Monetary Policy Challenges in Peru in a High Inflation Environment

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* The opinions expressed are those of the author and should not be attributed to the BCRP.

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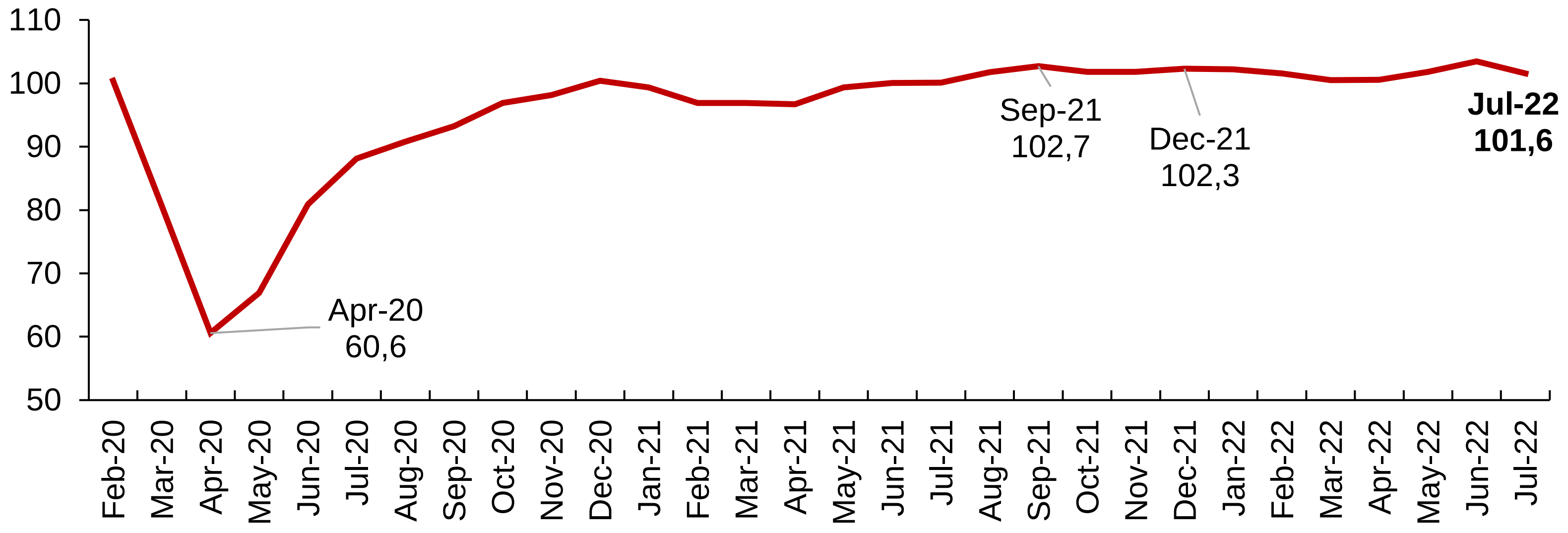
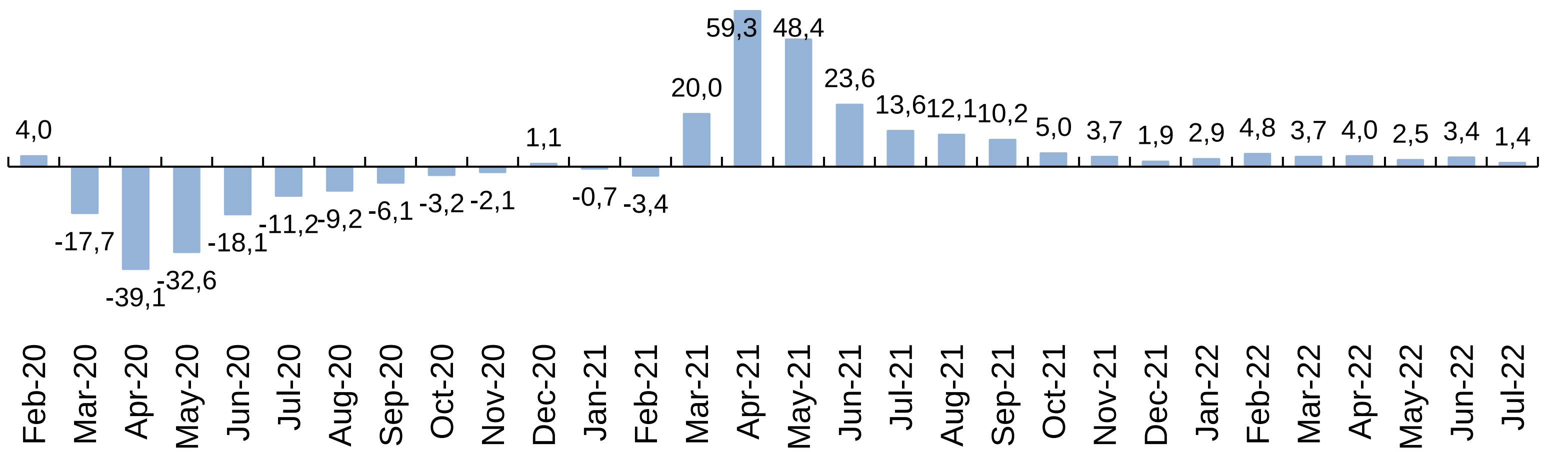
After a sharp slowdown in 2020, economic activity recovered quicky, remaining above its pre-pandemic level since mid-2021.

ECONOMIC ACTIVITY, SEASONALLY ADJUSTED INDEX, 4Q 2019 = 100



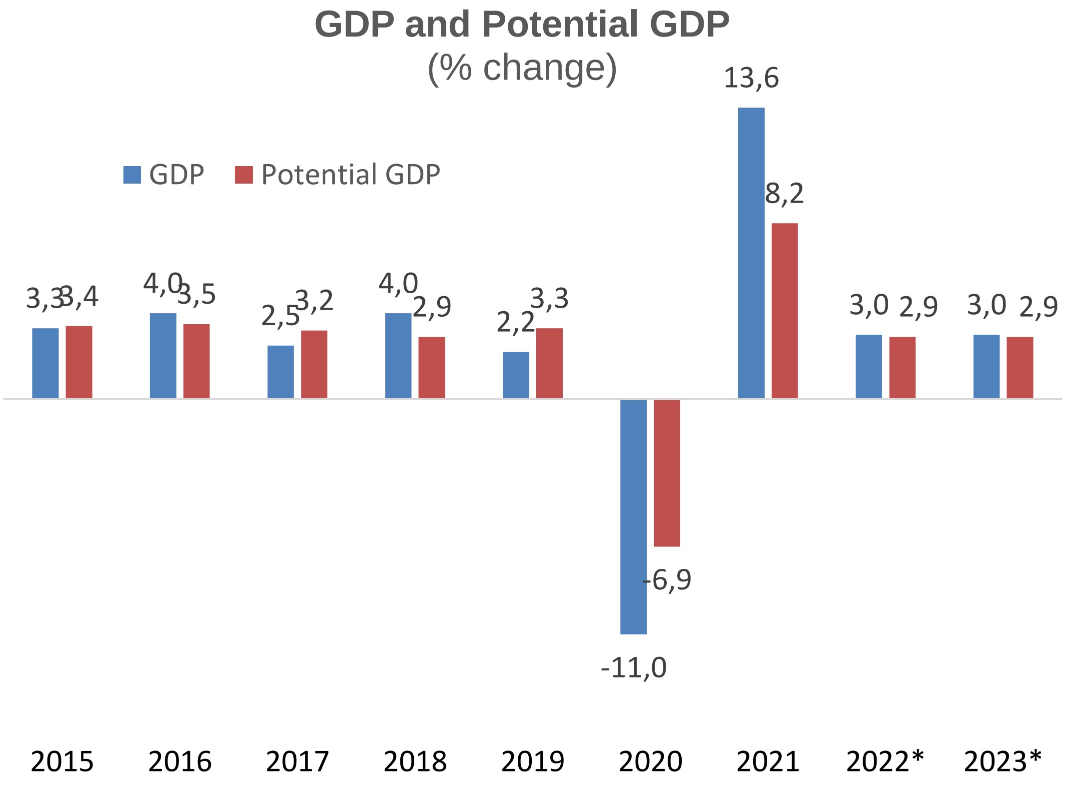
GROSS DOMESTIC PRODUCT, real % change

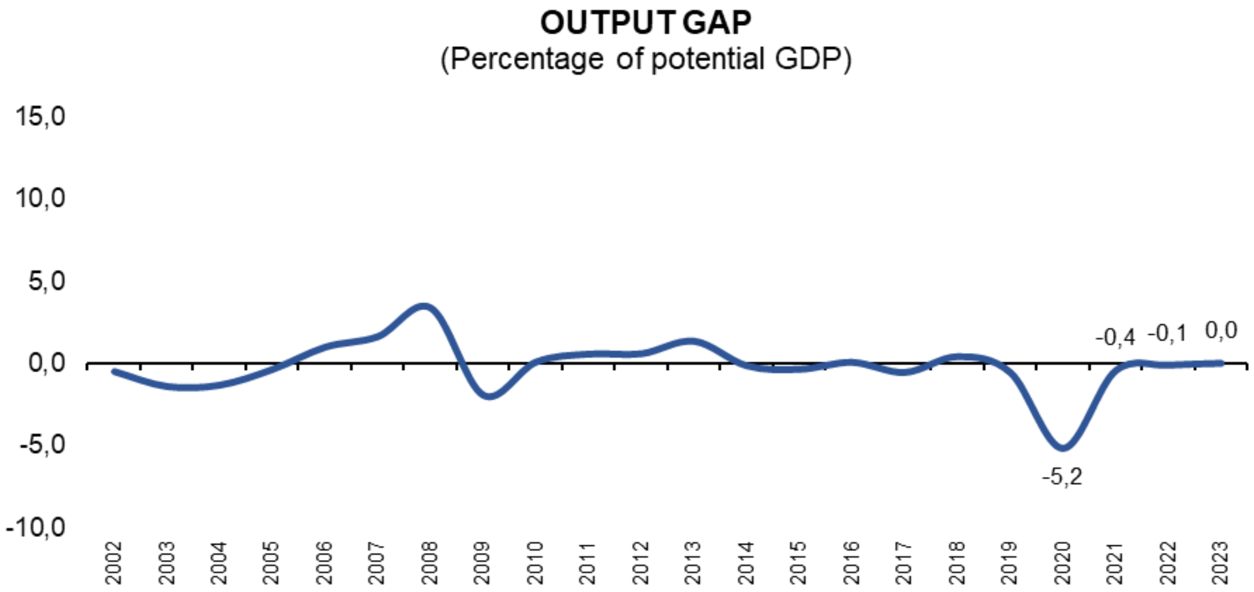


Fuente: BCRP.

100 años

GDP is estimated to be close to its potential level, without creating inflationary pressures from the demand side.

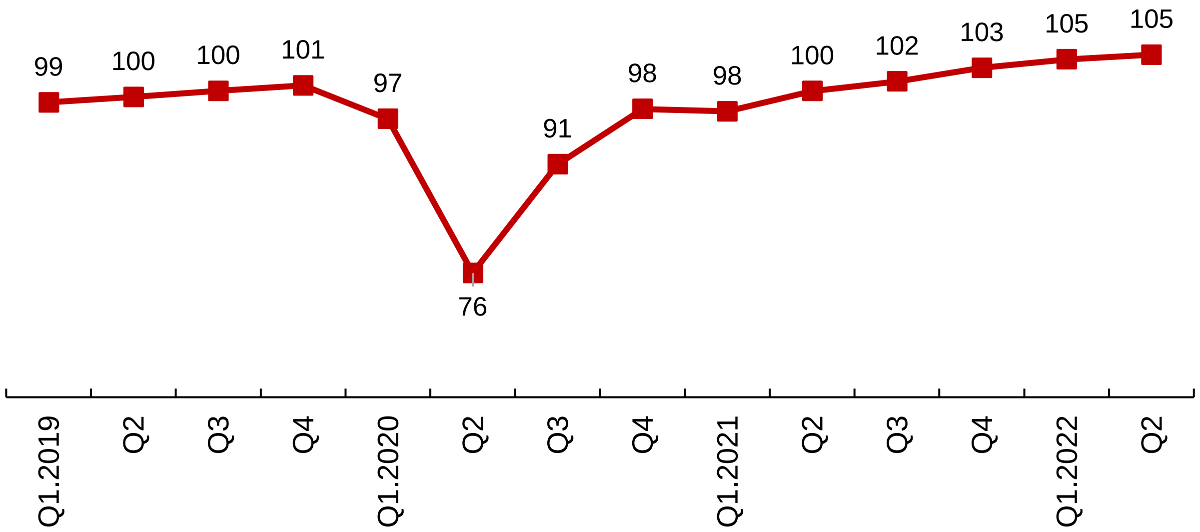




*Forecast
Source: BCRP.

Private consumption has remained above its pre-pandemic level since the second quarter of 2021, sustained by the recovery of the labor market, the easing of restrictions, and the availability of liquidity (from pension funds and unemployment insurance deposits). Private savings are decreasing from the 2020 historical maximum level

SEASONALLY ADJUSTED INDEX OF PRIVATE CONSUMPTION
Index 2019 = 100



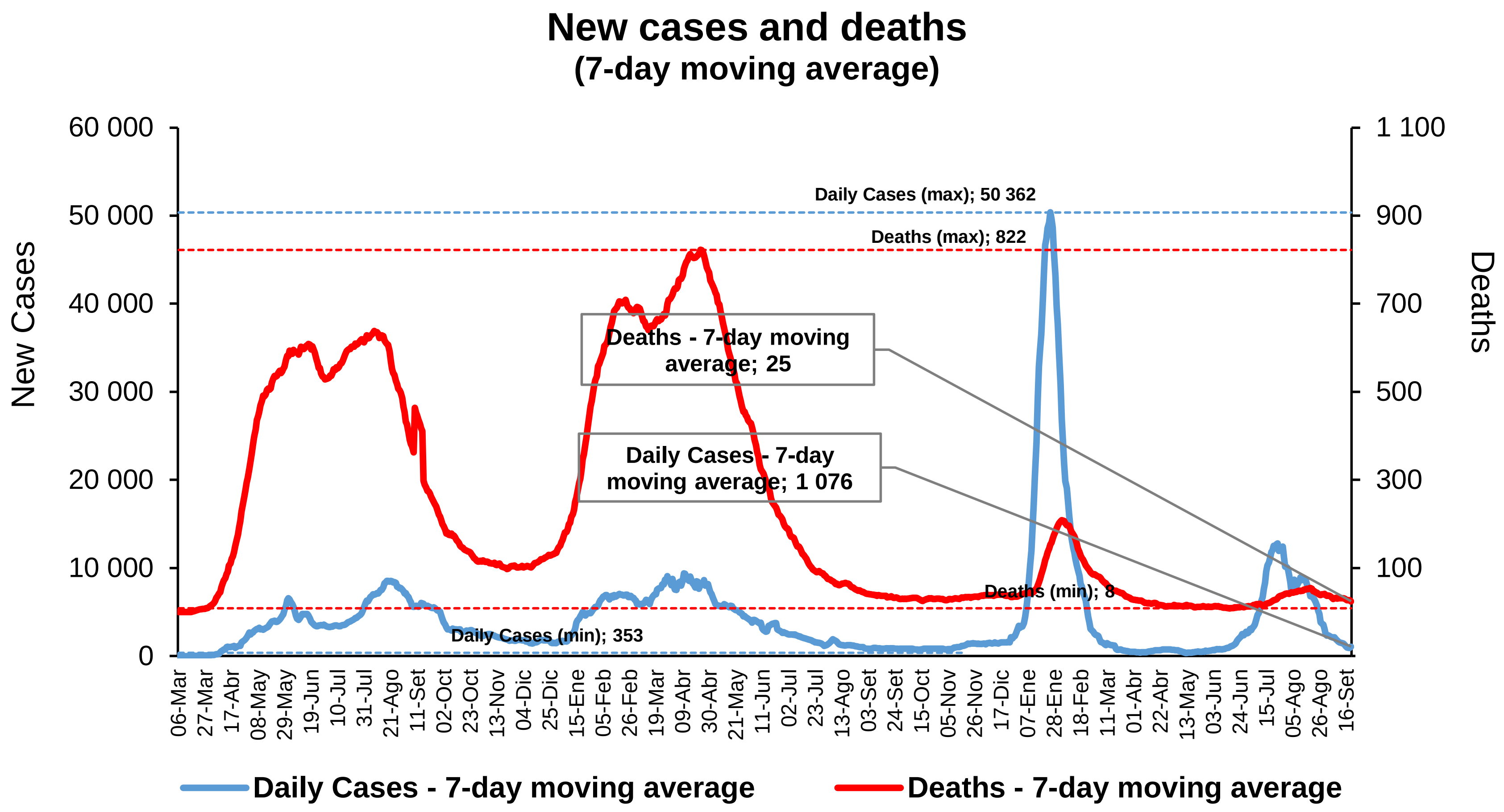
Source: BCRP.

SAVINGS-INVESTMENT GAP
(% of nominal GDP)

	2019	2020	2021	2022*	2023*
1 Domestic Gross Investment[1/]	21.8	19.7	22.0	21.4	21.2
2 Domestic Savings	21.1	20.9	19.7	17.7	19.4
External Gap (=2-1)	-0.7	1.2	-2.3	-3.8	-1.8
1.1 Private Domestic Gross Investment [1/]	17.2	15.4	17.3	16.6	16.6
1.2 Private Savings	18.1	25.5	17.5	14.8	16.6
Private Gap (=1.2-1.1)	0.9	10.0	0.2	-1.9	0.0
2.1 Public Investment	4.6	4.3	4.7	4.8	4.6
2.2 Public Savings	2.9	-4.6	2.1	2.9	2.8
Public Gap (=2.2-2.1)	-1.6	-8.9	-2.5	-1.9	-1.8

1/ Includes change on inventories.
* Forecast

By September 2022, the fourth Covid-19 wave is close to its end. In July 2021 both Covid-19 cases and deceases were decreasing.



Source: Sala Situacional COVID19 del Ministerio de Salud de Perú.

	Deaths	Cases
March 20	180	1 317
Apr	5 130	46 500
May.	16 307	131 511
Jun.	17 417	121 556
Jul.	18 425	144 010
Aug	17 586	243 261
Sep.	8 382	157 186
Oct.	4 404	81 302
Nov.	3 163	48 244
Dec.	3 801	47 716
Jan. 21	11 143	133 866
Feb.	18 786	195 839
Mar.	21 026	235 427
Apr	23 593	242 397
May.	17 050	148 466
Jun.	7 861	95 254
Jul.	3 457	59 712
Aug	1 728	34 013
Sep.	1 036	26 161
Oct.	926	24 877
Nov.	976	37 021
Dec.	1 169	60 760
Jan. 22	3 517	1 010 083
Feb.	3 806	216 536
Mar.	1 440	24 167
Apr	545	10 336
May.	397	12 933
Jun.	335	53 340
Jul.	856	286 484
Aug	1 386	182 832
Sep.*	553	20 011
Total	**216 381**	**4 135 141**

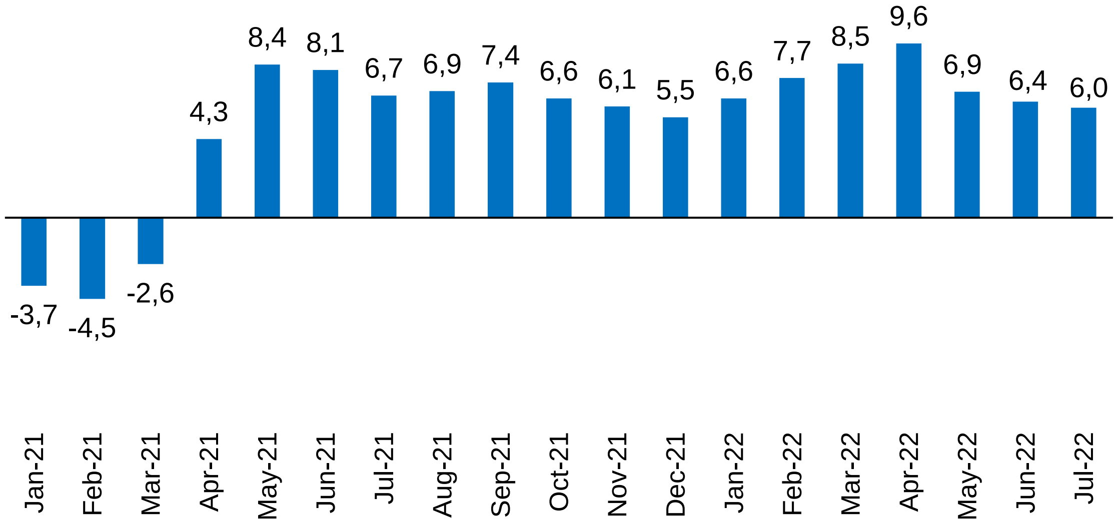
*September 19th 2022.

The labor market recovered its pre-pandemic levels in August 2021. In July 2022, the number of formal jobs increased 6 percent with respect to July 2021.

ELECTRONIC PAYROLL: FORMAL EMPLOYMENT

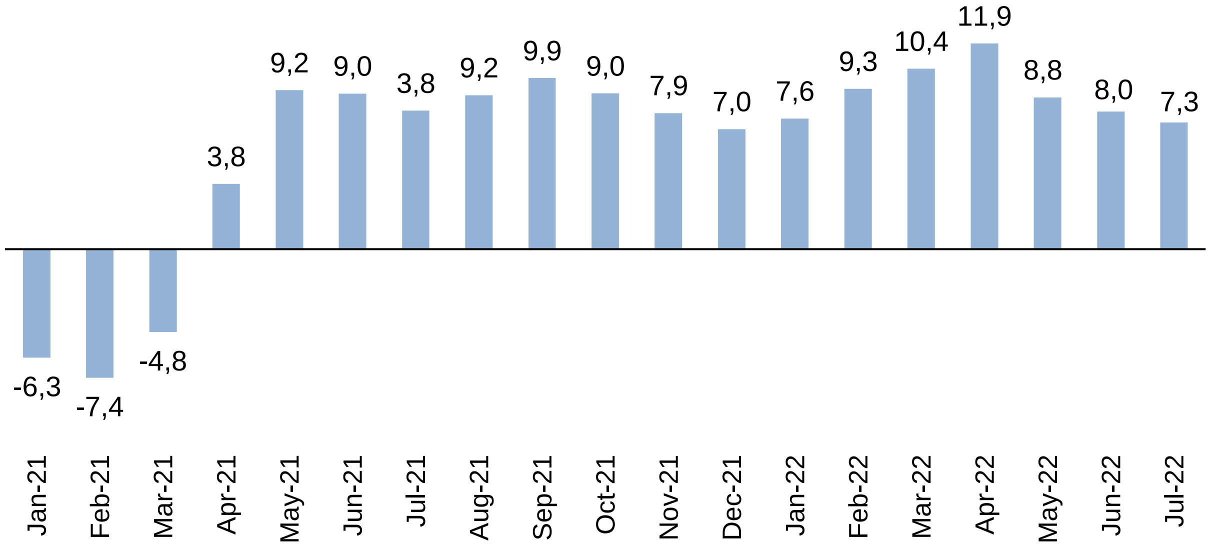
(YoY % change)

FORMAL WORKERS



	% chg.
1° Sem. 2022 / 2021	7.6

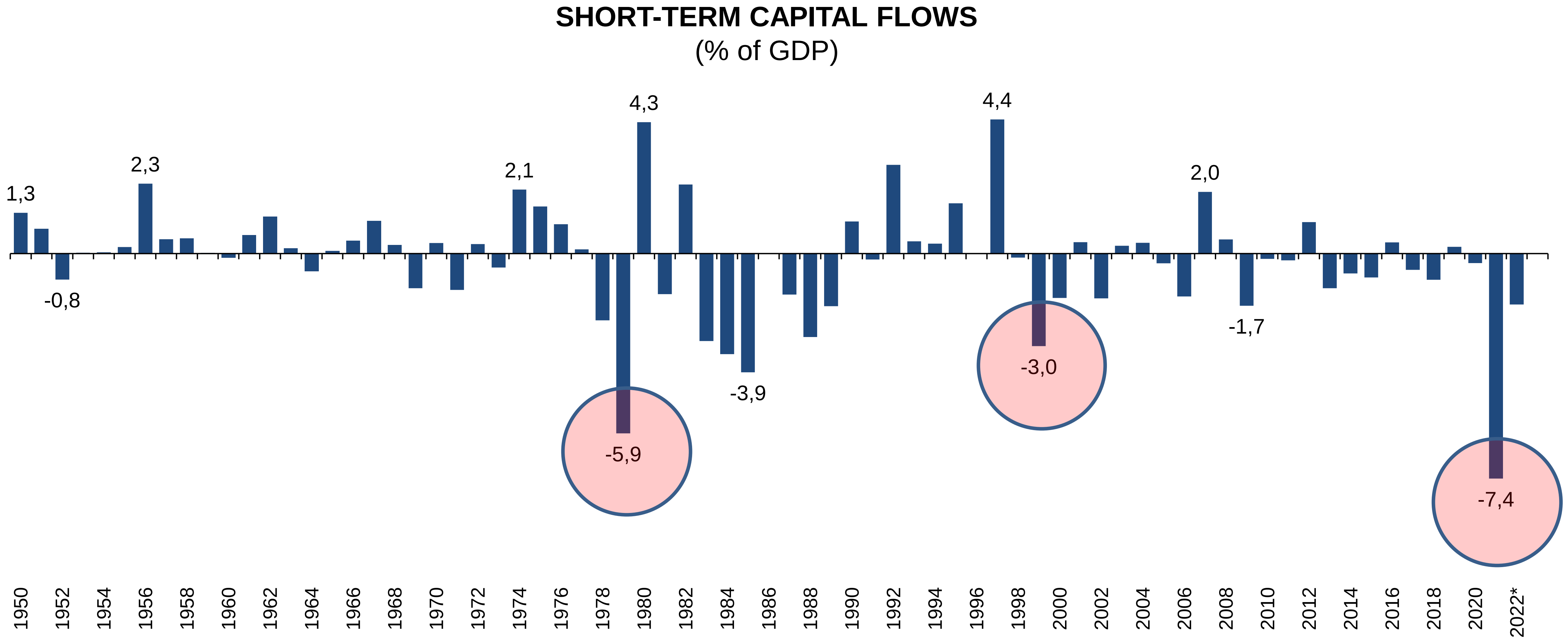
PRIVATE SECTOR WORKERS



	% chg.
1° Sem. 2022 / 2021	9.3

Source: SUNAT.

In 2021, capital outflows have been equivalent to 7.4 percent of GDP, reaching an all-time high.

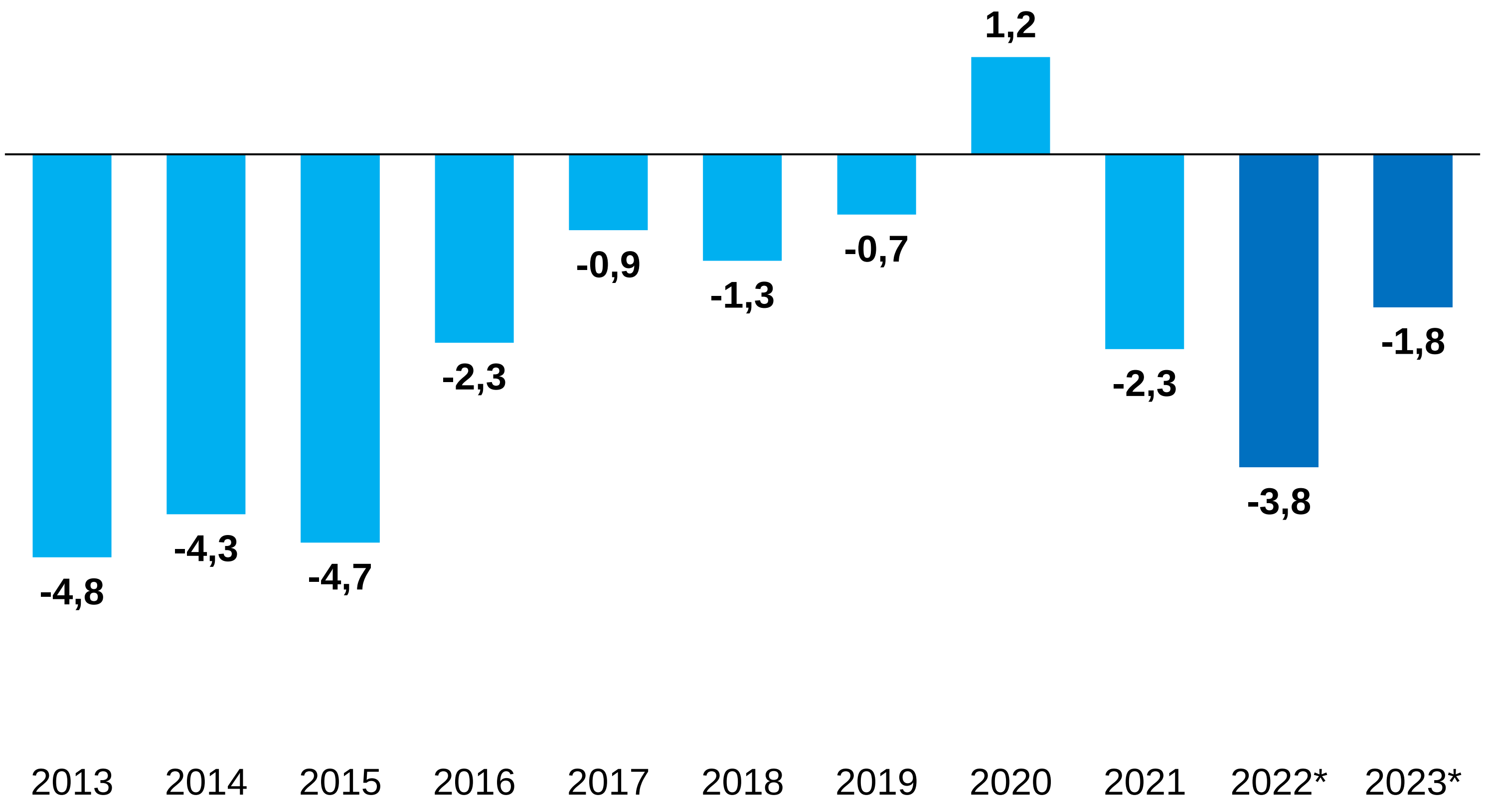


* Forecast . Source: BCRP

100 años

The lower trade surplus would reflect in a higher current account deficit in 2022. The current account deficit would decrease in 2023 after the normalization of mining production and transportation costs, lower profit payments to FDI companies and the recovery of receptive tourism.

Current Account: 2013-2023
(Percentage of GDP)



*Forecast.
Source: BCRP.

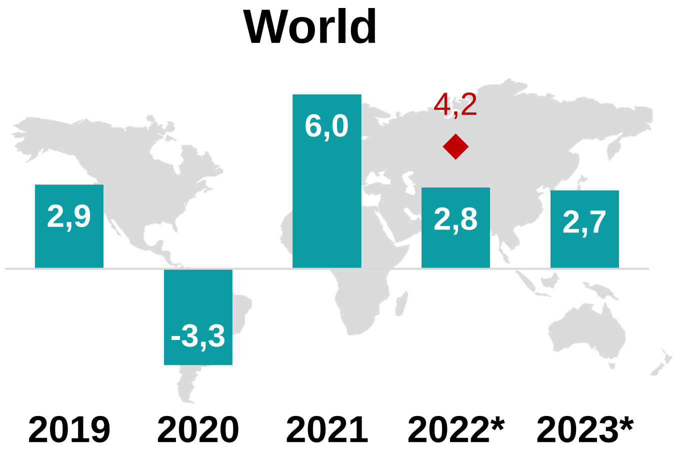
Current Account (% of GDP)	2020	2021	2022**
Brazil	-1.7	-1.7	0.2
Mexico	2.5	-0.4	-1.0
Peru	**1.2**	**-2.3**	**-3.8**
Colombia	-3.4	-5.6	-5.1
Chile	-1.7	-6.6	-6.3

**Forecast.
Source: Central banks and BCRP (Peru).

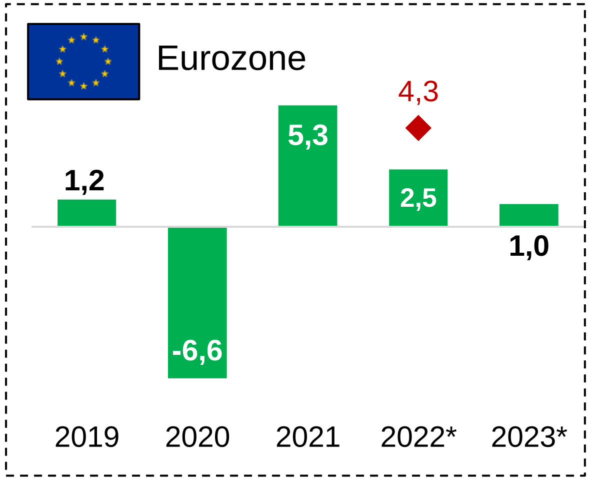
Global growth is revised downwards in 2022 and 2023.

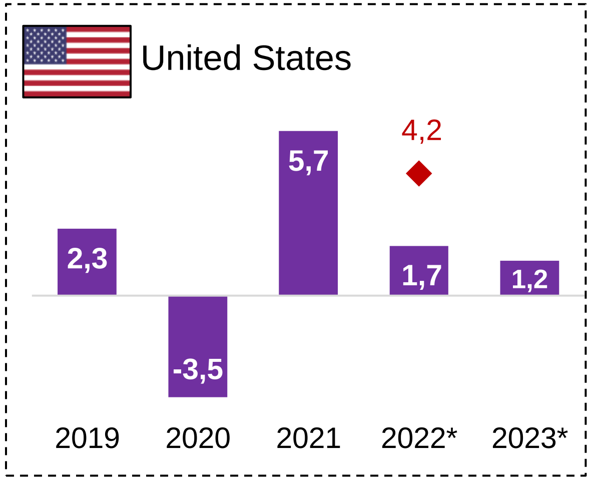
GDP growth (real % change), by región and country

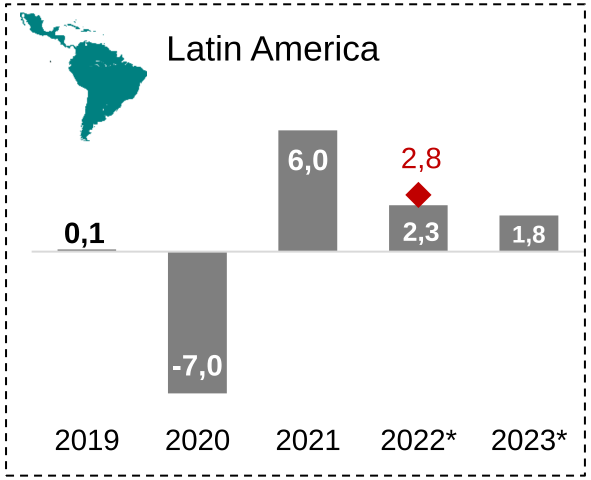
■ Current forecast
◆ Jun.21 forecast

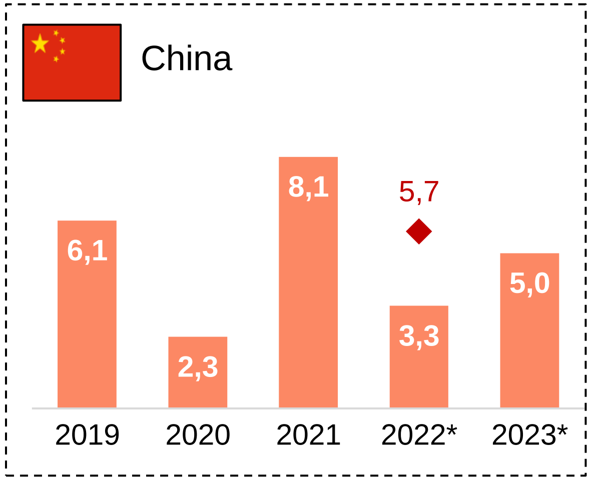


Developed (Jun.21)	2.2 (3.9)	1.3
Emerging (Jun.21)	3.3 (4.5)	3.8







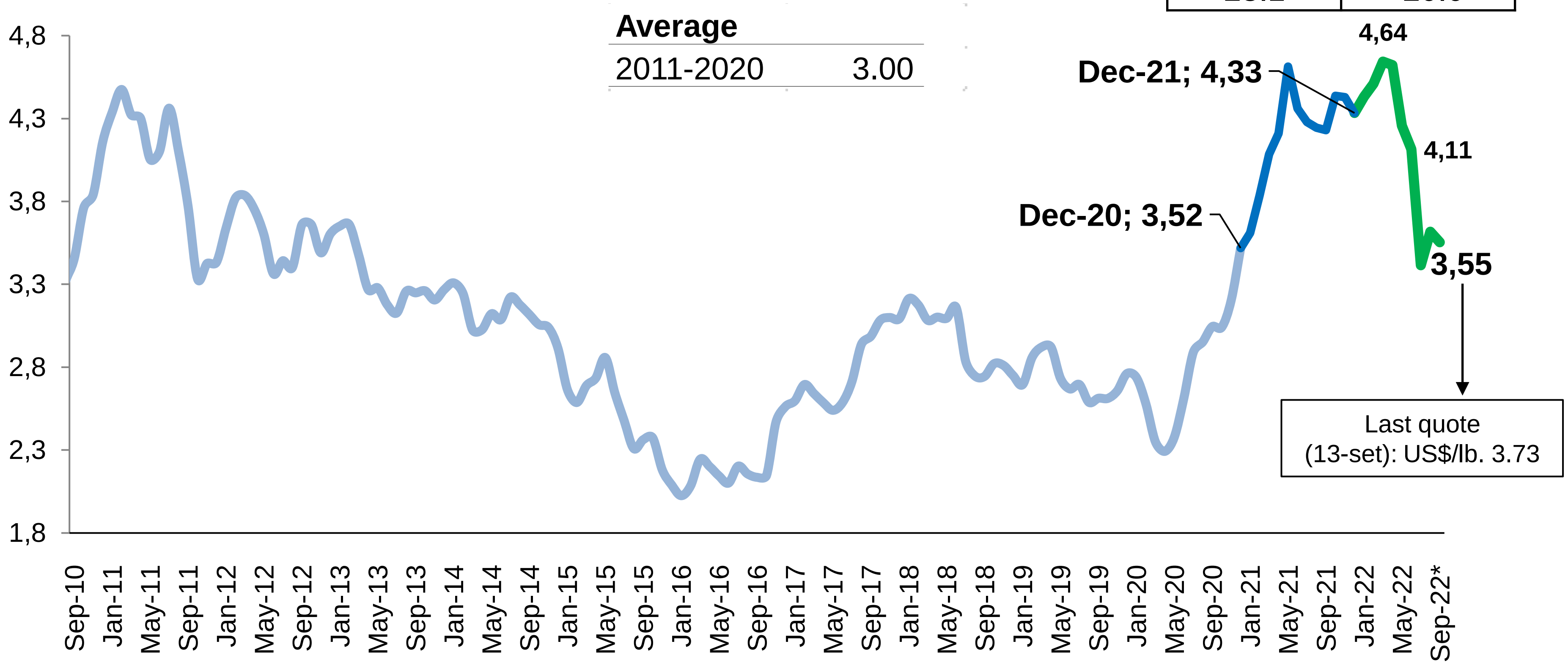


*Forecast. Preliminary data for 2021.
Source: IMF and Consensus Forecast (August 2022).

Between June and September, copper prices have fallen 14 percent due to lower prospects for global demand, the appreciation of the dollar and the estimated increase in global production.

International copper price
(US$/lb., monthly average)

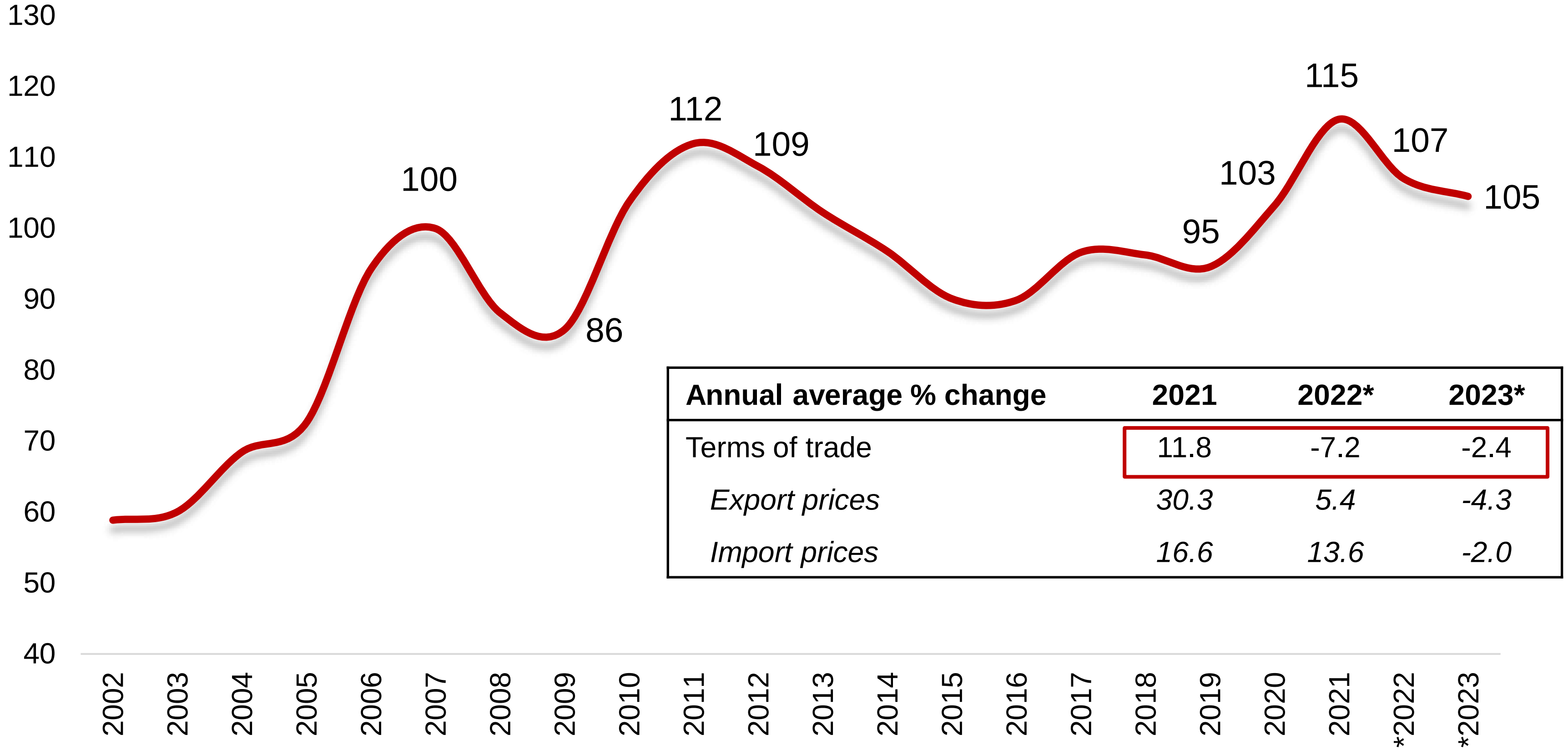
% chg. 2021 / 2020	% chg. 2022 / 2021
23.1	-20.0



* Average as of September 13 2022.
Note: the percentage change between 2021 and 2020 is calculated using the average price of December of each year, whereas the percentage change between 2022 and 2021 uses the monthly average as of September 13 and the average price of December 2021.
Source: Reuters.

The favorable terms of trade of 2021 have partially reversed. Terms of trade will fall by 7.2 percent in 2022 and 2.4 percent in 2023. This scenario considers a more pronounced correction in metal prices (exports) with respect to oil and food (imports).

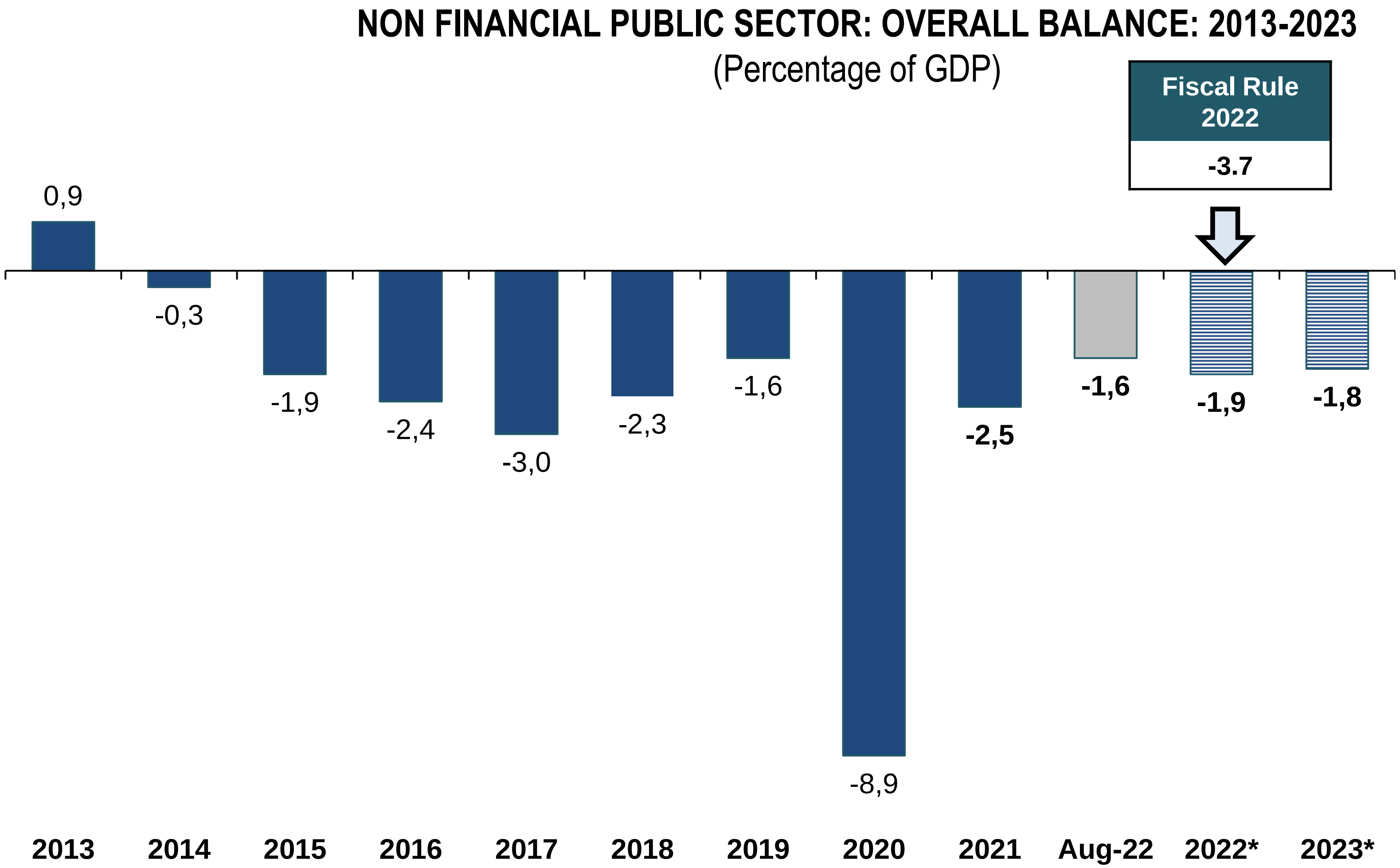
TERMS OF TRADE, 2002-2023
(Index 100 = 2007)



Annual average % change	2021	2022*	2023*
Terms of trade	11.8	-7.2	-2.4
Export prices	*30.3*	*5.4*	*-4.3*
Import prices	*16.6*	*13.6*	*-2.0*

* Forecast.
Source: BCRP.

The fiscal deficit is expected to remain below 2.0 percent of GDP throughout the forecast horizon, reflecting the reduction in expenditures related to the COVID-19 pandemic.



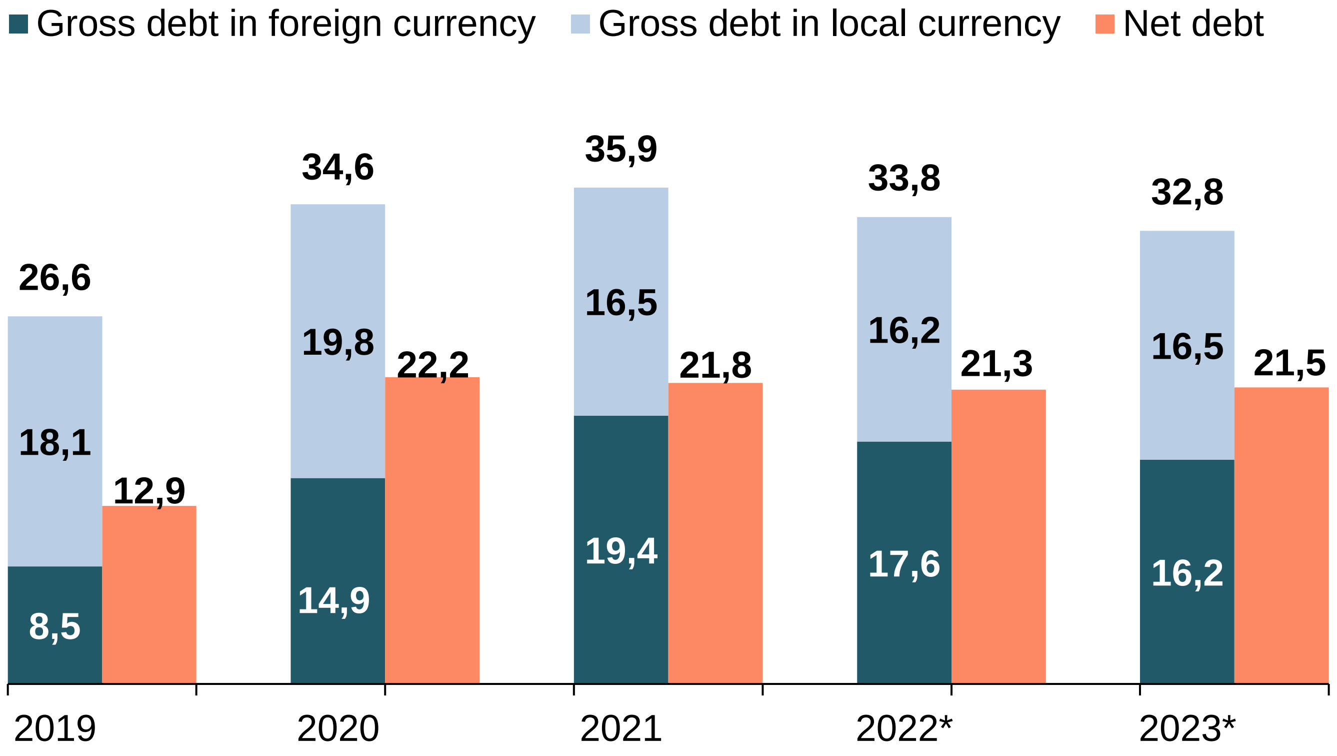
Note: The data for August 2022 corresponds to the accumulated last 12 months.
*Forecast.
Source: BCRP.

Overall balance (% of GDP	2020	2021*	2022**
Chile	-7.2	-7.5	-1.5
Peru	**-8.9**	**-2.5**	**-1.9**
Uruguay	-4.7	-2.6	-2.5
Mexico	-4.4	-3.8	-3.2
Colombia	-7.0	-6.8	-4.6
Paraguay	-7.2	-6.2	-5.0
Brazil	-13.3	-4.4	-7.6

* Forecast for Brazil and Colombia.
** Forecast.
Source: IMF (WEO April 2022) and BCRP (Peru).

Public gross debt would reach 32.8% of GDP whereas net debt would increase to 21.5% of GDP in 2023.

NON-FINANCIAL PUBLIC SECTOR DEBT
(Percentage of GDP)

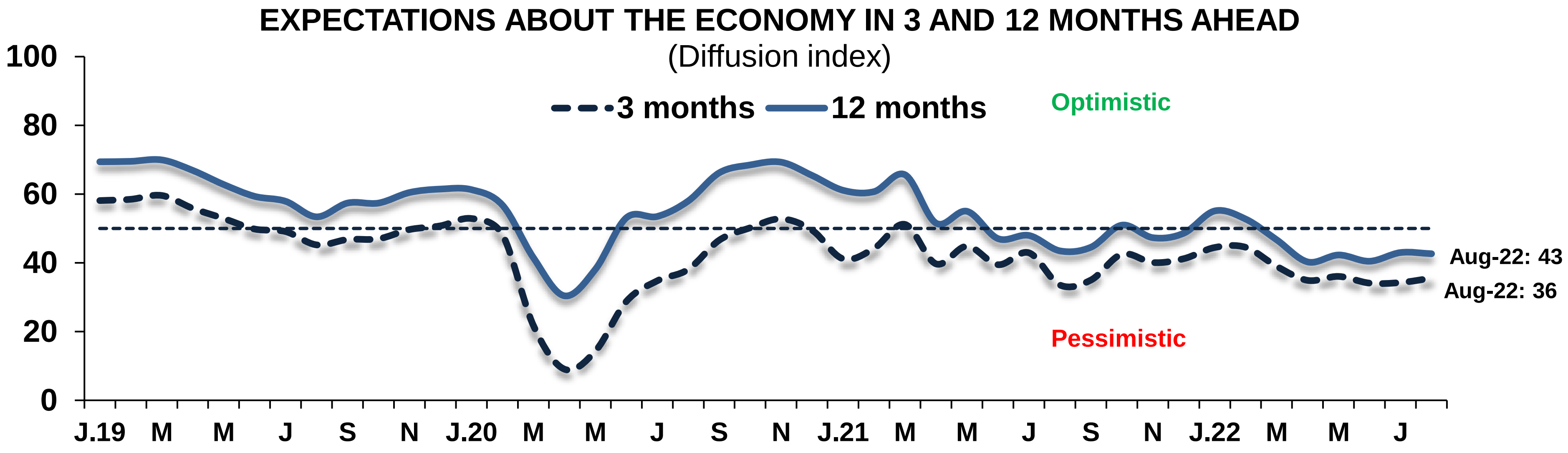


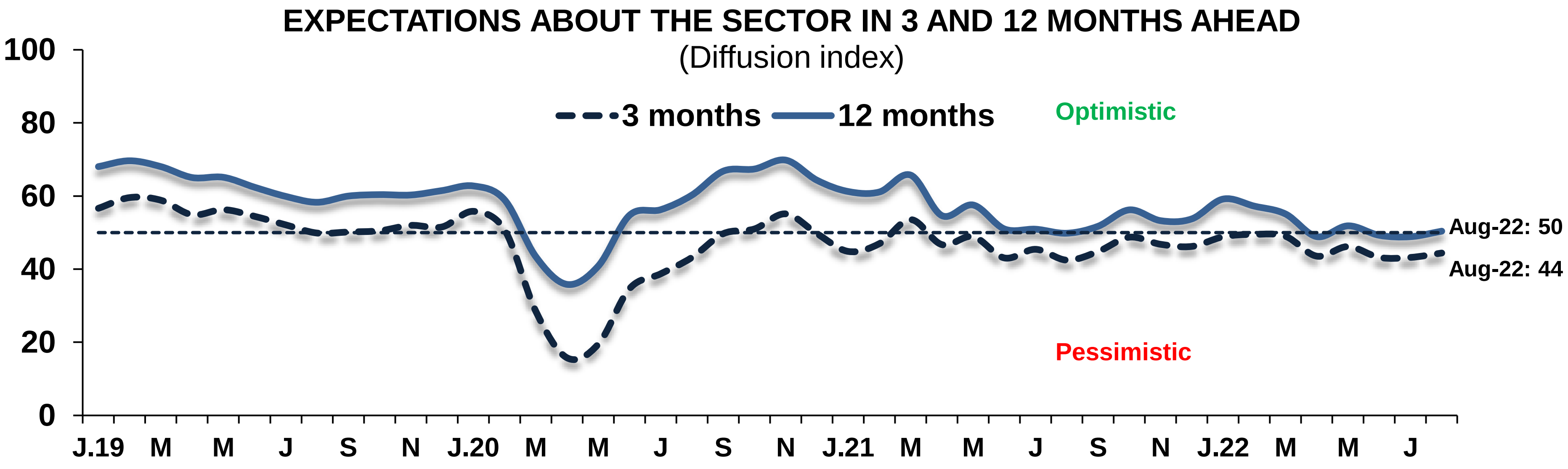
* Forecast.
Source: BCRP.

Gross Debt (% of GDP)	2019	2020	2021*	2022**
Peru	**26.6**	**34.6**	**35.9**	**33.8**
Chile	28.3	32.6	36.3	38.3
Paraguay	25.8	36.9	37.0	39.4
Mexico	53.3	60.3	57.6	58.4
Colombia	52.4	65.7	64.6	60.6
Uruguay	60.5	68.1	67.5	65.7
Brazil	87.9	98.7	93.0	91.9

* Forecast for Brazil and Colombia.
** Forecast.
Source: IMF (WEO April 2022) and BCRP (Peru).

Business expectations have shown a downward trend since the beginning of this year and remained pessimistic in August, with the exception of the expectations about the sector 12 months ahead.



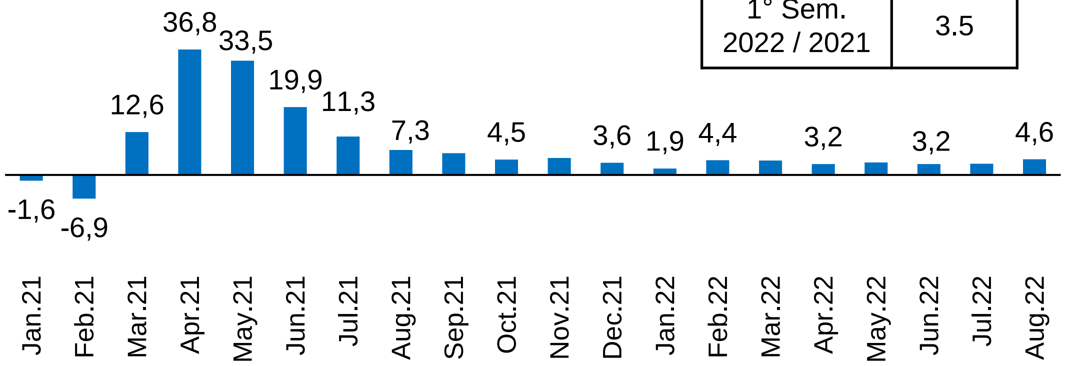


Source: BCRP.

Economic activity indicators show greater dynamism in those related to private consumption.

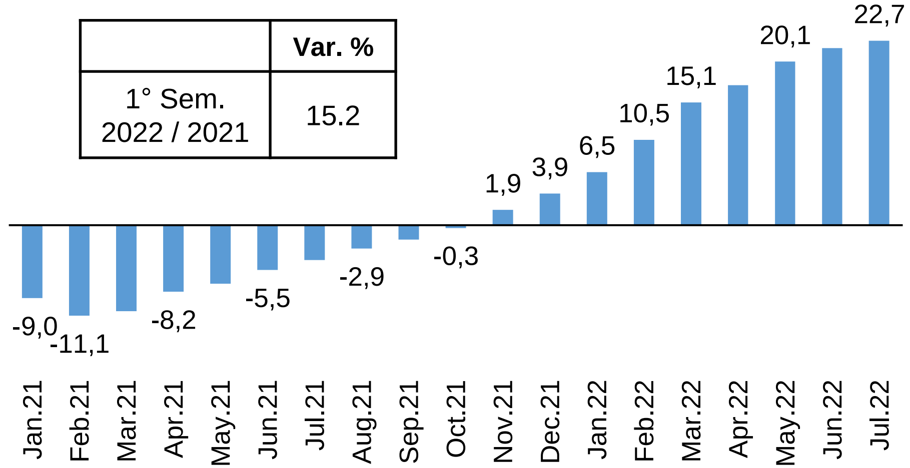
Electricity production without mining
(YoY % change)

	% chg.
1° Sem. 2022 / 2021	3.5



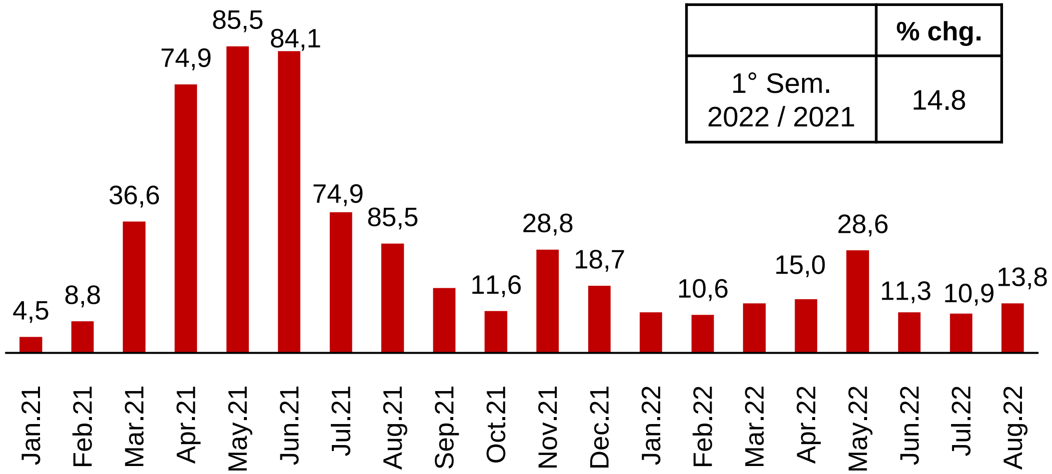
Consumption credit
(YoY % change)

	Var. %
1° Sem. 2022 / 2021	15.2



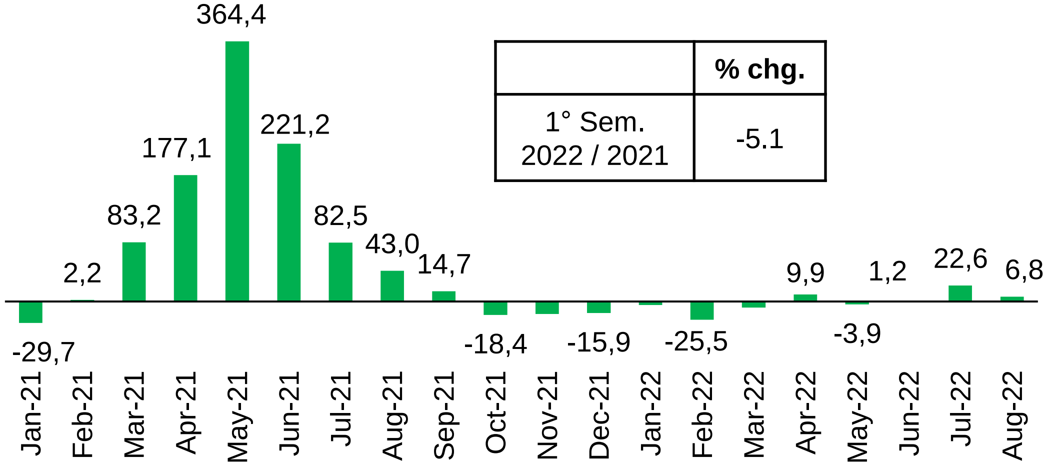
Domestic Value Added Tax (VAT)
(YoY % change)

	% chg.
1° Sem. 2022 / 2021	14.8



Public Investment of the Non-Financial Public Sector
(YoY real % change)

	% chg.
1° Sem. 2022 / 2021	-5.1



*Preliminary.
Source: COES, cement companies, INEI, SUNAT-Aduanas, MEF.

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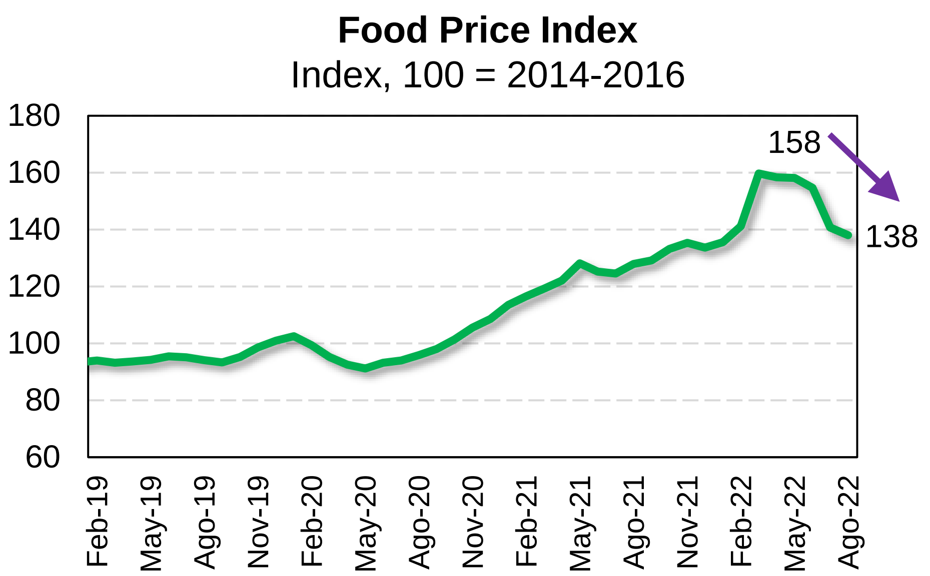
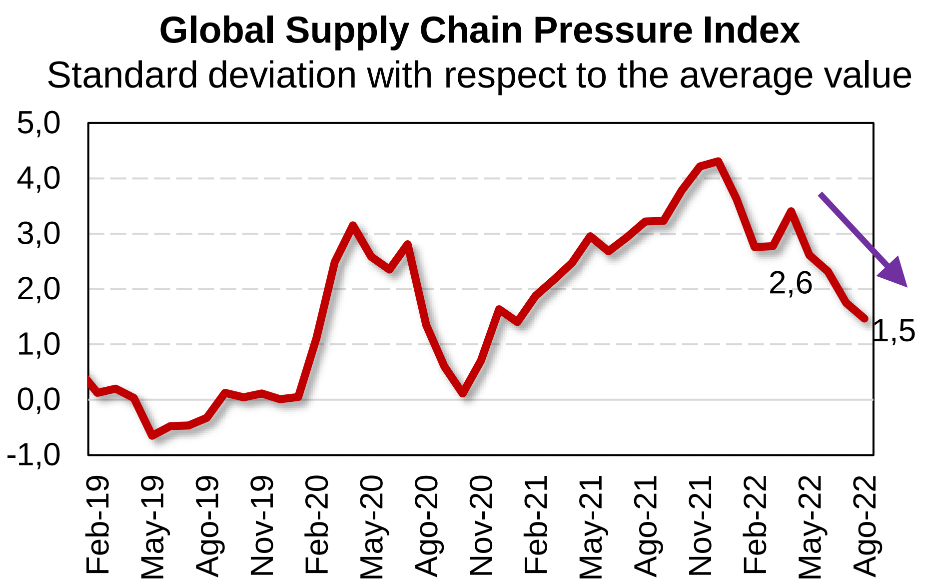
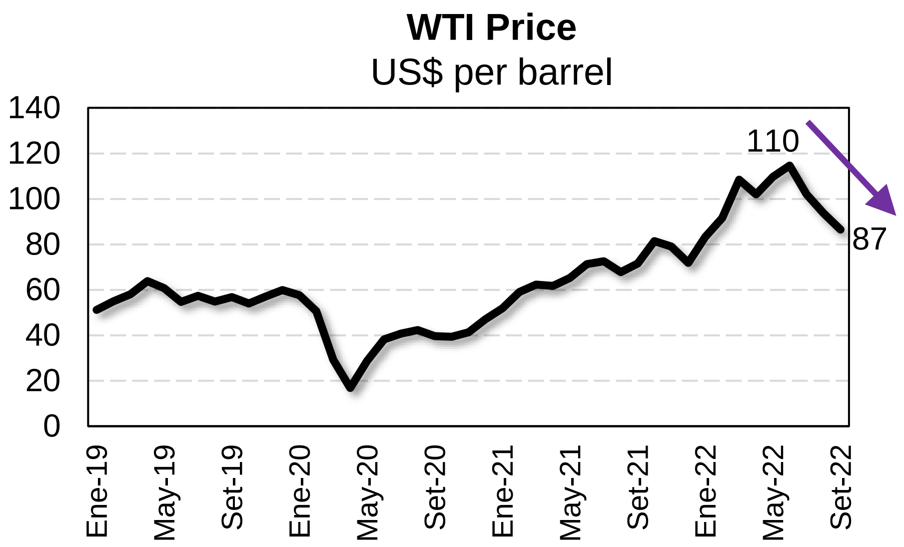
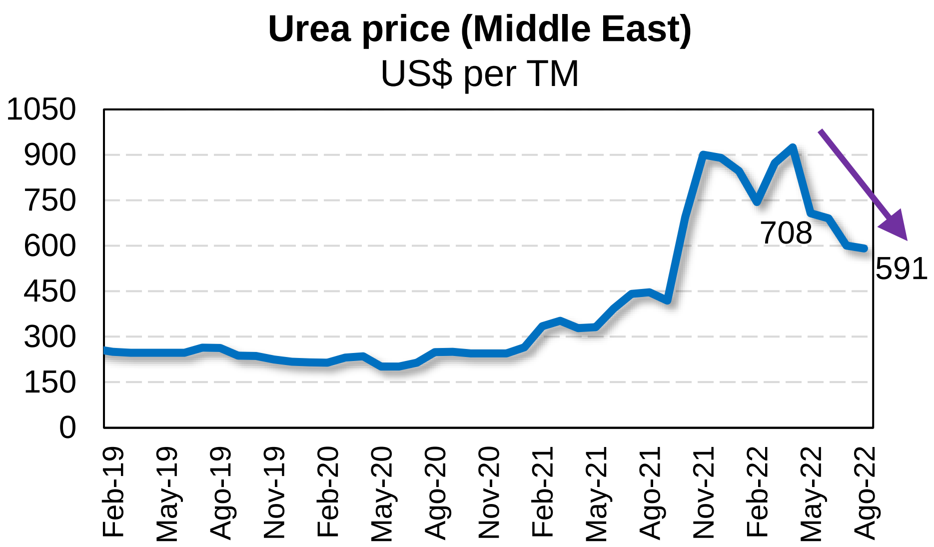
Partial reversion of the increase in *commodity* prices.







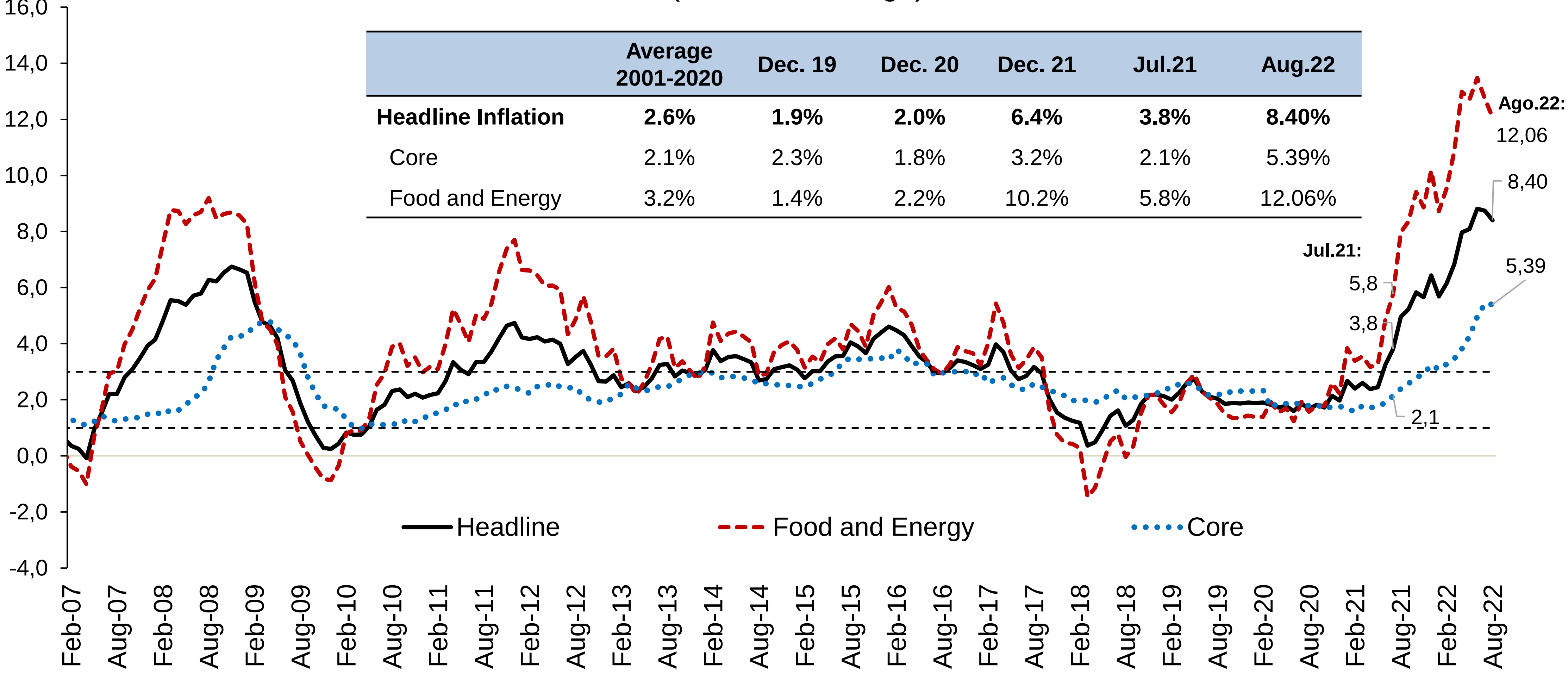


Source: FAO, New York Fed, Reuters and World Bank. WTI Price as of September 13.

Headline inflation was 8.40% in August, after reaching a maximum level of 8.81% in June, driven by the higher prices of food with a high imported content and fuel.

HEADLINE INFLATION, 2007 - 2022

(Annual % change)

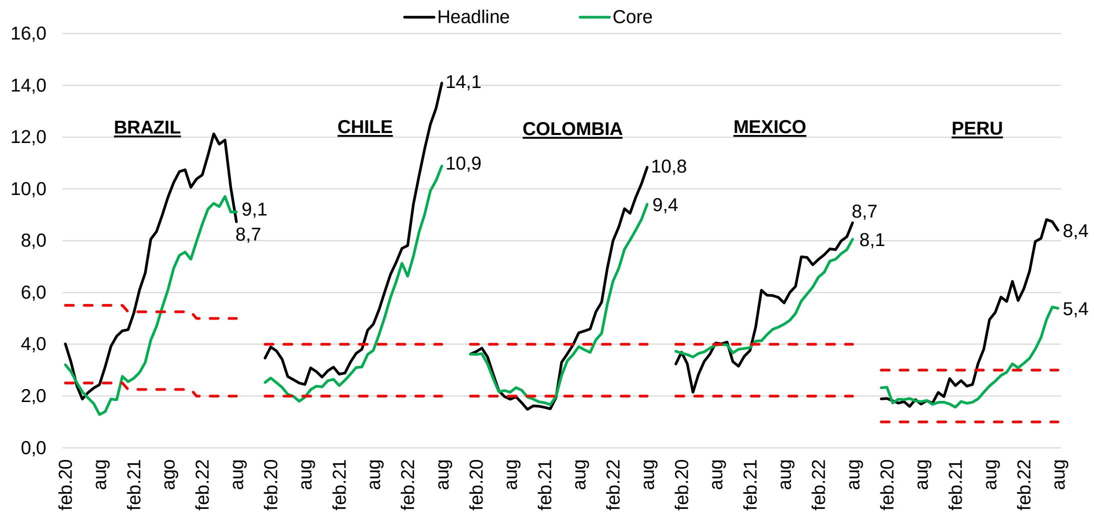


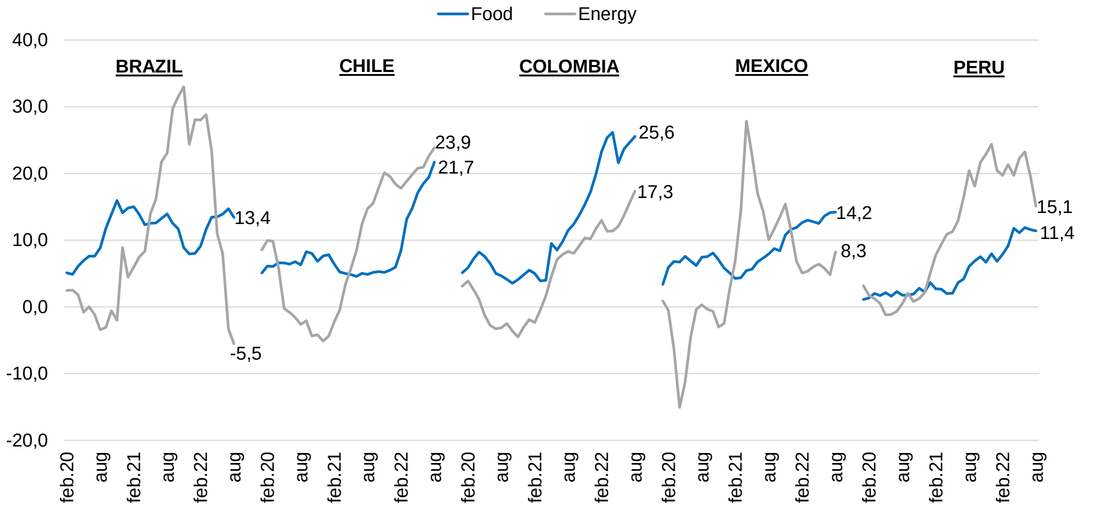
	Average 2001-2020	Dec. 19	Dec. 20	Dec. 21	Jul.21	Aug.22
Headline Inflation	**2.6%**	**1.9%**	**2.0%**	**6.4%**	**3.8%**	**8.40%**
Core	2.1%	2.3%	1.8%	3.2%	2.1%	5.39%
Food and Energy	3.2%	1.4%	2.2%	10.2%	5.8%	12.06%

Source: INEI, BCRP.

Inflation has increased globally. As of August 2022, Peru has one of the lowest headline and core inflation rates in Latin America.

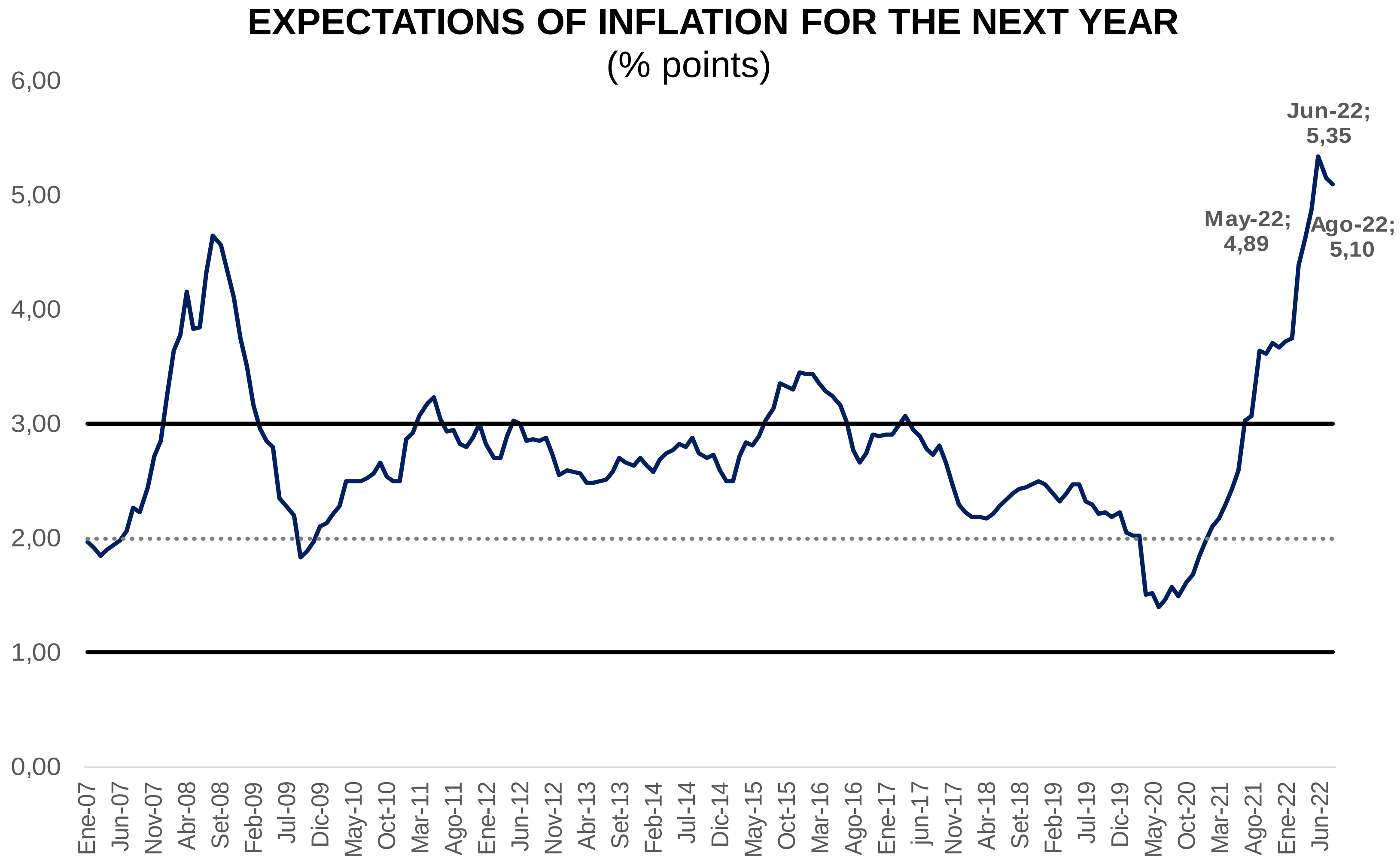
INFLATION IN LATIN AMERICA
(percentage)





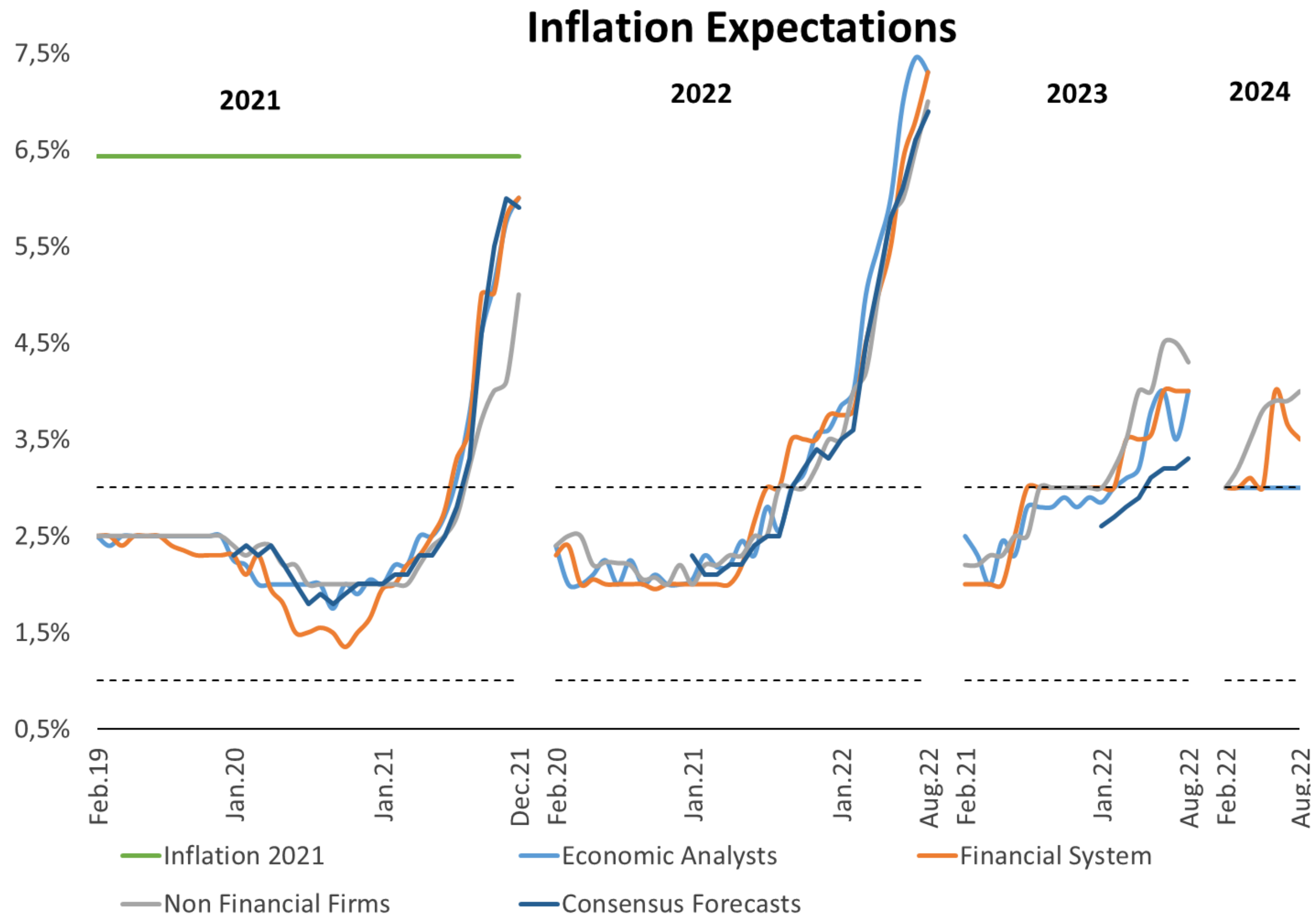
Note: Data as of August. In case of Brazil, this refers to the energy component inside home. Food indices in Brazil and Peru they include the subgroup of meals outside the home.
Source: Central banks and national statistical institutes.

Inflation expectations for the next year fell in the last two months reaching 5.10 percent in August. However, they are still above the upper limit of the inflation target range.



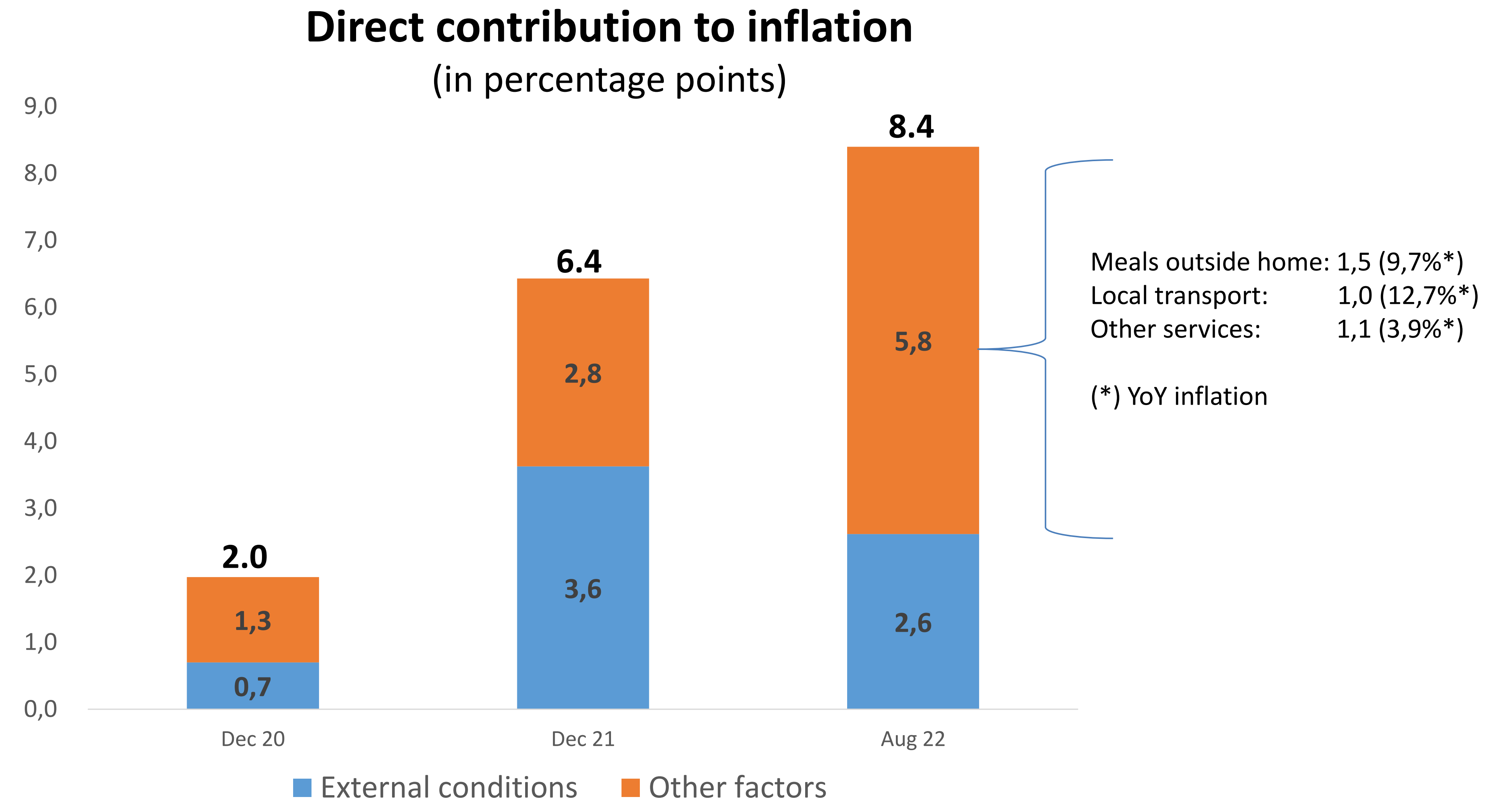
Average expectations of the financial system and economic analysis. An estimate of the 12-month expectation is obtained by weighting the expectation for the year by the number of months remaining and the expectations for the following year by the number of months remaining to complete the 12 months.
Source: BCRP.

Medium-term inflation expectations are above, but close to the inflation target.



Source: BCRP & Consensus Forecasts.

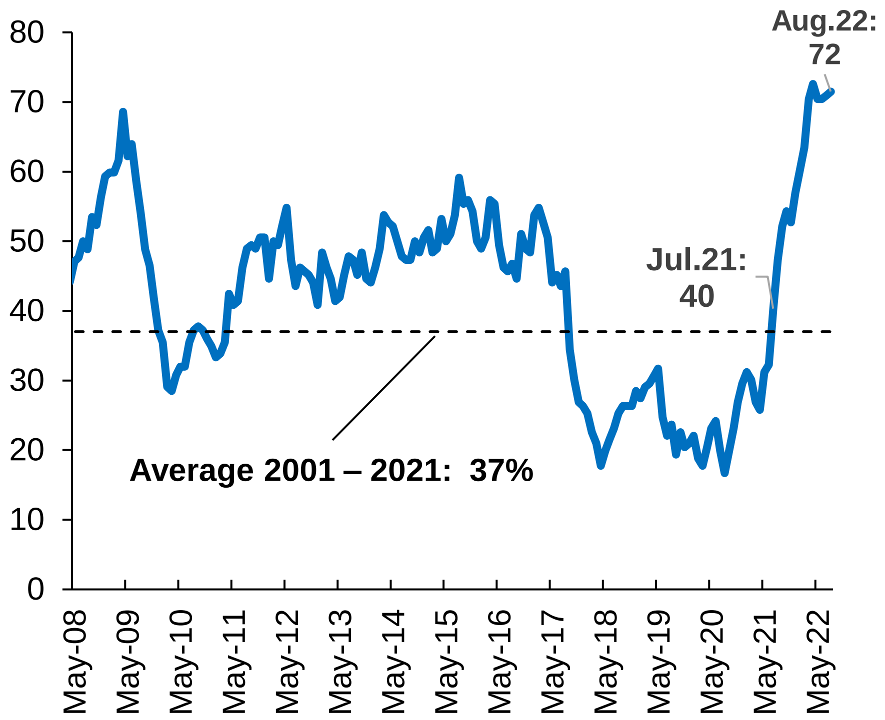
In August, external factors contributed 2.6 percentage points directly to headline inflation (8.4 percent)



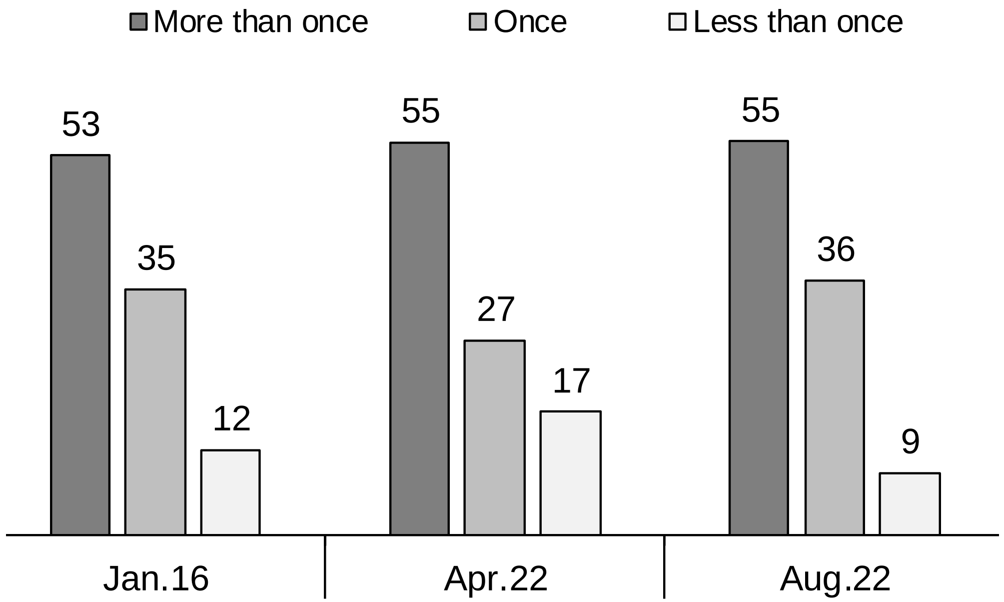
Source: BCRP.

The percentage of CPI items with a year-on-year variation greater than 3 percent has stabilized around 70. A large percentage of companies have increased their prices one or more times in a year.

DISPERSION INDEX: % OF BASKET ITEMS WITH VARIATION GREATER THAN 3%

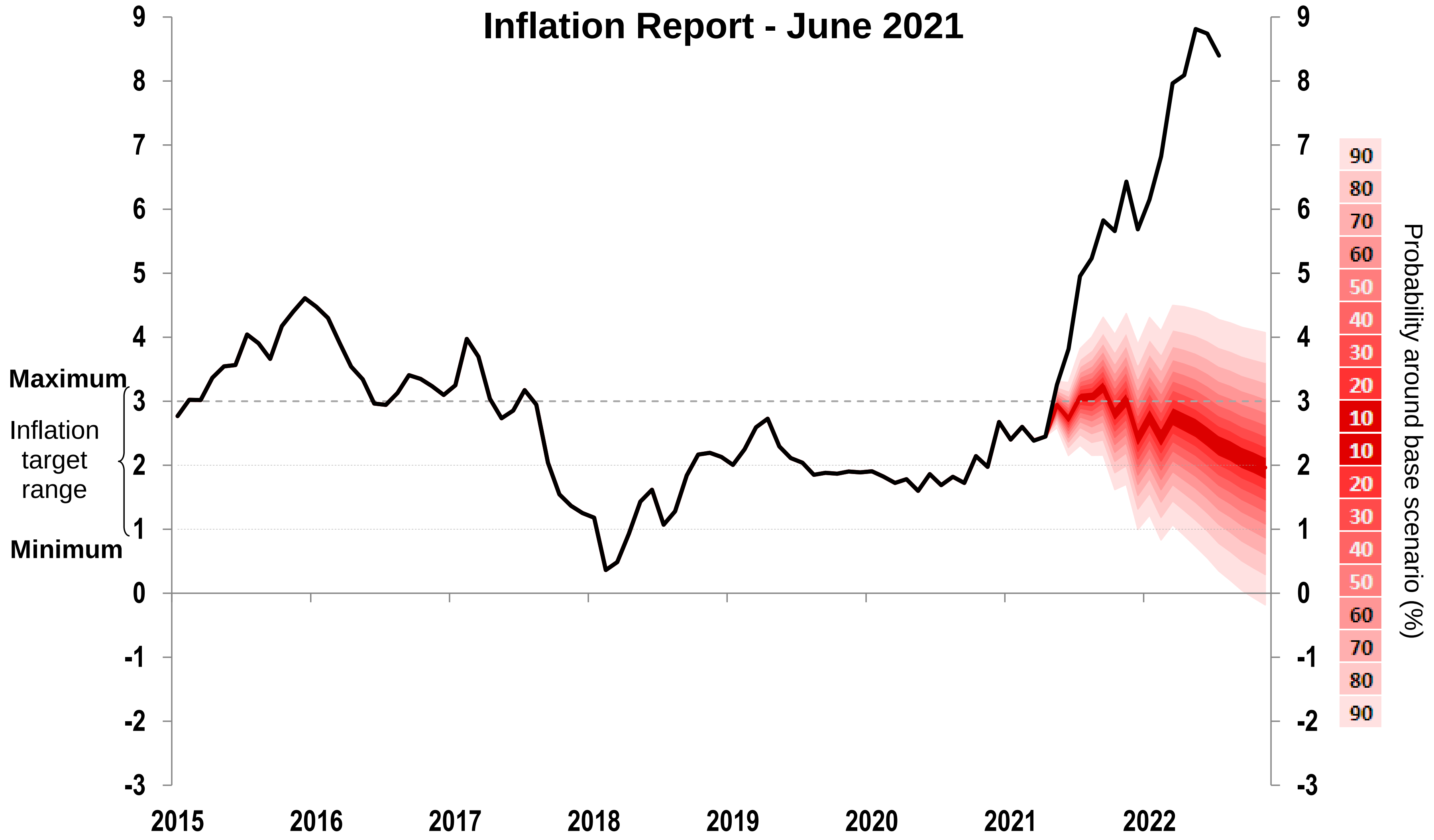


FREQUENCY OF PRICE ADJUSTMENTS IN A YEAR (% OF COMPANIES)



Source: BCRP.

Inflation was underpredicted in June 2021 Inflation report.

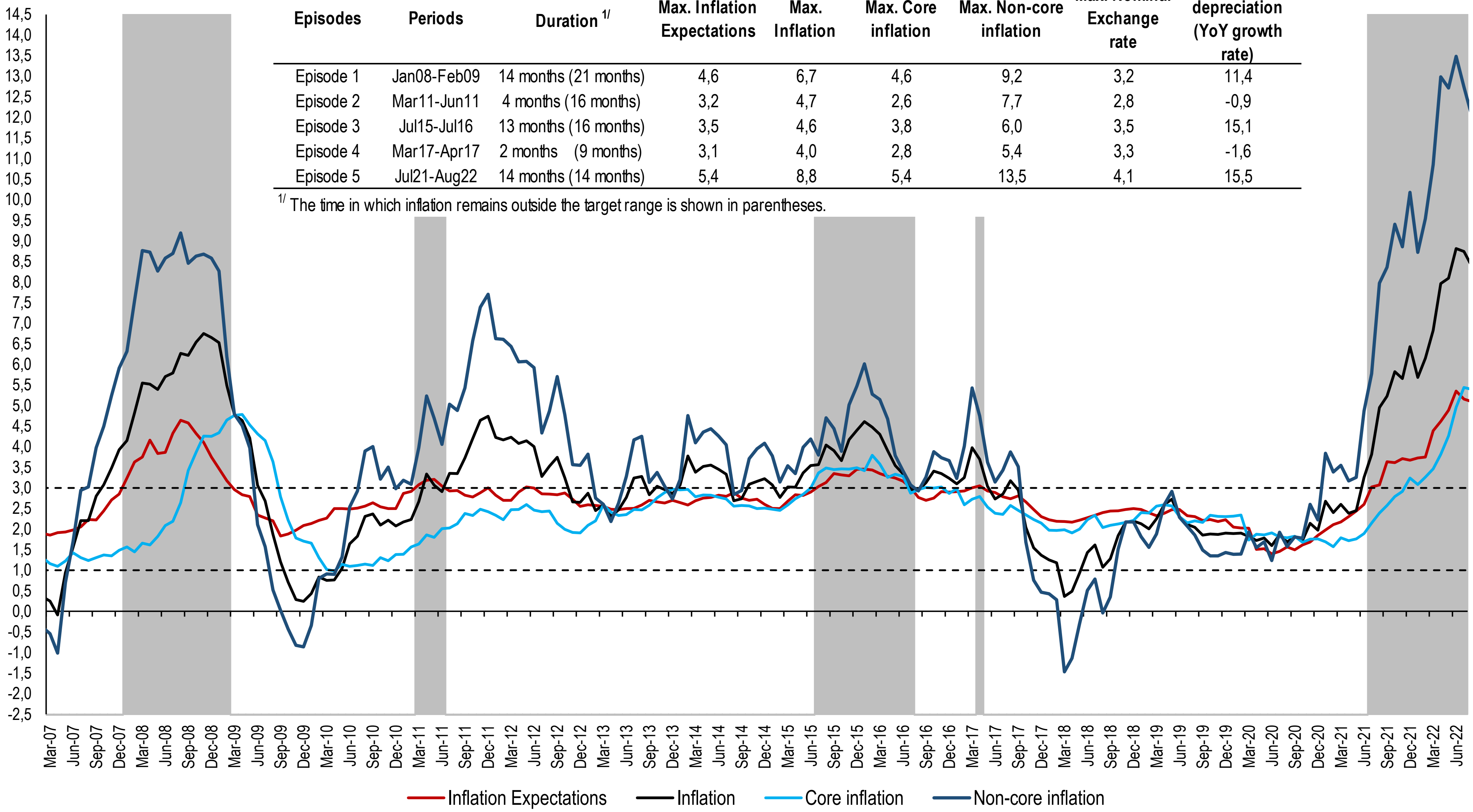


This is the longest episode of inflation expectations outside the target, also with the highest non-core inflation levels.

Inflation indicators
YoY growth rate

Episodes	Periods	Duration [1/]	Max. Inflation Expectations	Max. Inflation	Max. Core inflation	Max. Non-core inflation	Max. Nominal Exchange rate	Max. Nominal depreciation (YoY growth rate)
Episode 1	Jan08-Feb09	14 months (21 months)	4,6	6,7	4,6	9,2	3,2	11,4
Episode 2	Mar11-Jun11	4 months (16 months)	3,2	4,7	2,6	7,7	2,8	-0,9
Episode 3	Jul15-Jul16	13 months (16 months)	3,5	4,6	3,8	6,0	3,5	15,1
Episode 4	Mar17-Apr17	2 months (9 months)	3,1	4,0	2,8	5,4	3,3	-1,6
Episode 5	Jul21-Aug22	14 months (14 months)	5,4	8,8	5,4	13,5	4,1	15,5

[1/] The time in which inflation remains outside the target range is shown in parentheses.



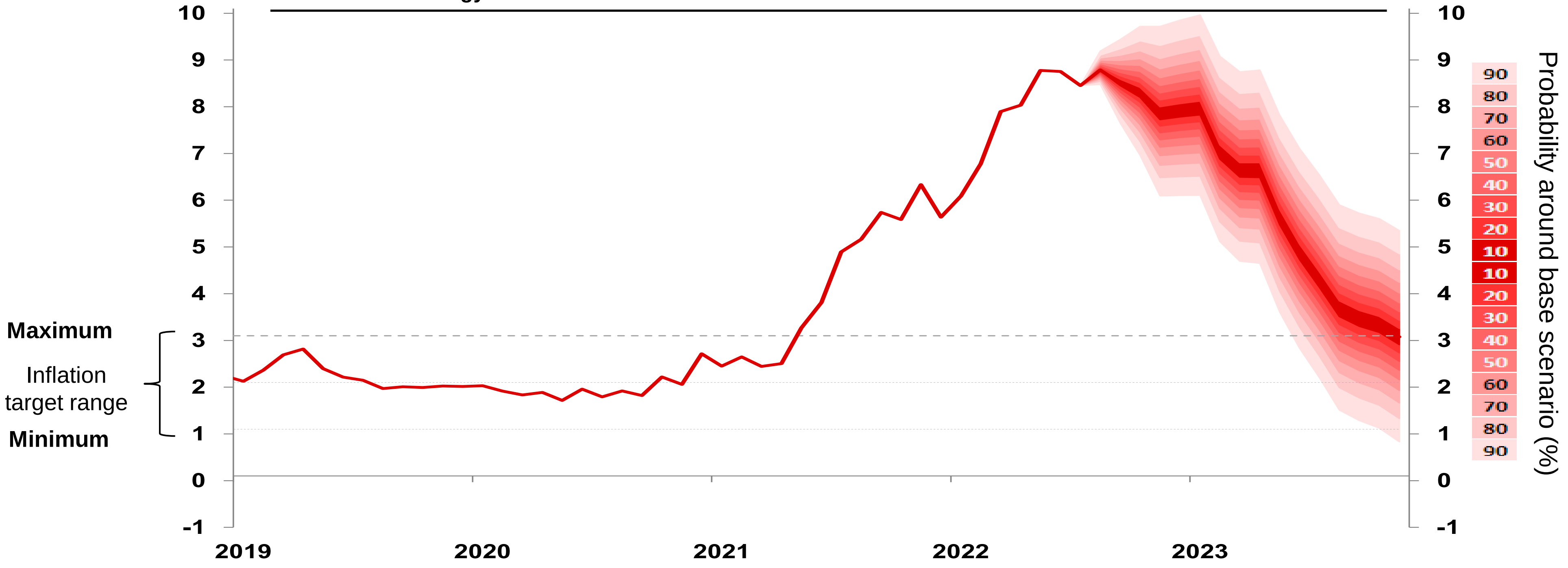
* The gray area represents the periods in which inflation expectations were above the target range.

We expect inflation to return to the target range in the second semester of 2023. The Board is particularly attentive to new information on inflation and its determinants, including the evolution of inflation expectations and economic activity, to consider changes in the monetary stance. The Board reaffirms its commitment to adopt necessary actions to ensure the return of inflation to the target range over the forecast horizon.

HEADLINE INFLATION FORECAST, 2022-2023

(YoY % change)

	Weight	2010-19	2018	2019	2020	2021	2022*	2023*
Headline Inflation	100.0	2.9	2.2	1.9	2.0	6.4	7.8	3.0
1. Core inflation	55.3	2.4	2.2	2.3	1.8	3.2	5.7	3.5
2. Food and energy	44.7	3.4	2.2	1.4	2.2	10.2	10.3	2.4



Note: The graph shows the probability of occurrence of inflation values in the future, according to the combination of statistical analysis and the balance of risks. Each band concentrates 5% of probability and the total of bands cover 90% of probability. The darkest bands contain the trajectory of the base scenario.
Source: BCRP.

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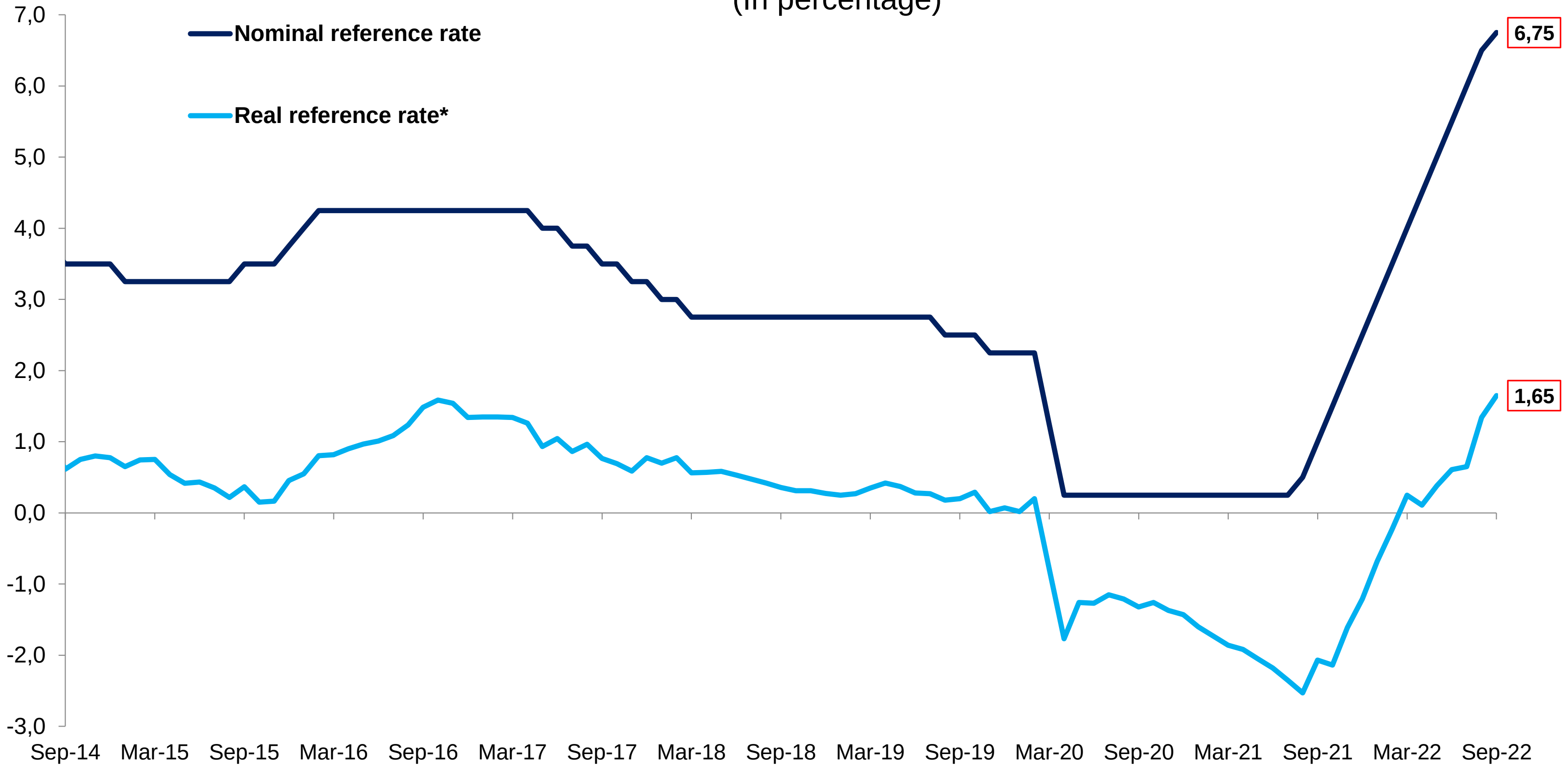
In its September 2022 session, the Board of Directors of the Central Reserve Bank of Peru (BCRP), decided to raise the reference interest rate by 25 bps to 6.75 percent, thus continuing its normalization of monetary policy stance started in July 2021.

NOMINAL AND REAL INTEREST RATE*
(In percentage)



* With inflation expectations.

	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
(I) Nominal rate	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	6.75
(II) Inflation expectations	1.85	1.98	2.11	2.17	2.30	2.43	2.60	3.03	3.07	3.64	3.61	3.71	3.68	3.73	3.75	4.39	4.62	4.89	5.35	5.16	5.10
(III) Real rate: (I)-(II)	-1.6	-1.73	-1.86	-1.92	-2.05	-2.18	-2.35	-2.53	-2.07	-2.14	-1.61	-1.21	-0.68	-0.23	0.25	0.11	0.38	0.61	0.65	1.34	1.65

Source: BCRP.

The balance of injection operations has been falling so far in 2022, due to the amortizations of Government-backed credit repos (Reactiva Peru). This dynamic has been partially offset by other operations (both short term and long-term injection).

LIQUIDITY PROGRAMS

(S/ billion)

Program	Dec-19	Dec-20	Jan-21	Jun-21	Sep-21	Dic-21	Set-22*
Goverment-backed credit repos	0	50,7	50,5	48,0	43,8	38,8	25,1
Of which: balance of repos for rescheduling	0	0,0	0,0	0,0	9,2	14,3	15,3
Credit rescheduling repos	0	0,5	1,1	2,5	4,2	4,8	4,7
Long-term credit expansion repos	0	0	0,2	0,2	2,2	5,5	5,5
Purchasing of Public Treasury Bonds**	0	1,3	1,3	2,1	2,1	2,1	2,1
Others***	17,4	12,2	12,1	8,0	6,3	5,4	11,2
Total	**17,4**	**64,8**	**65,3**	**60,8**	**58,7**	**56,7**	**48,7**

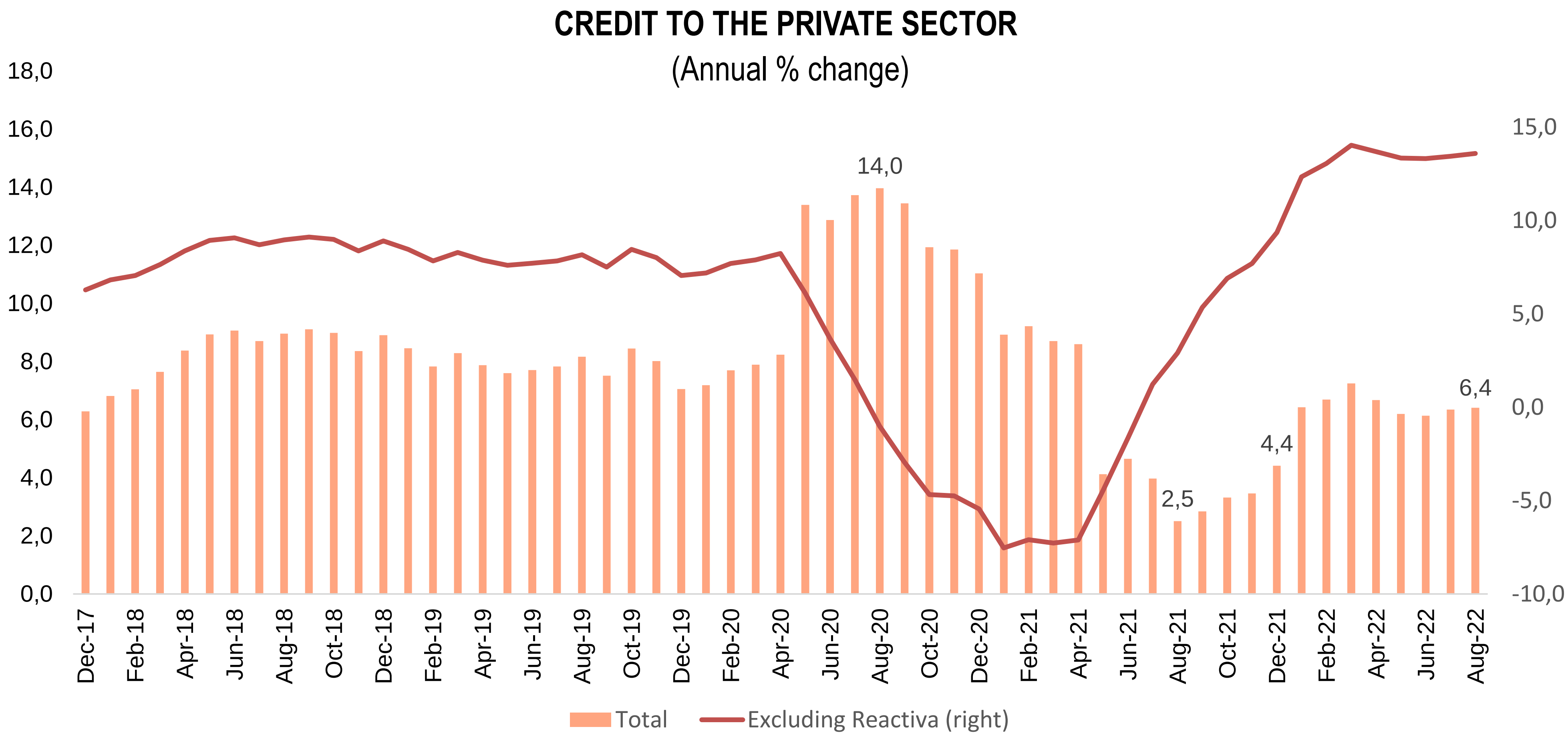
*As of September 23.

**At acquisition value.

***Regular repos as currency and security repos.

Source: BCRP.

Credit to the private sector registered a growth rate of 6,4 percent in August 2022, higher than the one observed in December 2021



	Dec-17	Dec-18	Dec-19	Dec-20	Mar-21	Jun-21	Sep-21	Dec-21	Mar-22	Jun-22	Aug-22
Domestic currency	5,3	11,6	10,1	19,4	17,3	7,6	4,2	5,6	7,7	6,7	5,2
Foreign currency	8,5	3,0	-0,3	-11,0	-14,0	-4,3	-1,7	0,3	5,7	4,3	10,6
Total	6,3	8,9	7,1	11,0	8,7	4,7	2,8	4,4	7,3	6,1	6,4
Total excluding Reactiva	6,3	8,9	7,1	-5,4	-7,3	-1,6	5,3	9,4	14,0	13,3	13,6

1/ Balances are valuated at constant exchange rate on December 2020.

Source: BCRP.

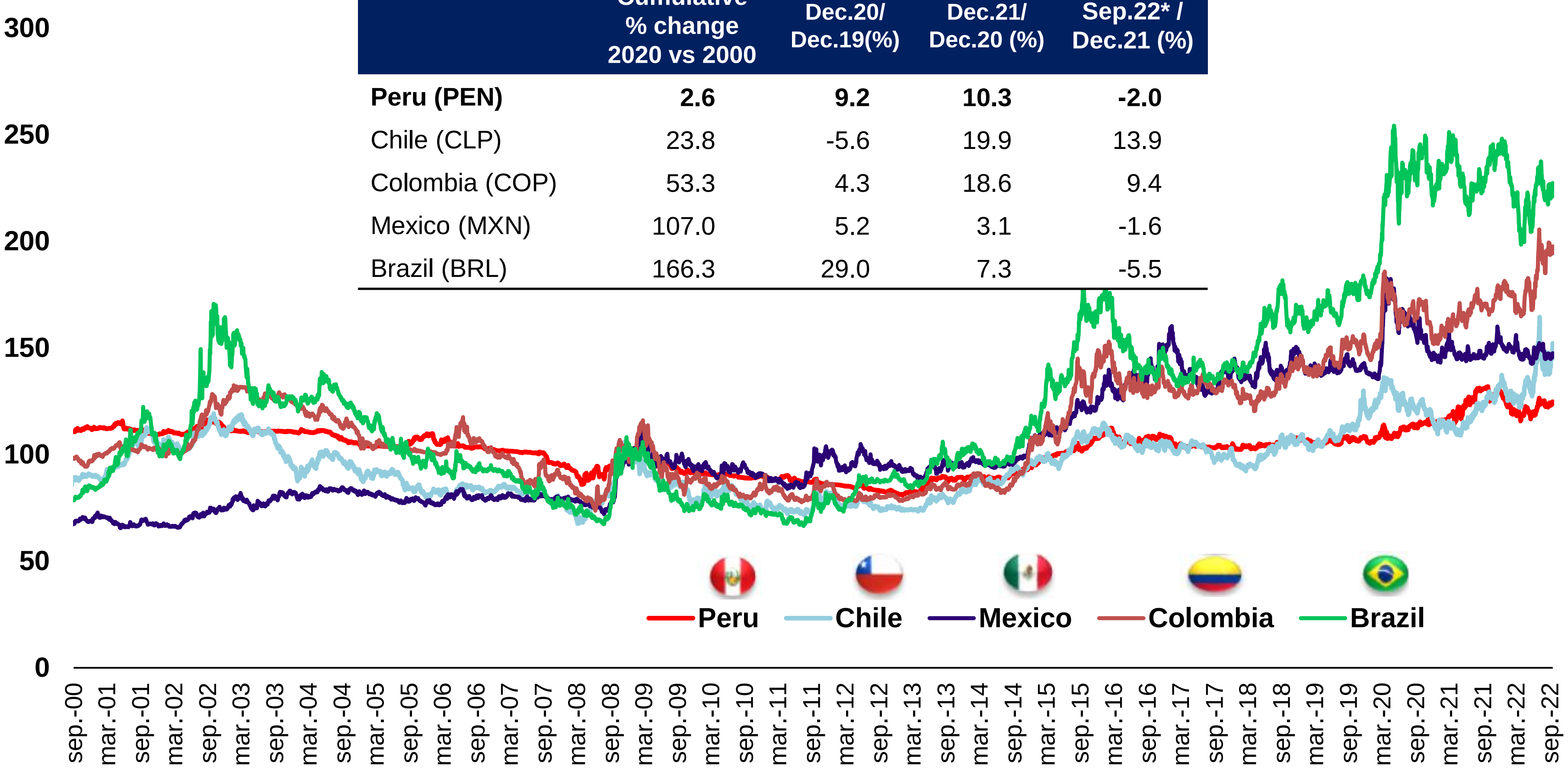
Until March 2022, most currencies in the region appreciated in a scenario of withdrawal of the monetary policy stimulus and after 2 years of depreciatory pressures. However, there has been a mild depreciation of PEN in the last months.

LATAM: EXCHANGE RATE

Monetary unit per dollar

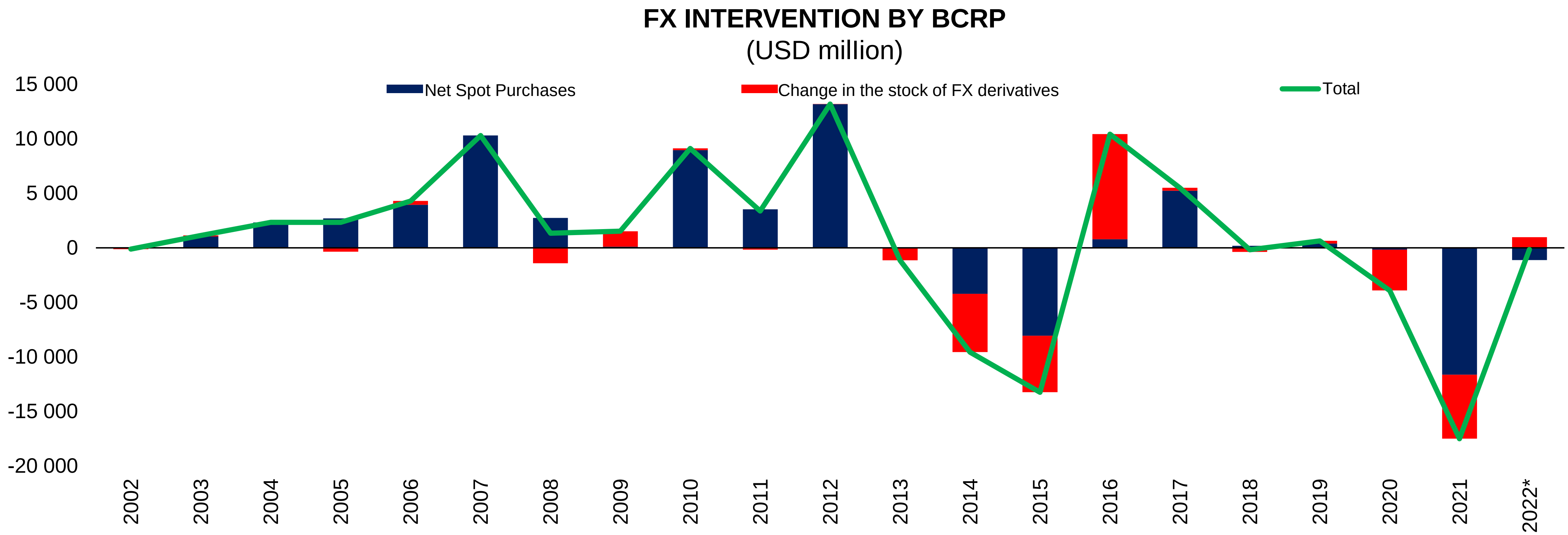
(Index 100=31 Dec 2008)

	Cumulative % change 2020 vs 2000	Dec.20/ Dec.19(%)	Dec.21/ Dec.20 (%)	Sep.22* / Dec.21 (%)
Peru (PEN)	**2.6**	**9.2**	**10.3**	**-2.0**
Chile (CLP)	23.8	-5.6	19.9	13.9
Colombia (COP)	53.3	4.3	18.6	9.4
Mexico (MXN)	107.0	5.2	3.1	-1.6
Brazil (BRL)	166.3	29.0	7.3	-5.5



* As of September 23.
Source: Reuters.

As of 2022, the BCRP demanded USD 0.4 billion to the FX market: net maturity of FX swaps and CDRBCRP (USD 1.5 billion) exceeded spot market sales (USD 1.1 billion)



	2021-Q1	2021-Q2	2021-Q3	2021-Q4	2021	2022-Q1	2022-Q2	2022-Q3*	2022*
Net spot purchases	- 2 396	- 2 571	- 4 279	- 2 380	-11 626	-371	-641	-114	-1 126
Net maturity of FX derivatives	- 5 639	340	681	- 1 263	- 5 880	1 221	428	-101	1 547
Total	**- 8 034**	**- 2 231**	**- 3 598**	**-3 643**	**-17 506**	**850**	**-213**	**-215**	**421**

*As of September 23.
Source: BCRP.

Peru's external position is strong due to a considerable FX reserve buffer; and has been reinforced by a successor arrangement to the IMF' Flexible Credit Line (FCL) for US$ 5.2 billion.

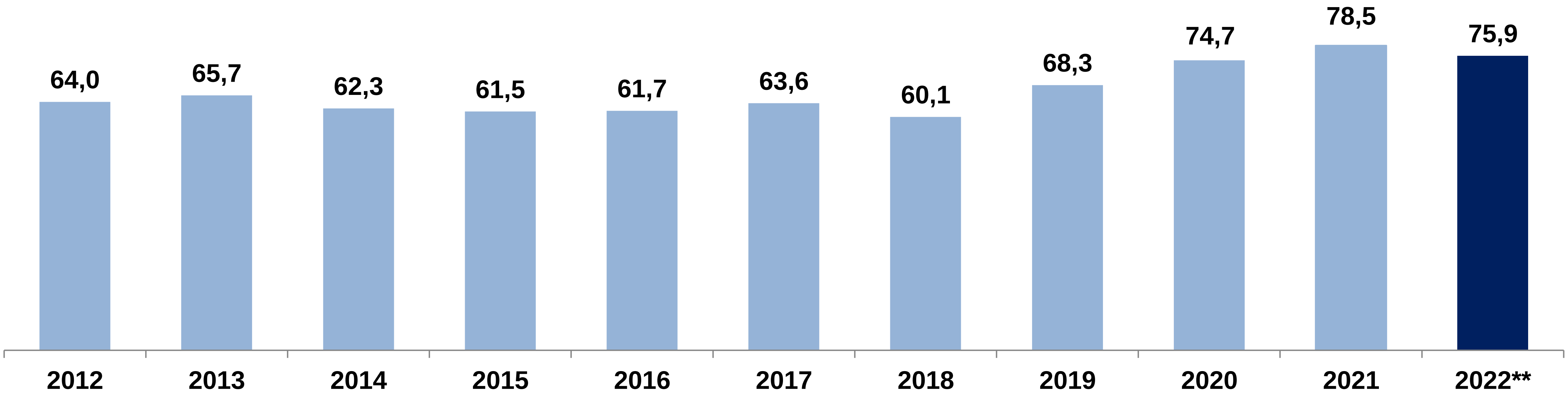
INTERNATIONAL COVERAGE INDICATORS

	2019	2020	2021*	2022*
NIR as percentage of:				
a) GDP	29.6	36.3	34.8	30.1
b) Short-term external debt [1/]	498	543	559	521
c) Short-term external debt + current account deficit	424	657	406	316

[1/] Includes the stock of short-term debt plus 1 year ahead amortization of private and public debt.
*Forecast.

FOREIGN EXCHANGE RESERVES

(Billions of US$)



**As of September 21.
Source: BCRP.

Contents

CHALLENGES AHEAD

1. Short-term: achieve the convergence of inflation to the target range in the coming months, ensuring a soft landing in economic activity.

2. Medium-term: maintain a monetary policy framework flexible enough to respond accordingly to greater uncertainty. Since 2020 we had three unprecedented shocks: the Covid-19 pandemic, resident capital outflows, and an increase in non-core inflation.

3. Risks balance: external shocks (capital outflows, global economic activity and more persistent food and energy inflation) and domestic shocks (local confidence).

Monetary Policy Challenges in Peru in a High Inflation Environment

Carlos Montoro*
Central Reserve Bank of Peru
September 2022

* The opinions expressed are those of the author and should not be attributed to the BCRP.