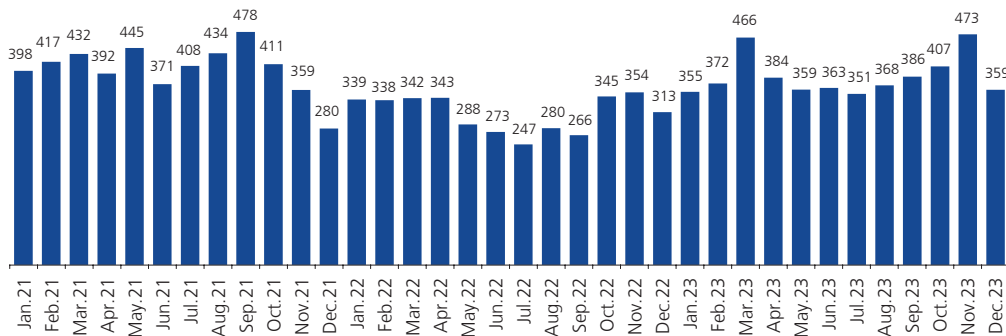
Graph 64
SPREAD AND VOLATILITY OF THE EXCHANGE RATE



Monthly annualized daily standard deviation.
As of December 15.
Source: Reuters and BCRP.

Average daily trading in the interbank *spot* exchange market so far in the fourth quarter (USD 413 million) is higher than in the first, second and third quarters (USD 398 million, USD 369 million and USD 368 million, respectively).

Graph 65
AVERAGE AMOUNT TRADED IN THE INTERBANK SPOT MARKET
(Million USD)



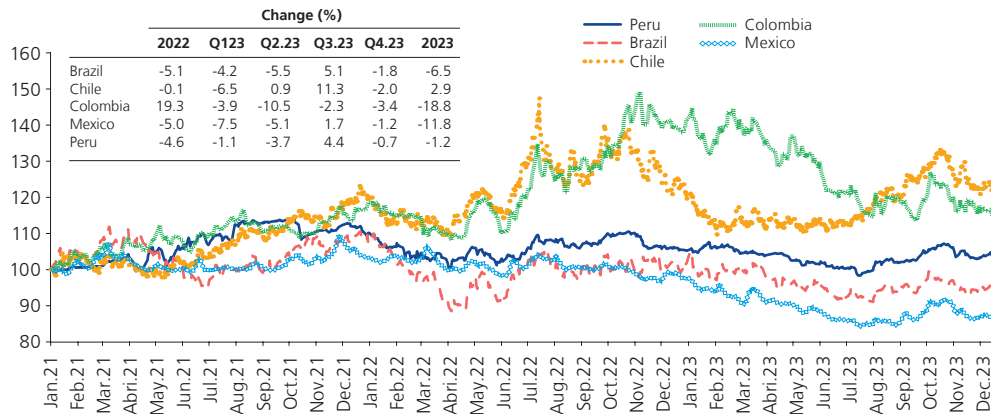
As of December 15.
Source: BCRP.

Region-wide, during the fourth quarter, the Sol experienced the lowest volatility (7.1 percent), and was below the regional average (13.1 percent). The Sol's stability is associated with the solid macroeconomic fundamentals of the Peruvian economy, as well as economic agents' moderation in expectations of depreciation of the local currency against the U.S. dollar.



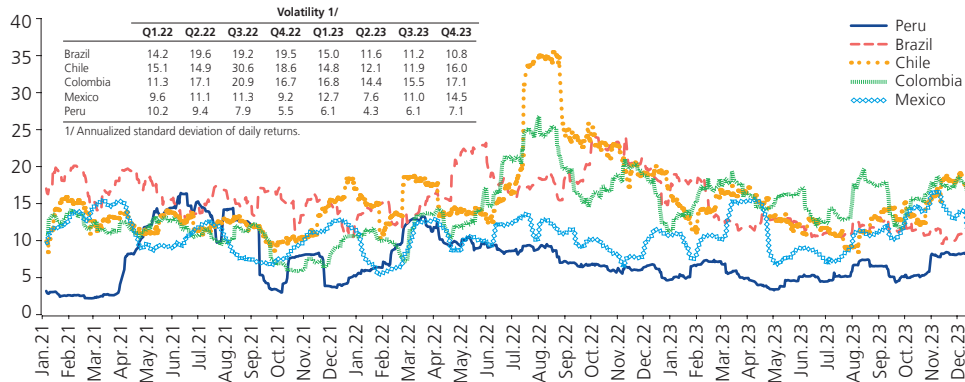


Graph 66
EXCHANGE RATE INDEX 1/
(31 Dec 2020=100)



1/ An increase in index indicates currency depreciation.
As of December 15.
Source: BCRP and Reuters.

Graph 67
EXCHANGE RATE VOLATILITY *



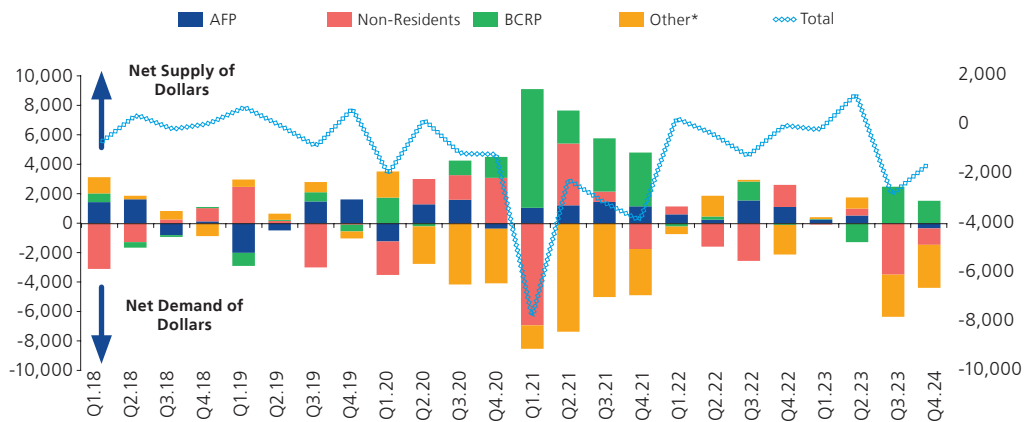
*Standard deviation of the annualized daily return over the last 30 days.
As of December 15.
Source: Reuters.

65. Exchange flows from market participants in the fourth quarter of 2023, as of December 15, reflect net dollar demand (USD 1,586 million) lower than in the third quarter (USD 2,829 million). The spot market's net dollar demand reached USD 228 million, mainly driven by the corporate sector. The derivatives market's net demand (USD 1,358 million) originated in AFPs and non-resident investors.

Non-resident investors decreased their net demand for dollars in the fourth quarter. In the spot market, they demanded USD 393 million, mainly in October (USD 410 million), below the third quarter's net demand (USD 851 million). Derivatives market's net demand in the fourth quarter totaled USD 713 million, below the net demand in the third quarter (USD 2,628 million). Between September 30 and December 15, foreign investors' net sales reached S/. 1,281 million

worth of government treasury bonds (BTP), below third quarter sales (S/. 5,241 million).

Graph 68
FLows TO THE FOREIGN EXCHANGE MARKET: (SPOT AND DERIVATIVES)
 (Million USD)



	2021	Q1.22	Q2.22	Q3.22	Q4.22	2022	Q1.23	Q2.23	Q3.23	Q4.23	2023
Spot	-6,892	-1,482	2,017	2,816	-2,071	1,281	104	1,448	-1,157	-228	168
Derivatives	-10,288	1,787	-2,340	-4,062	2,085	-2,531	-275	-140	-1,672	-1,358	-3,445
Total	-17,180	305	-323	-1,246	14	-1,250	-171	1,309	-2,829	-1,586	-3,277
Change in Global Exchange Position of Banks	-326	-76	110	-27	108	115	138	-19	369	78	566
BCRP intervention	17,506	-229	213	1,273	-123	1,134	33	-1,290	2,460	1,508	2,711

* Other includes companies in the corporate sector, mining and retail sectors.
 ** As of December 15.
 Source: BCRP.

AFPs demanded around USD 356 million in the fourth quarter of 2023 (as of December 15), a change from the net supply in the third quarter (USD 2 million). In the spot and derivatives markets, their net demand reached USD 105 million and USD 251 million, respectively. Net purchases of external securities by AFPs in the period amounted to USD 321 million, down from the third quarter's USD 879 million).

In the non-financial sector, between September and December 2023, entities presented a net supply of USD 294 million: (i) corporate sector companies: net demand of USD 3,024 million, mainly in the spot market (USD 2,916 million), below the total recorded in the third quarter (USD 2,859 million), which is reflected in a reduction in dollarization by economic agents for precautionary reasons; (ii) mining sector companies: net supply of USD 2,100 million (USD 2,098 million in the spot market), below the total in the third quarter (USD 2,225 million); (iii) retail sector: net supply of USD 1,218 million in the spot market, below the net supply in the third quarter (USD 1,548 million).

Banks' overall position increased from -USD 374 million in September to -USD 455 million in December 2023. The Non-Delivery Forward (NDF) balance of net bank sales with non-resident investors increased by USD 664 million between the third and fourth quarters of 2023.



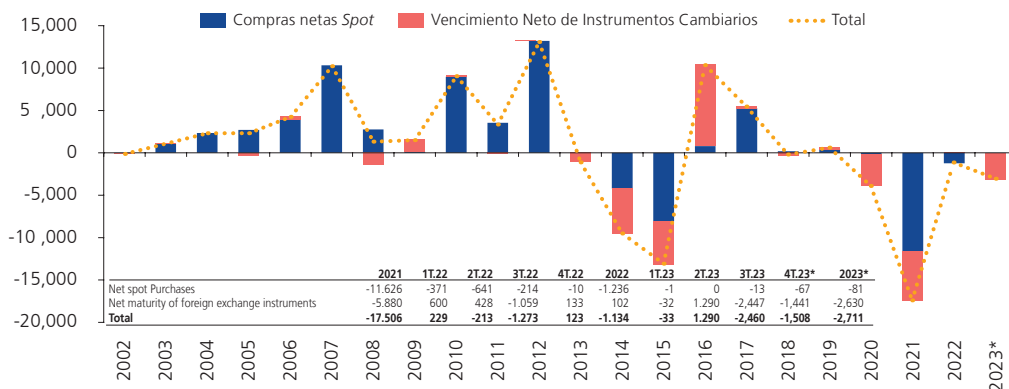


From September to December 15, 2023, the BCRP took action in the foreign exchange market by conducting auctions of FX Swaps-sales in both fixed and variable rate formats, issuing adjustable certificates of deposit (CDR-BCRP), and selling spot dollars through the trading desk. The objective was to mitigate the volatility in the value of the Sol compared to the dollar, given the uncertain conditions prevailing in international financial markets. FX Swaps of S/ 20,268 million (USD 5,316 million) were sold for durations of 3, 6, 9, and 12 months, with both fixed and variable interest rates. Additionally, S/ 14,423 million (USD 3,876 million) matured with fixed and variable rates. In addition, BCRP CDRs were issued worth S/ 300 million (USD 77 million) with a maturity period of 3 months, and S/ 280 million (USD 76 million) were repaid.

The accumulated balance of FX Swaps-sale and BCRP CDRs sale as of December 15 stands at USD 11,956 million (16 percent of foreign currency reserves). The average residual term of FX Swaps-sales amounted to 322 days in December 2023, higher than in September (157 days). The rise in average maturity durations is linked to the need for hedging over an extended time frame.

As of December 15, in the fourth quarter, the BCRP had a net supply of USD 1,508 million in the foreign exchange market through the net placement of foreign exchange swaps (USD 1,441 million), BCRP CDRs (USD 1 million) and the sale of dollars in the spot market for USD 67 million.

Graph 69
INTERVENTIONS IN THE FOREIGN EXCHANGE MARKET OF THE BCRP
(Million USD)

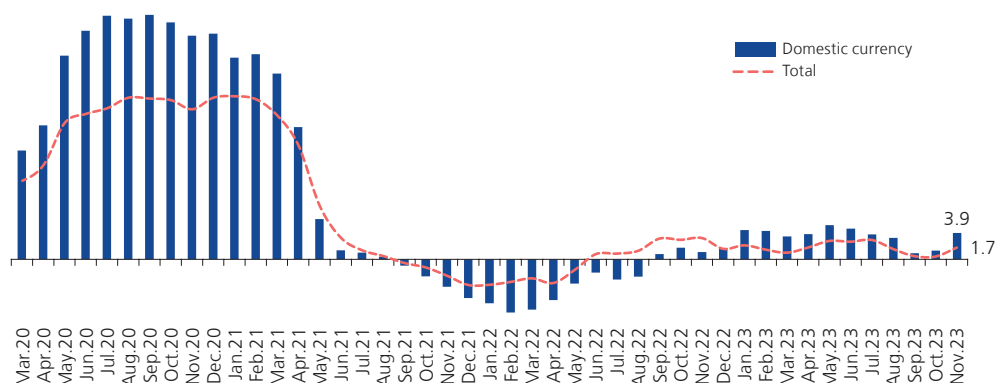


As of december 15.
Source: BCRP.

Liquidity

- The year-on-year growth rate of private sector deposits stood at 1.7 percent in annual terms in November. By type of currency, deposits in Sol increased by 3.9 percent year-on-year, while dollar-denominated deposits showed a negative variation of 2.0 percent year-on-year in November.

Graph 70
PRIVATE SECTOR DEPOSITS BY TYPE OF CURRENCY*
(Annual % change)



* Total at constant exchange rate of S/ 3.81 per USD December 2022.
Source: BCRP.

The dollarization ratio for private sector deposits, in November 2023 is 35.2 percent, slightly lower than 35.6 percent in December 2022.

Table 32
MONETARY AND CREDIT ACCOUNTS OF THE DEPOSITORY CORPORATIONS
(END-OF-PERIOD)
(Annual % change)

	Dec.19	Dec.20	Dec.21	Dec.22	Nov.23	Dec.23*	Dec.24*	Dec.25*
Currency in circulation (End-of-period)	4.7	37.3	16.0	-3.8	-5.7	-7.2	-2.5	0.0
Deposits in domestic currency	12.3	33.0	-5.6	1.7	3.9	2.7	8.0	7.6
Total deposits 1/	10.1	23.6	-3.7	1.5	1.7	2.4	7.0	6.7
Broad money in domestic currency	10.6	32.2	-0.9	0.6	2.9	0.2	5.5	6.0
Total broad money 1/	9.6	25.1	-0.4	1.0	1.2	0.1	4.0	4.5
Credit to the private sector in domestic currency	10.1	19.4	5.5	2.5	0.1	0.1	4.1	6.0
Total credit to the private sector 1/	6.9	10.7	4.0	4.6	0.7	0.7	3.5	5.0
Total credit to the private sector (without Reactiva Peru Program) 1/	6.9	-5.5	8.8	11.3	4.8	4.5	5.1	5.0

1/ The December 2022 constant exchange rate is maintained.

* Forecast.

Source: BCRP.

67. **Currency in circulation** declined 3.8 percent year-on-year in December 2022, and 5.7 percent in November 2023. The level of currency in circulation is expected to continue to decline in 2024, albeit at a slower pace than in recent months, reversing its historically steep growth during the state of Covid emergency²⁸, due to the attenuation of the factors favoring increased currency amounts in previous years. In addition, currency in circulation is expected to approach its pre-pandemic trend with respect to GDP in 2024, due to a faster-than-expected reversal and considering recent innovations in electronic means of payment. Annual variation rates of -7.2 percent per

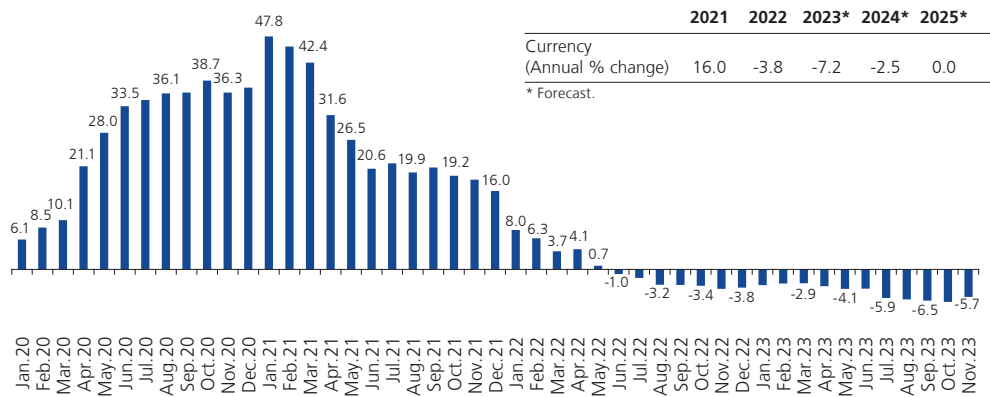
28 Precautionary cash savings would have been driven mainly by transfers to families through government grants.





year are projected for 2023 and -2.5 percent for 2024. In 2025, currency in circulation is estimated to remain unchanged vis-à-vis 2024.

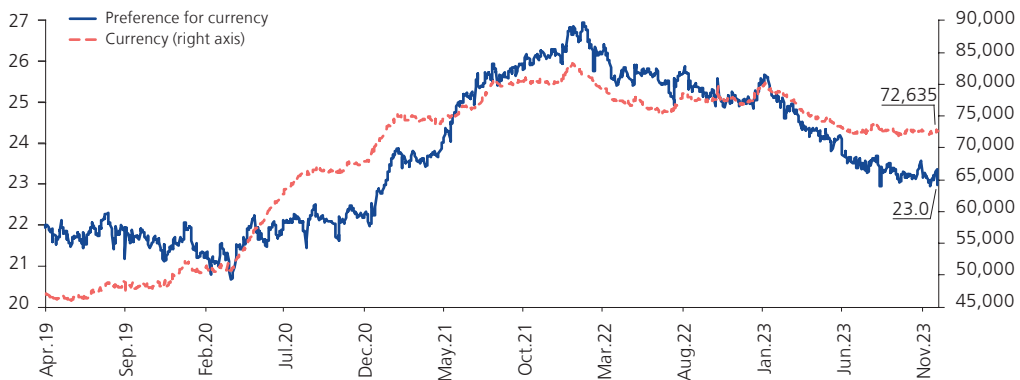
Graph 71
CURRENCY
(Annual % change)



* Forecast.
Source: BCRP.

- 68. The preference for currency in circulation continued to decline during 2022 and through the last quarter of 2023, after growing steadily between April 2020 and December 2021. It stood at 22.9 percent in November 2023.

Graph 72
CURRENCY AND PREFERENCE FOR CURRENCY
(In millions Soles and in %)



Source: BCRP.

Credit to the private sector

- 69. **Credit to the private sector** grew 0.7 percent in annual terms in November 2023 (4.6 percent in 2022). Excluding loans under the *Reactiva Peru* program, the year-on-year growth rate of credit amounted to 4.8 percent in the same period (11.3 percent in 2022). Credit to the private sector has been slowing down since March 2022, and this phenomenon is explained by i) the advance of loan repayments associated with

the *Reactiva Peru* program, ii) aggregate supply and demand factors that explain the lower level of economic activity; and iii) tighter financial conditions such as higher interest rates and a lower level of liquidity because of the monetary policy response to tame inflation.

70. Year-on-year growth in loans to individuals remains dynamic, although at a slightly lower pace. It grew 8.0 percent in November 2023 (15.9 percent in 2022). This slowdown in credit to individuals is mainly due to the lower increase in consumer credit (9.8 percent in November 2023). Moreover, mortgage credit also slowed down in recent months, recording a year-on-year growth rate of 5.4 percent in November 2023.
71. Credit to companies contracted, mainly associated with repayments under the *Reactiva Peru* program and partially due to a drop in demand given the evolution of economic activity. In November 2023, credit to companies decreased by 3.7 percent, while excluding *Reactiva Peru* loans it increased by 2.7 percent (8.4 percent in 2022). The segment that recorded the largest drop is the medium-sized companies (-13.3 percent); meanwhile, the corporate and large companies segment slipped 2.2 percent. Dissimilar pace among segments of credit to companies is explained by several factors, including the financial conditions associated with each of these classifications.

Table 33
CREDIT TO THE PRIVATE SECTOR 1/
(Annual growth rates)

	Dec.19	Dec.20	Dec.21	Dec.22	Jun.23	Sep.23	Nov.23
Businesses	4.2	19.7	3.6	-1.4	-4.4	-3.9	-3.7
Corporate and large companies	4.3	6.4	8.0	1.2	-3.5	-2.7	-2.2
Medium-sized enterprises	0.3	47.2	0.0	-13.7	-14.9	-14.1	-13.3
Small business and Micro business	8.4	24.0	-1.1	7.7	5.0	3.5	2.5
Individuals	11.4	-3.2	4.8	15.9	10.2	9.6	8.0
Consumer	13.3	-7.2	3.1	21.8	13.7	12.7	9.8
Car loans	12.0	-2.2	7.3	15.9	18.4	12.9	8.4
Credit cards	13.4	-20.3	-41.0	32.6	20.9	16.5	12.9
Rest	13.3	-0.5	21.4	19.8	12.0	11.8	9.1
Mortgage	8.6	2.9	7.1	8.0	5.2	5.2	5.4
TOTAL	6.9	10.7	4.0	4.6	1.0	1.1	0.7
Memo:							
Businesses without Reactiva	4.2	-7.0	11.5	8.4	4.3	3.5	2.6
Total without Reactiva Peru	6.9	-5.5	8.8	11.3	6.9	6.0	4.8

Note: The criteria for classifying corporate loans by credit segment are in accordance with the SBS definition valid until June 2023. 2023. In July 2023, by means of SBS Resolution N° 02368-2023, a change in the classification of loans is made.

Corporate: Annual sales of more than S/ 200 million (idem).

Large companies: Annual sales between S/ 20 million and S/ 200 million (Annual sales between S/ 20 million and S/ 200 million; or maintaining issues in the capital market in the last year).

Medium-sized companies: Annual sales between S/ 5 million and S/ 20 million (Total indebtedness of more than S/ 300 thousand or annual sales of no more than S/ 20 million).

Small companies: Annual sales less than S/ 5 million and total indebtedness greater than S/ 20 thousand (Total indebtedness between S/ 20 thousand and S/ 300 thousand).

Micro enterprises: Annual sales of less than S/ 5 million and total indebtedness of less than S/ 20 thousand (Total indebtedness of no more than S/ 20 thousand).

1/ The constant exchange rate as of December 2022 is maintained.

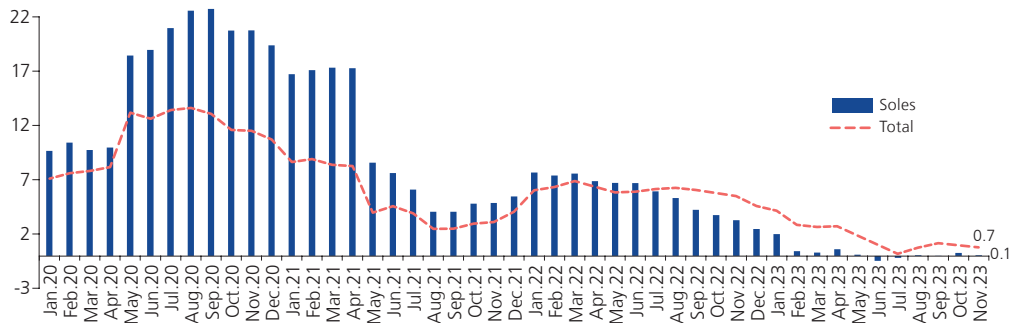
Source: BCRP.

72. Since the beginning of 2022, Sol-denominated credit slowed down and, to a lesser extent, in dollar-denominated credit so far this year. As of November 2023, Sol-denominated credit grew 0.1 percent, while dollar-denominated credit increased 2.9 percent over the same period.





Graph 73
CREDIT TO THE PRIVATE SECTOR: TOTAL AND IN DOMESTIC CURRENCY
 (Annual growth rates)



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

	Dec.19	Dec.20	Dec.21	Jun.22	Dec.22	Mar.23	Jun.23	Sep.23	Nov.23
Domestic currency	10.1	,19.4	,5.5	,6.7	,2.5	,0.3	-0.5	,0.0	0.1
Foreign currency	-0.3	-11.0	-0.8	,3.2	,12.1	,10.8	,5.8	,4.8	2.9
Total	6.9	,10.7	,4.0	,5.9	,4.6	,2.6	,1.0	,1.1	0.7

1/ The constant exchange rate as of December 2022 is maintained.
 Source: BCRP.

Non-performing loans

73. In November 2023, the ratio of **non-performing loans** stood at 4.42 percent, which was slightly higher than the September 2023 ratio of 4.33 percent. This outcome can be attributed to the high number of non-performing business loans to medium-sized enterprises and, to a lesser degree, to micro and small enterprises. During the same period, there was a notable increase in non-performing loans to individuals, namely in relation to credit cards. The rise in non-performing loans is the result of the changes in economic activity and financial conditions.

Table 34
NON-PERFORMING LOANS DELINQUENCY RATE
 (%)

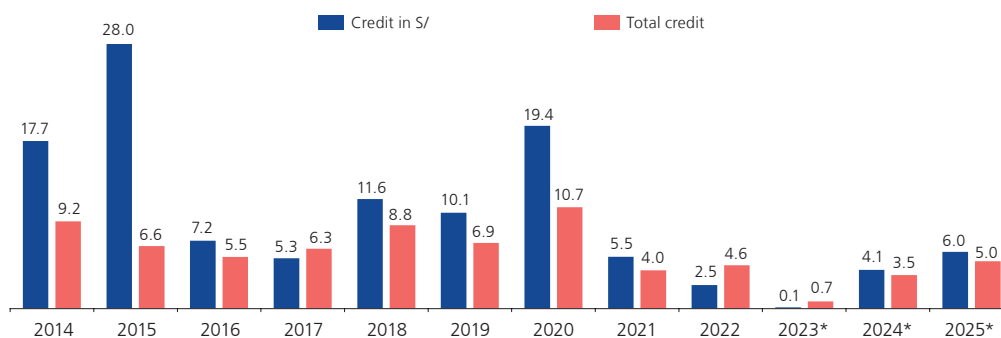
	Dec.19	Dec.20	Dec.21	Dec.22	Mar.23	Jun.23	Sep.23	Nov.23
Businesses	3.71	3.73	4.60	5.09	5.15	5.29	5.41	5.48
Corporate and large companies	0.62	1.04	1.08	1.39	1.44	1.11	1.08	1.01
Medium-sized enterprises	8.24	6.27	9.49	11.65	11.95	12.89	13.80	14.17
Small business and Micro business	6.29	6.06	6.54	6.37	6.43	6.94	7.03	7.17
Individuals	2.85	4.91	2.57	2.54	2.58	2.74	3.02	3.19
Consumer	2.81	5.92	2.23	2.51	2.60	2.80	3.21	3.46
Credit cards	5.33	12.70	6.28	6.58	7.00	7.50	7.94	8.61
Vehicular	3.75	5.85	3.72	3.37	3.13	3.14	3.36	3.26
Rest	1.46	3.07	1.35	1.57	1.59	1.69	2.15	2.28
Mortgage	2.91	3.51	3.01	2.57	2.56	2.64	2.73	2.77
Average 1/	3.24	4.00	3.76	3.97	4.01	4.12	4.33	4.42

1/ The non-performing loans ratio is the percentage of direct loans that are past due or in judicial collection. This indicator also includes loans to companies, individuals, sovereign loans, loans to multilateral organizations, and loans to public sector companies and organizations.
 Source: BCRP.

Projected credit to the private sector

74. Credit in domestic currency is expected to increase moderately, in line with the evolution of economic activity. Thus, the projected growth of credit to the private sector in domestic currency would amount to 0.1 percent in 2023; 4.1 percent in 2024; and 6.0 percent in 2025, considering the completion of the amortization of loans granted under the *Reactiva Peru* program. Thus, total credit would grow 0.7 percent in 2023 (4.5 percent excluding *Reactiva*). By 2024 and 2025, total credit growth is estimated at 3.5 and 5.0 percent, respectively (5.1 and 5.0 percent without *Reactiva*, respectively).

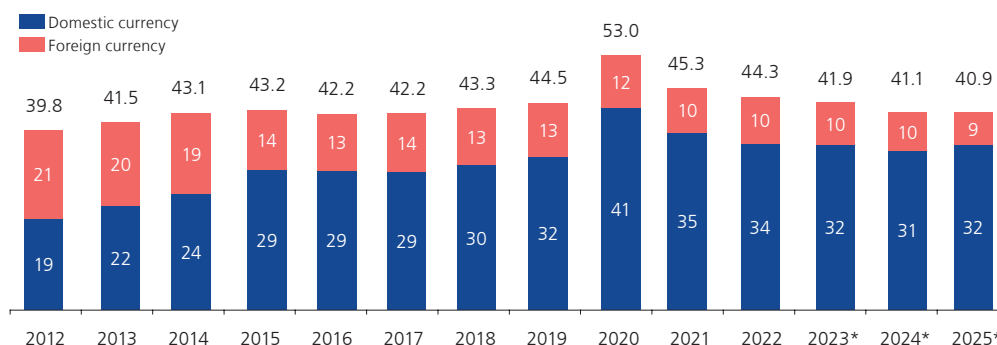
Graph 74
CREDIT TO THE PRIVATE SECTOR
(% change)



* Forecast.
Source: BCRP.

Similarly, in 2024 and 2025, credit to the private sector is expected to grow at a slower pace than nominal GDP, following a significant increase in the credit-to-GDP ratio in 2020 almost reversed in the fourth quarter of 2023. Thus, the credit ratio is expected to stand at 41.1 and 40.9 percent of GDP in 2024 and 2025, respectively (after standing at 53.0 percent in 2020).

Graph 75
CREDIT / GDP RATIO
(%)



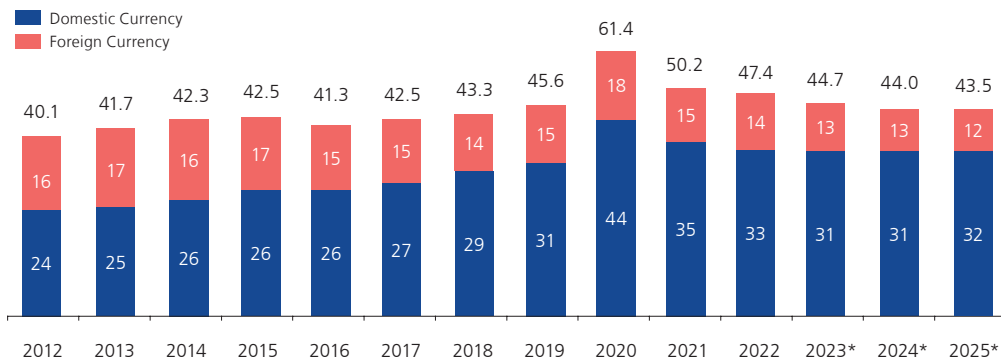
Note: At constant exchange rate (December 2022).
* Forecast.
Source: BCRP.





Likewise, the growth rates of total liquidity and currency in circulation would be lower than those of nominal GDP in 2023 and 2024 due to more normal financial conditions, with growth in domestic currency liquidity close to that of nominal GDP in 2025. The ratio of liquidity to GDP would decline from 47.4 percent in 2022 to 44.7 percent in 2023 (close to its pre-pandemic level), and to 44.0 percent in 2024. Meanwhile, the depository corporations' currency in circulation ratio to GDP would contract from 8.5 percent in 2022 to 7.4 percent in 2023, and to 6.9 percent in 2024, a level similar to that recorded prior to the COVID-19 pandemic.

Graph 76
LIQUIDITY / GDP RATIO
(%)



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

Box 5**INTERNATIONAL AND PERUVIAN HISTORICAL EXPERIENCE IN THE FACE OF INFLATIONARY SHOCKS**

Inflation has surged in Peru and throughout most global countries since 2021. The increase in prices was initially triggered by disruptions in the global supply chain (due to Covid lockdowns), the strong fiscal stimulus initiated in the pandemic and the rapid shift of consumption in the post-pandemic from services to goods. Subsequently, the war in Ukraine added cost shocks with rising energy and food commodity prices, which again boosted inflation and extended its duration. These shocks were more persistent than expected; thus, in 2022, inflation rates in OECD countries exceeded nine percent (the highest level since 1988); in emerging economies they reached double digits (with rates not recorded since 1998); while in Peru inflation peaked at 8.8 percent in June 2022 (the highest rate since 1997)²⁹.

Against this backdrop of cost shocks and significant deviations of inflation rates from their targets, central banks repeatedly and steeply increased their monetary policy interest rates, reflecting their contractionary policy responses to tame inflation by contracting aggregate demand and anchoring inflation expectations around their respective inflation targets, particularly long-term ones. Because monetary policy lags inflation, this policy tightening is maintained until most inflation components exhibit a clear downward trend. This reduces the risks of extending the current episode of high inflation and avoids the associated economic costs.

Given such monetary policy actions, we may ask how long does it take to resolve an inflationary episode, what policies are usually associated with the resolution of high inflation, and how long does it take for disinflation to succeed? This box explores answers based on international and Peruvian historical evidence in the face of inflation shocks.

International experience

Recently, Ari et al. (2023)³⁰ and Cecchetti et al. (2023)³¹ review historical episodes of inflationary shocks in advanced and emerging economies and report the macroeconomic policy responses to periods of high inflation and document how these episodes are resolved.

Ari et al. (2023) review 111 historical episodes of inflationary shocks identified in 56 countries between 1973 and 2014. In these periods they empirically analyze the relationships between

29 OECD Indicators (2023) report 2022 inflation in OECD countries at 9.5 percent. WEO - IMF (October 2023) reports inflation of 10.1 percent for 2022 in emerging and developing economies.

30 Ari A., Mulas-Granados, C., Mylonas, V., Ratnovski, L., and Zhao W., 2023. One Hundred Inflation Shocks: Seven Stylized Facts. IMF Working Paper. <https://www.imf.org/en/Publications/WP/Issues/2023/09/13/One-Hundred-Inflation-Shocks-Seven-Stylized-Facts-539159>

31 Cecchetti, S, M Feroli, P Hooper, F Mishkin and K Schoenholtz (2023). Managing Disinflations. CEPR Discussion Paper No. 18068. CEPR Press, Paris & London. <https://cepr.org/publications/dp18068>





disinflations, fundamentals, and macroeconomic policies³² and identify the following seven historical stylized events:

1. Inflationary shocks are prolonged, with an average duration of successful disinflation of three years, and that, in 60 percent of the episodes, inflation was resolved within five years.
2. Unsuccessful disinflations mostly resulted from disinflationary policies that ended too soon.
3. Countries that successfully reduce high inflation rates implement relatively more contractionary monetary policy responses matched with restrictive fiscal responses.
4. In addition to being aligned, these policy responses were prolonged.
5. With these consistent policy responses, these countries achieved greater nominal exchange rate stability.
6. At the same time, these economies recorded the lowest nominal wage growth rates.
7. Although economies that succeeded in controlling inflation slowed down in the short term, while the medium term there was no loss of growth or employment.

In a similar study, Cecchetti et al. (2023) analyze 17 disinflation events identified since 1950 in large economies³³. The authors find that there is no historical precedent since 1950 in which a disinflation generated by a central bank would not slow down economic activity. Thus, high inflation has never subsided without some degree of reduction in aggregate demand³⁴. In addition, Blinder (2023)³⁵ studies 11 episodes of restrictive monetary policy in the United States, between 1965 and 2022. The author finds that on six occasions the U.S. Federal Reserve achieved successful disinflation with policy rate increases necessary to reduce economic growth, but without having to induce a recession. In the remaining events, an economic recession was needed to reduce the rate of inflation³⁶.

These recent historical counts are consistent with previous studies on the sacrifice ratio. The sacrifice ratio measures the fall in an indicator of demand pressures, such as the output gap, associated with a 1 percent reduction in inflation³⁷. Ball (1994) finds that disinflations are costly

32 A period of inflationary shocks for any country is identified as the period in which the change in inflation outweighs 2 percent in a year, after a period of stable inflation. Episodes in low-income, non-diversified or non-market economies are excluded; or if the episode coincides with an armed conflict event or the COVID-19 event. Episodes that are preceded by a period of high and volatile inflation; or those events that correspond to deflations or reversals of high inflation; or episodes that overlap with previous inflationary events are also eliminated.

33 These events are identified in 4 large economies: the United States, Canada, Germany and the United Kingdom. A significant disinflation event, following Ball (1994), is that period of uninterrupted transition of falling inflation trend from a peak to a trough. The inflation trend is measured as a 9-quarter centered moving average of quarterly inflation.

34 In particular, Cecchetti et al. (2023) use as an indicator of aggregate demand dynamism the unemployment gap with respect to its trend level.

35 A. S. Blinder, 2023. Landings, Soft and Hard: The Federal Reserve, 1965-2022. *Journal of Economic Perspectives*, 37(1), pp.101-120. <https://www.aeaweb.org/articles?id=10.1257/jep.37.1.101>.

36 Blinder (2023) defines a disinflation without generating a recession as a "soft landing", while a disinflation that requires a recession is a "hard landing". A "soft landing" is composed by periods of disinflation that involved a reduction in GDP growth of less than 1 percent or the National Bureau of Economic Research (NBER, the bureau that determines business cycles in the United States) not declaring a recession 1 year after the start of the Fed's interest rate increase cycle.

37 The output gap is the difference between the observed GDP and its potential level. Another indicator of demand pressures is the unemployment gap or cycle, measured as the difference between the level of unemployment with respect to its trend level.

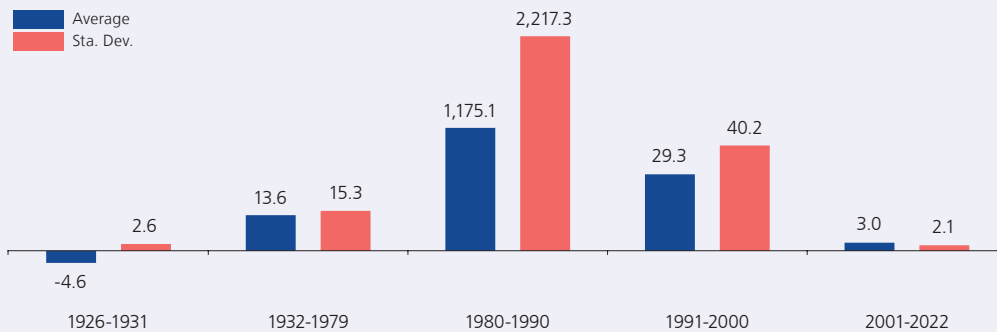
and involve a sacrifice ratio³⁸. In addition, he shows that these costs are decreasing the speed of disinflation. Countries that resort to a more gradual monetary policy tend to experience higher costs. For its part, Tetlow (2022) reports sacrifice ratio estimates for the United States and finds that previous studies and his own estimation consistently identify that reducing inflation always requires reducing growth.

It is noteworthy that these disinflation costs in terms of a necessary reduction in the dynamism of aggregate demand, with respect to its potential level, are transitory and do not involve long-term costs. In general, potential output measures the sustainable growth of GDP in a context without inflationary or deflationary pressures, and which depends on structural factors of the economy such as the accumulation of productive factors and the evolution of productivity.

Peruvian Experience: 100 years of inflation

In the last 100 years, Peru has experienced multiple inflation shocks, under different monetary regimes³⁹. Of these, the last regime is the most stable and corresponds to the regime of explicit inflation targeting adopted since 2002. The “History of the Central Bank and Monetary Policy in Peru⁴⁰ documents that the relationship between the evolution of inflation, the macroeconomic context and the decisions of the monetary entity began almost from its foundation⁴¹. Before 1993, hyperinflation and high inflation events stand out, coinciding with periods of fiscal dominance in which fiscal deficits were financed through money creation.

INFLATION IN PERU BETWEEN 1926 AND 2022
(Average and volatility, in percent)



Note: End of period inflation. The level of inflation is measured by the time average in each period, while price stability is measured by the standard deviation of inflation in the same period. The 1980-1990 columns contain a scale cut to improve the visualization of the graph.
Source: BCRP 100-year statistics, BCRPData.

38 Ball, L. (1994). What determines the sacrifice ratio? In Monetary policy (pp. 155-193). The University of Chicago Press.
39 Inflation statistics for the last 100 years are available at BCRP 100 Years Statistics at BCRPData.
40 History of the Central Bank and Monetary Policy in Peru, Volumes I and II, 2023. Edited by M. Vega and L. F. Zegarra.
41 On March 9, 1922, the Law creating the Banco de Reserva del Perú (BRP) was enacted. Its main functions were to carry out monetary and exchange operations, manage foreign reserves and issue banknotes. In 1932, the convertibility of the gold standard was suspended in order to contain deflation caused by the reduction of the monetary mass in light of the balance of payments deficit at that time.





Between 1922 and 1932 Peru experienced deflationary episodes, which were reversed at the beginning of the 1930s. In particular, the BCRP's decision to maintain the convertibility of fiat money under its control in 1932 was important⁴². Between 1932 and 1979, the year when the constitution granted autonomy to the BCRP, inflation increased in the 1940s, during World War II, and again significantly in the 1970s, after a period of international turbulence due to oil shocks and the collapse of the Bretton Woods fixed exchange rate system. During this period, the BCRP's policy focused on defending the official exchange rate and providing inorganic financing to the Government⁴³.

The international inflationary period of the late 1980s and monetary turbulence of the 1970s preceded the Peruvian hyperinflationary period between 1988 and 1990. Following Peru's Great Stabilization program, the longest period of disinflation in Peruvian history began in August 1990⁴⁴, that successfully reversed hyperinflation and marked the downward trajectory of inflation to a path of sustained and stable inflation.

The most stable period of price stability in Peru's economic history in the last 100 years began in 2001, a year before the adoption of inflation targeting⁴⁵. During this period, the Peruvian economy has also faced inflation shocks, but these have been controlled by BCRP preventive monetary policy actions.

During the Inflation Targeting regime, there were five episodes of inflation shocks in which inflation expectations deviated transitorily from the target range⁴⁶. In all these episodes, timely monetary policy restored inflation expectations to the target range after a few months. These periods of inflation rises, and subsequent disinflation, were short, with a total duration of between 2 and 14 months.

The current episode of inflation shocks, which began in July 2021, has been the longest in recent history over the last two decades. As of November 2023, expectations have been outside the target range for 29 months. Compared to previous scenarios, the current one has outweighed the longest previous inflationary shock and disinflation period recorded, between January 2008 and February 2009.

42 On April 28, 1931, the BRP was transformed into the Central Reserve Bank of Peru (BCRP). On this date it was established that the main function of the BCRP would be the maintenance of monetary stability.

43 It should be noted that between 1949 and 1954 a dual exchange rate regime was established, although eventually it was only de jure, but not de facto.

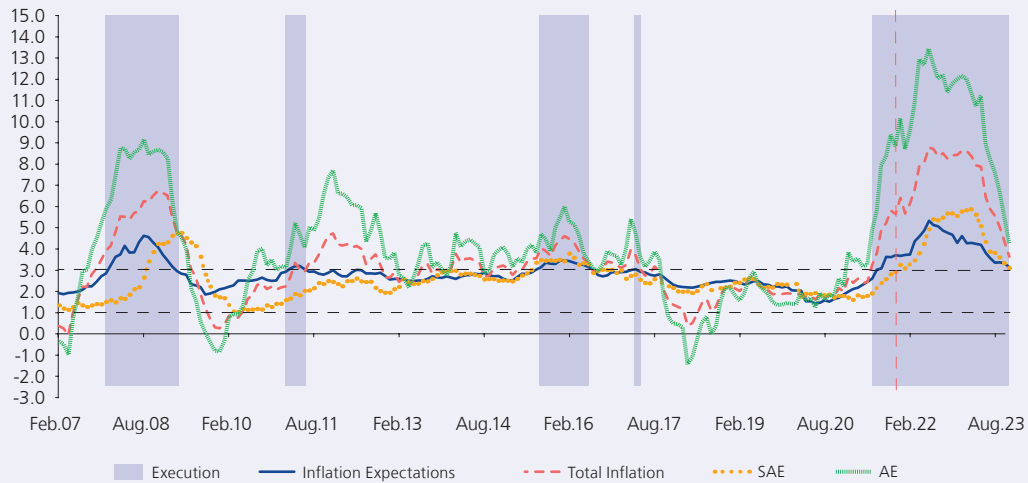
44 This stabilization program included a significant strengthening of the autonomy of the Central Bank, in the current 1993 Constitution, which establishes that this is within the framework of its Organic Law and assigns it the sole role of preserving monetary stability.

45 Although the inflation targeting scheme formally began in January 2002, the BCRP had been carrying out transition actions since 2001. Thus, in March 2001, an inflation targeting conference was held in Peru, jointly organized by the BCRP and the IMF, where an analysis of the Peruvian case was presented, and the first steps were taken to announce the explicit inflation targeting scheme, which would be adopted as of the following year.

46 The Monetary Policy Response to Supply Shocks box in the March 2022 Inflation Report describes the 4 past inflation shock events.

See: <https://www.bcrp.gob.pe/docs/Publicaciones/Reporte-Inflacion/2022/marzo/ri-marzo-2022-recuadro-6.pdf>

INFLATION SHOCKS SINCE 2002: EPISODES OF OUT-OF-TARGET INFLATION EXPECTATIONS OUTSIDE THE TARGET RANGE



Episodes	Dates	Duration 1/	Max. Inflation Expectations	Max. Total Inflation	Max. Inflation SAE	Max. Inflation AE	Max. Exchange rate	Max. Depreciation 12 months
Episode 1	Jan08-Feb09	14 months (21 months)	4.6	6.7	4.6	9.2	3.2	11.4
Episode 2	Mar11-Jun11	4 months (16 months)	3.2	4.7	2.6	7.7	2.8	-0.9
Episode 3	Jul15-Jul16	13 months (16 months)	3.5	4.6	3.8	6.0	3.5	15.1
Episode 4	Mar17-Apr17	2 months (9 months)	3.1	4.0	2.8	5.4	3.3	-1.6
Episode 5	Jul21 - ...	29 months (30 months) 2/	5.4	8.8	5.9	13.5	4.1	15.5

1/ In parentheses is the time during which total inflation remains outside the target range.
 2/ In Episode 5, the calculation of the duration considers information executed until November 2023.

In this scenario, the Board of the Central Reserve Bank of Peru has also acted in a timely manner and initiated since August 2021 a period of normalization of the monetary policy stance, with a monetary policy interest rate that increased from 0.25 percent to a maximum of 7.75 percent in January 2023. As a result, since the second quarter of 2023, all trend inflation indicators show decreasing year-on-year changes compared to the previous months, although they remain above the target range. Inflation expectations 12 months ahead have also been consistently reversing and are expected to reach the inflation target range early next year. These ongoing and uninterrupted reductions in these indicators give increasingly clear signs of a consistent downward trend in non-food and energy inflation, and total inflation. Consistent with this inflation reversal, since September 2023 the BCRP began to adopt an increasingly less restrictive monetary policy stance.

Conclusion

International and Peruvian experience shows that the struggle against inflationary shocks can be prolonged. In all successful disinflation processes, the consistency of maintaining restrictive macroeconomic policies is key, particularly monetary policy. Although inflationary shocks carry costs, successful disinflations are not associated with further deterioration in output, employment or wages in the long run, indicating the value of macroeconomic credibility and stability.





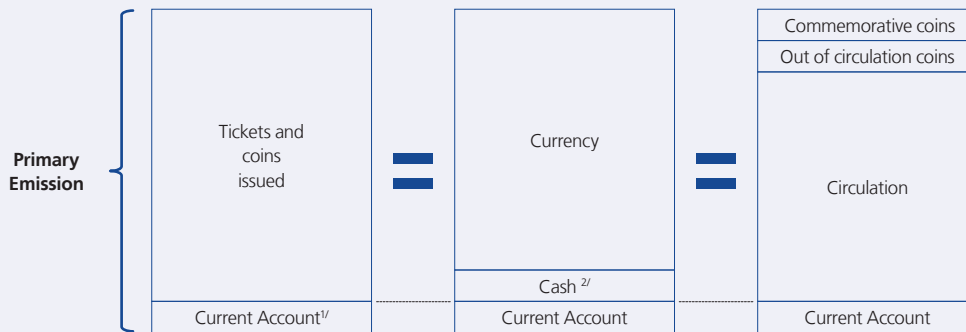
Box 6

STYLIZED FACTS OF CURRENCY IN CIRCULATION BY DENOMINATION

This box shows the evolution of cash (banknotes and coins) issued by the central bank in its different denominations, with emphasis on the period from December 2019 to November 2023.

BCRP's Organic Law mandates it to regulate the money supply and issue banknotes and coins. On the one hand, the primary issue or monetary base has a non-physical component⁴⁷ in the form of current accounts or demand deposits at the central bank. In addition, the monetary base has a physical component, i.e. the banknotes and coins it issues.

MONETARY BASE, BANKNOTES, COINS AND CIRCULATION



1/ Current account deposits of the depository corporations in the BCRP.
2/ Funds in depository corporations' own vaults.

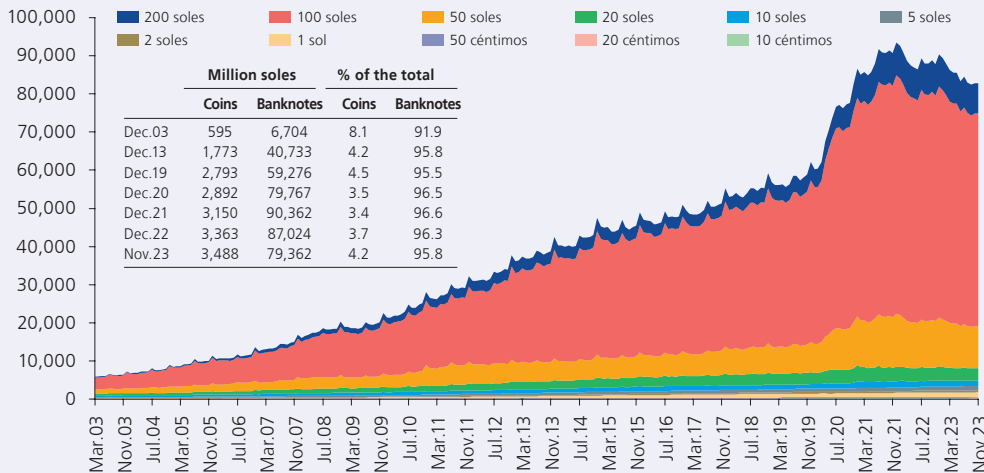
While the central bank manages the monetary base as a whole, the financial institutions (depository corporations), through their liquidity management, determine the composition between banknotes and coins and current accounts, as they seek to receive and provide cash from and to their clients in an efficient manner. For the latter they require adequate amounts of cash and holding a current account at the BCRP for interbank transactions. They can withdraw or deposit their cash funds from and into their current accounts. The level of their cash and current account⁴⁸ of these entities is affected by i) the public's demand for cash; ii) current account needs; and iii) the costs and benefits associated with cash management.

Similarly, the composition between different denominations is conditioned by public demand and the availability of central bank supply. Lower denominations tend to be more in demand for transactional purposes while higher denominations are for store-of-value purposes and are less accepted by the public. Banknotes and coins in circulation, hereafter circulation, are effectively used as money in the possession of the public and are held by financial institutions, excluding commemorative coins⁴⁹ and denominations withdrawn from circulation⁵⁰.

47 These are account entries.
48 Depository corporations (banks, finance companies, municipal and rural savings banks) use their cash and current accounts as reserve funds to meet reserve requirements.
49 These are coins that commemorate special characters or events, with limited designs and minted in more valuable alloys, which is why they are traded in specialized markets.
50 The 1 and 5 cent coins went out of circulation in 2011 and 2019, respectively. They are still legal tender and should be accepted as a means of payment, but are in the process of being withdrawn from circulation: banks must receive them from the public and exchange them at the central bank for other denominations.

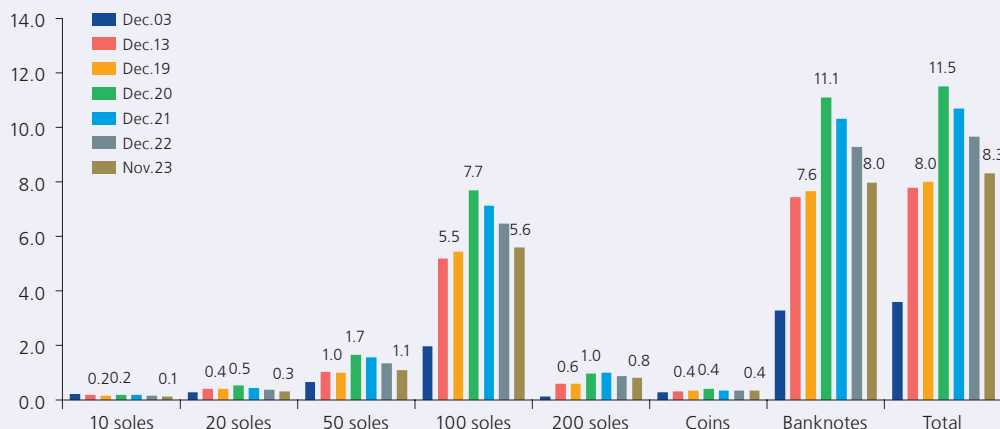
Circulation has increased in value, only interrupted by the monetary policy normalization process as of the second half of 2021. Historically, banknotes comprise circulation and their share increased in value terms from 91.9 percent in 2003 to 95.8 percent in November 2023. Also, the higher denominations of 200 and 100 Sol have increased their share over time to 10 and 67 percent by November 2023, respectively (4 and 55 percent in 2003, respectively).

CIRCULATION BY DENOMINATION
(Million soles)



During the COVID-19 crisis, the expansionary monetary policy stance of the central bank allowed primary base issuance to increase from 8 to 12 percent of GDP between 2019 and 2020. This was reflected in increased circulation, from 8 to 11.5 percent of GDP, the highest level in the last three decades. Several government measures affected the demand for cash, including exceptional cash bonuses and withdrawals of dole (CTS) and retirement (AFP) accounts. In this context of uncertainty, the agents' precautionary demand played an important role in increasing cash preference. The expansion materialized mainly in the 100 Sol bills, that rose by 2.2 percentage points of GDP. This could be explained by its convenient denomination, compared to the 200 Sol denomination, which has a lower turnover.

CIRCULACIÓN POR DENOMINACIÓN
(% of GDP)

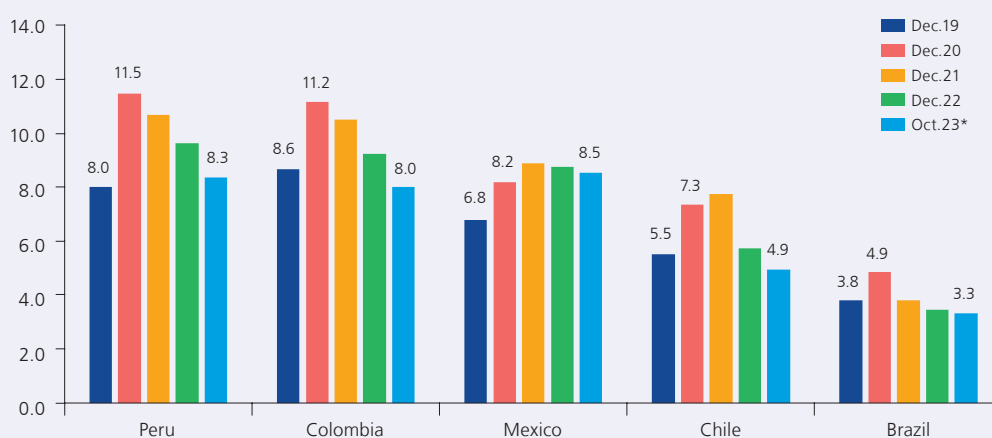




With the subsequent return of monetary policy to normal, currency in circulation has been steadily declining and is now at pre-pandemic levels in terms of GDP. Also, the pandemic increased the use of electronic means of payment in several economies.

In Peru, the main digital wallets have been integrated improving the efficiency of payment systems and reducing the need to use cash. Presumably, a structural change in public preferences may be underway, making it uncertain that the demand for cash will return completely to pre-pandemic levels. In Chile, Colombia and Brazil, for example, currency in circulation in terms of GDP declined compared to the end of 2019; however, in Mexico, cash growth remains similar to pandemic levels.

LATAM: BANKNOTES AND COINS ISSUED
(% of GDP)



*As of August and September 2023, for Colombia and Chile, respectively.
Source: Central banks.

However, the anonymity attribute of the use of banknotes and coins makes them more appealing to agents seeking data protection and greater privacy⁵¹, some of whom may be potentially linked to informal or illicit activities⁵². Currency in circulation is also appealing because it does not depend on electronic media, in case of potential problems in these channels. Thus, although there is evidence of an increase in the use of digital means of payment worldwide, the demand for cash remains robust⁵³.

In conclusion, most of the currency in circulation is made up of banknotes. Denomination mix has evolved, with an increasing share of banknotes and high denominations of 100- and 200-Sol notes. After its substantial increase during the COVID-19 crisis, circulation remains similar to the pre-pandemic period in terms of GDP.

51 Borgonovo, E., Caselli, S., Cillo, A., Masciandaro, D., & Rabitti, G. (2021). Money, privacy, anonymity: What do experiments tell us? *Journal of Financial Stability*.
Choi, S., Kim, Y. S., Kim, B., & Kwon, O. (2022). Central Bank Digital Currency and Privacy: A Randomized Survey Experiment.

52 Reimers, H.-E., Schneider, F., & Seitz, F. (2020). Payment Innovations, the Shadow Economy and Cash Demand of Households in Euro Area Countries.

53 Skibińska-Fabrowska, I. (2023). Demand for Cash and its Determinants-A Post-Crisis Approach.

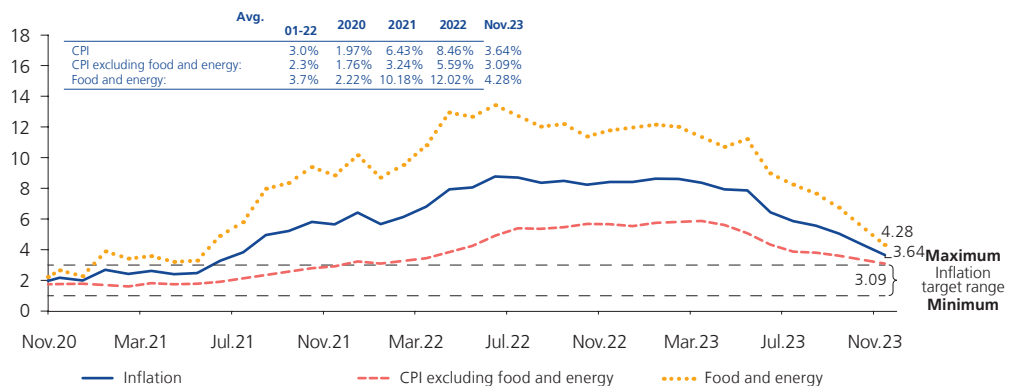
VI. Inflation and balance of inflation risks

Recent inflation trends

75. Year-on-year **inflation** continued to decline from 5.58 percent in August to 3.64 percent in November 2023, though still above the target range.

The items that most contributed to the slowdown in year-over-year inflation between August and November were onions, lemons, meals away from home, eggs and local transportation. Non-food and energy inflation decreased from 3.81 to 3.09 percent in the same period, mainly due to lower local transportation, water supply, personal care products, international air transportation and motor vehicles costs. The different trend inflation indicators also showed a decreasing year-on-year trend between August and November, though still above the target range.

Graph 77
INFLATION
(Last 12-month % change)

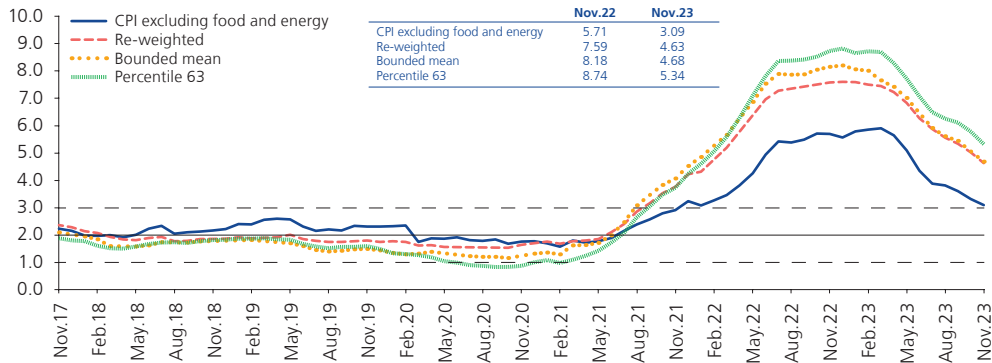


Source: BCRP.





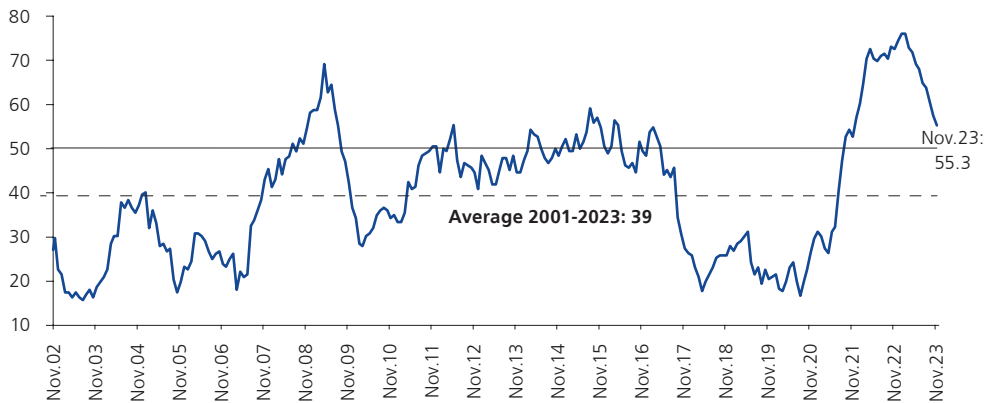
Graph 78
INFLATIONARY TREND INDICATORS
 (Last 12 months % change)



Nota:
 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.

76. Out of 186 items in the Consumer Price Index, 55 percent changed more than 3 percent year-on-year. This indicator peaked at 76 percent in February but has been declining since March, though still above its long-term average.

Graph 79
PERCENTAGE OF CPI ITEMS WITH YEAR-ON-YEAR PRICE CHANGE HIGHER THAN 3%



	Nov.22	Dec.22	Jan.23	Feb.23	Mar.23	Apr.23	May.23	Jun.23	Jul.23	Aug.23	Sep.23	Oct.23	Nov.23
Index	73	74	76	76	73	72	69	68	65	64	61	57	55
Number of items:													
Items with variation higher than 3%	135	140	143	143	137	135	130	128	122	120	114	108	104
Items with variation lower than 3%	51	48	45	45	51	53	58	60	66	68	74	80	84

Source: BCRP.

77. The items most closely linked to the exchange rate, international prices and the Wholesale Price Index (WPI) contributed -0.03 percentage points to cumulative inflation between January and November (2.82 percent). For reference, 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 they contributed 2.1 percentage points to annual inflation (8.46 percent).

Table 35

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

	Peso Base 2009	Var.% 12 m. Dec.20	Contr. Pond. 12 m. Dec.21	Var.% 12 m. Dec.21	Contr. Pond. 12 m. Dec.21	Peso Base Dec.21	Var.% 12 m. Dec.22	Contr. Pond. 12 m. Dec.22	Var.% 12 m. Nov.23	Contr. Pond. 12 m. Nov.23
CPI=(5)+(6)	100.00	1.97	1.97	6.43	6.43	100.00	8.46	8.46	3.64	3.64
(1) <u>Items linked to the exchange rate</u>	14.06	1.66	0.21	4.25	0.54	14.58	5.19	0.76	2.12	0.30
(2) <u>Items linked to international prices and exchange rate = (a) + (b)</u>	9.83	2.15	0.19	28.52	2.51	7.99	11.40	0.91	-1.94	-0.16
(a) Linked to food commodities	7.03	4.83	0.30	21.32	1.35	5.84	15.21	0.89	0.07	0.00
(b) Linked to Fuels	2.79	-4.20	-0.11	47.20	1.15	2.15	1.05	0.02	-7.97	-0.17
(3) <u>Items related to WPI</u>	1.64	3.03	0.06	11.57	0.22	1.37	7.90	0.11	1.32	0.02
(4) <u>Items related to the exchange rate, WPI and international prices</u>	2.95	6.73	0.24	9.50	0.35	2.62	11.46	0.30	-6.51	-0.18
(5) = (1)+(2)+(3)+(4)	28.47	2.58	0.70	13.31	3.63	26.56	7.82	2.08	(-0.07)	-0.02
(6) Rest of which:	71.54	1.75	1.27	3.86	2.81	73.44	8.69	6.38	(4.98)	3.65
Meals outside the home	11.74	1.00	0.14	3.65	0.49	15.45	9.70	1.50	7.12	1.11
Transport	8.87	2.47	0.21	3.95	0.33	9.14	12.30	1.12	2.73	0.26
Services without transportation and water	24.61	1.62	0.39	1.75	0.41	28.44	3.40	0.97	3.11	0.85
Agricultural perishable foods	5.20	0.68	0.04	4.10	0.24	5.04	26.52	1.34	7.04	0.40

(1) Includes household appliances, personal care items, cleaning supplies, medicinal products, motor vehicles, vehicle parts, vehicle repair, rentals and airline tickets.

(2a) Includes chicken meat, bread, sugar, noodles, oils and eggs.

(2b) Includes fuels for vehicles, domestic gas, solid fuels and natural gas for housing.

(3) Includes water consumption.

(4) Includes electricity.

Source: BCRP

78. Between January and November 2023, the general price level increased 2.82 percent, mainly accounted for price rises in the food and beverages group (4.2 percent), which contributed 1.75 percentage points to inflation, partly offset by the 6.3 percent decrease in fuel and electricity prices (-0.29 percentage points to inflation).

Table 36

INFLATION

(Year-on-year % changes)

	Weight	Dec.20	Dec.21	Dec.22	2023	
					Nov.23-Dec.22*	Nov.23/Nov.22
CPI	100.0	1.97	6.43	8.46	2.82	3.64
1. CPI excluding food and energy	55.3	1.76	3.24	5.59	2.53	3.09
a. Goods	17.4	1.5	2.6	5.3	2.6	3.0
b. Services	37.9	1.9	3.6	5.7	2.5	3.1
Education	8.6	2.0	1.6	3.9	6.4	6.4
Health	1.5	1.2	2.8	7.3	3.4	3.6
Local transportation	9.1	2.5	3.7	12.3	0.9	2.7
Other	18.7	1.6	1.7	3.2	1.4	1.8
2. Food and energy	44.7	2.22	10.18	12.02	3.15	4.28
a. Food and beverages	40.0	2.2	8.0	12.6	4.2	5.6
Meals inside the home	24.5	2.9	9.8	14.5	3.0	4.7
Meals outside the home	15.5	1.0	4.5	9.7	6.3	7.1
b. Fuel and electricity	4.8	2.1	24.4	6.8	-6.3	-7.1
Fuel	2.1	-4.2	47.2	1.0	-4.8	-8.0
Electricity	2.6	6.7	9.5	11.5	-7.3	-6.5

* Cumulative percentage change.

Source: BCRP.





79. The items with the highest positive contribution to inflation in the January-November period were meals away from home, local transportation, personal care products, and higher and primary education (1.67 percentage points to inflation). The items with the highest negative contribution were potatoes, electricity, chicken, fish and lemons (-0.81 percentage points of inflation).

Table 37

ITEM WITH THE HIGHEST WEIGHTED CONTRIBUTION TO INFLATION: JANUARY - NOVEMBER 2023

Positive	Weight	% chg.	Contr.	Negative	Weight	% chg.	Contr.
Meals outside the home	15.5	6.3	0.98	Potatoes	0.7	-26.3	-0.34
Local transportation	8.1	2.3	0.20	Electricity	2.6	-7.3	-0.20
Personal care products	4.0	4.6	0.18	Chicken meat	2.7	-4.0	-0.10
Higher education	4.3	3.9	0.16	Fresh fish maritime	0.7	-14.6	-0.10
Primary education	1.6	10.4	0.15	Lemon	0.2	-27.8	-0.08
Secondary education	1.3	10.7	0.13	Vehicle fuels	1.1	-5.7	-0.06
Other fresh fruits	0.6	18.0	0.11	National ground transportation	0.3	-19.8	-0.05
Rice	1.2	8.8	0.10	International air transport	0.5	-8.7	-0.05
Maize	0.1	76.1	0.09	Domestic gas	0.8	-5.6	-0.04
Beef meat	1.0	9.5	0.09	Vegetable oil	0.4	-8.2	-0.03
Total			2.19	Total			-1.05

Source: BCRP.

Food

The prices of food products, such as lemon and chicken meat, decreased in the January-November period as a result of the reversal of the supply shocks recorded in the first months of the year. In the case of other food products such as vegetable oil, the price decline was due to the lower international prices of imported inputs used in their production. The greater availability of other foodstuffs, such as fresh seafood, also led to lower prices. In contrast, the reductions recorded in the first half of the year in the prices of agricultural products such as potatoes were attenuated, and the prices of rice and corn increased due to lower supply.

The highest price rise in January to November occurred in meals away from home, which increased 6.3 percent to reach a year-on-year increase of 7.1 percent in November, a higher rate than that of food and beverages at home (4.7 percent). This result reflected the highest flow of public to restaurants since the end of the pandemic.

“Other fresh fruit” also rose (18.0 percent) due to price increases in February and March. Strawberries, which come from the valleys of the Lima region, decreased in those months due to the rains that devastated crops in March. Mango was another product affected by climatic disturbances; flooding of plantations in Piura due to rains and overflowing rivers hampered crops. However, from July onwards, prices of this product began to decrease due to the greater seasonal supply and the reduced impact of climatic alterations on the flowering process of some mango varieties such as “Edward”.

Rice prices rose 8.8 percent. Rice production on the north coast was also affected by heavy rains in March and April, which reduced crops, resulting in a lower income for the product in the wholesale channel.

The price of corn increased 76.1 percent, with peaks in October and November. Supplies slipped due to lower plantings in Lima, the main supplying region during those months; while higher temperatures in the central coast affected yields.

Potato prices decreased successively until July, which contributed to the negative 26.3 percent variation in January-November. Rains in February and March accelerated crops in the central highlands, mainly in Junín, also favored by lower temperature anomalies since April. However, this situation was reversed as of August, with the end of the large season in the central highlands. Subsequently, prices continued to rise due to lower seasonal supply from Huánuco, the main source of the “Yellow” variety, as well as the irregular arrival of the “White” potato varieties from that region and from Ica and Lima. This result was influenced by climatic changes that affected yields, such as scant rainfall in the high Andean areas for most of the crop year, and the warmer weather on the central coast.

The costs of chicken meat rose in February and March due to a decrease in the amount of chicken available on the market. This scarcity was mostly caused by the poultry industry’s challenges in receiving supply promptly, which were a consequence of road blockages during the final week of November 2022. Furthermore, there was a rise in chicken mortality as a result of avian influenza. The subsequent increase in supply was not matched by larger demand, leading to a decrease in prices in the subsequent months. This occurred in a situation where production costs were lower due to the reduced international price of hard yellow maize and the increased availability and cheaper price of soybeans.

The price of lemons decreased 27.8 percent in the January-November period, after reversing the rise recorded in the first eight months of the year (62.3 percent). The production of this citrus fruit was affected by the rains and floods that occurred in March and April on the northern coast, which altered the flowering process and led to fungal diseases. Subsequently, prices fell in October and November as a result of higher seasonal production.

Goods

Prices of personal care products rose 4.6 percent in the January-November period. This item comprises products having a substantial imported component or products that are already imported in a manufactured state, such as shampoos, toilet paper, diapers, sun lotion, toilet soap, cologne, and facial creams. The item experienced a 6.1 percent growth during the past twelve months, as indicated by this result.

Services

Local transportation prices recorded successive increases throughout the January-November period (2.3 percent) due to the increase in motorcycle cab and cab fares. This result was influenced by the higher price of some fuels in certain months, such as the increase in the price of liquefied petroleum gas for vehicles in September, due to a lower supply of the imported product, as a result of lower landings due to the occurrence of abnormal waves. In contrast, domestic land transportation ticket prices decreased 19.8 percent, reflecting competition among companies to increase ticket sales, as they have not yet recovered to pre-pandemic levels, in a context of greater supply of domestic flights. Likewise, international air transportation decreased 8.7 percent, due to the increase in flights to various destinations.





Primary education tuition fees increased 10.4 percent due to the increase in enrollment corresponding to the beginning of the school year, and the increase in tuition fee due to the return of daily classes. In 2022, face-to-face classes were held only on some days of the week, and were complemented by virtual classes. Similarly, secondary and higher education also increased by 10.7 and 3.9 percent, respectively.

Energy

The average price of liquid fuels decreased 5.7 percent in the January-November period, reflecting the lower price of gasohol. This result was influenced by lower refinery-gate prices, reflecting the downward trend of the international parity price, though to a smaller amount; the gap between both prices remained high. On the other hand, the retail margin recovered, which prevented a further decrease in the final price.

Electricity rates dropped 7.3 percent, after a series of cuts, mainly in February, May and August.

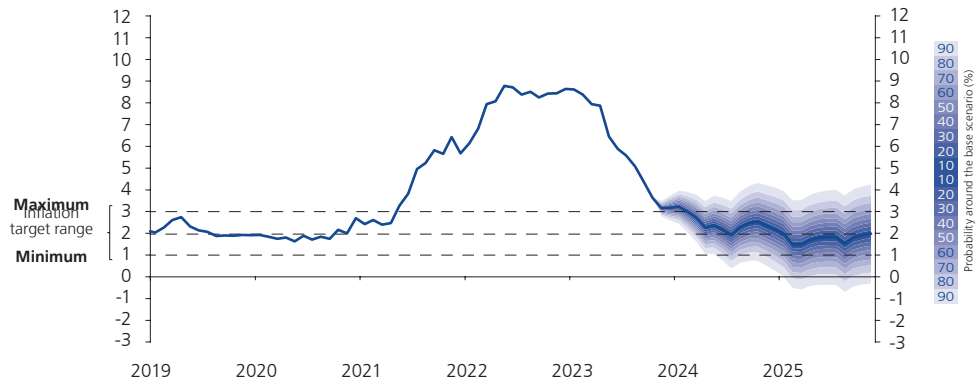
The adjustment in February responded to a lower premium for renewable energy resources (RER), after an increase in the spot price, and the quarterly adjustment of the price at generation, the surcharges in the main transmission component, and lower surcharge for the Electric Social Compensation Fund (FOSE). In May, the reduction was due to the impact of the lower exchange rate and the application of the compensation mechanisms for the differences between the price at generation level, defined ex ante by OSINERGMIN, and the prices of the bidding contracts. Subsequently, in August, generation prices were revised (quarterly settlement of the February-April 2023 period of the compensation mechanism between regulated users), which resulted in a new cut in rates; on that occasion, the lower surcharge factor for the Electric Social Compensation Fund (FOSE) was also considered, as well as the updating of the Fixed Charge and the Distribution Added Value to reflect changes in the wholesale price index, the exchange rate and the prices of copper and aluminum.

Household gas prices decreased 5.6 percent due to price band adjustments throughout the period, partially offset by an increase in the packaging, marketing and distribution margin.

Forecasts

80. The BCRP formulates and executes its monetary policy measures based on predictions of inflation and factors that influence inflation. In order to achieve this objective, all accessible macroeconomic and financial data is carefully considered. The elements that contribute to inflation include inflation expectations, imported inflation (which is influenced by the exchange rate), and inflationary pressures resulting from both demand and supply issues. Similarly, the process of creating inflation projections involves measuring uncertainty using various techniques and models. This is followed by defining risk scenarios and their corresponding probability of happening. The subsequent text outlines the fundamental scenario for projecting inflation and the potential risks that may lead to a deviation from this scenario in the future.

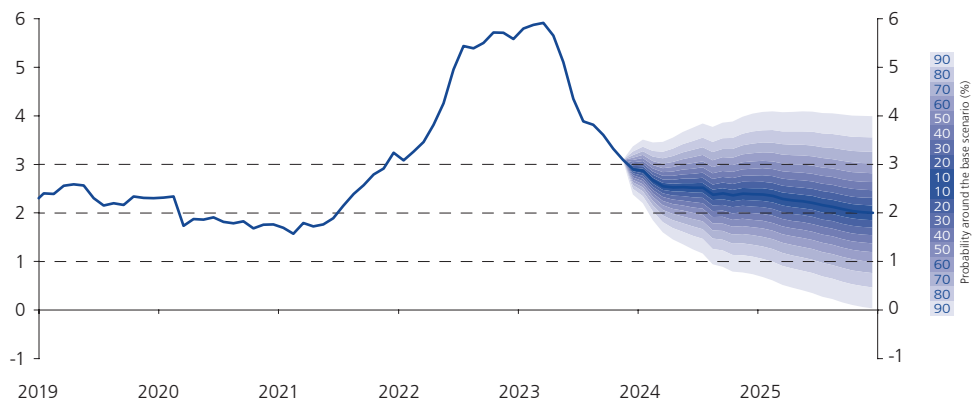
Graph 80
INFLATION FORECAST: 2023 - 2025
 (% change last twelve months)



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

Inflation is expected to reach 3.1 percent by the end of 2023, which implies a revision on the downside with respect to the 3.8 percent expected in the September Report. This revision is due to the reversal of the impact of supply shocks on food prices observed in recent months. Trend inflation, measured by the year-on-year change in non-food and energy prices, is expected to return to the target range by the end of this year. Thus, inflation will gradually decline over the forecast horizon, returning to the target range at the beginning of the second quarter of 2024 and closing that year at 2.3 percent.

Graph 81
INFLATION EXCLUDING FOOD AND ENERGY FORECAST: 2023 - 2025
 (% change last twelve months)



Note: This Fanchart presents the distribution of possible inflation excluding food and energy projection values over the projection horizon. Its central line is the mode of the distribution and shows the baseline scenario projection presented in this Inflation Report. Each pair of Fanchart bands (each shade) accumulates a 10% probability and indicates the possible values for the evolution of inflation without food and energy over the projection horizon associated with this confidence level. Source: BCRP.

In addition to the reversal of the effects of supply shocks, this forecast assumes that the effects of transitory factors such as the exchange rate, international fuel and grain prices dissipate, in a context in which economic activity is approaching its potential

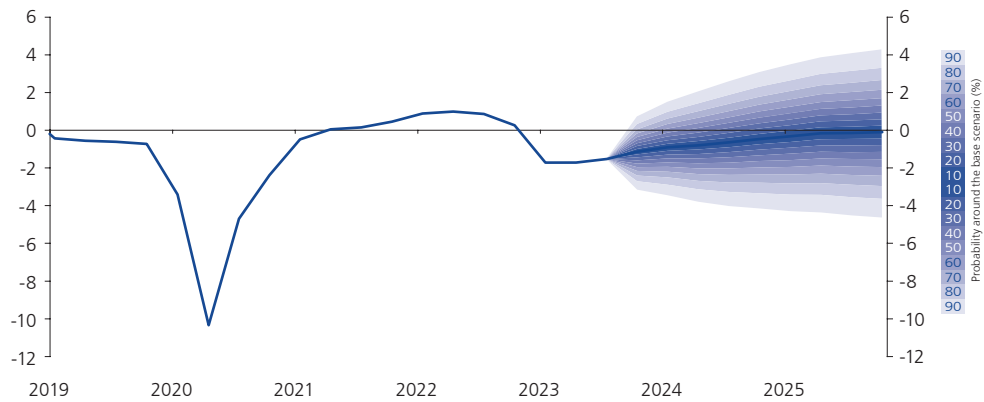




level, and inflation expectations show a decreasing trend towards the middle of the target range.

- 81. Low business confidence will gradually recover and the terms of trade are expected to remain at favorable levels. As a result, the output gap is expected to close over the projection horizon.

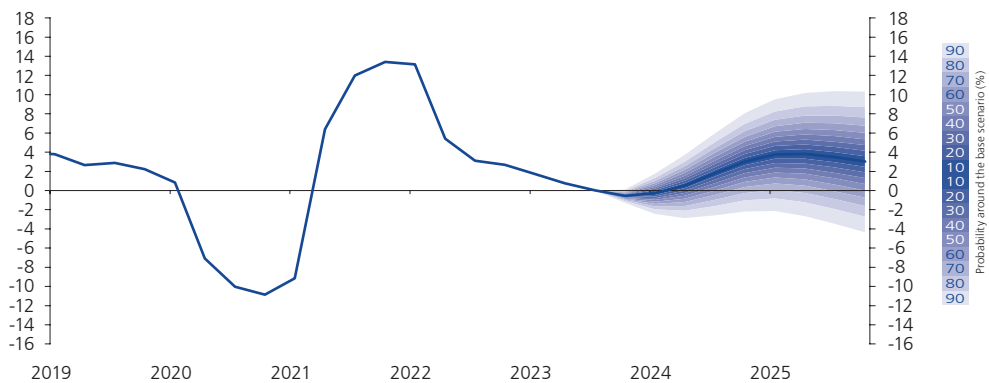
Graph 82
PROJECTED OUTPUT GAP: 2023-2025
(Percentage of potential output, quarterly average)



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

- 82. In line with the evolution of the output gap and the estimated potential GDP, a moderate growth in the level of economic activity is expected.

Graph 83
PROJECTED OUTPUT GROWTH: 2023-2025
(Percentage change, 4 quarters moving average)

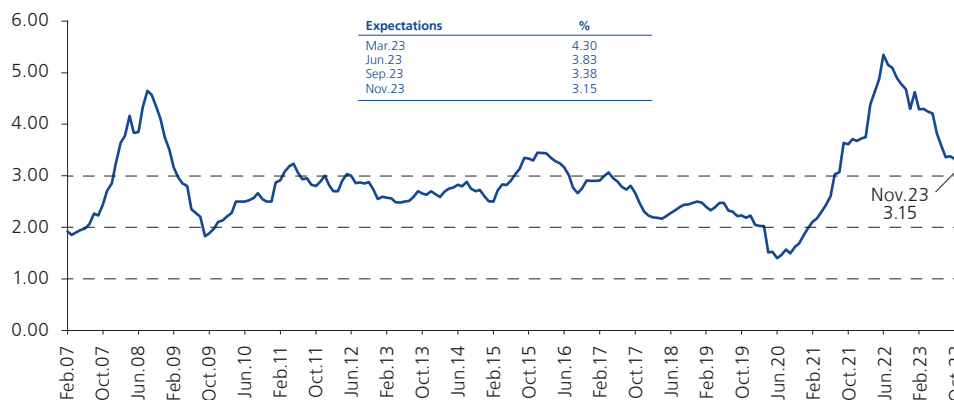


Note: This Fanchart presents the distribution of possible values of projected output growth over the projection horizon. Its center line is the mode of the distribution and shows the baseline scenario projection presented in this Inflation Report. Each pair of Fanchart bands (each shade) accumulates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

- 83. Inflation expectations, calculated based on surveys of financial and non-financial firms, as well as economic analysts, reveal a range for the expected inflation rate between 3.7

and 4.5 percent for 2023 (between 4.0 percent and 5.0 percent in the September 2023 Inflation Report), between 3.0 and 4.0 percent for 2024 (between 2.95 percent and 4.0 percent in the September 2023 Inflation Report), and between 2.5 and 3.0 percent for 2025. Twelve-month inflation expectations in November 2023 declined to 3.15 percent, temporarily above the upper limit of the inflation target band.

Graph 84
TWELVE-MONTH INFLATION EXPECTATIONS
(% points)



Source: BCRP.

Table 38
INFLATION EXPECTATIONS SURVEY
(%)

	IR Jun.23	IR Sep.23	IR Dec.23
Financial entities			
2023	4.90	4.25	4.15
2024	3.50	3.00	3.15
2025			2.50
Economic analysts			
2023	4.90	4.00	3.70
2024	3.00	2.95	3.00
2025			2.50
Non-financial firms			
2023	6.00	5.00	4.50
2024	4.00	4.00	4.00
2025			3.00

* Survey conducted on November 30.
Source: BCRP.

84. 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 oil, wheat, soybeans, and maize) with the effect of the variation of the exchange rate (Sol against the U.S. dollar).

Average import prices are projected to drop 6.6 percent in 2023, mainly due to the lower prices of oil and some foods stuffs such as maize, wheat and soybeans; while for 2024 and 2025, average import prices are expected to increase by 0.7 and 0.5 percent, respectively. Surveys of expected exchange rates as of November show levels between S/ 3.77 and S/ 3.80 for 2023, S/ 3.80 for 2024 and between S/ 3.80 and S/ 3.85 for 2025.





Table 39
EXCHANGE RATE EXPECTATIONS SURVEY
 (S/ per USD)

	IR Jun.23	IR Sep.23	IR Dec.23
Financial entities			
2023	3.80	3.70	3.80
2024	3.75	3.70	3.80
2025			3.82
Economic analysts			
2023	3.70	3.73	3.77
2024	3.80	3.80	3.80
2025			3.85
Non-financial firms			
2023	3.80	3.70	3.80
2024	3.80	3.80	3.80
2025			3.80

* Survey conducted on November 30.
 Source: BCRP.

Such effects are expected to bring inflation back to the target range in the coming months and continue to push it to the middle of the target range over the forecast horizon.

Risks to the inflation projection

85. Risks to the inflation projection are reduced with respect to the September Report, which is supported by the following shocks:

- **Food, energy and freight price shocks**

Relatively intense natural phenomena could disrupt some economic activities, the movement of perishable goods and the supply of domestic markets. These potential events could translate into higher food prices and transportation costs. The expected impact of this risk over the entire forecast horizon is reduced compared to that presented in the September Report. However, global supply chains could be affected by climatic factors that impact maritime transport (for example, low water levels in the Panama Canal). In addition, there is still the possibility of a higher incidence during the summer months of 2024 in the event of a strong or extraordinary coastal La Niña oscillation.

In addition, geopolitical tensions remain in Eastern Europe, China and the Middle East with a moderate risk of escalation, which sparking fears of global food and energy shortages. Furthermore, trade tensions between the United States, China and other economies could create new risks of supply chain disruptions.

- **Domestic demand shocks**

Episodes of political instability and social unrest could deteriorate the prospects for growth in consumption and private investment, as well as slow down public spending. Lower public and private investment spending would lead to lower capital accumulation and, therefore, to lower potential growth in economic

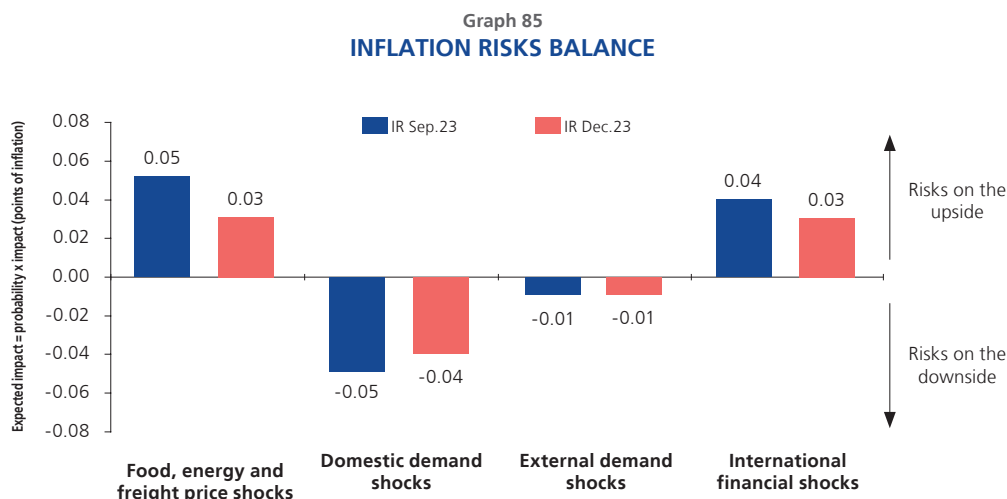
activity. The expected impact of this risk may be lower than previously expected in September.

- **External demand shocks**

There is still a risk of a slowdown in global growth, which would imply a lower demand for our main export products (external demand). This contingent scenario could be generated by (i) greater geopolitical tensions; (ii) new disruptions in global supply chains (technological war between China and the United States, and trade tensions between the United States, China and other advanced economies); (iii) the impact of inflation on consumption; and (iv) the probable slowdown in China’s economic growth. The impact of this risk remains the same as presented in the previous Inflation Report.

- **Financial shocks**

Increased volatility in international financial markets could generate episodes of capital outflows in emerging economies. On the domestic side, episodes of political uncertainty and social unrest could increase country risk and amplify capital outflows. These factors could generate upward pressures on the exchange rate, thus contributing to higher inflation; however, the impact of this risk is expected to be lower compared to that reported in September.



Source: BCRP.





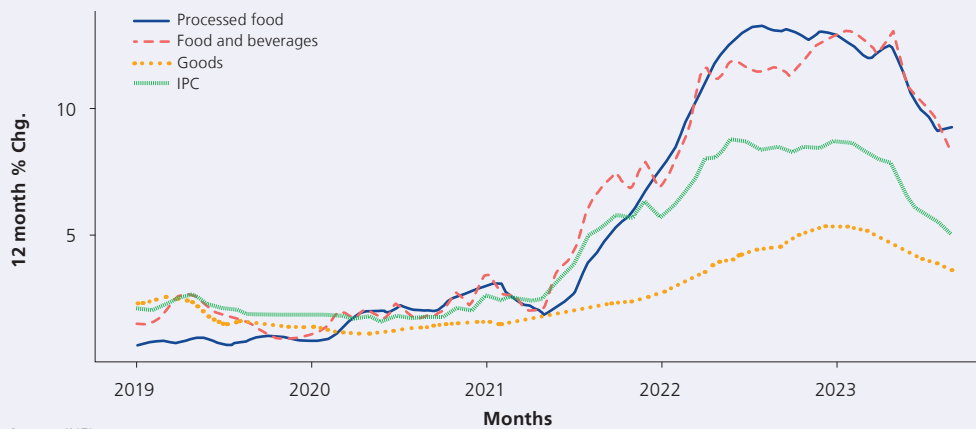
Box 7

HIGH-FREQUENCY INFLATION INDICATORS AND SUPERMARKET PRICE PATTERNS

Inflation in Peru has been characterized, since the beginning of the millennium, for being stable and with an average rate similar to that of developed countries; however, this period has also witnessed a significant number of inflationary supply shocks that, on occasions, have led the inflation rate to rise above its target range. A particular case in point is the inflationary shock that has been observed since mid-2021 and peaked in June 2022 (8.81 percent at 12 months). Prices of food and beverages, and particularly processed foods, increased persistently since mid-2022. Such percentage change pattern was also seen in goods prices (part of the trend component). This type of episode requires close monitoring of the components of the basic food basket.

12-MONTH VARIATION OF CONSUMER PRICE INDEX (CPI) COMPONENTS

(In %)



Source: INEI.

The analysis of inflation, calculated as an aggregate index, is based on the study and understanding of the process of individual price formation⁵⁴, further enhanced with data available more frequently than just monthly or weekly. This box presents calculations of high inflation indicators with the new database of prices of supermarket product varieties.

Data

Using web scraping techniques, we gathered information and prices of all product varieties contained in supermarket websites since April 2020. The basic information of each product recorded on the web is obtained automatically, including (i) name, (ii) price, (iii) brand and (iv) category.

As of October 2023, about 554 thousand unique records have been recorded for product varieties that have ever been sold, regardless of whether they are still available⁵⁵. Currently, the flow of new

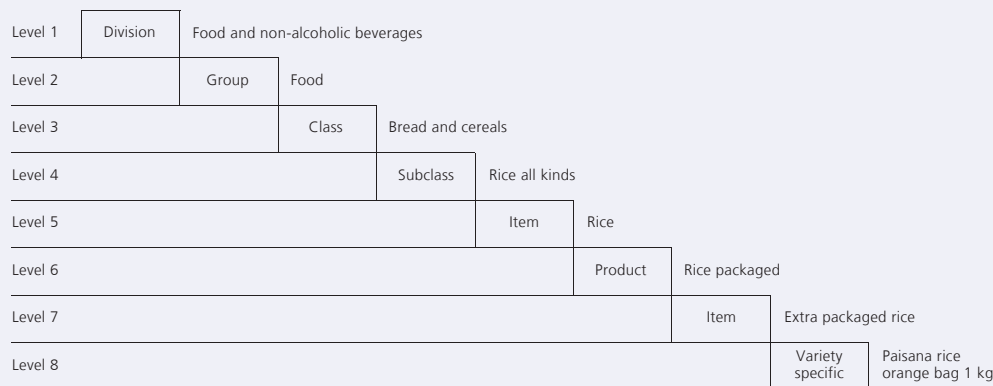
54 Cavallo, Alberto, and Roberto Rigobon. 2016. The Billion Prices Project: Using Online Prices for Measurement and Research. *Journal of Economic Perspectives*. <https://doi.org/10.1257/JEP.30.2.151>.

55 The main causes for a record to stop being updated are that its sale has been interrupted, or that its presentation has changed, which causes it to become a new record. Generally, in periods of high inflation, companies may choose to increase prices or reduce the size of their products, and these new presentations are recorded as a new product in the database.

information in the database includes about 170 thousand records per day. Of the total daily flow, 14 thousand correspond to processed foods.

Varieties were grouped according to the Classification of Individual Consumption by Purpose (CCIF or COICOP). The INEI has been using this classification since January 2022 to structure the consumption basket used to construct the Consumer Price Index (CPI). Each variety listed on supermarket websites corresponds to the smallest unit of measurement of the CCIF, which is the variety. This is then aggregated into different categories, of which the “product” and “category” levels are the most common for price analysis. The classification of the varieties into products and items of the CPI consumer basket was performed using machine learning techniques, with a supervised learning model of text classification⁵⁶.

CLASSIFICATION OF INDIVIDUAL CONSUMPTION BY PURPOSE



Source: INEI.

Supermarket websites list types of prices: (i) the regular price, (ii) the “online” price, best price or discounted price (according to the HTML structure these labels usually receive) and (iii) the price with a special discount card. The discount price is used for inflation tracking (or the regular one if not available), which would be the effective price that a consumer would pay.

Results

The medians of the year-on-year changes were calculated using the moving averages of the price series and removing some series with less than 50 percent of data for the sample. Percentage changes of goods’ prices equaling zero were removed, as it would erroneously imply that these varieties’ prices did not change over one year. First, we observe inflation speeded up in 2022, although food and beverages’ prices stand apart from the rest of goods due to persisting annual price increases. Goods’ prices increased more but more moderately since the beginning of 2023.

56 Armand, J., Edouard, G., Piotr, B., & Tomas, M. (2017). Bag of Tricks for Efficient Text Classification. Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics: Volume 2, Short Papers.





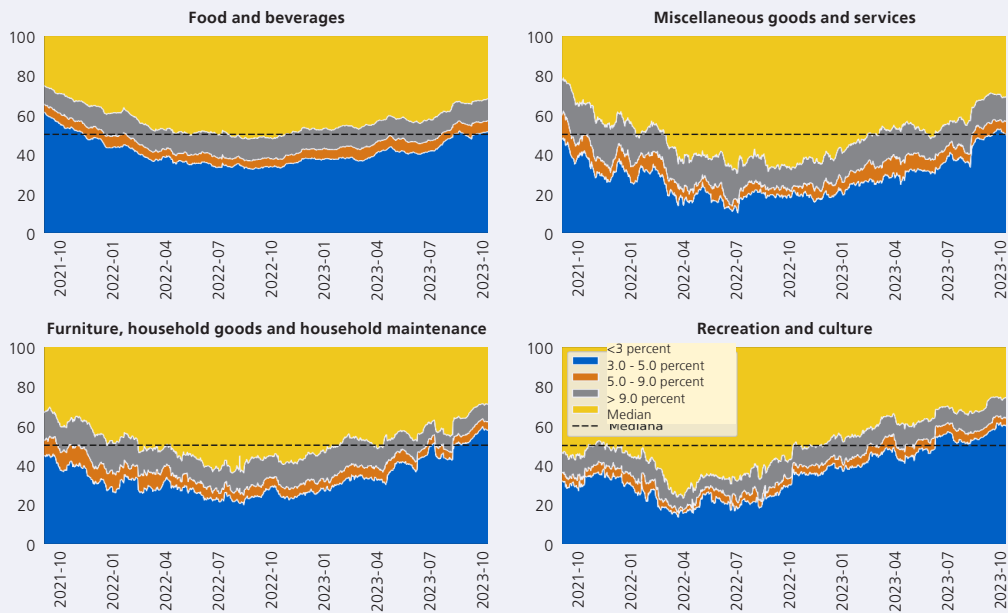
MEDIAN OF THE YEAR-ON-YEAR PRICE CHANGE WITH MOVING AVERAGE FILTER



Source: Supermarkets.

When observing the distribution of each sample, differences in trends appear. Food prices travelled a more stable, more moderate path. In contrast, other goods fluctuated more with year-on-year variation above nine percent. Although the median showed no change, price increases were more moderate.

DISTRIBUTION BY RANGES OF THE YEAR-ON-YEAR PRICE VARIATION WITH MOVING AVERAGE FILTERING



Source: Supermarkets.

Choosing two subsamples within food, perishable and processed, highlights their differentiated behavior. The first group has a more persistent price increase than the second. This is in line with the intuition that perishable foods are subject to short-term volatility and processed foods are updated less frequently, describing a trend. On the other hand, from May to June 2023 the

perishable food stuffs indicator spiked, compared to a smaller increase for processed food. This shows the different vulnerability with respect to shocks affecting food.

MEDIAN OF THE YEAR-ON-YEAR PRICE CHANGE WITH MOVING AVERAGE FILTER FOR PERISHABLE AND PROCESSED FOODS



Source: Supermarkets.

Update frequency analysis

Discounts shown in the series generate noise when identifying persistent changes. We used an algorithm based on the methodology by Nakamura & Steinsson (2008)⁵⁷ to obtain “stable” prices. Thus, the update frequency can be measured as the quarterly average of the number of times the stable price changes. Aggregating at product level, the average quarterly update frequency increased from the third quarter of 2020 to the fourth quarter of 2022, a behavior not observed when comparing the third and fourth quarters of 2020. This could be due to the difference in the inflation regime in which prices are formed.

57 Nakamura, Emi, and Jón Steinsson. 2008. Five Facts about Prices: A Reevaluation of Menu Cost Models. *The Quarterly Journal of Economics* 123 (4): 1415-64.



