INFLATION REPORT

December 2021

Recent trends and macroeconomic forecasts 2021-2023

CENTRAL RESERVE BANK OF PERU

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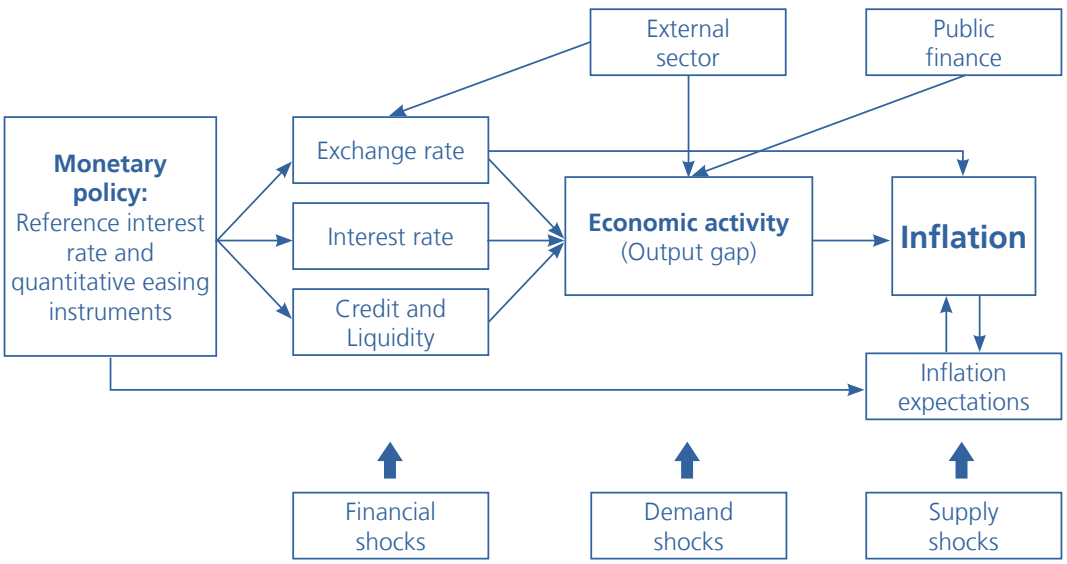

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Boxes

This ***Inflation Report*** has been prepared using data on the balance of payments and the gross domestic product as of the third quarter of 2021, data on monthly GDP, the trade balance, and monetary accounts as of October 2021, and data on the operations of the non-financial public sector, inflation, financial markets and the exchange rate as of November 2021.

Foreword

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

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

- Since 2003, the Board of BCRP sets a benchmark rate for the interbank lending market each month, according to a previously announced schedule. In March and April of 2020, the benchmark rate was modified outside of this schedule due to the economic contraction generated by the confinement measures taken because of the COVID-19 pandemic. Since this interest rate, which is the monetary operational target, affects the rate of inflation through several channels with time lags, this rate is set on the basis of inflation forecasts and inflation determinants.

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

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

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

- This Inflation Report was approved by the Board of Directors of BCRP on December 9, 2021.

- The following Inflation Report will be published on Friday, March 18, 2022.

Summary

i. The world economy continues to recover, albeit at a somewhat slower pace than expected due to the persistence of supply shocks linked to international trade and labor, the increase in energy prices, and the rise in COVID-19 cases following the expansion of the delta variant and, more recently, the new omicron variant. In this context, **global growth** projections have been revised slightly down, from 5.8 to 5.7 percent for 2021 and from 4.4 to 4.3 percent for 2022. Supply conditions are expected to normalize as from the second half of 2022. The gradual withdrawal of monetary stimulus in view of rising global inflation and the implementation of fiscal packages in the major developed economies are anticipated as well. In 2023, the world economy would grow 3.4 percent, recording a growth rate similar to that observed before the pandemic.

ii. The international scenario continues to be highly favorable for the Peruvian economy. The **terms of trade** grew 14.6 percent in the January to September 2021 period, driven mainly by high prices for copper because of the low level of world inventories observed and the increase in energy prices. In 2021, on the other hand, the terms of trade would grow 11.1 percent –less than projected in the September Report (11.7 percent)–, this downward revision being supported by higher fuel and food prices, while in 2022 and 2023, the terms of trade would fall slightly, in a context influenced by an energy crisis and a slight reduction in commodity prices.

iii. As of the third quarter of 2021, the **current account of the balance of payments** registered an accumulated deficit of 1.2 percent of GDP year-on-year, a result below the average deficit of the last 10 years (2.6 percent). Factors accounting for this deficit included (i) the increase in imports following the recovery of domestic demand, (ii) the increase in the factor income deficit due to higher profits of companies with foreign direct investment; (iii) the contraction of the services account, due to the gradual recovery of inbound tourism and the high price of international freight in a context of crisis in maritime transport and problems in the logistics chain. Because of all of these factors, the current account deficit in 2021 is projected at 1.9 percent. On the other hand, a lower deficit of 1.3 percent of GDP is expected for 2022 due to the positive impact of the normalization of local production and global demand on export volumes, while a deficit of 0.8 percent of GDP is projected for 2023 due to the expected recovery of exports of services after the end of the pandemic scenario.

iv. **Economic activity** increased by 16.0 percent year-on-year in the January-October 2021 period (0.6 percent compared to the same period in 2019), driven mainly by dynamism in non-primary sectors and a low comparative base. The pace of growth is expected to slow down in the fourth quarter of the year as a result of the deterioration in business confidence as well as due to a lower comparison base effect given the progress in the recovery from the pandemic recorded in the fourth quarter of last year. Thus, GDP would grow 13.2 percent in 2021, registering a higher rate than that estimated in the previous Report (11.9 percent) associated with a better-than-expected result in the third quarter. In addition, it is worth mentioning that activity would have surpassed pre-pandemic levels since the third quarter of this year.

The projection scenario assumes continued vaccination of the target population during the first quarter of 2022 with the application of booster doses, an expansionary monetary stance, albeit at a lower magnitude, and highly favorable terms of trade. On the other hand, should a third wave of COVID-19 infections occur, it is assumed that it would not have significant economic impacts.

The normalization of spending habits and the gradual lifting of current health restrictions would boost non-primary activity and the labor market, which, together with the recovery of primary production, would translate into a growth rate of 3.4 percent in 2022. The economy is expected to continue recovering in 2023 with a rate of 3.2 percent, in a context of preservation of macroeconomic and financial stability in which an adequate business environment is promoted to boost household and corporate consumption and investment decisions, as well as job creation.

v. The cumulative **fiscal deficit** over the last twelve months continued its downward trend and recorded 3.3 percent of GDP as of November 2021, marking nine consecutive months of fiscal deficit reduction in a context of strong recovery of fiscal revenues due to high commodity prices, the evolution of economic activity, and the collection of extraordinary revenues. After the deficit represented 8.9 percent of GDP in 2020, the current downward trend in the deficit is expected to continue in the forecast horizon. Thus, the deficit is estimated at 3.1 percent of GDP in 2021 and to decrease thereafter to 2.8 percent and 2.4 percent in 2022 and 2023, respectively.

In 2021, the **gross debt** of the Non-Financial Public Sector would be equivalent to 36.8 percent of GDP and would then decrease to 35.6 percent in 2023. The evolution of the fiscal deficit and the expected management of Non-Financial Public Sector deposits would explain the evolution of net debt, which would register 23.0 percent of GDP in 2021 and increase to 24.4 percent in 2023.

vi. In August 2021, the Board of Directors of BCRP began the **withdrawal of monetary stimulus** after having maintained the benchmark monetary policy interest rate at its historical minimum of 0.25 percent between March 2020 and July 2021. The benchmark interest rate was raised from 0.25 percent in July to 2.5 percent in December, with increases of 50 basis points being decided in the Board meetings of September, October, November, and December. Given that the benchmark real interest rate remains at negative levels (-1.2 percent in December) after having reached a historic low of -2.5 percent in August, these decisions have implied maintaining an expansionary monetary policy stance.

The balance of liquidity injection operations in soles decreased from S/ 58.7 billion at the end of September to S/ 56.6 billion as of December 13. This balance is equivalent to 6.7 percent of GDP, of which S/ 39.8 billion corresponds to government-secured repos of credit portfolio (Reactiva Peru program). In comparative terms, the total balance of liquidity injection operations is 7.2 times higher than the balance of these operations during the 2008-2009 international financial crisis (S/ 7.9 billion) and 1.8 times the balance reached during the period of falling commodity prices (2013-2016) and the de-dollarization program (S/ 31.8 billion).

vii. The pace of growth of **credit to the private sector** slowed from an expansion rate of 5.0 percent in June 2021 to a year-on-year rate of 3.2 percent in October 2021. After a significant increase in the credit-to-GDP ratio in 2020, private sector demand for credit

in the projection horizon is expected to moderate its growth and increase at a slower pace than nominal GDP: 3.3 percent in 2021 and 3.5 percent in 2022, while in 2023, credit is expected to grow at a rate close to that of nominal GDP (5.5 percent). This would bring the ratio of credit to the private sector to GDP to 42 percent at the end of the forecast horizon.

viii. Year-on-year **inflation** rose from 4.95 percent in August to 5.66 percent in November, driven by the higher prices of food with high imported content and fuels; as well as by the depreciation of the sol. In this context, 12-month inflation expectations rose from 3.1 percent to 3.7 percent, inflation excluding food and energy (core inflation) rose from 2.4 percent to 2.9 percent over the same time period, while trend inflation indicators rose above the target range. Year-on-year inflation is projected to return to the target range by the end of 2022 showing a clear downward trend during the second half of the year as the effects of higher fuel, food and exchange rate prices on inflation fade. This projection considers that inflation expectations would gradually decrease towards the target range, in a context of a gradual closing of the output gap and the withdrawal of monetary stimulus.

ix. The balance of **inflation risk factors** remains skewed to the upside. The risks in the projection consider mainly the following contingencies: (i) a lower level of local activity if business and consumer confidence do not recover; (ii) upward pressures on the exchange rate due to episodes of capital outflows in emerging economies or delay in the normalization of recent volatility in local financial markets; and (iii) persistently high international fuel and food prices due to continued supply problems, coupled with weather factors.

SUMMARY OF INFLATION REPORT FORECAST

	2020	2021 1/		2022 1/		2023 1/
		IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
Real % change						
1. Gross Domestic Product	-11.0	11.9	13.2	3.4	3.4	3.2
2. Domestic demand	-9.4	12.5	13.9	3.0	3.0	3.0
a. Private consumption	-9.8	9.2	11.2	4.0	4.0	3.5
b. Public consumption	7.6	9.0	10.9	1.5	1.5	2.0
c. Fixed private investment	-16.5	24.5	36.0	0.0	0.0	2.0
d. Public investment	-15.5	20.0	21.9	4.5	4.5	1.6
3. Exports (good and services)	-21.0	11.9	13.3	6.4	7.5	7.6
4. Imports (good and services)	-15.6	14.5	16.3	4.9	5.6	6.7
5. Global economic growth	-3.3	5.8	5.7	4.4	4.3	3.4
Memo:						
Output gap 2/ (%)	-13.3	-9.0 ; -2.0	-5.5 ; -0.5	-6.0 ; 0.0	-5.5 ; 0.5	-5.0 ; 1.0
% change						
6. Inflation	2.0	4.9	6.2	2.6	2.9	2.1
7. Expected inflation 3/	1.5	3.7	5.8	2.8	3.5	2.9
8. Expected depreciation 3/	7.4	13.7	12.3	0.6	2.7	1.6
9. Terms of trade	9.4	11.7	11.1	3.3	-1.5	-0.7
a. Export prices	3.9	27.2	29.0	0.9	2.1	-0.6
b. Import prices	-5.0	13.9	16.1	-2.4	3.6	0.0
Nominal % change						
10. Currency in circulation	37.3	12.5	12.5	3.0	3.0	1.5
11. Credit to the private sector	11.8	3.0	3.3	3.0	3.5	5.5
% GDP						
12. Gross fixed investment	21.1	23.2	25.0	22.3	24.3	24.0
13. Current account of the balance of payments	0.6	-1.7	-1.9	0.2	-1.3	-0.8
14. Trade balance	3.9	6.8	6.5	7.5	6.6	6.4
15. Long-term external financing of the private sector 4/	-0.5	2.7	5.5	-0.8	0.1	0.2
16. Current revenue of the general government	17.8	20.1	20.8	20.0	20.6	20.6
17. Non-financial expenditure of the general government	24.7	22.6	22.4	21.9	21.8	21.4
18. Overall balance of the non-financial public sector	-8.9	-4.0	-3.1	-3.4	-2.8	-2.4
19. Balance of total public debt	34.7	34.9	36.8	34.7	35.9	35.6
20. Balance of net public debt	22.3	24.3	23.0	25.4	23.7	24.4

IR: Inflation Report
1/ Forecast.
2/ Differential between GDP and trend GDP (in % of trend GDP).
3/ 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 2020, and the average of expectations throughout year in case of inflation has been considered.
4/ Includes net direct investment, foreign assets investment from residents (AFP), foreign net portfolio investment, and private sector's long term disbursement.

I. External Sector

1. The recovery of global economic growth has been weakened in recent months by, among other factors, the persistence of supply shocks, higher energy prices, and the increase in COVID-19 cases, associated with the expansion of the delta variant and, more recently, the new omicron variant. In this context, the global growth projection has been revised slightly downward, from 5.8 to 5.7 percent for 2021 and from 4.4 to 4.3 percent for 2022. These projections assume the normalization of supply conditions as from the second half of 2022, the gradual withdrawal of monetary stimulus, and the implementation of fiscal packages in the major developed economies (especially the United States and Japan). A growth rate of 3.4 percent –similar to prepandemic growth rates– is expected for 2023,.

   The persistence of supply shocks in recent months has accentuated the upward trend in inflation, which had risen steadily throughout the year due to the recovery of domestic demand and the increase in the price of raw materials (food and energy), among other factors. In this context, several central banks have announced their reduction of monetary stimulus, either by cutting their asset programs –the cuts announced by the Fed in November and December stand out–or by raising interest rates (in many cases, from the historic lows observed during the pandemic).

Recent developments in global economic activity

2. **In recent months, global economic activity has moderated its pace of growth, affected by a series of supply shocks and by the resurgence of COVID-19 cases.**

   The supply shocks described in the September Inflation Report have persisted so far in the fourth quarter. Thus, problems of shortage of inputs (the shortage of semiconductors standing out), delays and higher costs in maritime transportation, labor shortages, among other limitations to growth, have continued in the fourth quarter. In addition, in recent months, there has been a significant increase in the cost of energy, particularly gas, due to strong Chinese demand and supply restrictions by Russia. Box 1 of this Report provides more information on the latter and analyzes its effects on Peru's import prices.

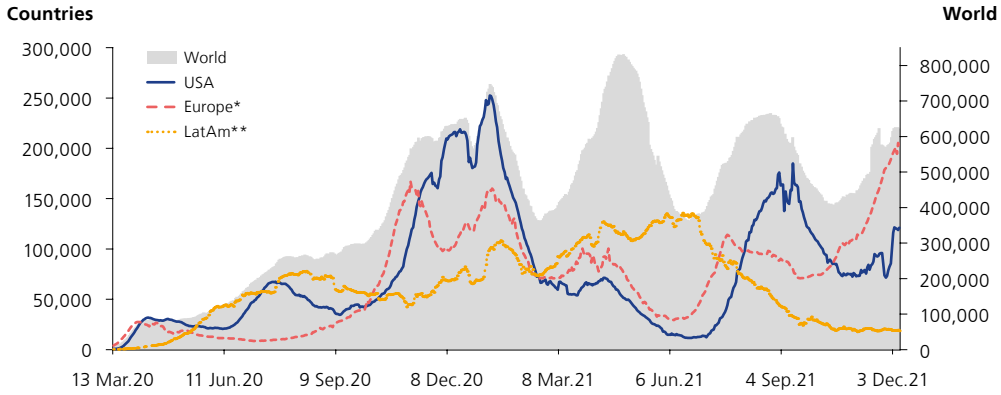
   As for epidemiological factors, there has been an increase in infections in several developed European economies (i.e. Germany, Austria and the Netherlands) and, to a

lesser extent, in the United States. These outbreaks, associated with the delta variant, are taking place in a context in which, despite high vaccination rates, marginal advances are minor due to the reluctance of a significant sector of the population to be vaccinated.

It should be pointed out that the number of new infections per day in Europe has reached levels similar to the peaks observed during previous waves, leading several nations to reintroduce a series of social containment measures. In China, although the resurgence of Covid has been partial and focused, the authorities have adopted drastic measures to contain possible further spread of the virus.

At the time of writing this report, the expansion of COVID-19 cases has been reinforced by the appearance of a new variant (omicron), whose increased transmissibility could lead to new restrictions on social mobility.

Graph 1
AVERAGE DAILY CASES OF COVID-19



* Germany, Spain, France, Italy, United Kingdom and Russia.
** Argentina, Brazil, Chile, Colombia, Mexico, Peru.
Information as of December 8. Moving average 7 days.
Source: Johns Hopkins University.

3. **In line with these factors, economic activity showed lower growth rates in the third quarter. In addition, some monthly activity indicators (particularly in the months of October and November) reflect that this trend would have continued so far in the fourth quarter.**

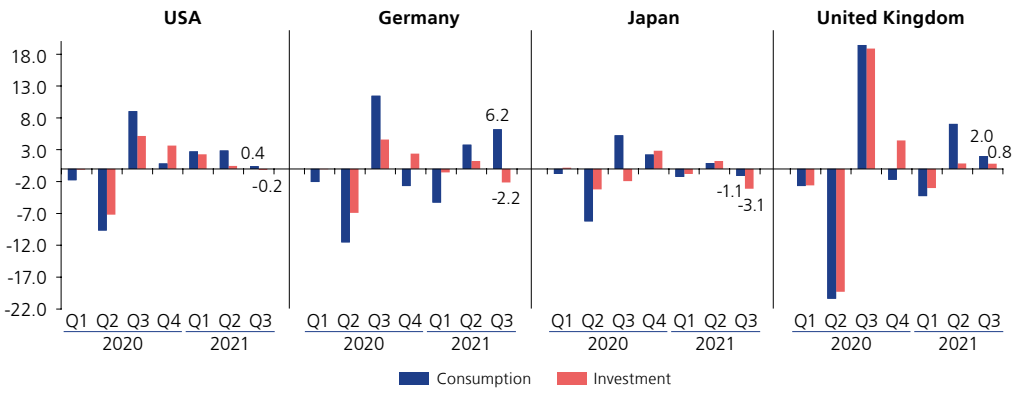
In the **third quarter**, most of the major economies showed lower growth rates than in previous quarters, supply chain shocks having had a significant impact on investment and sectors linked to the production of consumer durables.

In the United States, consumption showed a more moderate pace of growth, while investment contracted due to the evolution of the real estate sector. In the Eurozone, the slowdown in Germany (also affected by the contraction in investment) was offset by the dynamism of domestic demand in France and Italy. Japan, on the other hand, recorded its second quarterly decline of the year, this time due to the slowdown in the real estate sector and problems in the supply chain, which particularly affected the automotive sector.

Graph 2

CONSUMPTION AND INVESTMENT IN DEVELOPED ECONOMIES, 2020-2021

(Quaterly % chg.)

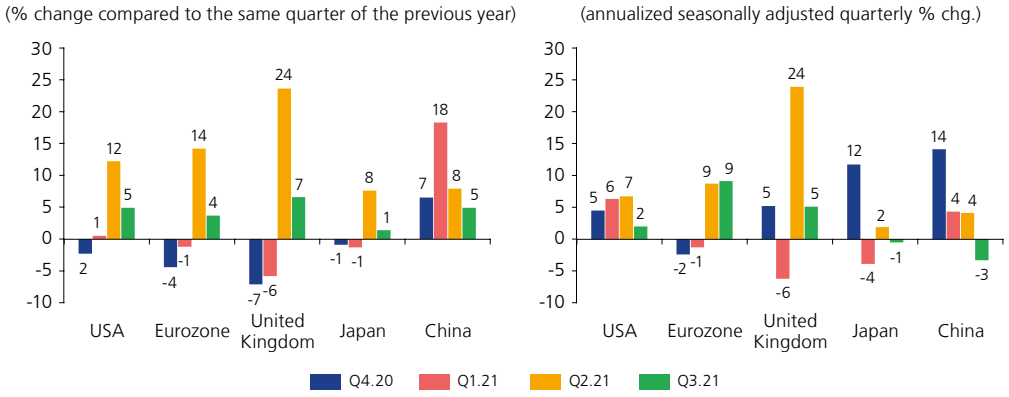


Note: Quarterly variation rates without annualization.
Source: OECD.

China, like Japan, recorded a decline in the level of activity compared to the previous quarter. This decline was influenced by the energy crisis, the containment measures adopted in various cities in response to the first outbreaks of COVID-19, and the slowdown in the real estate market, affected by the situation of the real estate company Evergrande.

Graph 3

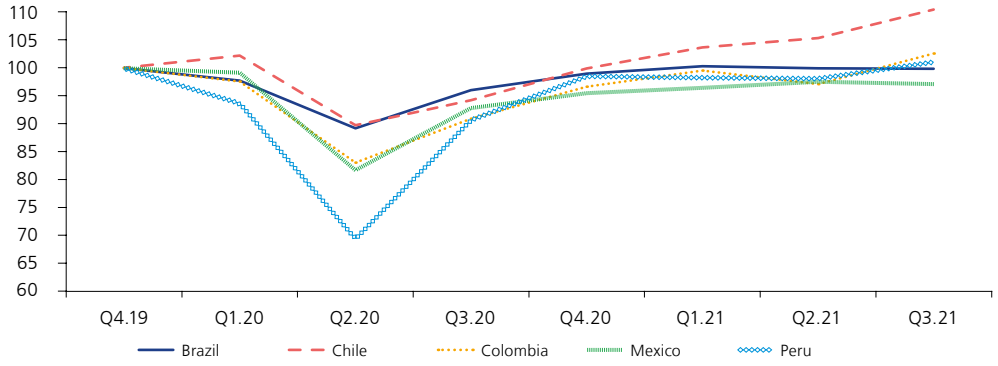
QUARTERLY GROWTH: MAIN ECONOMIES



In contrast, several Latin American economies have continued with the recovery trend of previous quarters, supported by high commodity prices and the dynamism of domestic demand. In Chile, the expansion of domestic demand has been favored by the advance of vaccination and higher household spending in a context of extraordinary resources. Growth in Colombia, which exceeded the forecasts of the previous report, was supported by the recovery of the labor market and the continuity of expansionary fiscal and monetary policies. Mexico, on the other hand, recorded a contraction in the level of activity in September, in part due to the problems in the supply chain that have

affected the export sector and due to the impact of the increase in contagions on the services sector.

Graph 4
LATIN AMERICA: QUARTERLY GDP*
(Index 100 = Q4.19)

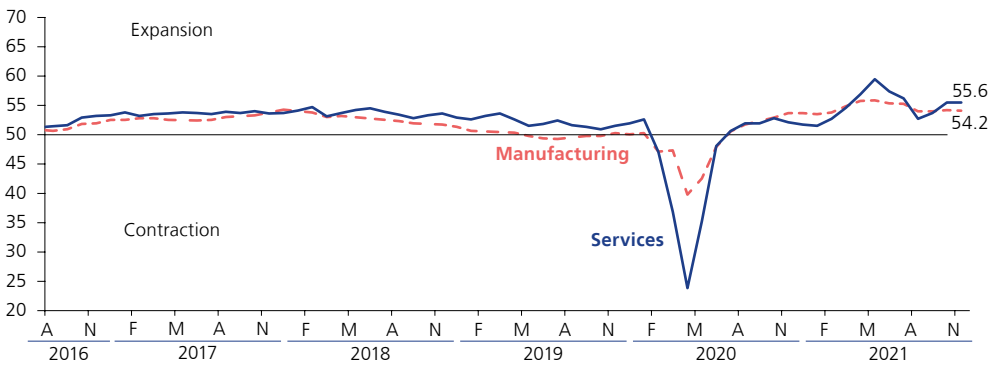


* Seasonally adjusted series.
Source: Statistical institutes and central banks.

4. **In recent months, some indicators reflect the possibility that this trend towards lower growth rates will continue, although showing different behaviors at the country level.**

The global PMI index for manufacturing and services has remained in the expansion zone. However, in the case of manufacturing, the most dynamic items are associated with the aforementioned supply shocks. Thus, of the seven items that make up the index, those corresponding to input prices and final goods prices show the highest growth and reach the highest levels. Moreover, the improvement in the employment item has been constrained by the limited availability of personnel.

Graph 5
PMI GLOBAL MANUFACTURING AND SERVICES
Dissemination Index



Source: JP Morgan.

Table 1

JP MORGAN GLOBAL ACTIVITY INDEX: MAIN ECONOMIES

I. Services

	Mar.20	Jun.20	Sep.20	Dec.20	Jan.21	Mar.21	Jun.21	Sep.21	Oct.21	Nov.21
Global	36.8	48.1	52.0	51.8	51.6	54.7	57.4	53.8	55.6	55.6
EUA Markit	39.8	47.9	54.6	54.8	58.3	60.4	64.6	54.9	58.7	58.0
China Caixin	43.0	58.3	54.8	56.3	52.0	54.3	50.3	53.4	53.8	52.1
Eurozone	26.4	48.3	48.0	46.4	45.4	49.6	58.3	56.4	54.6	55.9
United Kingdom	34.5	47.1	56.1	49.4	39.5	56.3	62.4	55.4	59.1	58.5
Japan	33.8	45.0	46.9	47.7	46.1	48.3	48.0	47.8	50.7	53.0

II. Manufacturing

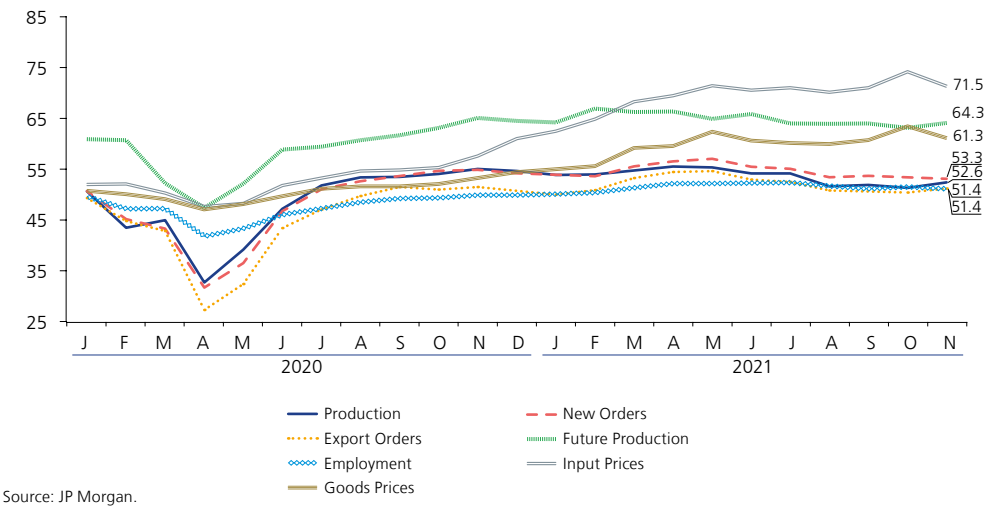
	Mar.20	Jun.20	Sep.20	Dec.20	Jan.21	Mar.21	Jun.21	Sep.21	Oct.21	Nov.21
Global	47.3	47.9	52.4	53.8	53.6	55.0	55.5	54.1	54.3	54.2
EUA Markit	48.5	49.8	53.2	57.1	59.2	59.1	62.1	60.7	58.4	58.3
China Caixin	50.1	51.2	53.0	53.0	51.5	50.6	51.3	50.0	50.6	49.9
Eurozone	44.5	47.4	53.7	55.2	54.8	62.5	63.4	58.6	58.3	58.4
United Kingdom	47.8	50.1	54.1	57.5	54.1	58.9	63.9	57.1	57.8	58.1
Japan	44.8	40.1	47.7	50.0	49.8	52.7	52.4	51.5	53.2	54.5

Source: JP Morgan.

Graph 6

COMPONENTS OF THE GLOBAL MANUFACTURING PMI, 2020-2021

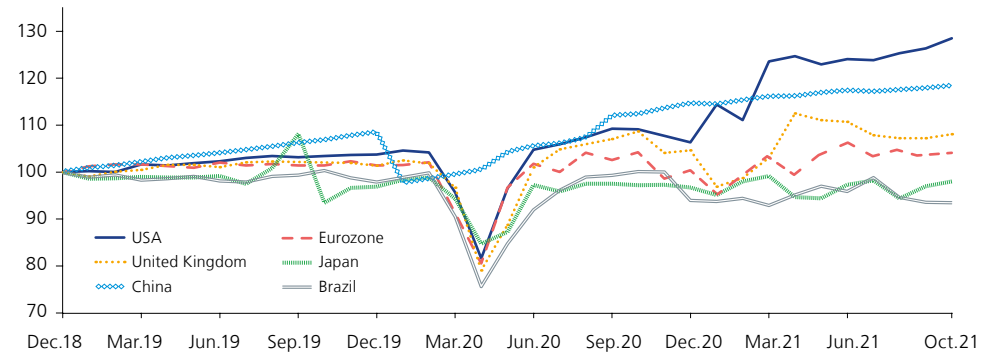
(Diffusion rates index)



Source: JP Morgan.

Other indicators, such as retail sales and industrial production, also show different behaviors by country, with a better performance being observed in the United States than in other developed economies. It is worth noting that, as a result of rising inflation and the recent increase in COVID-19 cases, consumer confidence has deteriorated in most countries in the last two months, which could be reflected in a lower growth of consumption in the coming months.

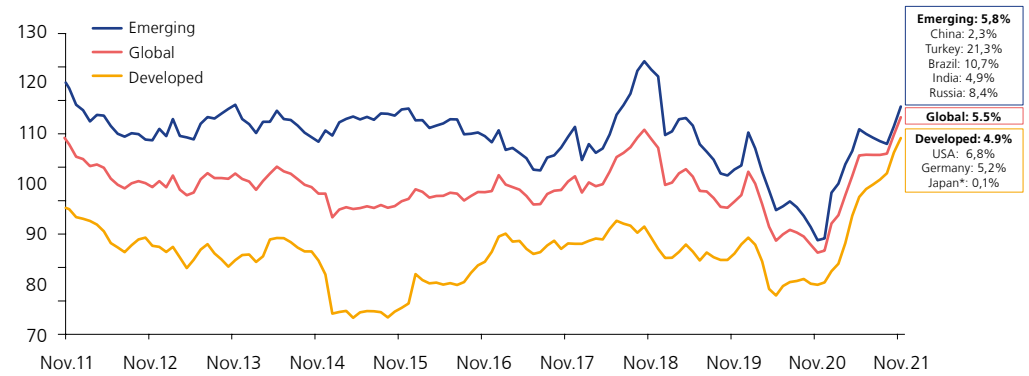
Graph 7
RETAIL SALES
(Index, December 2018 = 100)



Source: Investing and Trading Economics.

5. **Following the trend outlined in the previous Report, inflationary pressures continued to rise globally**. This global increase is explained by the persistence of the supply shocks mentioned in the September Inflation Report (in addition to the recent rise in energy prices) and the increase in domestic demand. Although both developed and emerging economies experience this rise, the increase in the former has been more pronounced and the levels reached have been the highest in several years.

Graph 8
GLOBAL INFLATION
(12-months % chg.)



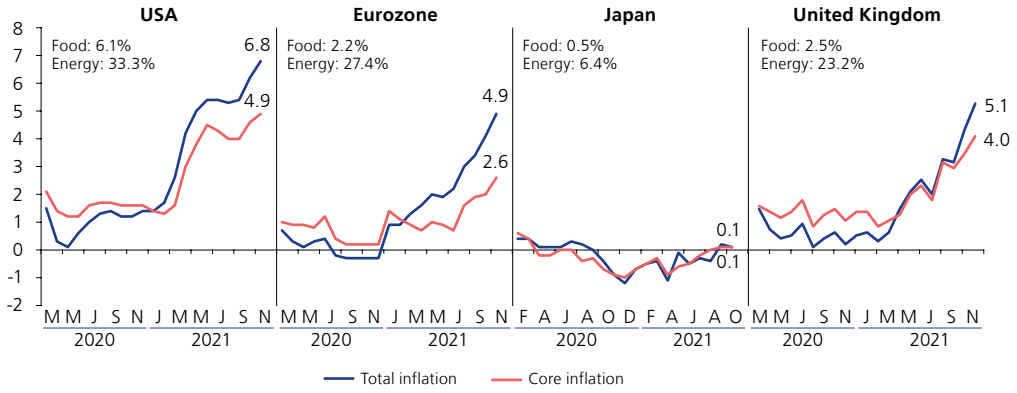
* Data corresponding to October 2021.
Source: Reuters.

In the United States, the inflation rate of 6.8 percent recorded in November was the highest since June 1982, while core inflation followed a similar upward trend and reached 4.9 percent, the highest level registered since June 1991. Likewise, in the United Kingdom, the 5.1 percent rate recorded in November was the highest in ten years.

Similarly, in the Eurozone, the inflation rate rose from 3.4 percent in September to 4.9 percent in November, the highest rate since July 1991. Inflation in Germany stands

out within the Eurozone, where after five consecutive months of increases, it reached 5.2 percent in November, the highest rate since 1992. It is worth mentioning that the expiration of the sales tax reduction in Germany (effective between July and December 2020) continues to explain part of the higher inflation.

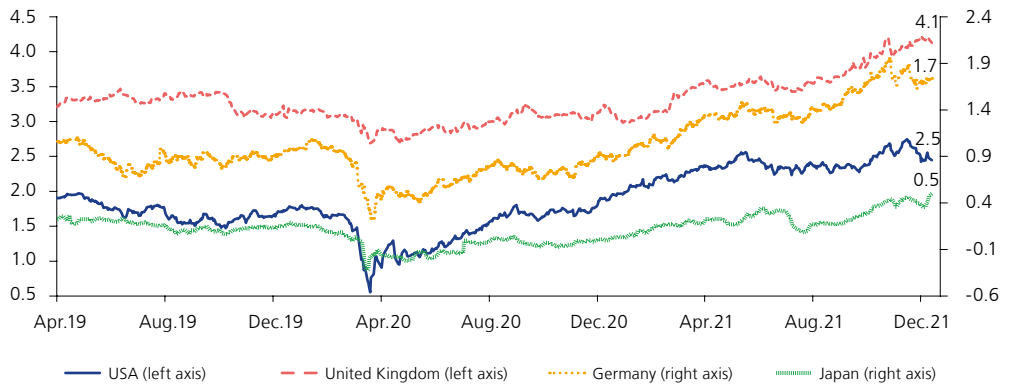
Graph 9
INFLATION IN DEVELOPED ECONOMIES 2020-2021
(12-month % chg.)



Source: Trading Economics.

Despite the upward trend observed in data, inflation expectations remained relatively stable, with the exception of the United Kingdom, where long-term inflation expectations continued to rise. Breakeven inflation, estimated from the difference between nominal and inflation-indexed yields, shows inflation rates below current levels. This reinforces the outlook, as stated by most central banks, that high inflation would be temporary and would start to reverse as of the second half of 2022.

Graph 10
BREAKEVEN INFLATION (10 YEARS)



Source: Reuters.

6. **In the economies with inflation targeting, the year-on-year inflation rate has been above the target range in most cases**, this being observed both in developed economies –such as the United Kingdom, Canada, and Sweden– and in most emerging economies.

Table 2

EVOLUTION OF INFLATION IN COUNTRIES WITH AN INFLATION TARGETING SCHEME

(12-month % chg.)

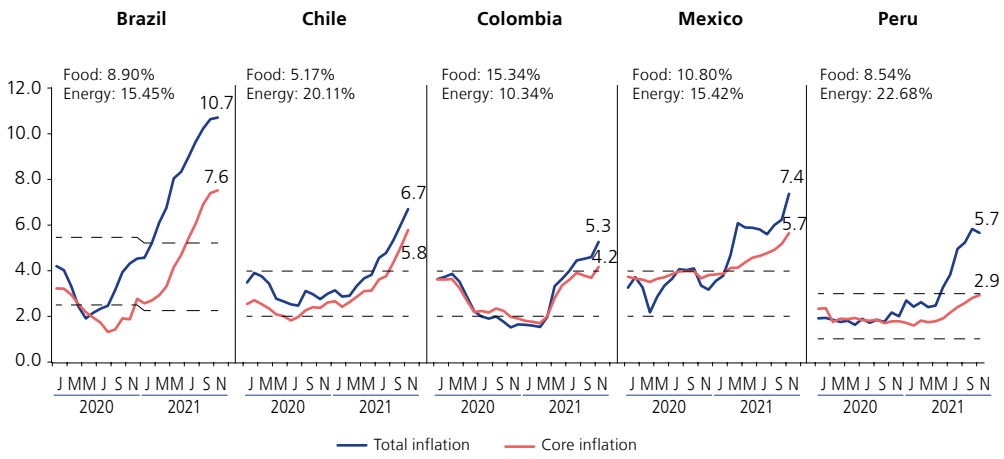
Countries	Dec.20	Jun.21	Sep.21	Oct.21	Nov.21	Target	Maximum from:
America							
U.S.	1.4	5.4	5.4	6.2	6.8	2.0	Jun-82
Canada	0.7	3.6	4.4	4.7	4.7	2.0+/-1.0	Feb-03
Uruguay	9.4	7.3	7.4	7.9	8.1	,3.0-7.0	Mar-21
Colombia	1.6	3.6	4.5	4.6	5.3	3.0+/-1.0	Apr-17
Chile	3.0	3.8	5.3	6.0	6.7	3.0+/-1.0	Jan-19
Mexico	3.2	5.9	6.0	6.2	7.4	3.0+/-1.0	Dec-17
Brazil	4.5	8.3	10.3	10.7	10.7	3.75+/-1.5	Jan-16
Peru	2.0	3.3	5.2	5.8	5.7	2.0+/-1.0	Jan-09
Guatemala	4.8	3.9	3.7	3.0	2.9	4.0+/-1.0	-.-
Asia							
Indonesia	1.7	1.3	1.6	1.7	1.8	3.0+/-1.0	May-21
India	4.6	6.3	4.4	4.5	4.9	4.0+/-2.0	Aug-21
Philippines	3.5	4.1	4.8	4.6	4.2	3.0+/-1.0	-.-
South Korea	0.5	2.4	2.5	3.2	3.7	2.0	Jan-12
Thailand	-0.3	1.2	1.7	2.4	2.7	2.5+/-1.5	Apr-21
Israel	-0.7	1.7	2.5	2.3	2.4	1.0-3.0	-.-
Europe							
Germany	-0.3	2.3	4.1	4.5	5.2	2.0	Jun-92
France	0.0	1.5	2.2	2.6	2.8	2.0	Sep-08
Italy	-0.2	1.3	2.5	3.0	3.8	2.0	Aug-12
Serbian	1.3	3.3	5.7	6.6	7.5	3.0+/-1.5	Jul-13
Hungary	2.7	5.3	5.5	6.5	7.4	3.0+/-1.0	Sep-12
Norway	1.4	2.9	4.1	3.5	5.1	2.5	May-01
Czech Republic	2.3	2.8	4.9	5.8	6.0	2.0+/-1.0	Oct-08
United Kingdom	0.6	2.5	3.1	4.2	5.1	2.0	Sep-11
Poland	2.4	4.4	5.9	6.8	7.7	2.5+/-1.0	Dec-11
Iceland	3.6	4.3	4.4	4.5	4.8	2.5	Apr-21
Sweden	0.5	1.3	2.5	2.8	3.3	2.0	Aug-11
Turkey	14.6	17.5	19.6	19.9	21.3	5.0+/-2.0	Jan-19
Romania	2.1	3.9	6.3	7.9	7.8	2.5+/-1.0	-.-
Switzerland	-0.8	0.6	0.9	1.2	1.5	<2.0	Aug-18
Africa							
South Africa	3.1	4.6	5.0	5.0	5.5	3.0-6.0	Mar-17
Ghana	10.4	7.8	10.6	11.0	12.2	8.0 +/-2.0	Aug-17
Oceania							
Australia	0.9	3.8	3.0	n.d.	n.d.	2.0-3.0	-.-
New Zealand	1.4	3.3	4.9	n.d.	n.d.	2.0+/-1.0	2T,2011

Note: Countries with an inflation target range are included, as well as economies with a target inflation level. For Peru, the maximum value is listed, except on October 2021.

In the region's economies, inflation has followed a similar upward trend, recording in all cases rates above the upper band of the target range. This has been particularly noteworthy in Brazil, where inflation has experienced 18 successive increases, reaching a rate of 10.7 percent. Core inflation has also showed an upward trend (albeit at lower

levels) and, with the exception of Peru and Colombia, has also recorded levels above the target range.

Graph 11
INFLATION IN LATIN AMERICA 2020-2021
(12-month % chg.)



Note: in the case of Brazil, it is the energy component within the home.
Source: Central banks and national statistical institutes.

7. **In this context of rising inflationary pressures, most central banks have begun to partially withdraw monetary stimulus, although this does not necessarily imply that their adoption of a contractionary monetary policy**.

The Fed's decision in November to begin reducing its asset purchase program was particularly noteworthy in the developed economies. The amount of asset purchases, initially at US$ 120 billion per month (US$ 80 billion in treasury bonds and US$ 40 billion in mortgage-backed securities) was reduced by US$ 15 billion as from mid-November and by an additional US$ 15 billion as from December. At the December 15 meeting, the Fed announced that the cut in asset purchases, starting in January 2022, would be larger: US$ 30 billion (US$ 20 billion in bonds and US$ 10 billion in mortgage-backed securities). If this cut is maintained in the following months, the asset purchase program would end around the first quarter of 2022. In the same vein, the Central Bank of Canada announced the end of the purchase program. Likewise, the Bank of England has recently raised its interest rate from 0.1 to 0.25 percent, contrary to market expectations, becoming the first of the main central banks to raise its benchmark rate.

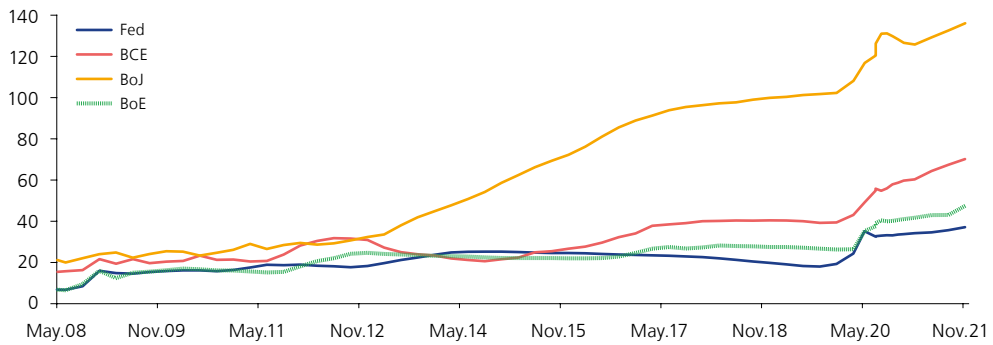
Table 3
FED PROJECTIONS*

	2021		2022		2023		2024		Long term	
	Sep.21	Dec.21	Sep.21	Dec.21	Sep.21	Dec.21	Sep.21	Dec.21	Sep.21	Dec.21
Growth	5.9	5.5	3.8	4.0	2.5	2.2	2.0	2.0	1.8	1.8
Unemployment rate	4.8	4.3	3.8	3.5	3.5	3.5	3.5	3.5	4.0	4.0
Inflation (PCE)	4.2	5.3	2.2	2.6	2.2	2.3	2.1	2.1	2.0	2.0
Core inflation (core PCE)	3.7	4.4	2.3	2.7	2.2	2.3	2.1	2.1	-	-
Note: Core PCE excludes food and energy.										
Interest rate (%)	0.1	0.1	0.3	0.9	1.0	1.6	1.8	2.1	2.5	2.5
Interest rate range (%)	0.1	0.1	0.1-0.6	0.4-1.1	0.1-1.6	1.1-2.1	0.6-2.6	1.9-3.1	2.0-3.0	2.0-3.0

* Includes 18 data from the individual projections of the members of the Fed at the end of the period.
Source: Federal Reserve.

The European Central Bank (ECB) has announced that the current favorable financial conditions can be maintained with a slightly lower pace of Pandemic Emergency Purchase Programme (PEPP) asset purchases than during the second and third quarters. Within the group of developed economies, New Zealand began its cycle of interest rate hikes with increases in October and November (cumulative increase of 50 bps), while Norway and South Korea raised their rates by 25 bps, accumulating an increase of 50 percentage points so far this year.

Graph 12
CENTRAL BANKS: TOTAL ASSETS
(% GDP)



Note: Fed (United States Federal Reserve), ECB (European Central Bank), BoJ (Bank of Japan) and BoE (Bank of England).

In the emerging economies, most central banks in Latin America and Europe, as well as the central bank of South Africa, have raised their interest rates. In some cases, such as Poland and South Africa, the increase in October and November was the first rise since the minimum levels recorded since the pandemic started. In the remaining cases, central banks have continued implementing the hiking cycle initiated during the year. Compared to the September levels, the increases in Brazil (300 bps), Pakistan (250 bps), Chile (250 bps), Russia (175 bps) and Poland (165 bps) stand out. Moreover, all of the countries in the region with inflation targeting schemes recorded increases, although the levels of policy rates are below those observed before the pandemic (December 2019), with the exception of the rates in Brazil and Chile.

Table 4
MONETARY POLICY INTEREST RATES
(%)

	Interes rate					Variation with respect to:	
	Dec.19	Dec.20	Jun.21	Sep.21	Dec.21	Sep.21	Dec.20
Developed economies							
U.S.	1.75	0.25	0.25	0.25	0.25	0	0
Canada	1.75	0.25	0.25	0.25	0.25	0	0
Eurozone	0.00	0.00	0.00	0.00	0.00	0	0
United Kingdom	0.75	0.10	0.10	0.10	0.25	15	15
Sweden	0.00	0.00	0.00	0.00	0.00	0	0
Switzerland	-0.75	-0.75	-0.75	-0.75	-0.75	0	0
Norway	1.50	0.00	0.00	0.25	0.50	25	50
Japan	-0.10	-0.10	-0.10	-0.10	-0.10	0	0
South Korea	1.25	0.50	0.50	0.75	1.00	25	50
New Zealand	1.00	0.25	0.25	0.25	0.75	50	50
Australia	0.75	0.10	0.10	0.10	0.10	0	0
Latin America							
Brazil	4.50	2.00	4.25	6.25	9.25	300	725
Colombia	4.25	1.75	1.75	2.00	3.00	100	125
Peru	2.25	0.25	0.25	1.00	2.50	150	225
Chile	1.75	0.50	0.50	1.50	4.00	250	350
Mexico	7.25	4.25	4.25	4.75	5.50	75	125
Asia							
Pakistan	13.25	7.00	7.00	7.25	9.75	250	275
India	5.15	4.00	4.00	4.00	4.00	0	0
Thailand	1.25	0.50	0.50	0.50	0.50	0	0
Indonesia	5.00	3.75	3.50	3.50	3.50	0	-25
China	4.15	3.85	3.85	3.85	3.85	0	0
Europe							
Czech Republic	2.00	0.25	0.50	1.50	2.75	125	250
Poland	1.50	0.10	0.10	0.10	1.75	165	165
Ukraine	13.50	6.00	7.50	8.50	9.00	50	300
Russia	6.25	4.25	5.50	6.75	8.50	175	425
Iceland	3.00	0.75	1.00	1.25	2.00	75	125
Turkey	12.00	17.00	19.00	18.00	14.00	-400	-300
Romania	2.50	1.50	1.25	1.25	1.75	50	25
Hungary	0.90	0.60	0.90	1.65	2.40	75	180
Africa							
South Africa	6.50	3.50	3.50	3.50	3.75	25	25

Source: Trading Economics.

8. As for **fiscal policy**, the United States approved a US$ 1.3 trillion package that includes US$ 550 billion for infrastructure spending to be implemented over five years. In addition, the House of Representatives approved a US$ 1.9 trillion package (including direct aid to families, pandemic-related spending, and support for local governments), which is pending of approval by the Senate. Furthermore, Japan announced a new fiscal stimulus package for US$ 490 billion, the third package since the pandemic started and the largest of its kind, which includes spending to support both households

and small and medium-sized enterprises. Moreover, as noted in the previous Report, the European Union completed the approval of the investment plans at the level of the member countries of the bloc, which facilitates the disbursement of resources foreseen in the Recovery and Resilience Plan (750 billion euros). On the other hand, however, a debate has begun on whether the disbursement of these resources will be subject to compliance with the rule of law, particularly in countries such as Poland and Hungary.

Global economic outlook

9. **Global growth is estimated to be slightly below the level indicated in the September Report for 2021 and 2022.** It is assumed that supply shocks would be overcome by the second half of 2022 and that COVID-19 flare-ups would be controlled by the first quarter of the same year. These shocks would offset the higher public spending expected in some developed economies (particularly in the United States and Japan).

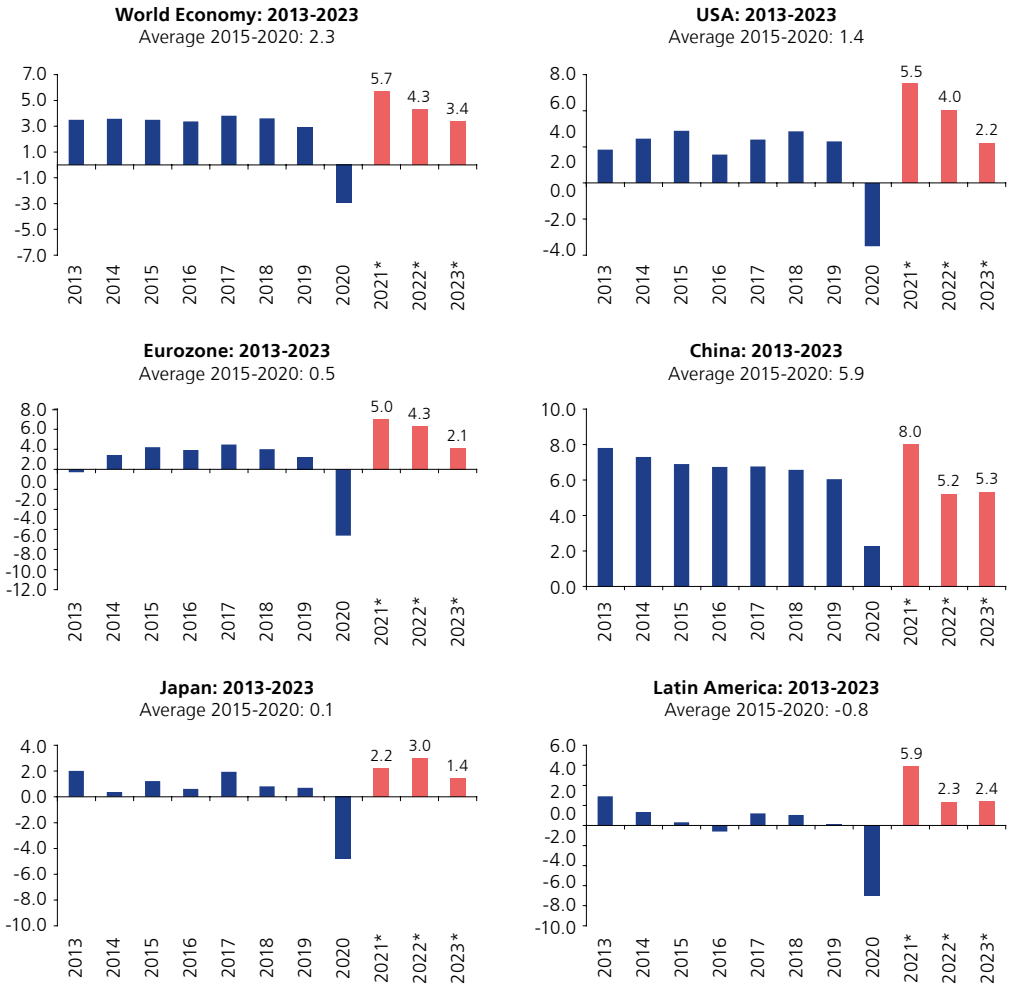
Table 5
GLOBAL GDP GROWTH
(Annual % change)

	PPP*	2020	2021		2022		2023
			IR Sep.	IR Dec.	IR Sep.	IR Dec.	IR Dec.
Developed economies	**42.5**	**-4.7**	**5.4**	**4.9**	**4.1**	**4.0**	**2.2**
Of which							
1. USA	16.0	-3.5	6.5	5.5	4.4	4.0	2.2
2. Eurozone	12.0	-6.6	4.8	5.0	4.6	4.3	2.1
3. Japan	4.0	-4.8	3.0	2.2	2.7	3.0	1.4
4. United Kingdom	2.3	-9.9	6.6	6.9	5.2	5.0	1.4
5. Canada	1.4	-5.4	6.1	5.1	4.2	4.1	2.7
6. Other	6.8	-4.1	4.9	4.7	3.4	3.3	2.6
Developing economies	**57.5**	**-2.2**	**6.1**	**6.2**	**4.5**	**4.6**	**4.3**
Of which							
1. China	18.6	2.3	8.5	8.0	5.6	5.2	5.3
2. India	6.7	-8.0	9.5	9.5	6.5	6.9	6.3
3. Russia	3.1	-3.1	3.5	4.2	2.7	2.6	2.1
4. Latin America and the Caribbean	7.3	-7.0	5.4	5.9	2.7	2.3	2.4
Argentina	0.6	-9.9	5.8	7.0	2.2	2.3	2.0
Brazil	2.4	-4.1	5.0	5.0	2.1	1.0	2.0
Chile	0.4	-5.8	8.4	10.3	3.0	2.6	2.0
Colombia	0.6	-6.8	6.3	8.0	3.7	3.8	3.5
Mexico	1.9	-8.3	5.6	5.8	3.0	3.0	2.0
Peru	0.3	-11.0	11.9	13.2	3.4	3.4	3.2
5. Other	17.9	-4.0	4.9	5.0	4.5	4.7	4.6
Sub-Saharan Africa	3.1	-1.9	3.3	3.7	3.9	3.8	3.6
World Economy	**100.0**	**-3.3**	**5.8**	**5.7**	**4.4**	**4.3**	**3.4**

* Base 2020
Source: IMF, Consensus Forecast and BCRP.

At the country level, the main revisions on the downside are foreseen in some developed economies such as the United States. In China, in addition to global factors, the slowdown recorded in the real estate sector will also play a role. Global growth in 2023 is estimated at 3.4 percent, a rate similar to those observed prior to the pandemic. As for Latin America, the projections for 2021 have been revised up, in line with the evolution observed in the data as of the third quarter.

Graph 13
GDP GROWTH
(Real % change)



* Forecast.
Source: FMI and Consensus Forecast.

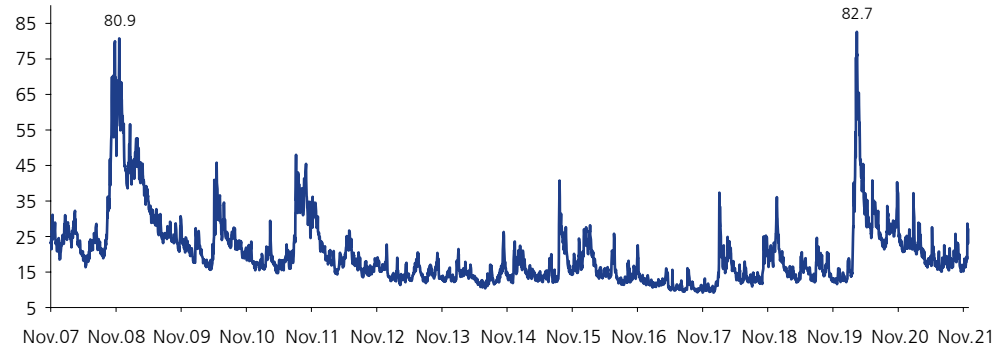
The main risks to this central projection are linked to the following factors: (i) the persistence of supply shocks beyond the first half of 2022; (ii) the persistence of high levels of inflation leading to a higher-than-expected tightening of global monetary conditions that could also cause sharp corrections in asset markets; (iii) a greater-than-expected slowdown of activity in China; and (iv) a more severe-than-expected resurgence of COVID infections associated with the new variant that would imply greater social containment and restriction measures.

International financial markets

10. Since the last Inflation Report, **financial markets** registered two marked trends. In October, a reduction in risk aversion was observed as a result of greater control of the pandemic, the progress of vaccination in emerging economies, and positive corporate financial results in the third quarter. Furthermore, despite the aforementioned supply

shocks, economic activity indicators continued to reflect growth in the world economy, which favored demand for equity assets.

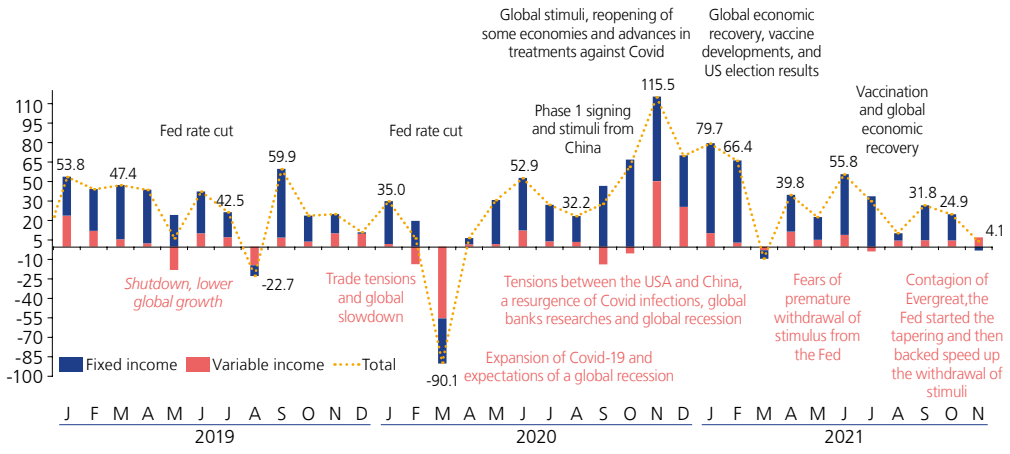
Graph 14
VIX INDEX
(Volatility of the US stock market)



Source: Reuters.

However, this trend was modified in November by the emergence of the new COVID-19 variant, known as omicron, and by expectations of greater adjustments in the monetary policy of the main economies due to the sustained increase seen in global inflation. As mentioned above, the Fed's announcement on tapering of asset purchases stands out among these expected adjustments. Statements by Fed officials increased expectations afterwards of a more aggressive tapering of purchases and an earlier than expected interest rate hike. In this context, capital flows to emerging economies declined, particularly in the fixed-income markets.

Graph 15
CAPITAL FLOWS FROM NON-RESIDENTS TO EMERGING MARKETS
(Billion US$)



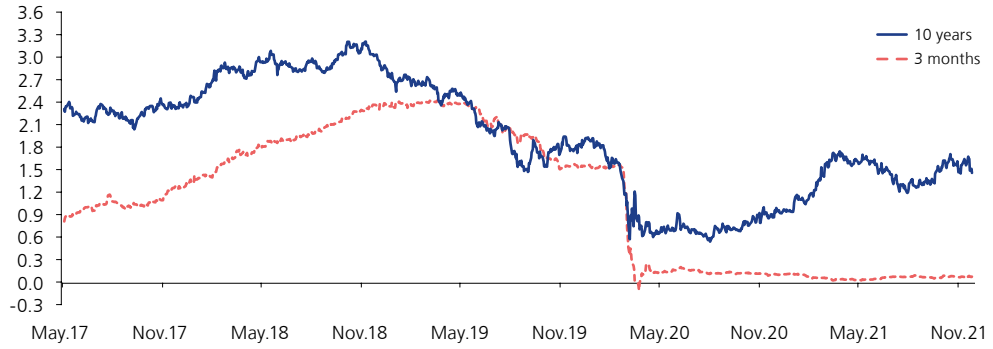
* The data for November 2021 corresponds to the preliminary estimate until November 29.
Source: IIF.

11. In **fixed income markets**, U.S. long-term sovereign yields declined towards the end of November, reversing the increases of previous weeks. Concerns about the omicron

variant offset initial increases in yields stemming from the continued economic recovery, the Fed's stance in favor of stimulus withdrawal, and greater fiscal stimulus.

In Europe, long-term sovereign yields also fell, in line with the reimposition of pandemic control measures in several countries. This counterbalanced comments from ECB officials in support of reducing monetary stimulus (which would mean fewer purchases of sovereign bonds).

Graph 16
YIELD ON THE US SOVEREIGN BONDS, 2017-2021
(%)



Source: Reuters.

In the emerging economies, yields in some Asian countries rose. Similarly, yields rose in most Latin American countries, which were also affected by several episodes of commodity price corrections and idiosyncratic events associated with political or social factors.

Table 6
YIELDS ON 10-YEAR SOVEREIGN BONDS

	Dec.20	Sep.21	Nov.21*	chg. Nov/Sep. 2021 (bps.)	Accumulated chg. 2021 (bps.)
USA	0.92	1.49	1.45	-4	53
Germany	-0.57	-0.20	-0.35	-15	22
France	-0.34	0.15	0.01	-14	35
Italy	0.54	0.86	0.97	11	43
Spain	0.04	0.46	0.40	-6	36
Greece	0.62	0.85	1.25	40	63
United Kingdom	0.19	1.02	0.81	-21	62
Japan	0.02	0.07	0.05	-1	4
Brazil	6.90	11.11	11.41	30	451
Colombia	5.39	7.66	8.43	77	304
Chile	2.65	5.62	5.80	18	315
Mexico	5.53	7.37	7.57	21	205
Peru	**3.51**	**6.44**	**5.91**	**-53**	**240**
South Africa	8.74	9.58	10.23	65	149
India	5.87	6.22	6.33	11	46
Turkey	12.54	17.85	20.76	291	822
Russia	5.92	7.32	8.38	106	247
China	3.15	2.88	2.86	-1	-28
South Korea	1.72	2.24	2.20	-3	48
Indonesia	5.86	6.24	6.09	-16	22
Thailand	1.32	1.86	1.91	5	60
Malaysia	2.65	3.38	3.52	14	87
Philippines	2.94	4.23	4.76	53	183

* Prepared on November 30, 2021.
Source: Reuters.

12. In **equity markets**, the main stock markets registered gains during October, benefiting mainly from higher rates of economic activity and better corporate financial results. Several stock markets even reached new all-time highs. This trend changed in November due to expectations of a withdrawal of monetary stimulus in the main developed economies and the emergence of the omicron variant. Most stock markets in the region declined, in line with the global trend.

Table 7
STOCK EXCHANGE

		Dec.20	Sep.21	Nov.21*	chg. Nov./Sep. 2021 (%)	Accumulated chg. 2021 (%)
VIX**	S&P 500	22.75	23.14	27.08	3.9	4.3
USA	Dow Jones	28,538	35,820	34,503	-3.7	20.9
USA	S&P 500	3,756	4,308	4,588	6.5	22.2
Germany	DAX	13,719	15,261	15,100	-1.1	10.1
France	CAC 40	5,551	6,520	6,721	3.1	21.1
Italy	FTSE MIB	22,233	25,684	25,814	0.5	16.1
Spain	IBEX 35	8,074	8,796	8,305	-5.6	2.9
Greece	ASE	809	865	868	0.3	7.3
United Kingdom	FTSE 100	6,461	7,086	7,079	-0.1	9.6
Japan	Nikkei 225	27,444	29,453	27,822	-5.5	1.4
Brazil	Ibovespa	119,017	110,979	100,881	-9.1	-15.2
Colombia	COLCAP	1,438	1,362	1,347	-1.1	-6.3
Chile	IPSA	4,177	4,363	4,411	1.1	5.6
Mexico	IPC	44,067	51,386	49,339	-4.0	12.0
Argentina	Merval	51,226	77,364	78,474	1.4	53.2
Peru	**Ind. Gral.**	**20,822**	**18,279**	**20,478**	**12.0**	**-1.7**
South Africa	JSE	59,409	64,282	70,475	9.6	18.6
India	Nifty 50	13,982	17,618	16,983	-3.6	21.5
Turkey	XU100	1,477	1,406	1,810	28.7	22.5
Russia	RTS	1,387	1,768	1,646	-6.9	18.6
China	Shangai C.	3,473	3,568	3,564	-0.1	2.6
South Korea	KOSPI	2,873	3,069	2,839	-7.5	-1.2
Indonesia	JCI	5,979	6,287	6,534	3.9	9.3
Thailand	SET	1,449	1,606	1,569	-2.3	8.2
Malaysia	KLCI	1,627	1,538	1,514	-1.5	-7.0
Philippines	Psei	7,140	6,953	7,201	3.6	0.9

* Prepared on November 30, 2021.
** Data and changes are expressed in basis points.
Source: Reuters.

13. With respect to **foreign exchange markets**, the dollar appreciated almost across the board in response to the Fed's stance of accelerating the withdrawal of monetary stimulus. Fears of the spread of the omicron variant increased risk aversion and reinforced the dollar's appreciating trend against the currencies of emerging economies. The latter were also affected by the correction in the prices of most commodities at the close of this Report.

Table 8
EXCHANGE RATE

		Dec.20	Sep.21	Nov.21*	chg. Nov./Sep. 2021(%)**	Accumulated chg. 2021(%)**
Dollar Index***	US Dollar Index	89.94	94.23	96.27	2.2	7.0
Euro	Euro	1.221	1.158	1.128	-2.6	-7.6
United Kingdom	Pound sterling	1.367	1.347	1.324	-1.7	-3.1
Japan	Yen	103.24	111.27	113.20	1.7	9.6
Brazil	Real	5.194	5.443	5.660	4.0	9.0
Colombia	Peso	3,415	3,805	3,996	5.0	17.0
Chile	Peso	710	811	830	2.5	17.0
Mexico	Peso	19.87	20.63	21.45	4.0	7.9
Argentina	Peso	84.08	98.73	100.93	2.2	20.0
Peru	**Sol**	**3.620**	**4.133**	**4.066**	**-1.6**	**12.3**
South Africa	Rand	14.69	15.09	15.99	6.0	8.9
India	Rupia	73.04	74.16	75.10	1.3	2.8
Turkey	Lira	7.43	8.89	13.36	50.4	79.8
Russia	Ruble	73.79	72.58	74.33	2.4	0.7
China	Yuan (onshore)	6.525	6.445	6.364	-1.3	-2.5
South Korea	Won	1,084	1,184	1,186	0.2	9.4
Indonesia	Rupia	14,040	14,310	14,320	0.1	2.0
Thailand	Bath	30.04	33.67	33.77	0.3	12.4
Malaysia	Ringgit	4.020	4.185	4.200	0.4	4.5
Philippines	Peso	48.01	51.02	50.40	-1.2	5.0

* Prepared on November 30, 2021.
** An increase (fall) in the index means an appreciation (depreciation) of the US dollar, except in the euro and the pound.
*** An increase (fall) in the index means an appreciation (depreciation) of the US dollar against a currency basket (made up by the euro, yen, the pound, the Canadian dollar, Swedish krona and the Swiss franc).
Source: Reuters.

Commodity prices

14. The prices of most products increased slightly since September Report. In general terms, prices continued to benefit from the rapid economic recovery (associated with progress in the vaccination process and with the maintenance of fiscal and monetary stimulus) as well as by supply restrictions associated with supply chain problems.

However, the recent increase in COVID-19 cases, the appearance of a new variant, and the dissemination of economic indicators suggesting a less dynamic economic recovery in China, limited the rise in the prices of the main commodities, especially in recent weeks. Another factor that also contributed to this was the appreciation of the dollar, influenced by expectations of a more accelerated withdrawal of monetary stimulus. Despite this correction, prices in most cases remain significantly above the levels observed in the previous Inflation Report.

Copper

15. In November, the average price of copper was US$ 4.43 the pound, 5 percent higher than in September. With this rise, the price of this metal accumulated an increase of 26 percent since December 2020.

The average copper price rose in the last two months due to an increasingly tight global market. On a consumption basis, world inventories have fallen to record lows in many years, reflecting supply issues associated with COVID-19 containment measures and, more recently, with rising energy prices. In addition, the supply of recycled copper, which traditionally balances the market, also faced difficulties in increasing production due to stricter environmental standards in China and Malaysia.

However, fears about demand for the metal have arisen recently, these concerns being associated with a probable real estate crisis in China, energy rationing in copper-consuming industries in Asia, and the increase in COVID-19 infections in major copper-consuming countries.

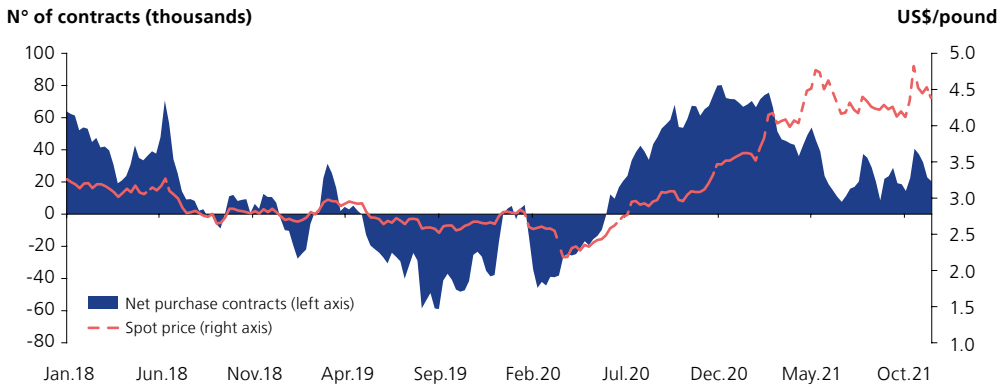
Table 9
SUPPLY AND DEMAND FOR REFINED COPPER
(Thousand metric tons)

	2018	2019	2020 2/	2021 2/	2022 2/	chg.% 2021/2020	chg.% 2022/2021
Global Mining Production	20,579	20,571	20,634	21,061	21,892	2.1%	3.9%
Global Refining Production (Primary + Secondary)	24,063	24,016	24,510	24,920	25,886	1.7%	3.9%
Global Use of Refined Copper	24,480	24,405	24,989	24,963	25,558	-0.1%	2.4%
Refined Balance 1/	-417	-389	-479	-42	328	--	--

1/ The balance of refined products is calculated as the subtraction between the global production of refined products (supply) and their use (demand).
2/ ICSG report for November 2021 and ICSG report projection for October 2021.
Source: The International Copper Study Group (ICSG).

Moreover, these developments in recent weeks have coincided with a reduction in non-commercial demand. The number of non-commercial copper contracts, which had reached record highs in the first half of the year, have declined from the highs they reached in late February, although they still remain in a net buying position.

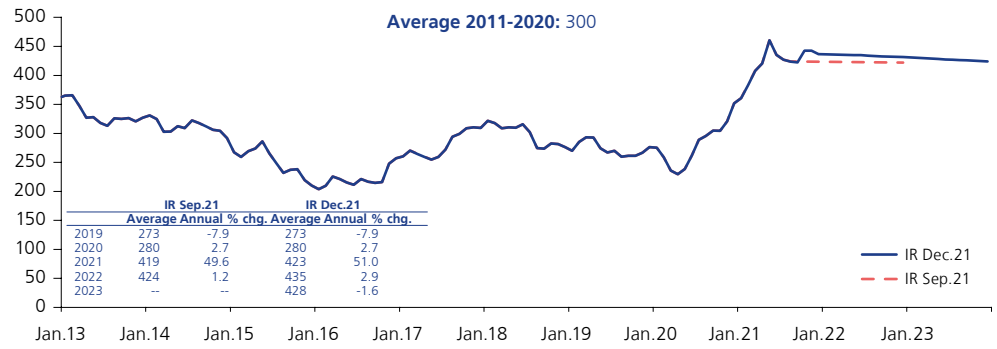
Graph 17
COPPER: NON-COMERCIAL CONTRACTS



Note: The Copper Speculative Net Positions of the Commodities Futures Trading Commission (Commodity Futures Trading Commission) are reported weekly and reflect the difference between the total volume of the long position (or purchase) and short position (or sale) in the market and opened by non-commercial operators (speculative). This report only includes the future markets in the USA (Chicago and New York Stock Exchanges).
Source: Comex.

Because of signs of a tighter market, the price projection for copper has been revised up with respect to that estimated in the September Inflation Report. However, a slight moderation in demand is expected in the following months, in line with recent advances in China and in some developed economies and, on the supply side, because an increase in the production of concentrates is foreseen in the projection horizon. As in the previous Report, uncertainties remain in relation to demand from the electric car industry, Chinese policies regarding consumption of recycled copper, the worsening of the energy crisis, and the impact of the COVID-19 pandemic on global economic activity.

Graph 18
COPPER: JANUARY 2013 - DECEMBER 2023*
(US$. cents/pd.)



	IR Sep.21		IR Dec.21	
	Average	Annual % chg.	Average	Annual % chg.
2019	273	-7.9	273	-7.9
2020	280	2.7	280	2.7
2021	419	49.6	423	51.0
2022	424	1.2	435	2.9
2023	--	--	428	-1.6

* Projections from December 2021.
Source: Reuters and BCRP.

Zinc

16. The average international price of zinc reached US$ 1.50 the pound in November 2021, 9 percent higher than in September. With this, zinc price accumulates an increase of 19 percent so far this year.

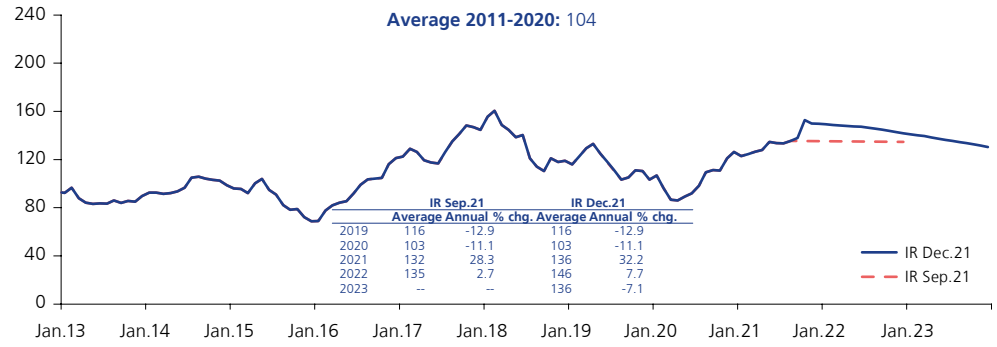
The price of zinc reached three-year highs, supported by the worsening of supply shocks, particularly in China and Europe, associated with environmental restrictions and floods in production areas. This was compounded recently by the energy crisis that has led several companies to announce the temporary closure of several refineries. In addition, delays in the entry of new production and expectations of a cycle of inventory restocking also contributed to the rise in prices. The robust recovery in the United States and Europe stands out on the demand side.

However, the upward trend reversed since the end of October due to the increase in COVID-19 cases and fears of a slowdown in the Chinese real estate market that would lead to lower demand for galvanized steel (a product that uses zinc as an input). The galvanized steel industry has also been affected by environmental restrictions and rising energy costs. Furthermore, there has also been an increase in refined zinc inventories

in Shanghai following the auction of inventories by China's National Administration of Food and Strategic Reserves.

In line with these developments, the projection for the average zinc price has been revised up with respect to what was forecast in the September Report. Further supply cuts and higher demand associated with infrastructure spending in major developed economies, particularly the infrastructure package in the United States, account for the higher price of zinc in the forecast horizon. However, in the medium term, the normalization of production and the increase in mine supply would generate downward pressure on the price of this metal.

Graph 19
ZINC: JANUARY 2013 - DECEMBER 2023*
(US$. cents/pd.)



	IR Sep.21		IR Dec.21	
	Average	Annual % chg.	Average	Annual % chg.
2019	116	-12.9	116	-12.9
2020	103	-11.1	103	-11.1
2021	132	28.3	136	32.2
2022	135	2.7	146	7.7
2023	--	--	136	-7.1

* Projections from December 2021.
Source: Reuters and BCRP.

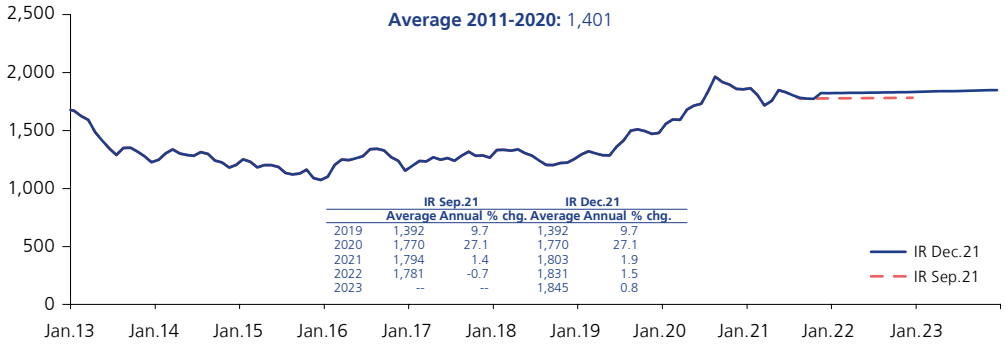
Gold

17. In the last two months, the average price of the troy ounce of gold was US$ 1,820, 2 percent higher than in September of this year, which brings the year-to-date decline to 2 percent.

After the gold price fell in the previous quarter due to investors' lower purchases through Exchanged Traded Funds (ETF), the price recovered in November 2021 driven by higher demand for inflation hedging assets. Other bullish factors were the recovery in central banks' purchases of gold (particularly noteworthy were the purchases made by Hungary, Thailand, and Brazil) and gold purchases by the jewelry industry, which have recovered strongly in recent months following lower demand due to the pandemic. The increase in global risk aversion due to the rise in COVID-19 cases has also provided support to this trend.

In line with these developments, the projection for the gold price has been revised up with respect to the September Report, the main risks focusing on the pace at which the Fed will reduce its monetary policy stimulus and the evolution of inflation in developed economies.

Graph 20
GOLD: JANUARY 2013 - DECEMBER 2023*
(US$/tr. ounce)



	IR Sep.21		IR Dec.21	
	Average	Annual % chg.	Average	Annual % chg.
2019	1,392	9.7	1,392	9.7
2020	1,770	27.1	1,770	27.1
2021	1,794	1.4	1,803	1.9
2022	1,781	-0.7	1,831	1.5
2023	--	--	1,845	0.8

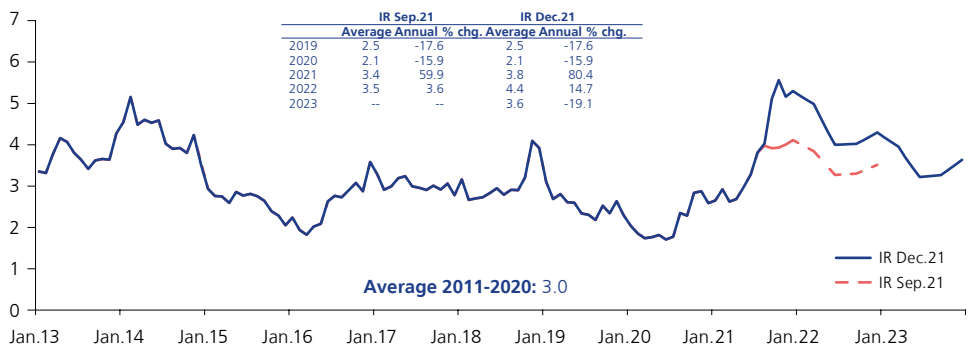
* Projections from December 2021.
Source: Reuters and BCRP.

Natural Gas

18. After the rise recorded in September 2021, the average Henry Hub price of **natural gas** increased 1 percent in the last two months, reaching a monthly average of US$ 5.2 per Mbtu. With this, the price of gas accumulates an increase of 100 percent in the first 11 months of the year. It should be pointed out that the prices for the European (United Kingdom) and Asian (Japan-Korea market) markets recorded higher increases in the last two months (21 and 39 percent, respectively).

The sharp price increases in the first eleven months of the year were due to both supply and demand shocks. The latter were mainly associated with the fact that Europe's gas consumption rose sharply in 2021 amid colder temperatures in northern and central Europe through May. In addition, there was also a strong recovery in demand in China in a context of changes in the energy matrix (to reduce the use of coal) and lower hydroelectric production (affected by unfavorable weather conditions).

Graph 21
NATURAL GAS: JANUARY 2013 - DECEMBER 2023*
(US$/bl)



	IR Sep.21		IR Dec.21	
	Average	Annual % chg.	Average	Annual % chg.
2019	2.5	-17.6	2.5	-17.6
2020	2.1	-15.9	2.1	-15.9
2021	3.4	59.9	3.8	80.4
2022	3.5	3.6	4.4	14.7
2023	--	--	3.6	-19.1

* Projections from December 2021.
Source: Reuters and BCRP.

On the other hand, supply was relatively weak due to a drought that affected hydroelectric power production in Norway and lower sales from Russia, which has been rebuilding its inventories. In this context, inventories in Europe have fallen sharply since the end of 2020, reaching in October 2021 levels below the average observed in recent years.

In line with these developments, the average Henry Hub price of natural gas projected for 2021 and 2022 has been revised up. The global market remains tight and there are risks of a colder than normal winter in the northern hemisphere.

Oil

19. In November 2021, the average price of **WTI oil** increased 11 percent compared to September 2021, reaching a monthly average of US$ 79 the barrel. With this, the price of crude accumulates an increase of 68 percent in the first 11 months of the year.

Oil prices increased due to the recovery of global demand, particularly due to lower cross-border and international travel restrictions, as well as due to an increase in purchases of oil and oil products from power generation companies in parts of Asia and Europe, influenced by higher gas and coal prices. On the other hand, OPEC+ members agreed to increase its production gradually, but below what consumer countries expected in order to balance the market.

A significant reduction in global inventories was observed In this context of strong recovery in demand and restricted crude oil production levels among OPEC+ members. According to the International Energy Agency (EIA), global oil consumption has outstripped supply since the third quarter of 2020, causing Organization for Economic Cooperation and Development (OECD) inventories to fall from 9 percent above the five-year average to 7 percent below the average in September 2021.

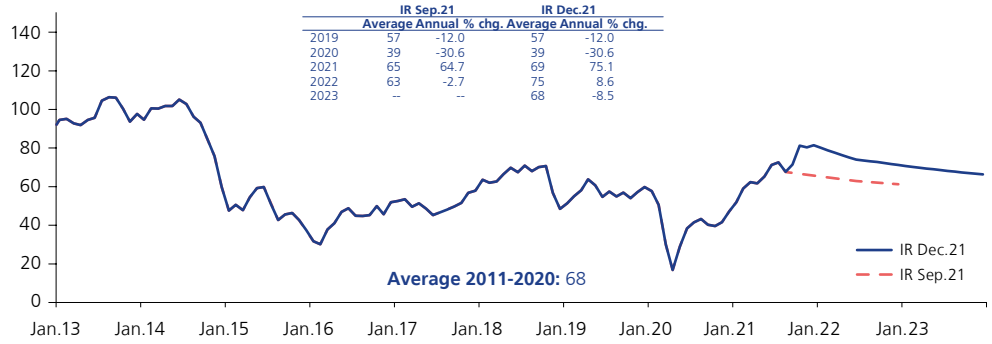
However, in recent weeks there have been signs of lower demand associated with the measures being taken by some countries to contain the increase in cases of COVID-19, mainly in Europe. In addition, the major consuming countries, including the United States, China, India, Japan, and South Korea, have released their oil stocks.

A price reduction is expected towards the end of the projection horizon, although the price would remain at higher levels than estimated in the September Inflation Report. The OPEC+ agreement, by only partially restoring normal production levels, makes it difficult for any slowdown in demand to be reflected in significant price declines. The low response of shale oil production in the United States, despite high prices, is another factor supporting the price. The main factors of uncertainty are associated with the future development of COVID-19, the agreements to be adopted by OPEC in 2022, and the negotiations between the United States and Iran, which could mean the return of exports from that country.

Graph 22

WTI OIL: JANUARY 2013 - DECEMBER 2023*

(US$/bl)



* Projections from December 2021.
Source: Reuters and BCRP.

Foodstuffs

20. Food prices resumed their upward trend, reaching a 10-year high in November. This performance was influenced by higher oil prices, higher fertilizer prices, and bottlenecks in the supply chain. The latter makes it difficult for farmers to obtain inputs, spare parts, and equipment in the time and quantities needed for the production process and raises the cost of crops. In addition, in the event that a La Niña event would occur in the following season, prices could be under upward pressure due to the impact that this would have on plantings in the main exporting countries (the United States and Canada).

(a) The price of **maize** increased 10 percent in the last two months, reaching a monthly average price of US$ 218 per MT in September. As a result, maize prices have increased by 30 percent since December 2020.

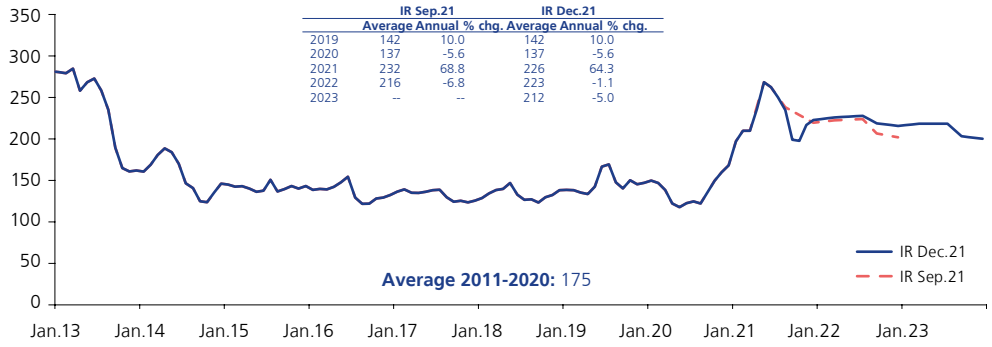
After showing a correction in recent months due to the seasonal arrival of the maize harvest in the United States and Brazil, as well as due to lower than expected purchases from China, the price of maize recovered in November, driven by higher oil prices (which improved the profit margins of the ethanol industry) and by the increase in wheat prices. Another factor that also explained the price increase was the higher price of this crop in China due to the delay and poor quality of the harvest as a result of weather problems, which raises expectations that demand from that country will return to the United States. However, upward pressures remain limited by uncertainty over new federal biofuels blending mandates for 2021. The U.S. Environmental Protection Agency (EPA) has proposed to President Biden to reduce federal biofuels blending mandates for 2021 to levels even below those of 2020.

In addition, adverse weather factors also supported the price. In the United States, Hurricane Ida cut the maize supply chain in the Gulf of Mexico, while in Argentina, exports were affected by ongoing logistical difficulties.

In line with these developments, the average price of maize estimated for December 2021 and 2022 has been revised up. Even though inventories in the

major exporting countries are foreseen to recover in this 2021/22 cycle, the global market remains tight and with the risk that crops may be affected by a stronger than expected La Niña event. However, the main risk is that China will repeat the high demand of the previous season, which was driven by the rebuilding of its swine herd and a domestic production affected by weather problems.

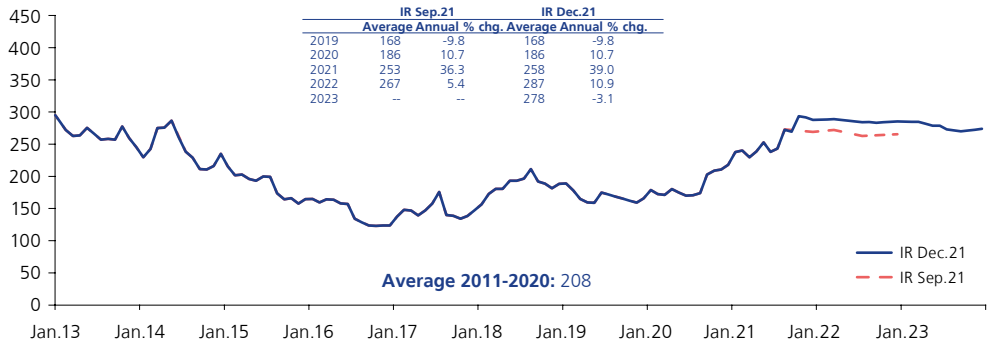
Graph 23
MAIZE: JANUARY 2013 - DECEMBER 2023*
(US$/ton)



* Projections from December 2021.
Source: Reuters and BCRP.

(b) Since the Inflation Report of September was released, the price of wheat has increased 20 percent, reaching a monthly average price of US$ 325 per MT in November 2021, which represents a 49 percent increase since December 2020.

Graph 24
WHEAT: JANUARY 2013 - DECEMBER 2023*
(US$/ton)



* Projections from December 2021.
Source: Reuters and BCRP.

The strong increase in wheat prices in the last two months is supported by a fairly tight world market, which is recording the second consecutive annual drop in world inventories. Since the last Report, world demand has remained solid, while supply from major exporting countries is decreasing. The demand increase, which is particularly noteworthy in North African and Middle Eastern countries, has been pressuring the international market in a context of lower production in three of the world's main exporters: Canada, Russia, and the United States.

This has been compounded by concerns about the quality of European crops. In addition, the Russian government continues to restrict its exports with a floating tariff and is considering imposing higher quotas on its grain exports. Inventories in the world's eight largest exporters will decline for the fourth consecutive year in the 2021/22 marketing year, and it is estimated that U.S. inventories could fall to their lowest level in 14 years. Despite this, however, the price of wheat is receiving some seasonal support from southern hemisphere harvests.

Wheat prices would continue to be pressured by tight inventories and high prices of substitute grains used as livestock feed (such as maize and soybeans). In line with this, the projection for wheat prices is revised up from the previous Inflation Report. A particular factor of uncertainty for wheat is Russia's future tax policy for wheat exports (this country being the fourth largest wheat producer globally and the second largest exporter).

(c) In November, the average price of **soybean oil** was US$ 1,477 per MT, the same price level to that reported in the previous Report, but it has accumulated an increase of 64 percent since December 2020.

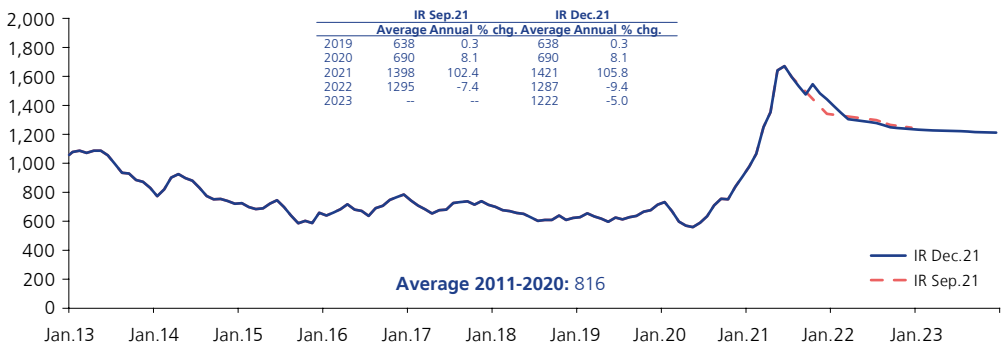
The prices of soybean oil registered a correction in the third quarter, rising slightly afterwards in the last two months, supported by the increase in oil prices that improved margins in the biodiesel industry and boosted demand for this industry in the United States and Brazil. Another factor that contributed to the price recovery was the reactivation of global import demand, particularly from India, which further reduced import tariffs for edible oils. Other Asian countries also saw robust demand, particularly China and Bangladesh. In addition, shortages of other vegetable oils have prompted the substitution of a small portion of these vegetable oils with soybean oil. However, the new seasonal soybean crop in the United States and fears that the U.S. Environmental Protection Agency (EPA) will recommend a reduction in the use of biodiesel by petroleum refiners has partially offset upward pressures.

Considering these recent developments, the prices of soybean oil in 2022 are projected to show levels below those estimated in the previous report.

Graph 25

SOYBEAN OIL: JANUARY 2013 - DECEMBER 2023*

(US$/ton)



* Projections from December 2021.
Source: Reuters and BCRP.

Box 1
IMPACT OF SUPPLY SHOCKS ON IMPORT PRICES

Supply shocks and the recent rise in energy prices

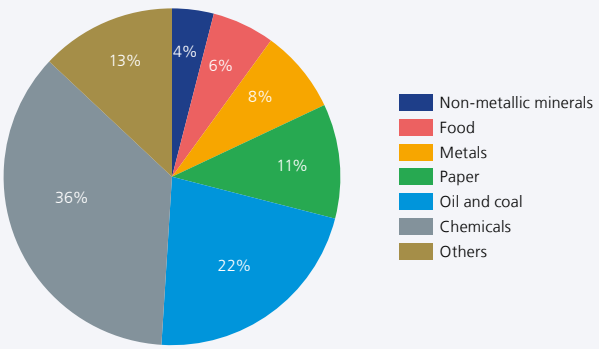
The supply shocks outlined in the previous Inflation Report, which have slowed down global economic recovery and accentuated inflationary pressures, have continued in recent months. These shocks include high freight rates and delays in the transport of containers from ports of departure to destination markets (see Box 4 of the September Inflation Report). In addition, there are a series of problems in the supply chain, as in the case of semiconductors, materials for home remodeling, and components for consumer durables, for example. Labor shortages have also generated bottlenecks in production processes. In the United States, labor shortages have been reported in sectors such as lodging, food services, wholesale sales, and public education, among other sectors.

A significant rise in energy prices in the last two months adds onto these shocks. As noted in this Report, the environmental measures adopted by China reduced coal supply and increased gas requirements. In a context of higher demand from Europe (due to colder than usual weather) and supply restrictions from Russia, natural gas prices have risen considerably, particularly in Asian and European markets. This, in turn, has had a second-round impact on oil and coal prices, resulting in a significant increase in energy prices[1].

Some impacts at the global level

Shortages and the higher prices of gas, oil and coal, in addition to other supply shocks, would affect economic activity and limit the recovery that the global economy has been experiencing. In some cases, activities would be directly affected by high prices and energy rationing and shortages, the direct impact varying according to the energy intensity of each activity. Taking U.S. industry as a reference, one can see that the higher energy consumption (in its different types) is observed in the chemical, paper, metal and non-metallic minerals industries.

ENERGY CONSUMPTION BY MANUFACTURING ACTIVITY
(Percent structure)



Source: USA Energy Information Administration.

1 In the case of coal, the gas supply crisis has led to a relaxation of restrictions on coal consumption and to an increase in coal prices. The Chinese government's intervention has been aimed at encouraging mines to produce at maximum capacity, to dictate measures against hoarding, and to make energy prices more flexible.

Given their high consumption of energy, some refineries have been particularly affected. Belgium-based Nyrstar announced a 50 percent reduction at its three zinc and lead refining plants due to rising electricity prices. For the same reason, Glencore has announced the closure of several plants in Europe, while energy cuts in China have particularly affected the steel and aluminum industries. Other activities affected have been cement and, to a lesser extent, paper and glass production.

In other cases, products derived from gas, oil or coal are used as inputs for other manufactured products. For example, the fertilizer industry requires gas for the production of urea. CF Industries has closed two plants in the United Kingdom and Yara has announced that it will reduce ammonia production capacity by 40 percent[2]. This, coupled with a series of export restrictions by China and Russia and supply chain problems, has led to a 102 percent increase in international prices of fertilizers so far this year.

Impact on some of Peru's imports

Peru's imports, especially imports of inputs, have been affected by the supply shocks described above, as suggested by the higher prices recorded. Although this trend has been noticeable since the beginning of this year, it has recently taken on greater magnitude. Such is the case of industrial input prices, which on average have gone from having a growth rate of 4.1 percent in the first quarter to 27.4 percent in the third quarter compared to the same period of 2019 (11.3 and 33.5 percent, respectively, compared to 2020).

IMPORTS OF INDUSTRIAL SUPPLIES
(Percentage changes)

	Volume						Price					
	2021/2019			2021/2020			2021/2019			2021/2020		
	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
TOTAL	**4.2**	**11.5**	**0.6**	**10.8**	**27.8**	**17.9**	**4.1**	**20.0**	**27.4**	**11.3**	**28.0**	**33.5**
Plastics	9.2	28.4	1.7	20.4	34.8	9.5	2.3	36.0	43.4	22.5	59.6	73.6
Iron and Steel	17.2	92.5	26.3	14.8	60.4	113.6	-3.0	17.2	39.7	11.0	27.1	56.0
Textiles	23.4	11.5	-4.5	39.3	75.0	11.2	-19.5	-5.5	3.4	-6.4	7.7	16.4
Papers	-23.4	-12.5	-10.5	-6.4	13.8	23.0	-18.9	-10.6	3.4	-4.5	2.2	17.0
Chemical products	14.1	9.4	-0.3	5.0	-1.2	9.9	10.5	12.4	14.9	11.1	17.0	15.8
Organic chemicals	11.9	11.4	2.0	18.1	25.0	17.8	1.7	23.6	31.8	11.9	35.5	43.0
Fertilizers	-6.2	-16.0	1.7	6.2	3.7	-7.5	-12.2	11.6	33.3	1.2	22.8	53.6
Other	-0.8	-1.1	-2.2	5.9	22.1	13.5	13.2	25.4	27.2	13.7	28.0	24.9

Source: Sunat.
Elaboration: BCRP.

By product, the import prices of plastics (polypropylene), iron and steel (steel bars), fertilizers (urea) and organic chemicals (fuel alcohol) stand out, as they have reached growth rates between 30 and 40 percent in the third quarter of 2021 compared to the same period of 2019. Again, these items correspond to energy-intensive industries and are closely related to gas or oil derivatives. No variations of similar magnitude are observed for prices of textile inputs, paper and chemical products, which, on the other hand, register lower import volumes.

2 See Chemical Snippets, Udeshi et al., 17-Sep 2021.

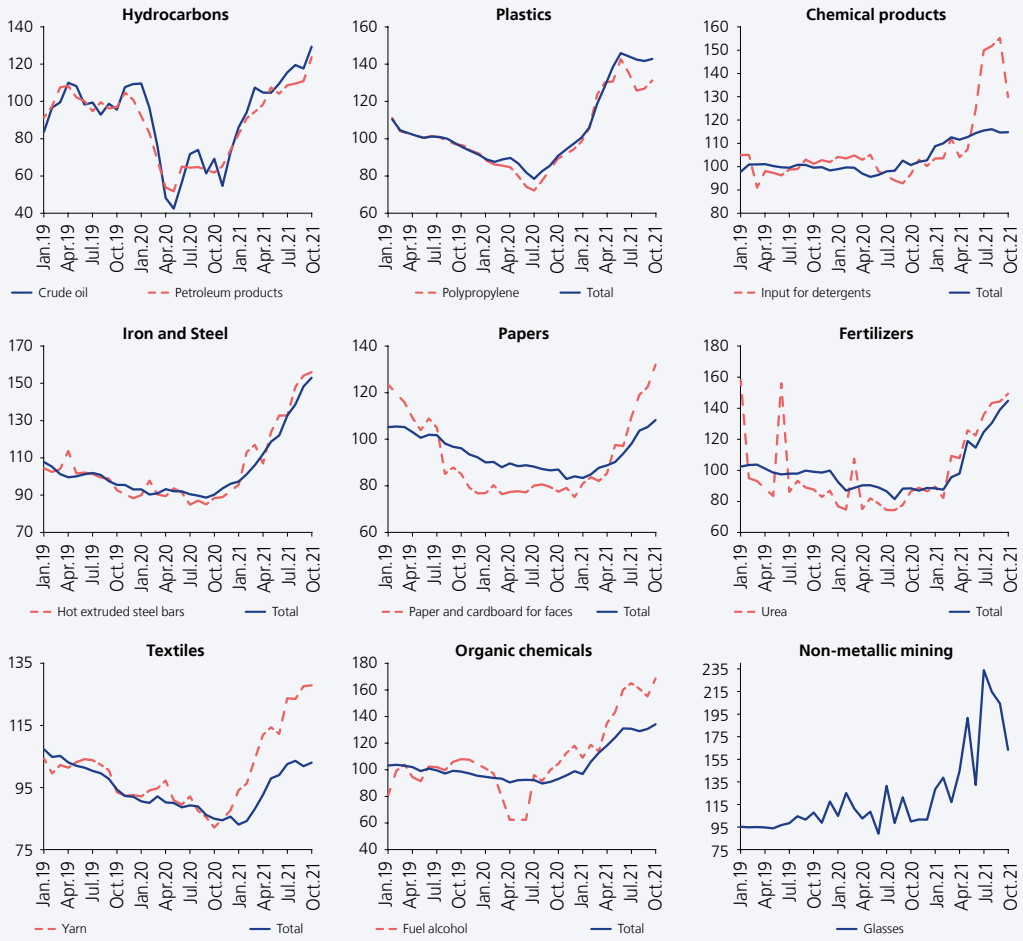
FREIGHT IMPORTS OF INDUSTRIAL INPUTS 1/
(Percentage changes)

	2021/2019			2021/2020		
	Q1	Q2	Q3	Q1	Q2	Q3
TOTAL	**40.4**	**67.3**	**119.6**	**43.1**	**55.8**	**113.0**
Plastics	54.0	132.0	187.0	63.3	134.5	232.6
Iron and Steel	0.9	22.5	94.4	3.8	34.5	93.2
Textiles	122.3	107.0	311.9	109.5	83.4	288.5
Papers	24.0	39.0	93.0	16.4	39.4	113.3
Chemical products	50.5	90.1	139.4	47.1	38.9	116.5
Organic chemicals	47.3	41.6	82.8	35.0	16.3	63.1
Fertilizers	15.0	46.5	65.1	5.8	45.9	88.7
Other	39.2	69.4	118.2	48.9	46.0	91.5

1/ Import freight as US$ per MT.
Source: Sunat.
Elaboration: BCRP.

Lower import volumes of some industrial inputs may be due in part to higher import freight rates due to logistical problems in maritime trade. The cost of transporting plastics, textiles, chemicals and paper products more than doubled in the third quarter compared to the same period last year. Thus, it is estimated that pressures caused by the shortage of products that have become more expensive due to high freight costs would add onto inflationary pressures due to higher import prices (derived from increases in energy costs).

IMPORT PRICE INDEX
(Base100 = 2019)



Source: Sunat.

II. Balance of Payments

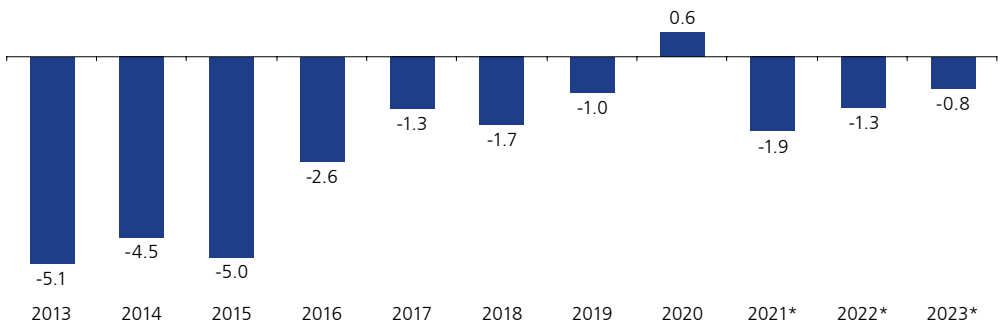
Current Account

21. The **current account** of the balance of payments registered a deficit of US$ 3,896 million (2.4 percent of GDP) in September of this year, a balance 2.5 percentage points of GDP lower than the surplus recorded for the same period in 2020. This result is explained by: (i) the increase in imports following the recovery of domestic demand; (ii) the increase in the factor income deficit, due to higher profits; (iii) the contraction of the services account, due to the high price of international freight in a context of crisis in maritime transport and problems in the logistics chain.

This trend was in part offset by the favorable evolution of the value of exports due to high commodity prices and the higher volume of non-traditional exports. In addition, due to the recovery of activity in the main countries where they come from, remittances from other countries also contributed to ofset the growth of the current account deficit.

Given the evolution observed so far this year, the current account deficit in 2021 is estimated to be equivalent to 1.9 percent of GDP, while a lower deficit of 1.3 percent of GDP is expected for 2022 due to the positive impact that the normalization of local production and global demand would have on the volume of exports. Moreover, the deficit is expected to show a further reduction to 0.8 percent of output by the end of the forecast horizon, mostly due to the projected recovery of exports of services following the end of the pandemic scenario.

Graph 26
CURRENT ACCOUNT: 2013-2023
(% GDP)



* Forecast.

In GDP terms, the deficit expected for 2021 is slightly higher than that estimated in the September Report due to the higher services deficit recorded so far this year and to a slightly lower surplus in the trade balance, which would be offset in part by a lower factor income deficit and a favorable evolution of remittances from other countries. On the other hand, the balance in 2022 has been revised down from a surplus of 0.2 percent of GDP to a deficit of 1.3 percent due to the foreseen increase in fuel and food prices, which would make imports more expensive, as well as due to the persistently high cost of international freight, which would increase the services deficit.

22. The **financial account** amounted to 6.8 percent of GDP (US$ 11,182 million) in the January to September 2021 period, which is explained by the sale of foreign portfolio assets, the recovery of foreign direct investment in the country, higher net long-term loans, and the external financing of the public sector. The outflow of short-term external capital continued in the third quarter (US$ 4,680 million), although at a slower pace than in the second quarter of the year (US$ 7,465 million).

The projection of the financial account in **2021** incorporates higher public sector financing, higher sales of external assets by the AFPs to cover approved withdrawals of funds by their members, a greater increase in portfolio investment in local assets, and higher disbursements. Short-term external capital outflows in the year (7.4 percent of GDP) are estimated to be the largest negative flow as a percentage of output since annual series have been recorded (1950).

On the other hand, the projection for **2022** assumes a gradual recovery of portfolio investment abroad by PFAs and an increase in portfolio investment in the country by non-residents. By 2023, the recovery of long-term private sector capital compared to the previous year would be offset by a lower public sector financing requirement, following the end of the pandemic scenario.

Table 10
BALANCE OF PAYMENTS
(Million US$)

	2020	2021*			2022*		2023*
		Jan.-Sep.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
I. CURRENT ACCOUNT BALANCE	**1,321**	**-3,896**	**-3,806**	**-4,325**	**420**	**-3,182**	**-2,154**
% GDP	*0.6*	*-2.4*	*-1.7*	*-1.9*	*0.2*	*-1.3*	*-0.8*
1. Trade Balance	7,966	10,021	14,969	14,656	17,635	15,588	16,315
a. Exports	42,680	45,050	60,658	61,899	64,346	66,836	70,324
Of which:							
i) Traditional	*29,788*	*33,510*	*44,486*	*45,545*	*46,716*	*49,028*	*51,093*
ii) Non-Traditional	*12,770*	*11,412*	*15,981*	*16,162*	*17,312*	*17,618*	*19,043*
b. Imports	-34,713	-35,029	-45,689	-47,243	-46,712	-51,248	-54,008
2. Services	-4,170	-4,554	-5,834	-6,377	-5,240	-6,776	-5,928
3. Investment income	-6,546	-12,314	-16,775	-16,544	-15,998	-16,094	-16,789
4. Current transfers	4,071	2,951	3,833	3,941	4,023	4,100	4,248
Of which: Remittances	2,939	2,658	3,455	3,562	3,627	3,704	3,853
II. FINANCIAL ACCOUNT 1/	**5,070**	**5,213**	**2,058**	**8,118**	**1,005**	**3,182**	**2,154**
1. Private Sector	-2,073	361	-8,057	-4,380	-1,877	301	577
a. Long-term	-1,096	15,135	5,892	12,235	-1,876	301	577
b. Short-term	-977	-14,774	-13,950	-16,615	0	0	0
2. Public Sector 2/	9,818	10,821	10,437	16,443	2,882	2,882	1,577
3. Net errors and omissions 3/	-2,675	-5,969	-322	-3,946	0	0	0
III. CHANGE ON NIRs	**6,391**	**1,317**	**-1,748**	**3,793**	**1,425**	**0**	**0**

1/ Includes net errors and omissions, and NIR's effect valuation.
2/ Includes portfolio investment in sovereign bonds by non-residents.
3/ Includes NIR's effect valuation.
IR: Inflation Report.
* Forecast.

23. The surplus in the **trade balance** totaled US$ 10,021 million in the first three quarters of the year, a balance US$ 5,702 million higher than that recorded in the same period of 2020 (US$ 4,319 million). This higher surplus is explained by the increase in exports from US$ 28,747 million in January-September 2020 to US$ 45,050 million in the same period of 2021 as a result of higher industrial metal prices and the favorable performance of world economic activity. Both factors had a positive impact on the prices paid for our traditional export products (42.8 percent), among which mining products such as copper and zinc stand out, reflecting the increase in world demand as well as the process of transition to clean and renewable energy.

As a result of this, the trade balance is projected to reach a surplus of US$ 14,656 million in **2021**, a balance slightly lower (US$ 313 million) than forecast in the previous report. This correction is mainly explained by the higher increase observed year-to-date in the value of imports compared to that of exports because of the high prices of inputs (industrial, fuel, and food inputs) and the recovery of domestic demand. On the other hand, a trade surplus of US$ 15,588 million is estimated for **2022** –US$ 2,047 million less than projected in the previous report–, mainly as a result of anticipated higher input prices, which would increase the value of imports. The trade surplus is expected to Increase in 2023.

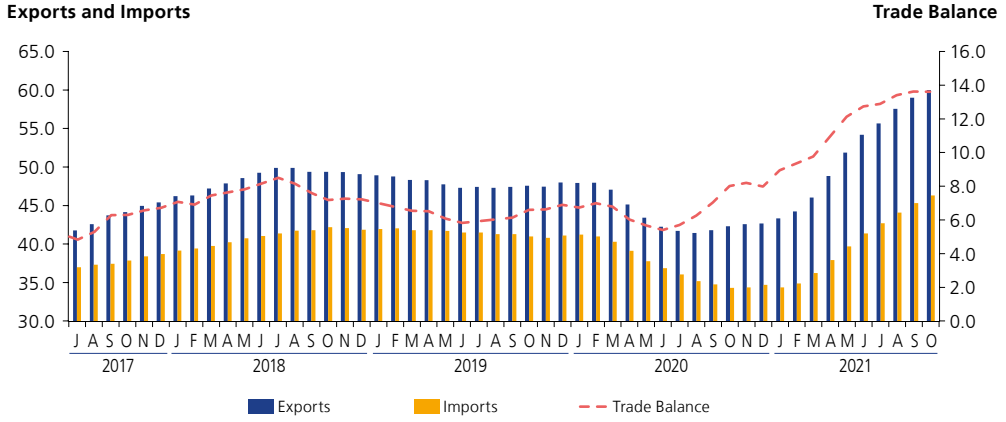
The projection of export volumes in **2021** and **2022** incorporates higher growth from the revision of traditional products (oil derivatives, fishmeal, and gas) and non-traditional products (agricultural and textile goods). The volume growth foreseen for **2023** is consistent with the production projection, reflecting the favorable performance of primary production and the increased global trade flow following the end of the pandemic scenario and the normalization of logistical difficulties.

The recovery in the value of imports in **2021** would be mainly explained by the volumes recorded between January and September of the year following the greater dynamism of domestic demand, especially the demand for capital goods and inputs, as well as the increase in the international price of oil, industrial inputs, and food. Higher imports would be recorded in food, non-durable consumer goods, and industrial inputs in **2022** and **2023**, along with the recovery of imports of capital goods.

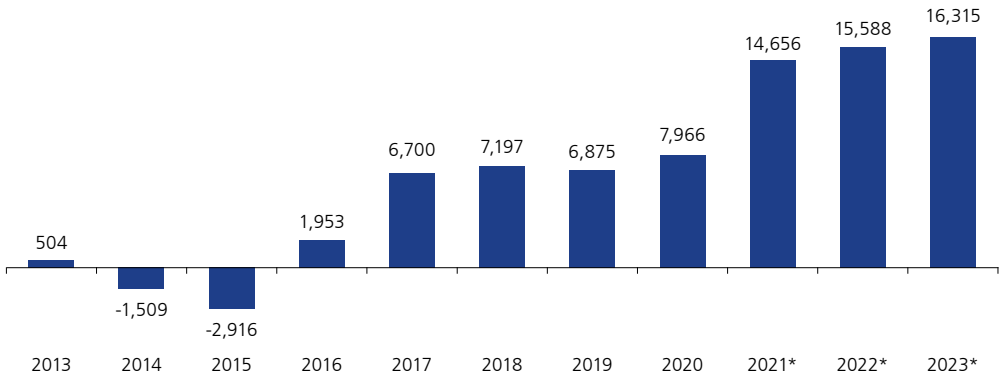
Graph 27

TRADE BALANCE, EXPORTS AND IMPORTS

(Accumulated 12 months - Billion US$)



Graph 28
TRADE BALANCE
(Million US$)



* Forecast.

Average export prices would be supported by high commodity prices (copper, gold, zinc, and gas) with a tendency to decelerate towards 2022, although they would remain at attractive levels for investment in green infrastructure. By the end of the projection horizon, the average prices of exports would decrease, while import prices –which have been revised up for 2021 and 2022, although to a lesser extent– would increase following the evolution of oil prices. Moreover, import prices would progressively stabilize in **2023**, although the upward trend in the price of crude oil would persist, in a context of greater demand for other renewable energy sources.

24. **Exports** amounted to US$ 45,050 million in the January-September 2021 period, which represented an increase of US$ 16,303 million (56.7 percent) with respect to the balance recorded in the same period of 2020. This is explained by higher exports of traditional products (67.1 percent) and, to a lesser extent, by higher non-traditional exports (32.7 percent).

Supported by higher prices of traditional mining products, the value of exports projected **for 2021** has been revised upwards. This is associated with the post-pandemic economic recovery in a context of continuous supply shocks linked to the supply chain, restrictions on mining company operations due to outbreaks of COVID-19, and high energy costs. Likewise, the higher volume of exports so far this year would have a positive contribution to this projection, with greater shipments of oil derivatives, fishmeal, and exports of non-traditional products standing out.

In **2022** and **2023**, exports of non-traditional products and the volumes exported of traditional products are expected to grow, amid a scenario of recovery of the local mining supply and the normalization of foreign trade. The 2022 projection is higher than expected in the previous report, mainly due to a higher expected increase in metal prices.

25. **Imports** between January-September 2021 amounted to US$ 35,029 million, which represents an increase of US$ 10,601 million (43.4 percent) with respect to the same period in 2020. This result is explained by a faster pace of growth of domestic demand, which boosted the volumes of capital goods and inputs imported, as well as by the increase in the price of oil, industrial inputs, and food.

In **2021**, volumes are projected to grow more than forecast in the September Report, as a result of the evolution of the first three quarters of the year, in line with domestic demand and following the trend of oil prices. The volume growth projection for the end of **2022** and **2023** is maintained, as imports would be led by the greater dynamism of imports of main foodstuffs, consumer goods, and industrial inputs, as well as by the recovery of capital goods purchases.

Similarly, import prices are expected to increase in **2021** and **2022**, reflecting the increase in the price of oil, as a result of the rapid recovery in demand –increased mobility, higher electricity prices in Europe, and energy rationing to industries in China– which would reduce the level of inventories in developed economies. Oil prices are expected to gradually stabilize by the end of the projection horizon, albeit showing upward pressure following higher world demand for an energy change.

Table 11
TRADE BALANCE
(% change)

	2020	2021*				2022*		2023*
		Jan.-Sep. 21 in relation to:		IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
		Jan.-Sep.20	Jan.-Sep.19					
1. Value:								
Exports	-11.0	56.7	29.0	41.3	45.0	6.1	8.0	5.2
Traditional products	*-12.4*	*67.1*	*35.0*	*48.6*	*52.9*	*5.0*	*7.6*	*4.2*
Non-traditional products	*-7.5*	*32.7*	*14.3*	*24.0*	*26.6*	*8.3*	*9.0*	*8.1*
Imports	-15.6	43.4	14.0	31.6	36.1	2.2	8.5	5.4
2. Volume:								
Exports	-14.4	19.0	-2.3	11.0	12.4	5.2	5.8	5.9
Traditional products	*-18.3*	*17.0*	*-7.3*	*9.4*	*10.3*	*5.8*	*6.2*	*6.5*
Non-traditional products	*-3.5*	*24.7*	*12.2*	*15.6*	*18.4*	*5.0*	*5.0*	*5.0*
Imports	-11.1	24.8	5.0	15.5	17.2	4.7	4.7	5.4
3. Price:								
Exports	3.9	31.7	32.0	27.2	29.0	0.9	2.1	-0.6
Traditional products	*7.1*	*42.8*	*45.7*	*35.8*	*38.6*	*-0.8*	*1.4*	*-2.2*
Non-traditional products	*-4.2*	*6.4*	*1.8*	*7.3*	*6.9*	*3.1*	*3.8*	*2.9*
Imports	-5.0	14.9	8.5	13.9	16.1	-2.4	3.6	0.0

* Forecast.

Terms of trade

26. The terms of trade recorded an increase of 14.6 percent in the January-September 2021 period, driven by the maximum values reached by copper prices (up 57.1 percent compared to the same period in 2020), due to lower world inventory levels and higher energy prices. In addition, the supply of recycled copper, which traditionally balances the market, also faced difficulties to increase its production due to stricter environmental standards in China and Malaysia.

In 2021, the terms of trade would register an increase of 11.1 percent, growing less than projected in the September Report (11.7 percent). This downward revision is explained by the higher projected increase in the average import price, supported by higher prices of fuels such as oil, as well as the higher prices of food, mainly wheat, and

the rest of industrial inputs. This would offset the upward revision in export prices. In addition, the current projection also takes into account a slight downward correction in the average price of maize forecast in the previous Report (from US$ 232 to US$ 226 per MT).

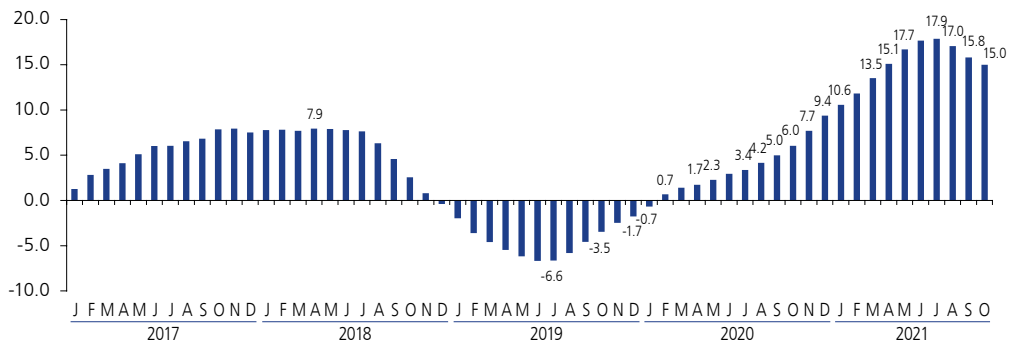
In contrast to the 3.3 percent growth rate forecast in the September Report, the terms of trade are projected to decline by 1.5 percent in 2022. The energy crisis is expected to keep gas prices high and put upward pressure on the cost of fertilizer production and, therefore, on the average price of imported food. On the other hand, the energy crisis would be reflected in lower production of some metals (aluminum, zinc, and other metals). In 2023, commodity prices would gradually normalize.

Table 12
TERMS OF TRADE: 2020 - 2022

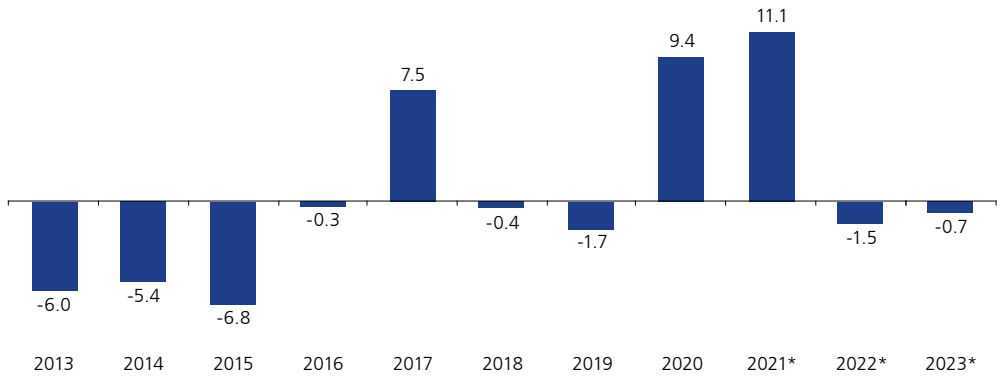
	2020	2021*			2022*		2023*
		Jan.-Sep.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
Terms of Trade							
Annual average % chg.	**9.4**	**14.6**	**11.7**	**11.1**	**3.3**	**-1.5**	**-0.7**
Price of exports							
Annual average % chg.	**3.9**	**31.7**	**27.2**	**29.0**	**0.9**	**2.1**	**-0.6**
Copper (US$ cents per pound)	280	416	419	423	424	435	428
Zinc (US$ cents per pound)	103	131	132	136	135	146	136
Lead (US$ cents per pound)	83	98	100	100	102	105	102
Gold (US$ per troy ounce)	1770	1801	1794	1803	1781	1831	1845
Natural gas (US$ mbtu)	2.1	3.3	3.4	3.8	3.5	4.4	3.6
Price of imports							
Annual average % chg.	**-5.0**	**14.9**	**13.9**	**16.1**	**-2.4**	**3.6**	**0.0**
Oil (US$ per barrel)	39	65	65	69	63	75	68
Wheat (US$ per ton)	186	247	253	258	267	287	278
Maize (US$ per ton)	137	230	232	226	216	223	212

* Forecast.

Graph 29
TERMS OF TRADE
(Accumulated 12 months % change)



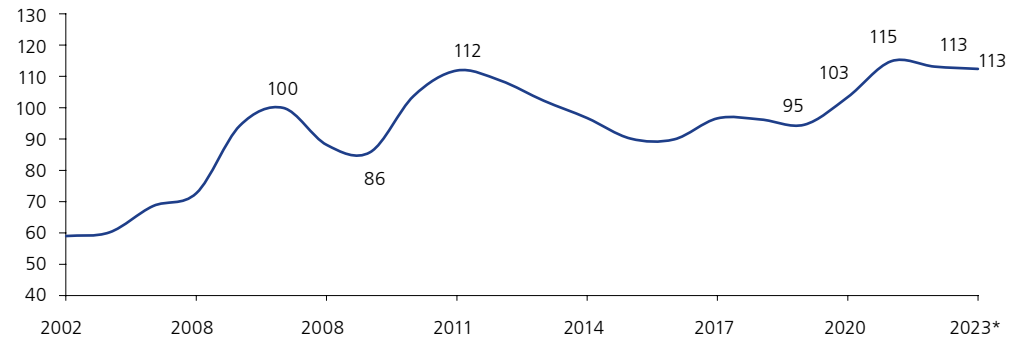
Graph 30
TERMS OF TRADE: 2012-2022
(Annual average % change)



* Forecast.

With the current projection, the average level of the terms of trade between 2020 and 2023 would continue to be the highest in the last 20 years, even incorporating a slight correction in the projection horizon.

Graph 31
TERMS OF TRADE, 2002-2023
(Index 100 = 2007)



* Forecast.

External financing

27. **Long-term external financing of the private sector** totaled US$ 15,135 million in the January-September 2021 period, US$ 16,479 million more than in the same period of 2020. This result is explained by the higher sale of external portfolio assets, carried out mainly by AFPs (to meet authorized withdrawals) and mutual funds. Short-term capital inflows were negative by US$ 14,774 million.

The projection for **2021** considers an upward revision of the private sector's long-term external financing, associated with a greater sale of foreign assets and with an increase in foreign portfolio investment in the country. On the other hand, the short-term financial account would reflect a negative flow of capital in the accounts of the non-financial sector, associated with households and non-financial companies' higher deposits abroad in a context of political uncertainty.

Foreign direct investment in 2021 is revised slightly down with respect to what was forecast in the previous Report, although it remains the main source of financing. Compared to 2020, the boost to this account would come from the reinvestment of profits, in line with the evolution of export prices and the acceleration in the recovery of local activity. The current projection also incorporates a greater reduction in portfolio investment abroad, due to the AFP's sale of financial assets observed so far this year, given their liquidity requirements to meet the fund withdrawals of their members. It is estimated that the AFPs and mutual funds will resume investing in foreign assets towards the end of 2021, with better returns on foreign assets as a result of global economic recovery. On the other hand, the greater recovery of foreign portfolio investment in the country incorporates a lower rate of outflows of equity capital and a higher inflow of fixed-income capital. Finally, in a context of preference for local financing, a similar evolution of amortizations is expected.

Table 13

FINANCIAL ACCOUNT OF THE PRIVATE SECTOR

(Million US$)

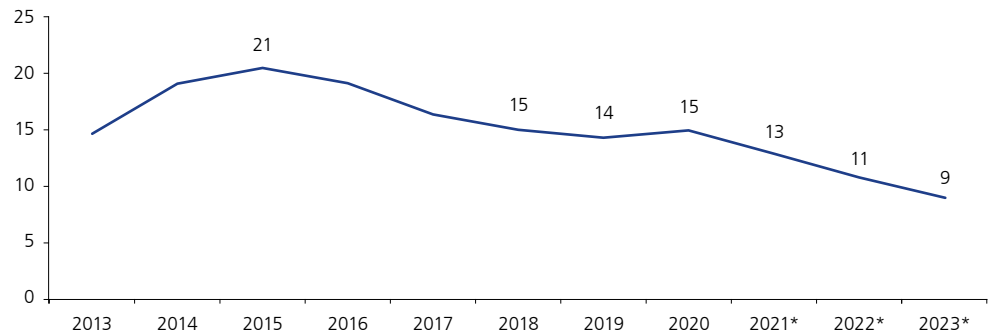
	2020	2021*			2022*		2023*
		Jan.-Sep.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
Private Sector (A + B)	**-2,073**	**361**	**-8,057**	**-4,380**	**-1,877**	**301**	**577**
% GDP	-1.0	0.2	0.0	-2.0	0.0	0.1	0.2
A. Long-term	**-1,096**	**15,135**	**5,892**	**12,235**	**-1,876**	**301**	**577**
1. ASSETS	**175**	**10,682**	**2,012**	**7,448**	**-3,194**	**-2,012**	**-2,208**
2. LIABILITIES	**-1,270**	**4,453**	**3,881**	**4,787**	**1,317**	**2,314**	**2,785**
Foreign direct investment in the country	1,382	5,063	6,631	6,201	5,111	5,138	5,708
Long-term loans	-3,367	-1,277	-3,151	-2,375	-4,317	-4,023	-3,642
Portfolio investment	715	667	401	962	523	1,199	719
B. Short-term	**-977**	**-14,774**	**-13,950**	**-16,615**	**0**	**0**	**0**
NET ERRORS AND OMISSIONS 1/	**-2,675**	**-5,969**	**-322**	**-3,946**	**0**	**0**	**0**

1/ Includes net errors and omissions, and NIR's effect valuation.
* Forecast.

Graph 32

BALANCE OF MEDIUM- AND LONG-TERM PRIVATE EXTERNAL DEBT: 2013 - 2023

(% GDP)



* Forecast.

The projection for **2022** revises long-term external financing of the private sector to the upside compared to what was foreseen in the September Report. The projection scenario assumes a more gradual recovery of AFP's portfolio investment abroad, a higher increase in non-residents' portfolio investment in the country, and slightly higher foreign direct investment in the country. Under the assumption of lower political uncertainty, long-term private sector capital is expected to recover by **2023**, in line with the end of the pandemic scenario.

28. In the period from January to September 2021, net external financing to the public sector was US$ 10,821 million, US$ 3,979 million higher than in the same period of 2020. Disbusements amounting to US$ 10,552 million stand out in the period under analysis, which included disbursements associated with global bond issues (US$ 5,022 million), freely available loans to the Government for US$ 2,500 million, the allocation of Special Drawing Rights (SDR) by the IMF for US$ 1,811 million, and the reopening of Petroperu's corporate bond maturing in 2047 (US$ 1,000 million). This trend in financing was limited by the sale of sovereign bonds held by non-residents for US$ 190 million with respect to the purchases made between January-September 2020.

In 2021, the public financial account incorporates the issuance of global bonds for US$ 4.0 billion, carried out on November 2, and that for € 1.0 billion carried out on November 17. Moreover, the pace of non-residents' purchases of sovereign bonds recorded since the third quarter of the year is expected to continue to be similar. In 2022, the projection for the public financial account remains unchanged with respect to the previous Report, and the public sector's financial requirement would decrease at the end of the projection horizon, in line with the expected reduction in the fiscal deficit.

Table 14
FINANCIAL ACCOUNT OF THE PUBLIC SECTOR
(Million US$)

	2020	2021*			2022*		2023*
		Jan.-Sep.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
I. Disbursements 1/	**9,977**	**10,552**	**10,759**	**15,955**	**2,210**	**2,210**	**1,240**
II. Amortization	**-935**	**-295**	**-507**	**-508**	**-1,189**	**-1,189**	**-1,704**
III. Net external assets	**-288**	**125**	**102**	**97**	**-140**	**-140**	**-140**
IV. Other transactions with Treasury Bonds (IV = a - b)	**1,064**	**439**	**84**	**898**	**2,000**	**2,000**	**2,180**
a. Sovereign Bonds held by non-residents	1,565	-190	-502	270	2,000	2,000	2,180
b. Global Bonds held by residents	501	-628	-586	-628	0	0	0
V. TOTAL (V = I+II+III+IV)	**9,818**	**10,821**	**10,437**	**16,443**	**2,882**	**2,882**	**1,577**

1/ Includes bonds.
* Forecast.

29. The soundness of the balance of payments to face negative external events can be assessed by considering the position of international reserves in relation to the balance of short-term external liabilities or the sum of these liabilities and the current account deficit. In addition to the high levels of support obtained thanks to the precautionary accumulation of international reserves, Peru has an automatic freely available credit line (FCL) from the IMF for approximately US$ 11.2 billion to face eventual contingencies.

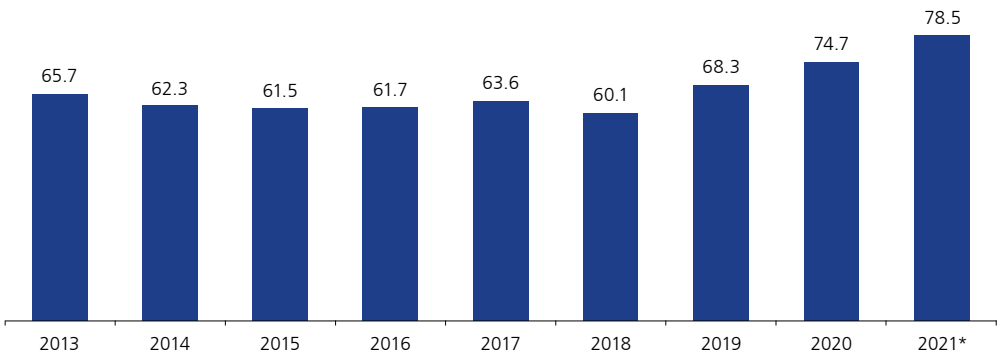
Table 15
NIR INDICATORS

	2017	2018	2019	2020*	2021*	2022*	2023*
NIR as a % of:							
a. GDP	,29.7	26.7	29.6	36.4	35.0	33.2	30.7
b. Short-term external debt 1/	414	343	498	532	485	481	481
c. Short-term external debt plus current account deficit	351	281	424	587	383	402	425

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

30. As of December 14, **net international reserves (NIR),** which amounted to US$ 78,525 million, were US$ 3,818 million higher than at the end of 2020. This result is partly explained by income from the allocation of special drawing rights (SDR), which amounted to US$ 1,811 million.

Graph 33
NET INTERNATIONAL RESERVES: 2013 - 2021
(Billion US$)



* As of December 14.

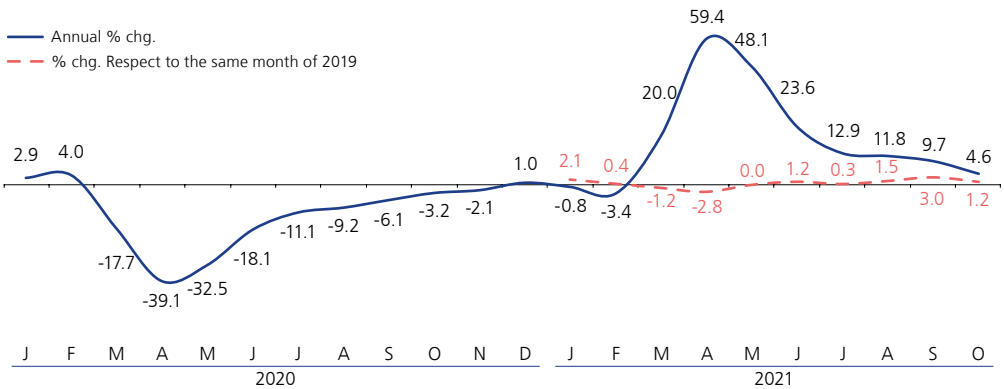
III. Economic Activity

Sectoral GDP

31. Economic activity between January and October 2021, whih was slightly above the level recorded in the same period of 2019 (0.6 percent), registered a year-on-year increase of 16.0 percent, mainly due to a low comparative base and to the easing of sanitary measures after the progress achieved in terms of the vaccination process, both locally and globally.

Despite political uncertainty and its negative impact on expectations about the future of the economy, the evolution of GDP shows a continuous growth since June 2021 with respect to 2019 levels. The sectors with the greatest dynamism were construction, non-primary manufacturing, trade and some branches of the services sector, with telecommunications and financial and insurance services standing out. However, some sectors are still lagging behind in their recovery, especially those with a higher degree of physical interaction, such as services related to transportation, and accommodation and restaurants. Likewise, primary production in September was limited by the results of fishing (compliance with catch quotas) and hydrocarbons (stoppage of operations in some lots).

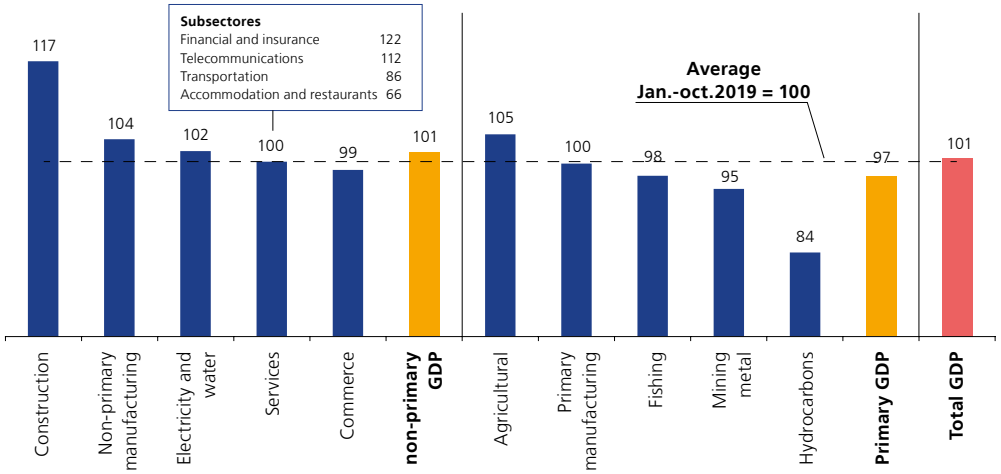
Graph 34
REAL GDP



Graph 35

REAL GDP BY ECONOMIC SECTORS. AVERAGE JAN-OCT 2021

(Index 100 = january - october 2019)

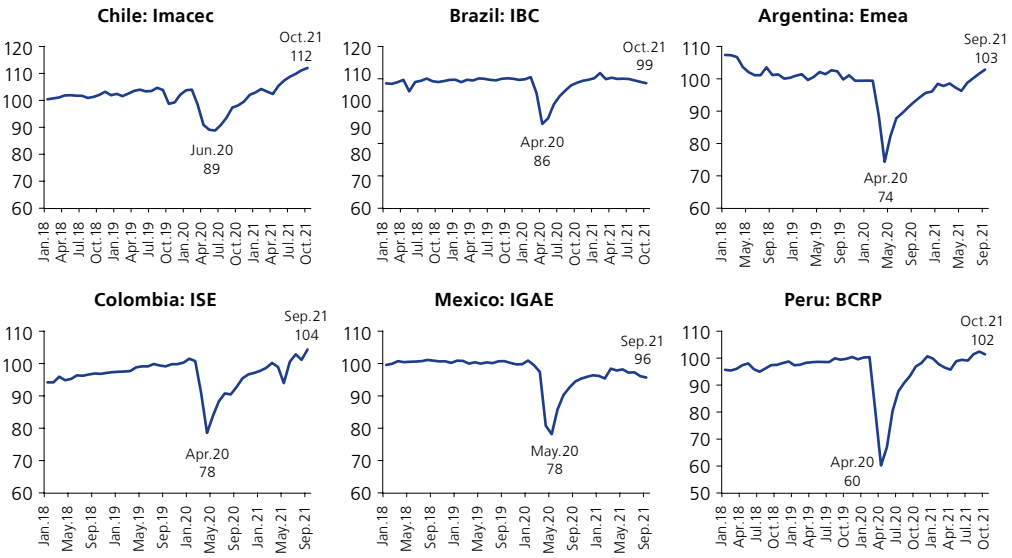


32. The seasonally adjusted GDP index was above its pre-crisis level (Q4 2019) for three consecutive months since August 2021. In October, declining slightly from its level in the previous month, it was 1.5 percent above its pre-pandemic level. Moreover, on a quarterly basis, GDP in the third quarter was 1.6 percent above the 2019 result, this growth rate being surpassed in the region only by Chile and Colombia. Compared to most of the major developed economies in Europe, Peru shows a considerable relative pace of recovery.

Graph 36

SEASONALLY ADJUSTED INDEXES OF ECONOMIC ACTIVITY IN THE REGION

(Base 100 = Q4.19)



Source: Central banks and statistical institutes of each country.

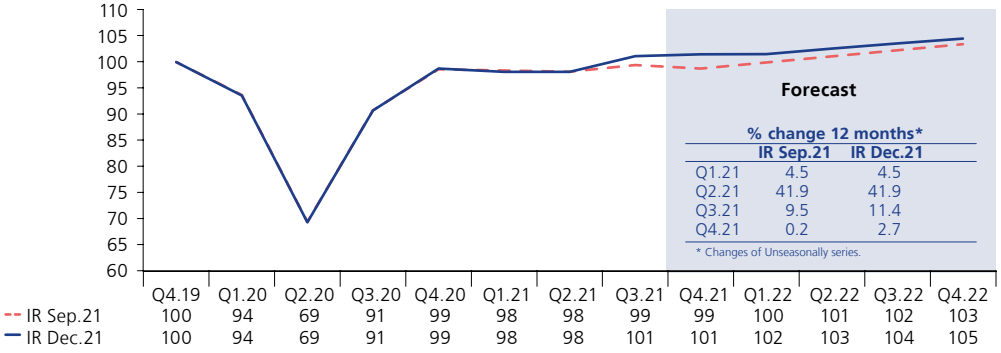
Table 16
REAL GDP
(% change respect to the same quarter of 2019)*

	2020				2021		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Germany	-1.9	-11.3	-3.7	-2.9	-4.7	-2.4	-1.3
France	-5.4	-18.6	-3.6	-4.3	-4.0	-3.3	-0.4
Italy	-5.8	-18.2	-5.2	-6.5	-6.5	-4.3	-1.5
Spain	-4.3	-21.5	-8.7	-8.8	-8.3	-7.8	-6.2
Netherlands	-0.4	-8.9	-2.6	-3.1	-2.6	0.6	2.3
United Kingdom	-2.2	-21.4	-8.1	-7.1	-7.9	-2.9	-2.0
USA	0.6	-9.1	-2.9	-2.3	1.1	2.0	1.9
Argentina**	-5.2	-19.0	-10.2	-4.3	-2.5	-4.5	0.8
Brazil	-0.1	-10.7	-3.7	-0.9	1.2	0.3	0.2
Chile	0.2	-14.2	-9.0	0.0	0.8	1.3	6.7
Colombia	0.6	-15.8	-8.4	-3.6	1.6	-1.0	3.7
Mexico	-1.0	-18.7	-8.5	-4.4	-4.8	-2.5	-4.4
Peru	-3.9	-29.9	-8.8	-1.4	0.4	-0.5	1.6

* Variations in 2021 compared to 2019 are own calculations based on interannual variations to one decimal place.
** Data for the third quarter of 2021 are estimated from monthly activity indices.
Source: Central banks and statistical institutes of each country.

33. The dynamism of economic activity is expected to moderate in the last quarter of the year (2.7 percent year-on-year) due to a lower statistical effect and a slowdown in private investment. The current forecast scenario assumes that if a third wave of COVID-19 infection were to occur, it would not have a significant economic impact. In sum, the economy would register a growth rate of 13.2 percent in 2021 –a higher rate than the one considered in the previous Report (11.9 percent)– as a result of a higher than expected result as of October. Furthermore, GDP in the following quarters is expected to be driven by the gradual normalization of productive activities under a scenario of immunization of most of the target population, and by the maintenance of high terms of trade and the gradual recovery of consumer and business confidence.

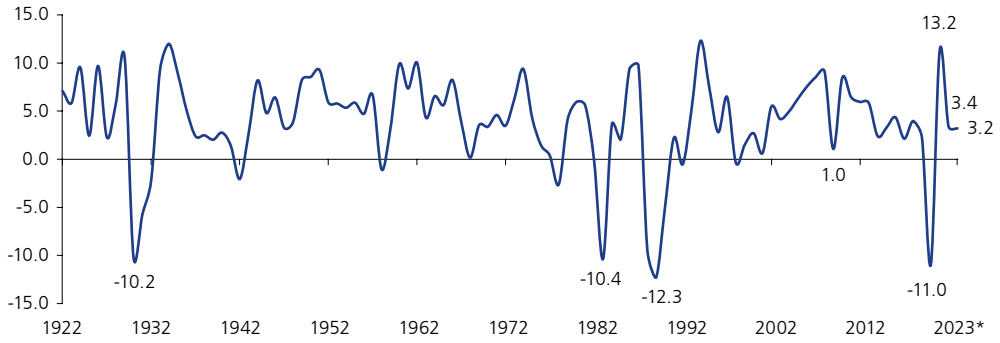
Graph 37
FORECAST OF GDP, 2019-2023
(Seasonally adjusted index Q4.19=100)



34. In 2022, the economy is expected to grow 3.4 percent. The continued vaccination process would allow economic activity to continue to recover next year thanks to a gradual normalization of spending habits and the lifting of the sanitary restrictions that remain in place to date, all of which would boost activity in non-primary sectors and the recovery of the labor market. In addition, activity in the year would be favored by normal conditions for fishing, a normalization of hydrocarbon production, and the entry into operation of the Quellaveco project.

The normalization of local and global activity, together with the normalization of consumption habits, would be partially offset by the effect of agents' lower confidence regarding the future of the economy. Lower business confidence would affect investment decisions and, consequently, future production plans. This negative impact was also taken into account in the previous Report, which is why the 2022 growth projection has remained unchanged. Moreover, according to the expected pace of recovery, tourism and restaurant-related activities would reach their pre-crisis levels in 2023.

Graph 38
TOTAL GDP, 1922-2023
(Annual % change)



* Forecast.

Table 17
GDP BY ECONOMIC SECTORS
(Real % change)

		2021*				2022*		2023*
	2020	Jan.-Oct. 21 respect to Jan.-Oct.20	Jan.-Oct. 21 respect to Jan-Oct.19	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
Primary GDP	**-7.7**	**7.6**	**-2.6**	**6.2**	**5.3**	**5.9**	**5.3**	**5.8**
Agriculture and livestock	1.4	3.0	4.6	2.0	2.8	2.7	2.7	2.8
Fishing	4.2	4.9	-2.5	5.4	0.0	4.4	4.4	4.4
Metallic mining	-13.8	13.7	-4.7	10.8	9.6	6.9	5.9	8.4
Hydrocarbons	-11.0	-5.5	-15.6	-3.8	-4.6	13.4	13.4	4.0
Manufacture	-2.0	6.0	-0.4	5.6	3.4	4.9	4.1	3.5
Non-Primary GDP	**-12.0**	**18.5**	**1.5**	**13.6**	**15.5**	**2.7**	**2.9**	**2.5**
Manufacture	-16.4	28.9	3.8	21.1	24.8	1.4	1.4	3.3
Electricity and water	-6.1	9.8	1.8	7.7	8.2	1.7	1.7	5.0
Construction	-13.9	52.0	17.2	30.6	34.7	0.0	0.5	2.5
Commerce	-16.0	21.5	-1.5	17.8	17.5	1.4	2.4	2.5
Services	-10.3	13.3	-0.1	9.9	11.7	3.6	3.7	2.3
GDP	**-11.0**	**16.0**	**0.6**	**11.9**	**13.2**	**3.4**	**3.4**	**3.2**

IR: Inflation Report.
* Projection: For 2021 and 2022, the last two columns correspond to the annual projection of the previous and current IR. For 2023 only the projection of the present IR.

The economy would continue with a 3.2 percent recovery in 2023, in a context that promotes an adequate business environment that fosters the creation of new jobs and the execution of investment projects, while preserving macroeconomic and financial stability. Box 2 of this Report describes the relationship between the governance structure in countries and macroeconomic stability, a key element for economic growth.

a) In the third quarter of 2021, the **agriculture sector** grew 7.8 percent compared to the same period of 2019, due to the greater dynamism of agricultural exports (blueberries, avocados, asparagus, and coffee) and a higher rice production. Moreover, the sector grew 9.6 percent with respect to the third quarter of 2020 due to a higher production of blueberries and grapes, the recovery of potato, hard yellow maize and rice crops (due to greater water availability), and due to the normalization of coffee and avocado harvests.

   The agricultural sector projection for **2021** has been revised up from 2.0 to 2.8 percent due to higher volumes of agro-export goods, such as blueberries, avocados, asparagus, grapes, and coffee. In addition, higher rice and hard yellow maize harvests are expected due to better water conditions. In addition, there will also be higher poultry meat production due to greater demand from restaurants, in line with the progress made in vaccination to face the coronavirus pandemic.

   The **2022** projection remains at 2.7 percent, while a growth rate of 2.8 percent is expected for **2023** due to the recovery of output in the livestock subsector (poultry and eggs), growth in agroexports, and increased rice production.

b) Output in the **fishing sector** contracted 28.6 percent in the third quarter of 2021 compared to the same period in 2019, mainly due to lower direct human consumption. Likewise, the sector also recorded a year-on-year drop of 37.8 percent in the third quarter due to the lower catch of species for direct human consumption, associated with lower annual quotas with respect to 2020. Despite this, however, the sector accumulated a 4.9 percent growth in the January-October period due to the higher anchoveta catch during the first season in the North-Central Zone.

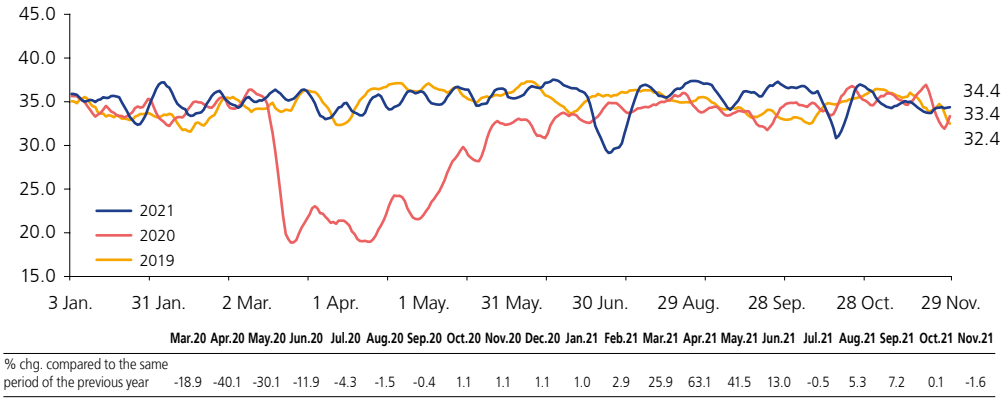
   In contrast with the 5.4 percent growth projected in the previous report, zero growth is projected for **2021** in annual terms. This revision is due to lower direct human consumption of fish and to the lower anchoveta quota in the second fishing season in the North-Central Zone (2.05 million MT in 2021 and 2.78 million MT in 2020). Given normal weather conditions and adequate anchoveta biomass levels, activity in the fishing sector is expected to increase 4.4 percent in **2022** and **2023**.

c) The sector of **metal mining** decreased 3.9 percent in the third quarter of 2021 compared to the same period of 2019 mainly as a result of lower production of copper (-5.2 percent), gold (-24.2 percent), silver (-13.4 percent) and lead (-14.5 percent). During this period, large and medium mining production was affected by lower ore grades, restrictions on operation capacities to avoid COVID-19 infections, and conflicts with communities. In addition, gold production was affected by the lower output recorded by artisanal mining, while the silver and lead production was adversely affected by the stoppage of Raura mining company. Despite this,

the sector registered a 6.2 percent year-on-year growth rate, basically due to a base effect with respect to the previous year. Thus, during the first ten months of 2021, the sector accumulated a drop of 4.7 percent with respect to the same period of 2019 and a year-on-year growth rate of 13.7 percent.

During the first months of the fourth quarter of 2021, electricity consumption slowed down compared to previous months due to maintenance and due to problems with communities.

Graph 39
MINING COMPANIES' DAILY ELECTRICITY CONSUMPTION
(Gwh - Average 7 days)



	Mar.20	Apr.20	May.20	Jun.20	Jul.20	Aug.20	Sep.20	Oct.20	Nov.20	Dec.20	Jan.21	Feb.21	Mar.21	Apr.21	May.21	Jun.21	Jul.21	Aug.21	Sep.21	Oct.21	Nov.21
% chg. compared to the same period of the previous year	-18.9	-40.1	-30.1	-11.9	-4.3	-1.5	-0.4	1.1	1.1	1.1	1.0	2.9	25.9	63.1	41.5	13.0	-0.5	5.3	7.2	0.1	-1.6

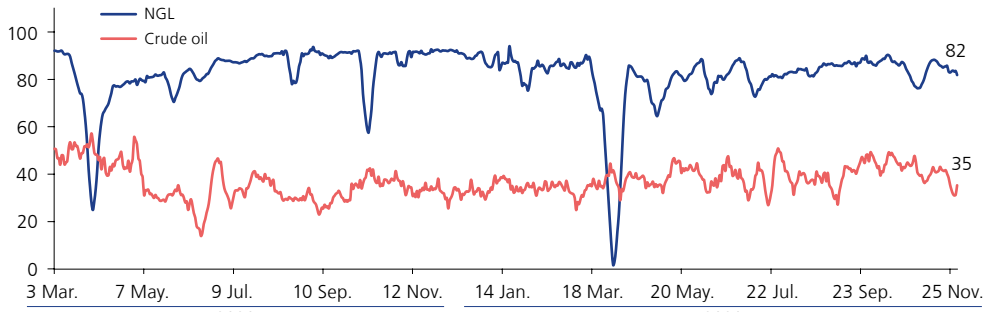
In **2021**, the sector is estimated to grow 9.6 percent as a result of higher production in large and medium mining companies, the entry into operation of Mina Justa (the company has been recording production since July), and the expansion of Toromocho. In **2022**, production in the metal mining sector is expected to increase 5.9 percent due to higher production from Toromocho, Mina Justa, Las Bambas, and Constancia (Pampacancha), as well as due to the start-up of the Quellaveco project. In **2023**, the sector is expected to grow 8.4 percent, mainly as a result of the higher production of Quellaveco.

d) Activity in the **hydrocarbons sector** in the third quarter of 2021 recorded a 19.1 percent drop compared to the same period of 2019 due to lower oil production (-26.0 percent) associated with the halt in the extraction operations of jungle lots (lots 192 and 8) because of the termination of contracts. Moreover, compared to the third quarter of 2019, the production of natural gas and natural gas liquids in this third quarter decreased by 33.3 and 5.2 percent, respectively, due to several maintenance works and some plant failures that affected the production of lots 56 and 57.

The sector showed a drop of 6.2 percent compared to the third quarter of 2020 due to the lower extraction of natural gas and natural gas liquids associated with the events discussed above. Thus, during the first ten months of the year, output in the sector experienced a year-on-year reduction of 5.5 percent (-15.6 percent compared to the same period of 2019).

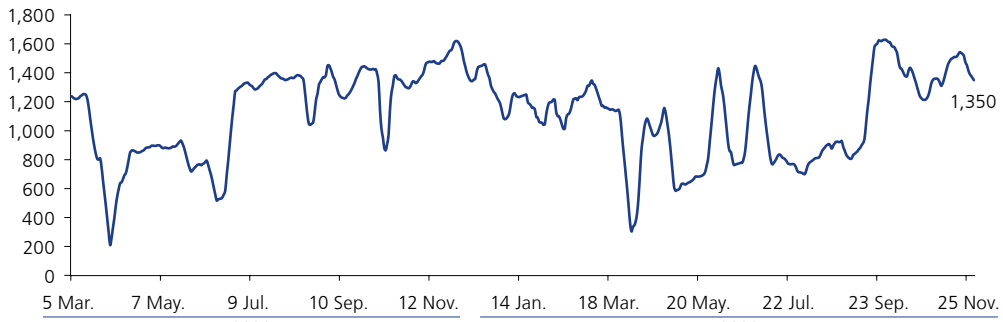
So far in the fourth quarter, oil production has been impacted by the problems with the communities which affected the extraction of lot 95. Operations in lots 192 and 8 continue to be paralyzed, while the extraction of natural gas and natural gas liquids has fallen due to some plant-related problems that affected the production of lot 56.

Graph 40
LIQUID HYDROCARBON PRODUCTION
(Thousands of barrels per day, 7-day moving average)



	Jan.21	Feb.21	Mar.21	Apr.21	May.21	Jun.21	Jul.21	Aug.21	Sep.21	Oct.21	Nov.21
NGL (% chg.)	-1.5	-8.7	-7.2	-7.2	1.8	-1.7	-10.1	-5.0	-4.2	1.3	-6.7
Crude oil (% chg.)	-40.8	-44.7	-31.1	-20.4	30.4	29.9	12.0	20.8	41.6	17.0	13.3

Graph 41
PRODUCTION OF NATURAL GAS
(Millions of cubic feet per day, 7-day moving average)



	Jan.21	Feb.21	Mar.21	Apr.21	May.21	Jun.21	Jul.21	Aug.21	Sep.21	Oct.21	Nov.21
% change	-5.1	-9.4	18.2	10.3	-7.7	28.3	-38.8	-34.5	-5.2	9.0	-4.2

* Respect to monthly average of each months.

Output in the sector is expected to register a 4.6 percent decline In **2021** –a larger contraction than projected in the previous Report– due to the aforementioned events, while in **2022**, the sector is expected to grow 13.4 percent, due to a normalization in the production of natural gas and natural gas liquids, as well as due to the higher oil extraction expected from the lots located in Loreto. Finally, in **2023** the sector is expected to grow 4.0 percent, this projection being associated with a normalization of oil production.

e) Activity in the subsector of **primary manufacturing** dropped 9.8 percent in the third quarter of 2021 with respect to the same period of 2019. This decrease

is mainly explained by lower metal and oil refining, a drop in sugar production, and lower fish catch for the production of fishmeal and fish oil. As a result, the subsector accumulates a contraction of 0.4 percent between January and October 2021. Moreover, in the third quarter of the year output in the subsector fell 9.0 percent compared to 2020.

The growth projection for the sub-sector has been lowered to 3.4 percent in **2021**, mainly because of a lower outlook for canned and frozen fish production. On the other hand, a year-on-year increase of 4.1 percent is expected in **2022** and an increase of 3.5 percent is expected in **2023**.

f) Ouput in **non-primary manufacturing** increased 4.4 percent in the third quarter of 2021 compared to the same quarter of 2019. This increase in activity is explained by a higher production of goods oriented to investment and domestic consumption. The positive growth rates observed in branches such as machinery and equipment, metal products and cement stand out among the former, while the growth rates of branches such as furniture, alcoholic beverages and bakery products stand out among the latter. A recovery in production is expected in the last quarter of the year (5.5 percent with respect to 2019), especially in the items of consumer goods oriented to investment and inputs. The subsector grew 14.5 percent in the third quarter compared to 2020.

The recovery of non-primary manufacturing is expected to continue in **2021** with a growth rate of 24.8 percent, above pre-pandemic levels (4.3 percent). In addition, compared to the previous year, a growth rate of 1.4 percent is expected in **2022** and a growth rate of 3.3 percent in **2023**.

g) Activity in the **construction sector** increased 18.3 percent in the third quarter of 2021 compared to the same period of 2019, mainly due to self-construction projects and to the continuation of public and private works. On a year-on-year basis, construction grew 23.8 percent. Domestic cement consumption, the main indicator of the sector's activity, increased 19.3 percent compared to 2019 levels (and 16.3 percent compared to 2020). Activity in this sector is expected to fall in the fourth quarter due to the drop in public investment in this period, so construction would grow 34.7 percent in 2021.

In **2022**, activity in the sector is estimated to increase 0.5 percent, and in **2023**, it would grow 2.5 percent, driven by higher public and private investment.

h) Activity in the **commerce** sector grew 1.2 percent in the third quarter of 2021 compared to the same period of 2019, due to higher activity in retail trade and sales of vehicles. On a year-on-year basis, the sector grew 10.1 percent, due to the sector's standstill in the same period of the previous year. As a result, activity in this sector dropped 1.5 percent from January to October 2021 compared to the same period in 2019 (growth of 21.5 percent year-on-year).

In **2021**, the sector is expected to grow 17.5 percent, due to higher domestic demand compared to the previous year. In **2022** and **2023**, activity is expected to increase 2.4 and 2.5 percent, respectively.

i) Compared to the same period of 2019, the sector of **services** grew 1.5 percent in the third quarter of 2021. This was due to the greater dynamism recorded in the branches of (i) telecommunications (13.8 percent), associated with the greater need for remote activities; (ii) financial and insurance services (21.7 percent) due to higher credit placements, and (iii) public administration services (7.2 percent). On the other hand, the most affected activities continued to be those related to the transportation and storage sector (-5.9 percent), lodging and restaurants (-24.7 percent), and business services (-9.9 percent) due to the standstill of activity in the tourism sector as well as due to the high degree of interaction between people required by these sectors. In year-on-year terms, services registered a 13.7 percent growth rate in the same period. Thus, during the first ten months of 2021, output in the sector fell 0.1 percent compared to the same period of 2019 (growth rate of 13.3 percent year-on-year).

In **2021**, the sector is expected to grow 11.7 percent, driven by the greater pace of activity observed between January and October, and to reach pre-pandemic levels. This projection takes into account a more prolonged impact of the pandemic on tourism-related industries –e.g. transportation, and restaurants and lodging– than in other subsectors. In **2022**, activity would grow 3.7 percent, while in **2023**, it is expected to grow 2.3 percent and tourism-related sectors are expected to reach pre-pandemic levels.

Expenditure-side GDP

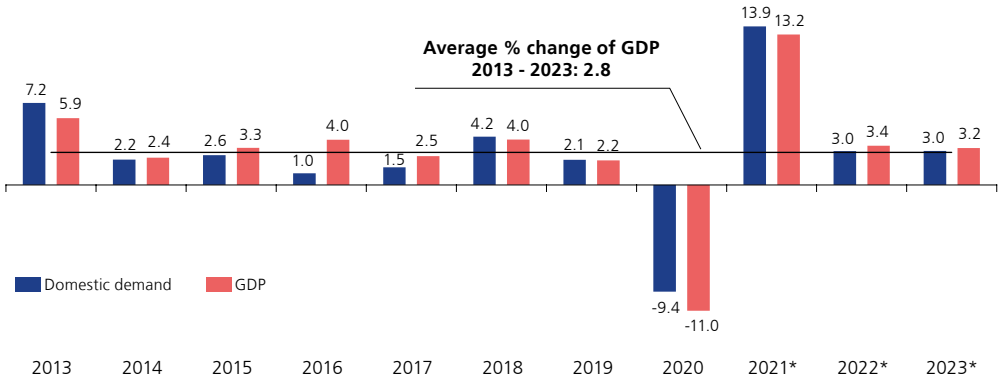
35. The vaccination process has become more dynamic in recent months, with the result that 66 percent of the target population had been inoculated with both doses as of November 30. In addition, the third booster dose began to be applied on November 26 to people over 18 years of age who had received their second dose 5 months ago. Because of this, the Government continued to make health control measures to face the pandemic more flexible. The expansion of the capacity and opening hours of stores and other businesses, the reduction of curfew hours, and the resumption of activities of different companies have favored access to a greater number of goods and services, as well as the recovery of the labor market, all of which has had a positive impact on private consumption.

Another element that also contributed to increase domestic demand was the evolution of private investment, which maintained positive growth rates in the third quarter, as well as the increase in public spending. Despite this, however, the dynamism of domestic demand continued to be offset by the negative contribution of exports of services –among which inbound tourism stands out–, which are still far from their pre-crisis levels.

Economic activity is expected to recover at a rate of 13.2 percent in 2021, showing a higher rate than that forecast in the previous Report (11.9 percent). This is explained by a higher than expected result during the third quarter of the year, given the higher execution of public and private spending. However, this would be in part offset by the slowdown in activity during the last quarter of the year because of lower business expectations, this situation being expected to continue next year.

By the end of the projection horizon, activity is expected to continue above its pre-pandemic level amid a context of social and political stability, supported by the recovery of external demand and high terms of trade.

Graph 42
DOMESTIC DEMAND AND GDP: 2013-2023
(Real % change)



*Forecast.

Table 18
DOMESTIC DEMAND AND GDP
(Real % change)

		2021*				2022*		2023*
	2020	Jan.-Sep.21 compared to: Jan.-Sep.20	Jan.-Sep.21 compared to: Jan.-Sep.19	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
Domestic demand	**-9.4**	**18.5**	**2.9**	**12.5**	**13.9**	**3.0**	**3.0**	**3.0**
Private consumption	-9.8	14.0	0.1	9.2	11.2	4.0	4.0	3.5
Public consumption	7.6	18.0	19.2	9.0	10.9	1.5	1.5	2.0
Private investment	-16.5	54.9	14.3	24.5	36.0	0.0	0.0	2.0
Private investment	-15.5	70.1	12.5	20.0	21.9	4.5	4.5	1.6
Change on inventories (contribution)	0.2	-4.2	-2.4	0.0	-2.2	0.0	0.0	0.0
Exports	**-21.0**	**18.0**	**-9.6**	**11.9**	**13.3**	**6.4**	**7.5**	**7.6**
Imports	**-15.6**	**22.2**	**-1.1**	**14.5**	**16.3**	**4.9**	**5.6**	**6.7**
Gross Domestic Product	**-11.0**	**17.5**	**0.5**	**11.9**	**13.2**	**3.4**	**3.4**	**3.2**
Memo:								
Public expenditure	1.1	27.9	17.4	11.6	13.5	2.2	2.2	1.9
Domestic demand excluding inventories	-9.4	22.8	5.3	12.2	15.9	2.9	2.9	2.9

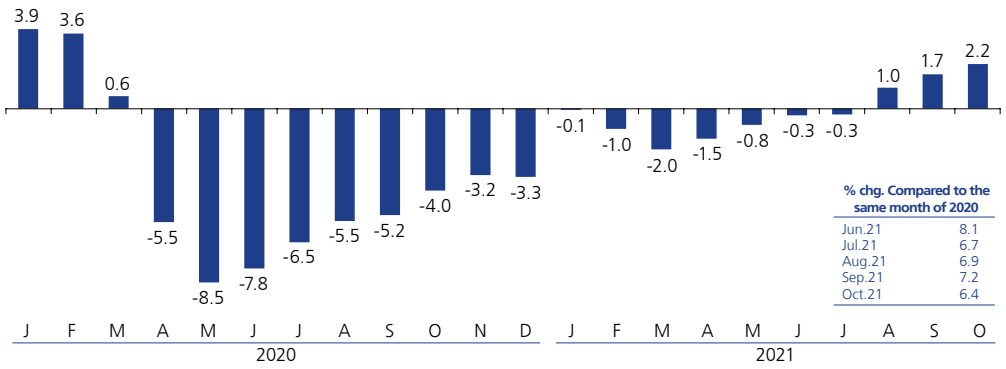
IR: Inflation Report.
*Forecast: For 2021 and 2022, the last two columns correspond to the annual forecast of the previous and current IR. For 2023, only the forecast of the current IR.

36. Indicators of **private consumption**, specifically those related to the labor market, continued to recover in September and October, in line with the easing of sanitary measures and the progress achieved in vaccination. However, indicators such as consumer confidence and imports of consumer durables have weakened in November.

a) Formal employment continued to recover as health containment measures in response to the pandemic were being eased. Formal jobs in October increased at

a rate of 2.2 percent with respect to the same month of 2019, showing a higher growth than that recorded in August and September.

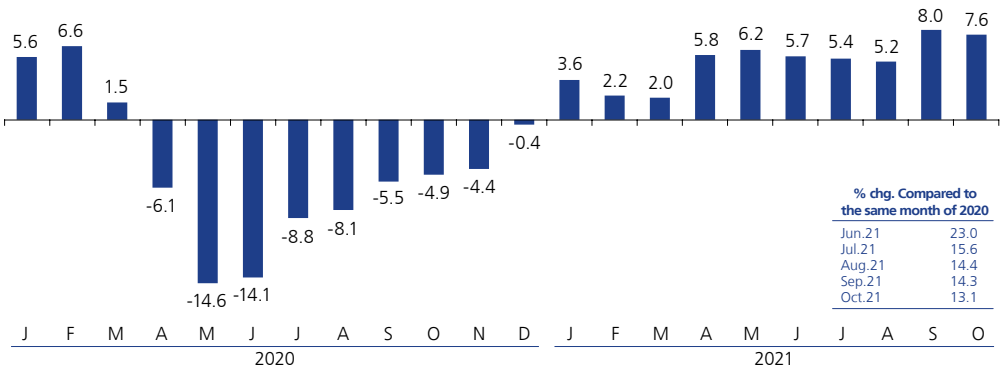
Graph 43
FORMAL EMPLOYMENT
(% chg. compared to the same month of 2019)



Source: SUNAT- Payroll.

b) The formal wage bill increased 7.6 percent in October with respect to the same month of 2019. So far this year, this variable has shown positive expansion rates. This is supported by the increase in workers' average remuneration and the gradual recovery of jobs.

Graph 44
FORMAL WAGE MASS
(% chg. compared to the same month of 2019)



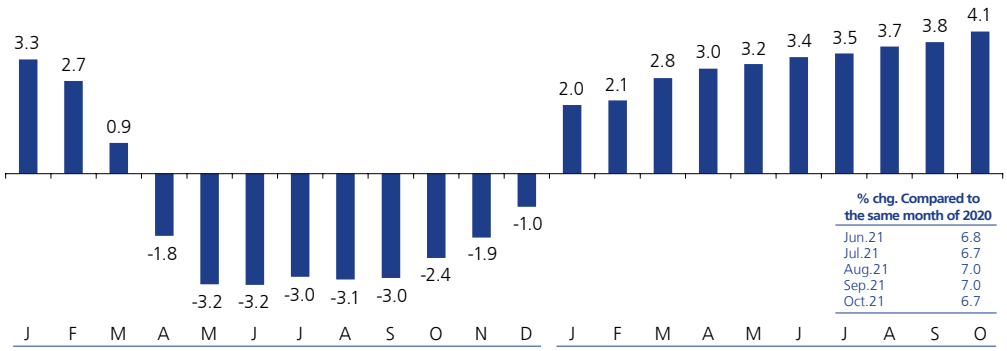
Source: SUNAT- Payroll.

c) In September, 329 thousand private sector companies reported employment information indicating that the number of companies grew 4.1 percent compared to the same month of 2019 (6.7 percent year-on-year). The largest increases in the number of companies were observed in the sectors of commerce, construction, and mining.

Graph 45

PRIVATE SECTOR COMPANIES REPORTING FORMAL EMPLOYMENT

(% chg. compared to the same month of 2019)



Companies	O.19	O.20	N	D	J.21	F	M	A	M	J	J	A	S	O
Total in thousand	316	309	310	311	312	313	317	319	321	323	324	326	328	329

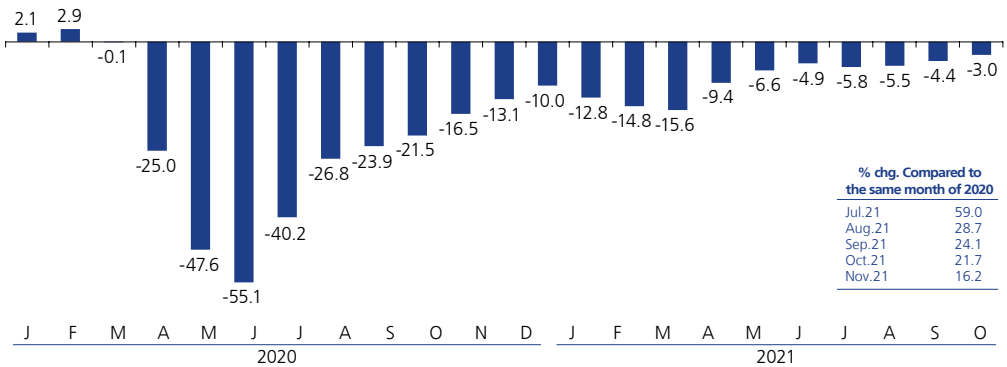
Source: SUNAT- Payroll.

d) According to the Permanent Employment Survey, the employed workforce in Metropolitan Lima resumed its recovery pace in recent months, driven by the relaxation of health restriction measures. Thus, it registered a 3.0 percent contraction compared to the same month of 2019, a lower contraction rate than those previously observed. With this, as of November, 149 thousand people were still out of work compared to the same period of 2019.

Graph 46

EMPLOYED POPULATION OF METROPOLITAN LIMA, MOVING QUARTER

(% chg. compared to the same month of 2019)

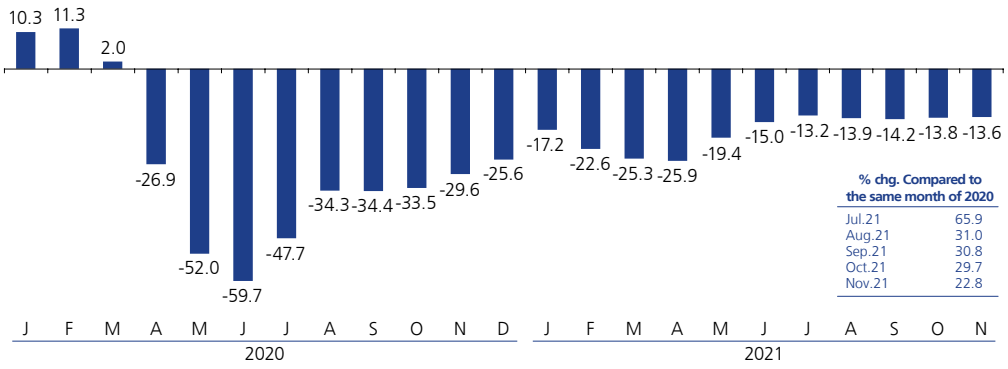


Source: INEI.

e) The lower contraction in the number of workers generated a slightly less pronounced drop in the nominal wage bill in Metropolitan Lima, which reached a

rate of -13.6 percent in the moving quarter to November compared to the same period of 2019.

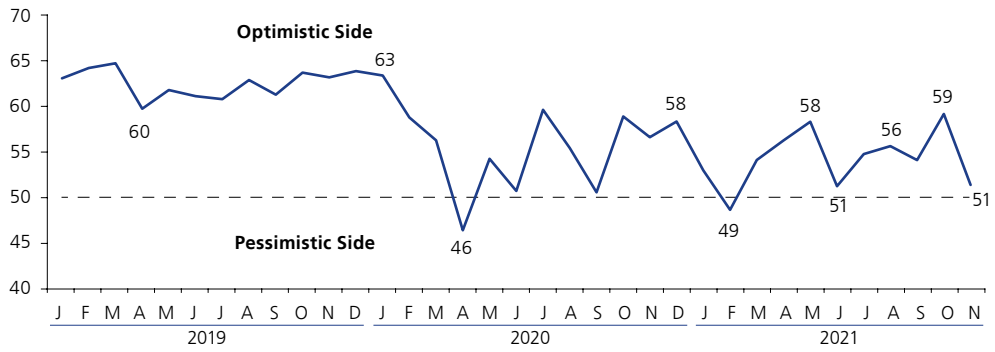
Graph 47
WAGE MASS OF METROPOLITAN LIMA, MOVING QUARTER
(% chg. compared to the same month of 2019)



Source: INEI.

f) Consumer confidence, measured through agents' expectations about their family's economic situation for the next 12 months, weakened sharply in the last month, falling from 59 to 51 points.

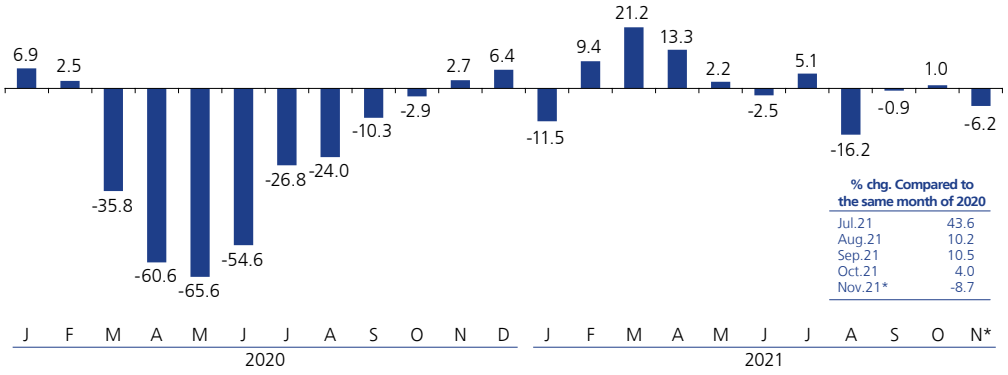
Graph 48
EXPECTATIONS ABOUT THE HOUSEHOLD SITUATION IN 12 MONTHS AHEAD INDICCA, METROPOLITAN LIMA
(Index)



Source: Apoyo.

g) The volume of imports of consumer durables grew 1.0 percent in October with respect to the same period of 2019 and 4.0 percent year-on-year. However, it is estimated to have fallen 6.2 percent in November with respect to the same period of 2019, recording a year-on-year contraction of 8.7 percent.

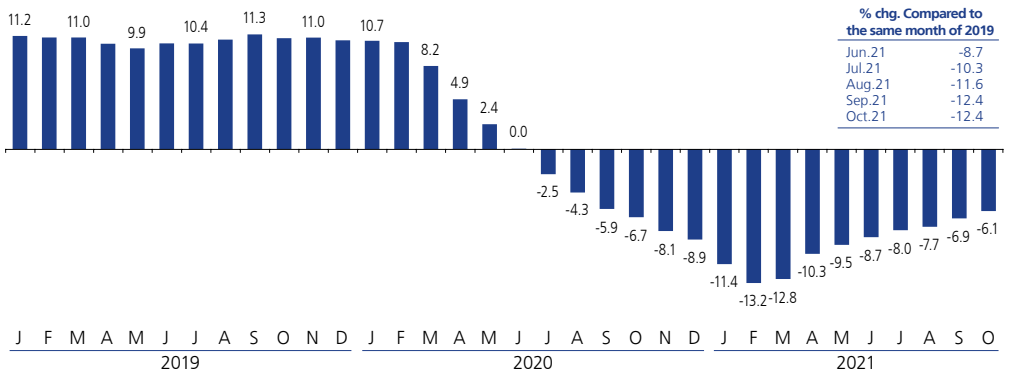
Graph 49
VOLUME OF IMPORTS OF DURABLE CONSUMER GOODS
(% chg. compared to the same month of 2019)



* Preliminary.
Source: SUNAT - Customs.

h) Consumer credit in real terms showed a lower contraction rate and decreased 6.1 percent year-on-year in October. This progressive reversal of the contraction trend is due to the recovery of car loans and the use of credit cards.

Graph 50
REAL CONSUMER LOANS
(Annual % change)



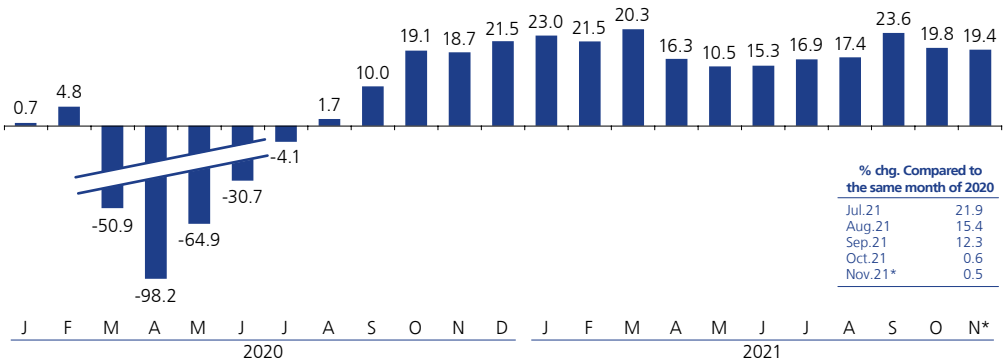
Source: BCRP.

37. Domestic cement consumption, an indicator of private investment, has slowed its rate of growth with respect to 2019. Other current variables, such as imports of capital goods, and leading indicators, such as business expectations, have deteriorated in recent months.

a) Domestic cement consumption –an indicator related to construction investment– has continued to grow at high rates in recent months, although such growth pace has slowed down over the last two months. Thus, it is estimated to have increased 19.4 percent in November with respect to the same month of 2019 (0.5

percent year-on-year), with a less pronounced dynamism of self-construction and investment projects under execution accounting for this.

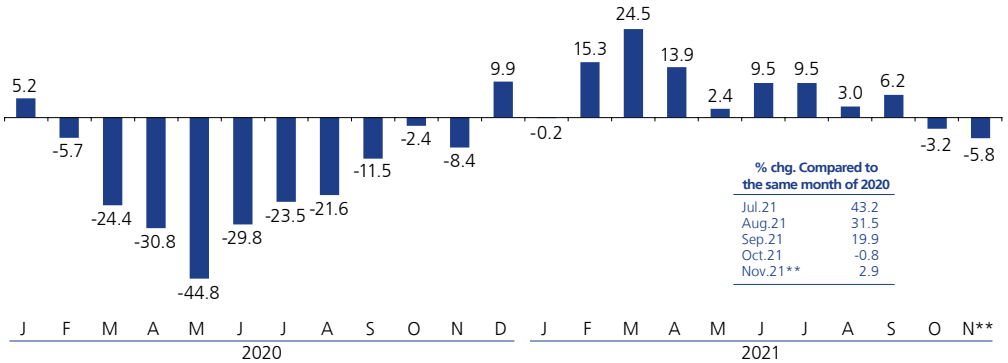
Graph 51
DOMESTIC CONSUMPTION OF CEMENT
(% chg. compared to the same month of 2019)



* Preliminary.
Source: Cement companies.

b) The volume of imports of capital goods, excluding construction materials and cell phones, would have fallen 5.8 percent in November compared to the same month of 2019 (2.9 percent growth year-on-year).

Graph 52
VOLUME OF IMPORTS OF CAPITAL GOODS*
(% chg. compared to the same month of 2019)

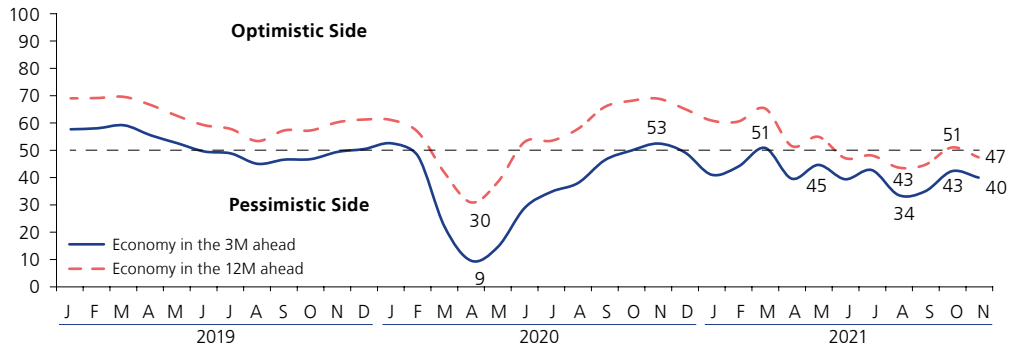


* Excluding materials of construction and mobile phones.
** Preliminary.
Source: SUNAT - Customs.

c) Business expectations about the future of the economy recovered slightly during September and October, due to less political turbulence. Nonetheless, they deteriorated once again in November due to the emergence of new political

conflicts. Thus, the 3- and 12-month indicators showed values on the pessimistic side.

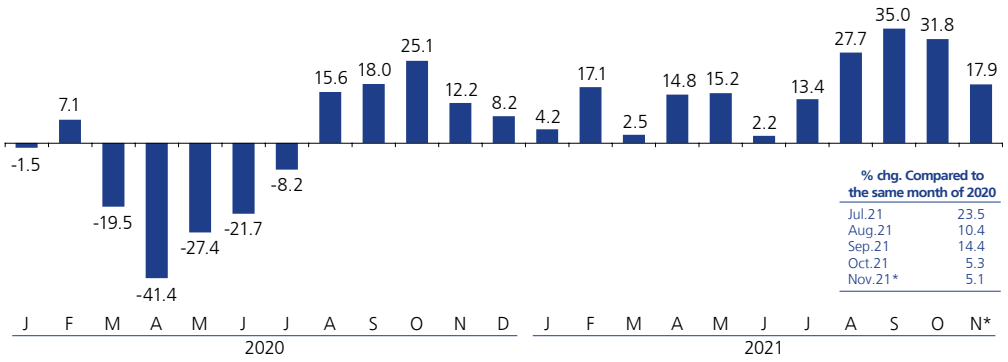
Graph 53
EXPECTATIONS ABOUT THE ECONOMY IN 3 AND 12 MONTHS AHEAD
(Index)



Source: BCRP.

38. The volume of non-traditional exports has continued to grow at high rates and would have increased 17.9 percent in November compared to the same month of 2019 (5.1 percent year-on-year). This increase would reflect higher exports of agricultural, fishing, chemical, textile, and non-metallic mining products.

Graph 54
VOLUME OF NON TRADITIONAL EXPORTS
(% chg. compared to the same month of 2019)



* Preliminary.
Source: SUNAT - Customs.

39. Private sector expectations on GDP growth have been updated in line with the dynamism of economic activity during the first three quarters of the year and the fluctuations observed in the political scenario. The latest **Survey on Macroeconomic Expectations** shows that economic analysts and the representatives of the financial system project a recovery of between 11.4 and 12.7 percent for this year, a higher range than that estimated in the last report. In addition, they expect stable growth in the following two years, estimating rates between 2.3 and 3.0 percent for 2022 and between 2.7 and 2.8 percent for 2023.

Table 19
MACROECONOMIC EXPECTATIONS SURVEY: GDP GROWTH
(% change)

	IR Dec.20	IR Sep.21	IR Dec.21*
Financial entities			
2021	9.0	9.0	11.4
2022	4.0	3.0	2.3
2023	-	-	2.7
Economic analysts			
2021	9.0	9.0	12.7
2022	4.5	3.6	3.0
2023	-	-	2.8
Non-financial firms			
2021	4.0	6.0	8.5
2022	4.0	4.0	3.1
2023	-	-	3.2

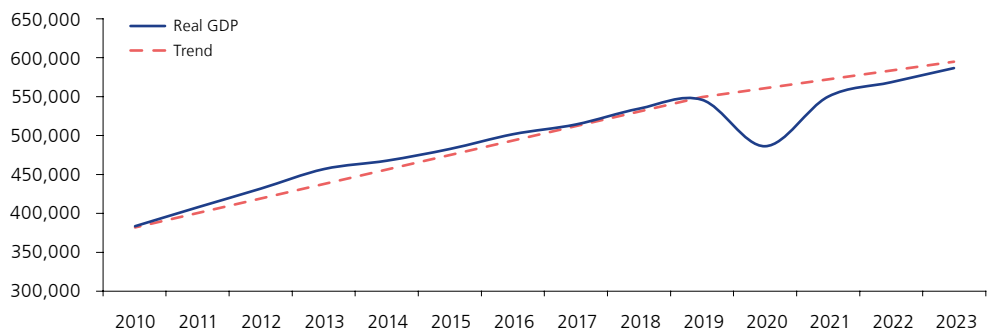
* Survey conducted on November 30.
Source: BCRP.

40. The output gap, calculated as the difference between GDP and trend (or long-term) GDP after the COVID-19 shock, is estimated at -3.9 percent for 2021, partially recovering from the previous year (-13.3 percent).

The demand gap is defined as the difference between GDP and potential output. This gap measures inflationary demand pressures on the level of activity, since potential GDP characterizes the short and medium-term productive capacity of the economy throughout the economic cycle. A negative demand gap of 0.6 percent is estimated in 2021, with the gap closing towards the end of the projection horizon, once the economy's spending habits and labor market conditions normalize.

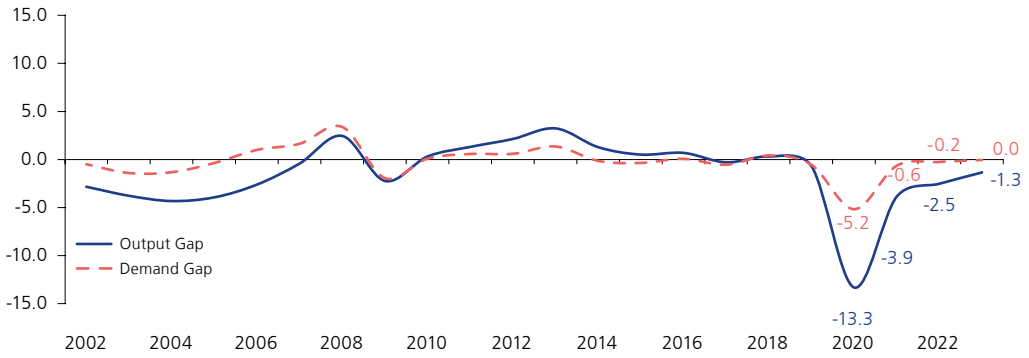
In addition, Box 3 analyzes the current state of basic education in the country throughout the pandemic and its potential impacts both in the short term and the long term. Furthermore, Box 4 presents different perspectives on the effect of the pandemic on the structural factors of the economy and its long-term implications.

Graph 55
REAL GDP AND TREND*
(Millions Soles 2007)



* Long-term trend of GDP is calculated using Hodrick-Prescot filter in annual frecuency.

Graph 56
OUTPUT GAP AND DEMAND GAP*
(As a percentage of trend and potential GDP, respectively)



* Long-term trend of GDP is calculated using Hodrick-Prescot filter in annual frecuency.

41. **Private consumption** in the first three quarters of 2021 registered a growth rate of 0.1 percent compared to the same period of 2019 (14.0 percent year-on-year). The result is explained by the acceleration of sales due to the expansion of business capacity and opening hours as well as by consumers' greater willingness to go to establishments following the progress of the vaccination process, and also by the positive effect of the Government's stimuli.

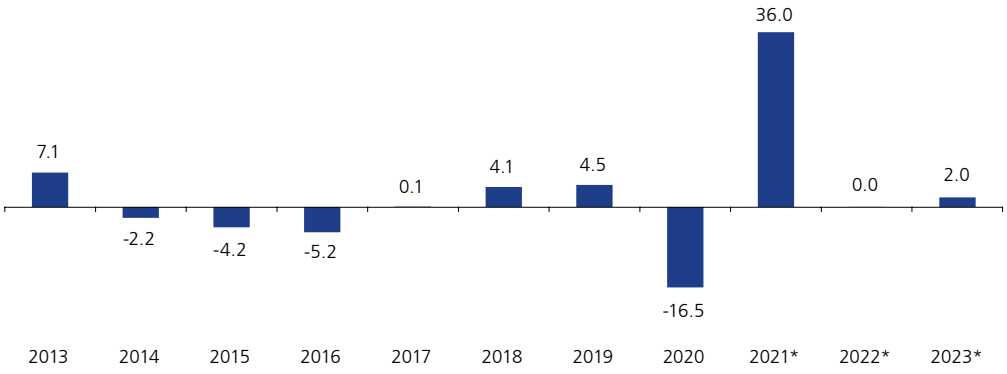
The Government has granted new subsidies to households. The delivery of the Yanapay subsidy of S/ 350, a transfer to people living in conditions of poverty or vulnerability, as well as to users of the Juntos, Pensión 65 or Contigo social programs, began on September 13. Additionally, the delivery of a bonus of S/ 210 soles to formal workers in the private and public sectors, whose monthly income is less than S/ 2,000 began in November. These stimuli will continue to boost household spending during the last quarter of the year, with which private consumption would average a year-on-year growth of 11.2 percent in 2021.

In the coming year, families are expected to continue to return to their pre-pandemic spending habits as the vaccination process progresses and current health restrictions are lifted and as labor market conditions improve. Therefore, private consumption is expected to expand by 4.0 percent in 2022 and to grow at a rate of 3.5 percent in 2023, in a context favored by high terms of trade, a full normalization of economic activity, and the recovery of employment and household income.

42. **Private investment** grew 14.3 percent in the January-September 2021 period compared to the same period in 2019 (54.9 percent year-on-year), mainly as a result of the dynamism of self-construction, home improvement projects, and sales of new homes, and also as a result of the increased execution of large infrastructure projects. Lower business expectations are expected to decelerate private investment during the last quarter of the year, an effect that would continue throughout 2022, while mining investment is foreseen to continue to gradually approach its pre-pandemic levels. As a result, private investment would grow 36.0 percent year-on-year (24.5 percent in the previous Report), while as forecast in the previous Report, in 2022 it would register a zero growth rate.

On the other hand, investment in 2023 would grow 2.0 percent amid a favorable political and social context. This projection considers a drop in the mining component, since large projects, such as Quellaveco and Toromocho, culminate their disbursements in 2022.

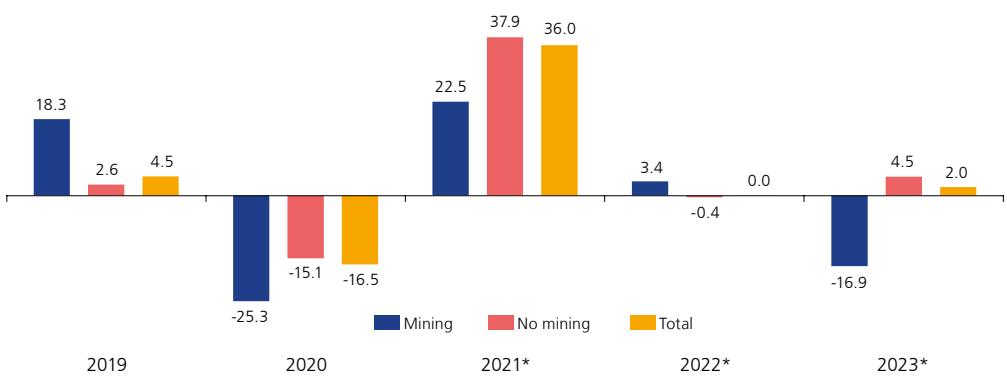
Graph 57
PRIVATE INVESTMENT: 2013 - 2023*
(Real % change)



* Forecast.

a. From January through October 2021, investments in the **mining sector** totaled US$ 3,974 million, mainly as a result of the investments made by Anglo American Quellaveco (US$ 1,006 million), Antamina (US$ 343 million), and Southern Peru Copper Corporation (US$ 266 million). The construction of the Mina Justa project (with a total investment of US$ 1.6 billion) was completed In the first half of 2021. The projection for the 2021-2023 period considers the completion of the construction of the Quellaveco project (US$ 5.5 billion total investment) and the Toromocho Expansion (US$ 1.3 billion) in 2022. Additionally, projects such as Yanacocha Sulfuros (US$ 2.1 billion) and San Gabriel (US$ 0.4 billion) are expected to start construction in 2022 and Corani (US$ 0.6 billion) is expected to start construction in 2023.

Graph 58
PRIVATE INVESTMENT
(Real annual % change)



* Forecast.

b. In terms of **infrastructure**, continued progress was observed in the main construction projects. Line 2 of the Lima Metro stands out, which, according to OSITRAN, is 40 percent complete as of October and the first stage (Evitamiento, Óvalo Santa Anita, Colectora Industrial, Hermilio Valdizán and Mercado Santa Anita) is expected to be operational in early 2022. As for the expansion of Jorge Chávez International Airport, the construction of the new passenger terminal will begin in mid-December and the new control tower is 70 percent complete, which will allow it to start operations in early 2023.

Moreover, as regards the Marcona Port Terminal, Shougang submitted the Modification of the Environmental Impact Study (MEIA) of the project to SENACE in February and expects the project to be completed by the end of 2022. Regarding the modernization of the Callao North Pier, 47 percent progress has been made and an agreement has been reached to improve the design of the following project phases, which will now require US$ 1,095 million. It is expected that the Government will authorize the contractual change in December. On the other hand, DP World reports that the Muelle Bicentenario project started the construction stage with dredging works. The project is due in a term of 730 days and it is estimated that it will operate from the first quarter of 2024.

Table 20
MAIN ANNOUNCEMENTS OF PRIVATE INVESTMENT PROJECTS: 2021-2022

SECTOR	INVESTOR	PROJECTS
MINING	Angloamerican	Quellaveco
	Chinalco	Expansion of Toromocho Mine
	Yanacocha	Yanacocha Sulfuros
	Bear Creek	Corani
	Buenaventura	San Gabriel
HYDROCARBONS	Cálidda Gas Natural del Peru	Wide-Scale Use of Natural Gas in Central ad South Region
	Promigas Surtigas	Wide-Scale Use of Natural Gas in Piura
ELECTRICTY	ISA Peru	500 kV Mantaro - Carapongo
	CSF Continua Misti	Solar plant in Arequipa
	Engie	Punta Lomitas wind power plant
INDUSTRY	Yura	Cement manufacturing improvement project
	Cementos Interoceánicos	Cement and lime plant
INFRAESTRUCTURE	Consorcio Nuevo Metro de Lima	Line 2 of the Metro network of Lima and Callao
	Grupo Volcan	Chancay Port Terminal
	Lima Airport Partners	Expansion of International Airport (Jorge Chavez)
	Shougang Hierro Peru	Marcona Port Terminal
	APM Terminals	Modernization of Muelle Norte
	DP World Callao	Expansion of Muelle Sur
	Consorcio Transportadora Salaverry	Salaverry Port
	Covi Peru	Pucusana-Ica road network

Source: Information on companies, newspaper and specialized media.

c. **Proinversión** reports that investment projects amounting to almost US$ 8.3 billion will be awarded under concession contracts in the 2021-2023 period.

Table 21

MAIN PROJECTS TO BE IMPLEMENTED THROUGH CONCESSION ARRANGEMENTS IN 2021-2023

(Million US$)

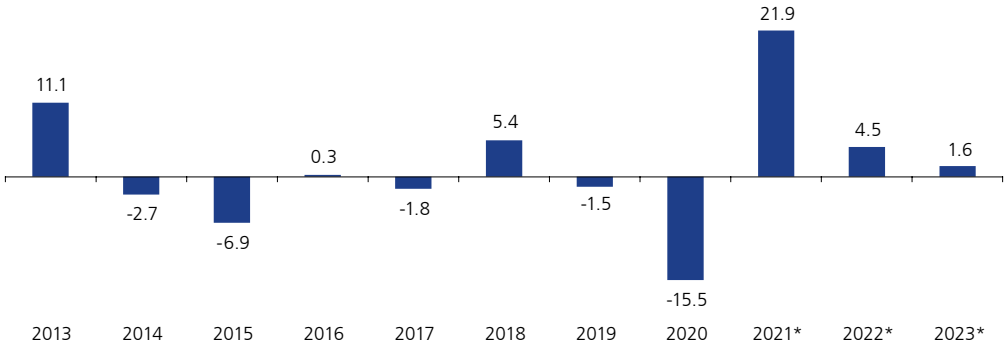
	Estimated investment
To be called	**8,292**
Peripheral Ring Road	1,965
500 kV Transmission Line Huanuco –Tocache - Celendín - Trujillo and 500 kV Transmission Line Celendín - Piura link	788
Ancon Industrial Park	750
Longitudinal of the Sierra road project, Section 4	704
New San Juan de Marcona Port Terminal	480
Headworks and Conduction for the Drinking Water Supply in Lima	480
Broadband AWS-3 and 2.3 GHz	289
Improvement of Tourist Services in the Choquequirao Archeological Park, Cusco-Apurimac Regions	260
National Hospital Hipólito Unanue	250
Huancayo - Huancavelica Railway	244
Schools in risk: Metropolitan Lima	227
500 kV Transmission Line and Piura Nueva - Frontera Substation	177
Treatment system for wastewater Huancayo	161
Essalud Piura	159
Schools in Risk: Ate-San Juan de Lurigancho	148
IPC- Wastewater Treatment for effluent dumping or reuse - Trujillo	129
Essalud Chimbote	121
Central Military Hospital	115
220 kV Transmission Line Ica - Poroma and 220 kV Transmission Line Caclic - Jaen Norte	107
Schools at Risk: Comas - San Martín de Porres	95
IPC -Wastewater Treatment for effluent dumping or reuse, Chincha province, Ica, Peru	93
Schools at Risk: Villa María del Triunfo	75
High Performance Schools: COAR Centro	66
IPC -Wastewater Treatment System for Puerto Maldonado	56
Improvement and enlargement of the sewage and wastewater treatment system in Cajamarca	55
Improvement of Schools in Cusco	44
IPC- Wastewater Treatment for effluent dumping or reuse, Cusco province	42
Ilo desalination plant	37
Transmisson Line Reque Nueva Carhuaquero and Substation Tumbes	37
Solid Waste Management of Health Establishments Minsa	35
IPC - Wastewater treatment for effluent dumping or reuse, Cañete province	34
Rural sanitation in Loreto	28
IPC - Wastewater Treatment Plant for the city of Tarapoto	26
Tourist Project Cable Car Historic Center Lima-San Cristobal	15
Wide-Scale Use of Natural Gas in Central ad South Region	*
220 kV Transmission Line Piura Nueva - Colán	*
500 kV Transmission Line San José-Yarabamba	*
220 kV Substation North Lambayeque and 220 kV Transmission Line West Chiclayo - La Niña / Felam	*
220 kV Transmission Line Belaunde Terry - North Tarapoto	*
100 MVA 220/60/23 kV Substation East Piura	*
Lambayeque desalination plant	*

* There is currently no estimated investment amount.
Source: Proinversión.

43. **Public investment** increased 12.5 percent in the first three quarters of 2021 compared to the same period in 2019 and 70.1 percent year-on-year. The largest disbursements went to the execution of transportation, education, and sanitation projects, as well as to agricultural activities and health works, including reconstruction projects (especially under the Government-to-Government Agreement with the United Kingdom) and the National Infrastructure Plan. Public investment is expected to record an annual growth rate of 21.9 percent in 2021.

In 2022 and 2023, it is expected to grow 4.5 and 1.6 percent, respectively, as a result of higher spending on reconstruction works under the Government-to-Government Agreement with the UK, Special Public Investment Projects, and the projects included in the National Infrastructure Plan for Competitiveness (NIPC).

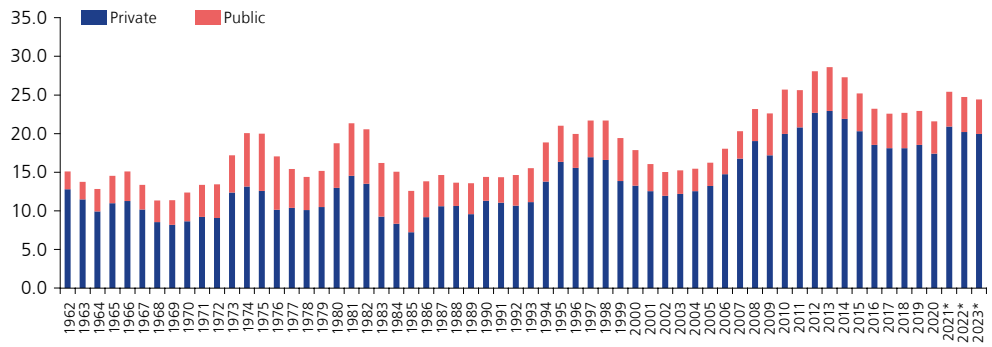
Graph 59
PRIVATE INVESTMENT: 2013 - 2023
(Real % change)



* Forecast.

44. **Gross fixed investment**, as a percentage of real GDP, would increase by 1.5 percentage points between 2019 and 2023, reaching a rate of 24.4 percent of GDP. In order for investment to continue growing in the following years, it is necessary to recover investor confidence and to maintain economic stability, as well as to implement reforms aimed at increasing the economy's productivity.

Graph 60
GROSS FIXED INVESTMENT: PRIVATE AND PUBLIC, 1962-2023
(% of real GDP)



* Forecast.

45. Domestic savings are projected to decline slightly, from 20.1 percent of GDP in 2020 to 19.5 percent in 2021, as the fall in private savings outweighs the recovery in public savings. Public savings would increase by 6.1 percentage points of GDP between 2020 and 2021 as a result of the lower use of state resources to face the pandemic and the recovery of revenues collected due to the reactivation of the economy. On the other hand, private sector savings would decrease to 17.9 percent of GDP due to the higher growth of consumption and the gradual return of spending habits to those observed before the pandemic. The external gap would therefore go from 0.6 percent of output (external savings) to -1.9 percent of GDP (external financing).

In 2022, after the normalization of the global health scenario, gross domestic investment would slow down as a result of economic agents' lower confidence about the future of the economy, which would reduce the external gap to -1.3 percentage points of GDP. In a context of economic stability, external financing is expected to reach 0.8 percentage points of GDP in 2023 as a result of an increase in public savings.

Table 22
SAVING-INVESTMENT GAP
(% of nominal GDP)

		2020	2021*			2022*		2023*
			Jan.-Sep.	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
1	Domestic Gross Investment 1/	19.4	21.4	21.1	21.4	20.3	20.9	20.8
2	Domestic Saving	20.1	19.1	19.3	19.5	20.5	19.5	19.9
	External Gap (=2-1)	0.6	-2.4	-1.7	-1.9	0.2	-1.3	-0.8
	1.1 Private Domestic Gross Investment 1/	15.1	17.2	16.6	16.8	15.9	16.2	16.2
	1.2 Private Saving	24.7	15.7	18.8	17.9	19.4	17.6	17.8
	Private Gap (=1.2-1.1)	9.5	-1.5	2.2	1.1	3.5	1.4	1.5
	2.1 Public Investment	4.3	4.2	4.5	4.6	4.5	4.6	4.5
	2.2 Public Saving	-4.6	3.3	0.5	1.5	1.1	1.9	2.2
	Public Gap (=2.2-2.1)	-8.9	-0.9	-4.0	-3.1	-3.4	-2.8	-2.4

IR: Inflation Report.
*Forecast: For 2021 and 2022, the last two columns correspond to the annual forecast of the previous and current IR. For 2023, only the forecast of the current IR.
1/ Includes change on inventories.
Source: BCR

Box 2
GOVERNANCE AND MACROECONOMIC STABILITY

The relationship between the architecture of governance across countries and macroeconomic stability, a key element for economic growth and for increasing the well-being of citizens, is discussed in this Box. Governance is the process through which state and nonstate actors interact to design and implement policies within a given set of formal and informal rules that shape and are shaped by power (World Bank, 2017)[3]. In such sense, governance is a much broader concept than governability. The latter concept refers to the ability to lead a society, which requires government order and powers. Governance, on the other hand, requires organization and complementarity of the public and private sectors, through rules and actors who coordinate to produce good policies and public goods.

To measure the quality of governance, the World Bank develops indicators classified into 6 dimensions: (i) Voice and Accountability[4]; (ii) Political Stability and Absence of Violence/Terrorism[5]; (iii) Government Effectiveness[6]; (iv) Regulatory Quality[7]; (v) Rule of Law[8]; and (vi) Control of Corruption[9].

RELATIVE POSITION IN THE WORLD GOVERNANCE INDICATORS RANKING, 2020
(Percentile, 0 worst, 100 best)

Country	Voice and accountability	Political stability and absence of violence/terrorism	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
Argentina	66	49	43	32	46	50
Brazil	57	32	37	46	55	44
Chile	81	49	81	82	87	84
Colombia	53	22	55	63	46	48
Mexico	45	18	46	55	36	22
Peru	55	39	42	70	50	34

Note: A percentile is the value that divides an ordered set of statistical data such that one set of such data is less than that value. For example, in 2020, Peru was located in the 39th percentile in the dimension Political stability and absence of violence/terrorism, which means that it is in a better situation in said dimension than 39 percent of the countries considered in the study.
Source: World Governance Indicators, World Bank.

A better quality of governance is associated with higher levels of per capita income. The dimensions with the highest positive correlation with per capita income (above 0.7) are government effectiveness, regulatory quality, rule of law, and control of corruption. These dimensions are also interrelated with each other, suggesting the need to move forward together on improvements in multiple areas. For example, government effectiveness has a high correlation with regulatory quality, rule of law, and

3 World Bank Group (2017). Governance and the Law. World Development Report.

4 Capturing perceptions of the degree to which a country's citizens are able to participate in the election of their government, as well as freedom of expression and freedom of association

5 Capturing perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.

6 Capturing perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of public policy formulation and implementation, and the credibility of the government's commitment to such policies.

7 Capturing perceptions of the government's ability to formulate and implement sound policies and regulations that permit and promote private sector development.

8 Capturing perceptions of the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence.

9 Capturing perceptions of the extent to which public power is exercised for private gain, including petty and grand corruption, as well as "capture" of the state by elites and private interests.

control of corruption, all of which are important factors in the design and implementation of public policies.

CORRELATIONS: GDP PER CAPITA AND GOVERNANCE DIMENSIONS, AVERAGE 2016-2020 1/

	GDP per capita by PPA	Voice and accountability	Political stability and absence of violence/ terrorism	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
GDP per capita by PPP	1.00						
Voice and accountability	0.46	1.00					
Political stability and absence of violence/terrorism	0.55	0.69	1.00				
Government effectiveness	0.81	0.69	0.70	1.00			
Regulatory quality	0.80	0.73	0.67	0.95	1.00		
Rule of law	0.77	0.77	0.75	0.94	0.92	1.00	
Control of corruption	0.74	0.77	0.75	0.91	0.88	0.95	1.00

1/ Sample of 173 countries.
Note: GDP per capita by Purchasing Power Parity (PPP) in dollars at constant international prices of 2011.
Source: World Governance Indicators and International Comparison Program (GDP per capita, PPP) – World Bank.
Elaboration: BCRP.

The quality of governance also contributes to foster poverty reduction. According to a study carried out by the International Fund for Agricultural Development (2016)[10], there is a strong and statistically significant relationship between rural poverty reduction and some indicators of governance quality, such as voice and accountability, rule of law, government effectiveness, control of corruption, and political stability.

Political stability in particular favors long-term economic growth, and with it, the quality of life of the population. The mechanisms are diverse. The most direct channel is that political stability and the stability of the rules of the game generate confidence and reduce uncertainty, which is reflected in agents' expectations (Montes and Nogueira, 2021)[11]. The role of economic expectations is essential because it influences households and companies' consumption and investment decisions. For example, in Peru there is evidence of a positive correlation between business confidence indicators and the growth rate of output, as well as the growth rate of private investment[12]. It is estimated that for every 1 percent increase in the cyclical component of the business confidence index, private investment would increase by about 0.57 percent during the first year and converge to 0.76 percent by the end of the second year. Stability thus contributes to investment and physical capital formation, raising the economy's potential growth. It can also contribute positively to human capital accumulation, as stability increases people's incentives to invest in their education by raising labor productivity, in contrast with what happens in a volatile environment.

In scenarios of political uncertainty or presence of violence/terrorism, aggregate productivity decreases. Aisen and Veiga (2013)[13] find that lack of political stability can reduce technological progress by contracting private research and development activities. Uncertainty not only affects the growth of

10 International Fund for Agricultural Development (2016). Rural Development Report 2016: Fostering inclusive rural transformation.

11 Montes, G. C., & Nogueira, F. D. S. L. (2021). Effects of economic policy uncertainty and political uncertainty on business confidence and investment. Journal of Economic Studies.

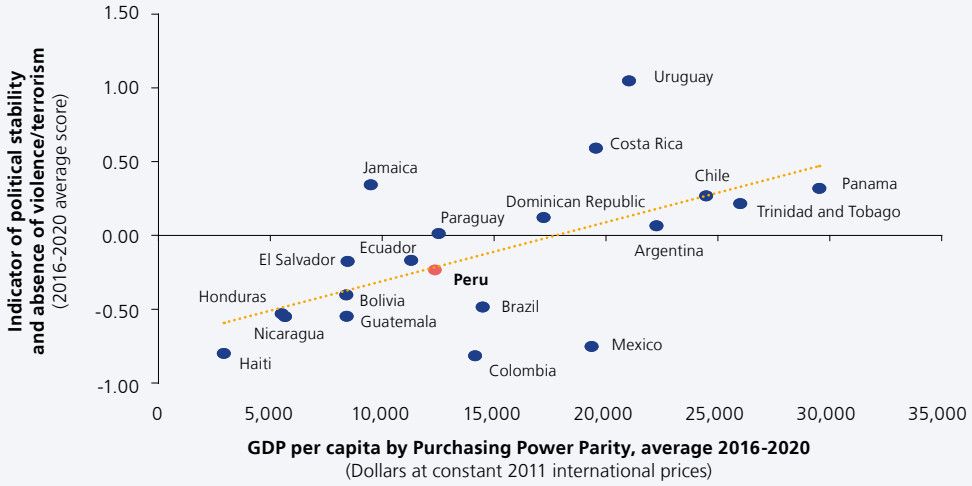
12 Banco Central de Reserva del Perú (BCRP). Reporte de Inflación – December 2016.

13 Aisen, A., & Veiga, F. J. (2013). How does political instability affect economic growth? European Journal of Political Economy, 29, 151-167.

private investment, but also the way resources are allocated in the economy, because resources are used by agents to protect themselves against the risks generated by instability. In extreme cases, the combination of violence or unrest resulting from political instability affects economic activities and can lead to the loss of productive capacity, generating in turn greater uncertainty and thus forming a vicious circle. In addition, political instability may also generate higher inflation rates. According to Aisen and Veiga (2005)[14], the relationship between inflation and political instability is more pronounced in developing countries –and, above all, in high-inflation countries (those above 50 percent)– than in developed and low-inflation countries.

In Latin America and the Caribbean, there is a positive correlation of 0.6 between per capita income and the indicator of political stability and absence of violence (a higher correlation than the value of 0.55 observed in the total of 173 countries). The latter indicator captures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism. This indicator places Peru in the 39th (according to the average for the 2016-2020 period), below countries such as Argentina (49th percentile), Chile (56th percentile), and Uruguay (88th percentile).

LATIN AMERICA AND THE CARIBBEAN: GDP PER CAPITA BY PPP AND INDICATOR OF POLITICAL STABILITY AND ABSENCE OF VIOLENCE/TERRORISM



Note: The score for the political stability and absence of violence indicator ranges from approximately -2.5 (weak) to 2.5 (strong).
Source: World Bank.

Stability and the quality of the rules are also important for strengthening governance in order for the public and private sectors to achieve beneficial results for society as a whole. Between 2011 and 2020, Peru's political stability indicator moved from the 22nd to the 39th percentile, respectively, while the Rule of Law indicator registered an improvement only between 2011 and 2016, year from which it maintains approximately a similar relative position. However, other indicators allow us to appreciate a greater variability in the actors responsible for establishing and modifying the rules of the game in the country. For example, in Peru, the average time that a president of the Council of Ministers remains in office has decreased in recent years. The average period of a *premier* in office went from 12 months between 2001 and 2011 to 9 months in the following five-year period and to only 6 months during 2016-2021, which included 4 different presidents of government. It should be noted that the removal of the president from the Council of Ministers implies the total crisis of

14 Aisen y Veiga (2005). Does Political Instability Lead to Higher Inflation? A panel Data Analysis. IMF Working Paper 05/49.

the cabinet. Excluding the current government, the country has had 27 presidents of the Council of Ministers in the last 2 decades, of which only 6 (22 percent) remained in office for more than one year. Furthermore, only 1 of those 6 was part of the last presidential term (2016-2021).

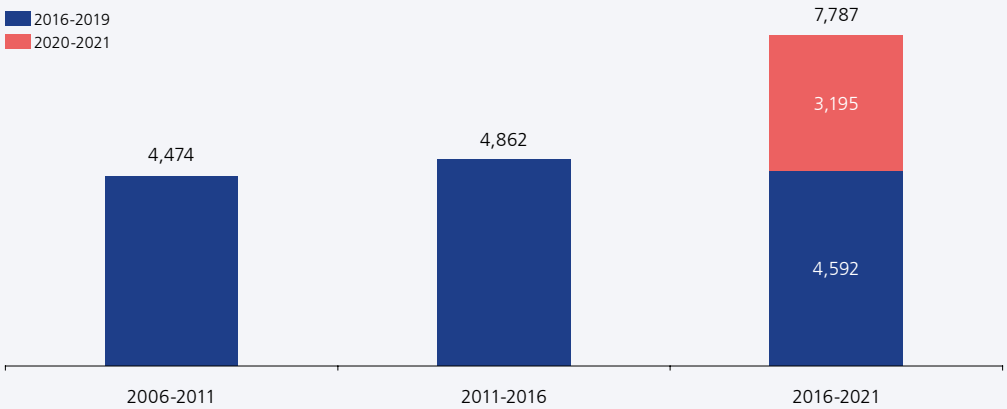
STATISTICS ON THE PRESIDENTS OF THE COUNCIL OF MINISTERS IN PERU

Five-year period	Number of Presidents of the Council of Ministers	Average time in charge				Presidents of the Council of Ministers who stayed for more than 1 year
		Days	Weeks	Months	Years	
2001-2006	5	364	52	12	1.0	1
2006-2011	5	364	52	12	1.0	2
2011-2016	7	261	37	9	0.7	2
2016-2021	10	182	26	6	0.5	1
2021-2026 1/	1	69	10	2	0.2	0

1/ Information as of November 2021. Only includes presidents of the Council of Ministers who left office.
Own elaboration.

As pointed out by Perez (2020)[15], the quality of the rules of the game is also important, and more important than their quantity. While on the one hand perceptions about regulatory quality for Peru improved slightly in the last decade (Peru went from the 67th to the 70th percentile between 2011 and 2020), on the other hand, the number of bills presented in Congress went from 4,474 in the 2006-2011 legislative period to 4,862 in the 2011-2016 period and to 4,592 in the 2016-2019 period. In addition, 3,195 bills were introduced in the last legislative period (2020-2021). This implies that between 1.6 and 1.7 times more bills were introduced between 2016 and 2021 than in the previous legislative periods.

NUMBER OF BILLS BY LEGISLATIVE PERIOD



Source: Quals Consultancy Support Service.

Therefore, not only is it essential to improve governance in the country, but it is also important that this process be accompanied by synergies and mechanisms for dialogue and cooperation between the public and private sectors. Improving the quality of governance in all its dimensions, and improving political stability in particular is relevant and there is room to do so in Peru. Both are required to promote predictability and preserve macroeconomic stability, fundamental pillars to boost investment and economic growth that contribute to improve the welfare of the country's population.

15 Pérez Bourbon, H. (2020). Calidad legislativa: un estudio sobre la posibilidad de aplicar normas, criterios y herramientas de gestión de la calidad en la función legislativa de un parlamento. Fundación Konrad Adenauer.

Box 3
PERSPECTIVES ON BASIC EDUCATION IN PERU, 2020 – 2021

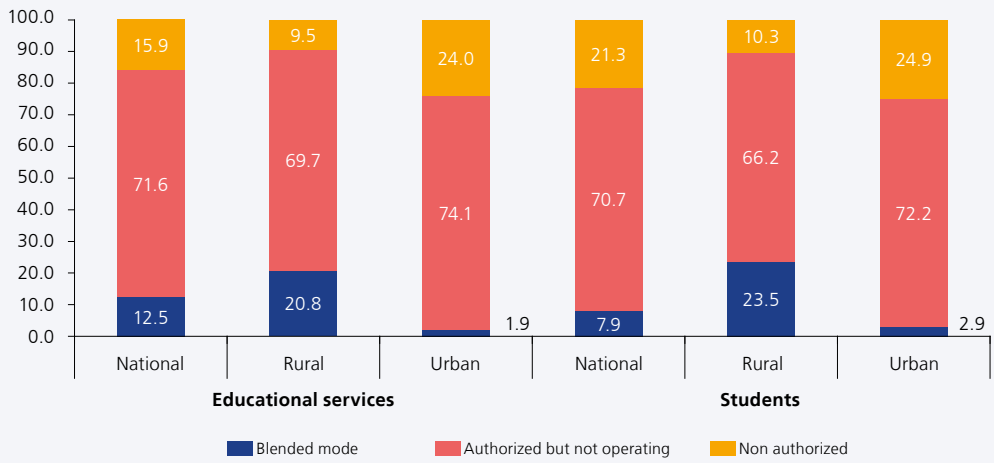
The state of basic education in the country during the pandemic and the likely short- and long-term impacts, considering the link between human capital and productivity and trend output, are discussed in this box. The challenges for the recovery of learning outcomes are also analyzed.

Impact of the pandemic on basic education

In the current pandemic context, Peru is among the countries where schools have been closed for the longest period of time in the world and where their reopening show the least progress. As of October 2021, schools have been partially or totally closed for 66 weeks, a period well above the global median of around 33 weeks.[16]

In addition, by the end of the 2021 school year, only a small fraction of basic education services were operating in a blended mode. While 84 percent of educational services (94,000 out of 112,000) were authorized to provide blended services, only 12.5 percent (13,924) were doing so as of mid-November, which benefited only 8 out of every 100 basic education students (660 thousand of the total of 8.3 million). In urban areas, the provision of blended learning services is miniscule, with less than 3 percent of students being educated in this modality. To contextualize the figure, Peru ranks last among its South American peers in terms of face-to-face education. Bolivia, Chile, Colombia, Uruguay, and Venezuela are estimated to have already more than half of their enrolled students attending school.

PERU: DISTRIBUTION OF EDUCATIONAL SERVICES AND STUDENTS, ACCORDING TO STATUS AS OF NOVEMBER 15, 2021
(In %)



Source: Minedu – Web "Sigamos aprendiendo". Information up to November 15.
Elaboration: BCRP.

Prolonged school closures have a negative impact on the learning outcomes of basic education students. The following table summarizes some research on how the interruption in face-to-face

16 This figure is calculated using UNESCO data on school closures. UNESCO reports data for 210 countries (which include sovereign countries and dependent territories).

teaching has undermined learning.[17] Not only is this problem intrinsically alarming (a generation of young people will face limitations to the development of their individual and collective potentials), but it is also alarming because of the cost it will have on long-term development. The accumulation of knowledge and skills is a source of long-term economic growth. Fuchs-Schündeln et al. (2020)[18] estimate that just 6 fewer months of schooling in the COVID-19 context would lead to a permanent income loss of about 1.0 percent in the long run. Moreover, considering the higher incidence this has on low-income students, Neidhöfer et al. (2021)[19] estimate that the human capital shock in Latin America will have a negative impact on intergenerational mobility in the long run, with Peru being one of the most affected countries.

EVIDENCE ON THE IMPACT OF SCHOOL CLOSURES ON ACHIEVEMENT OF LEARNING DURING THE COVID-19 PANDEMIC

Authors	Description of Research	Main findings
Engzell et al (2021) 1/	• Population: Primary school students in the Netherlands. • Context: School closures for 8 weeks between March and May 2020. • Data: Results of national exams.	• Learning losses equivalent to 1/5 of the year school (same duration as school closures). • Effect was 60 percent stronger among students of households with less educational achievements.
Maldonado & De Witte (2021) 2/	• Population: Primary school students in Belgium. • Context: 3 months of total closure (9 weeks) and partial reopening between March and May 2020. • Data: Standardized test results in maths and Dutch.	• Drop in average test score of 0.19 standard deviations in maths, and 0.29 in Dutch. • Larger learning losses among high school students with low socioeconomic level. • Increased inequality within and between schools analyzed.
Tomasik et al (2021) 3/	• Population: Primary and high school students in Switzerland. • Context: Virtual education for 8 weeks between March and May 2020. • Data: Test results in maths and German.	• Drop in 50% in the learning speed of primary school students who went on to education virtual with respect to the previous situation. • Increased heterogeneity in achievement of individual learning in primary school. • Not effect for high school students.
Lichand et al (2021) 4/	• Population: High school students in Brazil • Context: Virtual classes inSao Paulo since the second quarter of 2020. • Data: Leaving early rates and standardized test results.	• Risk of leaving early school rose by 365 percent. • Drop in test results, equivalent to if students had learned only 27.5 percent of what they did in person mode. • Partial reopening of schools raised the results in 20 percent compared to the control group. • Learning loss not correlated with incidence of COVID-19, suggesting that the effect is Just because of the school closure.

1/ Engzell, P., Frey, A., & Verhagen, M. D. (2021). Learning loss due to school closures during the COVID-19 pandemic. PNAS Vol. 118 No. 17, https://doi.org/10.1073/pnas.2022376118.
2/ Maldonado, J. E., & De Witte, K. (2021). The effect of school closures on standardized student test outcomes. British Educational Research Journal
3/ Tomasik, M. J., Helbling, L. A., & Moser, U. (2021). Educational gains of in-person vs. distance learning in primary and secondary schools: A natural experiment during the COVID-19 pandemic school closures in Switzerland. International Journal of Psychology, Vol. 56, No. 4, 566–576.
4/ Lichand, G., Dória, C. A., Leal Neto, O., & Cossi, J. (2021). The Impacts of Remote Learning in Secondary Education: Evidence from Brazil during the Pandemic. IDB Technical Note IDB-TN-02214, http://dx.doi.org/10.18235/0003344.
Elaboration: BCRP.

17 The literature is more extensive. For example, in their paper Learning Loss During COVID-19: An Early Systematic Review, Patrinos and Donnelly (2021) review the literature published between March 2020 and May 2021 and include additional research in addition to that listed in the table.

18 Fuchs-Schündeln, N., Krueger, D., Ludwig, A., & Popova, I. (2020). The long-term distributional and welfare effects of Covid-19 school closures. NBER Working Paper.

19 Neidhöfer, G., Lustig, N., & Tommasi, M. (2021). Intergenerational transmission of lockdown consequences: Prognosis of the longer-run persistence of COVID-19 in Latin America, ZEW Discussion Papers, No. 21-046, ZEW -Leibniz-Zentrum für Europäische Wirtschaftsforschung, Mannheim.

The pandemic has also implied a setback in the rate of attendance in basic education students (see table below). In other words, not only did students who attended remote education see their learning lag behind, but there was also a significant percentage of children and adolescents who stopped attending school altogether.

PERU: NET ATTENDANCE RATE IN BASIC EDUCATION, 2016 – 2021
(Percentile, 0 worst, 100 best)

	2016	2017	2018	2019	2020	change 2020-2019 1/	Q2.20	Q2.21	change Q2.21-Q2.20 1/
Elementary (3 to 5 years)									
National	88.6	90.3	91.1	93.1	81.2	**-11.9**	81.7	86.7	**5.0**
Urban	88.7	90.3	91.3	93.8	79.9	**-13.9**	81.9	86.2	**4.3**
Rural	88.3	90.0	90.3	90.8	84.6	**-6.3**	81.0	88.4	**7.4**
Primary (6 to 11 years)									
National	93.5	92.7	95.9	97.1	94.4	**-2.8**	94.5	97.7	**3.2**
Urban	93.0	92.0	95.5	96.9	94.4	**-2.6**	95.1	97.4	**2.3**
Rural	94.6	94.6	97.0	97.7	94.5	**-3.2**	92.9	98.6	**5.7**
High School (12 to 16 years)									
National	83.0	84.0	85.5	87.0	83.5	**-3.4**	82.2	86.9	**4.7**
Urban	85.0	85.5	87.0	88.5	84.6	**-3.9**	83.2	88.6	**5.4**
Rural	78.5	80.4	82.1	83.3	80.4	**-2.9**	79.7	82.1	**2.4**

1/ In percentage points. Bold and underlined values are significant variations with at least p<0.10.
Source: Minedu and INEI.
Elaboration: BCRP.

Policy challenges

Although the Peruvian government implemented a multiplatform remote education program called "Aprendo en Casa", it would not have been a complete substitute for face-to-face education. An April 2021 report published by the Comptroller's Office indicated that, for example, 61 percent of students interviewed for control actions would have been dissatisfied with their experience in the program.[20] Moreover, according to INEI's ENAHO, only 27 and 34 percent of basic education students enrolled in 2020 had internet and computer access at home, respectively[21]. The rest of the students had to access lesson content through television or radio (inferior alternatives). Furthermore, the ENAHO also reveals that 38 percent of basic education students who attended virtual classes did not interact with the teacher in the development of their courses.

Peru's particular problem in this context is that it was already experiencing a severe learning achievement crisis prior to the pandemic. In 2019, just a little over a third of second grade students clearly understood what they were reading, and fewer than 2 in 10 had the numeracy skills required according to the Assessment of Learning Achievements (*Evaluación de Logros de Aprendizajes*).

20 The performance of the Aprendo en Casa program was evaluated between August 1, 2020 and January 31, 2021 (Informe de Orientación de Oficio Nº 999-2021-CG/SADEN-SO). More than 36 thousand students from all departments were interviewed and, although the sample was not designed for statistical inference, the results illustrate well students' opinions.

21 The Ministry of Education (MINEDU), through the Educational Quality Statistics (Escale), points out in the same vein that, in 2020, only 19.7 percent of primary school students had a computer with internet. Even though the figure refers in 23.7 percent of cases to secondary school students, the data are calculated based on the 2017 Population and Housing Census.

Therefore, the policy measures to remedy this situation include the following: (1) promote the return of as many students as possible to the classrooms to avoid further losses, and (2) ensure the recovery and consolidation of learning of the affected students. As regards the former, current regulations (R.M. 121-2021-MINEDU) may be updated to accelerate the return of children to school. There are also some opportunities that could encourage the education sector to consider a total return of students to schools by March 2022. On the one hand, progress in vaccination should reduce health concerns (as of November 12, 86 percent of educational personnel had had two vaccine doses). On the other hand, the protocols required of schools in Peru are effective in preventing outbreaks of infection since they follow all international recommendations on the subject: mandatory masks, symptom control, minimum distance between desks, and continuous ventilation of enclosed spaces. There is also an efficient plan of action in the event of positive cases, which involves isolating infected students for 14 days, contact tracing, and restarting classes after confirming that there are no additional cases.

As for the recovery and consolidation of learning, the World Bank[22] summarizes the recommendations of experts as follows: (i) restructuring the school year calendar (extending the number of days, weeks, or the academic year); (ii) adapting the curriculum to prioritize essential skills and socioemotional aspects; (iii) designing strategies to incentivize enrollment; (iv) implementing diagnostic assessments to identify students' needs, and (v) providing remedial education for students lagging behind (e.g., tutoring programs or use of digital tools).

Concluding Remarks

School closures in Peru would be aggravating a pre-existing educational crisis by negatively affecting learning achievement –already below the desired level– and by creating situations of school dropout. Both aspects are believed to have a negative impact on the level of human capital in the long term, reducing the growth of productivity and trend output. Given that the remote education program would not completely substitute for schools, the priority should be placed on the return to face-to-face education and on the recovery and consolidation of learning. Regarding the latter, there are recommendations both from experts and from previous events of unexpected school closures that can serve as a guide.

22 World Bank (May 2021). Policy Actions for School Reopening and Learning Recovery.

Box 4
LONG-TERM EFFECTS OF COVID-19 IN PERU

The COVID-19 pandemic caused a severe contraction of the world economy in 2020 due, in part, to the social isolation measures taken with the aim of reducing the rate of infections. This brought about a major disruption in several economic sectors, especially in those involving a higher degree of personal interaction, such as those related to services and tourism, for example. In this context of high uncertainty and slower economic activity, many workers lost their jobs and private investment contracted.

With the development of safe vaccines and with the increase in the rate of vaccination worldwide, these restrictions have been relaxed, thus facilitating economic recovery in 2021. Thus, for example, after having recorded a contraction of 11.0 percent in 2020, the Peruvian economy is expected to grow 13.2 percent this year. However, after experiencing such a steep decline, the question that arises is whether the COVID-19 crisis will affect the structural factors of the economy and leave long-term "scars" or not; in other words, whether it will reduce the potential for future growth or not.

The existing literature offers different perspectives. On the one hand, some authors argue that crises can facilitate the implementation of beneficial political and economic reforms (Cerra and Saxena, 2005)[23]. Likewise, the concept of "creative destruction" proposed by Schumpeter (1942)[24] suggests that crises can serve to eliminate the most inefficient firms from the economy, thus leading to greater productivity and growth.

However, other authors disagree and say that crises leave "scars" (the scarring effect) that affect long-term growth through their main determinants: the stock of productive capital, the labor force employed, and total factor productivity (TFP). The impact of the crisis on each of the productive factors is analyzed below.

a) The labor force

According to Blanchard and Summers (1986) [25], post-crisis unemployment exhibits hysteresis behavior, which means that it would remain persistently high, implying a permanent contraction of the labor force and lower long-term growth. Furthermore, the effect of the crisis on human capital, which also tends to deteriorate during periods of prolonged unemployment, would add on to this (IMF, 2021)[26].

In the case of the COVID-19 crisis, although unemployment rose considerably, it has been steadily declining and is now close to pre-pandemic levels. For example, U.S. unemployment rose sharply to a rate of 14.8 percent in April 2020, but by October 2021 the unemployment rate had already fallen to 4.6 percent. In Peru, a sharp drop in was also observed in formal employment in March and April 2020 (the first months of confinement), but since July 2020, formal employment has been gradually recovering and has shown positive growth rates in August, September and October of this year. This relatively rapid recovery of employment

23 Cerra, V. & Saxena, S. (2005). Growth Dynamics: The Myth of Economic Recovery. IMF Working Paper.

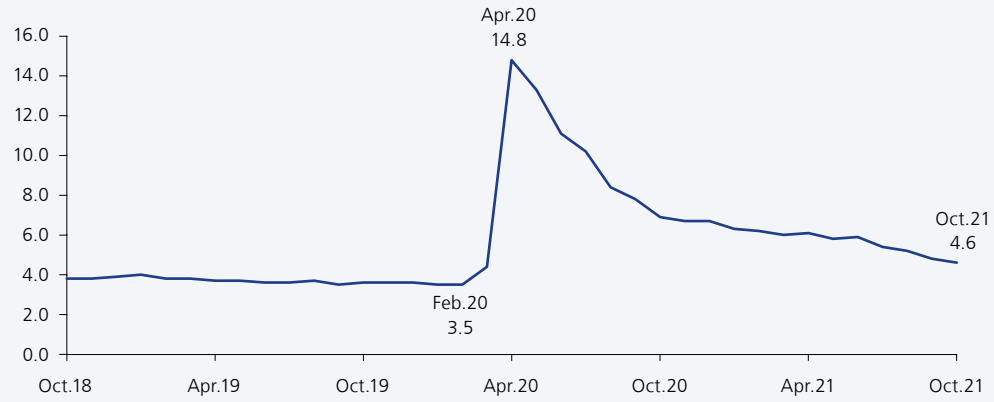
24 Schumpeter, J. (1942). Capitalism, Socialism, and Democracy.

25 Blanchard, O. and Summers, L. (1986). Hysteresis and the European Unemployment Problem. NBER Macroeconomics Annual 1: 15–78.

26 IMF (2021). World Economic Outlook. Managing Divergent Recoveries.

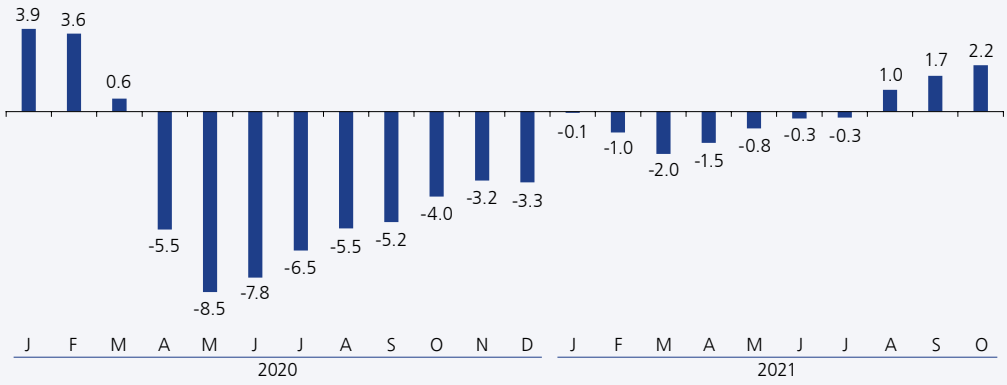
would suggest that the likelihood of a permanent contraction of jobs is lower than initially thought.

UNITED STATES: UNEMPLOYMENT RATE
(%)



Source: Federal Reserve Economic Data (FRED).

PERU: TOTAL FORMAL JOBS
ELECTRONIC PAYROLL
(% change compared to the same period in 2019)



Source: SUNAT – electronic payroll.

The long-term accumulation of human capital is also affected by the levels of education. In the current pandemic context, education has been interrupted due to school closures, which has affected the continuity of learning[27]. Even though it will only be possible to evaluate the final effects of virtual education when the children and young people who were exposed to it enter the labor market, some studies say that this effect on human capital could be negative, especially in developing economies (where the educational level is lower on average and where gender gaps in education persist). For example, based on previous episodes of epidemics, an IMF study concludes that epidemics significantly reduce completion rates for primary and secondary education, and that girls are more affected than boys (Fabrizio et al, 2021)[28].

27 See Box 3 in this Report.

28 Fabrizio, S.; Gomes, D.; Meyimdjui, C. and Tavares, M. (2021). Epidemics, Gender, and Human Capital in Developing Countries. IMF Working Paper.

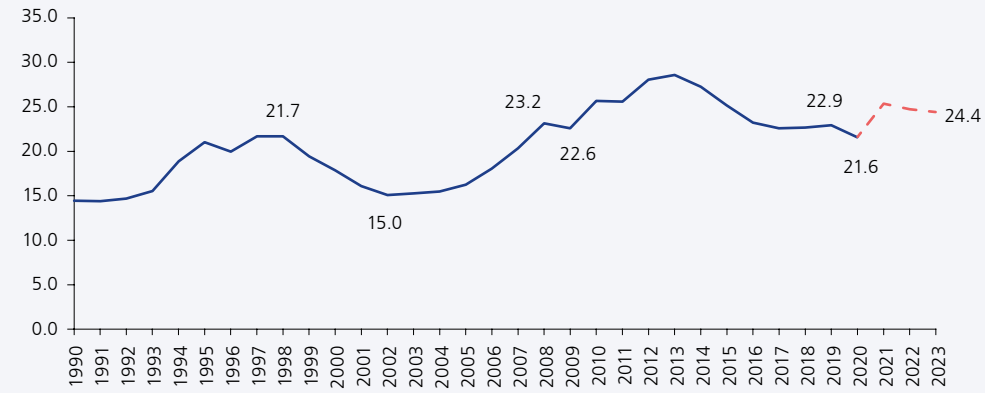
b) Capital stock

On the other hand, contexts of high uncertainty are generated in periods of crisis and lead to a delay or slower pace of physical capital investment. Lower capital accumulation implies lower production possibilities in the future. As long as capital expenditure remains low, long-term growth prospects will be limited.

One way to approach this effect is to analyze the evolution of the fixed investment-to-GDP ratio and see how it has been affected during periods of crisis. The evidence for the Peruvian case is mixed. On the one hand, the ratio declined steadily after the 1998 crisis, from 21.7 percent to 15.0 percent in 2002. However, after the International Financial Crisis, although the ratio decreased by 0.6 percentage points between 2008 and 2009, the following three years more than reversed that reduction[29].

The COVID-19 crisis seems to be somewhere in between the two aforementioned crises. The 1.4 percentage point reduction between 2019 and 2020 experienced by gross fixed Investment as a percentage of GDP is of a greater magnitude than that recorded between 2008 and 2009. However, according to the projections made for this report, the expected recovery in investment is such that the ratio is estimated to exceed the pre-pandemic level by 2022.

GROSS FIXED INVESTMENT: 1990-2023
(Percentage of real GDP)



Note: Figures for 2021-2023 correspond to IR Dec. 2021 projections.

c) Total Factor Productivity

Crises can bring with them falls in investment in research and development (R&D) or in the adoption of new technologies. In such a scenario, the long-run productivity

29 This is consistent with the finding that the 1998 Crisis generated a higher long-term economic cost than the International Financial Crisis, as it will be seen below.

of the economy declines (Grossman and Helpman, 1991; Schmöller and Spitzer, 2021)[30].

Likewise, Furceri et al. (2021)[31] propose the hypothesis that crises lead to reallocations of productive factors to different sectors. Thus, they propose that the aggregate productivity of the economy can be affected in two ways: (i) through the productivity shock within each sector, and (ii) by inducing reallocations of productive inputs among the various sectors. Thus, if a crisis particularly affects the most productive sectors of the economy, part of the labor force and capital will be reallocated to sectors with lower productivity. As a result, the aggregate productivity of the economy would decrease. According to these authors, the first mechanism deteriorates markedly in the short term, but its effect fades as the economy recovers. In contrast, the effect of reallocation between sectors increases over time. In the case of the COVID-19 crisis, the labor force could have been reallocated from sectors such as tourism, restaurants, and other services that require face-to-face contact. The final effect of this phenomenon on aggregate productivity will depend on the productivity in the sectors where they have been relocated.

One of the main drawbacks in quantifying the cost of a crisis is that it takes time to observe how they materialize[32]. Indeed, the COVID-19 crisis is still unfolding and the final effects of the crisis will only be observed in a few years' time. However, Peru's performance after previous crises can be taken as a reference point to infer the cost or loss caused by such events.

Evidence of past crises in Peru

One way to assess the loss of output generated by a crisis is to use the growth projections that were available prior to the crisis. In this way, one can compare the level of activity that would have been achieved if the crisis had not occurred with the level of activity that was actually observed[33].

Projections from the World Economic Outlook (WEO) and the Central Reserve Bank prior to the 1998 Crisis, the 2008 International Financial Crisis and the COVID-19 Crisis are used to calculate the GDP trajectories that would have been observed in Peru if the analyzed crisis scenarios had not occurred. The table below reports the cost of the three crises in terms of output after three years. GDP projections consistent with this Inflation Report are taken into account In the case of the COVID-19 crisis. For comparison purposes, the loss is also presented under the assumption that GDP would have grown at the average growth rate of the last five years prior to the crisis.

30 Grossman, G. y Helpman, E. (1991). Quality ladders and product cycles. Quarterly Journal of Economics 106 (2), 557-586. Schmöller, M. y Spitzer, M. (2021). Deep recessions, slowing productivity and missing (dis-)inflation in the euro area. European Economic Review 134, 103708

31 Furceri, D. et al. (2021). Recessions and total factor productivity: Evidence from sectorial data. Economic Modelling 94, 130-138.

32 For example, Dovern and Zuber (2020) find for the case of the European Union that TFP revisions tend to dominate at first, only to be corrected later. As new information is obtained (as the years go by), part of what was initially attributed to negative productivity shocks is revised and attributed to unfavorable changes in trend labor and capital stock. (Dovern, J. y Zuber, C. (2020). How economic crises damage potential output – Evidence from the Great Recession. Journal of Macroeconomics).

33 The underlying assumption is that the projections are unbiased and can therefore be used with a high degree of confidence as realistic counterfactual scenarios.

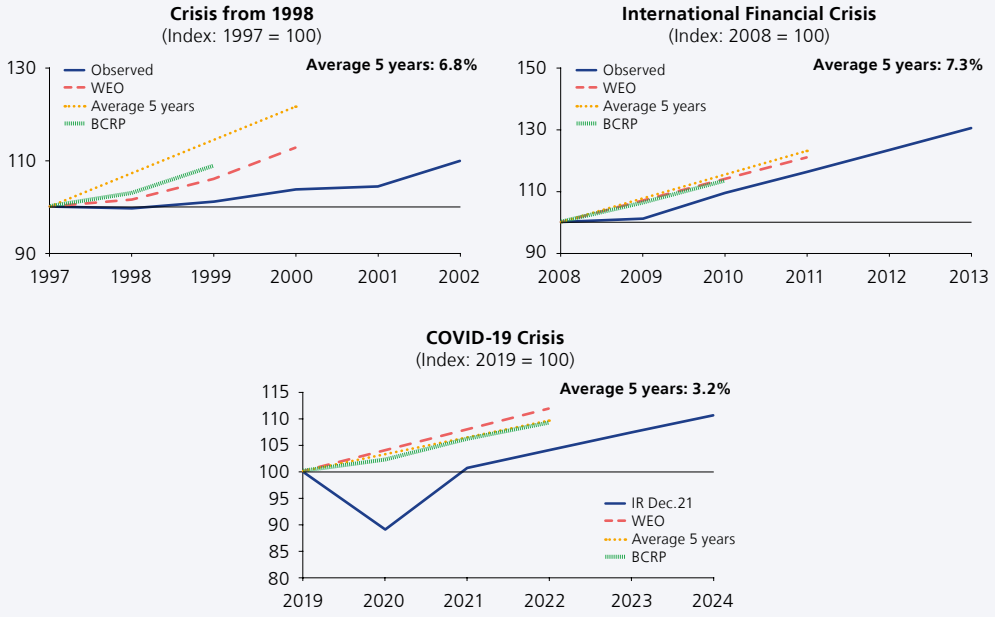
LOSS OF GDP THREE YEARS AFTER THE CRISIS
(% of scenario without crisis)

	Crisis from 1998	International Financial Crisis	COVID-19 Crisis
WEO	-8.1	-4.1	-7.1
BCRP	-10.3	-4.5	-4.9
Average 5 years	-14.8	-5.7	-5.1
Average	**-11.1**	**-4.7**	**-5.7**

Source: BCRP and World Economic Outlook (WEO) april 1999, october 2008 and october 2019.

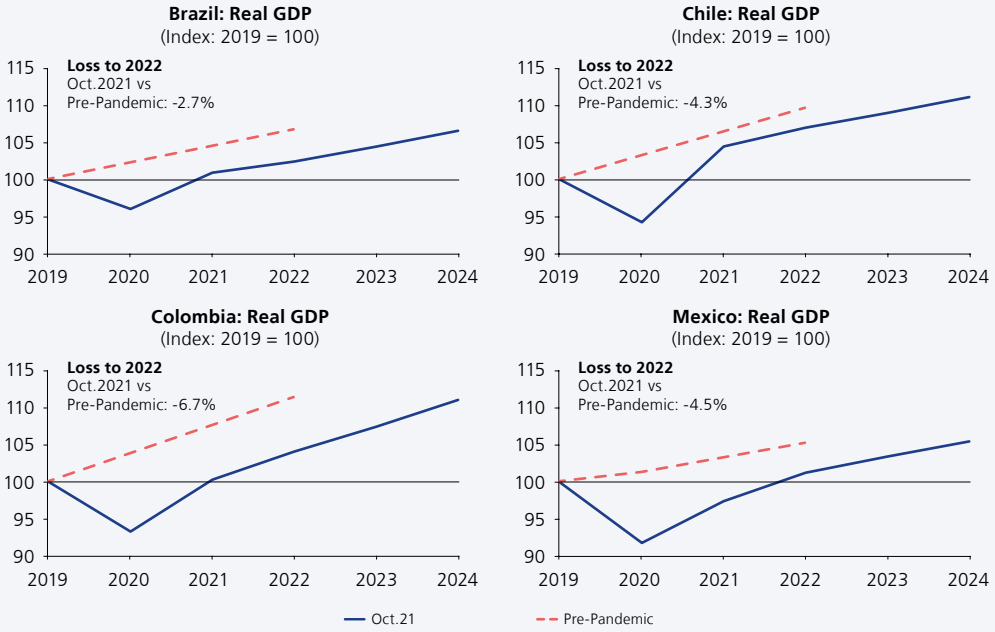
Preliminary results show that the COVID-19 crisis would have caused Peru's GDP in 2022 to still be 5 to 7 percent below the level it would have reached in the absence of the crisis. This cost is below the one generated after the 1998 crisis, but higher than the one recorded due to the International Financial Crisis. It should be pointed out that the loss associated with COVID-19 estimated by the IMF is overestimated since the projections contained in its latest World Economic Outlook report (WEO October 2021) assume a growth rate of 10.0 percent in 2021. A graph on the permanent losses on output is provided below.

PERMANENT EFFECTS OF THE CRISIS ON THE GDP OF PERU



Source: BCRP and World Economic Outlook (WEO) april 1999, october 2008 and october 2019.

PERMANENT EFFECTS OF THE CRISIS ON GDP IN LATAM COUNTRIES



Note: Pre-pandemic figures correspond to projected GDP levels from the October 2019 WEO.
Source: World Economic Outlook (WEO) October 2019 and October 2021.

The behavior described for the COVID-19 crisis is not unique to Peru. As can be seen in the previous graph, the estimated long-term loss for Peru is relatively similar to that of its peers in the region (Brazil, Chile, Colombia, and Mexico), despite the fact that Peru established one of the strictest quarantines in the world. Moreover, the dynamics of a crisis such as the one generated by COVID-19 is not far from that of a typical crisis either. For example, Cerra and Saxena (2005) document how many Latin American countries were never able to recover the trend growth path prior to the 1980 debt crisis. Indeed, economic literature and empirical evidence suggest that major economic crises tend to leave "scars" (permanent effects) on economies. Changes in the dynamics of employment and the physical accumulation of capital, as well as R&D investment decisions or the migration of productive factors between sectors, are likely to alter the long-term growth path. Due to the recentness of the COVID-19 crisis, it is still too early to clearly distinguish which factors are being structurally altered. It is safer to say that GDP levels may not return to those observed before the pandemic, thus affecting the potential growth of the economy.

IV. Public Finances

46. In annual terms, the fiscal deficit decreased from 8.9 to 3.3 percent of GDP between December 2020 and November 2021, which represents nine consecutive months of reduction in the fiscal deficit after the upward trend observed last year due to the pandemic. Factors accounting for this decrease with respect to the end of 2020 included mainly the increase in the current revenues of the General Government and, to a lesser extent, lower non-financial expenditure as a percentage of GDP and the lower deficit registered in the primary balance of state-owned companies.

The increase in annualized current revenues of the General Government reflected favorable mineral prices, economic recovery, a base effect from tax relief measures adopted in 2020, and extraordinary revenues such as the payment of tax debts in August 2021. By components, higher revenues are explained by the National Government's tax revenues, especially revenues from the value added tax (VAT), both internal and external, and revenues from the income tax, mostly from domiciled legal entities and from the regularization of tax payments. In addition, higher revenues from Tax Fractioning and the Special Tax on Mining (IEM) contributed to this increases well, but to a lesser extent. On the other hand, non-tax revenues increased mainly due to revenues from mining royalties and canon and oil royalties.

While the General Government's non-financial expenditures over the last twelve months to November 2021 have declined as a percentage of output, they have increased in nominal terms. This nominal increase is mostly due to higher expenditure in gross capital formation and, to a lesser extent, to higher current and other capital expenditures. The increase in current expenditures was mostly due to the acquisition of goods and services to address the health emergency and foster economic reactivation, as well as due to the recovery of non-COVID-19-related expenditures.

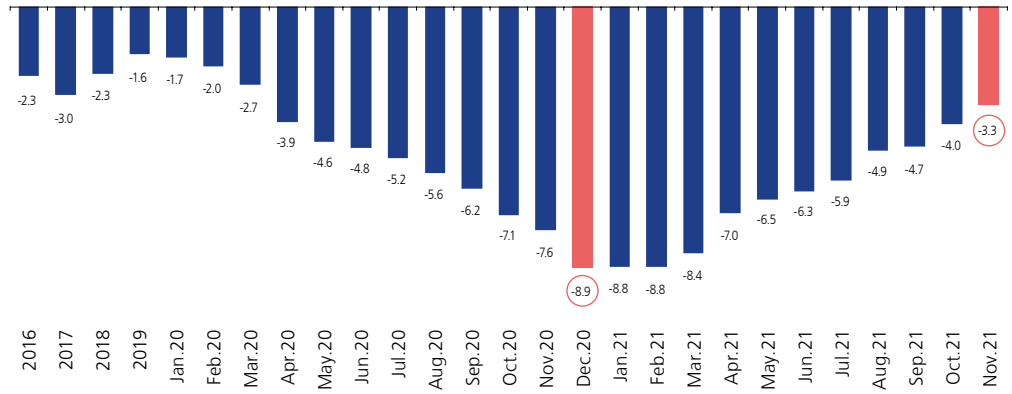
All three levels of government increased expenditure in gross capital formation, with higher investment being observed in the national government and local governments. By functions, the highest capital expenditure of the National Government was observed in the execution of Transportation, Education, Health, and Public Order and Security projects, while the highest execution of local governments was observed in Transportation, Sanitation, Education, and Housing and Urban Development projects.

This was reinforced by the decrease in the primary deficit of state-owned companies associated with an increase in current revenues, mainly those resulting from sales, especially in the case of Petroperu and the regional electricity companies, as well as by lower transfers of profits to the Public Treasury.

Graph 61

ECONOMIC BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2016 - 2021

(Accumulated last 12 months - % GDP)

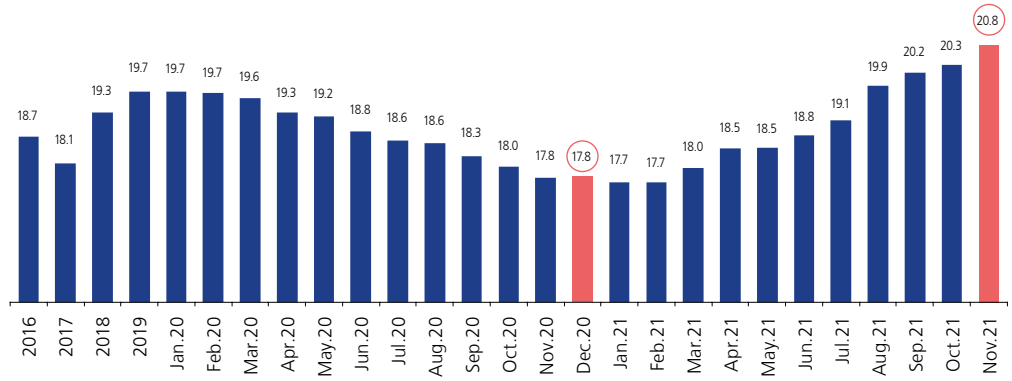


Source: MEF, SUNAT and BCRP.

Graph 62

CURRENT REVENUES OF THE GENERAL GOVERNMENT: 2016 - 2021

(Accumulated last 12 months - % GDP)

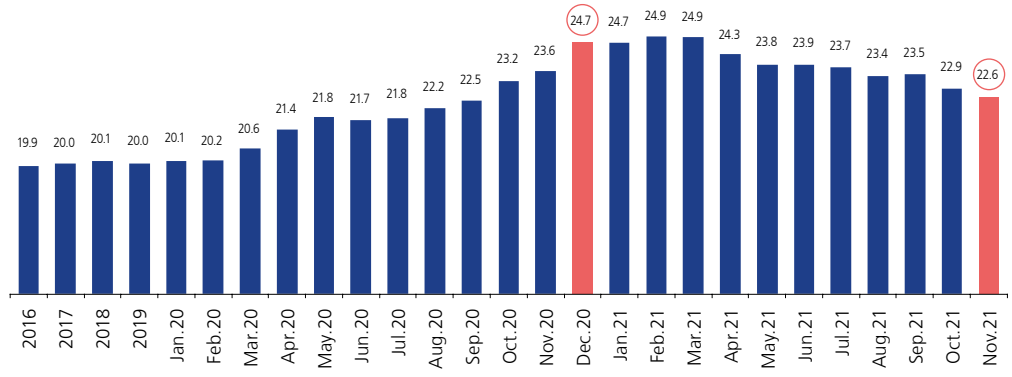


Source: SUNAT and BCRP.

Graph 63

NON-FINANCIAL EXPENDITURE OF THE GENERAL GOVERNMENT: 2016 - 2021

(Accumulated last 12 months - % GDP)



Source: MEF and BCRP.

47. The fiscal deficit is projected to fall from 8.9 percent in 2020 to 3.1 percent of GDP in 2021, marking the beginning of the fiscal consolidation process. This decline would be

explained by the growth of current revenues due to a favorable international context, to the recovery of economic activity, and to the collection of extraordinary revenues during this year. The decrease in the deficit would be reinforced by lower non-interest expenditure as a percentage of GDP, particularly current expenditure, and by the primary surplus of state-owned companies.

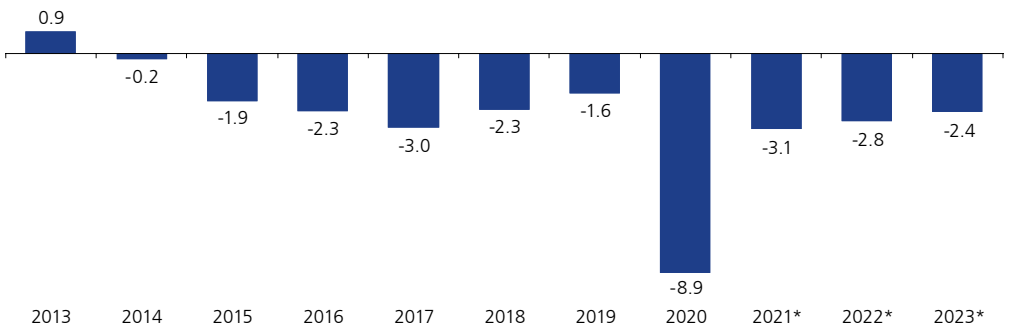
A gradual reduction of the fiscal deficit is expected in the next years that would reinforce the consolidation process of public finances. Thus, in 2022 the deficit would decline to 2.8 percent as a result of the moderation of non-financial expenditures due to the progressive withdrawal of the fiscal stimulus measures implemented in 2020 and 2021, and due to the real increase in tax revenues. This deficit level would be 0.9 percentage points of GDP lower than the deficit set by the fiscal rule of 3.7 percent (Emergency Decree N°079-2021). In 2023, the fiscal deficit would be equivalent to 2.4 percent of GDP due to lower current spending, in line with the consolidation process.

Table 23
NON-FINANCIAL PUBLIC SECTOR
(% GDP)

	2020	2021*			2022*		2023*
		Jan.-Nov.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
1. General government current revenues	**17.8**	**21.1**	**20.1**	**20.8**	**20.0**	**20.6**	**20.6**
Real % change	-17.4%	40.5%	30.1%	35.7%	3.7%	2.0%	3.6%
2. General government non-financial expenditure	**24.7**	**20.7**	**22.6**	**22.4**	**21.9**	**21.8**	**21.4**
Real % change	12.8%	8.4%	5.3%	5.4%	1.3%	0.7%	1.7%
Of which:							
Current expenditure	20.2	16.3	17.8	17.5	16.7	16.8	16.5
Real % change	19.4%	2.0%	1.2%	0.6%	-1.3%	-0.7%	1.5%
Gross capital formation	3.8	3.8	4.1	4.2	4.2	4.4	4.3
Real % change	-13.2%	50.5%	25.0%	28.5%	8.2%	8.5%	2.1%
3. Other 1/	**-0.4**	**0.2**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**
4. Primary balance (1-2+3)	**-7.3**	**0.5**	**-2.4**	**-1.5**	**-1.8**	**-1.2**	**-0.7**
5. Interests	**1.6**	**1.6**	**1.5**	**1.5**	**1.6**	**1.6**	**1.6**
6. Overall Balance	**-8.9**	**-1.1**	**-4.0**	**-3.1**	**-3.4**	**-2.8**	**-2.4**

1 / Includes capital income of the general government and primary balance from state-owned companies.
* Forecast.
IR: Inflation Report.

Graph 64
ECONOMIC BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2013 - 2023
(% GDP)



* Forecast.

Compared to the September Report, the fiscal deficit projection has been reduced from 4.0 to 3.1 percent of GDP for 2021 and from 3.4 to 2.8 percent for 2022. The lower deficit for 2021 is explained by the favorable evolution of revenue collection observed as of November, while the lower deficit for 2022 results from an increase in the revenue projection, in line with a better expected evolution of economic activity.

Current Revenues

48. In real terms, **current revenues** would grow 35.7 percent in 2021, and as a percentage of GDP would stand at 20.8 percent (3.0 percentage points above the level recorded in 2020). The higher current revenues projected for 2021 are explained by high levels of revenues from the income tax, the VAT, special mining tax, mining royalties, and canon and oil royalties as a result of the increase in commodity prices and the recovery of economic activity, as well as due to debt payments from mining companies.

In addition, the real growth rate of current revenues expected for 2021 would be higher than that estimated in the previous Report (30.1 percent). The upward correction is mainly due to a higher than expected execution of tax revenues, especially from the VAT and income tax, and to a lesser extent, to the upward revision of non-tax revenues from canon and royalties.

Table 24
CURRENT REVENUES OF THE GENERAL GOVERNMENT
(% GDP)

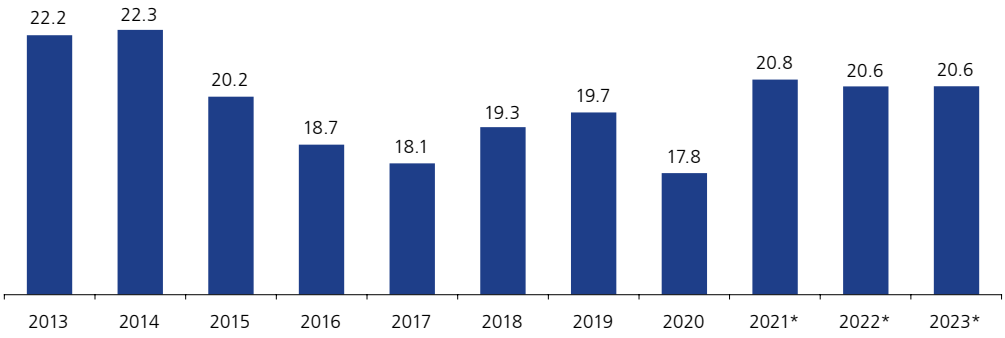
	2020	2021*			2022*		2023*
		Jan.-Nov.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
TAX REVENUES	**13.3**	**16.4**	**15.6**	**16.2**	**15.5**	**15.9**	**15.9**
Income tax	5.3	6.3	6.0	6.2	6.2	6.4	6.3
Value Added Tax (VAT)	7.7	8.9	8.7	8.8	8.6	8.8	8.9
Excise tax	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Import duties	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other tax revenues	1.5	2.2	2.1	2.2	1.9	2.0	2.0
Tax returns	-2.4	-2.3	-2.3	-2.2	-2.3	-2.4	-2.4
NON-TAX REVENUES	**4.5**	**4.6**	**4.5**	**4.6**	**4.5**	**4.6**	**4.6**
Contributions to social security	2.2	2.1	2.1	2.1	2.1	2.1	2.1
Own resources and transfers	1.6	1.4	1.3	1.3	1.4	1.4	1.4
Royalties and likely	0.5	0.9	0.8	1.0	0.7	0.9	0.8
Rest	0.2	0.3	0.2	0.3	0.3	0.3	0.3
TOTAL	**17.8**	**21.1**	**20.1**	**20.8**	**20.0**	**20.6**	**20.6**

* Forecast.
IR: Inflation Report.

In 2022, current revenues are expected to show a real growth rate of 2.0 percent due to the increase of tax revenues associated with higher income tax regularization and higher payments from mining companies. Compared to the previous report, higher tax revenues are expected mainly from the VAT and income tax, in line with the projection of domestic demand.

Given these growth projections, current revenues are expected to be higher than in 2015 and to represent 20.6 percent of GDP at the end of the projection horizon.

Graph 65
CURRENT REVENUES OF THE GENERAL GOVERNMENT: 2013 - 2023
(% GDP)



* Forecast.

Non-financial expenditure

49. **Non-financial expenditures** would register a real growth of 5.4 percent in 2021, while as a percentage of output it would show a rate of 22.4 percent, 2.3 percentage points of output lower than in 2020. Covid-19 related spending would be similar to that observed in 2020, although the composition of spending would change as transfers through subsidies to households are lower (down from S/ 12.8 billion to S/ 7.7 billion) while spending on goods and services, medical supplies and vaccines, as well as hiring of personnel, and gross capital formation have increased. The expenditure projection also considers the payment of the social debt to the Teachers' Union and granting an extraordinary bonus to ONP pensioners (S/ 203 million).

In 2022, non-financial expenditures would represent 21.8 percent of GDP, in line with the expected consolidation of public spending and compliance with the macro-fiscal rules of the Non-Financial Public Sector (Emergency Decree N°079-2021). Expenditure during the year would reduce its pace of growth due to lower COVID-19-related expenditures.

Spending would continue to decline and reach 21.4 percent of GDP by the end of the forecast horizon, in line with a gradual withdrawal of the extraordinary stimulus granted to address the COVID-19 crisis. However, this level of spending would still be higher than prior to the pandemic, but similar to the level recorded in 2015.

The growth of real non-financial spending projected for 2021 has been slightly increased to 5.4 percent (from 5.3 percent projected in the last Report). This projection incorporates *Bono 210*, authorized by Emergency Decree N°105-2021, through which a one-time subsidy of S/ 210 will be granted to formal public and private sector workers who earn less than S/ 2,000. In order to finance this subsidy, the Government authorized a transfer of up to S/ 615 million and the use of balances transferred against the DU N° 026-2020. On the other hand, the expenditure projection for 2022 in terms of GDP was reduced from 21.9 to 21.8 percent.

Table 25

NON-FINANCIAL EXPENDITURE OF THE GENERAL GOVERNMENT

(% GDP)

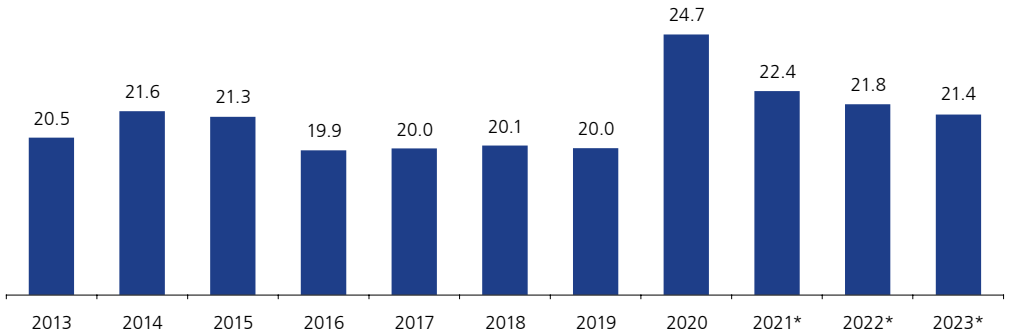
	2020	2021*			2022*		2023*
		Jan.-Nov.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
Current expenditure	**20.2**	**16.3**	**17.8**	**17.5**	**16.7**	**16.8**	**16.5**
National Government	13.8	11.1	11.9	11.9	11.4	11.5	11.3
Regional Governments	4.2	3.5	3.7	3.7	3.5	3.5	3.4
Local Governments	2.2	1.7	2.1	2.0	1.9	1.9	1.8
Capital expenditure	**4.5**	**4.5**	**4.8**	**4.9**	**5.1**	**5.0**	**5.0**
Gross capital formation	3.8	3.8	4.1	4.2	4.2	4.4	4.3
National Government	1.4	1.5	1.5	1.6	1.5	1.7	1.7
Regional Governments	0.8	0.7	0.8	0.8	0.9	0.8	0.8
Local Governments	1.6	1.6	1.8	1.8	1.8	1.9	1.8
Other	**0.7**	**0.7**	**0.7**	**0.7**	**0.9**	**0.7**	**0.7**
Total	**24.7**	**20.7**	**22.6**	**22.4**	**21.9**	**21.8**	**21.4**
National Government	15.9	13.2	14.1	14.2	13.7	13.8	13.6
Regional Governments	5.1	4.2	4.6	4.5	4.4	4.3	4.2
Local Governments	3.7	3.3	3.9	3.7	3.8	3.8	3.7

* Forecast.
IR: Inflation Report.

Graph 66

NON-FINANCIAL EXPENDITURE OF THE GENERAL GOVERNMENT: 2013 - 2023

(% GDP)

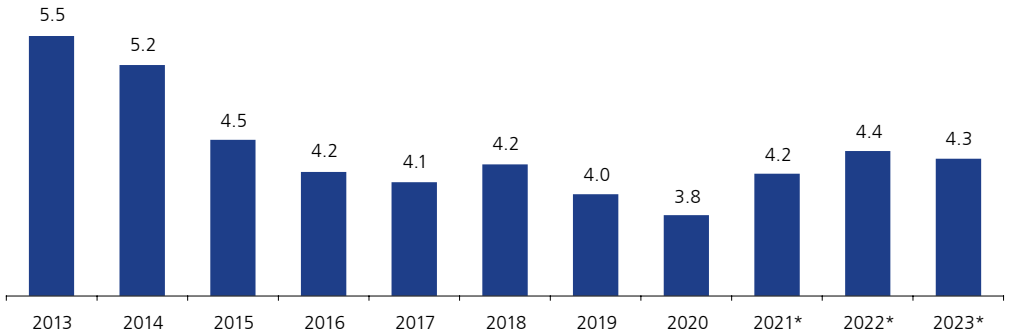


* Forecast.

Graph 67

GROSS CAPITAL FORMATION OF THE GENERAL GOVERNMENT: 2013 - 2023

(% GDP)

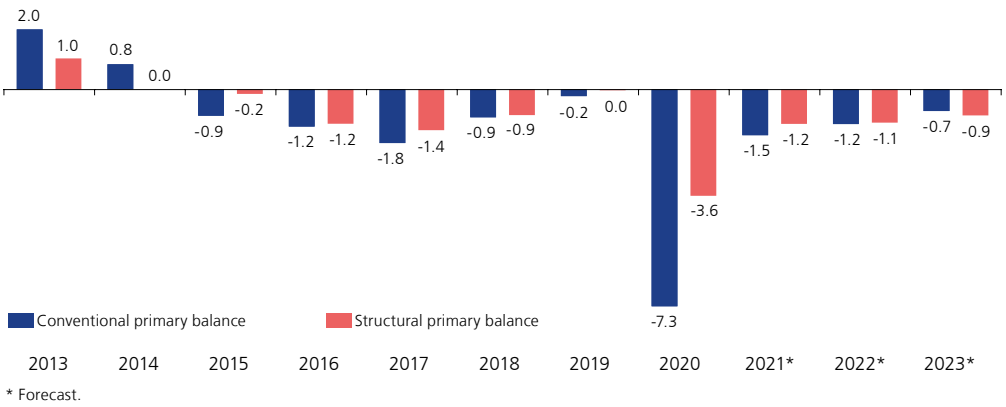


* Forecast.

Fiscal stance

50. The **structural primary balance** is an indicator that excludes the effects of discretionary fiscal policy decisions and the cyclical and transitory components of the economy that affect government revenues and expenditures. The structural primary deficit is estimated at 3.6 percent of trend GDP in 2020 and is expected to be equivalent to 1.2 percent of trend GDP in 2021, both rates being higher than the zero structural primary outcome recorded in 2019, which would reflect the expansionary stance of fiscal policy in these two years. Moreover, a structural primary deficit of 1.1 and 0.9 percent of trend GDP is expected for 2022 and 2023, respectively.

Graph 68
CONVENTIONAL AND STRUCTURAL PRIMARY BALANCE OF THE NON-FINANCIAL PUBLIC SECTOR: 2013 - 2023
(% GDP and Trend GDP)



* Forecast.

51. The **fiscal impulse** measures the change in the government's primary balance as a result of changes in public spending and tax policies. The **weighted fiscal impulse** is an alternative indicator used to measure the fiscal stance of a year in comparison with the immediately preceding year, weighing with differentiated multipliers the changes in structural revenue, current expenditure and capital expenditure. This indicator an expansionary fiscal stance in 2020 estimated at 1.8 percentage points of trend GDP, which together with the expansionary monetary stance offset the effects of the negative shock of COVID-19 in 2020.

While the fiscal stimulus will taper off in the coming years, there will still be an expansionary fiscal stance relative to the year before the pandemic started. This expansionary stance is observed when comparing the structural primary deficits for the years 2020, 2021, 2022 and 2023 with respect to 2019, whose variations are estimated at 3.6 percentage points of trend GDP for 2020, 1.2 for 2021, 1.1 for 2022, and 0.9 for the end of the forecast horizon.

Financing and Debt

52. The projection of **financing requirements** for 2021 and 2022 has been reduced from those estimated in the September Report due to the lower nominal fiscal deficits

expected for both years. In addition, it is estimated that financing for a total of S/ 29,439 million would be required for 2023 –a lower amount than that projected for 2022–, in line with the expected consolidation of public finances.

As for **financing sources**, the projection in the previous Report has been revised with a greater accumulation of public deposits and a greater indebtedness through bonds being estimated now for 2021, while lower external financing would be required for 2022.

Table 26
FINANCIAL REQUIREMENT AND FINANCING OF THE NON-FINANCIAL PUBLIC SECTOR
(Million Soles)

	2020	2021*			2022*		2023*
		Jan.-Nov.21	IR Sep.21	IR Dec.21	IR Sep.21	IR Dec.21	IR Dec.21
I. USES	**66,511**	**11,408**	**37,161**	**29,737**	**35,964**	**30,573**	**29,439**
1. Amortization	2,761	2,627	3,112	3,179	4,699	4,705	5,939
a. External	1,024	1,329	1,835	1,846	3,944	3,984	3,919
b. Internal	1,738	1,298	1,277	1,333	755	721	2,020
Of which: recognition bond	*498*	*553*	*548*	*577*	*550*	*550*	*550*
2. Economic balance 1/	63,749	8,780	34,049	26,558	31,265	25,868	23,499
II. SOURCES	**66,511**	**11,408**	**37,161**	**29,737**	**35,964**	**30,573**	**29,439**
1. Disbursements and others	36,255	59,200	40,384	60,294	31,781	26,377	25,398
a. External	8,762	14,622	15,286	15,295	8,700	2,825	2,888
b. Bonds	27,492	44,579	25,098	44,999	23,082	23,552	22,510
2. Variation in deposits and others 2/	30,256	-47,793	-3,223	-30,557	4,182	4,196	4,041
Memo:							
Percentage of GDP							
Gross public debt balance	34.7	36.2	34.9	36.8	34.7	35.9	35.6
Net public debt balance	22.3	20.9	24.3	23.0	25.4	23.7	24.4
Balance of public deposits	12.4	15.2	10.5	13.7	9.3	12.2	11.2

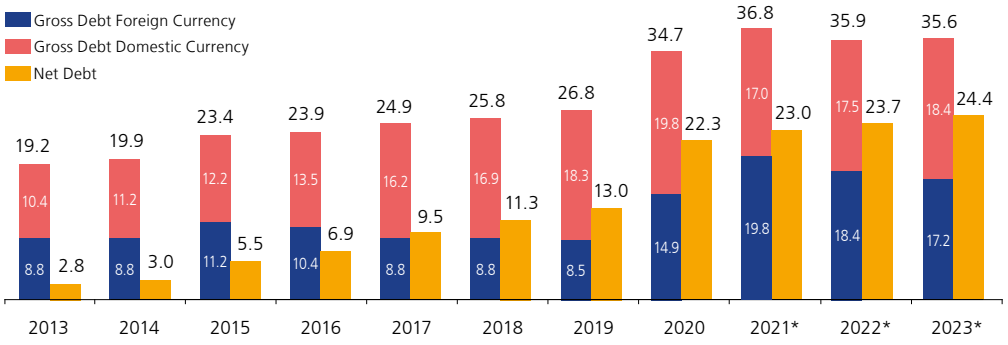
1/ Negative sign indicates surplus.
2/ Positive sign indicates reduction of deposits.
* Forecast.
RI: Inflation Report.

The **gross debt** of the non-financial public sector would increase from 34.7 to 36.8 percent of GDP between 2020 and 2021, decreasing thereafter to 35.6 percent at the end of the projection horizon. The gross debt projection for 2022 would be lower than the maximum established by the macro-fiscal debt rule of 38.0 percent of GDP (Emergency Decree N°079-2021).

On the other hand, the **debt net** of non-financial public sector deposits would increase from 22.3 to 23.0 percent of GDP between 2020 and 2021 and would reach 24.4 percent of output in 2023. Projections of fiscal deficits and the expected management of public deposits explain the increasing trend of the net debt.

For more information, see Box 5 where the evolution and composition of public debt indicators is discussed in further detail.

Graph 69
NON-FINANCIAL PUBLIC SECTOR DEBT: 2013 - 2023
(% GDP)

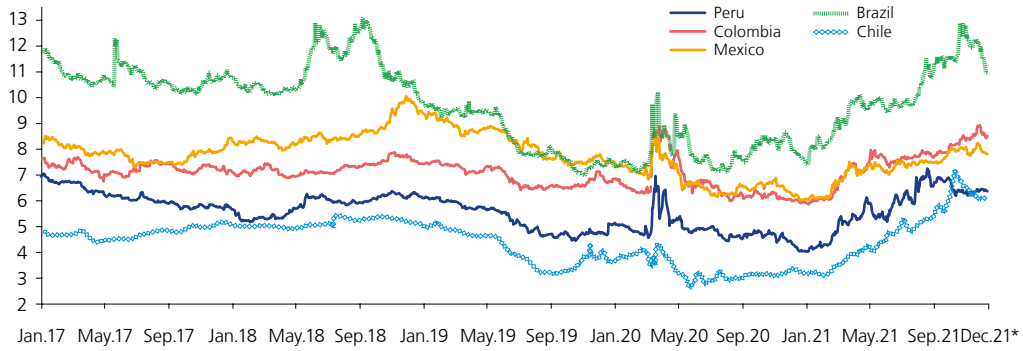


* Forecast.

53. Between September and December 2021, the interest rates of government bonds of the countries in the region were influenced by: (i) expectations of changes in the U.S. Federal Reserve's asset purchase program, (ii) inflationary pressures at the global level, (iii) the increase in monetary policy rates, and (iv) the higher risk premium in the region due to idiosyncratic factors. On the one hand, Chilean and Colombian 10-year bonds in local currency showed higher yields (up 5 and 31 basis points, respectively), while the interest rates of Mexican and Brazilian bonds decreased by 5 and 63 basis points, respectively. In the case of the Peruvian bond, the yield rate decreased from 6.44 to 5.89 percent, influenced by higher demand from resident and institutional investors.

On the other hand, the yields on 10-year dollar-denominated bonds showed a mixed performance, increasing by an average of 10 basis points in Brazil, Chile, Colombia, Mexico and Peru, while the yield on the U.S. bond decreased from 1.49 to 1.42 percent.

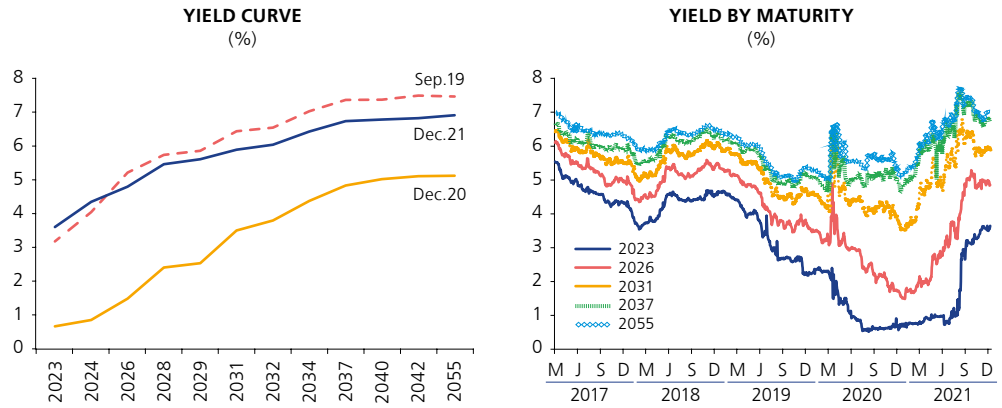
Graph 70
10 YEAR SOVEREIGN BOND YIELDS IN LOCAL CURRENCY
(%)



* As of December 13.
Source: MEF and Reuters.

The yield curve of the Public Treasury Bond (BTP) shows an average reduction of 36 basis points in the fourth quarter, mainly in the medium and long tranche, while the yield rates in the short tranche (BTP 2023 and 2024) have risen by 42 and 31 basis points, respectively, a rise associated with the increase in the BCRP reference rate by 150 basis points and due to short-term inflationary expectations. Thus, the spread between nominal BTP bonds and the VAC bonds –Constant Acquisitive Value (VAC)– at 10-year term has increased from 2.46 to 2.67 percent between September and December 2021.

Graph 71



* As of December 13.
Source: MEF

In the fourth quarter of 2021, the Peruvian government made the first placement of bonds in the international market in two tranches of US$ 4 billion and €1 billion. Of the placement in dollars, US$ 3,250 million corresponded to the first placement of sustainable bonds, while the placement in euros corresponded to that of a social bond. The bond proceeds will be used for projects classified as sustainable, social and green under the Sustainable Bond Framework approved by Ministerial Resolution N° 221-2021-EF/52.

First, on October 28, 2021, the government announced the placement of three bonds totaling US$4 billion maturing in 2034, 2051, and 2072; those maturing in the years 2034 and 2072 are sustainable[34] and the one maturing in 2051 corresponds to a reopening, which got coupon rates of 3.00, 3.55 and 3.60 percent, respectively, and spreads similar to the bonds sold in March 2021 but higher than those placed in November 2020. Demand at the auction was US$ 10 billion, and came from investors in the United States (64 percent), Europe and Africa (30 percent), Latin America (5 percent), and Asia (1 percent). The 2051 global bond (reopened) was placed above par and the 2034 and 2072 bonds were sold below par.

Second, on November 10, 2021, the government announced a €1 billion social bond[35] maturing in 2036 with a coupon rate of 1.95 percent. The bond was sold below par

34 The proceeds will be used to finance projects and expenditure that generate positive environemntal impacts and promote equitable and quality access to health, housing, and education services.

35 The proceeds from the sale of the social bonds will be used for social spending related to the support of vulnerable groups and individuals, promoting access to affordable housing, education, and essential health services. These bonds will also provide support to micro, small and medium-sized enterprises (MSMEs) and to social programs to alleviate and/or prevent unemployment.

with a yield rate of 2.07 percent and spread over the German 2036 bond of 216 basis points. Demand came from investors in Europe (80 percent), America (14 percent), Asia (2 percent), and other regions (4 percent). With this placement, the global euro-denominated bond yield curve would show an increase from 7.7 to 9.7 years in its average remaining term and the balance would increase from €2,921 million to €3,921 million.

Table 27

PLACEMENT OF GLOBAL BONDS IN THE INTERNATIONAL MARKET

(Million Soles)

	Global 2034	Global 2051	Global 2072	Global 2036
Auction Date	28-Oct-21	28-Oct-21	28-Oct-21	10-Nov-21
Date of issue	2-Nov-21	2-Nov-21	2-Nov-21	17-Nov-21
Date of expiration	15-Jan-34	10-Mar-51	15-Jan-72	17-Nov-36
Time	12 years	30 years	50 years	15 years
Type	Sustainable		Sustainable	Social
Currency	US Dollars	US Dollars	US Dollars	Euros
Amount	$2,250	$750	$1,000	$1,000
Cupon rate	3.00	3.55	3.60	1.95
Price	99.165	101.448	96.173	98.453
Yield	3.082	3.47	3.770	2.071
Spread over the benchmark	150	150	180	216
Credit Rating				
Moodys			Baa1	
Fitch			BBB	
S&P			BBB+	

	Global 2034	Global 2051	Global 2072	Global 2036
Guide Rate *	Treasury+ 155bp.	Treasury+ 155bp.	Treasury+ 185bp.	Mid Swap+ 175bp.
Treasury rate / Germany	1.58	1.96	1.98	-0.09
Global Bond Rate US Dollars	3.18	3.41	3.44	
Global Bond Rate Euros				1.34
Sovereign Bond Rate	6.54	7.05		
Spread over the benchmark	150	150	180	216

* The initial guide rate or Initial Price Talk (IPT) is the rate that the issuer considers that investors should offer. It is the maximum rate that the issuer is willing to pay. It can be expressed as a rate or an spread.
Source: MEF and Reuters.

When we compare the rates of sustainable and social bonds placed in the international market during the fourth quarter by the Peruvian government with the rates of global bonds of other countries and secondary market rates in dollars and euros at similar maturities, we find that: (i) the spread of the Peruvian bond rate (with respect to the US Treasury bond) in dollars maturing in 2034 is higher than the spread of Chile's sustainable bonds, due to Chile's better credit rating; (ii) on the other hand, in the case of the spread of the Peruvian bond maturing in 2051, the spread of the Chilean bond is 138 basis points lower, while the spreads of Colombia and Mexico's bonds are higher (none of the latter bonds have the sustainable feature); (iii) the Peruvian bond maturing in 2072 trades with a spread below the Mexican bond, but higher than the spread of the Chilean sustainable bond issued in September 2021, and (iv) finally, the Peruvian Euro bond maturing in 2036 trades with a spread above the Chilean and German bonds, although with a lower yield rate than the Russian bond (with a similar credit rating).

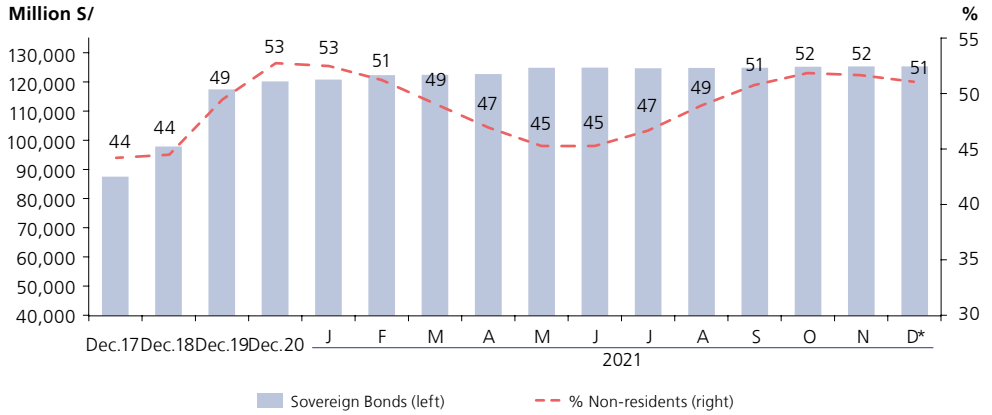
Table 28
YIELDS ON SECONDARY MARKET
(In millions)

	Yield	Spread	Rating	Type
Yields on US Dollars up to 12 years				
Chile 2032	2.60	102	A-	Sustainable
Chile 2033	2.77	119	A-	Sustainable
Peru 2034	**3.08**	**150**	**BBB**	**Sustainable**
Yields on US Dollars up to 30 years				
Colombia 2051	4.87	291	BBB-	Conventional
Mexico 2051	4.21	225	BBB-	Conventional
Chile 2053	3.34	138	A-	Sustainable
Peru 2051	**3.47**	**150**	**BBB**	**Conventional**
Yields on US Dollars up to 50 years				
Mexico 2071	4.21	223	BBB-	Conventional
Chile 2071	3.52	155	A-	Sustainable
Peru 2072	**3.77**	**180**	**BBB**	**Sustainable**
Yields on Euros up to 15 years				
Russia 2036	2.43	253	BBB	Conventional
Serbia 2036	2.53	262	A-	Conventional
Chile 2036	1.39	148	A-	Social
Mexico 2036	2.40	249	BBB-	Social
Peru 2036	**2.07**	**216**	**BBB**	**Social**

* The rating corresponds to the rating company Fitch.
Source: MEF and Reuters.

The balance of fixed-rate nominal sovereign bonds amounted to S/ 125.2 billion as of December 15, 2021. Non-resident investors increased their holdings of sovereign bonds by S/ 628 million between September and December 2021, but these holdings as a percentage of the total balance remained at 51 percent.

Graph 72
SOVEREIGN BOND BALANCE AND PARTICIPATION OF NON-RESIDENT INVESTORS
(Amounts in millions of soles and participation in %)



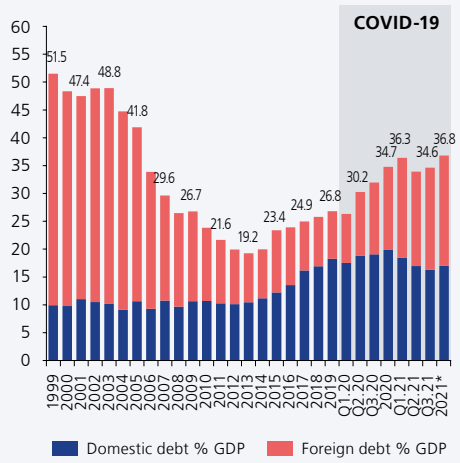
* As of December 15.
Note: Until February excludes inflation-indexed bonds and GDN and transactions in Euroclear of non-residents. From March, it includes nominal sovereign bonds and VAC and GDN is excluded.
Source: BCRP, CAVALI, MEF, and SBS.

Box 5
EVOLUTION AND RECOMPOSITION OF THE PUBLIC DEBT

As of September 2021, the gross debt of the non-financial public sector (NFPS) is estimated to represent 34.6 percent of GDP. It is also estimated that, by the end of 2021, it could represent up to 36.8 percent of GDP, a ratio 2.1 and 10.0 percentage points higher than in 2020 and 2019, respectively. This is associated with the context of the COVID-19 pandemic, which has generated higher expenditures and affected fiscal revenues, with the consequent impact on financing requirements, as well as with the increase in the exchange rate.

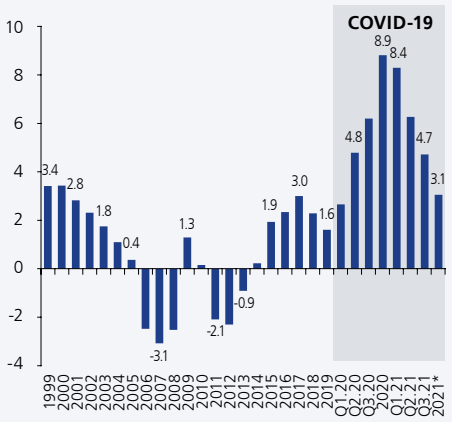
Not only has there been a change in the debt ratio, but also a change in the structure of debt indicators. Thus, for example, the percentage of debt in foreign currency would rise from 31.8 to 54.1 percent of total debt between 2019 and 2021, while the percentage of debt at floating rate would rise from 6.2 to 11.0 percent of total debt. This would imply greater vulnerability and exposure to foreign exchange- and interest rate-related risks. On the other hand, the Ministry of Economy and Finance (MEF) reported that the average maturity of the NFPS debt has increased from 12.2 to 12.8 years between 2019 and September 2021.

Non-financial public sector debt
(% GDP)



* Forecast.

Non-financial public sector fiscal deficit
(% GDP)



Evolution of the non-financial public sector debt

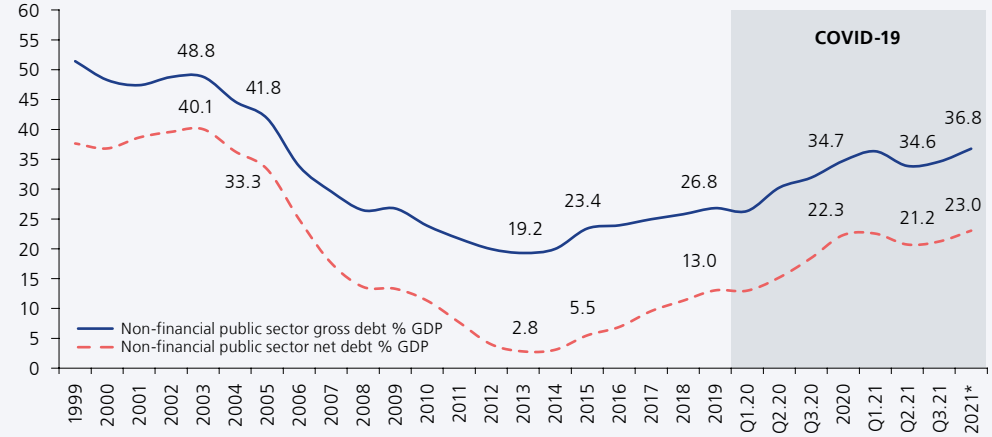
The NFPS debt declined significantly between 1999 and 2019 (from 51.5 to 26.8 percent of GDP). During this period, domestic debt became more important, increasing from 15.8 to 68.2 percent of the total NFPS debt. The largest reduction in total debt occurred between 2003 and 2013 –when it decreased from 48.8 to 19.2 percent of GDP– due to high GDP growth rates and fiscal surpluses (with the exception of the years of the global financial crisis), and then came to represent 26.8 percent of GDP in 2019 as fiscal deficits and lower GDP growth rates were recorded.

From 2003 to 2013, the external debt decreased from 38.7 to 8.8 percent of GDP, a result that, in addition to the effect of the country's improved macroeconomic conditions, reflects the decision of the economic authorities to promote the development of a fixed-rate sovereign bond market

in the domestic currency. In this period, external credits decreased from 29.1 to 3.9 percent of GDP (in part as a result of debt management operations which included the prepayment of debt with multilateral organizations, financed with issuances of fixed-rate bonds), while global bonds decreased from 9.6 to 4.9 percent of GDP (in part as a result of the promotion of the sovereign bond market).

The fiscal surpluses recorded during 2003 and 2013, a period in which NFPS gross debt decreased by 29.6 percentage points of GDP, allowed the accumulation of assets, so the reduction in NFPS net debt was equivalent to 37.3 percentage points of GDP, higher than the reduction in gross debt, reaching its lowest level in 2013 (2.8 percent of GDP).

NON-FINANCIAL PUBLIC SECTOR GROSS AND NET DEBT
(% GDP)

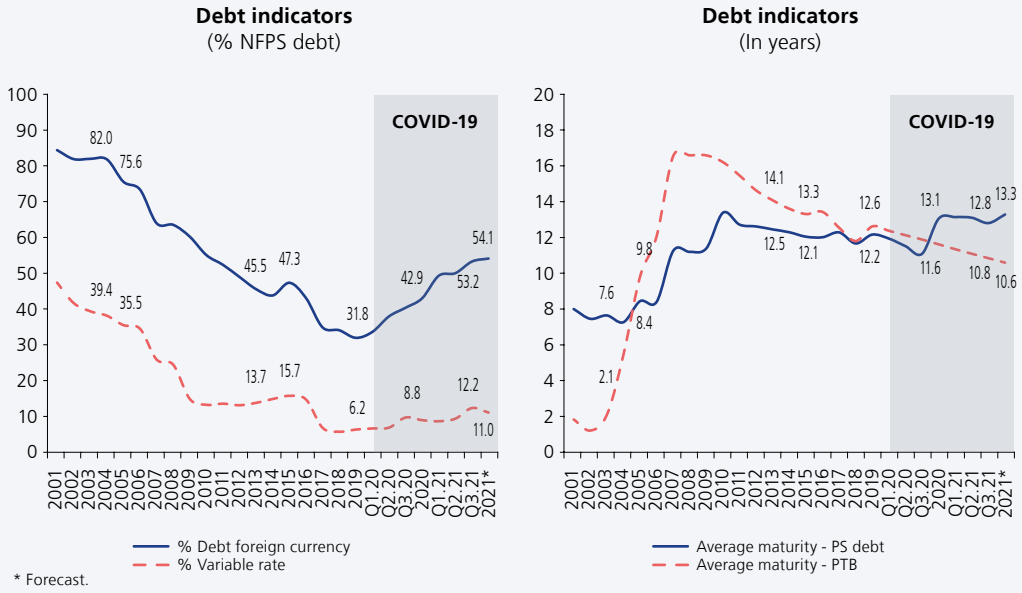


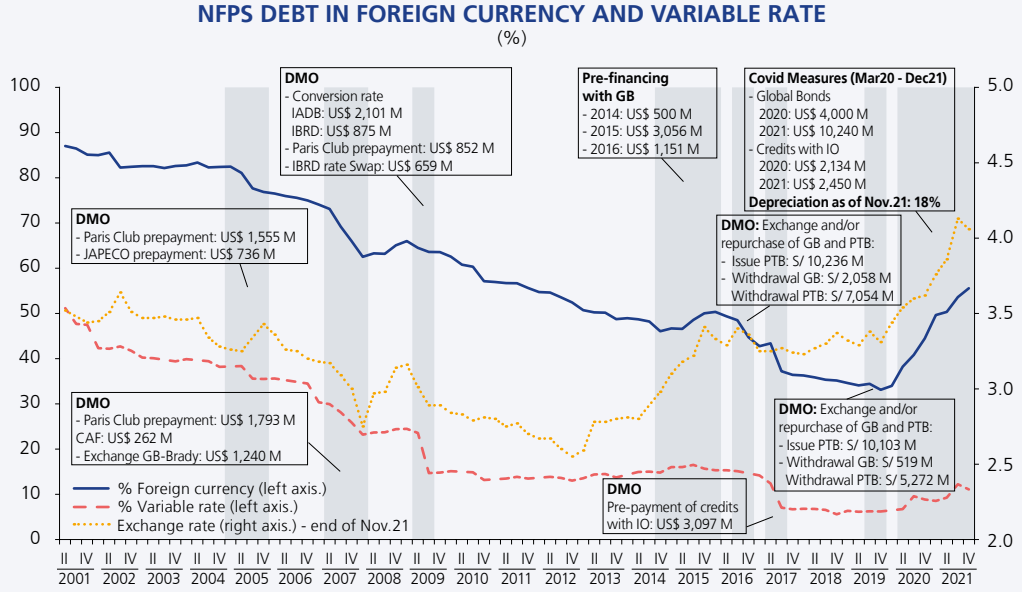
* Forecast.

As a result of this management of assets and liabilities, of the creation of a fixed-rate debt market in local currency, debt management operations (DMO), and the lower level of debt, several debt indicators improved, reflecting a lower level of risk. Between 2003 and 2019, the percentage of debt in foreign currency declined significantly (from 82.0 percent to 31.8 percent), although it showed a slight increase in 2015 due to the issuance of global bonds to prefinance 2016 expenditure and due to the depreciation of the exchange rate in that year.

Similarly, the percentage of variable-rate debt decreased from 39.4 to 6.2 percent due to the development of the sovereign bond and global bond market, as well as due to the DMOs. The largest drops in this indicator were observed in 2009 and 2017 (9.6 and 7.9 percentage points, respectively) as a result of the rate conversion and debt prepayment DMOs. Moreover, as reported by the MEF, the average maturity of public sector debt increased from 7.6 to 12.2 years, in line with the increase in the average maturity of sovereign bonds. The improvement in the indicators, reflected in lower foreign currency debt, lower variable rate debt, and longer average life of debt, implied lower exchange rate risk, lower interest rate risk, and lower refinancing risk, respectively.

As mentioned above, these improvements were influenced not only by the country's better macroeconomic conditions, but also by the asset and liability management strategy, especially the DMOs, which improved the debt profile and increased the relative share of local currency and fixed-rate debt, and the use of the Euroclear platform.





The COVID-19 pandemic has changed this scenario. COVID-19 and the health emergency measures have generated a contraction in economic activity and a higher fiscal deficit, which imply greater financial requirements and have led to the use of debt operations and the use of NFPS assets. **As a result, the debt increased from 26.8 to 34.6 percent of GDP between 2019 and September 2021**.

In September 2021, external debt represents 18.3 percent of GDP, the increase being explained mainly by financing measures taken due to higher requirements to face COVID-19 and to the effect of the depreciation of the sol. It is worth mentioning that the increase in net debt in 2020 was 9.3 percentage points of GDP, higher than the increase in gross debt (7.9 percentage points of GDP), because assets were also used to finance the deficit, particularly resources from the Fiscal Stabilization Fund (FSF), freely available funds, balance sheet balances, funds and intangible deposits.

Between 2019 and September 2021, the percentage of foreign currency debt increased from 31.8 to 53.2 percent, this being explained by global bond issues, loan disbursements with international organizations, and the depreciation of the sol (24.8 percent). Moreover, the percentage of variable rate debt increased from 6.2 to 12.2 percent, as a result of loan disbursements with international organizations –agreed at the 3-month or 6-month Libor rate– as well as due to the aforementioned depreciation of the sol. The average maturity of public sector debt increased from 12.2 to 12.8 years, due to the issuance of new securities in US dollars with maturity terms of 20, 30, 40, and 100 years, while the average maturity term of sovereign bonds decreased from 12.6 to 10.8 years due to the fact that no new issues.

On October 28, the MEF authorized the issuance of external bonds for up to the equivalent of US$ 4 billion and on November 10, it authorized the issuance of up to US$ 1 billion. Two new 12-year and 50-year bonds in US dollars were issued and the reopening of 2051 global bond was authorized on November 2, while a new 15-year bond in euros was issued on November 17.

After these operations, it is estimated that the debt at the end of 2021 would amount to 36.8 percent of GDP, a ratio 10.0 percentage points of GDP higher than in 2019 and 2.1 percentage points of GDP higher than in 2020. The increase in net debt between 2020 and 2021 (0.7 percentage points of GDP) would be lower than that of gross debt, due to the fact that part of the last issuance of global bonds will be used to prefinance 2022 operations, thus temporarily accumulating assets.

Furthermore, external debt and the amount of global bonds by the end of the year are estimated to represent 19.8 and 14.8 percent of GDP, respectively, which is explained by the issuance of global bonds in November. By the end of 2021, the percentage of debt in foreign currency and debt at a floating rate are estimated to reach 54.1 percent and 11.0 percent, respectively.

All of this is explained by the financing strategy, which has focused mostly on raising funds in the external market through issuances of global bonds and credit arrangements with international organizations, in a context of lower demand for bonds in the domestic market, as reflected in institutional investors' sales of their assets. The latter has been the case, for example, of the security sales carried out by the Administrators of Private Pension Funds (AFPs) between 2020 and 2021 –one of the main demanders of these instruments– to face successive withdrawals of pension funds after their members were allowed to withdraw and use these resources, as well as the sales carried out by non-resident investors in the first half of 2021 due to economic uncertainty and political instability.

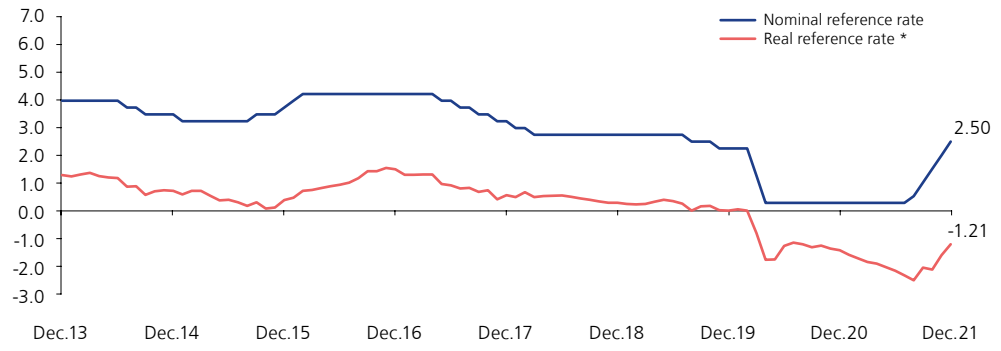
V. Monetary Policy and Financial Conditions

Monetary policy actions

54. After having maintained the benchmark monetary policy interest rate at its historical minimum of 0.25 percent between March 2020 and July 2021. The Board of Directors of BCRP initiated the withdrawal of the monetary stimulus in August 2021. Thus, after raising the benchmark rate by 25 basis points in August and by 50 basis points in September, the BCRP Board decided to increase the monetary policy reference interest rate by 50 basis points each time during the monetary policy sessions held between October and December 2021. As a result of these five rate increases, the benchmark interest rate went from 0.25 percent in July to 2.50 percent in December. These decisions have implied maintaining an expansionary monetary policy stance, since the benchmark real interest rate remains at negative levels (-1.21 percent in December), after having reached a historical low of -2.53 percent in August.

The BCRP Board's decision on the benchmark interest rate was taken in a context in which several central banks in the region have raised their policy rates since March 2021 (See Box 6).

Graph 73
REFERENCE INTEREST RATE
(%)



* With expectation on inflation.

55. The monetary policy decisions of October, November and December 2021 have been made in light of the following factors:

- The twelve-month inflation rate increased from 5.23 percent in September to 5.66 percent in November, standing transitorily above the target range.

- The increase in inflation was explained by the increase in the international prices of food inputs (grains) and fuels, as well as the exchange rate.

- Twelve-month inflation excluding food and energy was within the target range.

- Inflation is projected to return to the target range in the second half of 2022 due to the reversal of the effect of transitory factors on the inflation rate and because economic activity will still continue to be below its potential level.

- Twelve-month inflation expectations increased from 3.6 percent in September to 3.7 percent in November and expectations of inflation in 2022 stand at 3.5 percent, above the upper limit of the inflation target range.

- Most indicators of economic expectations improved in September and October, but showed a deterioration in November and some stand on the pessimistic range in this month.

- World economic activity has been recovering, albeit at a slower pace than expected due to flare-ups of COVID-19 infections and the emergence of new variants as well as due to bottlenecks in the global supply of goods and services. Economic recovery is expected to continue in the coming quarters as progress is made in vaccination in the world and significant fiscal stimulus programs in developed countries continue.

56. The Board's decision on the reference interest rate takes into account inflation projections and its determinants, such as the evolution of the output gap, changes in international prices, the exchange rate, and supply factors, such as changes in relative food prices, which may affect economic agents' expectations[36]. When inflation responds to significant and persistent supply shocks, economic agents may begin to give greater weight to past inflation data as a predictor of future inflation. Therefore, central banks' monetary policy actions should seek to prevent inflation expectations from deviating from their target range, as this could turn a temporary rise in inflation into a more prolonged process.

36 Inflation expectations refer to the rate at which economic agents expect the price level of an economy to increase. The lower and more stable these expectations are, the better price and wage decisions can be made by firms and households. Therefore, it is key for monetary policy that inflation expectations are within the Central Bank's inflation target range.

57. In its meetings of October, November and December, the Board of Directors also decided to modify the interest rates on BCRP window facilities operations in domestic currency with financial entities, the current rates being the following:

    i. Overnight deposits: 1.85 percent per year.

    ii. Direct security/currency repo and rediscount operations: 3.0 percent per year.

    Given that window operations should be operations of last resort and that financial institutions should preferably channel their liquidity surpluses through the interbank market, the (lower and upper) limits of this corridor should induce financial institutions to do so.

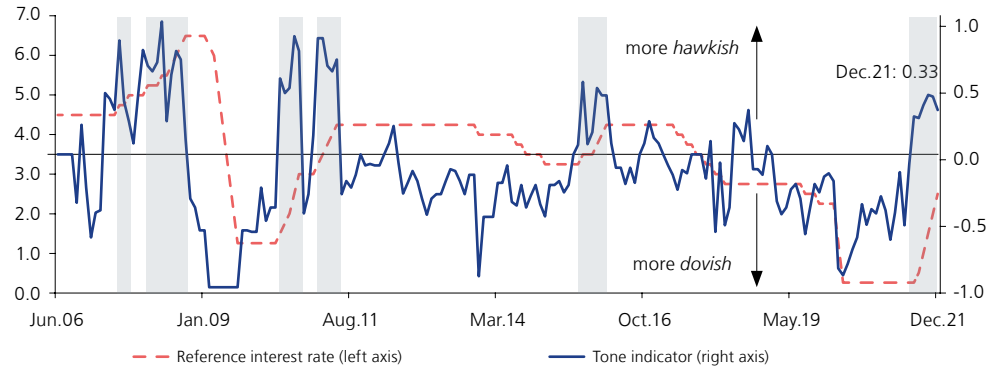
58. In terms of communication regarding the increase in the benchmark interest rate, the BCRP Board of Directors has pointed out since September that "*The current decision does not necessarily imply a cycle of successive increases in the reference interest rate*" (Monetary Policy Statement, September). Likewise, as in previous months, the Board has emphasized in its Statements that it *"is especially attentive to new information referring to inflation expectations and the evolution of economic activity to consider, if necessary, changes in the monetary policy position*".

    In addition, as from October, the Board's Policy Statement also says that "*Based on the available information, the Board sees the convenience of maintaining an expansionary stance for an extended period through a gradual withdrawal of monetary stimulus"*. This is known in economic literature as forward guidance, a guide to the future course of monetary policy, which is conditional on the state of the economy.

    Likewise, it says that "*BCRP will continue to take the necessary steps to sustain the payments system and credit flows"* and reiterates that "*financial markets showed high volatility in a context of uncertainty, with BCRP policies aiming at mitigating it"*.

59. As for the tone of monetary policy communication, the tone indicator used by BCRP during the year shows a stance of withdrawal of monetary stimulus since July, one month before the August interest rate increase. The tone in the monetary policy statement also shows a more favorable stance to the withdrawal of monetary stimulus in the following months.

Graph 74
REFERENCE INTEREST RATE AND MONETARY POLICY TONE INDICATOR*
(% and index value)

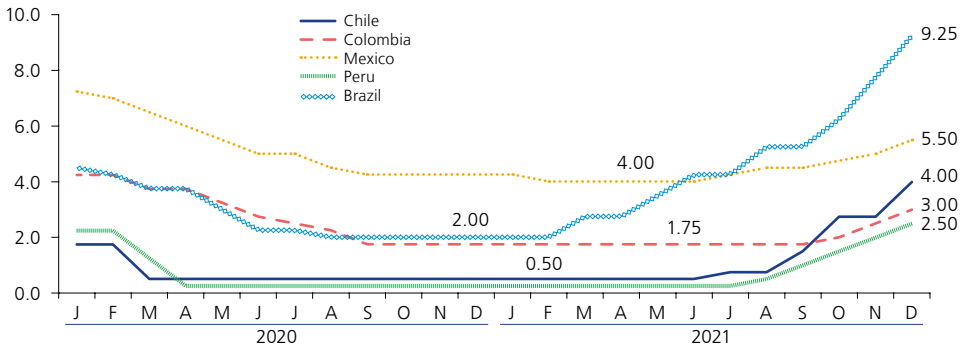


* For the monetary policy tone indicator, the positive values of the index mean a tone in favor of a contractionary position (hawkish), while negative values imply communication with an expansive position (dovish). Shaded areas correspond to periods of rising interest rates.

60. Peru's monetary policy differs from that of other economies in the region where the transition to a less expansionary stance has been more accelerated, in a context of inflationary pressures and a faster recovery of economic activity than initially expected. In fact, Peru's monetary policy interest rate of 2.50 percent is one of the lowest in the region.

The monetary stimulus withdrawal stance of central banks in the region has been reflected in the forward guidance incorporated in their monetary policy communiqués.

Graph 75
MONETARY POLICY INTEREST RATE IN LATIN AMERICA: DECEMBER 2021
(%)



As of December 17, 2021.
Source: Central banks.

In the United States, although the Fed policy interest rate remains at minimum levels, on November 3 the Fed announced that it would begin a reduction in the pace of expansion of its balance sheet in that month, with lower purchases of financial assets (reducing them from US$ 120 billion to US$ 105 billion since mid-November and to

US$ 90 billion since December). In addition, on December 15 it announced that the pace of purchases would continue to be reduced as of January 2022 by US$ 30 billion (i.e. to US$ 60 billion that month). If this reduction is maintained in the following months, the Fed's financial asset purchase program would end at the end of the first quarter of 2022 (as a result, the size of the balance sheet would cease to increase from then on).

Table 29

FORWARD GUIDANCE OF CENTRAL BANKS 1/

Central Bank	Date	MPR (%)	Decision	Forward Guidance	Next meeting
Federal Reserve	Dec 15, 2021	0,25	Keep	The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, the Committee decided to keep the target range for the federal funds rate at 0 to 1/4 percent. With inflation having exceeded 2 percent for some time, the Committee expects it will be appropriate to maintain this target range until labor market conditions have reached levels consistent with the Committee's assessments of maximum employment. In light of inflation developments and the further improvement in the labor market, the Committee decided to reduce the monthly pace of its net asset purchases by $20 billion for Treasury securities and $10 billion for agency mortgage-backed securities. Beginning in January, the Committee will increase its holdings of Treasury securities by at least $40 billion per month and of agency mortgage-backed securities by at least $20 billion per month. The Committee judges that similar reductions in the pace of net asset purchases will likely be appropriate each month, but it is prepared to adjust the pace of purchases if warranted by changes in the economic outlook.	Jan 26, 2022
European Central Bank	Dec 16, 2021	0,00	Keep	In support of its symmetric 2% inflation target and in line with its monetary policy strategy, the Governing Council expects the key ECB interest rates to remain at their present or lower levels until it sees inflation reaching 2% well ahead of the end of its projection horizon and durably for the rest of the projection horizon, and it judges that realised progress in underlying inflation is sufficiently advanced to be consistent with inflation stabilising at 2% over the medium term. This may also imply a transitory period in which inflation is moderately above target.	Feb 3, 2022
Bank of England	Dec 16, 2021	0,25	+15 bps	The MPC's remit is clear that the inflation target applies at all times, reflecting the primacy of price stability in the UK monetary policy framework. The framework also recognises that there will be occasions when inflation will depart from the target as a result of shocks and disturbances. In the recent unprecedented circumstances, the economy has been subject to very large shocks. Nevertheless, near-term uncertainties remain, especially around the outlook for the labour market, and the extent to which domestic cost and price pressures persist into the medium term.	Feb 3, 2022
Bank of Japan	Dec 17, 2021	-0,10	Keep	The Bank will continue with Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control, aiming to achieve the price stability target of 2 percent, as long as it is necessary for maintaining that target in a stable manner. It will continue expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds 2 percent and stays above the target in a stable manner.	Jan 17, 2022
Bank of Canada	Dec 8, 2021	0,25	Keep	The Governing Council judges that in view of ongoing excess capacity, the economy continues to require considerable monetary policy support. We remain committed to holding the policy interest rate at the effective lower bound until economic slack is absorbed so that the 2 percent inflation target is sustainably achieved. In the Bank's October projection, this happens sometime in the middle quarters of 2022. We will provide the appropriate degree of monetary policy stimulus to support the recovery and achieve the inflation target.	Jan 26, 2022
Banco Central do Brasil	Dec 8, 2021	9,25	+150 bps	The Committee considers that, given the increase in its inflation projections and in the risk of a deanchoring of long-term expectations, it is appropriate to advance the process of monetary tightening significantly into the restrictive territory. The Committee will persist in its strategy until the disinflation process and the expectation anchoring around its targets consolidate. For the next meeting, the Committee foresees another adjustment of the same magnitude. The Copom emphasizes that its future policy steps could be adjusted to ensure the convergence of inflation towards its targets and will depend on the evolution of economic activity, on the balance of risks, and on inflation expectations and projections for the relevant horizon for monetary policy.	Feb 2, 2022
Central Bank of Chile	Dec 14, 2021	4,00	+125 bps	The Board foresees that the MPR will be further increased in the short term, to exceed its nominal neutral level —i.e., the one that is consistent with the 3% inflation target— during much of the monetary policy horizon. This will help the economy to resolve its cumulative imbalances, which have contributed to the fast increase in inflation. This will result in the gradual closing of the activity gap, helping to prevent the recent inflationary dynamics from having a persistent impact on the price formation process.	Jan 26, 2022
Central Bank of Colombia	Dec 17, 2021	3,00	+50 bps	Inflation expectations, both those obtained from surveys and those inferred from the difference between fixed and indexed yields on public debt instruments, have been rising and are currently above the 3.0% target even for the medium term. This increases the risk of inducing indexation processes at higher inflation levels. Finally, the Board of Directors as a whole reiterated its commitment to the 3.0% annual inflation target and reaffirmed that it will continue to adopt the decisions required to ensure the convergence of inflation towards this target.	Jan 28, 2022
Banxico	Dec 16, 2021	5,50	+50 bps	For the next monetary policy decisions, the Board will monitor thoroughly the behavior of inflationary pressures as well as of all factors that have an incidence on the foreseen path for inflation and its expectations. The latter, in order to determine a policy rate that is consistent at all times with the trajectory needed to facilitate the orderly and sustained convergence of headline inflation to the 3% target within the time frame in which monetary policy operates as well as an adequate adjustment of the economy and financial markets.	Feb 10, 2022
Central Reserve Bank of Peru	Dec 9, 2021	2,50	+50 bps	The Board is particularly attentive to new information on inflation expectations and economic activity, with an aim to consider, if necessary, changes in the monetary stance. Based on the available information, the Board sees the convenience of maintaining an expansionary stance for an extended period through a gradual withdrawal of monetary stimulus. The BCRP will continue to take the necessary steps to sustain the payments system and credit flows. In a context of uncertainty, financial volatility persists, with BCRP policies aiming at mitigating it.	Jan 6, 2022

1/ As of December 17.

Additional BCRP actions in response to the COVID-19 pandemic

61. The balance of liquidity injection operations in domestic currency decreased from S/ 58.7 billion at the end of September to S/ 56.6 billion on December 13, mainly due to the amortization of government-guaranteed portfolio repos under the Reactiva Peru program (S/ 3,998 million). This balance of liquidity injection operations is equivalent to 6.7 percent of GDP, of which S/ 39.8 billion corresponds to the amount settled of government-guaranteed credit portfolio repos.

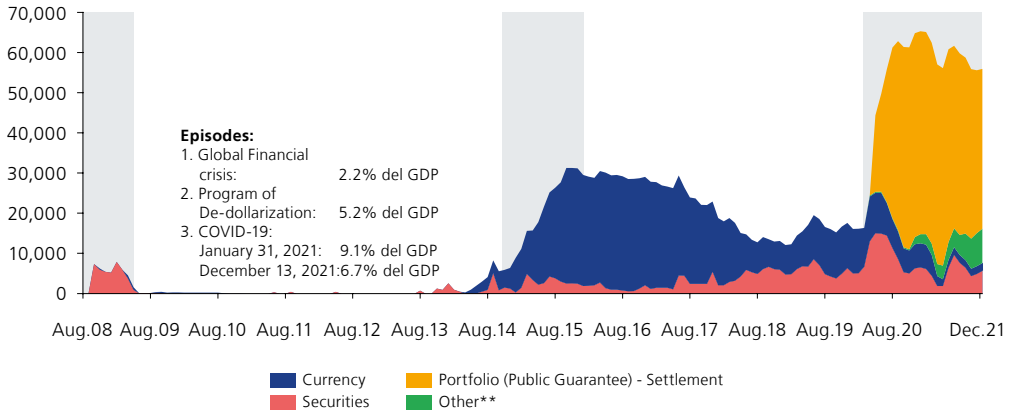
In comparative terms, the total balance of liquidity injection operations is 7.2 times higher than the maximum balance of these operations recorded during the 2008-2009 international financial crisis (S/ 7.9 billion) and 1.8 times the balance reached during the period of falling commodity prices (2013-2016) and the de-dollarization program (S/ 31.8 billion).

Table 30
BALANCE OF INJECTION OPERATIONS OF BCRP
(Million S/)

Episode	Date	Values	Currency (Regular)	Currency (Expansión)	Currency (Sustitución)	Portfolio (Government-backed) - Settlement	Other*	Total
Financial crisis 2008-2009	Oct.08	7,383	300	0	0	0	0	7,683
	Nov.08	5,959	30	0	0	0	0	5,989
	Dec.08	5,412	0	0	0	0	0	5,412
	Jan.09	5,239	0	0	0	0	0	5,239
	Feb.09	7,877	0	0	0	0	0	7,877
	Mar.09	5,989	735	0	0	0	0	6,724
De-dollarization program	Dec.14	1,300	8,600	0	0	0	0	9,900
	Mar.15	4,900	8,600	2,200	1,500	0	0	17,200
	Jun.15	2,631	11,500	5,100	4,305	0	0	23,536
	Sep.15	3,034	16,050	7,900	4,805	0	0	31,789
	Dec.15	2,500	14,900	7,900	4,805	0	0	30,105
COVID-19 crisis	Feb.20	5,100	9,650	0	0	0	0	14,750
	Mar.20	6,675	11,150	0	0	0	0	17,825
	Apr.20	13,015	10,030	0	0	0	250	23,295
	May.20	15,060	10,145	0	0	19,017	260	44,482
	Jun.20	14,947	8,095	0	0	24,338	260	47,640
	Sep.20	8,604	5,895	0	0	47,002	304	61,805
	Dec.20	6,309	5,970	0	0	50,729	1,785	64,793
	Jan.21	6,554	6,030	0	0	50,497	2,258	65,339
	Mar.21	4,454	2,430	0	0	49,907	2,812	59,603
	Jun.21	6,476	1,922	0	0	47,968	4,408	60,774
	Sep.21	6,470	1,842	0	0	43,770	6,590	58,672
	Oct.21	4,383	1,902	0	0	42,283	7,489	56,057
	Nov.21	4,913	1,942	0	0	40,475	8,251	55,581
	Dec.21*	5,663	2,642	0	0	39,772	8,529	56,606

* The item "Others" includes the purchase of Public Treasury bonds, in line with article 61 of the Organic Law of the BCRP, and Repo operations of loan portfolio.
* As of December 15.

Graph 76
BALANCE OF MONETARY INJECTION OPERATIONS OF BCRP*
(In mill. S/)



* As of December 13.
** 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.

62. Moreover, injection operations registered their maximum balance at the end of January 2021. The balance decreased thereafter given that the amortizations of the Reactiva Peru program imply a decrease in the balance of government-secured credit repos. This dynamic has been in part offset by other programs such as loan rescheduling repos and long-term credit expansion repos, in addition to purchases of Treasury bonds. On the other hand, the rescheduling of loans granted under the Reactiva Peru program has served to extend the term of the injection operations.

Table 31
LIQUIDITY INJECTION PROGRAMS
(Billion S/)

Program	Dec.19	Dec.20	Jan.21	Jun.21	Sep.21	Oct.21	Nov.21	Dec.21*
Repos of loans with Government-backed	0	50.7	50.5	48.0	43.8	42.1	40.5	39.8
of which: balance of repos for rescheduling	0	0.0	0.0	0.0	9.2	12.3	13.3	13.3
Credit rescheduling repos	0	0.5	1.1	2.5	4.2	4.8	4.8	4.8
Long-term credit expansion repos	0	0	0.2	0.2	2.2	3.3	4.8	5.2
Purchasing of Public Treasury Bonds	0	1.3	1.3	2.1	2.1	2.1	2.1	2.1
Rest**	17.4	12.2	12.1	8.0	6.3	3.7	3.4	4.7
Total	**17.4**	**64.8**	**65.3**	**60.8**	**58.7**	**56.1**	**55.6**	**56.6**

* As of December 13.
** Regular Repos.

63. As of December 15, 2021, S/ 13.5 billion of the total balance of credit repos guaranteed by the National Government (S/ 39.7 billion) correspond to the loan rescheduling program carried out under the Reactiva Peru program, and established by Emergency Decree No. 026-2021 of March 5, 2021 (as amended). Most of the reprogramming of loan repayments is for loans with a 90 percent government guarantee.

Table 32

BALANCE OF REPOS OF LOANS WITH GOVERNMENT BACKED (REPOGART) *

(In billions soles)

% Guarantee	Government	Banks	Financial entities	CMAC	CRAC	Total
80	Original	9.1	-.-	-.-	-.-	9.1
	Cancelled	4.2	-.-	-.-	-.-	4.2
	Net	4.9	-.-	-.-	-.-	4.9
	Reprogrammed	1.4	-.-	-.-	-.-	1.4
90	Original	23.1	-.-	0.1	-.-	23.2
	Cancelled	5.3	-.-	0.0	-.-	5.3
	Net	17.8	-.-	0.1	-.-	17.9
	Reprogrammed	6.3	-.-	0.0	-.-	6.3
95	Original	12.6	0.0	0.8	0.1	13.5
	Cancelled	1.9	0.0	0.1	0.0	2.0
	Net	10.7	0.0	0.6	0.1	11.5
	Reprogrammed	3.9	-.-	0.1	0.0	4.1
98	Original	4.3	0.2	1.7	0.2	6.4
	Cancelled	0.6	0.1	0.2	0.0	1.0
	Net	3.6	0.2	1.4	0.2	5.4
	Reprogrammed	1.2	0.0	0.5	-.-	1.7
Total	Original	49.1	0.2	2.6	0.3	52.2
	Cancelled	12.0	0.1	0.4	0.0	12.5
	Net	37.0	0.2	2.2	0.3	39.7
	Reprogrammed	12.8	0.0	0.6	0.0	13.5

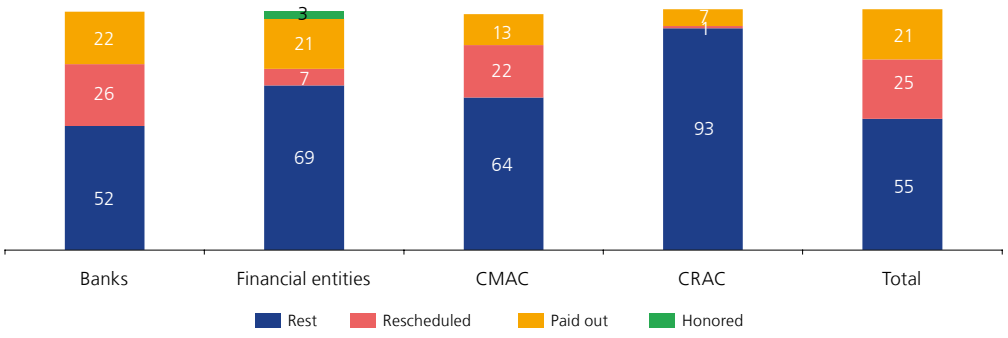
The rescheduling corresponds to the amounts settled and the requests to be settled.
* Information as of December 15.

It is worth mentioning that as of November 24, S/ 7.1 million (equivalent to 0.014 percent of the total original balance of credit repos guaranteed by the National Government) has required the enforcement of the guarantee due to payment defaults by companies that benefited from loans under the Reactiva Peru program.

Graph 77

REPOS COMPOSITION BY REACTIVA PERU PROGRAM PER ENTITY

(In % of total)



As of November 24.

The guarantee has been enforced in government-secured credit repos where credits have 95 percent coverage.

Graph 78
REPOS COMPOSITION BY REACTIVA PERU PROGRAM PER PERCENTAGE OF GUARANTE
(In % of total)

As of November 24.

64. Since July 2020, BCRP has carried out repo operations with rescheduling of credit portfolios through which financial institutions obtained liquidity for the rescheduling of their clients' loans in terms between 6 and 48 months and at interest rates lower than those initially agreed. This program ended on October 5, 2021, after meeting its objective of reducing interest rates and providing liquidity. As of December 13, 2021, the net outstanding balance of rescheduling repos amounted to S/ 4,813 million, of which S/ 4,156 million corresponds to portfolio repos under the alternative scheme and S/ 657 million to security repos.

65. Additionally, BCRP continued placing interest rate swaps (IRS) with maturity terms between 3 and 9 months. These instruments, created in December 2020, are derivative instruments denominated in domestic currency, in which BCRP undertakes to pay a variable interest rate in exchange for the commitment of the participating entity to pay a fixed interest rate. The variable interest rate is equal to the capitalization of the Interbank Overnight Index (ION), while the fixed interest rate is the rate offered by the financial entity in the auction or the interest rate established by BCRP in the direct placement of the IRS. These operations contribute to match the maturities in a context of expectations of rising interest rates, as well as to the development of the swap market in soles. The balance of IRS as of December 13 totaled S/ 21,370 million, of which S/ 2,100 million corresponds to 3-month IRS, S/ 12,550 million to 6-month IRS and S/ 6,520 million to 9-month IRS.

66. Moreover, BCRP instruments included the modality of BCRP Foreign Exchange Swaps Sale (FX Swaps- sale) with fixed interest rate in soles through Circular No. 028-2021-BCRP dated October 6, 2021. The purpose of this modification was to increase the modalities of derivative instruments for foreign exchange intervention, in a context of expectations of increases in the monetary policy benchmark interest rate.

    Unlike the variable rate FX swaps, in which BCRP receives from the participating entity a variable interest rate in soles calculated as the capitalization of the Interbank Overnight Index (ION), in the new modality of FX swaps, BCRP is paid a fixed rate. In both cases BCRP pays the financial entity a fixed interest rate in dollars (variable rate of allocation in the auctions) plus the variation of the exchange rate.

On the other hand, the IRS allow participating entities to hedge their exposure to the ION resulting from the variable rate FX swaps. In this case, the participating entity receives ION in the IRS and pays ION in the VR-FXSwaps given that in the IRS, BCRP receives a fixed interest rate in soles and pays the participating entities a variable interest rate in soles. However, in a context of appetite for VR-FXSwaps, the demand for this foreign exchange instrument was conditioned to the amount of the IRS that participating entities could be awarded in the auctions of the day.

For a participating entity, the fixed rate FX-Swap is equivalent to allocating itself a variable rate FX-Swap and at the same time, directly allocating itself an IRS at the same maturity term.

67. On the other hand, on the monetary sterilization side, BCRP has continued to place variable rate certificates (CDV BCRP). This instrument, which was originally created in 2010, was reactivated on August 18, 2021 for the first time since 2015, to offer financial institutions a hedge against the risk of interest rate increases. As of December 13, the balance of CDV BCRP was S/ 9,997 million.

68. On October 26, 2021, BCRP published Circular No. 031-2021-BCRP, which increased reserve requirements in local currency as of November 2021. The purpose of this modification was to complement the increases in the benchmark interest rate, and thus strengthen monetary control along the same lines as the modification to the reserve requirement regime in local currency that was approved at the end of August 2021.

Thus, the minimum legal reserve requirement was increased to 4.5 percent in November 2021, to 4.75 percent in December 2021, and to 5.0 percent as of January 2022. With this, the rate of reserve requirement will be the maximum between (i) that resulting from applying the reserve requirement rate of the base period (July 2021) to the obligations subject to reserve requirements up to the level of the base period, and a marginal reserve requirement rate of 25 percent on the increase of total obligations subject to reserve requirement with respect to the base period and (ii) the minimum legal reserve corresponding to the evaluation period.

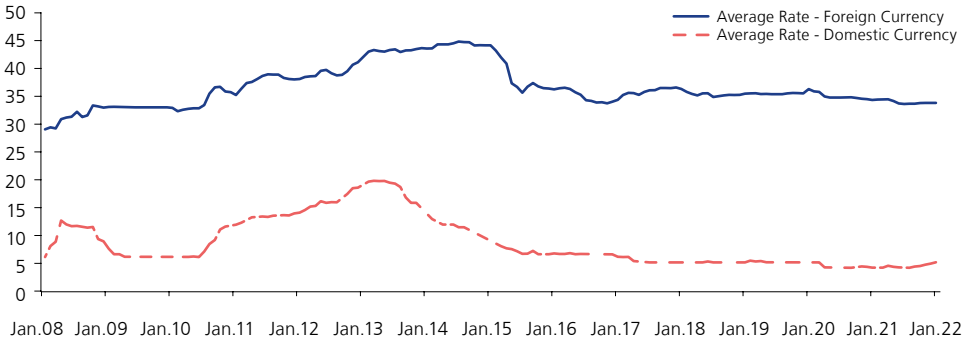
Table 33
INCREASE IN RESERVE REQUIREMENT RATES IN SOLES
(%)

	Aug.21	Sep.21	Oct.21	Nov.21	Dec.21	Jan.22
Minimum legal reserve requirement rate	4.0%	4.0%	4.0%	4.50%	4.75%	5.0%
Minimum reserve requirement rate for current account level	0.75%	0.75%	1.0%	1.0%	1.0%	1.0%
Marginal reserve requirement rate	-	25%	25%	25%	25%	25%
Minimum average reserve requirement rate	4.0%	4.0%	4.25%	-	-	-
Average maximum rate of the General Scheme	-	-	-	6.0%	6.0%	6.0%

Source: BCRP.

In addition, as of November 2021, a maximum average reserve requirement equivalent to 6.0 percent of the flow of obligations subject to reserve requirements for the evaluation period will be in effect. This maximum reserve requirement will allow that a low dispersion is maintained in the average reserve requirement rates among financial institutions.

Graph 79
RESERVE REQUIREMENTS IN DOMESTIC AND FOREIGN CURRENCY
(As % banks' liabilities)

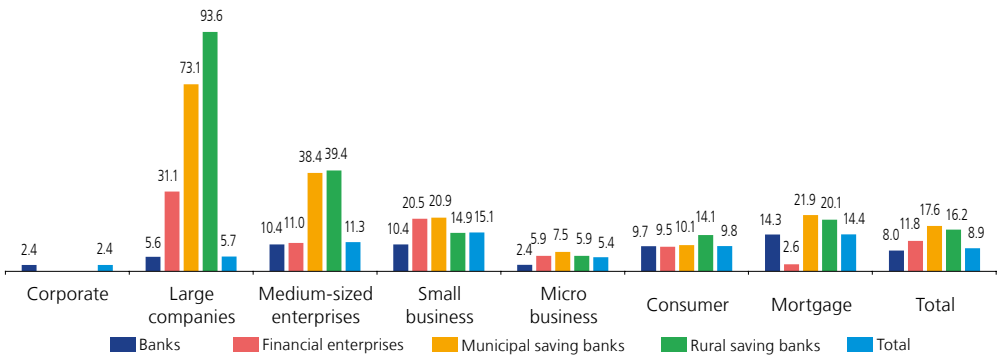


Memo: Estimated data for November 2021, December 2021 and January 2022.

69. The balance of loan rescheduling by depository corporations has continued to decrease. In fact, the total balance of rescheduled loans as of October 2021 is S/ 93 billion lower than that observed in June 2020 (S/ 128 billion, equivalent to 35.6 percent of the portfolio), which is explained by the repayment of rescheduled loans, in line with the reopening of economic activities.

As of October 31, 2021, the depository institutions –banking companies, financial companies, municipal savings banks, and rural savings banks– have rescheduled loans for around S/ 35 billion, which is equivalent to 8.9 percent of the total portfolio of the depository companies. Likewise, as of October 2021, 15.1 percent of the small business portfolio, 5.4 percent of the microbusiness portfolio, and 9.8 percent of the consumer portfolio had been rescheduled. Moreover, entities specializing in microfinance have rescheduled at least 16.0 percent of their portfolios.

Graph 80
RESCHEDULED CREDITS OF DEPOSITARY COMPANIES:1/ OCTOBER 2021
(As % of total credits)



1/ Banks, Financial enterprises, Municipal savings bank and Rural savings banks.
Source: Financial statement of depository companies.

70. In addition to the credit rescheduling channel carried out within the framework of the SBS regulations during the state of emergency, there has also been a rescheduling of

credit under government-guaranteed credit support programs such as Reactiva Peru and FAE MYPE, and also within the framework of government guarantees to rescheduling such as the COVID-19 Guarantee program. Among the latter, the most important are those carried out under the Reactiva Peru program, which represent almost 9 percent of total credit to companies, even more than the balance of rescheduling program developed under the state of emergency.

Table 34
CREDITS RESCHEDULED TO OCTOBER 2021
(% of total credit by segment)

	State of Emergency	Reactiva Peru	FAE Mype	Guarantees Covid and others 1/
Companies	**8.3**	**8.9**	**0.1**	**-.-**
Corporate and large companies	4.6	0.0	-.-	-.-
Medium-sized enterprises	11.1	16.0	0.0	0.0
Small enterprises	15.3	8.8	0.5	0.0
Microbusinesses	5.4	1.8	0.3	0.0
Individuals	**11.5**	**-.-**	**-.-**	**0.1**
Revolving Consumption	15.0	-.-	-.-	0.1
Non-revolving Consumption	8.0	-.-	-.-	0.2
Mortgage	14.3	-.-	-.-	0.0

-.-: The rescheduling doesn't apply to that credit segment.
1/ Law No. 31050
Source: RCC.

71. Among other measures approved by the Executive regarding credit guarantees or loan rescheduling within the framework of support programs for MSEs, Emergency Decree No. 091-2021, dated September 29, extended the term for loan reprogramming within the framework of the Reactiva Peru and FAE MYPE programs until December 31, 2021. In addition, the same decree extended the validity of the rescheduling programs for FAE Agro, FAE Tourism and PAE MYPE until March 31, 2022.

Monetary Operations

72. The **Central Bank's operations** continued to be aimed at ensuring adequate liquidity levels in the interbank market between August and November. To do so, BCRP injected liquidity through the net maturity of BCRP CDs (S/ 18,351 million), time and overnight deposits (S/ 7,474 million), and BCRP CDRs (S/ 4,422 million), as well as through the net liquidation of portfolio repos (S/ 3,287 million) and currency repos (S/ 70 million). These operations were in part offset by the net placement of BCRP CDVs (S/ 8,925 million), the amortization of government secured portfolio repos (S/ 4,688 million), the net maturity of security repos (S/ 2,812 million), and the net maturity of Public Treasury term deposits (S/ 198 million).

With this, the balance of repo transactions went from S/ 57,646 million in August to S/ 53,503 million at the end of November 2021, while the balance of CD BCRP, CDV BCRP and CDR BCRP went from S/ 40,836 million in August to S/ 26,987 million in November.

Table 35

BALANCE OF BCRP MONETARY OPERATIONS

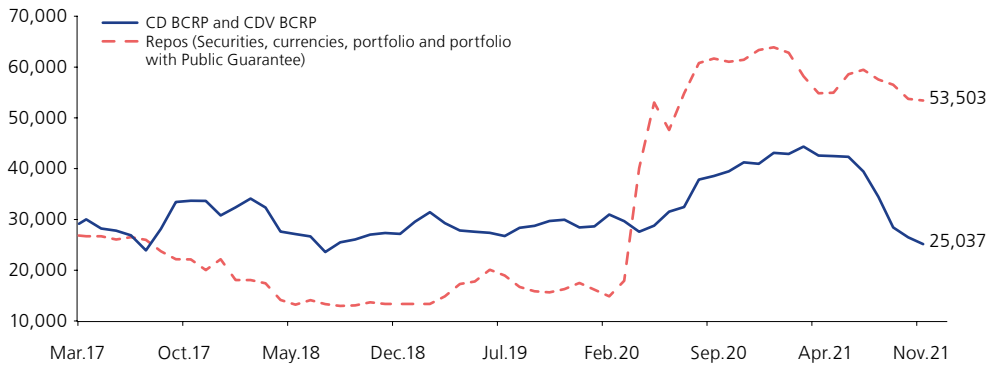
	Balance (Mill. S/)			Average interest rate of the balance (%)		
	Dec.20	Aug.21	Nov.21	Dec.20	Aug.21	Nov.21
Monetary sterilization						
1. CD BCRP	41,067	33,014	14,663	0.74	0.42	0.81
2. CDR BCRP	6,392	6,372	1,950	0.18	0.42	0.57
3. CDV BCRP	-	1,450	10,375	-	-	-
4. Term and overnight deposits	43,714	26,573	19,100	0.23	0.44	1.97
Monetary injection						
5. Currency repos	5,970	1,872	1,942	2.80	1.79	1.82
6. Security repos 1/	6,309	7,725	4,913	1.09	0.61	1.52
7. Portfolio repos	464	2,886	6,173	0.50	0.50	1.16
8. Government-backed portfolio repos *	50,729	45,163	40,475	0.50	0.50	0.50
9. Public Treasury fund auctions	200	4,665	4,467	3.18	0.53	1.83
Memo						
Repos of loans with Government-backed	-	6,445	13,169	0.50	0.50	0.50
Credit rescheduling repos	497	3,285	4,816	0.50	0.51	0.69
- Security repos	34	449	657	0.50	0.53	0.79
- Portfolio repos	463	2,836	4,158	0.50	0.50	0.68
Long-term credit expansion repos	-	295	4,810	-	0.54	1.87
- Security repos	-	245	2,595	-	0.50	1.68
- Portfolio repos	-	50	2,015	-	0.75	2.09
- Currency repos	-	-	200	-	-	2.00
Interest rate swaps	-	3,450	22,470	-	0.82	1.62
FX Swaps-sell (Fixed rate)	-	-	13,479	-	-	0.53
FX Swaps-sell (Variable rate)	8,135	26,430	23,874	0.20	0.32	0.34

* The disbursed amount of the instrument is considered as of November 30, 2021. The rates correspond to the operations Repos with the ESF, and the credits linked have a rate of 1.40 percent.
1/ Not consider the Securities Repo to provide foreign currency.

Graph 81

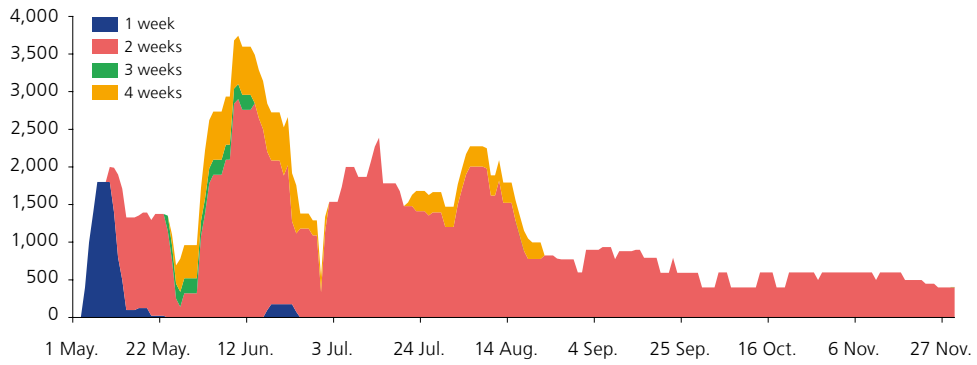
BALANCE OF REPO OPERATIONS, CD BCRP AND CDV BCRP

(Million S/)



As an additional measure to meet liquidity requirements in dollars, in May 2021 BCRP reinitiated security repo operations in exchange for foreign currency, which had previously been carried out in December 2020. The maturity term of these operations was gradually increased from 1 to 4 weeks, and currently, the only term with a positive balance is 2 weeks. Moreover, the balance of these operations has been gradually decreasing in recent months, and as of November 30, 2021, it amounted to US$ 400 million.

Graph 82
BALANCE OF SECUTITY REPOS - FOREIGN CURRENCY*
(Million US$)



* As of November 30.

As of November 30, 2021, the balance of repo operations represented 14.3 percent of the BCRP's net assets, a lower rate than that recorded in August 2021 (15.9 percent). On the side of BCRP liabilities, public sector deposits increased their share from 21.5 percent in August to 26.8 percent in November 2021, whereas BCRP instruments (CDBCRP, CDV BCRP, CDR BCRP, and term and overnight deposits) decreased their share of BCRP net liabilities from 18.6 percent in August to 12.4 percent in November 2021. In addition, current assets decreased their share from 22.2 percent in August to 21.6 percent in November.

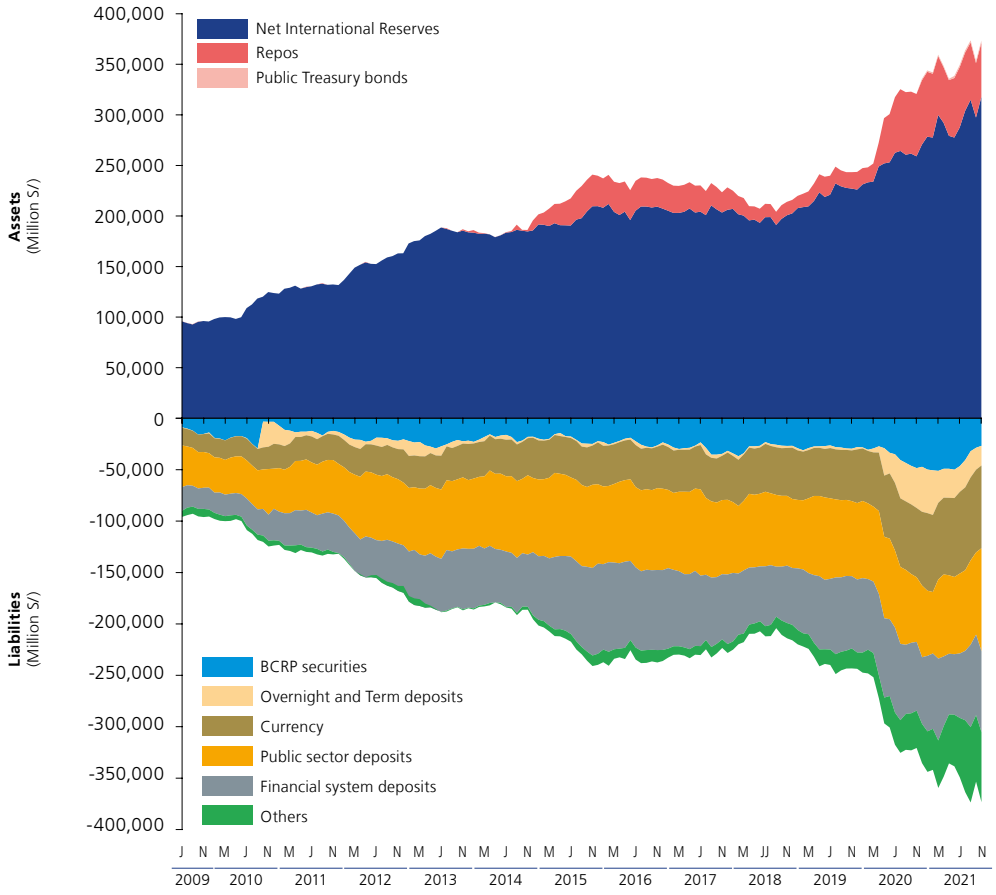
Table 36
SIMPLIFIED BALANCE SHEET OF THE BCRP*
(As % of Net Assets)

	Dec.20	Aug.21	30 Nov.21
I. Net assets	**100%**	**100%**	**100%**
Net International Reserves	**80.7%**	**83.6%**	**85.1%**
	(US$74,706 mills.)	*(US$74,424 mills.)*	*(US$78,218 mills.)*
Repos	**18.9%**	**15.9%**	**14.3%**
Sovereign bonds	**0.4%**	**0.6%**	**0.6%**
II. Net liabilities	**100%**	**100%**	**100%**
1. Total public sector deposits	**20.7%**	**21.5%**	**26.8%**
In domestic currency	17.4%	18.7%	24.7%
In foreign currency	3.3%	2.8%	2.1%
2. Total financial system deposits	**19.3%**	**18.5%**	**21.1%**
In domestic currency	4.3%	3.4%	3.3%
In foreign currency	15.0%	15.1%	17.7%
3. BCRP instruments	**27.2%**	**18.6%**	**12.4%**
CD BCRP	12.3%	9.1%	3.9%
CDV BCRP	0.0%	0.4%	2.8%
CDR BCRP	1.9%	1.8%	0.5%
Term deposits	10.6%	6.1%	4.3%
Overnight deposits	2.4%	1.2%	0.8%
4. Currency	**21.4%**	**22.2%**	**21.6%**
5. Others*	**11.4%**	**19.2%**	**18.2%**

* Includes assets and other accounts.

The result of these operations is reflected in the change in the size and composition of the Central Bank's balance sheet. Thus, as of November 30, 2021, BCRP assets amounted to S/ 373,147 million, a sum equivalent to 44.0 percent of GDP, higher than that observed in 2015 during the de-dollarization program (39.3 percent of GDP). The greater injection of liquidity carried out in recent months is reflected in the growing contribution of repo operations in BCRP assets, mainly in foreign currency assets.

Graph 83
EVOLUTION OF THE BCRP BALANCE SHEET: 2009 - 2021

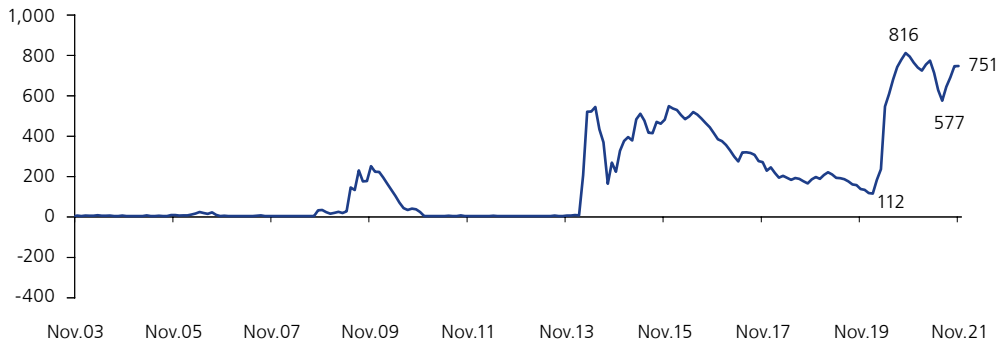


The increased injection of liquidity at longer maturitiy terms is reflected in the higher residual term of these operations after the state of emergency was declared. Placements of government-guaranteed repos with maturity terms of up to 4 years as part of the Reactiva Peru program in 2020 have resulted in an increase in the residual term of the injection operations, from 112 days in February 2020 to a maximum of 816 days in October 2020.

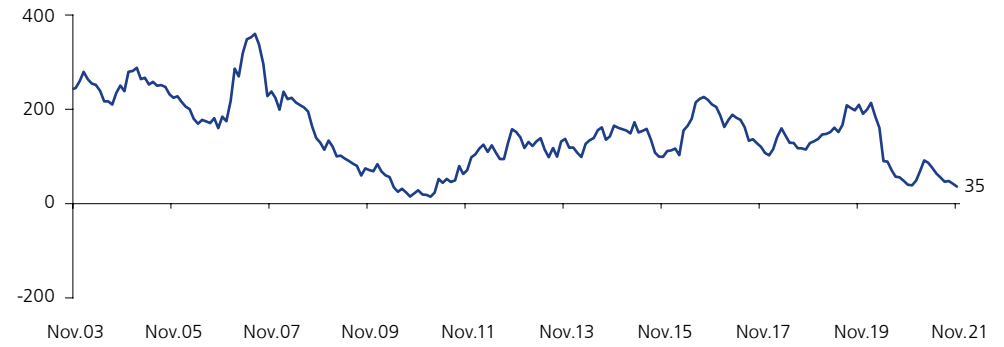
After the completion of the program, the residual term of these operations began to gradually decrease until mid-2021, increasing thereafter again due to higher placements of security and portfolio repos at longer maturity terms (between 1 and 4 years). The latter were associated with the operations conditioned to the expansion of long-term credit and the loan rescheduling established by Reactiva Peru. As a result, the residual term of these operations increased from 577 days in July to 751 days in November 2021.

In addition, BCRP has been conducting liquidity sterilization operations at shorter maturity terms, which have reduced the residual term of sterilization operations from 214 days in February 2020 to 35 days in November 2021.

Graph 84
RESIDUAL TERM OF BCRP INJECTION OPERATIONS
(In days)



Graph 85
RESIDUAL TERM OF BCRP STERILIZATION OPERATIONS
(In days)



Financial markets

73. The interest rates on short-term and lower credit risk operations in soles rose between September and December, influenced by increases in the BCRP monetary policy interest rate and the increase in the average rate of reserve requirements in domestic currency since September. The overnight interbank interest rate immediately converged to the new reference levels (1.50 percent in October, 2.0 percent in November, and 2.50 percent in December). Moreover, corporate prime lending and deposit rates for overnight and twelve-month terms increased by an average of 121 and 104 basis points, respectively, between September and December 2021.

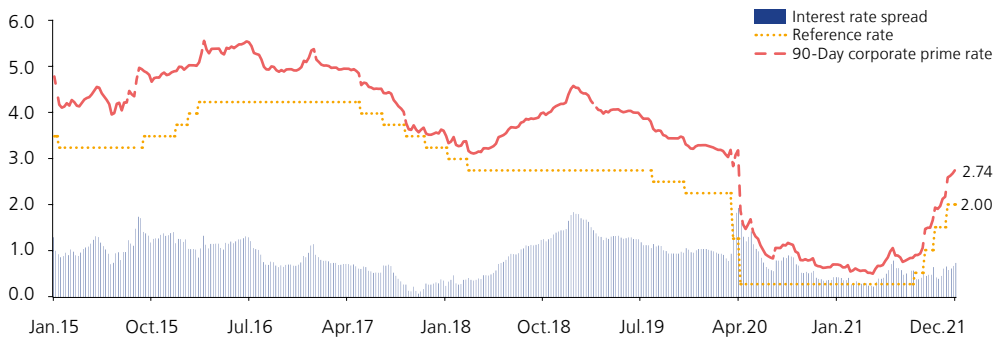
Most of the credit segments showed higher interest rates between September and December 2021, with the rate hikes in consumer loans, and loans for small and large companies standing out. On the other hand, the lowest increase in interest rates with

respect to September was observed in credit for the micro-enterprise sector (37 basis points), which was associated with the adjustment made by some banking entities to comply with the interest rate cap[37].

Rates on deposits also incorporated the impact of the gradual increase in the policy interest rate, but at a slower pace than lending rates. The rates paid to the deposits of individuals are higher in monthly and quarterly terms (14 and 55 basis points, respectively), but show a smaller increase than corporate deposits (28 and 111 basis points in monthly and quarterly terms, respectively). On the other hand, between September and December, the average interest rate of CTS deposits has decreased from 2.9 to 2.1 percent and thus accumulates an increase of 18 basis points in 2021, this being associated with banks' greater competition to capture funds.

It should be pointed out that several studies indicate that the pass-through effect and the speed of adjustment of deposit rates is incomplete, and that this decreases the longer the duration of time deposits. According to Pérez (2021)[38], a high and significant effectiveness of the transmission of monetary policy to the rest of the interest rates of the financial system is estimated during the period between September 2010 and February 2020. Moreover, changes in the policy interest rate are transferred to the rest of the interest rates in a proportion greater than or equal to 0.5, and after 1 year in a range between 0.75 and 1.00, indicating a pass-through effect close to 100 percent.

Graph 86
INTEREST RATE IN S/: 90-DAY CORPORATE PRIME AND REFERENCE RATE
(%)



* As of December 13.
Source: BCRP and SBS.

37 New interest rate caps in local and foreign currency for consumer credit, low-cost consumer credit, and credit for small and micro enterprises came into effect on November 1, 2021. Thus, the rate in soles was updated to 41.8 percent (from the previous level of 41.7 percent), while the new cap in dollars decreased to 33.04 percent (from the previous level of 34.19 percent).

38 Pérez, Fernando, 2021. "Transmisión de la política monetaria a las tasas de interés del sistema financiero," Revista Moneda, Banco Central de Reserva del Perú, N° 186, páginas 4-8.

Table 37

INTEREST RATE IN DOMESTIC CURRENCY 1/

(%)

		Dec.19	Mar.20	Jun.20	Sep.20	Dec.20	Mar.21	Jun.21	Sep.21	Dec.21	Historical average /2
Pasive	90-day corporate prime	2.8	2.3	0.3	0.2	0.2	0.1	0.4	0.9	2.0	3.2
	TIPMN	2.3	2.1	1.4	1.2	1.0	0.9	0.8	0.8	1.0	2.2
	FTIPMN	1.5	1.4	0.2	0.1	0.1	0.1	0.2	0.3	0.9	1.7
	Deposits up to 30-day	2.3	2.0	0.1	0.1	0.0	0.0	0.2	0.4	1.5	2.9
	Individuals	1.6	1.7	0.3	0.1	0.2	0.1	0.2	0.3	0.6	2.3
	Business	2.3	2.0	0.1	0.1	0.0	0.0	0.2	0.4	1.5	2.9
	On 31 to 90-day term deposits	2.7	2.5	0.7	0.2	0.2	0.2	0.4	0.7	1.9	3.2
	Individuals	1.8	1.7	1.1	0.6	0.5	0.4	0.4	0.4	0.8	1.7
	Business	2.8	2.5	0.7	0.2	0.2	0.2	0.4	0.8	2.0	3.3
	On 91 to 180-day term deposits	3.0	2.7	1.0	0.3	0.4	0.3	0.5	1.0	2.2	3.3
	Individuals	2.3	2.2	1.3	0.6	0.5	0.5	0.5	0.5	0.8	2.3
	Business	3.1	2.8	1.0	0.3	0.3	0.2	0.5	1.0	2.3	3.5
	On 91 to 180-day term deposits	3.3	3.0	1.8	1.1	0.7	0.7	0.8	1.6	2.5	3.6
	Individuals	3.3	2.9	2.5	1.6	1.3	1.3	1.4	1.4	2.6	3.5
	Business	3.3	3.1	1.3	0.7	0.4	0.5	0.6	1.6	2.5	3.7
	CTS	2.2	3.7	2.8	3.0	1.9	2.5	2.4	2.9	2.1	3.1
Active	90-day corporate prime	3.3	2.8	0.9	0.8	0.7	0.5	0.9	1.5	2.7	4.0
	TAMN	14.4	13.7	12.2	12.6	12.1	11.2	10.7	10.5	11.0	15.9
	FTMAN	18.2	16.0	8.8	12.5	17.6	18.0	14.7	16.7	20.6	20.0
	Corporates	3.8	3.6	3.0	2.5	2.5	2.2	1.4	2.1	2.8	4.9
	Large companies	6.0	5.9	2.6	4.1	4.6	3.9	3.7	4.2	5.4	6.5
	Medium-sized enterprises	9.3	8.9	3.9	4.2	6.1	8.0	7.3	7.9	8.6	9.7
	Small business	18.0	18.1	4.3	6.2	17.2	18.2	17.6	18.1	19.4	20.0
	Micro business	31.3	32.6	3.8	10.7	30.1	32.8	32.4	31.6	32.0	32.2
	Consumer	40.9	39.3	38.6	38.3	39.5	38.6	38.7	38.8	41.4	41.3
	Mortgage	7.0	6.7	6.8	6.7	6.4	5.9	5.9	6.4	6.9	8.3

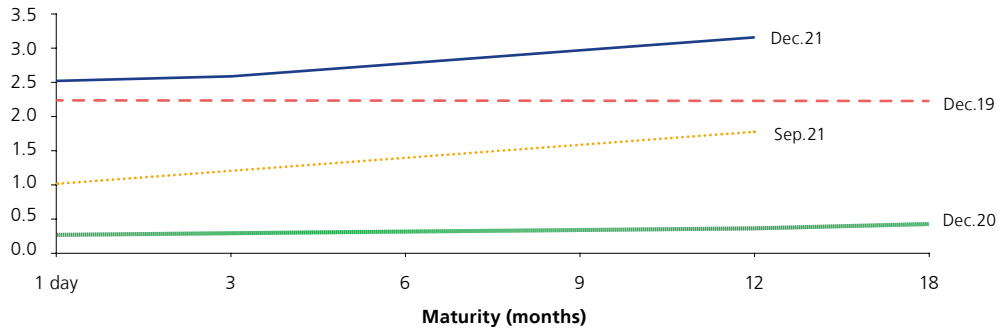
1/ Annual rates for operations in the last 30 working days.
2/ Average since September 2010.
As of December 13.
Source: BCRP and SBS.

74. The yield curve of BCRP securities increased 133 basis points on average between September and December 2021, in line with the 150 basis point increase in the BCRP benchmark rate in the fourth quarter, as well as with expectation of future increases. The rates on 3-month, 6-month, 9-month and 12-month maturities rose by 137, 126, 130, and 138 basis points, respectively.

Graph 87

YIELD CURVE OF CENTRAL BANK SECURITIES 1/

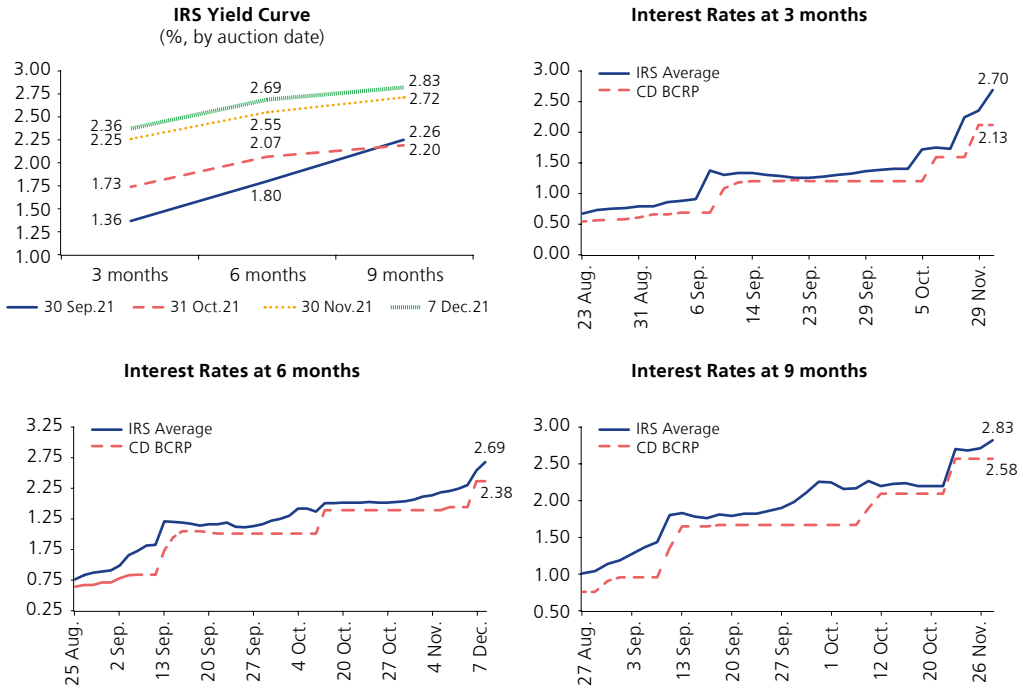
(%)



1/ Yield rate in the primary and secondary market.
As of December 13.
Source: BCRP.

Between August 23 and December 13, 2021, the fixed rates of the Interest Rate Swap (IRS) auctions increased in the 3-month, 6-month and 9-month terms by 205, 194 and 183 basis points, respectively, in line with market expectation of further increases in the benchmark interest rate.

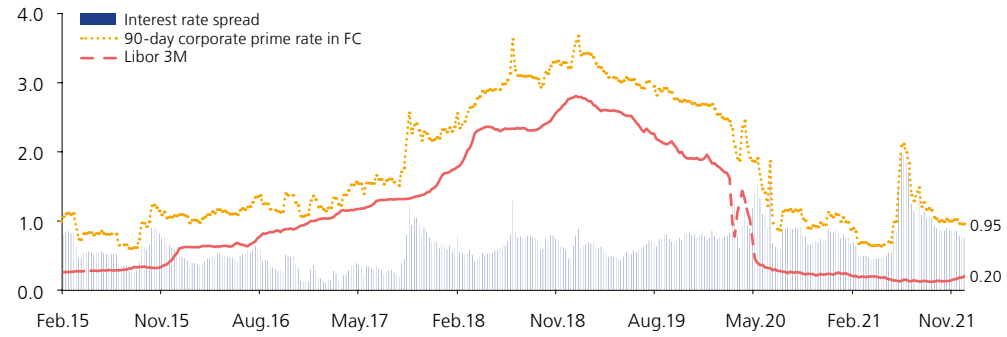
Graph 88
INTEREST RATE SWAP (IRS) RATES 1/
(%)



1/ Average rate of IRS auctions.
As of December 13.
Source: BCRP.

75. On the other hand, between September and December 2021, the interbank interest rate on operations in foreign currency remained at 0.25 percent and the average daily amount traded in the interbank market increased from US$ 115 million in the third quarter to US$ 167 million in the fourth quarter. Similarly, the prime lending rates charged to banks' main customers decreased slightly by an average of 1 basis point for terms between 1 and 6 months, while the prime deposit rates decreased by 5 basis points. The spread between the prime lending rate and the Libor rate decreased from 86 basis points in September to 76 basis points in December 2021, while the spread between the deposit rate and the 3-month Libor rate decreased from 40 to 24 basis points in the fourth quarter. It is worth mentioning that most credit segments showed lower lending rates between September and December, with those for credit to large corporations and mortgages standing out. On the other hand, higher interest rates were observed in the fourth quarter of 2021 in the segments of consumer loans and credit to microbusinesses, characterized by higher risk.

Graph 89
INTERESTRATE IN US$: 90-DAY CORPORATE PRIME AND LIBOR 3-MONTH
(%)



As of December 9.
Source: BCRP and Reuters.

Similarly, deposit rates declined in the fourth quarter. The rates on time deposits, mainly those paid to firms, decreased by an average of 12 basis points between September and December.

Table 38
INTEREST RATE IN FOREIGN CURRENCY 1/
(%)

		Dec.19	Mar.20	Jun.20	Sep.20	Dec.20	Mar.21	Jun.21	Sep.21	Dec.21	Average Hist. /2
Pasive	90-day corporate prime	1.6	0.9	0.2	0.2	0.2	0.1	0.7	0.4	0.3	0.9
	TIPMEX	0.8	0.7	0.5	0.3	0.3	0.2	0.2	0.3	0.2	0.5
	FTIPMEX	1.2	0.8	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.6
	Deposits up to 30-day	1.4	1.0	0.1	0.0	0.1	0.1	0.4	0.3	0.2	0.7
	Individuals	1.3	0.8	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.6
	Business	1.4	1.0	0.1	0.0	0.1	0.1	0.4	0.3	0.2	0.7
	On 31 to 90-day term deposits	1.5	1.2	0.4	0.2	0.3	0.2	0.3	0.3	0.2	0.9
	Individuals	1.0	0.7	0.3	0.1	0.2	0.1	0.2	0.2	0.2	0.6
	Business	1.6	1.3	0.4	0.2	0.3	0.2	0.3	0.3	0.2	1.0
	On 91 to 180-day term deposits	1.3	1.0	0.6	0.3	0.3	0.3	0.4	0.6	0.5	0.9
	Individuals	1.0	0.7	0.5	0.2	0.2	0.2	0.2	0.3	0.3	0.7
	Business	1.6	1.2	0.7	0.3	0.3	0.3	0.5	0.6	0.6	1.1
	On 181 to 360-day term deposits	1.4	1.0	0.8	0.4	0.3	0.3	0.4	0.7	0.6	1.1
	Individuals	1.2	0.8	0.8	0.3	0.3	0.3	0.3	0.4	0.4	1.0
	Business	1.8	1.3	0.9	0.5	0.3	0.3	0.5	0.9	0.7	1.1
Active	CTS	1.3	1.4	1.2	1.1	1.0	1.2	1.2	1.2	0.8	1.5
	90-day corporate prime	2.7	1.9	1.0	0.9	1.0	0.6	2.0	1.0	1.0	1.9
	TAMEX	7.6	6.9	6.6	6.4	6.1	,6.3	6.1	6.7	7.0	7.6
	FTAMEX	7.1	6.2	6.5	5.6	6.3	6.0	5.7	7.8	8.0	7.4
	Corporates	3.2	2.7	2.8	2.3	2.0	1.8	1.6	2.1	2.0	2.9
	Large companies	5.5	4.8	5.2	4.7	4.5	4.3	4.3	5.0	4.3	5.3
	Medium-sized enterprises	6.6	6.7	6.3	6.7	5.9	5.9	5.9	6.1	6.0	7.7
	Small business	8.8	7.7	4.8	6.1	5.3	7.1	9.7	9.4	9.3	11.4
	Micro business	11.0	12.3	15.6	6.9	8.5	4.4	17.6	12.2	12.6	16.3
	Consumer	36.1	36.1	36.6	34.4	35.1	34.7	31.7	34.2	34.9	30.1
	Mortgage	5.6	5.9	6.0	5.9	5.4	5.0	5.2	5.6	5.3	6.9

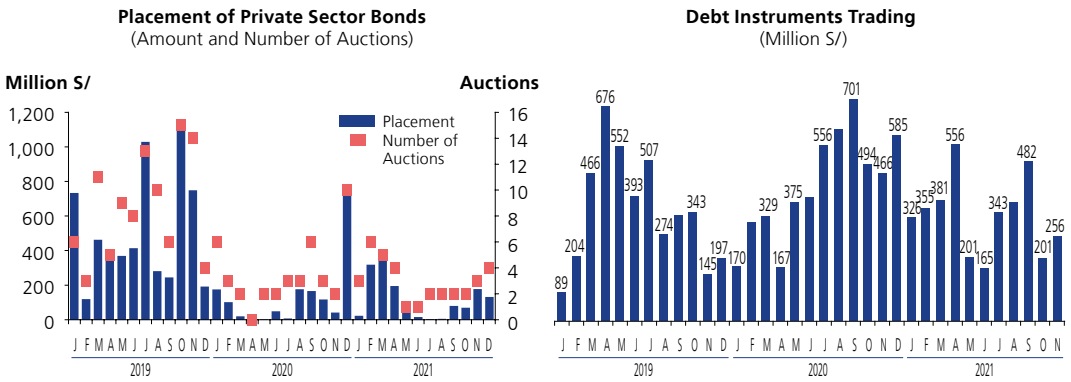
1/ Annual rates for operations in the last 30 working days.
2/ Average since September 2010.
As of December 13.
Source: BCRP and SBS.

Fixed-income market

76. The level of security placements by Peruvian companies in the local and international markets increased in the fourth quarter of 2021, but is still below those observed in the first half of the year, as a result of the increase in the cost of financing in the capital market due to high political uncertainty and to Moody's credit rating reduction in September 2021. Public offerings by private companies in the local market between September and December 2021 amounted to S/ 380 million, a higher sum than in the third quarter (S/ 92 million), but lower than the monthly average recorded in the first quarter. It should be pointed out that six of the nine auctions were bonds in soles at terms of up to twelve months. So far in 2021, the average monthly amount placed has been S/ 121 million, lower than the average in 2019 and 2020 (S/ 509 million and S/ 132 million, respectively).

The trading of debt securities in the secondary market on the Lima Stock Exchange (BVL) during October and November 2021 totaled S/ 457 million. The monthly average traded in 2021 (S/ 331 million) is similar to the average traded in 2019 (S/ 348 million) and below the monthly average traded in 2020 (S/ 429 million).

Graph 90
FIXED INCOME MARKET OF THE PRIVATE SECTOR



Source: SMV.

As for security placements in the foreign market by Peruvian private companies, only one company sold bonds in the foreign market in the fourth quarter of 2021. On October 25, 2021, Minsur placed bonds maturing in 2031 for US$ 500 million. The bond was issued under par with a coupon rate of 4.50 percent and the bond yield (4.75 percent) has a spread over the 10-year U.S. Treasury bond of 312 basis points and 206 basis points over the Peruvian global bond. This placement will finance the repurchase of the bond maturing in February 2024 and the prepayment of the US$ 300 million syndicated loan with Banco Santander and BofA Securities.

In the fourth quarter, international placements by non-resident entities in soles continued and totaled S/ 390 million, a lower sum than in the third quarter (S/ 771 million). In annual terms, the total issued in 2021 (S/ 1,606 million) is lower than the historical maximum level of 2020 (S/ 1,801 million).

The value of the portfolio managed by institutional investors increased slightly in the fourth quarter of 2021. In the case of the AFPs, the investment portfolio increased from S/ 129,169 million to S/ 134,071 million between September 30 and December 8, this increase being associated with the better performance of local securities and the completion of payments related to the extraordinary withdrawal of funds by AFP members approved by Law No. 31192. The annual reduction in the value of the investment portfolio as of December 8 (S/ 30, 803 million), equivalent to an annual drop of 18.7 percent, is the largest since 2018 (18.3 percent). This reduction is explained by lower contributions from affiliates, the liquidation of local and external securities, and a devaluation of the assets comprising the investment portfolio.

It is worth highlighting that the facilities granted by BCRP for the approved withdrawals of pension funds prevented the liquidation of securities in significant amounts in a short period of time from having undesirable impacts on interest rates and on the stability of financial markets. In 2020, the AFPs had access to liquidity from BCRP through repos with Public Treasury Bonds (BTP) to mitigate the withdrawal effect of a total of S/ 6,137 million. Between January and July 2021, direct repos for S/ 6,221 million for a term of 3 months were made at a rate of 0.33 percent. There is currently no outstanding balance of repos with the AFPs.

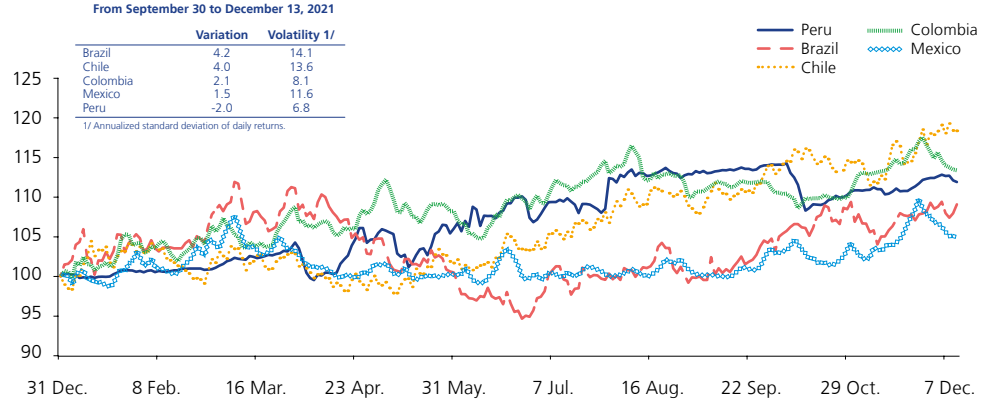
In the case of mutual funds, the assets under management and the number of participants continued to fall, with assets decreasing by 2.6 percent and the number of participants decreasing by 2.7 percent between September and November. Investors maintain their preference for debt funds in an environment of high volatility in the local market. On the other hand, the investment portfolio of insurance companies increased from S/ 51,309 million to S/ 53,762 million between June and September 2021.

Foreign exchange market

77. Upward pressures continued to be observed in the fourth quarter of 2021 due to both domestic and external factors. In October, the exchange rate reached a new historical high (S/ 4.138 per dollar on October 6), driven by the impact of political noise on agents' outlook. This political noise faded temporarily after the change in the ministerial cabinet and, as a result, the sol appreciated considerably and the exchange rate remained relatively stable during the rest of the month. In November, however, the exchange rate was again subject to upward pressure due to announcements of possible nationalizations and problems with mining companies. In addition, risk aversion in the global environment for currencies increased due to fears of global inflationary pressures and stress in supply chains. Another factor playing a role in early December is that fears over the new COVID-19 variant from South Africa and a new call for presidential vacancy have resurfaced.

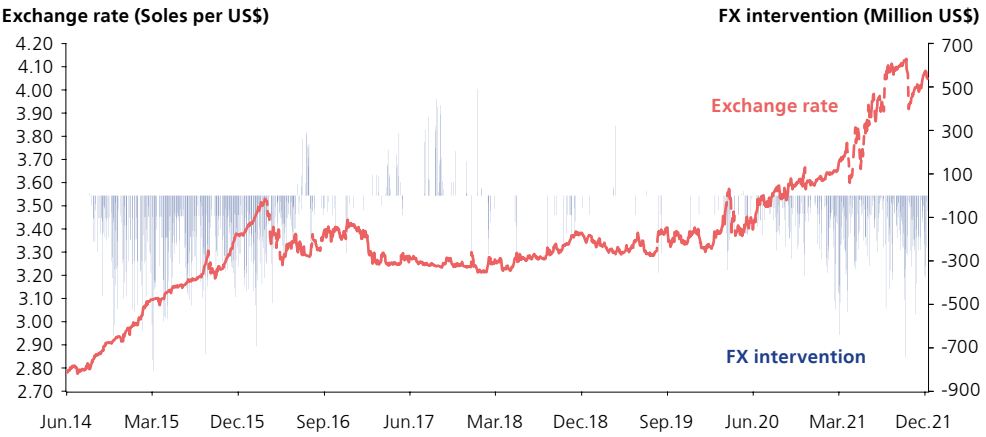
Similarly, Latin American currencies showed increases in their exchange rates between the end of September and December 2021, with the depreciations of the Brazilian and Chilean currencies standing out while the Peruvian sol appreciated 2.0 percent between September 30 and December 13, 2021. Greater political risk in some countries in the region and the mixed performance of commodities have affected the region's currencies differently, which reflects that, although exchange rate volatility in the region is highly synchronized, idiosyncratic factors also explain exchange rate variations (see Box 8).

Graph 91
EXCHANGE RATE INDEX 1/
(Dec 31, 2020=100)



1/ An index increase indicates the depreciation of the currency.
Data as of December 13.
Source: BCRP and Reuters.

Graph 92
EXCHANGE RATE AND FX INTERVENTION 1/



1/ Includes Net purchases of US$ in the spot market and placement of CDLD BCRP, CDR BCRP, and FX swaps.
As of December 13.
Source: BCRP.

In a context of high local and external volatility, BCRP has intervened in the foreign exchange market through the auction of foreign exchange swap sales (FX swap-sale), the placement of Adjustable Certificates of Deposit (CDR BCRP), and through currency sales at the trading desk to minimize volatility in the price of the PEN and thus preserve the stability of the financial system and ensure the proper functioning of markets. Thus, from October to December, FX swaps amounting to S/ 20,590 million (US$ 5,110 million) were placed at terms between 3 and 12 months and, on the other hand, S/ 12,220 million (US$ 3,203 million) matured. As a result, the balance of FX swap sales on December 13 was S/ 37,786 million (US$ 17,309 million), reaching a new historical high on December 2 (S/ 38,367 million). In the case of BCRP CDRs, S/ 1,550 million (US$ 390 million) were placed for terms between 2 and 3 months, and S/ 3,686 million (US$ 908 million) matured, bringing the balance as of December 13 to S/ 1,750 million (US$ 443 million). Additionally, the BCRP sold US$ 1,841 million through the trading desk. The number of days in which foreign exchange intervention actions were carried out in 2021 is at similar levels to those recorded in 2015.

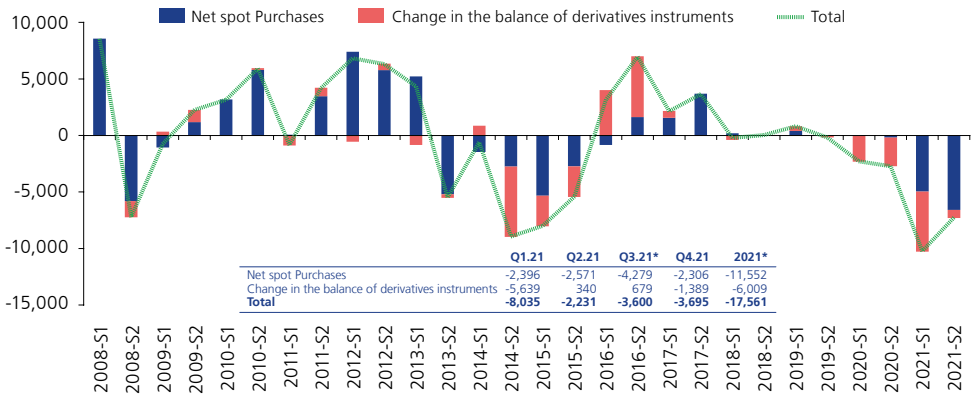
Table 39
NUMBER OF DAYS OF INTERVENTION

	Trading days	Number of intervention days						SD of the Exchange rate (Annual % change)
		Spot market	Placement of derivatives and indexed instruments	Total (spot and/or placement)	% of days with intervention			
					Spot		Total	
2015	248	98	203	207	40%	82%	83%	3.9%
2016	250	50	119	134	20%	48%	54%	7.3%
2017	249	55	26	64	22%	10%	26%	4.5%
2018	245	4	27	30	2%	11%	12%	3.4%
2019	249	4	6	10	2%	2%	4%	4.4%
2020	254	13	97	100	5%	38%	39%	7.4%
2021 1/	237	138	176	198	58%	74%	84%	9.5%

1/ As of December 13.

Year-to-date, BCRP has offered US$ 17.6 billion in the foreign exchange market through sales in the spot market (US$ 11.6 billion) and through net placement of foreign exchange derivatives and BCRP CDRs (US$ 6.0 billion).

Graph 93
FX INTERVENTION OF THE BCRP
(Million US$)

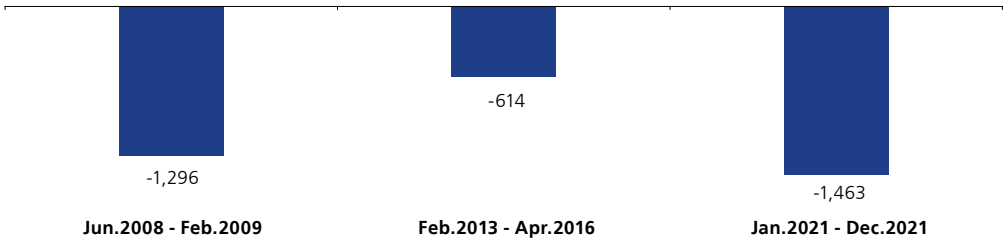


	Q1.21	Q2.21	Q3.21*	Q4.21	2021*
Net spot Purchases	-2,396	-2,571	-4,279	-2,306	-11,552
Change in the balance of derivatives instruments	-5,639	340	679	-1,389	-6,009
Total	**-8,035**	**-2,231**	**-3,600**	**-3,695**	**-17,561**

* As of December 13.
Source: BCRP.

Moreover, the average intervention in the foreign exchange market in this episode of volatility (from January to December 2021), which amounts to US$ 1,463 million, is higher than that observed in the period of the international financial crisis (US$ 1,296 million) and in the period between February 2013 and April 2016 (US$ 614 million).

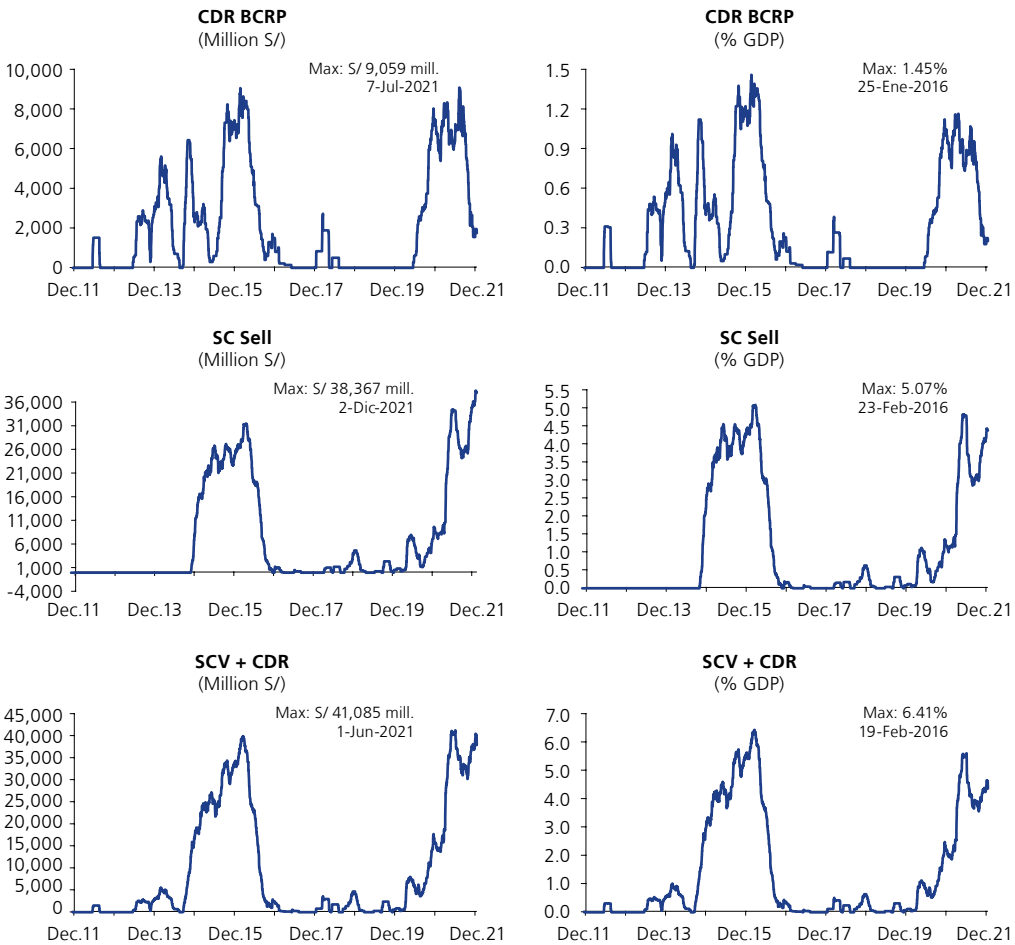
Graph 94
MONTHLY AVERAGE FX INTERVENTION OF THE BCRP
(Million US$)



Includes Net purchases of US$ in the spot market and the gross placement of instruments in the negotiation table.
As of December 13.
Source: BCRP.

The accumulated balance of FX swaps sale and CDR BCRP as of December 13 was S/ 37.8 billion (4.3 percent of GDP). The increase in the average maturity terms of the instruments was associated with the demand for hedging over a longer horizon. Thus, in the case of FX swaps sale, the average term has increased from 62 to 292 days between December 2019 and December 2021.

Graph 95
EXCHANGE INSTRUMENTS BALANCE



As of December 13.
Source: BCRP.

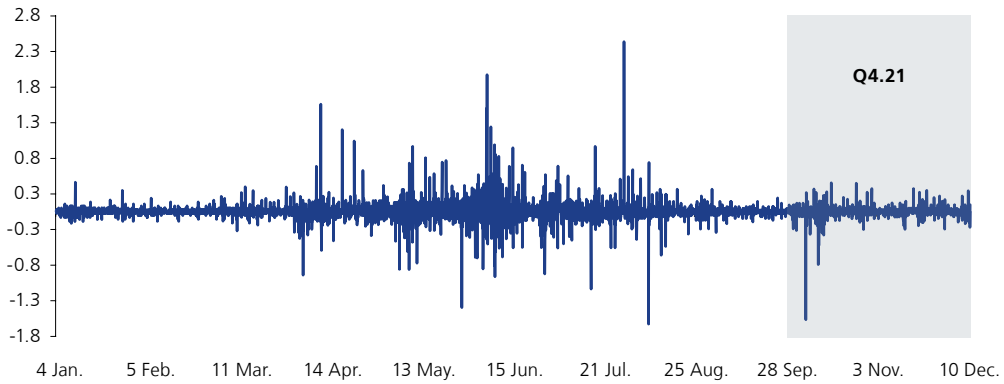
In the third and fourth quarters of 2021, the evolution of local assets, particularly the exchange rate and the general index of the LSE (IGBVL), has been affected by statements and announcements made by members of the Executive. Since the swearing in of the first cabinet (July 29, 2021), the exchange rate has been under upward pressure due to the perception of a greater risk of a possible change in the market model that would affect the economic and legal stability of investors. As a result, between July 27 and 30 the sol depreciated by 3.62 percent, one of the highest daily losses in value observed in recent years. Moreover, between July 29 and October 6, 2021, the PEN depreciated

by 5.35 percent and the exchange rate reached a new historical high (S/ 4.138 per dollar).

On the other hand, between October 6 and December 13, the PEN appreciated by 2.08 percent. Since the swearing in of the second cabinet, the exchange rate has been less unstable but still highly volatile. Comparatively speaking, the average foreign exchange intervention in the period of the first Council of Ministers has been higher than the one registered with the current cabinet (US$ 181 million versus US$ 151 million), and the same happens with the annual volatility of the period (9.20 versus 7.14). In the case of the evolution of the General Index (IGBVL) of the Lima Stock Exchange, the index has risen since October 6 with respect to what was observed in previous months (10.56 versus -2.23 percent) and shows lower volatility (22.4 versus 27.1).

The PEN shows a higher level of volatility in the fourth quarter of 2021 than in the first quarter of the year; the annualized daily percentage variation of the exchange rate in October, November and December being 9.4, 3.9 and 3.8, respectively. Considering the evolution of the exchange rate for every 10 minutes between 9:30 a.m. and 1:30 p.m., the intraday change has fluctuated between a 0.41 percent depreciation (October 18, 2021) and a 1.52 percent appreciation (October 7, 2021). As shown in the graph below, the intraday variation shows less persistence and sensitivity to new information in November and December 2021 compared to what was observed after the first round of elections (April 11).

Graph 96
INTRADAY VARIATION OF EXCHANGE RATE

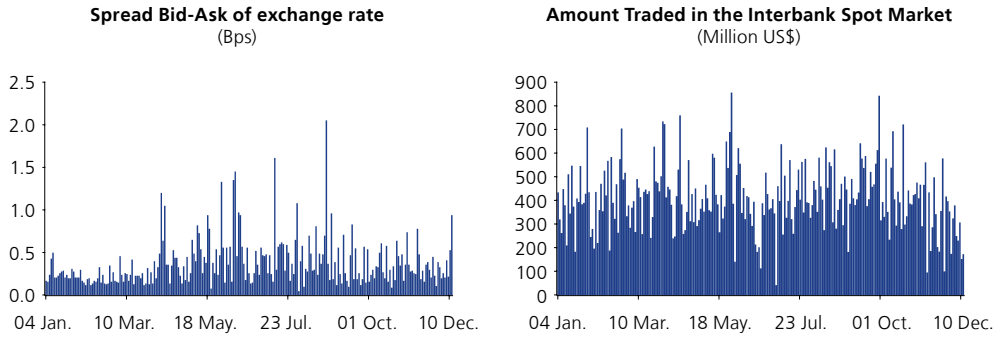


1/ % change every 10 minutes in the exchange rate between 9:00 a.m. and 1:30 p.m. A positive variation indicates depreciation of Sol.
Data as of December 13.
Source: Reuters.

This higher volatility has also been reflected in the fourth quarter of 2021 in the bid-ask spreads of the exchange rate. As one can see, the increase is observed since the second week of April and, until the last available data, it has not returned to the levels registered prior to the first round of the elections, although there has been a reduction since the first week of November. The average daily negotiation in the interbank

spot FOREX market has remained relatively stable between January and December 2021.

Graph 97
SPREAD AND EXCHANGE RATE NEGOTIATION



As of December 13.
Source: Reuters and BCRP.

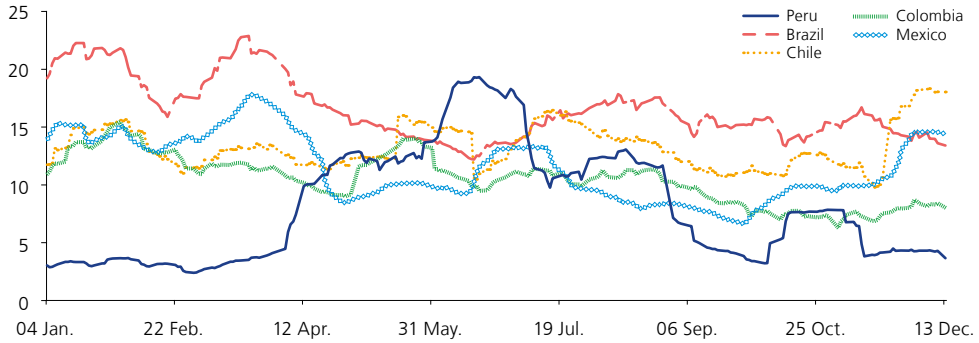
Comparatively, the historical volatility of the Peruvian exchange rate in 30-day moving periods has returned to levels similar to those observed between January and March 2021 and is consistently the lowest in the region. However, between April and June, it showed an upward trend (recording a peak level of 19.6 percent on June 17). Similarly, using three alternative definitions of exchange rate volatility for daily data in recent months (historical, implied, and based on a GARCH-type volatility model), we observe an increase in the variability of the PEN between April and July, as well as a decrease in November and December 2021.

Table 40
LATAM VOLATILITY

	Historical (SD) 1/					Implicit 2/					GARCH(1,1) 3/				
	Brazil	Chile	Colombia	Mexico	Peru	Brazil	Chile	Colombia	Mexico	Peru	Brazil	Chile	Colombia	Mexico	Peru
Jan.21	22.6	17.3	14.5	14.4	2.6	18.4	13.8	13.6	15.3	6.5	22.0	13.9	16.5	18.1	5.7
Feb.21	13.7	11.2	10.9	14.8	1.8	19.2	12.3	13.4	17.1	5.0	22.0	14.2	13.5	20.8	4.6
Mar.21	20.0	13.2	12.5	14.1	4.3	19.7	13.8	14.3	15.5	4.2	20.8	13.0	12.1	14.7	6.0
Apr.21	17.3	11.0	9.9	8.9	14.0	18.0	12.0	14.1	12.3	7.4	20.6	13.8	13.2	14.0	15.2
May.21	13.4	13.8	12.8	8.2	14.6	16.4	13.4	14.7	11.7	11.6	18.6	12.6	12.2	12.2	13.2
Jun.21	13.8	10.8	11.8	13.5	16.2	15.8	13.3	14.4	10.7	9.8	18.1	12.4	13.1	12.6	15.4
Jul.21	17.0	12.7	9.8	9.2	14.7	16.5	13.5	13.5	10.5	11.9	17.9	12.2	13.0	11.9	10.8
Aug.21	15.1	11.7	12.6	7.8	5.9	16.3	13.4	13.6	9.9	10.7	17.3	12.1	13.6	11.7	9.8
Sep.21	14.8	9.1	4.8	6.3	2.4	16.3	13.7	12.4	11.0	10.6	17.0	11.4	9.9	11.3	6.8
Oct.21	14.9	11.0	6.2	10.1	9.4	18.1	17.7	11.2	9.3	8.6	17.3	11.1	9.7	10.0	8.9
Nov.21	14.2	16.6	7.8	13.7	3.9	16.6	19.4	12.6	14.8	7.2	14.7	13.0	13.0	12.8	6.8
Dec.21	13.3	12.9	8.5	7.8	3.9	15.9	25.4	12.4	11.6	6.7	15.3	12.7	12.4	11.0	6.7

1/ Annualized standard deviation of daily returns.
2/ Corresponds to the resulting variable in the Black Scholes option pricing model. It measures the market's expectations of the exchange rate for one month.
3/ The model GARCH (1,1) applies a stochastic process to historical time series of the exchange rate to predict its future volatility. The concept is similar to applying exponential moving averages to volatility where the current exchange rate has the highest impact on the forecast.
As of December 13.
Source: BCRP and Reuters.

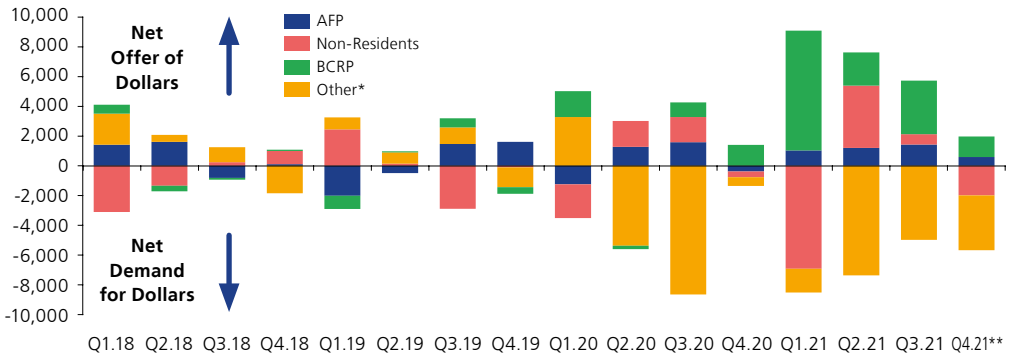
Graph 98
1-MONTH ANNUALIZED HISTORICAL VOLATILITY



Annualized standard deviation in the last 30 days.
Source: Reuters.

The aim of BCRP intervention in the foreign exchange market has been to offset the high demand for dollars in the local market, particularly in the first quarter of 2021. As of December 13, 2021, the foreign exchange market registered a net demand of US$ 17,318 million –US$ 5,715 million in March 2021, the highest level observed since 2010–, which comes mainly from non-financial sector participants, such as retailers and the corporate sector, as well as from non-resident investors.

Graph 99
FLOWS TO THE FOREIGN EXCHANGE MARKET (SPOT AND DERIVATIVES)
(Million US$)



* As of December 13.
** Other includes companies in the corporate sector, mining and retail sector.
Source: BCRP.

In the fourth quarter of 2021, the demand for dollars in the spot markets of non-resident investors amounted to US$ 349 million and they purchased Bonos del Tesoro Público (BTP) for a total of US$ 556 million. They also demanded dollars in the derivatives market for a total of US$ 1,640 million. Despite this, however, foreign investor flows between the third and fourth quarters reflect a moderation in their expectations about the exchange rate and their expected returns.

On the other hand, the AFPs (Pension Fund Administrators) offered US$ 86 million in the spot market and US$ 511 million in the derivatives market. In 2021, the AFPs have

offered a total of US$ 7,870 million in the spot market in order to pay the extraordinary withdrawals of funds associated with Law No. 31192. With information as of December 8[39], external securities for a total of US$ 9,360 million were liquidated during the year.

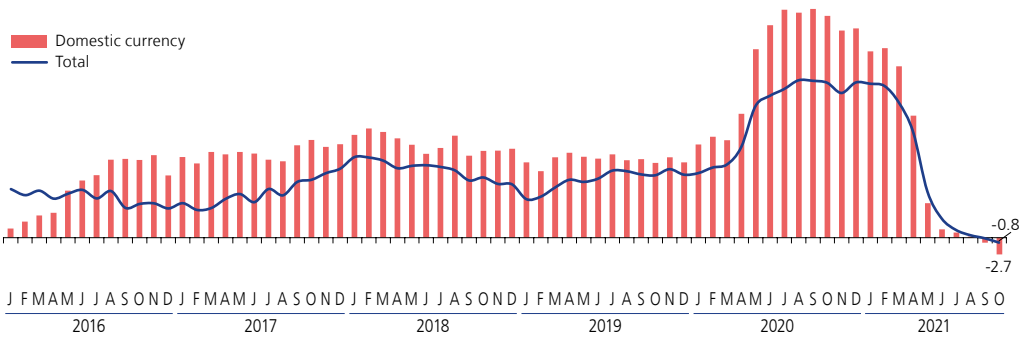
On their side, the corporate and retail sectors registered a net demand of US$ 20,495 million and US$ 6,159 million, respectively, which would indicate an increase in economic agents' level of dollarization due to precautionary reasons.

In such a context of high demand for dollars in the foreign exchange market, BCRP has offered dollars to banks through sales in the market and placements of BCRP CDRs and FX swaps-sale (US$ 17,561 million net) between January and December 2021. In addition to the adequate level of international reserves it has, BCRP enjoys high credibility and has access to credit lines such as the IMF's Flexible Credit Line (FCL), which only countries with very solid macroeconomic fundamentals have access to. The increased foreign exchange intervention of BCRP to offer dollars in the spot markets, and mainly in the derivatives markets, has contributed to offset the extraordinary upward pressures on the exchange rate.

Liquidity

78. In October, private sector deposits showed a year-on-year growth rate of -0.8 percent. By currency, deposits in soles decreased by 2.7 percent year-on-year, while deposits in dollars grew 3.2 percent in the last 12 months. The growth of domestic currency deposits slowed down since the first quarter of the year due to the statistical effect of high growth rates in 2020 and due to electoral uncertainty.

Graph 100
DEPOSITS OF THE PRIVATE SECTOR BY CURRENCY
(Annual % change)

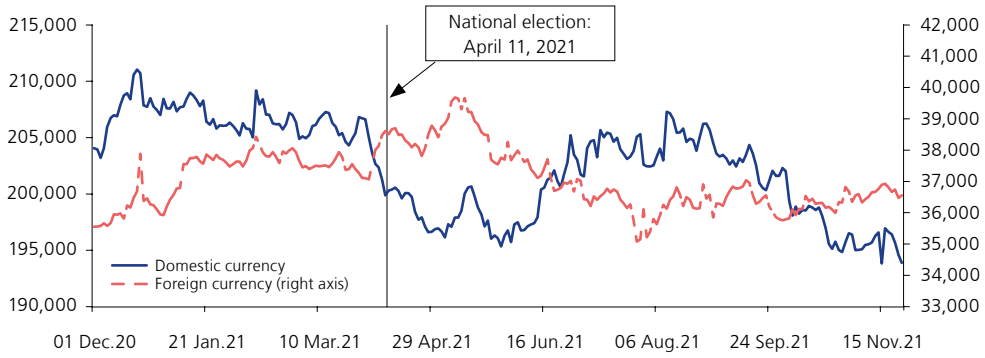


The dollarization ratio of private sector deposits increased from 31.4 percent in December 2020 to 32.6 percent in October 2021. This increase is explained by an increase in the dollarization of corporate deposits (from 38.9 to 43.4 percent), offset in part by a decrease in the dollarization ratio of individual deposits (from 26.7 to 26.3 percent).

39 As of October 29, 2021, AFP members have withdrawn funds for a total of S/ 32.2 billion under Law No. 31192 of May 2021.

After increasing significantly in the months of June, July, and August, banks' total obligations subject to reserve requirements in domestic currency decreased in September, October, and November (S/ 11,828 million), while total obligations subject to reserve requirements in foreign currency fluctuated between US$ 35,754 million and US$ 37,036 million during the same period.

Graph 101
TOTAL OBLIGATIONS SUBJECT TO RESERVE REQUIREMENTS OF BANKS
(In millions of S/ and US$)



Liquidity is expected to gradually grow at a higher rate in 2022. More particularly, deposits are expected to grow at a higher rate than credit to the private sector.

Table 41
MONETARY AND CREDIT ACCOUNTS OF THE DEPOSITORY CORPORATIONS (END-OF-PERIOD) 1/
(Annual % change)

	Dec.19	Dec.20	Mar.21	Jun.21	Sep.21	Oct.21	Nov.21*	Dec.21*	Dec.22*	Dec.23*
Currency in circulation (End-of-period)	4.7	37.3	42.5	20.6	20.9	19.2	17.3	12.5	3.0	1.5
Deposits in domestic currency	11.9	33.1	27.1	1.3	-0.8	-2.7	-0.7	2.2	5.0	8.1
Total deposits 1/	10.0	24.6	21.4	3.0	-0.1	-0.8	0.9	2.0	3.6	5.8
Broad money in domestic currency	10.2	32.3	28.9	5.0	3.4	1.9	3.3	4.5	4.5	6.5
Total broad money 1/	9.4	25.9	23.9	5.5	3.0	2.4	3.6	3.7	3.5	5.0
Credit to the private sector in domestic currency	9.8	19.7	17.5	7.7	3.9	4.5	4.0	4.4	4.4	6.8
Total credit to the private sector 1/	6.9	11.8	9.5	5.0	2.8	3.2	2.9	3.3	3.5	5.5

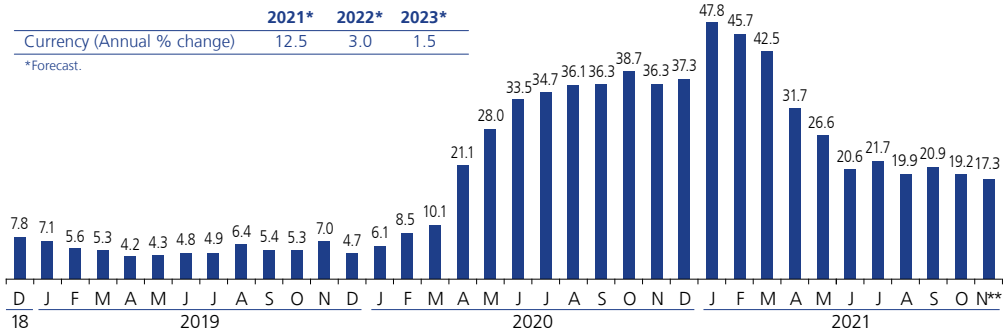
1/ Balances are valuated at constant exchange rate on December 2019.
* Forecast.

79. **Currency in circulation** would grow by 12.5 percent in 2021, 3.0 percent in 2022 and 1.5 percent in 2023. After growing at historically high rates during the state of emergency[40], the growth of currency in circulation is expected to moderate in the fourth quarter of 2021 and in the following years after the factors that favored this increase in the preceding years subside. Thus, currency in circulation would grow at a slower pace than nominal GDP, approaching its pre-pandemic trend.

After reaching historically high rates in 2020 and in the first half of 2021, the growth of currency has remained stable at around 20 percent since June 2021, a slight deceleration being observed as from September.

40 The growth of precautionary cash savings would have been driven mainly by transfers to families through the bonds granted by the State.

Graph 102
CURRENCY
(Annual % change)

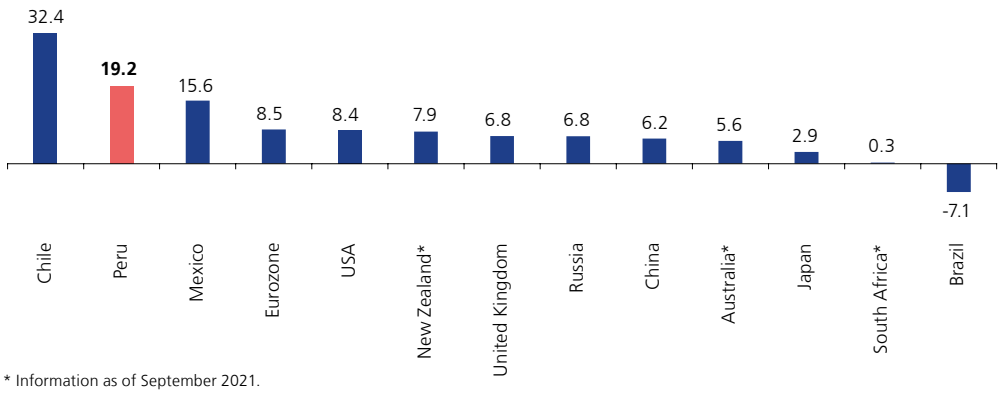


**Preliminary as of November 2021.

80. The annual growth rate of currency in circulation in October 2021 was 19.2 percent, higher than the growth rate observed in March 2020 (10.1 percent) and lower than the growth rate recorded in December 2020 (37.3 percent).

The annual growth rate of money velocity in the third quarter of 2021 remains positive at a rate of 15.0 percent, higher than the growth rate observed prior to the pandemic (a negative rate of 12.3 percent in the first quarter of 2021), but lower than that registered in the second quarter of 2021 (31.2 percent). The demand for cash remains exceptionally high given the context of the state of emergency and particularly due to the economic relief measures for households adopted in 2021, including the Yanapay Bonus and the extraordinary withdrawal of pension funds approved by Law No. 31192.

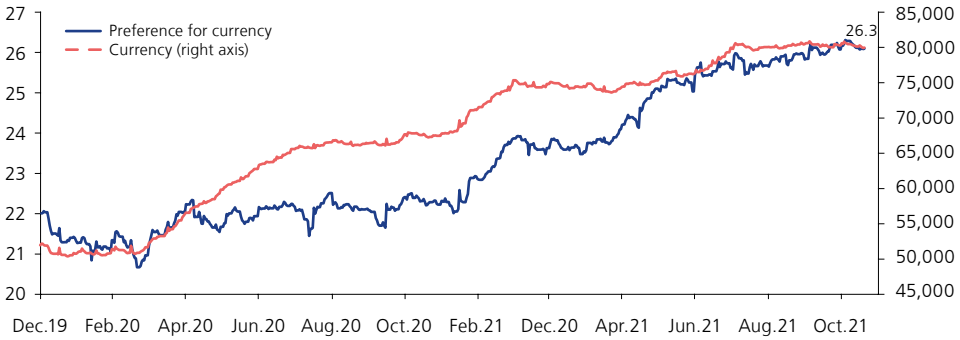
Graph 103
CURRENCY GROWTH BY COUNTRIES: OCTOBER 2021
(% change)



* Information as of September 2021.
Source: Central Banks.

81. Even though the preference for circulating currency has moderated its growth during the second half of 2021, it has steadily increased since April, reaching a peak of 26.3 percent in early November. In turn, after increasing steadily during 2020 and early 2021, the level of currency in circulation has remained stable since August.

Graph 104
CURRENCY AND PREFERENCE FOR CURRENCY
(In millions soles and %)



Credit to the private sector

82. The growth of **credit to the private sector** slowed down from an expansion rate of 11.8 percent in 2020 to a year-on-year rate of 3.2 percent in October 2021. By segment, credit to businesses grew 3.5 percent, less than the rate observed in December 2020 (21.7 percent). On the other hand, credit to individuals went from contracting 3.1 percent in 2020 to increasing by 2.8 percent in October 2021, driven by the recovery of domestic demand. In the case of credit to individuals, there was an increase in vehicle credit (6.1 percent) and a decrease in credit card credit (0.9 percent), while mortgage loans increased by 7.6 percent. On the side of credit to business, the segments registering the highest rate of expansion were loans to medium-sized companies (11.5 percent), followed by loans to corporate and large companies (4.9 percent), while credit to small and micro businesses registered a drop (7.3 percent).

Table 42
CREDIT TO THE PRIVATE SECTOR 1/
(Annual growth rate)

	Dec.19	Mar.20	Jun.20	Sep.20	Dec.20	Mar.21	Jun.21	Sep.21	Oct.21
Businesses	**4.2**	**6.6**	**20.0**	**24.6**	**21.7**	**18.6**	**8.1**	**3.2**	**3.5**
Corporate and large companies	4.4	9.6	21.8	14.2	8.3	3.3	-1.8	2.6	4.9
Medium-sized enterprises, Small business and Micro business	4.1	3.0	17.8	37.0	37.4	37.6	19.9	3.8	2.1
Individuals	**11.3**	**9.3**	**2.8**	**-1.3**	**-3.1**	**-4.5**	**-0.4**	**2.1**	**2.8**
Consumer	12.8	10.2	1.6	-4.2	-7.1	-10.6	-5.7	-2.0	-0.6
Car loans	11.9	6.9	0.9	-3.1	-2.5	-8.3	-0.4	3.1	6.1
Rest	12.9	10.3	1.7	-4.2	-7.3	-10.6	-5.9	-2.1	-0.9
Mortgage	9.0	8.0	4.6	3.1	3.2	4.8	7.5	7.8	7.6
TOTAL	**6.9**	**7.6**	**13.2**	**14.3**	**11.8**	**9.5**	**5.0**	**2.8**	**3.2**

1/ Balances are valuated at constant exchange rate on December 2019.

On the other hand, the number of new borrowers in the financial system contracted in all credit segments during the pandemic. Moreover, important differences are observed among segments in relation to the recovery period, with only the mortgage segment having reached levels of bankarization even above pre-pandemic levels (See Box 7).

83. During 2020 and in early 2021, there were reclassifications in the business and consumer credit segments[41]. It is worth pointing out that the indicator of credit balance growth rates by business and consumer credit segment not only takes into account the effect of higher or lower credit activity, but also reflects the effect of changes in the base associated with eventual reclassifications.

Thus, if the reclassification effect is omitted for October 2021, credit to the segment of medium-sized companies would have contracted by 0.7 percent, while credit to the corporate segment and to the segments of small and microbusinesses would have expanded by 2.5 and 9.6 percent, respectively.

Table 43
TOTAL CREDIT TO THE PRIVATE SECTOR BY TYPE OF BUSINESS 1/
(Business)

	Million S/	Annual growth rate (%)									
		Jun.21/Jun.20		Jul.21/Jul.20		Aug.21/Aug.20		Sep.21/Sep.20		Oct.21/Oct.20	
	Oct.21	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.
Businesses	**251,990**	**8.1**	**8.1**	**5.8**	**5.8**	**3.1**	**3.1**	**3.2**	**3.2**	**3.5**	**3.5**
Corporate and large companies	124,847	-1.8	-4.1	-0.0	-2.7	-1.0	-2.7	2.6	0.9	4.9	2.5
Medium-sized enterprises	69,590	30.2	15.2	22.0	9.0	16.9	3.1	13.2	-0.4	11.5	-0.7
Small business and Micro business	57,553	9.0	30.7	2.0	22.1	-2.4	15.9	-5.8	11.5	-7.3	9.6

1/ Balances are valuated at constant exchange rate (3.31).
Source: RCC and bank account.

As for consumer loans, credit in the segment of credit cards would have contracted by 14.2 percent, while other consumer loans would have grown by 5.1 percent.

Table 44
TOTAL CREDIT TO THE PRIVATE SECTOR BY TYPE OF CONSUMER
(Consumer)

	Million S/	Annual growth rate (%)									
		Jun.21/Jun.20		Jul.21/Jul.20		Aug.21/Aug.20		Sep.21/Sep.20		Oct.21/Oct.20	
	Oct.21	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.	With Reclass.	Without Reclass.
Consumer	**74,380**	**-5.7**	**-5.7**	**-4.5**	**-4.5**	**-3.1**	**-3.1**	**-2.0**	**-2.0**	**-0.6**	**-0.6**
Vehicles	2,355	-0.4	-0.4	1.1	1.1	2.0	2.0	3.1	3.1	6.1	6.1
Credit card	12,176	-46.0	-21.8	-47.7	-19.6	-47.3	-18.3	-47.4	-17.3	-45.3	-14.2
Rest	59,849	13.1	1.6	15.5	2.3	17.2	3.7	18.4	4.7	18.8	5.1

1/ Balances are valuated at constant exchange rate (3.31).
Source: RCC and bank account.

Thus, the segment most affected by the reclassification in the case of corporate loans was that of micro and small companies (loans amounting to S/ 2,888 million were classified as loans to corporations and large companies, while loans for a total of S/ 7,614 million were classified as loans to medium-sized companies).

84. Moreover, the growth of credit in soles has slowed down since March 2021, mainly due to the weakening of the statistical effect of the Reactiva Peru program. On the other hand, the growth of credit in dollars has been declining since June 2020 due to the greater preference for local funding and interest rates in soles that remained below their

41 The reclassification, in greater detail, is developed in *Notas de Estudio,* BCRP No. 37-2021.

historical averages. However, this decline has been offset since May 2021. Thus, as of October 2021, credit in soles grew 4.5 percent, while credit in dollars fell by 1.7 percent in the same period.

Graph 105
CREDIT TO THE PRIVATE SECTOR
(Annual % change)

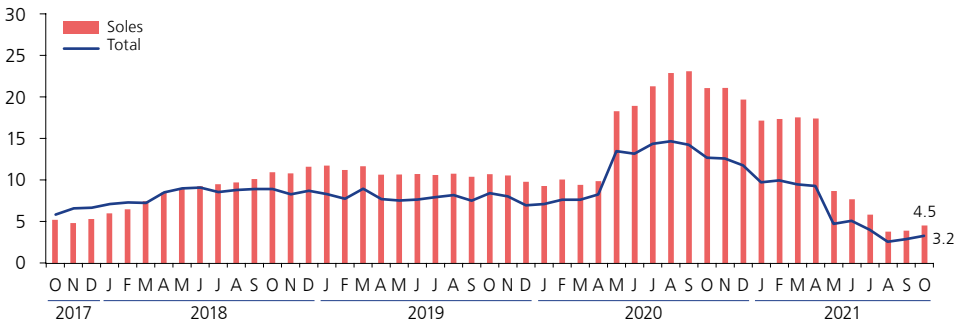


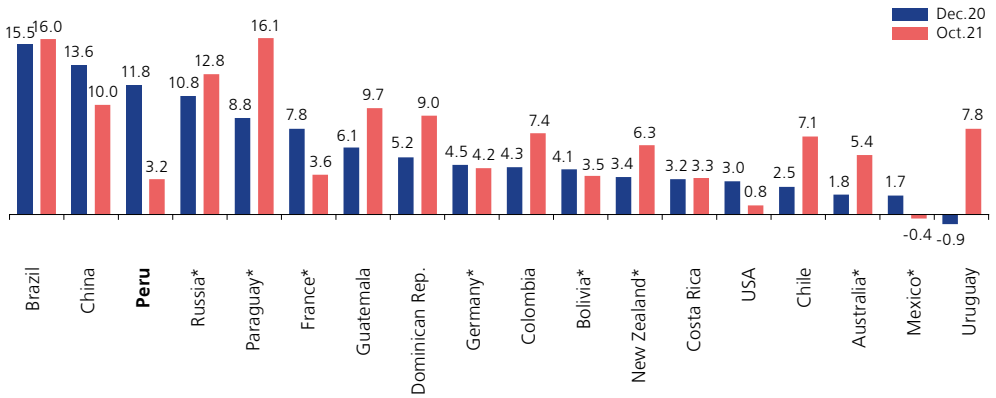
Table 45
CREDIT TO THE PRIVATE SECTOR 1/
(Annual % change)

	Dec.19	Mar.20	Jun.20	Sep.20	Dec.20	Mar.21	Jun.21	Sep.21	Oct.21
Domestic Currency	9.8	9.4	18.9	23.1	19.7	17.5	7.7	3.9	4.5
Foreign Currency	-0.4	2.8	-2.1	-9.8	-10.6	-13.4	-3.6	-1.3	-1.7
Total	**6.9**	**7.6**	**13.2**	**14.3**	**11.8**	**9.5**	**5.0**	**2.8**	**3.2**

1/ Balances are valuated at constant exchange rate on December 2019.

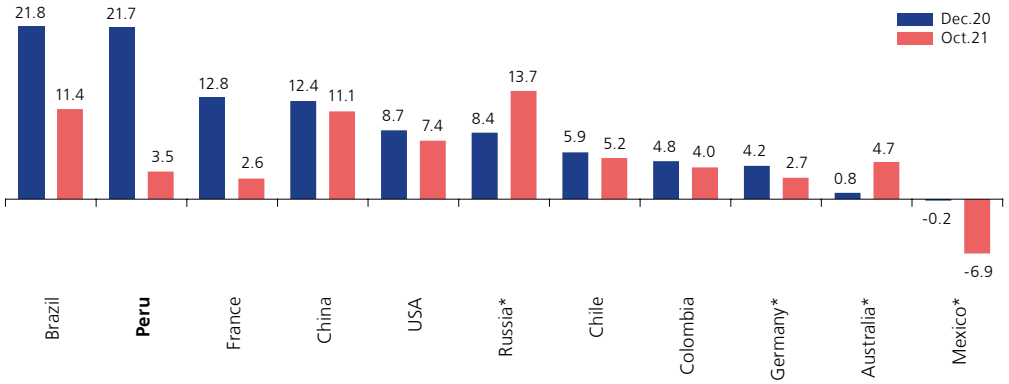
85. It is worth mentioning that globally, credit to the private sector has moderated its pace of growth after having grown at high rates in response to the monetary stimulus measures adopted by central banks in 2020 and early 2021.

Graph 106
GROWTH OF CREDIT TO THE PRIVATE SECTOR
(Annual % change)



* Information as of September 2021.
Source: Central Banks.

Graph 107
GROWTH OF CREDIT TO PRIVATE COMPANIES
(Annual % change)



* Information as of September 2021.
Source: Central Banks.

Dollarization of Credit and Liquidity

86. The ratio of dollarization of credit to the private sector measured at a constant exchange rate was 20.1 percent in October 2021, lower than the level observed in December 2020 (20.7 percent). A reduction was observed in the dollarization ratio of credit to companies, which fell from 27.4 to 26.8 percent in the same period. Similarly, the dollarization ratio of credit to individuals fell from 8.0 to 7.3 percent and the dollarization ratio of the segment of mortgage loans declining from 11.6 percent in December 2020 to 9.5 percent in October 2021, whereas that of consumer loans increased from 5.5 percent to 5.7 percent in the same period.

Table 46
RATIO OF DOLLARIZATION OF CREDIT TO THE PRIVATE SECTOR 1/
(%)

	Dec.19	Mar.20	Jun.20	Sep.20	Dec.20	Mar.21	Jun.21	Sep.21	Oct.21
Businesses	**37.3**	**37.5**	**31.8**	**27.8**	**27.4**	**27.2**	**28.4**	**26.8**	**26.8**
Corporate and large companies	50.5	50.0	43.4	41.4	42.4	41.8	43.8	41.2	40.9
Medium-sized enterprises	38.5	38.7	30.0	24.4	22.0	21.2	20.6	20.0	20.5
Small business and Micro business	5.7	5.6	4.9	3.8	4.0	4.1	3.9	3.7	3.6
Individuals	**8.9**	**8.5**	**8.3**	**8.2**	**8.0**	**7.9**	**7.9**	**7.5**	**7.3**
Consumer	6.0	5.7	5.5	5.4	5.5	5.5	6.0	5.8	5.7
Car loans	14.8	14.9	14.9	16.0	16.7	16.8	16.0	14.7	14.0
Credit cards	7.1	6.6	5.6	5.3	5.7	8.3	11.5	12.0	12.0
Rest	5.0	4.9	5.0	5.0	4.8	4.4	4.3	4.2	4.1
Mortgage	13.3	12.7	12.5	12.1	11.6	11.0	10.4	9.7	9.5
TOTAL	**25.9**	**26.0**	**23.4**	**21.1**	**20.7**	**20.6**	**21.5**	**20.2**	**20.1**

1/ Balances are valuated at constant exchange rate on December 2019.

Non-Performing Loans

87. The NPL ratio was 3.89 percent in October 2021, 0.13 percentage points higher than in June 2021 (3.76 percent). This result is mainly explained by higher delinquency

rates in loans to businesses, with the increase in the segment of medium-sized companies being particularly noteworthy. On the other hand, the NPL ratio of loans to individuals decreased in the same period, particularly those associated with credit cards.

Table 47
NON-PERFORMING LOANS INDEX
(%)

	Dec.19	Mar.20	Dec.20	Mar.21	Jun.21	Sep.21	Oct.21
Businesses	**3.57**	**3.68**	**3.72**	**4.02**	**4.03**	**4.40**	**4.63**
Corporate and large companies	0.62	0.63	1.03	1.08	1.15	1.02	1.04
Medium-sized enterprises	8.24	9.00	6.26	6.44	6.76	8.59	9.11
Small business and Micro business	7.13	7.41	6.10	7.18	7.11	6.91	7.13
Individuals	**3.15**	**3.33**	**4.93**	**4.20**	**3.58**	**2.98**	**2.79**
Consumer	3.27	3.47	5.95	4.70	3.66	2.77	2.48
Credit cards	5.47	5.79	12.70	11.75	8.52	7.05	6.69
Car loans	3.75	3.86	5.85	5.74	5.51	4.42	4.24
Rest	1.68	1.83	3.10	2.96	2.47	1.83	1.53
Mortgage	2.98	3.15	3.52	3.57	3.47	3.24	3.20
Average	**3.28**	**3.41**	**3.99**	**3.96**	**3.76**	**3.82**	**3.89**

88. Financial entities have been taking measures to mitigate the impact of the pandemic on the solvency of the financial system. Among these measures are the strengthening of the equity base, improving the control of operating and financial expenses, and establishing voluntary provisions.

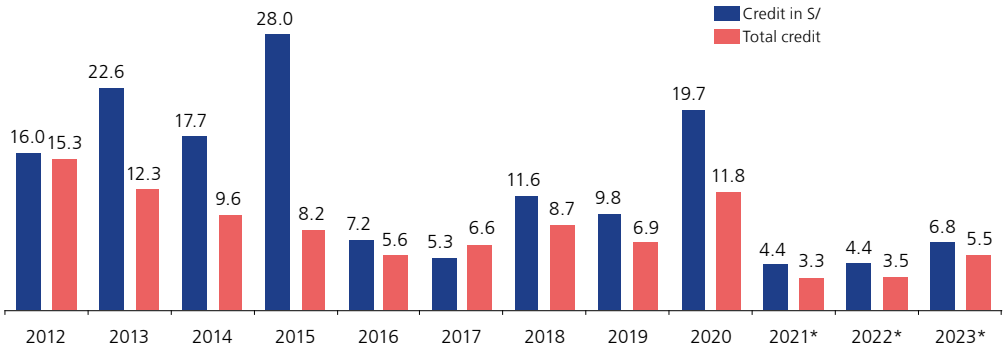
Projection of Credit to the Private Sector

89. After showing a significant increase in the credit-to-GDP ratio in 2020, credit to the private sector in 2021 and 2022 is expected to moderate its growth rate and to grow at a slower pace than nominal GDP. The ratio to GDP would then resume its prepandemic trend and would grow at a rate close to that of nominal GDP. Thus, the credit-to-GDP ratio would decrease from 51.8 percent in 2020 to 42.0 percent in 2023. This projection also assumes the recovery of economic activity to pre-pandemic levels in 2022.

Credit to the private sector in domestic currency is projected to grow 4.4 percent in 2021 and in 2022, taking into account the statistical effect of the strong increase of credit in 2020, the recovery of economic activity, and the beginning of the amortization of loans granted under the Reactiva Peru program. Thus, total credit would increase by 6.8 percent in 2023 and total credit would increase by 5.5 percent. As a result, the dollarization ratio of credit would continue to decline, reaching a level of 18.2 percent by the end of 2023.

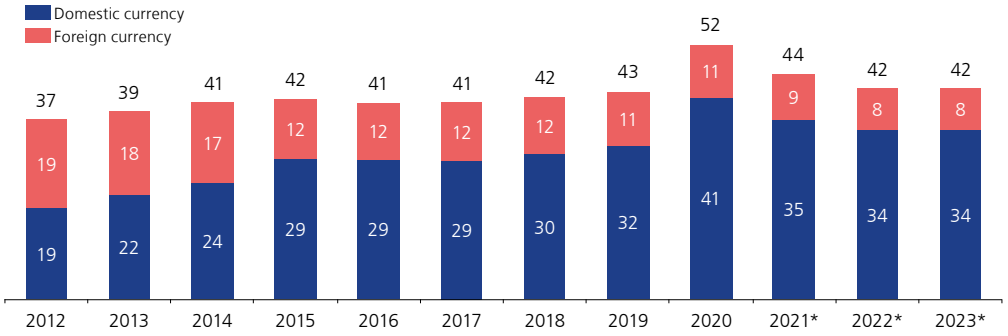
In line with the projections for credit to the private sector, the growth of liquidity and currency in circulation would moderate to rates lower than those of nominal GDP in 2021 and 2022. The ratio of liquidity to GDP would decline from 59.3 percent in 2020 to 48.0 percent in 2023 and the corresponding ratio for currency would decrease from 10.0 percent in 2020 to 8.4 percent in 2023.

Graph 108
CREDIT TO THE PRIVATE SECTOR
(% change)



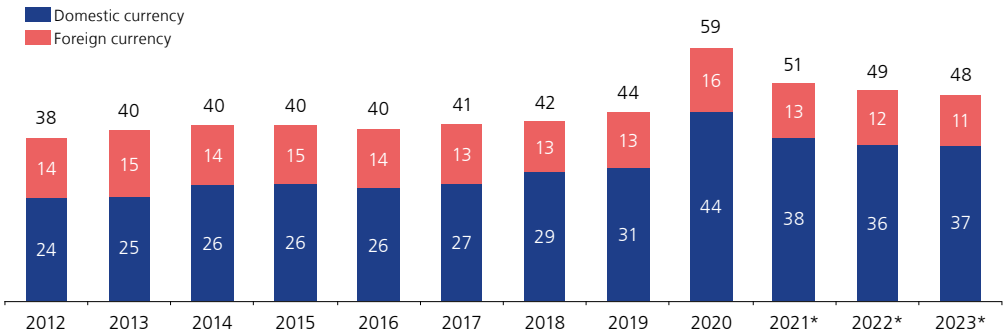
* Forecast.

Graph 109
RATIO CREDIT/GDP
(%)



Note: calculated with constant exchange rate (December 2019).
* Forecast.

Graph 110
LIQUIDITY RATIO/GDP
(%)

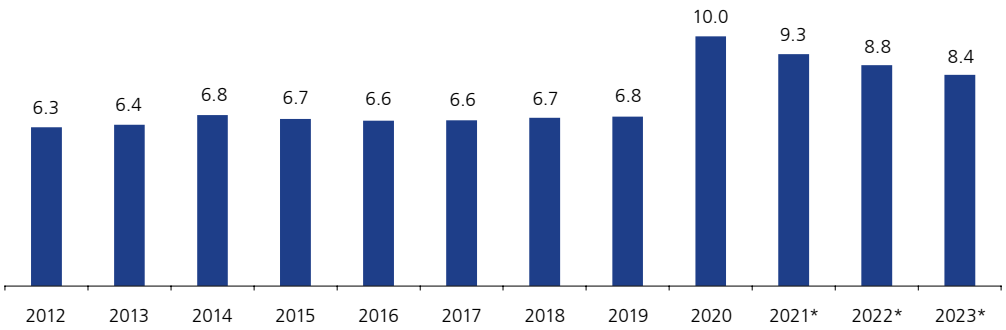


Note: calculated with constant exchange rate (December 2019).
* Forecast.

Graph 111

CURRENCY IN CIRCULATION RATIO/GDP

(%)



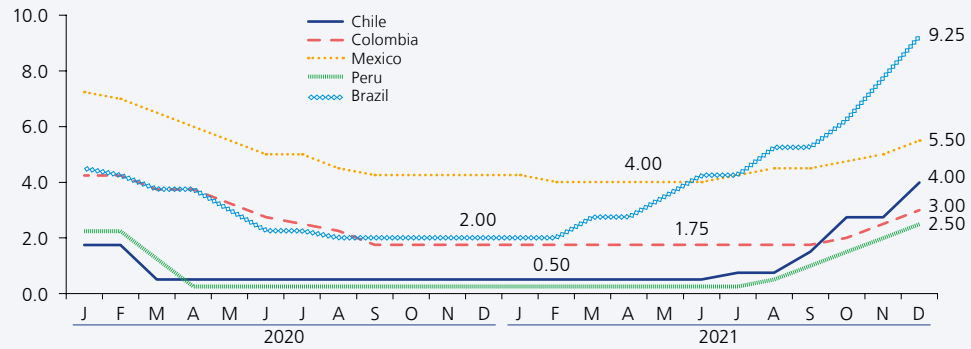
The currency in circulation corresponds to that of the depository corporations.
* Forecast.

Box 6
WITHDRAWAL OF MONETARY STIMULUS IN LATIN AMERICA

After the initial impact of the pandemic, economic growth in Latin American countries has been gradually recovering. Central banks in the region implemented considerable monetary stimulus to counteract the effects of the pandemic and established restrictive measures to contain it, as well as various measures to preserve the stability of the financial system and avoid disruptions in the flow of payments. Many of these measures were temporary, so with the recovery of the economies and at a time of growing inflationary pressures, some central banks have begun to withdraw these stimuli and to deactivate the extraordinary measures adopted.

On the one hand, central banks in the region have begun to raise their monetary policy interest rates. The Central Bank of Brazil was the first to initiate a rate hike cycle in March 2021, raising the policy rate seven times to 9.25 percent in December 2021, from a low of 2.0 percent in August 2020. For its part, the Central Bank of Chile initiated the withdrawal of monetary stimulus in July 2021, increasing the policy rate 4 times to 4.0 percent in December 2021 from the minimum of 0.50 percent established in March 2020. Similarly, Banco de la República (Colombia) began to increase its policy rate in September, raising it 3 times to reach 3.0 percent in December, while the Bank of Mexico (Banxico) began withdrawing monetary stimulus in July 2021, raising the policy rate 4 times from the minimum of 4.0 percent set in February 2021 to a level of 5.50 percent on December 16, 2021.

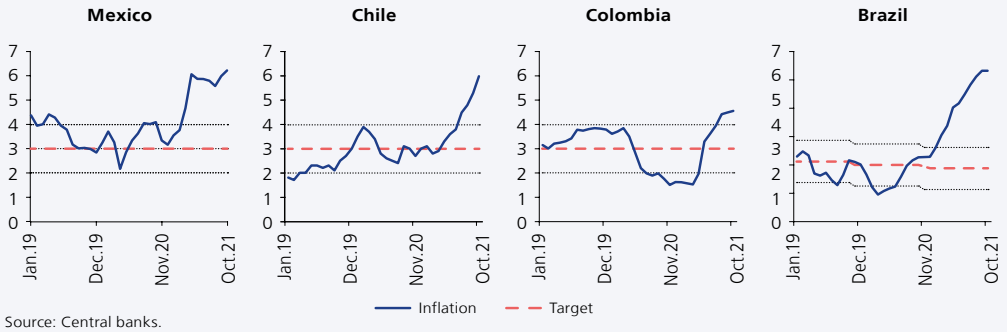
MONETARY POLICY RATES IN LATIN AMERICA: DECEMBER 2021
(In %)



Source: Central banks.

Central banks made these decisions in a context of rising inflation rates in these economies. In Brazil, inflation reached the upper limit of the target range in January 2021 and exceeded it the following month, much earlier than the other economies, prompting an earlier reaction in rate hikes. In Chile, inflation reached the upper limit of the target range in June and subsequently continued on an upward trend. In Mexico, annual inflation reached the upper limit of its target range in March and continued to rise in the following months, while in Colombia, inflation exceeded the upper limit of the target range in August and remained above it in subsequent months. In general, pressures on inflation have led to an earlier than expected withdrawal of monetary stimulus in these economies.

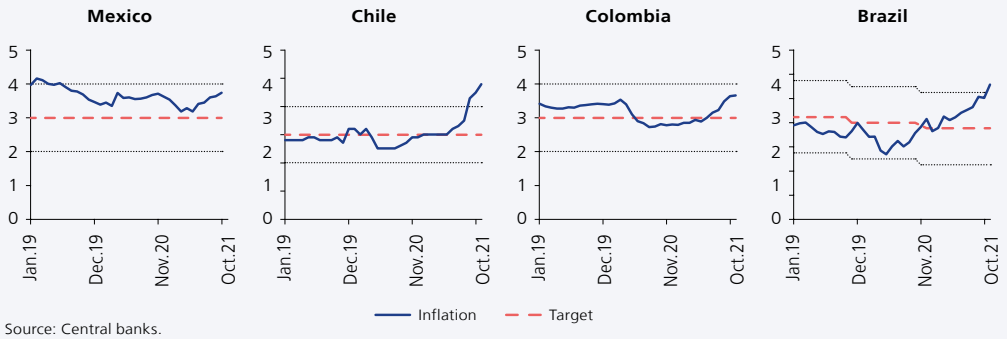
ANNUAL INFLATION AND INFLATION TARGETS
(% change last 12-months)



Source: Central banks.

Moreover, 12-month inflation expectations in these economies have also been rising, but to a lesser extent than inflation, with expectations approaching the upper limit of their inflation targets in the cases of Mexico and Colombia, and exceeding them in the cases of Chile and Brazil. This would be indicating that agents expect somewhat higher inflation even in the following year, which has been an additional reason for bringing forward the withdrawal of the monetary stimulus.

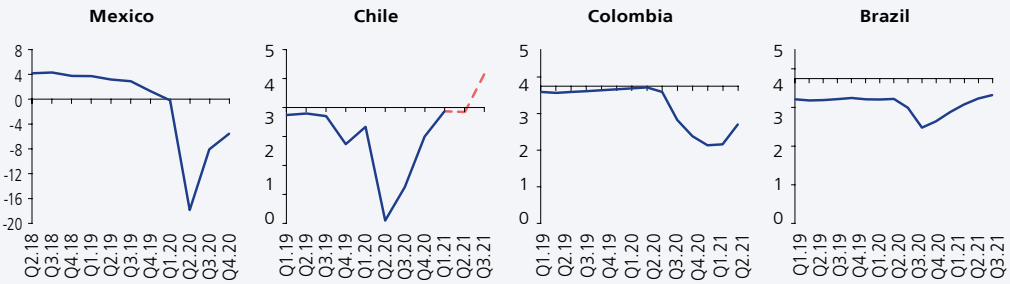
12-MONTH INFLATION EXPECTATIONS
(% change)



Source: Central banks.

Furthermore, after the abrupt drop seen due to the effects of the pandemic-induced restrictions, the output gap has been closing in these economies. The gap in Mexico and Brazil has been narrowing down, but it is still in negative territory; in Brazil the output gap shows levels slightly higher than in the pre-pandemic period. In Chile, the gap is even projected to be positive, while in Colombia it is expected to be close to zero in 2022, after having been in negative territory in 2019.

OUTPUT GAP
(%)



Source: Central banks.

In this context, several transitory measures applied for the injection of liquidity during the COVID-19 crisis have become ineffective in these four countries. In most cases, the instruments were created as temporary instruments, although some are still in force. Chile implemented the Conditional Credit Increase Facility (CCIF) programs as a simultaneous mechanism for injecting liquidity and supporting credit. There were 3 programs in total and the third one was in force between March 1, 2021 and September 1, 2021.

In Colombia, the main innovation during the pandemic were the repo operations with portfolio securities, which continue to be carried out at the discretion of Banco de la República. On the other hand, repo operations with private debt securities were used for only a few months. Banco de México was the one that established the most, scheduling them measure by measure. Almost all the repos scheduled were extended twice, and most of them have ended. A predetermined path of reduction in the maximum amounts of these programs was established for several instruments. In Brazil, where the program of temporary lines of credit guaranteed with financial bills stands out among the instruments used, liquidity was injected using credit portfolios and securities of non-financial companies as collateral. The reduction of its placements began in January 2021 and its gradual withdrawal was announced only in June.

CHANGES IN THE MEASURES

	Mexico		Chile		Colombia		Brazil		Peru	
	Adoption	Retirement	Adoption	Retirement	Adoption	Retirement	Adoption	Retirement	Adoption	Retirement
Flexibility/Rate Increase	Feb.20	Jun.21	Mar.20	Jul.21	Mar.20	Sep.21	Mar.20	Mar.21	Mar.20	Aug.21
Reduction/Increase of Reserve requirements	Mar.20			Apr.20		Mar.20		Mar.20	Sep.21	
Injection/withdrawal of liquidity	Apr.20	Feb.21 (Partial)	Mar.20	Jun.21 (Partial)	Mar.20		Apr.20	May.21 (Partial)	Mar.20	
Direct purchases/Reduction of Public securities		Mar.20		Mar.20				Dec.20		
Direct purchases/Reduction of Private securities				Mar.20						

Source: Central banks.

In Peru, BCRP has progressively increased the monetary policy rate, raising it 4 times since August 2021 from the historical minimum of 0.25 percent set in April 2020 –the most expansionary stance in the region– to 2.5 percent in December. In addition, it has also gradually increased the average rate of reserve requirements since September 2021. Furthermore, in October 2021 it also initiated the withdrawal of some stimulus measures implemented in 2020, such as Credit Portfolio Rescheduling Repo Operations, and began to increase reserve requirement rates in soles. It is worth pointing out, however, that despite this gradual withdrawal of monetary stimulus, BCRP still maintains an expansionary monetary policy.

It should also be pointed out that central bank communication has been tightening as the evolution of variables pointed to pressures on inflation. In Brazil, this began to be seen in January 2021 – with a rate hike being approved by monetary authorities at the following policy meeting– and the continuous pressure on inflation made them signal their entry into a more hawkish monetary policy terrain in September. In Colombia, Banco de la República stated in July 2021 that there was a closing of space for the continuation of stimulus and said in September that it would initiate the normalization of its monetary policy. In the case of Chile, a strong recovery of activity and fear of persistent effects made them move from a soft withdrawal of stimulus to a more accelerated one

in October 2021. On the other hand, Banxico pointed out since May 2021 that there were risks of transitory shocks to inflation and initiated the rate hike in the following meeting to avoid affecting inflation expectations.

CENTRAL BANK COMMUNICATION

	Mexico	Chile	Colombia	Brazil
Jan.21				As inflation expectations, as well as inflation projections for its baseline scenario, are sufficiently close to the inflation target over the relevant horizon for monetary policy. Therefore, the forward guidance no longer holds.
Mar.21				The current conditions ceased to prescribe an extraordinary stimulus. Inflation expectations rose above target at the relevant horizon for monetary policy and inflation projections increased. Therefore, the Copom decided to start a process of partial normalization. Copom increases the Selic rate 75 bp to 2.75%. Future steps of monetary policy could be adjusted.
May.21	Given the recent shocks that have affected inflation, it is necessary for the adjustment in relative prices to take place in an orderly manner so that an impact on price formation and inflation expectations is avoided. The Board decided to maintain the overnight interbank interest rate. Looking ahead, monetary policy implementation will depend on the evolution of the factors that have an incidence on inflation.	Even so, improvements in activity and convergence of inflation to the target over the policy horizon still requires the monetary stimulus to be highly expansionary. Thus, the MPR will be kept at its minimum of 0.5% for as long as it is deemed necessary for the recovery of the economy to take hold.		The Copom's baseline scenario indicates that a partial normalization of the policy rate remains appropriate to keep some degree of monetary stimulus during the economic recovery. Copom decided to increase the Selic rate by 75 bp. to 3.50%. Future steps of monetary policy could be adjusted.
Junio,2021	It was deemed necessary to strengthen the monetary policy stance in order to avoid adverse effects on inflation expectations, attain an orderly adjustment of relative prices, and enable the convergence of inflation to the 3% target. The Board decided to increase the target for the overnight interbank interest rate by 25 bp to 4.25%.	The strong dynamism already present in the economy makes necessary to recalibrate the expansiveness of monetary policy going forward. The Board decided to keep the monetary policy interest rate at 0.50%.		The Copom decided to increase the Selic rate by 75 bp to 4.25%. This adjustment is necessary to mitigate the dissemination of the temporary shocks to inflation. However, a deterioration of inflation expectations for the relevant horizon may require a quicker reduction of the monetary stimulus.
Jul.21		The activity gap will continue to close rapidly, accompanied by a high fiscal impulse and a strongly dynamic consumption. This creates the conditions for a gradual withdrawal of the monetary impulse, which is expressed in a 25bp increase to 0.75%. Even in a context of gradual normalization, monetary policy will continue to accompany the recovery of the economy.	Given recent inflation behavior and its possible persistence, as well as the previously noted upward revision to the growth forecast, the board members concurred that the space available to maintain current levels of monetary stimulus is closing. The Board hold the benchmark interest rate at 1.75%	
Aug.21	Due to their variety, magnitude, and the extended horizon over which they have affected it, they may pose risks to the price formation process. For this reason, it was deemed necessary to strengthen the monetary policy stance. The Board decided to increase the target for the overnight interbank interest rate by 25 bp to 4.5%.	Could trigger a more persistent increase in inflation that would deviate it from the 3% target in a two-year horizon. Consequently, the Board decided to intensify the withdrawal of monetary stimulus, by raising the MPR by 75 bp to 1.5%.		The Copom decided to increase the Selic rate by 100 bp to 5.25%. Due to inflation, a higher-than-usual, the Committee understands that, at this moment, the strategy of a quicker monetary adjustment is the most appropriate to guarantee the anchoring of inflation expectations.
Sep.21	Although the shocks that have increased inflation are expected to be transitory, due to their variety, magnitude, and the extended horizon over which they have affected it. In order to avoid such risks, it was deemed necessary to reinforce the monetary policy stance. The Board decided to increase the target for the overnight interbank interest rate by 25 bp to 4.75%. The Board will assess the factors that have an incidence on the foreseen trajectory for inflation and its expectations.		The Board's risk evaluation considered the possibility that deviations in expected inflation compared to the target could become persistent. Announcement of the beginning of the normalization monetary policy. The board voted to increase the policy interest rate by 25 bp to 2.0%.	The Copom decided to increase the Selic rate by 100 bp to 6.25%. At this moment, the Copom indicates as appropriate to advance the process of monetary tightening further into the restrictive territory.
Oct.21		In a context where inflation expectations two years ahead stand above the 3% target. The Board has decided to anticipate the withdrawal of the monetary stimulus, raising the monetary policy interest rate (MPR) by 125 bp, to 2.75%, taking consideration of the need to prevent a more persistent increase in inflation that drives it to depart from the target in the two-year horizon.	The coexistence of increased inflation and expected inflation alongside a marked increase in economic activity. The board voted to increase the policy interest rate by 50 bp to 2.5%	Given the deterioration of the balance of risks and the increase in its inflation projections, the Copom indicates as appropriate to advance the process of monetary tightening even further into the restrictive territory. The Copom decided to increase the Selic rate by 150 bp to 7.75%.
Nov.21	The Board decided to increase the target for the overnight interbank interest rate by 25 bp to 5%. The Board will assess thoroughly the behavior of inflationary pressures as well as of all factors that have an incidence on the foreseen trajectory for inflation and its expectations.			
Dec.21	The Board evaluated the magnitude and diversity of the shocks that have affected inflation and the factors that determine it, along with the risk of price formation becoming contaminated. The Board decided to increase the target for the overnight interbank nterest rate by 50 bp to 5.5%.	The Board decided to raise the monetary policy interest rate by 125 bp to 4.0%. The Board foresees that the MPR will be further increased in the short term, to exceed its nominal neutral level —i.e., the one that is consistent with the 3% inflation target— during much of the monetary policy horizon.	Inflation expectations have been rising and are currently above the 3.0% target even for the medium term. This increases the risk of inducing indexation processes at higher inflation levels. The Board raised the policy rate by 50 bp thus putting it at 3.0%.	The Committee considers that, given the increase in its inflation projections and in the risk of a deanchoring of long-term expectations, it is appropriate to advance the process of monetary tightening significantly into the restrictive territory. The Committee will persist in its strategy until the disinflation process and the expectation anchoring around its targets consolidate.

In conclusion, even though the withdrawal of the extraordinary monetary stimulus has begun in the region, some measures are still in place and a gradual reduction is expected in others, especially credit stimulus, which may take additional time, depending on new developments in inflation and its determinants as well as on developments in the evolution of the pandemic.

Box 7
RECENT TRENDS IN NEW BORROWERS BY LOAN SEGMENT

Credit inclusion is understood as the access of individuals and firms to credit through the financial system and, more broadly, to financial products and services to meet their transaction, payment, savings, credit, and insurance needs, among other transactions. This resource allocation mechanism allows families and businesses to save their capital surpluses and to have access to growth opportunities, such as financing future investments like education, the acquisition of real estate, working capital, etc. Therefore, financial inclusion has positive effects on people's welfare. According to the World Bank data, since 2010, more than 55 countries have committed to promoting financial inclusion.

Social confinement measures coupled with uncertainty and the implementation of supportive government policies during the pandemic had an impact on the credit market. However, this impact has not been the same in all credit segments, which can be explained by differences in the dynamics of bankarization in each of these segments. Thus, while corporate loans grew at high rates during the months of confinement due to the effect of credit support programs such as Reactiva Perú, consumer loans showed negative rates and have only recently recovered. Mortgage loans, on the other hand, only showed declines during the months in which confinement measures were more restrictive.

The recent evolution of new borrowers and credit is analyzed in this box, explaining the different dynamics of the credit segments using information from the Consolidated Credit Register (CCR).

As shown in the table below, a significant drop was recorded in new borrowers during the first and second quarters of 2020 due to the confinement measures (mainly in the months of March and April), the drop being observed in all segments with the exception of medium, large and corporate businesses. Despite this significant drop, however, a recovery has been seen in recent quarters, although without reaching pre-pandemic levels yet.

NEW DEBTORS BY TYPE OF PLACEMENT1/
(Monthly average of the period)

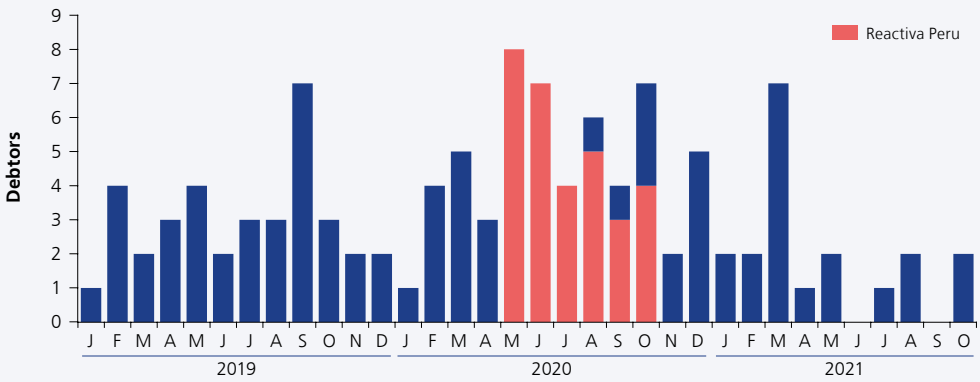
	2019	Q1.20	Q2.20	Q3.20	Q4.20	Q1.21	Q2.21	Q3.21	Q4.21 2/
Businesses	**53,403**	**44,265**	**5,142**	**28,358**	**43,222**	**37,312**	**44,430**	**47,903**	**49,846**
Corporate and large companies	3	3	6	5	5	4	1	1	2
Medium-sized enterprises	54	42	179	412	111	30	36	42	52
Small business and Micro business	53,346	44,219	4,956	27,941	43,106	37,278	44,393	47,860	49,792
Individuals	**77,283**	**68,224**	**11,156**	**24,735**	**44,392**	**47,848**	**54,396**	**57,563**	**59,317**
Consumer	74,836	66,381	10,484	23,176	41,778	45,340	51,855	55,179	56,255
Credit cards	25,311	19,704	2,421	5,229	8,412	9,052	12,256	15,336	19,444
Rest	49,525	46,677	8,064	17,947	33,366	36,288	39,599	39,843	36,811
Mortgage	2,447	1,842	671	1,559	2,614	2,508	2,540	2,384	3,062
TOTAL	**130,686**	**112,488**	**16,297**	**53,093**	**87,613**	**85,160**	**98,825**	**105,467**	**109,163**

1/Checking account overdraft credits are excluded.
2/Data from October 2021.
Source: RCC.

However, bankarization by credit segment in terms of the number of new borrowers shows that:

i. Loans to large and corporate businesses show a very small increase in bank penetration – below 10 companies per month– given that most companies in this segment already have access to some financial product. Moreover, most of the new companies during the period of confinement were those that accessed the Reactiva program. While banking penetration levels have not returned to their pre-pandemic levels, the margin is very small given the nature of this segment.

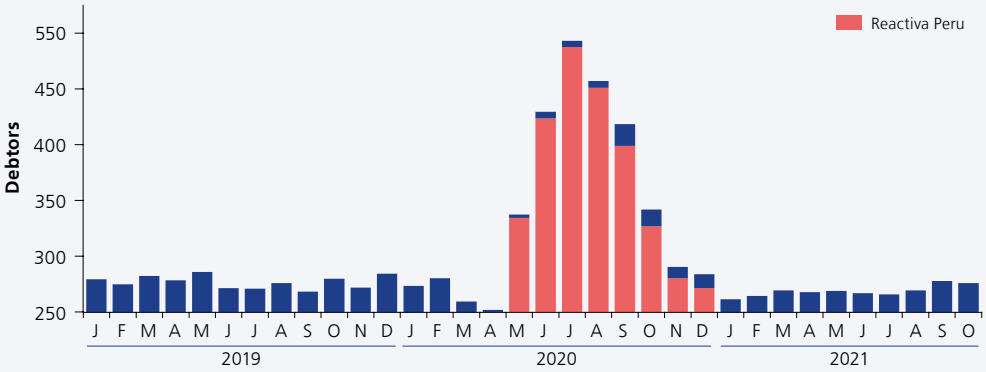
NEW LOANS TO CORPORATE AND LARGE COMPANIES
(Number of debtors)



Note: Checking account overdraft credits are excluded.
Source: RCC.

ii. The number of new loans to medium-size companies grew significantly during 2020, but returned to pre-pandemic levels in 2021. It is also observed that most of the new borrowers during the confinement period were beneficiaries of the Reactiva program.

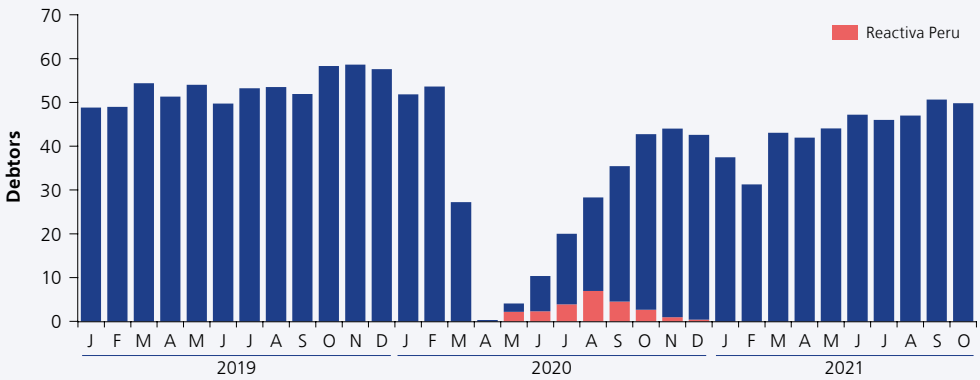
NEW LOANS TO MEDIUM-SIZED ENTERPRISES
(Number of debtors)



Note: Checking account overdraft credits are excluded.
Source: RCC.

iii. The number of new loans to small and micro businesses recovered rapidly at the end of 2020, although it is still below the level observed prior to the pandemic.

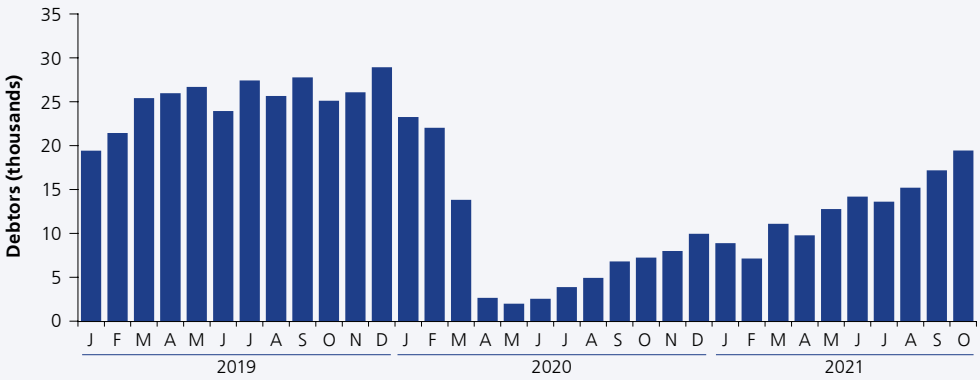
NEW LOANS TO SMALL BUSINESS AND MICRO BUSINESS
(Number of debtors)



Note: Checking account overdraft credits are excluded.
Source: RCC.

iv. The number of new consumer loans through credit cards fell sharply at the onset of the pandemic and began to show a positive trend since July 2020, but still remains below pre-pandemic levels.

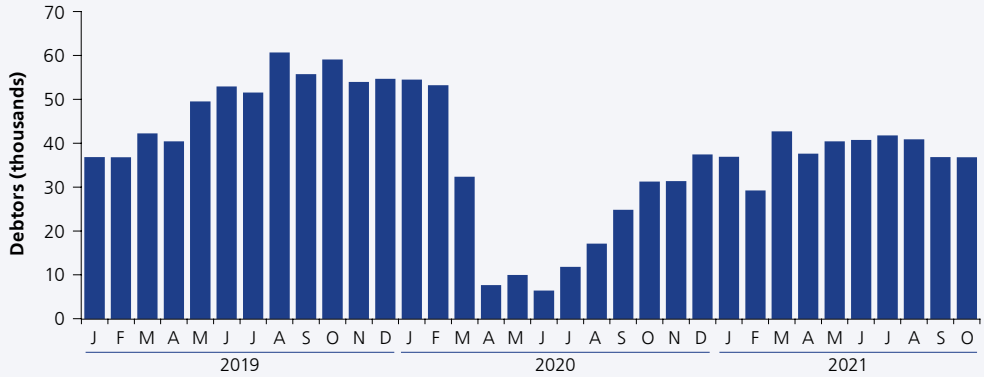
NEW CONSUMER LOANS THROUGH CREDIT CARDS
(Number of debtors)



Source: RCC.

v. The number of the remaining new consumer loans shows a similar dynamic to that of credit cards, although with a faster recovery. This category has not yet reached pre-pandemic levels either.

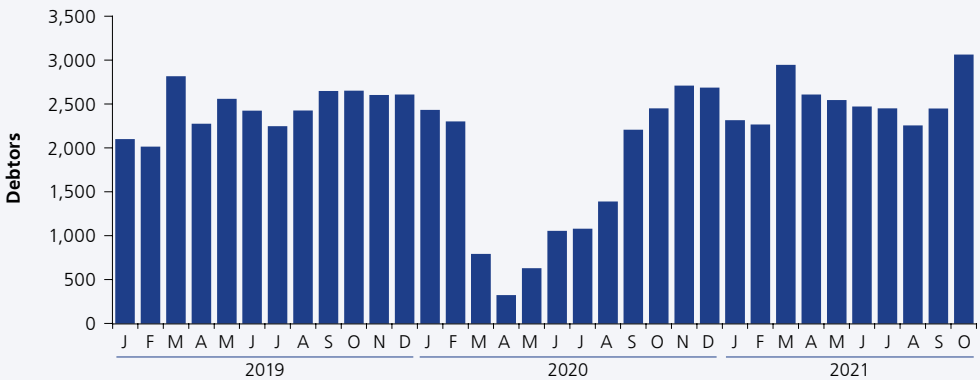
NEW LOANS FROM OTHER CONSUMER LOANS
(Number of debtors)



Source: RCC.

vi. On the other hand, the number of new mortgage loans quickly returned to pre-pandemic levels, despite having been affected by the confinement measures. Furthermore, it even showed a higher average than in 2019 since the first quarter of 2021, which reflects the lesser effect that the pandemic had on this credit segment and led it to be one of the most stable segments.

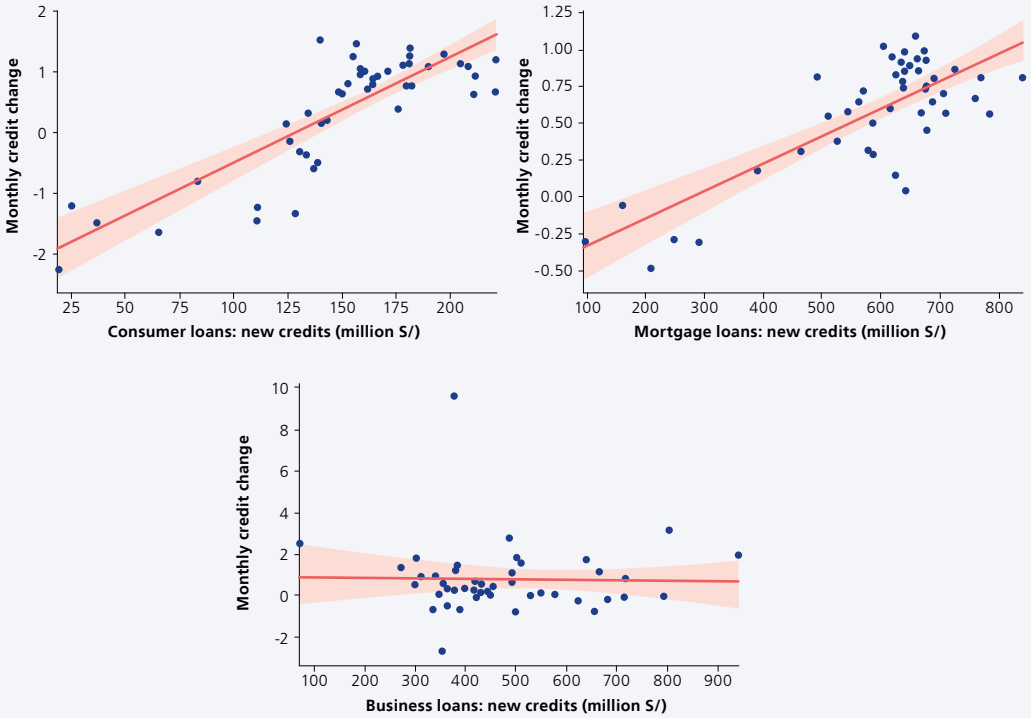
NEW MORTGAGE LOANS
(Number of debtors)



Source: RCC.

In order to analyze the importance of bankarization in each of the credit segments, we show correlation graphs between: (i) monthly variations of total credit balances, and (ii) bankarization between January 2018 and September 2021, expressed in million soles for each of the credit segments. These correlations reflect that the importance of bankarization is not the same for all credit segments. The consumer credit segment stands out, with banking penetration being an important factor for this segment (R^2 = 0.7), followed by the mortgage credit segment (R^2 = 0.6), and finally, the business credit segment, for which bankarization is not a determining factor (R^2 = 0.0008).

SCATTER CHARTS: MONTHLY CHANGE AND NEW LOANS BY LOAN SEGMENT



Note: The vertical axis takes into account the monthly percentage change of each credit segment; while the horizontal axis, the amount of credits of the new debtors each month. Linear trend and 95 percent confidence bands are included.
Source: RCC and bank account.

In conclusion, the inclusion of new borrowers in the financial system declined in all credit segments during the pandemic. However, important differences are observed among them during the recovery period, with these differences being explained by the dynamics of bankarization specific to each credit segment. We can see that only the mortgage segment has recovered (and even surpassed) its pre-pandemic levels of bankarization. Moreover, bankarization is an important factor, especially for the consumer and mortgage segments. The importance for the latter is explained by the fact that bankarization can be considered as new loans, given the long-term nature of the mortgage segment. On the other hand, banking penetration is less relevant in the segment of large companies and corporations which are already included in the financial system because of their size.

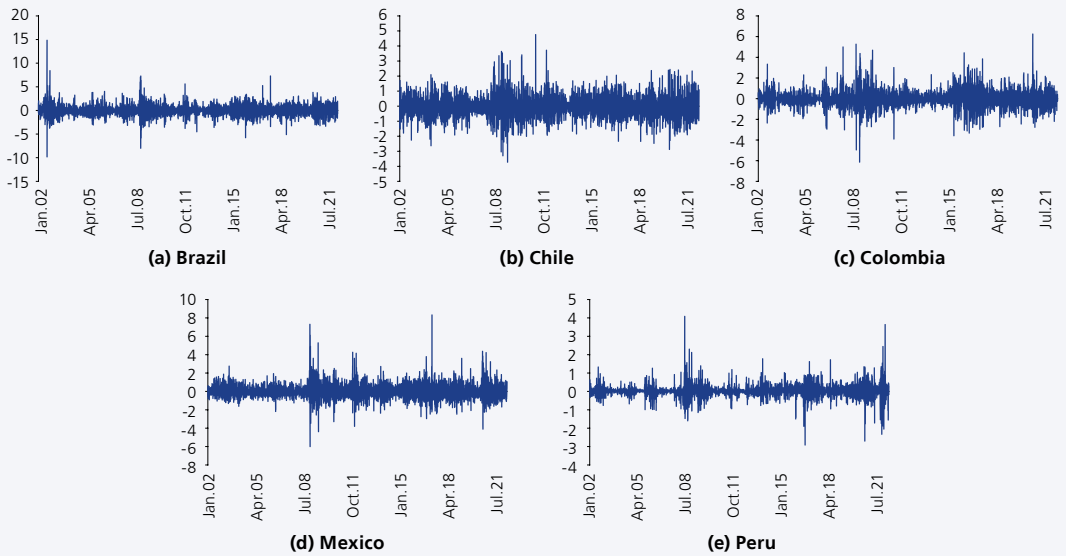
Box 8
EXCHANGE RATE VOLATILITY IN LATIN AMERICA: COMMON AND IDIOSYNCRATIC FACTORS[42]

Foreign exchange markets are crucial in determining the price of the local currency, i.e. the exchange rate of a currency against the US dollar or the currency of any other advanced economy. The exchange rate is always a crucial relative price for macroeconomic equilibrium, especially in the case of small open economies and emerging markets in general. Moreover, exchange rate volatility is also a highly relevant variable for determining financial stability, particularly when there is partial financial dollarization, and also when there are different links in the production chains where goods are invoiced in dollars even if they are not part of foreign trade activity itself.

In Latin American countries with inflation targeting regimes, although they have some margin for independent exchange rate fluctuations based on macroeconomic fundamentals, we observe a partial comovement in the daily yields of these currencies. Part of the explanation for this synchronization is the strong influence of the dollar in these economies, both in international trade and in financial markets (e.g. forward contracts or hedging operations, etc.). Thus, clusters of volatility can be seen in certain common episodes, such as the 2008 International Financial Crisis, the 2013 Taper Tantrum, and the last episode associated with the Covid-19 pandemic[43]. Moreover, some level of volatility can also be observed in each country in episodes of greater domestic uncertainty (usually due to political factors), such as those associated with general elections.

DAILY EXCHANGE RATE RETURNS IN THE REGION: 2002-2021*

(%)



* As of October 31, 2021.
Source: Reuters.

42 This Box is based on the paper presented at the BCRP Encuentro de Economistas: Pérez, Fernando (2021), "FX Volatility LATAM: Common and Idiosyncratic Factors", BCRP.

43 Fratzscher (2009) develops this idea of synchronization of volatilities in a context of global crisis. See: i) Fratzscher, M. (2009). What explains global exchange rate movements during the financial crisis? Journal of International Money and Finance, 28 (8), 1390-1407, the Global Financial Crisis: Causes, Threats and Opportunities, ii) Coudert, V., Couharde, C. and Mignon, V. (2011). Exchange rate volatility across financial crises. Journal of Banking Finance, 35 (11), 3010-3018.

In this context, our particular aim is to capture the common component of volatility for the region's currencies and to determine the fraction of total volatility explained by this factor. This will give us a clear idea of how much of the exchange rate volatility is due to domestic or to international factors. We define the exchange rate return $r_{i,t} = 100(e_{i,t} - e_{i,t-1})/\ e_{i,t-1}$ for each country $i = 1, \ldots, N$, and consider the following stochastic volatility representation[44]:

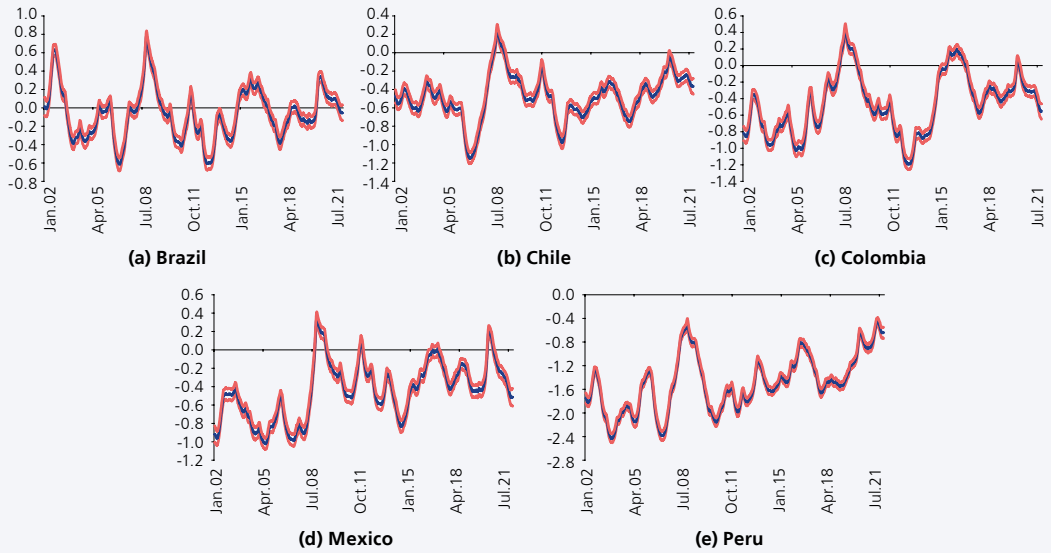
$$r_{i.t} = \alpha_i + exp\left(\frac{b_i h_t}{2} + \frac{h_{i.t}}{2}\right) \upsilon_{i.t}. \qquad \upsilon_{i.t} \sim i.i.d.N(0.1)$$

$$h_t = h_{t\text{-}1} + \eta_t. \qquad \eta_t \sim i.i.d.N(0.\ \sigma_\eta^2)$$

$$h_{i.t} = h_{i.t\text{-}1} + \epsilon_{i.t}. \qquad \epsilon_{i.t} \sim i.i.d.N(0.\ \sigma_{\epsilon_i}^2)$$

The component h_t represents the volatility common to all the economies under analysis, where there is also a specific weight for each one of them $(b_i > 0)$. In other words, the common volatility factor will have a differentiated impact for each economy, depending on the specific characteristics of each market. Likewise, each country has an idiosyncratic volatility component $h_{i,t}$, which is assumed to be independent of the common factor previously described, which is crucial to identify each of these elements[45].

FOREIGN EXCHANGE VOLATILITY IN LATAM: 2002-2021
(Mean value and 68% most likely bands)



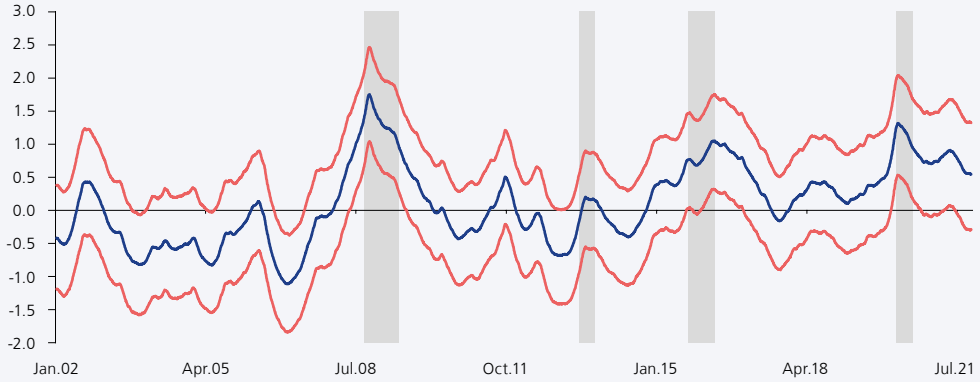
Thus, using daily return data for Brazil, Chile, Colombia, Mexico, and Peru in the interval from January 2002 to October 2021, we obtain the exchange rate volatility for each of the countries under analysis. This volatility can take negative values because it is on a logarithmic scale. Important peaks can be seen in these estimated volatilities, as in the case of 2008 and 2020. These phenomena will

44 This type of stochastic volatility models are estimated through Bayesian techniques of Monte Carlo with Markov Chains (MCMC). See: i) Kim, S., Shephard, N. and Chib, S. (1998). Stochastic volatility: Likelihood inference and comparison with ARCH models. The Review of Economic Studies, 65 (3), 361-393; ii) Del Negro, M. and Primiceri, G. (2015). Time varying structural vector autoregressions and monetary policy: A corrigendum. Review of Economic Studies, 82, 1342-1345.

45 See similar specifications in i) Laurini, M. and Mauad, R. (2015). A common jump factor stochastic volatility model. Finance Research Letters, 12, 2-10; ii) Lee, E., Han, D., Ito, S. and Nayga, R. (2017). A common factor of stochastic volatilities between oil and commodity prices. Applied Economics, Taylor and Francis Journals, 49 (22), 2203-2215; iii) Qu, Z. and Perron, P. (2013). A stochastic volatility model with random level shifts and its applications to SP 500 and NASDAQ return indices. The Econometrics Journal, 16 (3), 309-339.

be explained below. In Peru, the increase in volatility during the last episode of political uncertainty stands out, because it reaches levels similar to those seen during the International Financial Crisis.

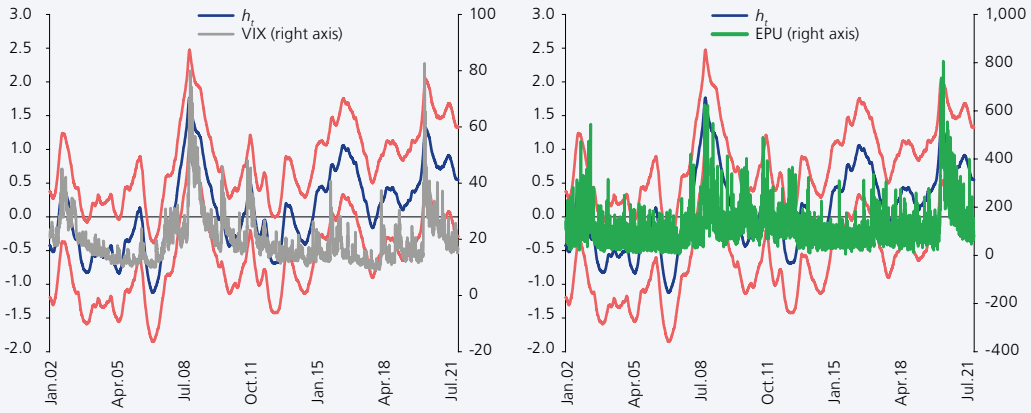
COMMON VOLATILITY FACTOR IN LATAM h_t: 2002-2021
(Median value and 68% most likely bands)



The gray areas represent the global episodes: i) Global Financial Crisis (2008), ii) Taper Tantrum (2013), iii) the start of international interest rate hikes and global uncertainty in the first quarter of 2016 and iv) the start of the COVID-19 pandemic.

Given the specified model, these volatilities can be decomposed into a common factor and an idiosyncratic factor. The common factor is shown in the graph above. In each of the shaded global episodes, we can see a significant and persistent increase in this factor, which translates into greater synchronization in the returns of the region's currencies. This is generally channeled through news or signals received by the market, and this results in the determination of a new equilibrium price based on supply and demand, both on the side of spot operations and derivative instruments. It is worth noting that this factor reached its historical peak during the 2008 Financial Crisis and that this peak has not been surpassed by subsequent events, although it reached levels close to it in the Covid-19 pandemic. It is also worth noting that the estimated global factor is highly correlated with other global measures of uncertainty, such as the VIX[46] or the U.S. EPU[47] indices, as shown below.

COMMON VOLATILITY FACTOR h_t MEASURES OF UNCERTAINTY: 2002-2021
(Median value and 68% most likely bands)



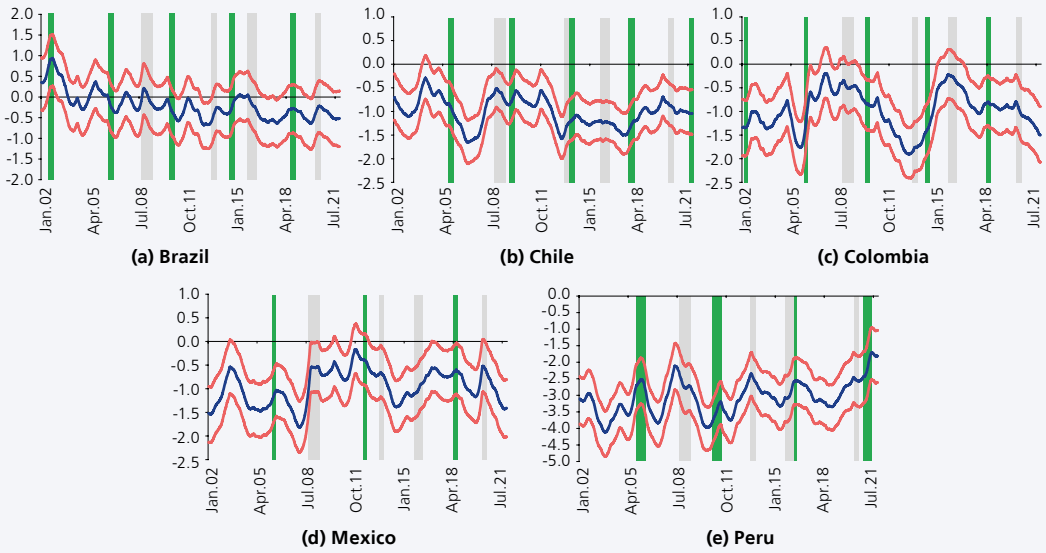
Source for VIX and EPU: FRED Database.

46 The VIX is a real-time volatility index created by the Chicago Board Options Exchange (CBOE)

47 The EPU is the Economic Policy Uncertainty Index.

Although it has been shown that exchange rate volatility in the region is highly synchronized, it should be pointed out that there are domestic factors that also influence it. Therefore, the idiosyncratic volatility component is shown for each of the countries under analysis, also on a logarithmic scale, in the graph below. An increase in idiosyncratic volatility related to these electoral periods is observed in most cases, which is quite noticeable especially in the case of Peru, followed by the case of Brazil, Mexico, Colombia, and Chile. Another important point that one can see from this result is that, in some cases, hikes in idiosyncratic volatility are also observed after global events. Although the effect associated with the synchronization factor has been isolated, the latter is due to a contagion effect derived from global uncertainty, which is amplified by the deterioration of domestic conditions. A clear example of this is the aforementioned global crises, as well as the recent pandemic episode. On the other hand, it is worth highlighting the lower magnitude of idiosyncratic volatility in the case of Peru with respect to its peers in the region, which would be associated to the greater credibility the PEN has acquired in recent years and also to the fact that participating agents internalize the fact that the Central Bank could intervene in the market to mitigate this volatility.

IDIOSYNCRATIC VOLATILITY FACTOR $h_{i.t}$: 2002-2021
(Median value and 68% most likely bands)



The gray areas represent the global episodes: i) Global Financial Crisis (2008), ii) Taper Tantrum (2013), iii) the start of international interest rate hikes and global uncertainty in the first quarter of 2016 and iv) the start of the COVID-19 pandemic. The green areas capture in each case the national election period with three months in advance.

Finally, in order to quantify which factor is predominant in the aggregate volatility, an indicator is constructed from the results of the model estimation. This relative volatility indicator is defined as:

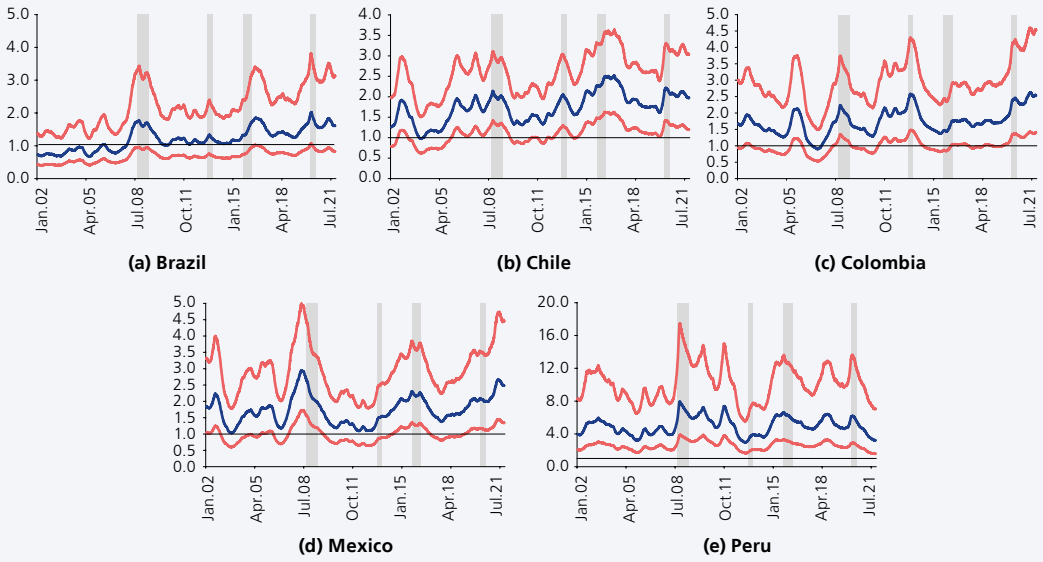
$$I_{i.t} = \frac{exp\left(\frac{b_i * h_t}{2}\right)}{exp\left(\frac{h_{i.t}}{2}\right)}$$

It is important to note that the coefficient $(b_i > 0)$ plays a crucial role in the construction of this indicator, since it represents the direct impact that global volatility has on the volatility of each country, and that these estimated coefficients range between 0.5 and 1.0 for these economies under

analysis. Given the above, it is possible to test the hypothesis $H_0: I_{i,t} > 1$ for each country, which would mean that the contribution of the global factor is significantly greater than that of the local one. The graph below shows the resulting indicator for each country, and plots the line of $I_{i,t} = 1$ to perform the test. The results show that, in most cases and for almost the entire sample, the global factor is the predominant factor in exchange rate volatility, with the exception of Brazil, followed by Mexico. The gray areas associated with the global events mentioned above have also been added here for reference. It can thus be clearly seen that this relative contribution intensifies during such marked events, making it clear that this effect is not constant over time. Furthermore, the case of Peru stands out in terms of magnitude as this indicator is substantially higher than in the rest of the countries (although it has been decreasing in recent months), which is also the result of the lower idiosyncratic volatility mentioned above.

INDICATOR OF GLOBAL VOLATILITY RELATIVE TO DOMESTIC

(Median value and 68% most likely bands)



The gray areas represent the global episodes: i) Global Financial Crisis (2008), ii) Taper Tantrum (2013), iii) the start of international interest rate hikes and global uncertainty in the first quarter of 2016 and iv) the start of the COVID-19 pandemic. The green areas capture in each case the national election period with three months in advance.

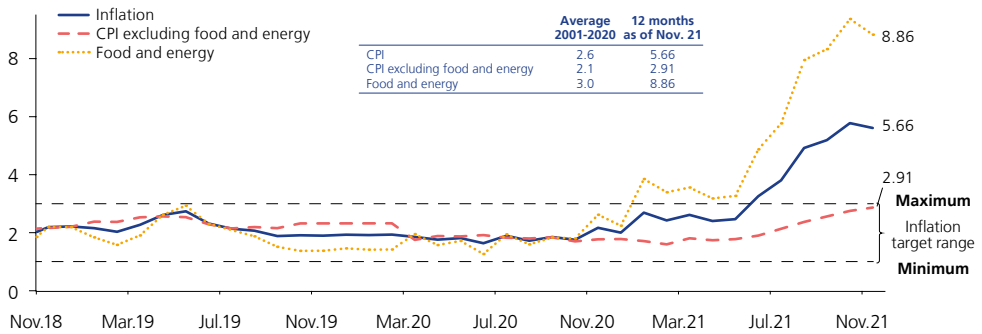
In conclusion, having estimated the exchange rate volatility of Brazil, Chile, Colombia, Mexico, and Peru, and having identified the common and idiosyncratic components of this volatility, we find that the common factor obtained shows a high correlation with global events, such as different crisis episodes, which is in line with other popular measures of uncertainty in the market (the VIX and EPU indices). Moreover, the contribution of the global factor is generally relatively higher than that of the domestic one (with the exception of the case of Brazil), with a higher contribution in the case of Peru standing out. Finally, idiosyncratic or domestic volatility is usually highly correlated with pre-election periods.

VI. Inflation and Balance of Inflation Risks

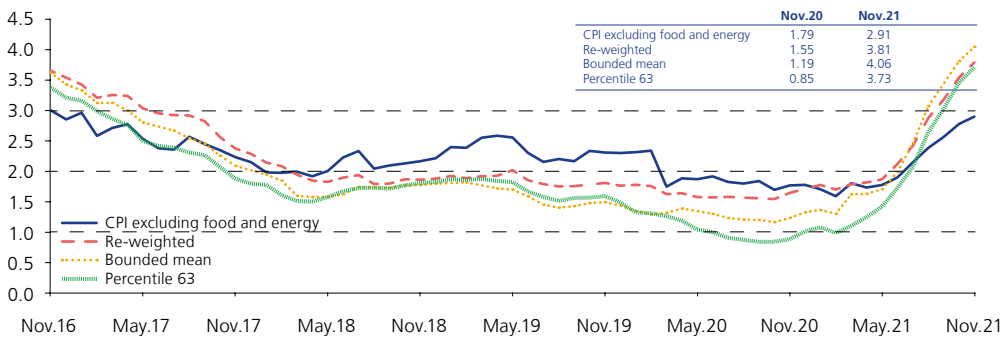
Recent inflation trends

90. Year-on-year **inflation** rose to 5.66 percent in November, from 4.95 percent in August, due to the higher prices of food products with a high content imported content, fuels, and the depreciation of the sol. Inflation excluding food and energy rose from 2.39 to 2.91 percent in the same period, remaining within the target range. Moreover, the different indicators of trend inflation show levels above the target range as well as an upward trend.

Graph 112
INFLATION
(Last 12-month % change)



Graph 113
MEASUREMENTS OF THE INFLATIONARY TREND
(Last 12 months % change)



Memo:
1. CPI excluding food and energy: CPI excluding food, fuel and electricity.
2. Re-weighted: Reduces the weight of items with greater volatility, considers the original weights of each item between 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 located in the 63th percentile.

91. Inflation's upward trend in recent months is mainly the result of a global phenomenon, which is explained by supply issues and by the rapid recovery of the world economy. Among these factors is the significant increase in the international prices of commodities, particularly the price of oil and the prices of some foodstuffs such as wheat, maize, and soybean oil. The price increases add onto the higher cost of maritime freight and other inputs, as well as onto the local increase in the foreign exchange rate.

92. The increase in the cost of inputs has been reflected in the rise of the wholesale price index (WPI), which grew 13.2 percent in 2021 (13.9 percent year-on-year variation as of November) and registered its highest level since September 1994 (15.1 percent). In addition, another factor weighing on this was the increase in the exchange rate (which meant a cumulative depreciation of the PEN of 11.6 percent between January and November 2021, or 11.4 percent year-on-year), which affected the cost of imported inputs in local currency.

93. Thus, the items most closely linked to the exchange rate, to international prices, and to WPI-linked contracts contributed 3.2 percentage points to the 12-month variation of inflation as of November. It is worth mentioning as a reference that in December 2020, these same items contributed 0.7 percentage points to annual inflation, which was 2.0 percent at the time. The difference between these contributions only represents the direct effects of the aforementioned shocks, and not the total effect that these rises imply (including second-order or indirect effects).

Table 48

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

	Weight	% chg 12 months Dec.20	Weighted contribution	% chg 12 months Nov.21	Weighted contribution
CPI	**100.00**	**1.97**	**1.97**	**5.66**	**5.66**
Items linked to the exchange rate	**14.06**	**1.66**	**0.21**	**3.66**	**0.47**
Appliances	1.29	-0.42	0.00	3.47	0.03
Personal care items	4.93	0.75	0.03	1.72	0.08
Cleaning articles	0.92	0.74	0.01	3.50	0.03
Medicinal products	2.08	5.53	0.11	1.72	0.04
Vehicle purchase	1.62	3.34	0.06	7.73	0.13
Spare parts and car wash	0.21	2.15	0.00	8.41	0.02
Vehicle repair	0.20	2.04	0.00	8.45	0.02
Rentals	2.41	0.50	0.01	1.17	0.02
Plane tickets	0.41	-3.32	-0.01	33.70	0.10
Items linked to international prices and exchange rate	**9.83**		**0.19**		**2.07**
Linked to food commodities	**7.03**	**4.83**	**0.30**	**15.71**	**1.02**
Chicken meat	2.96	6.63	0.17	11.65	0.33
Bread	1.92	0.25	0.00	14.98	0.25
Sugar	0.53	16.41	0.08	11.77	0.06
Noodles	0.54	5.60	0.03	10.37	0.06
Oils	0.52	4.09	0.02	63.20	0.29
Eggs	0.58	0.00	0.00	7.12	0.03
Fuels	**2.79**	**-4.20**	**-0.11**	**43.51**	**1.05**
Gasoline and lubricants	1.30	-11.16	-0.14	49.03	0.51
Gas	1.40	1.97	0.02	41.72	0.52
Other fuels	0.09	3.02	0.00	10.55	0.01
Consumption of natural gas for home	0.01	-5.26	0.00	25.85	0.00
Items related to WPI	**1.64**		**0.06**		**0.26**
Water consumption	1.64	3.03	0.06	13.74	0.26
Items related to the exchange rate, WPI and prices	**2.95**		**0.24**		**0.36**
Electricity	2.95	6.73	0.24	9.59	0.36
Total items related to exchange rate, WPI and prices	**28.47**	**2.58**	**0.70**	**11.55**	**3.16**
Rest	**71.54**	**1.75**	**1.27**	**3.44**	**2.50**

94. The confluence of all the aforementioned shocks has had a greater impact on inflation in the food and energy group, whose variation drove the growth of total inflation in the last twelve months to a greater extent, with fuel prices increasing the most (43.5 percent) within this group, followed by electricity rates (9.6 percent). Finally, the price of food is estimated to have grown 6.7 percent.

Table 49
INFLATION
(% change)

	Weight	2019	2020	2021	
				Jan.-Nov.	12 months
CPI	**100.0**	**1.90**	**1.97**	**5.60**	**5.66**
1. CPI excluding food and energy	**56.4**	**2.30**	**1.76**	**2.56**	**2.91**
a. Goods	21.7	1.39	1.52	2.33	2.40
b. Services	34.8	2.86	1.91	2.70	3.22
Education	9.1	5.22	1.98	1.60	1.60
Health	1.1	1.47	1.20	2.64	2.98
Other	24.6	1.79	1.91	3.24	4.04
2. Food and energy	**43.6**	**1.43**	**2.22**	**9.18**	**8.86**
a. Food and beverages	37.8	1.00	2.24	7.20	6.70
Meals inside the home	26.1	0.63	2.89	8.99	8.10
Meals outside the home	11.7	1.69	1.00	3.73	3.99
b. Fuel and electricity	5.7	4.32	2.13	21.97	22.91
Fuel	2.8	-0.39	-4.20	41.33	43.51
Electricity	2.9	8.04	6.73	9.30	9.59

95. Moreover, some CPI components deviated from their historical average variations. For example, the services that registered the highest price increases in the last twelve months were health services (3.0 percent), reflecting increased requirements of medical and health care due to the pandemic. Similarly, the category of meals consumed away from home showed a higher rate than that recorded in the 2001-2020 period due to the higher cost of inputs and to a recovery in the level of attendance to restaurants as the process of economic reopening and the level of immunizations against COVID has been progressing.

96. As for the evolution of prices during 2021, in the period from January to November the general price level increased 5.60 percent. The CPI index without food and energy grew 2.56 percent in the same period, while the food and energy component grew at a higher rate (9.18 percent). The prices of food and beverages increased by 7.20 percent, while energy prices rose by 21.97 percent, reflecting the 41.33 percent rise in fuel prices and the 9.30 percent rise in electricity rates.

97. At a disaggregated level, the items with the highest positive contribution to inflation in the January-November period were meals consumed away from home, chicken meat, gasoline, gas, and electricity rates, while the items with the highest negative contribution were bananas, tangerines, lemons, oranges, and garlic.

Table 50

ITEM WITH THE HIGHEST WEIGHTED CONTRIBUTION TO INFLATION: JANUARY -NOVEMBER 2021

Positive	Weight	% chg.	Contr.	Negative	Weight	% chg.	Contr.
Meals outside the home	11.7	3.7	0.51	Banana	0.3	-8.4	-0.04
Chicken meat	3.0	19.1	0.50	Tangerine	0.2	-9.0	-0.02
Gasoline and lubricants	1.3	46.9	0.50	Lemon	0.2	-7.8	-0.02
Gas	1.4	39.2	0.50	Table orange	0.1	-13.7	-0.01
Electricity	2.9	9.3	0.35	Garlic	0.1	-11.6	-0.01
Oils	0.5	63.2	0.29	National transportation	0.3	-2.3	-0.01
Bread	1.9	15.1	0.25	Grape	0.1	-6.2	-0.01
Water consumption	1.6	11.6	0.22	Avocado	0.1	-3.5	-0.01
Tuition and teaching pension	8.8	1.6	0.17	Celery	0.0	-13.6	-0.01
Vehicle purchase	1.6	7.6	0.13	Internet service and other	0.8	-1.1	-0.01
Total			**3.42**	**Total**			**-0.15**

Foodstuffs

During the January to November period, the price increases standing out were those observed in meals consumed away from home, chicken meat, oils, and bread, all of which have a high imported content.

The increase in the price of meals consumed away from home (3.7 percent) was driven by the increase in the prices of restaurant menus, this item category being affected by the higher cost of the main food inputs used, such as chicken meat, oil, and farinaceous products. In addition, the elimination of capacity restrictions on restaurants and progress in the vaccination process contributed to incease people's attendance to restaurants. Despite the latter, however, the accumulated variation of this item this year is lower than that observed in the category of food prepared within the household (7.2 percent).

The rise in the price of chicken meat (19.1 percent) was due to the increase in production costs as a result of the higher international price of hard yellow maize, the main input for poultry feed (cumulative variation in the year of 29.1 percent, and 35.9 percent year-on-year), as well as by the increase in the exchange rate. This has taken place in a context of rising costs and lower availability of substitute products such as fish, which would affect the supply of poultry.

In the case of bread (15.1 percent), in addition to the increase in the exchange rate, international wheat prices rose 34.1 percent in the first eleven months of the year (68.2 percent year-on-year).

On the other hand, in the case of edible oil (63.2 percent), production costs increased due to the rise in the international price of soybean oil, its main input, and due to the depreciation of the PEN. Although the price reached its peak in June, it remains around historical maximum levels.

Fuels

The variation in the prices of gasoline and lubricants (46.9 percent) mainly reflected the dynamics of final gasohol prices and the price of vehicle diesel, in line with the average

variation of ex-plant prices of local refineries. In turn, this reflected mainly the increases in the international marker (Gulf Coast price). It is worth mentioning that the inclusion of diesel in the Fuel Price Stabilization Fund (FPSF) since November 16 is estimated to have partially curbed the price increase towards the end of the period.

The price rise in the case of a domestic gas cylinder (39.2 percent) was related to the increase in the international benchmark price (the propane and butane gas prices at Mont Belvieu) and the higher exchange rate. However, the inclusion of bottled LPG in the FPSF since September 6 would have contributed to temporarily curb the increase given that the band adjustment mechanism would have triggered a new increase in November, because the band was well below the parity price.

Utilities

The rise in electricity rates (9.3 percent) reflects the adjustments of a series of components affected by increases in the WPI, the exchange rate, and the prices of copper and aluminum.

In the case of the water consumption rates, the 11.6 percent increase was due to automatic adjustments for the accumulated increase in the WPI. According to the legislation, water rates are updated every time the accumulated variation of the WPI exceeds 3 percent. This year the WPI has crossed this threshold in February, June and August. As a result, the rate was first increased by 2.9 percent in March. Then, a new increase was authorized in July based on the WPI increase between June and February 2021 (4.6 percent), with which the rate gradually rose 1.87 percent in July, 1.96 percent in August, and 0.71 percent in September. Finally, the last increase of 3.4 percent was implemented in November following an increase of the WPI of the same magnitude between June and August.

Goods

Rises were observed in the category of goods in the prices of vehicles (7.6 percent), which was mainly associated with the impact of the cumulative growth of the exchange rate in 2021. Nonetheless, a 1.5 percent reduction in vehicle prices was recorded in November due to the reversal of the exchange rate during October.

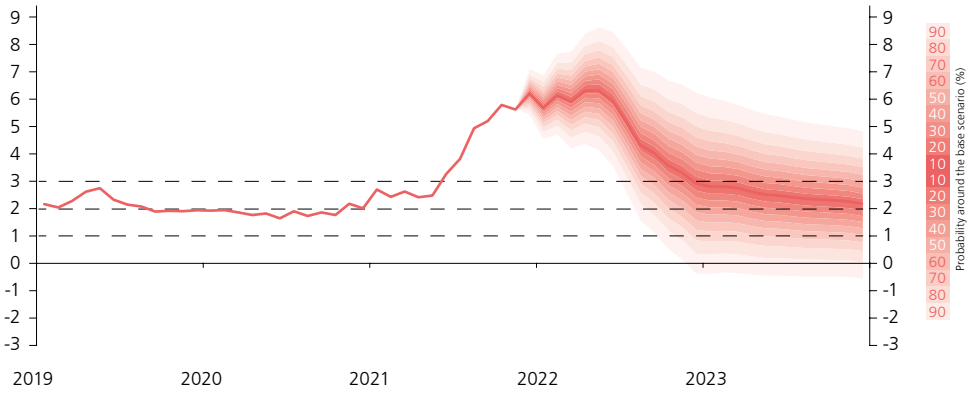
Forecasts

98. BCRP adopts monetary policy actions in advance in response to inflation forecasts and projections of its determinants, taking into account all available macroeconomic and financial information. Key determinants of inflation include inflation expectations, imported inflation (which comprises the effect of the exchange rate), and inflationary pressures on both demand and supply.

Based on available information, and taking into account the gradual recovery of economic activity, year-on-year inflation is projected to return to the target range in the second half of 2022 and to converge to its center value by the end of the forecast horizon. This projection assumes the reversal of the effect of transitory factors on the inflation rate (exchange rate, international fuel and grain prices) in a context in which

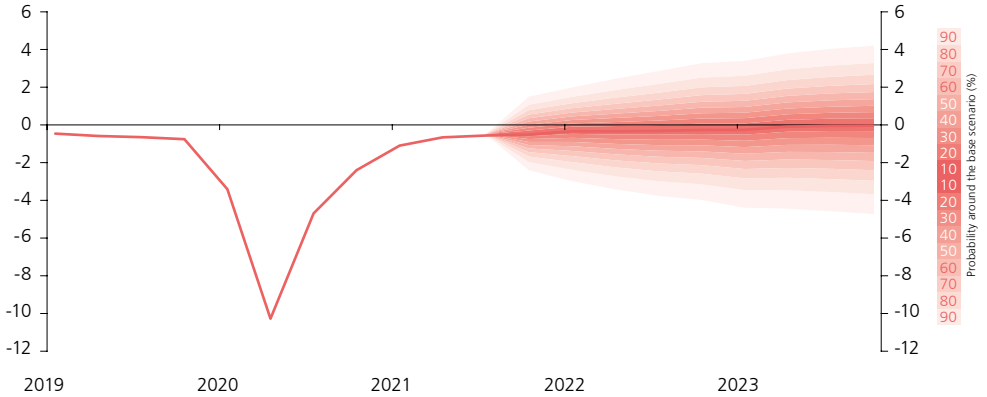
the output gap will gradually close as the aggregate economy registers a level equal to or higher than that observed prior to the pandemic, and where the gradual withdrawal of monetary stimulus continues, and inflation expectations return to the center of the target range in the following months.

Graph 114
INFLATION FORECAST: 2021 - 2023
(Last 12-month % change)



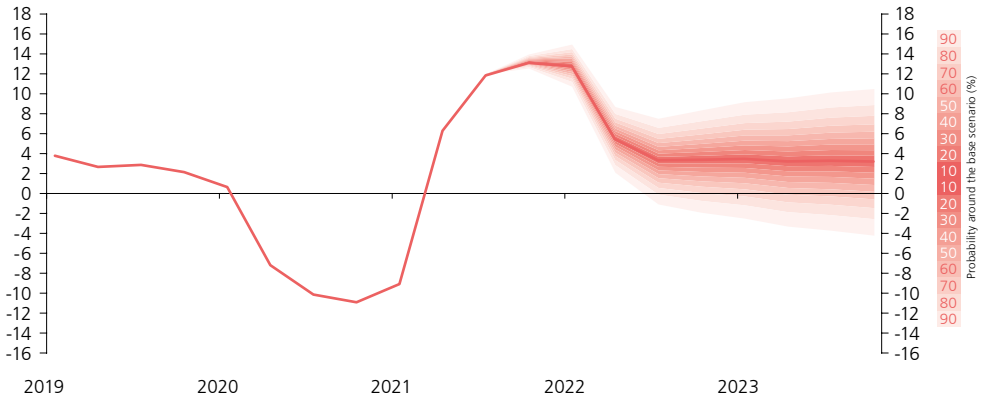
99. A recovery of the demand gap is expected for 2022 and 2023, supported by the gradual improvement of the economy of our main trading partners, as well as by the strengthening of business confidence.

Graph 115
DEMAND GAP FORECAST: 2021 - 2023
(Quarterly average)



100. The recovery of the demand gap, together with the normalization of economic activities, point to a gradual but sustainable recovery in the level of economic activity.

Graph 116
GDP GROWTH FORECAST: 2021 - 2023
(Last 12-month % change)



101. Inflation expectations, calculated based on surveys conducted among representatives of financial entities and non-financial firms, as well as economic analysts, reveal an expected inflation rate for 2021 that ranges between 4.10 and 5.80 percent, while the rate expected for 2022 ranges between 3.21 and 3.55 percent and that expected for 2023 ranges between 2.80 and 3.00 percent, indicating that inflation is expected to return to the target range by the end of the forecast horizon. It should be pointed out that twelve-month inflation expectations in November 2021 rose to 3.71 percent, temporarily above the upper limit of the inflation target range.

Graph 117
EXPECTATION OF INFLATION FOR THE NEXT YEAR
(% points)

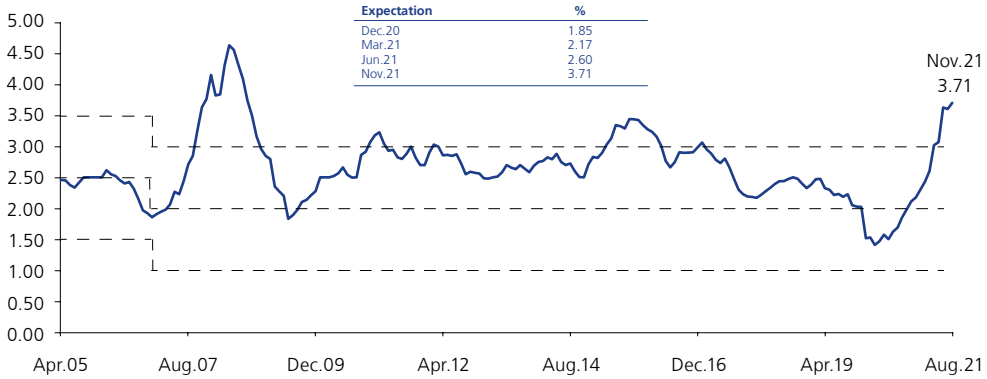


Table 51
SURVEY ON INFLATION EXPECTATIONS
(%)

	IR Mar.21	IR Jun.21	IR Sep.21	IR Dec.21*
Financial entities				
2021	2.00	2.50	3.60	5.80
2022	2.00	2.20	3.00	3.50
2023				3.00
Economic analysts				
2021	2.20	2.50	3.74	5.75
2022	2.30	2.45	2.55	3.55
2023				2.80
Non-financial firms				
2021	2.00	2.39	3.20	4.10
2022	2.20	2.30	3.00	3.21
2023				3.00

* Survey conducted as of November 30.

102. Another determinant of inflation is the imported component, which combines the effect of the international prices of the products that our country imports, such as crude oil, wheat, soybean, and maize, for example, with the effect of the exchange rate variation (U.S. dollar/sol exchange rate).

Thus, average import prices are projected to increase by 16.1 percent in 2021, mainly due to the increase in the price of crude oil and some foodstuffs, such as maize, wheat, and soybean. Moreover, a 3.6 percent increase is expected in 2022, basically due to increases in the price of crude oil and wheat, while these prices are expected to remain similar on average during 2023. On the other hand, the survey responses on the expected exchange rate as of November show levels between S/ 4.00 and S/ 4.10 per dollar in 2021, between S/ 4.10 and S/ 4.20 per dollar in 2022, and between S/ 4.01 and 4.25 in 2023.

Table 52
SURVEY ON MACROECONOMIC EXPECTATIONS: EXCHANGE RATE
(S/ per US$)

	IR Mar.21	IR Jun.21	IR Sep.21	IR Dec.21*
Financial entities				
2021	3.50	3.50	4.10	4.00
2022	3.43	3.50	4.00	4.12
2023				4.20
Economic analysts				
2021	3.56	3.70	4.10	4.10
2022	3.53	3.72	4.25	4.20
2023				4.25
Non-financial firms				
2021	3.60	3.70	4.00	4.01
2022	3.55	3.60	4.00	4.10
2023				4.01

* Survey conducted as of November 30.

The aforementioned effects would contribute to inflation remaining around the center of the target range, even though the output gap is expected to register negative values during the projection horizon.

Balance of Risks of the Inflation Forecast

103. The balance of inflation risk factors in this Report remains positive, based on the following shocks:

- **Domestic demand shocks**

  If consumer and business confidence do not recover, this would generate a lower growth of private sector consumption and investment. On the other hand, delays in the execution of public spending, especially in investment, could also reduce the pace of economic recovery. In addition, the emergence of new variants of COVID-19 and the slowdown in the vaccination process could lead to new waves of infections and containment measures, also affecting consumer and business confidence. The short and medium-term impacts of these episodes would translate into a contraction of domestic demand and would have a negative effect on inflation through a decrease in the output gap.

- **External demand shocks**

  The emergence of new strains of the virus could bring about new containment measures, offsetting the reactivating effect of the fiscal stimulus measures approved in developed countries towards the end of 2020 and at the beginning of this year. On the other hand, the persistence of global inflation and its possible impact on inflation expectations could trigger a more accelerated withdrawal of monetary stimulus. This would translate into lower external demand with a negative impact on inflation.

- **Food and energy price shocks**

  Despite the current increase in international food and fuel prices, there are still risks of further increases in the future due to the production and supply problems generated by the current sanitary crisis.

- **Financial shocks**

  Episodes of foreign capital outflows in the emerging economies (mainly associated with a postponement of the end of the health crisis and growing public and private indebtedness), as well as a delay in the normalization of volatility in local financial markets would generate upward pressures on the exchange rate and, therefore, higher inflation over the forecast horizon.

Graph 118

BALANCE OF RISKS AGAINST THE BASE SCENARIO