# 01. PRODUCTION AND EMPLOYMENT

Production activity in 2023 was affected by various supply shocks, including: (i) socio-political conflicts in the first half of the year, characterized by road blockades and mobilizations that directly affected both the primary (mining) and non-primary (commerce, construction and transportation) sectors; (ii) adverse weather events, including the El Niño phenomenon, droughts in the south and cyclone Yaku, whose negative effects were observed throughout the year and affected the primary sectors (agricultural activities, fishing and associated manufacturing); and the negative effects of the El Niño phenomenon, droughts in the south and cyclone Yaku, whose negative effects were observed throughout the year and affected the primary sectors (agricultural activities, fishing and associated manufacturing); and (iii) the avian flu outbreak at the end of 2022, which delayed poultry production for the first half of 2023.

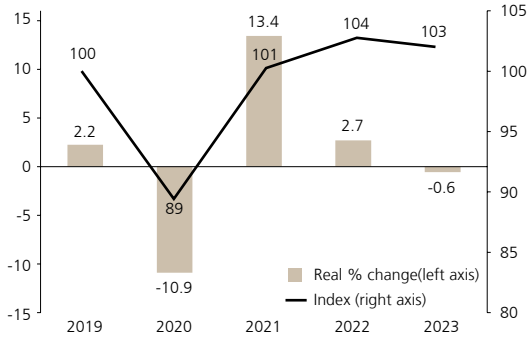
On the demand side, several of these unanticipated shocks had negative second-round impacts on household and business income and confidence, which significantly slowed the growth rate of private consumption and led to a drop in private investment for the second consecutive year. Other factors that contributed to the decline in economic activity were the drop in Local Government investment which usually occurs in the first year of the new subnational authorities' mandate-, the reduction of inventories, following the build-up of inventories at the end of 2022 and beginning of 2023, and the drop in external demand for non-traditional products, especially textiles by the United States.

The unfavorable trend caused by the supply shocks was counterbalanced by public consumption, since a recovery in spending was recorded, not associated to the health emergency or to higher disbursements due to reactivation in programs such as Con Punche Perú and Emergencia-FEN. He also highlighted the increase in public investment from the National and Regional Governments, the increase in the volume of minerals shipped and the gradual recovery of inbound tourism.

All of this determined a 0.6 percent drop in GDP in 2023, which was 3 percent above its prepandemic level. Total exports managed this year to recover their 2019 level due to the growth of goods shipments; however, exports of services (mainly inbound tourism) are still 29 percent below.

Graph 1

**REAL GDP, 2019-2023**
(% chg. and index 2019 = 100)




Source: INEI and BCRP.

**REAL GDP BY TYPE OF EXPENDITURE, 2020-2023**
(Index 2019 = 100)

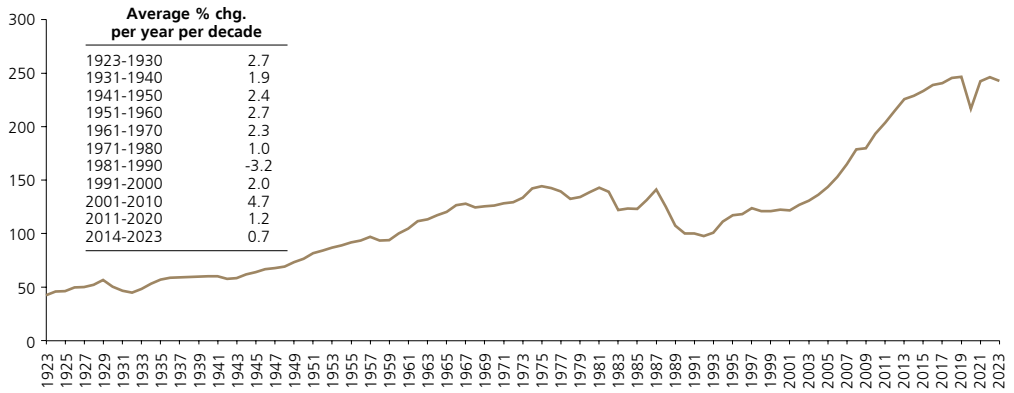
| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| **Domestic Demand** | **90** | **104** | **106** | **104** |
| Private Consumption | 90 | 101 | 105 | 105 |
| Private Investment | 83 | 114 | 114 | 106 |
| Public Consumption | 108 | 113 | 113 | 118 |
| Public Investment | 85 | 106 | 112 | 115 |
| **Exports** | **80** | **91** | **96** | **101** |
| Goods | 85 | 97 | 100 | 104 |
| Services | 42 | 43 | 64 | 71 |
| **Imports** | **85** | **100** | **104** | **102** |
| **Total GDP** | **89** | **101** | **104** | **103** |

The contraction of national economic activity and estimated population growth caused GDP per capita to fall 1.5 percent year-on-year in 2023, 1.7 percent below the level reached in 2019. As a result, the average annual growth rate of GDP per capita over the last 10 years stood at 0.7 percent, lower than that recorded between 2001-2010 (4.7 percent).

Graph 2

**REAL GROSS DOMESTIC PRODUCT PER CAPITA**

(Index 1960 = 100)

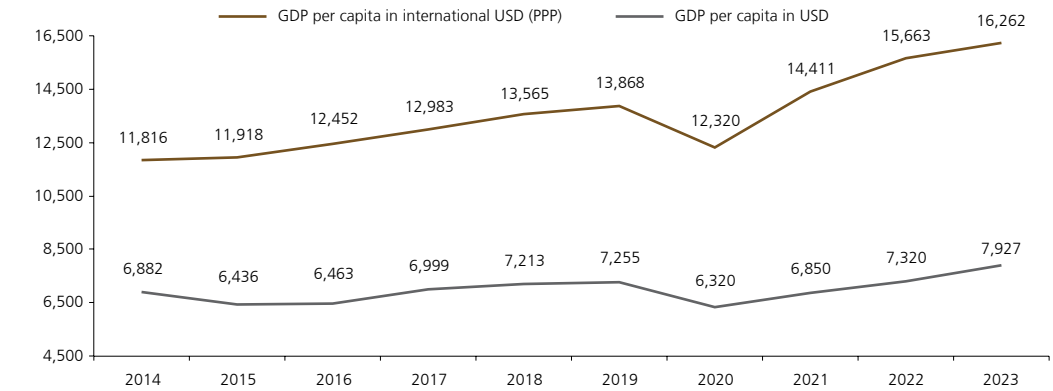



Source: INEI and BCRP.

GDP measured in nominal terms increased by 6.7 percent and, due to the appreciation of the Sol, GDP in current dollar terms advanced by 9.4 percent. GDP per capita in dollar terms amounted to USD 7,927 in 2023, representing a year-on-year increase of 8.3 percent over 2022.

Graph 3

**GDP PER CAPITA: IN USD AND IN INTERNATIONAL USD (PPA)**




Source: International Monetary Fund and BCRP.

For its part, GDP measured in terms of purchasing power parity (PPP) - an indicator that takes into account the same basket of goods and is used to make international comparisons - increased by 3.8 percent year-on-year to USD 16,262 PPP.

## 1. DOMESTIC DEMAND

Domestic demand declined 2.1 percent in 2023, the first drop since 2009 (-2.7 percent) excluding 2020. This result was associated with the contraction of private investment, in a year characterized by the

deterioration of business confidence following the social conflicts of the first half of the year and adverse weather events. The reduction of inventories also contributed, following the buildup of inventories at the end of 2022 and beginning of 2023 by mining and manufacturing companies.

Table 1

**GROSS DOMESTIC PRODUCT BY TYPE OF EXPENDITURE**

(Real percentage changes)

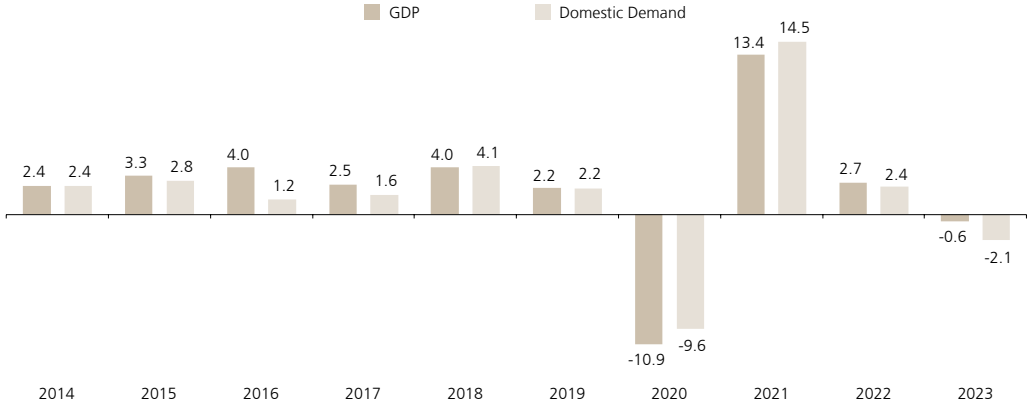
| | 2021 | 2022 | 2023 | Average 2014-2023 | Average 2019-2023 |
|---|---|---|---|---|---|
| **Domestic Demand** | **14.5** | **2.4** | **-2.1** | **1.8** | **1.2** |
| a. Private Consumption | 12.4 | 3.6 | 0.1 | 2.6 | 1.7 |
| b. Public Consumption | 4.8 | -0.2 | 4.6 | 4.5 | 4.2 |
| c. Gross fixed investment | 34.6 | 0.7 | -5.4 | 0.3 | 2.1 |
| - Private | 37.0 | -0.5 | -7.3 | 0.2 | 2.0 |
| - Public | 24.7 | 6.0 | 2.8 | 0.6 | 2.6 |
| Exports | 13.3 | 5.2 | 4.9 | 2.2 | 0.3 |
| Less: | | | | | |
| Imports | 17.9 | 3.9 | -1.4 | 0.9 | 0.6 |
| **Gross Domestic Product** | **13.4** | **2.7** | **-0.6** | **2.1** | **1.1** |
| Note: | | | | | |
| Total public spending | 9.1 | 1.4 | 4.1 | 3.3 | 3.8 |

Source: INEI and BCRP.

Graph 4

**GDP AND DOMESTIC DEMAND**

(Real percentage changes)




Source: INEI and BCRP.

## 1.1 PRIVATE CONSUMPTION

Private consumption slowed its growth rate from 3.6 percent in 2022 to 0.1 percent in 2023. This loss of dynamism is consistent with the slowdown in the labor market and low consumer confidence, and was reflected in the lower volume of imported consumer goods and an increase in the savings rate.

Formal employment in the private sector grew 3.4 percent year-on-year in 2023 (7.9 percent in 2022), adding 134 950 jobs on average (292 759 jobs in 2022). Thus, the formal wage bill grew 6.4 percent in nominal terms over the same period (11.6 percent in 2022). The slower pace of hiring in the private sector,

adverse weather events, the lagged effect of higher food prices and tighter financial conditions kept the consumer confidence index in the pessimistic range for the year.

Other consumer indicators reaffirm the low dynamism shown during the year. Consumer credit grew 3.8 percent in real terms (12.3 percent in 2022), the slow down corresponded mainly to the lower use of credit cards in a context of low formal employment growth rates.

Table 2

**INDICATORS OF PRIVATE CONSUMPTION**

(Percentage change)

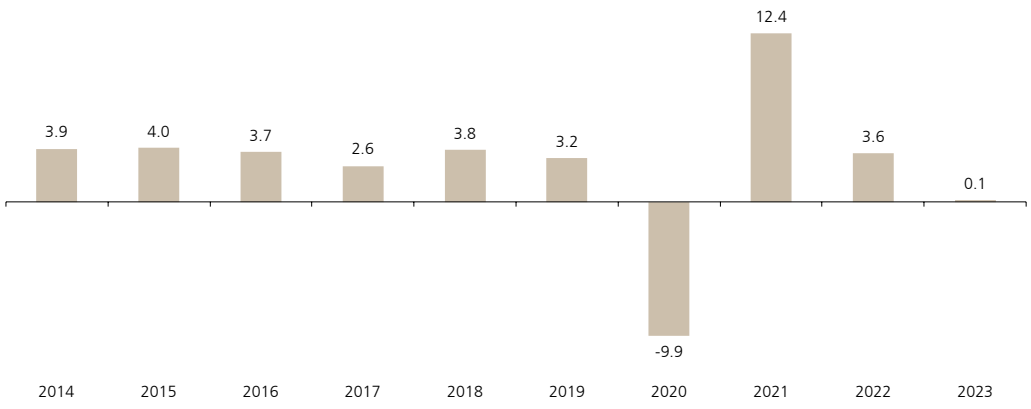
| | 2021 | 2022 | 2023 |
|---|---|---|---|
| National employment (formal private sector) | 4.2 | 7.9 | 3.4 |
| Wage mass (private and public formal sector) | 10.6 | 11.6 | 6.4 |
| Supporting Consumer Confidence Index 1/ | 39 | 36 | 39 |
| Future Family Situation Subindex 1/ | 54 | 47 | 53 |
| Real consumer credit | -3.1 | 12.3 | 3.8 |
| Chicken sales (tons, daily average) | 0.9 | 0.5 | -6.5 |
| Retail sales | 12.2 | 2.4 | 2.8 |
| Volume of imports of consumer goods | 14.6 | 4.6 | -0.2 |
| Nondurables, excluding food | 8.3 | 11.4 | -1.7 |
| Durable | 30.1 | -2.7 | 1.8 |

1/ Diffusion index. to value greater than 50 indicates growth.
Source: BCRP, INEI, Sunat, Apoyo, MINAGRI.

Graph 5

**PRIVATE CONSUMPTION**

(Real percentage changes)




Source: INEI and BCRP.

## 1.2 PRIVATE INVESTMENT

Private investment in 2023 contracted 7.3 percent, recording two consecutive years of decline (-0.5 percent in 2022). The year saw business confidence stagnate in pessimistic territory, an absence of new mining investment megaprojects and a drop in self-construction after growing in 2021 and 2022. Mining investment fell 13.7 percent after the conclusion of the Quellaveco construction phase. Non-mining sectors invested 6.5 percent less than in 2022, a result that is in line with the contraction in the volume of imports of capital goods and the drop in self-construction.

The investment projects that stood out due to the magnitude of the executed projects are: Jorge Chávez Airport Terminal Expansion, Chancay Port Terminal Phase 1, Callao Port South Pier Expansion (Phase 2) and San Gabán III Hydroelectric Plant.

Table 3

**MINING AND NON-MINING INVESTMENT**

(Real percentage change)

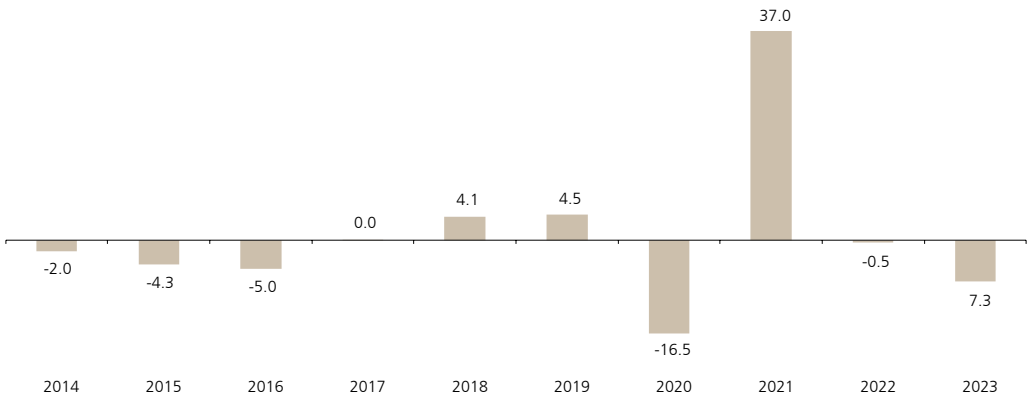
| | 2020 | 2021 | 2022 | 2023 | Average 2014-2023 |
|---|---|---|---|---|---|
| Total Private Investment | -16.5 | 37.0 | -0.5 | -7.3 | 0.2 |
| Mining sector | -25.4 | 23.7 | -7.8 | -13.7 | -7.1 |
| Non-mining sectors | -15.1 | 38.9 | 0.5 | -6.5 | 1.5 |

Source: INEI and BCRP.

Graph 6

**GROSS PRIVATE FIXED INVESTMENT**

(Real percentage changes)



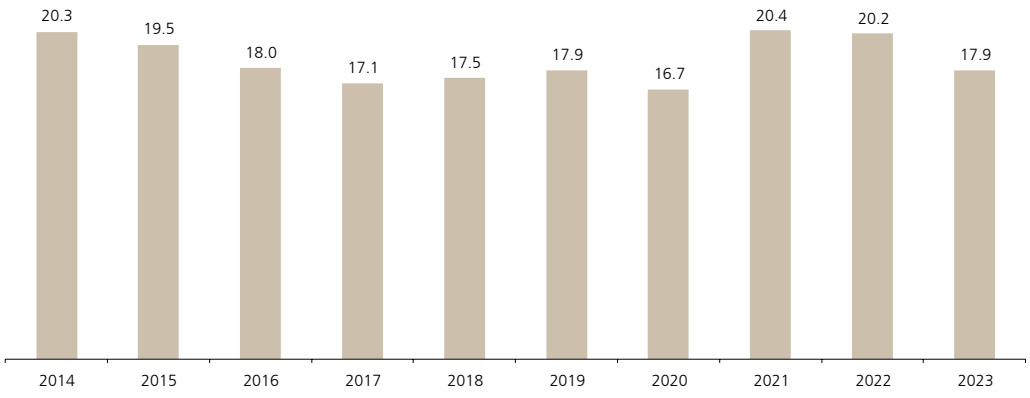

Source: INEI and BCRP.

The private investment to GDP ratio decreased from 20.2 to 17.9 percent between 2022 and 2023, and is similar to that achieved in 2019.

Graph 7

**GROSS PRIVATE FIXED INVESTMENT**

(Percentage of GDP)




Source: INEI and BCRP.

In nominal terms, **mining investment** contracted from USD 5,235 million in 2022 to USD 4,715 million in 2023, explained by lower investment in Quellaveco and Yanacocha. However, better figures were recorded at Antamina, Shougang and Cerro Verde.

In the energy sector, Luz del Sur made investments of USD 101 million (USD 75 million in 2022), mainly for the improvement and expansion of the electricity system. For its part, Enel Distribución invested USD 16 million less due to the lower execution of expansion works due to the rescheduling of activities, and the completion of digitalization projects associated with systems development.

In the hydrocarbons sector, La Pampilla Refinery allocated USD 57 million to investments, USD 8 million higher than in 2022; the largest disbursements were oriented to its Gasolinas Block Units Revamping project and major plant maintenance. In the fishing sector, Pesquera Exalmar reduced its investment by USD 23 million (USD 35 million in 2022), due to lower expenditures on vessels and Indirect Human Consumption plants.

In the manufacturing sector, Aceros Arequipa invested USD 121 million (USD 100 million in 2022) in property, plant and equipment and intangibles, of which USD 45 million was allocated to its new rolling mill, USD 16 million to the distribution center in Lurín and USD 16 million to its annealed wire and nails plant. Meanwhile, Unión de Cervecerías Peruanas Backus y Johnston disbursed USD 92 million (USD 110 million in 2022) in investments to increase production and marketing capacity.

### 1.3 PUBLIC SPENDING

Public spending in 2023 increased by 4.1 percent. The higher spending is explained by both the increase in public consumption (4.6 percent) and the expansion of public investment (2.8 percent).

The higher public consumption is explained by the recovery of spending not associated with the health emergency or reactivation programs, particularly Con Punche Perú and Emergencia-FEN. The increase in public consumption occurred at all three levels of government.

Meanwhile, public investment grew 2.8 percent in 2023, although, by level of government, it showed heterogeneous behavior: investment by the National and Regional Governments increased by 18.5 and 14.5 percent, respectively. For its part, Local Government investment contracted in its first year of administration (-14.1 percent).

Among the projects that stand out for their magnitude at the National Government level are the Metro Line 2, Bicentennial Schools and Reconstruction projects under the Government to Government Agreement with the United Kingdom. The increase in the Regional Governments' accruals, despite being in their first year of management, is partly due to the earlier availability of resources and the support and training actions carried out by the MEF.

## 2. EXPORTS AND IMPORTS

**Total exports** increased by 4.9 percent in 2023, recording an increase of 4.4 percent in goods and 11.4 percent in services.

The increase in shipments of goods corresponds to the higher shipment of traditional products (7.4 percent), including mining products such as copper and zinc and fuels such as petroleum

and natural gas derivatives. Shipments of non-traditional products fell by 2.0 percent, mainly agricultural, textile, chemical and iron and steel products, an evolution explained by adverse weather conditions and lower demand from our main trading partners. Exports of services recovered, although they continued below the levels reached in 2019. The recovery of inbound tourism stood out, consistent with the increase in the number of foreigners arriving at Jorge Chávez International Airport.

**Total imports** decreased 1.4 percent, due to lower purchases of goods from abroad (-4.3 percent). This result corresponds to lower volumes purchased of industrial inputs, capital goods and non-durable consumer goods, in line with the fall in domestic demand and lower manufacturing production. Among the lower purchases of industrial inputs were iron and steel, textiles, plastics, paper and chemicals. Lower purchases of construction materials, laptops, tires and tractors explain the contraction in capital goods. In contrast, imports of services rose 11.3 percent, related to the increase in the outflow of nationals abroad and the greater demand for IT services from abroad.

## 3. ECONOMIC SECTORS

During the year, GDP contracted by 0.6 percent, the largest decline since 1990 (-5.0 percent), excluding the pandemic period. Excluding 2020 (affected by COVID-19), the Peruvian economy has not experienced a contraction since 1998, the year affected by El Niño and the international financial crisis. Like that year, 2023 was also affected by a series of shocks that dampened economic growth, such as the coastal El Niño, the droughts at the end of 2022, social conflicts and the avian flu.

In 2023, non-primary GDP recorded a fall, mainly in manufacturing and construction, and primary GDP growth, driven by mining. For its part, the agricultural sector, fisheries and manufacturing contracted as a result of adverse weather factors.

Table 4

**GROSS DOMESTIC PRODUCT, BY SECTOR**

(Real percentage changes)

| | 2021 | 2022 | 2023 | Average 2014-2023 | Average 2019-2023 |
|---|---|---|---|---|---|
| **Primary GDP** | **6.4** | **0.9** | **2.8** | **2.1** | **0.2** |
| Agriculture sector | 4.6 | 4.5 | -2.9 | 2.9 | 2.1 |
| Agriculturel | 6.3 | 5.8 | -4.1 | 3.0 | 2.7 |
| Livestock | 2.0 | 2.4 | -0.9 | 2.7 | 1.1 |
| Fishing | 9.9 | -11.4 | -19.7 | -2.4 | -7.6 |
| Metallic mining | 10.5 | 0.0 | 9.5 | 3.8 | 0.6 |
| Hydrocarbons | -4.6 | 4.0 | 0.7 | -2.3 | -1.5 |
| Manufacturing | 3.2 | -2.5 | -2.6 | -0.8 | -2.5 |
| **Non-Primary GDP** | **15.5** | **3.2** | **-1.4** | **2.2** | **1.3** |
| Manufacturing | 25.2 | 2.2 | -8.2 | -0.4 | -0.1 |
| Electricity and water | 8.5 | 3.9 | 3.7 | 3.7 | 2.7 |
| Construction | 34.9 | 3.1 | -7.9 | 1.2 | 2.4 |
| Trade | 17.8 | 3.3 | 2.4 | 2.1 | 1.5 |
| Services | 11.5 | 3.3 | -0.3 | 2.8 | 1.4 |
| **GDP** | **13.4** | **2.7** | **-0.6** | **2.1** | **1.1** |

Source: INEI, BCRP.

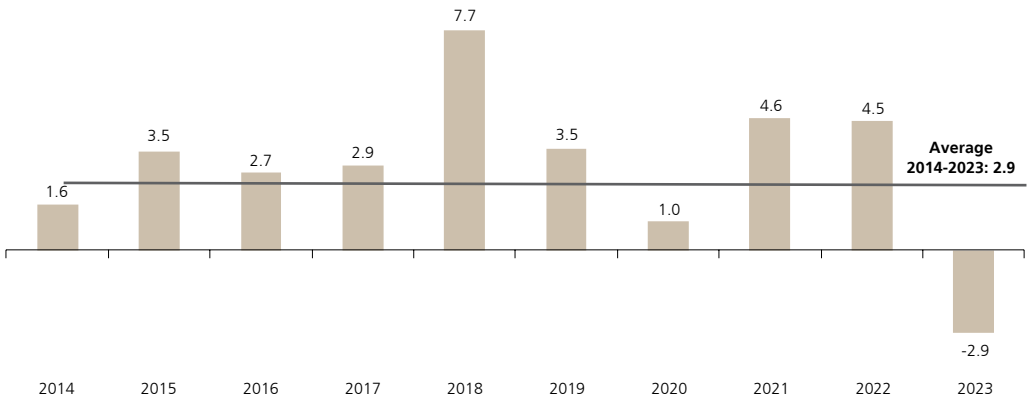
## 3.1 AGRICULTURE SECTOR AGRICULTURE SECTOR

In 2023, the agriculture sector was affected by the climatic impacts of coastal El Niño, the water deficit in the Andes, and avian flu. This resulted in a 2.9 percent reduction in the sector, the largest since 1992 (-7.7 percent).

Graph 8

**AGRICULTUREL SECTOR**

(Real percentage changes)




Source: INEI and MIDAGRI.

The coastal El Niño of 2023-2024 determined an adverse context for crop development, as it affected phytosanitary conditions, particularly on the northern coast, due to the intensity of rainfall, warm anomalies and the high contribution of moisture to the soils.

The water deficit in the Andes (September-December 2022) occurred in a context of frosts until January 2023. This was unfavorable both for the beginning of the productive cycle of plantings, especially those with an advanced calendar in Puno and Cusco, and for the following productive phases of harvesting.

Table 5

**RAINFALL INDICATOR IN THE SIERRA REGION IN THE AUGUST-DECEMBER 2022 CROP YEAR 1/**

(In percentage changes with respect to its historical average)

| | Aug | Sep | Oct | Nov | Dec 2/ | Accumulate Aug - Dec |
|---|---|---|---|---|---|---|
| North | 47.5 | 11.6 | -21.0 | -69.8 | -10.5 | -22.2 |
| Center | 3.5 | -1.1 | -50.5 | -57.8 | -1.6 | -25.9 |
| South | -46.5 | -43.7 | -78.0 | -76.9 | -13.2 | -45.6 |

1/ Sample of 262 SENAMHI weather stations, with to 30-year historical average (1981-2010). 2/ As of December 31, 2022
Source: SENAMHI.

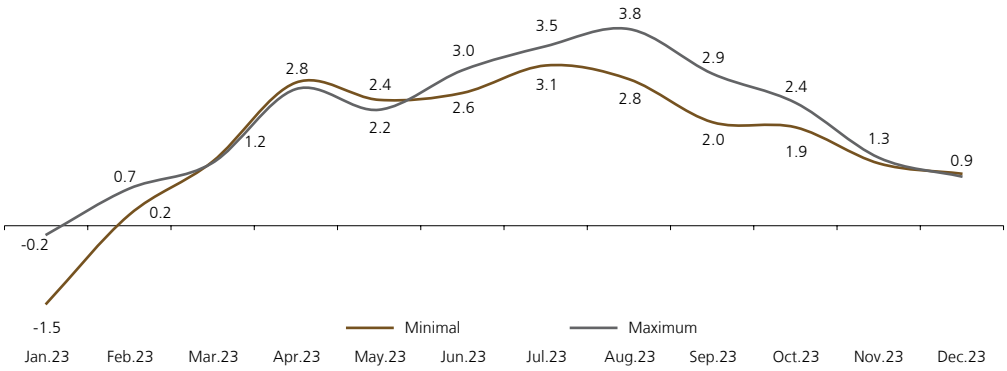
During the first half of the year, at the height of the crops season in the highland and coastal regions, the impact of climate shocks was immediate on crops with a short growing season[1]. In addition, the persistence of high maximum and minimum temperatures on the coast meant that the shocks had a prolonged effect during the second half of the year, as the flowering of fruit trees was reduced and delayed.

1 About 5 months of vegetative period.

Graph 9

**COASTAL AVERAGE AIR TEMPERATURE ANOMALIES**

(In degrees Celsius)



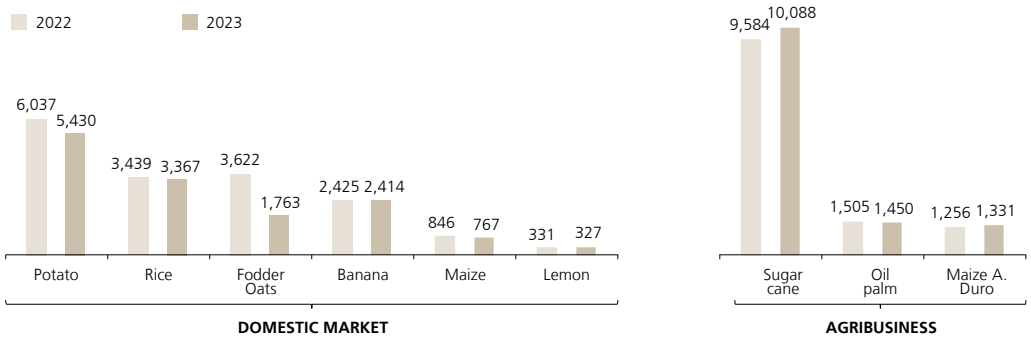

Source: SENAMHI.

In the first half of the year, production was reduced in the northern coast (rice and bananas) due to excess soil moisture and phytosanitary problems; and in the highlands (potato, quinoa, starchy maize and forage), due to the severe drought [2]. In the second half of the year, the harvest of export fruits from the northern coast, such as mango, avocado, and blueberries, was reduced.

Graph 10

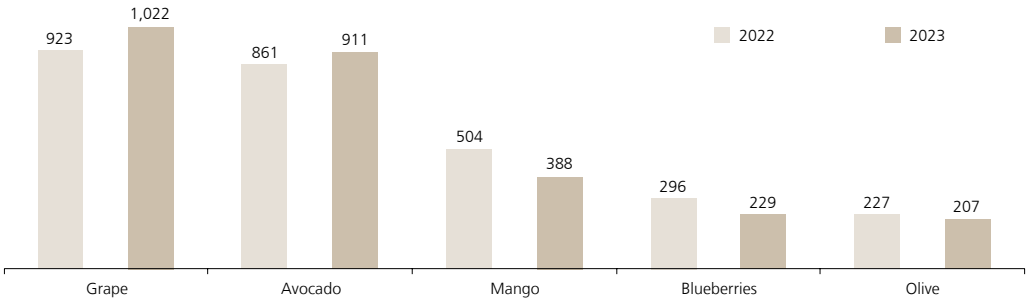
**CROPS ORIENTED TO THE DOMESTIC MARKET AND AGRIBUSINESS**

(Thousands of MT)




**CROPS ORIENTED TO THE FOREIGN MARKET**

(Thousands of MT)




Source: MINAGRI.

2 According to SENAMHI, there is an agro-climatic risk based on an accumulated deficit of 25 percent of rainfall, and a deficit of 45.6 percent was recorded in Aug-Dec 2022 in the southern highlands. This drought is comparable to the 1982-1983 drought with a rainfall deficit of 50 percent in the southern highlands, according to the 1st Agricultural Statistical Compendium 1950-1991 of the Ministry of Agriculture

This evolution determined the drop in annual production, destined both for the domestic market (-4.5 percent), due to the impact of climatic events on a wide agricultural supply with high weight in the structure of the sector; and for the foreign market (-4.8 percent), due to the impact of El Niño in areas producing exportable supply on the coast. In addition, livestock activity also contracted (-0.9 percent), due to the impact of avian flu on poultry and egg production, which has been observed since late 2022. In contrast, agroindustrial activity grew 3.1 percent due to higher plantings of hard yellow maize and higher sugarcane crops, with favorable weather for these crops.

In the last ten years, the sector grew 2.9 percent on average. This result was influenced by the agroexport drive (7.4 percent) with the explosive double-digit growth of blueberries, which occurred prior to 2023. Livestock production also contributed (2.7 percent), with the continued dynamism of poultry activity in the pre-pandemic years. Likewise, production oriented to the domestic market (1.1 percent) contributed with notable favorable years in terms of water and weather conditions, such as 2018, 2021 and 2022; counterbalanced by less favorable years with drought in the Andes and El Niño on the coast, such as 2023.

Table 6

**AGRICULTURE SECTOR PRODUCTION**

(Real percentage changes)

| | 2021 | 2021 | 2023 | Average 2014-2023 | Average 2019-2023 |
|---|---|---|---|---|---|
| **A. Agriculturel production** | **6.3** | **5.8** | **-4.1** | **3.0** | **2.7** |
| **Oriented to the domestic market** | **4.5** | **1.8** | **-4.5** | **1.1** | **0.7** |
| Potato | 3.4 | 5.9 | -10.0 | 1.7 | 1.1 |
| Paddy Rice | 3.0 | -2.8 | -2.1 | 1.0 | -1.1 |
| Onion | -0.4 | -14.4 | 4.2 | -3.3 | -3.6 |
| Mandarin | 11.8 | 8.6 | 4.1 | 7.8 | 6.7 |
| Tomato | 19.5 | -13.4 | 6.7 | -1.2 | -2.3 |
| Banana | 0.5 | 3.8 | -0.5 | 1.3 | 1.9 |
| Yucca | -0.1 | 4.2 | 7.9 | 2.4 | 4.0 |
| Starchy Maize | -3.1 | 13.4 | -10.3 | 0.3 | 0.3 |
| Garlic | 20.8 | 3.8 | -14.9 | 1.7 | -1.6 |
| Lemon | 7.1 | 1.5 | -1.2 | 3.6 | 4.8 |
| **Oriented to agribusiness** | **10.5** | **5.1** | **3.1** | **0.4** | **1.9** |
| Hard yellow maize | 12.8 | -1.2 | 6.0 | -0.2 | 1.0 |
| Cotton Rama | -22.1 | 160.0 | -1.8 | -7.4 | -2.8 |
| Oil Palm | 46.6 | 14.2 | -3.6 | 9.9 | 9.5 |
| Sugar cane | -6.1 | -2.5 | 5.3 | -0.9 | -0.5 |
| **Oriented to agro-export** | **8.2** | **12.0** | **-4.8** | **7.4** | **6.3** |
| Coffee | 3.1 | -1.6 | 2.9 | 3.7 | -0.1 |
| Asparagus | -0.1 | 2.2 | -5.8 | -0.7 | -0.3 |
| Grape | 12.7 | 11.7 | 10.7 | 8.8 | 9.6 |
| Avocado | 15.5 | 10.9 | 5.8 | 12.2 | 12.5 |
| Mango | -13.9 | 13.8 | -23.1 | -1.7 | 0.5 |
| Cocoa | 1.0 | 7.2 | -3.1 | 8.8 | 4.4 |
| Quinoa | 6.5 | 7.0 | -38.4 | 3.0 | -4.1 |
| Blueberry | 27.2 | 29.7 | -22.5 | 62.9 | 22.0 |
| Olive | -15.7 | 54.4 | -8.8 | 13.6 | 1.8 |
| **B. Livestock production** | **2.0** | **2.4** | **-0.9** | **2.7** | **1.1** |
| Bird | 1.6 | 2.9 | -1.4 | 3.5 | 1.0 |
| Beef | 3.3 | 1.5 | 1.8 | 0.2 | 0.7 |
| Egg | 1.3 | 1.4 | -1.5 | 3.7 | 2.2 |
| Swine | 3.7 | 3.0 | 3.1 | 3.9 | 2.6 |
| **C. AGRICULTURE SECTOR 1/** | **4.6** | **4.5** | **-2.9** | **2.9** | **2.1** |

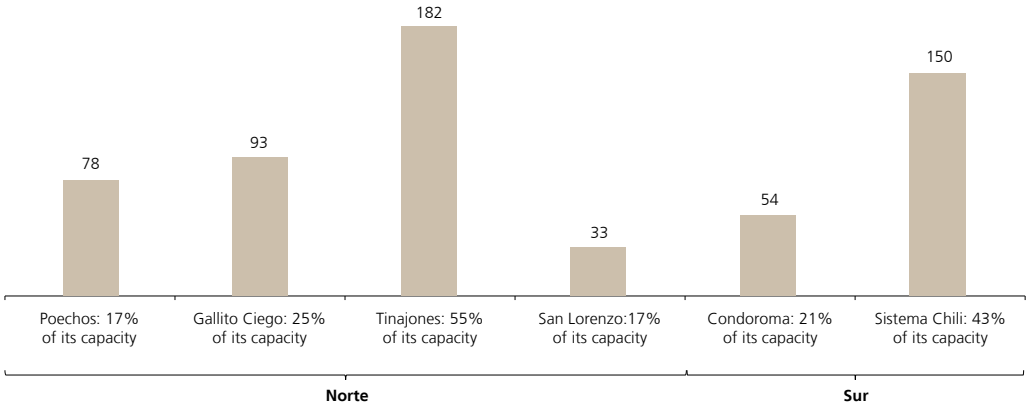
1/ Includes the forestry sector.
Source: INEI and Ministry of Agriculture and Irrigation

Water storage in the main reservoirs as of December 31, 2022, in both the north and south was lower than the same date of the previous year.

Graph 11

**VOLUME OF WATER STORED IN MAIN RESERVOIRS, ACCORDING TO REGION 1/**

(Millions of cubic meters)




1/ As of December 31, 2022.
Source: Junta of Usuarios, Proyectos Especiales of Irrigación and AUTODEMA

Table 7

**EVOLUTION OF THE MAIN RESERVOIRS 1/**

(In million cubic meters)

| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | Capacity of use |
|---|---|---|---|---|---|---|---|---|
| **Piura** | | | | | | | | |
| Poechos | 272 | 171 | 239 | 143 | 233 | 78 | 213 | 446 |
| San Lorenzo | 37 | 95 | 98 | 58 | 96 | 33 | 73 | 196 |
| **Lambayeque** | | | | | | | | |
| Tinajones | 263 | 188 | 307 | 210 | 325 | 182 | 262 | 332 |
| **La Libertad** | | | | | | | | |
| Gallito Giego | 149 | 141 | 220 | 124 | 295 | 93 | 265 | 367 |
| **Arequipa 2/** | | | | | | | | |
| Sistema Chili 2/ | 174 | 190 | 172 | 190 | 197 | 150 | 116 | 345 |
| Condoroma | 102 | 88 | 81 | 93 | 91 | 54 | 82 | 259 |

1/ As of December 31 of each year.
2/ El Pañe, Los EspYearles, Pillones, El Frayle and Aguada Blanca dams are considered.
Source: Board of Users, Special Irrigation Projects and AUTODEMA

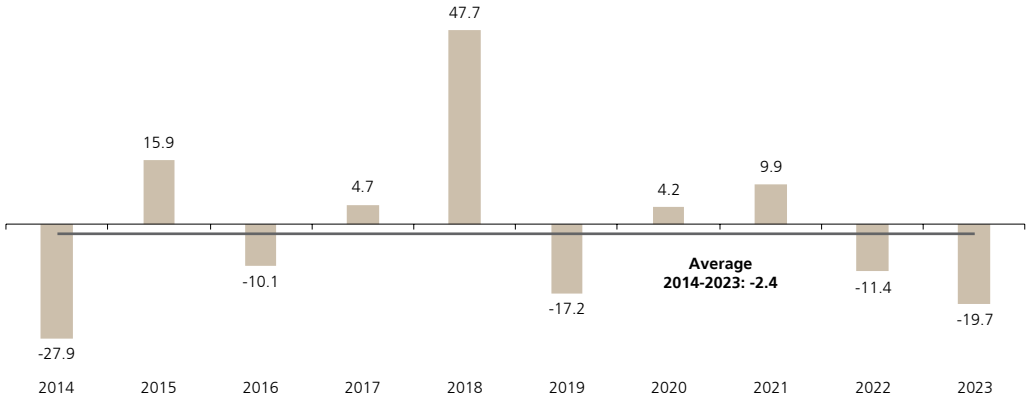
## 3.2 SECTOR FISHING

Production in the sector fell by 19.7 percent in 2023, due to the lower catch of anchoveta because of the absence of the first fishing season in the north-central zone caused by the strong magnitude of the coastal El Niño. Thus, the annual catch went from 4.0 million MT in 2022 to 2.0 million MT in 2023 (lower by 50.7 percent). This was partially offset by higher catches of marine species for direct human consumption, such as squid, bonito and jack mackerel, which benefited from positive sea temperature anomalies.

Graph 12

**FISHING SECTOR**

(Real percentage changes)




Source: INEI.

In January 2023, the anchoveta catch in the north-central zone was higher than the same month of the previous year (0.5 versus 0.1 million MT), due to a higher quota balance from the second season of 2022. The sector was particularly affected by the absence of the first anchovy fishing season. Thus, during the second and third quarters of the year, a catch of 0.2 million MT of the resource was recorded, due to exploratory fishing authorizations in June and August. This figure is well below the 2.5 million MT landed in the same period of 2022. Likewise, and despite the earlier start of the second season[3] , the lower quota established compared to the previous year (1.7 versus 2.3 million MT) resulted in a lower catch of anchoveta during the fourth quarter in year-on-year terms (1.2 compared to 1.4 million MT).

Table 8

**TOTAL MAXIMUM ALLOWABLE CATCH AND TOTAL ALLOWABLE CATCH LIMIT OF ANCHOVETA**

North-Central Zone

| Year | Season 1/ | Biomass (Millions of tons) | Total Maximum Limit Allowable Catch (Millions of tons) | Extraction (%) | Capture (Millions of tons) |
|---|---|---|---|---|---|
| **2015** | First | 9.5 | 2.6 | 97 | 2.5 |
| | Second | 5.6 | 1.1 | 98 | 1.1 |
| **2016** | First | 7.3 | 1.8 | 51 | 0.9 |
| | Second | 6.9 | 2.0 | 98 | 2.0 |
| **2017** | First | 7.8 | 2.8 | 86 | 2.4 |
| | Second | 6.1 | 1.5 | 47 | 0.7 |
| **2018** | First | 10.9 | 3.3 | 98 | 3.2 |
| | Second | 7.2 | 2.1 | 100 | 2.1 |
| **2019** | First | 7.0 | 2.1 | 95 | 2.0 |
| | Second | 8.3 | 2.8 | 36 | 1.0 |
| **2020** | First | 10.1 | 2.4 | 98 | 2.4 |
| | Second | 8.4 | 2.8 | 88 | 2.5 |
| **2021** | First | 9.9 | 2.5 | 98 | 2.5 |
| | Second | 7.0 | 2.0 | 99 | 2.0 |
| **2022** | First | 9.8 | 2.8 | 84 | 2.4 |
| | Second | 6.8 | 2.3 | 84 | 1.9 |
| **2023** | First | 6.2 | 1.1 | 21 | 0.2 |
| | Second | 7.2 | 1.7 | 76 | 1.3 |

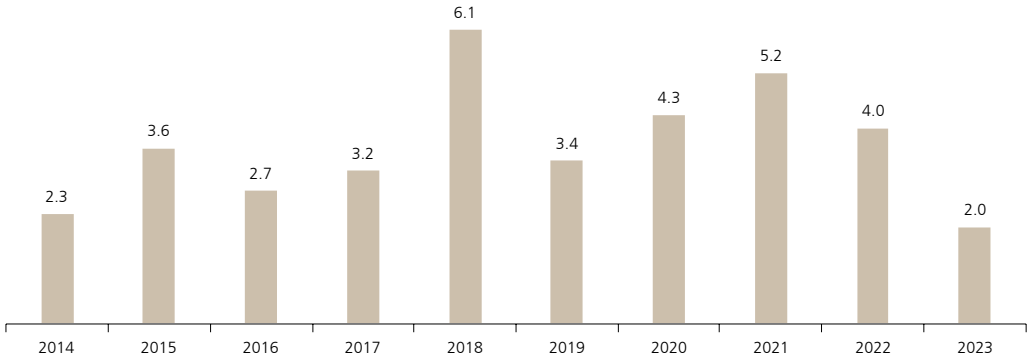
1/ Usually the second anchoveta fishing season in the North-Central Zone lasts until the first months of the following year.
Source: Instituto of Mar of Peru (IMARPE), Ministry of Production

3 October 21 in 2023 and November 23 in 2022.

Graph 13

**EXTRACTION OF ANCHOVETA FOR INDUSTRIAL CONSUMPTION**

(Millions of TM)




Source: Ministry of Production.

Marine fisheries for direct human consumption increased 3.5 percent, mainly due to higher catches of species for canned, frozen and fresh products, such as pota, bonito and jack mackerel.

Table 9

**FISHING EXTRACTION BY MAIN SPECIES**

(Percentage changes)

| Species | 2021 | 2022 | 2023 | Average 2014-2023 | Average 2019-2023 |
|---|---|---|---|---|---|
| Anchoveta 1/ | 19.7 | -21.8 | -50.7 | -8.3 | -20.0 |
| Bonito 2/ | -37.3 | -12.9 | 37.7 | 8.5 | 0.6 |
| Horse mackerel 2/ | -13.0 | 33.1 | 5.0 | 1.6 | 34.2 |
| Pota 3/ | 4.2 | -12.9 | 38.3 | 3.4 | 12.5 |
| Horse mackerel 3/ | -30.5 | 28.2 | 81.0 | 21.0 | 35.0 |
| Fan shells 3/ | 13.7 | -51.7 | -52.2 | -17.9 | -19.3 |
| Mackerel 4/ | 13.6 | -14.9 | -44.0 | -4.3 | -7.0 |
| Horse mackerel 4/ | -36.6 | 108.7 | 24.8 | 19.9 | 24.7 |

1/ Industrial consumption.
2/ Fresh.
3/ Frozen.
4/ Canned.
Source: Ministry of Production.

## 3.3 MINING SECTOR AND HYDROCARBONS

The mining and hydrocarbons sector grew by 8.2 percent in 2023, driven by higher activity in the sector of metal mining (9.5 percent). This was due to increased production of almost all metals, with the exception of silver and tin. On the other hand, activity in the hydrocarbons sector increased 0.7 percent as higher natural gas extraction was partially offset by lower oil and natural gas liquids production.

Over the last ten years, the average growth in the mining and hydrocarbons sector corresponded mainly to the increase in copper (7.5 percent), molybdenum (6.3 percent) and iron ore (7.7 percent) production.

Table 10

## PRODUCTION IN THE MINING AND HYDROCARBON SECTOR

(Real percentage changes)

| | 2021 | 2022 | 2023 | Average 2014-2023 | Average 2019-2023 |
|---|---|---|---|---|---|
| **Metallic mining** | **10.5** | **0.0** | **9.5** | **3.8** | **0.6** |
| Gold | 10.7 | -0.5 | 2.8 | -4.4 | -6.6 |
| Copper | 7.7 | 4.3 | 12.8 | 7.5 | 2.2 |
| Zinc | 14.9 | -10.7 | 7.2 | 0.8 | -0.1 |
| Silver | 22.4 | -7.5 | -1.3 | -1.9 | -6.1 |
| Lead | 9.5 | -3.4 | 6.9 | 0.2 | -1.1 |
| Tin | 30.7 | 4.6 | -7.1 | 1.0 | 7.1 |
| Iro | 36.6 | 6.5 | 8.8 | 7.7 | 8.1 |
| Molybdenum | 6.1 | -7.5 | 6.0 | 6.3 | 3.6 |
| **Hydrocarbons** | **-4.6** | **4.0** | **0.7** | **-2.3** | **-1.5** |
| Oil | -3.5 | 5.6 | -4.5 | -4.7 | -4.6 |
| Natural gas liquids | -4.8 | -5.5 | -0.3 | -3.1 | -2.2 |
| Natural gas | -5.4 | 20.5 | 6.8 | 1.8 | 2.8 |
| **GDP MINING AND HYDROCARBONS 1/** | **8.1** | **0.5** | **8.2** | **2.7** | **0.4** |

1/ Includes non-metallic mining and other minerals and secondary production.
Source: Ministry of Energy and Mines.

Table 11

## VOLUME OF MINING PRODUCTION BY PRODUCT AND COMPANY

| Production by company | 2021 | 2022 | 2023 |
|---|---|---|---|
| **GOLD (Thousands of Troy Ounces)** | **3,134** | **3,118** | **3,206** |
| *Of which:* | | | |
| Yanacocha Mining | 264 | 244 | 276 |
| Poderosa Mining Company | 298 | 303 | 270 |
| Buenaventura | 253 | 250 | 202 |
| Horizonte Mining Consortium | 171 | 188 | 203 |
| Minera Aurífera Retamas | 235 | 208 | 197 |
| Boroo Misquichilca Mining | 67 | 104 | 176 |
| Hochschild | 179 | 166 | 144 |
| Shahuindo - Bread American Silver | 137 | 153 | 143 |
| La Arena - Bread American Silver | 109 | 95 | 96 |
| **COPPER (Thousands TMF)** | **2,246** | **2,344** | **2,645** |
| *Of which:* | | | |
| Antamina Mining Company | 461 | 468 | 435 |
| Cerro Verde Mining Company | 375 | 414 | 421 |
| Southern Peru Copper Corporation | 373 | 315 | 349 |
| Quellaveco - Anglo American | - | 101 | 319 |
| Las Bambas - M.M.G | 290 | 255 | 302 |
| Toromocho - Chinalco | 236 | 245 | 200 |
| Antapaccay | 171 | 151 | 173 |
| Mina Justa - Marcobre | 75 | 96 | 108 |
| Constancia - Hudbay | 78 | 89 | 100 |
| **ZINC (Thousands TMF)** | **1,533** | **1,370** | **1,468** |
| *Of which:* | | | |
| Antamina Mining Company | 533 | 500 | 528 |
| Volcan Mining Company | 227 | 232 | 250 |
| Nexa Resources | 171 | 156 | 153 |
| Shouxin Mining Company | 50 | 27 | 57 |
| Toromocho - Chinalco | 56 | 44 | 57 |
| Raura Mining Company | 0 | 16 | 40 |
| **Silver (Millions of Onzas Troy)** | **107** | **99** | **98** |
| *Of which:* | | | |
| Volcan Mining Company | 12 | 11 | 13 |
| Antamina Mining Company | 17 | 16 | 13 |
| Nexa Resources | 8 | 9 | 9 |
| Toromocho - Chinalco | 7 | 7 | 7 |
| Ares Mining Company | 9 | 8 | 7 |
| Southern Peru Copper Corporation | 5 | 5 | 5 |
| Buenaventura Mining Company | 8 | 5 | 3 |
| **Lead (Thousands TMF)** | **264** | **255** | **273** |
| *Of which:* | | | |
| Volcan Mining Company | 60 | 60 | 66 |
| Nexa Resources | 44 | 54 | 53 |
| Bread American Silver Mina Quiruvilca | 9 | 13 | 14 |
| Raura Mining Company | 0 | 3 | 10 |
| El Brocal Mining Society | 14 | 10 | 9 |
| Los Quenuales Mining Company | 13 | 8 | 7 |
| Antamina Mining Company | 5 | 3 | 2 |

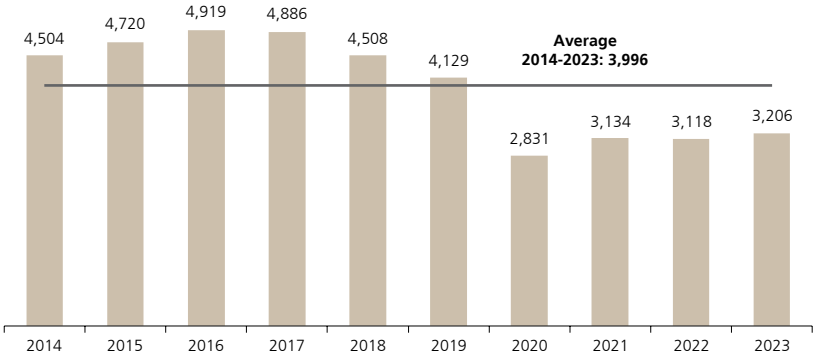
Note: TMF refers to Fine Metric Tons.
Source: Ministry of Energy and Mines.

**Gold** production increased by 88 737 tr. oz. in 2023, an increase of 2.8 percent. This result was due to higher production at Compañía Minera Boroo Misquichilca, which was driven by the carbonaceous ore optimization project aimed at extending the mine's useful life. In addition, Yanacocha and Consorcio Minero Horizonte increased their activity.

Graph 14

**GOLD PRODUCTION**

(Thousands of troy ounces)




**World production ranking, 2023 1/**
(% of total)

| | |
|---|---|
| China | 12 |
| Australia | 10 |
| Russia | 10 |
| Canada | 7 |
| United States | 6 |
| ... | |
| Peru (11°) | 3 |
| Rest | 52 |

1/ Preliminary.
Source: USGS.

Source: Ministry of Energy and Mines.

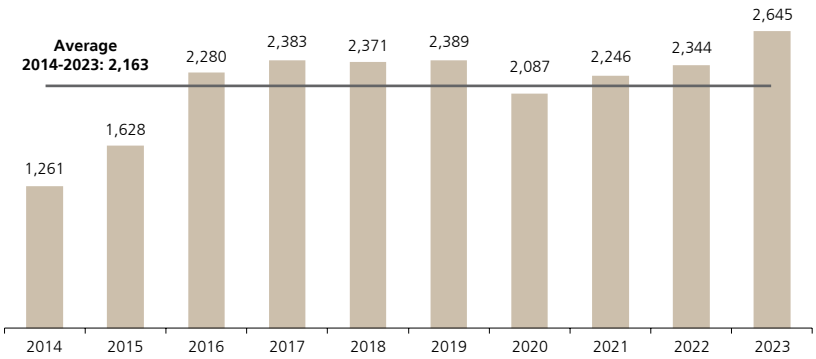
**Copper** production grew 12.8 percent over the previous year, outweighing prepandemia production (2019) and reaching a production record of 2.6 million MTF[4]. The result is explained by the higher extraction of most of the mines, particularly Quellaveco, which, after starting operations in the third quarter of 2022, produced 319,061 MTF. Likewise, greater dynamism was recorded at Las Bambas as a result of fewer community blockades at the mine, compared to the previous year.

On the other hand, Antamina and Toromocho production decreased 7.0 and 18.1 percent, respectively. Antamina's lower activity is due to lower grades and lower extraction during the first quarter, due to heavy rains in Ancash that caused the mine to be paralyzed and the closure of some important roads through which the pipeline passes.

Graph 15

**COPPER PRODUCTION**

(Thousands of fine MT)




**World production ranking, 2023 1/**
(% of total)

| | |
|---|---|
| Chile | 23 |
| Congo | 12 |
| Peru | 12 |
| China | 7 |
| Rest | 45 |

1/ Preliminary.
Source: Ministry of Mining (Chile), Central Bank of Congo, Minem and USGS.

Source: Ministry of Energy and Mines.

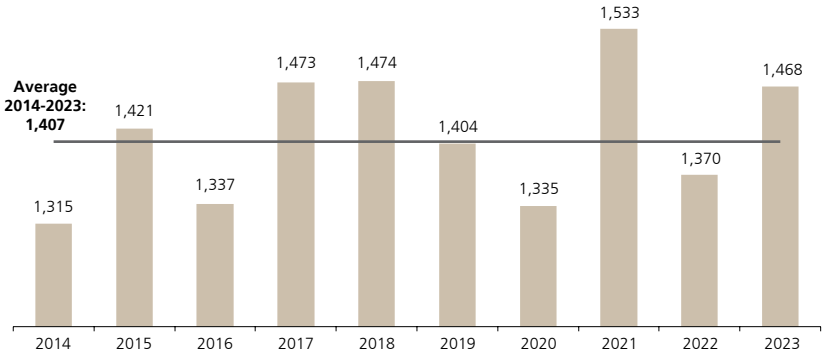
4 Flotation concentrates. Including leaching production, the total reached 2.8 million metric tons per year.

**Zinc** production grew 7.2 percent in 2023, due to the greater dynamism of large and medium mining companies. Antamina increased its production by 28,010 MTF, as did Shouxin and Chinalco. The mining company Raura reached production of 39,577 MTF (141.1 percent growth), after resuming operations in the second quarter of 2022.

Graph 16

**ZINC PRODUCTION**

(Thousands of fine MT)




**World production ranking, 2023 1/**
(% of total)

| | |
|---|---|
| China | 33 |
| Peru | 12 |
| Australia | 9 |
| India | 7 |
| United States | 6 |
| Rest | 32 |

1/ Preliminary.
Source: USGS.

Source: Ministry of Energy and Mines.

**Iron ore** production grew 8.8 percent due to the dynamism of Shougang, especially driven by higher grades. During the first quarter, a base effect was recorded since during this period of 2022 this mine stopped operations due to a union strike.

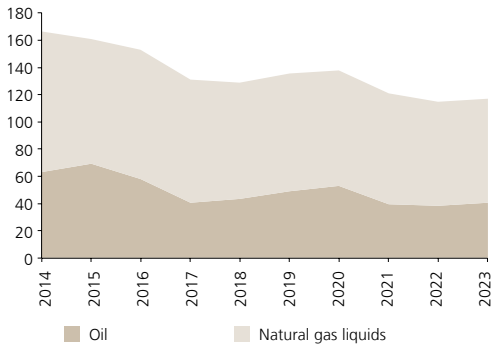
**Molybdenum** production grew 6.0 percent due to the start of activities at Quellaveco, during the second quarter of 2023, and increased processing at Las Bambas and Constancia. On the other hand, Cerro Verde, Southern and Toromocho's extraction decreased.

Similarly, **lead** production grew 8.8 percent due to the dynamism of Raura and Volcan. On the other hand, in 2023, a lower extraction of **silver** (-1.3 percent) was recorded, due to the lower activity of Antamina and Buenaventura; and **tin** (-7.1 percent), due to the social conflicts recorded during the first quarter caused by the stoppage of Minsur.

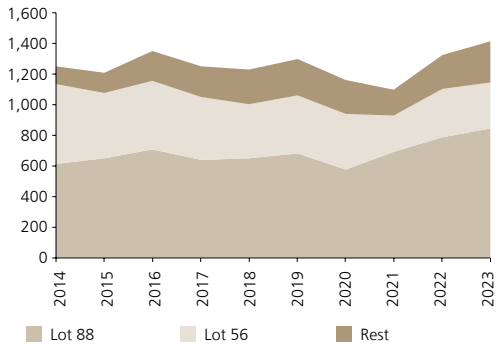
The hydrocarbons subsector grew 0.7 percent in 2023, due to higher natural gas production, in view of the increase in domestic demand for thermoelectric generation (lot 88).

Graph 17

**PRODUCTION OF LIQUID HYDROCARBONS**
(Thousands of barrels per day)




**NATURAL GAS PRODUCTION**
(Millions of cubic feet per day)




Source: Perupetro.

In contrast, lower oil and natural gas liquids production was recorded by 4.5 and 0.3 percent, respectively. The reduction in the extraction of oil is due to the lower activity of lot X and the standstill of lot 67 due to social conflicts, while the extraction of natural gas liquids was affected by the lower production of lot 56.

## 3.4 SECTOR MANUFACTURING

Manufacturing activity in 2023 recorded a 6.8 percent drop. This evolution corresponds to lower activity in the primary and non-primary subsectors.

**Primary manufacturing** contracted by 2.6 percent. This result reflected the lower production of fishmeal and fish oil, due to problems in the first and second fishing seasons of the year, in a scenario of warm anomalies due to El Niño. This decline was mitigated by higher oil refining, driven by the startup of the last processing units of the New Talara Refinery.

Table 12

**PRIMARY MANUFACTURING PROCESSING OF PRIMARY RESOURCES**

(Real percentage changes)

| | 2021 | 2022 | 2023 | Average 2014-2023 | Average 2019-2023 |
|---|---|---|---|---|---|
| **PRIMARY RESOURCE PROCESSORS** | **3.2** | **-2.5** | **-2.6** | **-0.8** | **-2.5** |
| Rice, piled | 1.3 | -1.0 | -2.1 | 1.0 | -0.8 |
| Sugar | -8.2 | 1.2 | -4.5 | -1.0 | -2.1 |
| Meat products | 2.0 | 2.8 | -0.2 | 3.1 | 1.0 |
| Fish meal and fish oil | 16.5 | -24.4 | -53.2 | -9.0 | -21.2 |
| Canned and frozen fish products | 5.1 | -4.2 | 28.1 | 5.4 | 13.8 |
| Non-ferrous metal refining | -4.5 | 10.6 | -0.3 | -0.8 | 0.5 |
| Petroleum refining | 19.4 | -17.7 | 26.9 | -1.6 | -5.1 |

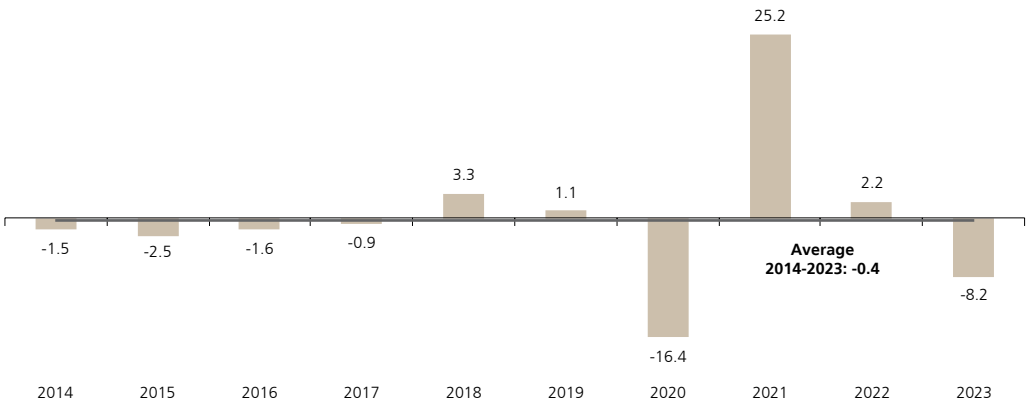
Source: Ministry of Production.

For its part, **non-primary manufacturing** declined 8.2 percent in 2023 due to lower production of mass consumption goods, inputs, investment-oriented goods, and goods oriented to the foreign market.

Graph 18

**NON-PRIMARY MANUFACTURING PRODUCTION**

(Real percentage change)




Source: INEI.

The branches linked to **mass consumption** decreased 3.5 percent, mainly due to the lower production of clothing, associated with lower domestic and foreign demand. Also contributing

The lower manufacturing of oils and fats, furniture, as well as lower domestic demand for alcoholic beverages and other paper and cardboard articles, related to the slowdown in economic activity and the deterioration of expectations that occurred during 2023, also contributed..

The branches **oriented to investment** fell 6.5 percent as a result of the drop in construction. This was the case of the cement, construction materials, metal products, and iron and steel industries. The drop in the manufacture of electrical machinery also contributed.

The **input-related** industries contracted 11.9%, mainly due to the lower production of processed wood, linked to the reduction in the manufacture of furniture. Lower production of plastics, explosives, glass and glass products also contributed; as well as lower manufacturing in branches associated with agroexports, such as paper and cardboard packaging; and the livestock sector, such as animal feed.

Table 13

**NON-PRIMARY MANUFACTURING BY TYPE OF GOODS**

(Real percentage changes)

| | 2021 | 2022 | 2023 | Average 2014-2023 | Average 2019-2023 |
|---|---|---|---|---|---|
| **Mass consumption** | **17.1** | **-3.5** | **-3.5** | **0.3** | **0.3** |
| Dairy products | 2.7 | -10.3 | 3.5 | -0.5 | -0.1 |
| Bakery | 16.7 | 2.6 | 0.7 | 4.4 | 9.2 |
| Oils and fats | 5.4 | -4.5 | -12.2 | 0.2 | -3.4 |
| Miscellaneous food products | 7.2 | 4.4 | -6.6 | -0.4 | -0.1 |
| Beer and malt | 27.9 | 13.5 | -3.2 | 0.4 | 1.0 |
| Carbonated beverages | 18.6 | 7.2 | 13.9 | 3.1 | 5.9 |
| Clothing | 23.9 | 18.4 | -23.8 | -5.4 | -6.8 |
| Footwear | 3.7 | 18.3 | -0.5 | -6.5 | -7.6 |
| Furniture | 38.4 | -22.5 | -4.4 | 3.5 | 5.1 |
| Other paper and cardboard articles | -5.7 | -16.2 | -11.4 | -2.1 | -9.9 |
| Toiletries and cleaning products | -3.9 | 2.2 | 1.3 | -0.1 | 0.4 |
| Pharmaceuticals | 8.5 | -1.6 | 0.7 | -0.2 | 3.5 |
| Miscellaneous manufacturing | 72.4 | -16.7 | 5.7 | -0.9 | -3.6 |
| **Inputs** | **21.4** | **1.9** | **-11.9** | **-1.4** | **-1.6** |
| Wheat flour | 10.2 | 4.4 | -5.2 | 2.8 | 4.9 |
| Other textile products | 15.7 | -9.6 | -11.5 | -4.0 | -5.9 |
| Processed wood | 33.4 | 10.5 | -30.5 | -6.0 | -4.9 |
| Paper and cardboard | 4.2 | 32.1 | -12.8 | -5.1 | -1.7 |
| Paper and cardboard packaging | 13.1 | 0.0 | -11.5 | 3.9 | 0.8 |
| Publishing and printing activities | 32.1 | -8.6 | -3.6 | -8.5 | -9.2 |
| Basic chemicals | 0.0 | -2.7 | -2.1 | 0.8 | -0.3 |
| Explosives, natural and chemical essences | 51.7 | 33.7 | -9.9 | 4.1 | 5.7 |
| Rubber | 55.4 | 8.0 | -17.7 | -5.8 | -3.6 |
| Plastics | 18.9 | -5.7 | -5.7 | 1.8 | 1.4 |
| Glass | 27.6 | 29.2 | -27.3 | -0.4 | -3.2 |
| **Investment-oriented** | **44.2** | **5.8** | **-6.5** | **0.6** | **1.8** |
| Iron and steel industry | 45.4 | 5.7 | -5.9 | 2.6 | 2.9 |
| Metal products | 49.1 | 13.9 | -6.2 | 2.4 | 5.7 |
| Machinery and equipment | 56.9 | 4.0 | 10.6 | 0.4 | 4.0 |
| Electrical machinery | 40.9 | 1.4 | -21.8 | -5.0 | -7.8 |
| Transport equipment | 36.6 | 6.7 | -1.0 | -3.2 | -2.5 |
| Paints, varnishes and lacquers | 21.6 | 6.7 | -1.9 | -0.1 | 0.3 |
| Cement | 35.7 | 3.0 | -11.2 | 1.6 | 2.4 |
| Building materials | 60.0 | 0.7 | -6.4 | -1.8 | -0.8 |
| Industrial Services | 55.0 | 0.2 | 0.7 | 0.9 | 1.3 |
| **Oriented to the foreign market** | **26.2** | **15.8** | **-19.9** | **-2.7** | **-3.0** |
| Canned food | 0.2 | 13.6 | -37.5 | -1.0 | -4.0 |
| Synthetic fibers | 46.3 | 6.3 | -23.5 | -2.2 | -5.3 |
| Yarns, fabrics and finishes | 50.0 | -2.0 | -13.4 | -3.8 | -3.9 |
| Fabrics and knitted articles | 31.0 | 50.9 | -5.9 | 1.0 | 4.0 |
| Clothing | 23.9 | 18.4 | -23.8 | -5.4 | -6.8 |
| **TOTAL NON-PRIMARY MANUFACTURING** | **25.2** | **2.2** | **-8.2** | **-0.4** | **-0.1** |

Source: Ministry of Production.

Branches **oriented to the foreign market** fell 19.9 percent due to the lower production of food preserves in the face of the drop in the availability of raw materials associated with the problems

caused by the El Niño phenomenon. The apparel, yarn, woven and finished fabrics, and knitted and woven products also contracted, due to lower external demand, especially from the United States of America.

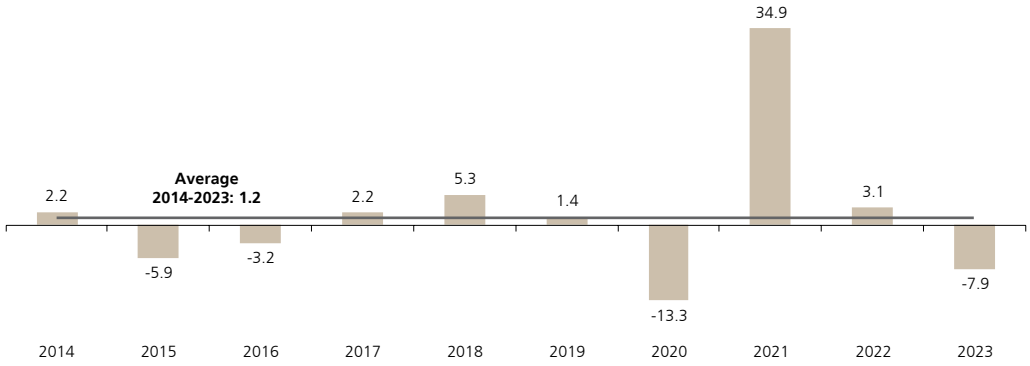
## 3.5 SECTOR CONSTRUCTION

In 2023, the construction sector fell 7.9 percent, mainly due to lower self-construction and the slower progress of private works. Domestic cement consumption, the main indicator of the sector's activity, declined 11.6 percent this year.

Graph 19

**CONSTRUCTION SECTOR**

(Real percentage change)




Source: INEI.

Regarding the residential real estate market, the Peruvian Chamber of Construction (CAPECO) reported that 46,585 housing units were offered in Metropolitan Lima in 2023, 13.4 percent higher than recorded the previous year (41,083 units). In terms of square footage, the total housing supply amounts to 3,146,000 square meters, 10.4 percent higher than recorded in 2022 (2,850,000 square meters).

Table 14

**REAL ESTATE MARKET INDICATORS**

| Indicator | 2021 | 2022 | 2023 | Difference 2023-2022 |
|---|---|---|---|---|
| Number of new apartments sold - CAPECO 1/ | 19,642 | 17,892 | 16,994 | -898 |
| *Percentage change* | *46.7* | *-8.9* | *-5.0* | |
| Units sold of new apartments - TINSA | 14,156 | 16,622 | 16,017 | -605 |
| *Percentage change* | *16.5* | *17.4* | *-3.6* | |
| Number of new home mortgages 2/ Number of new home loans | 43,882 | 34,665 | 30,013 | -4,652 |
| *Percentage change* | *63.9* | *-21.0* | *-13.4* | |
| Number of new Mivivienda loans 3/ | 11,218 | 12,344 | 10,703 | -1,641 |
| *Percentage change* | *48.8* | *0.5* | *-13.3* | |
| Number of outstanding mortgages debtors 2/ | 243,151 | 248,235 | 254,669 | 6,434 |
| *Percentage change* | *2.2* | *2.1* | *2.6* | |
| Disbursements of new mortgage loans in S/ (million) 2/ | 15,362 | 11,876 | 10,240 | -1,636 |
| *Percentage change* | *71.7* | *-22.7* | *-13.8* | |
| Disbursements of new mortgage loans in USD (million) 2/ | 177 | 197 | 168 | -28 |
| *Percentage change* | *-35.2* | *11.4* | *-14.4* | |
| Average interest rate for mortgage loans S/ 2/ | 6.9 | 9.9 | 9.1 | -0.8 |
| Average interest rate for mortgage loans USD 2/ | 5.0 | 8.3 | 7.9 | -0.4 |
| Price/ Annual Rent Ratio (PER) 4/ | 20.8 | 18.9 | 18.3 | -0.6 |

1/ The Urban Building Market in Metropolitan Lima, CAPECO. Considers to period from July of one year to June of the following year.
2/ Banks.
3/ Corresponds to the Nuevo Credit Mivivienda product.
4/ Corresponds to information for the fourth quarter of the year. Ratio of sales price to annual rental income (PER).
Source: Mivivienda, SBS, BCRP and TINSA PERU SAC.

In 2023, 17 001 housing units (16 994 apartments) were sold, 6.1 percent less than in 2022 (18 111 housing units, of which 17 892 were apartments). The largest housing reductions were recorded in East Lima and modern Lima (34.0 and 13.5 percent, respectively).

## 4. SAVINGS AND INVESTMENT

Between 2022 and 2023, the domestic savings rate increased by 1.4 percentage points of GDP. Gross domestic investment (mainly from the private sector) decreased by 3.4 percentage points of GDP. As a result, external savings stood at -0.8 percent in 2023. Thus, the Peruvian economy experienced a net savings surplus that was borrowed abroad, as opposed to what was observed the previous year (positive external savings equivalent to 4.0 percent of output).

The increase in domestic savings is particularly explained by private savings, which in turn is the result of less dynamic consumption and higher interest rates, as well as increased uncertainty and the possibility of adverse weather events, which boosted household precautionary savings. This dynamic was partially counterbalanced by the reduction in public sector savings, as a result of the drop in tax revenues.

Table 15

**SAVINGS AND INVESTMENT**

(Percentage of nominal GDP)

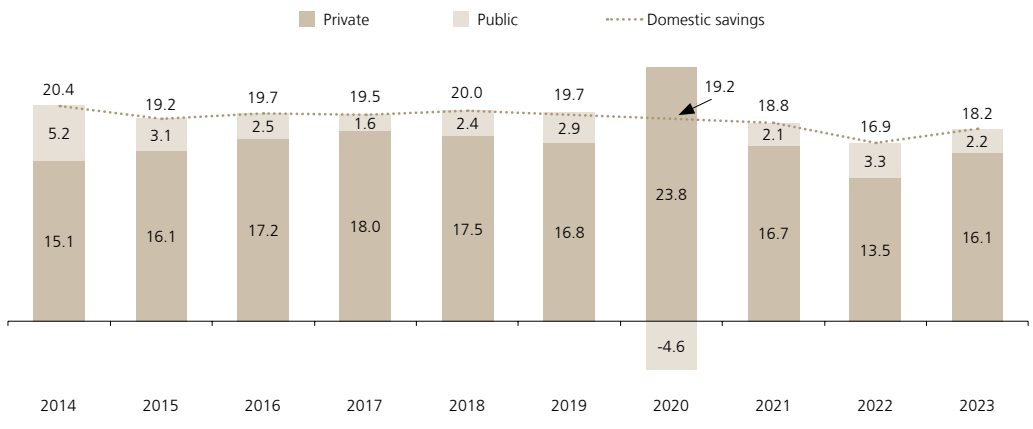
| | 2021 | 2022 | 2023 | Average 2014-2023 |
|---|---|---|---|---|
| **I. Investment (=II+III)** | **20.9** | **20.8** | **17.4** | **20.7** |
| Gross fixed investment | 25.1 | 25.2 | 22.9 | 23.4 |
| Public Investment | 4.7 | 5.0 | 5.0 | 4.8 |
| Private fixed investment | 20.4 | 20.2 | 17.9 | 18.6 |
| Variation in inventories | -4.2 | -4.4 | -5.5 | -2.7 |
| **II. Internal savings** | **18.8** | **16.9** | **18.2** | **19.0** |
| Public sector | 2.1 | 3.3 | 2.2 | 2.0 |
| Private sector | 16.7 | 13.5 | 16.1 | 16.9 |
| **III. Ahorro External** | **2.1** | **4.0** | **-0.8** | **1.7** |

Source: BCRP.

Graph 20

**INTERNAL SAVINGS**

(Percentage of nominal GDP)




Source: INEI and BCRP.

# 5. LABOR

The Electronic Payroll is the administrative record that collects monthly information on jobs and remunerations of all formal companies and public institutions. The collection and processing is in charge of the National Superintendence of Customs and Tax Administration (Sunat).

According to Electronic Payroll information, the number of formal[5] jobs at the national level in 2023 increased 2.3 percent over 2022 (9.3 percent over 2019). This development reflects an increase in jobs in the private sector (3.4 percent), which offset the drop in the public sector (-0.5 percent). By geography, the increase was higher in Lima (2.9 percent) than in regions outside Lima (1.0 percent).

Table 16

**ELECTRONIC PAYROLL: FORMAL JOBS**

(In thousands)

| | Levels | | | | | | Var. 2023 / 2022 | |
|---|---|---|---|---|---|---|---|---|
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | In thousands | In % |
| **Total 1/** | **5,122** | **5,264** | **5,081** | **5,284** | **5,624** | **5,751** | **127** | **2.3** |
| Private | 3,662 | 3,801 | 3,564 | 3,715 | 4,008 | 4,143 | 135 | 3.4 |
| Public | 1,460 | 1,462 | 1,517 | 1,569 | 1,617 | 1,608 | -9 | -0.5 |
| Lima | 3,137 | 3,231 | 3,055 | 3,137 | 3,318 | 3,414 | 96 | 2.9 |
| Rest of Peru | 1,972 | 2,019 | 2,014 | 2,128 | 2,281 | 2,305 | 23 | 1.0 |

1/ The sum of employment by area does not give the total due to the number of jobs that cannot be classified.
Source: Sunat monthly Electronic Payroll.

In the private sector, the 3.4 percent increase mainly reflects the increase in the number of jobs in services (118,234 jobs) and commerce (30,903 jobs). In the agricultural sector, which includes agroexporting companies, more than 33,321 jobs were lost on average per year, mainly due to climatic factors.

Table 17

**ELECTRONIC PAYROLL: FORMAL JOBS BY SECTOR**

(In Thousands)

| | Levels | | | | | | Var. 2023 / 2022 | |
|---|---|---|---|---|---|---|---|---|
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | In Thousands | In % |
| **Total** | **5,122** | **5,264** | **5,081** | **5,284** | **5,624** | **5,751** | **127** | **2.3** |
| Agriculture sector 1/ | 425 | 445 | 478 | 489 | 523 | 489 | -33 | -6.4 |
| Fishing | 22 | 21 | 20 | 21 | 20 | 20 | -1 | -4.3 |
| Mining | 102 | 99 | 96 | 107 | 113 | 118 | 6 | 5.1 |
| Manufacturing | 477 | 477 | 445 | 461 | 482 | 491 | 9 | 1.9 |
| Electricity | 28 | 28 | 29 | 30 | 31 | 32 | 1 | 1.9 |
| Construction | 213 | 219 | 186 | 233 | 229 | 217 | -12 | -5.0 |
| Trade | 618 | 631 | 604 | 626 | 671 | 701 | 31 | 4.6 |
| Services | 3,231 | 3,337 | 3,216 | 3,305 | 3,540 | 3,658 | 118 | 3.3 |

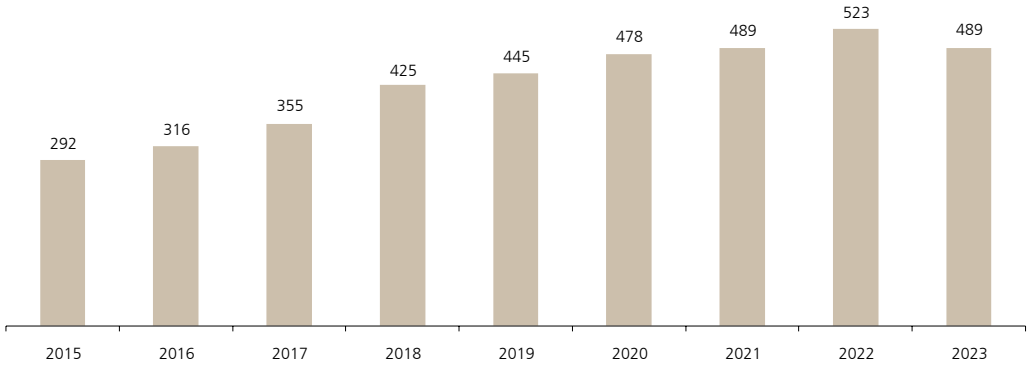
1/ Includes the agro-export sector: processing and preservation of fruits and vegetables.
Source: Sunat's monthly Electronic Payroll.

5 Jobs differ from the number of workers because one person can hold more than one job.

Graph 21

**FORMAL JOBS IN THE AGRICULTURE AND LIVESTOCK PRIVATE SECTOR**

(Thousands of jobs)



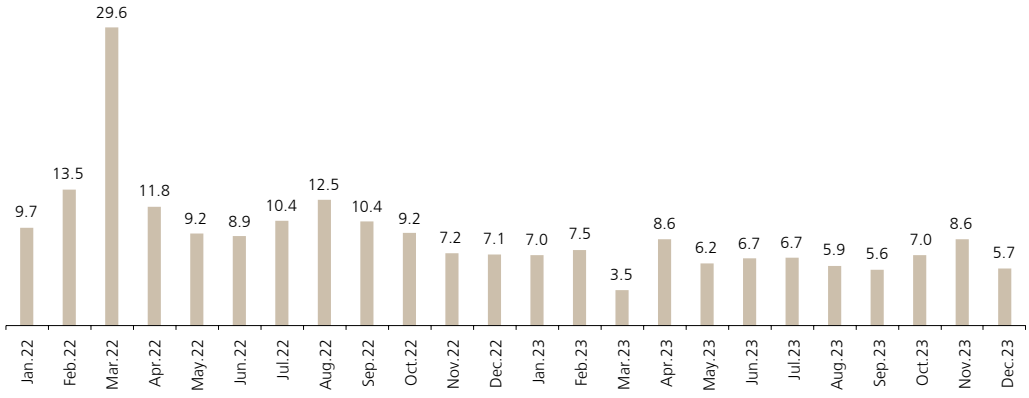

Source: Sunat's monthly Electronic Payroll.

On the other hand, in 2023, the total formal wage bill recorded an increase of 6.4 percent over 2022 (0.2 percent in real terms). The year's result was mainly influenced by the increase in total formal income.

Graph 22

**TOTAL FORMAL WAGE BILL**

(Percentage change 12 months)




| **Wage mass** | **D.20** | **D.21** | **D.22** | **J.23** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Millions of soles | 22,083 | 24,275 | 25,996 | 15,669 | 16,364 | 23,290 | 17,112 | 15,907 | 16,003 | 24,781 | 16,136 | 16,552 | 16,563 | 17,272 | 27,475 |
| Annual % chg. | | | | | | | | | | | | | | | |
| Formal positions | -3.3 | 5.5 | 4.6 | 2.9 | 2.9 | 3.6 | 3.1 | 3.8 | 3.4 | 2.8 | 1.8 | 1.0 | 0.8 | 0.6 | 0.6 |
| Average nominal income | 3.0 | 4.2 | 2.4 | 4.0 | 4.4 | -0.1 | 5.3 | 2.3 | 3.2 | 3.8 | 4.1 | 4.5 | 6.2 | 7.9 | 5.1 |
| Average real income | 1.0 | -2.1 | -5.6 | -4.3 | -3.9 | -7.8 | -2.5 | -5.2 | -3.1 | -2.0 | -1.4 | -0.5 | 1.8 | 4.1 | 1.8 |

Source: Sunat's monthly Electronic Payroll.

## 5.1 EMPLOYMENT NATIONAL

The results of the Permanent National Employment Survey (Encuesta Permanente de Empleo Nacional, EPEN) will be disseminated starting in 2023. To date, information is only available from 2022. According to EPEN, employment at the national level decreased by 0.9 percent in 2023, a development in line with the contraction of economic activity (-0.6 percent). The drop in employment was mainly in rural areas (-4.8 percent), due to the effect of El Niño.

According to productive sectors, employment declined in the extractive sectors (agriculture, fishing and mining) as well as in construction. Employment in the services sector continued to recover (2.6 percent). By company size, employment only grew in the group with more than 50 workers.

The national level unemployment rate was 5.4 percent in 2023, higher by 0.7 percentage points than recorded in 2022.

Table 18

**LABOR MARKET INDICATORS**

(Thousands of people)

| | 2022 | 2023 | Annual var. 2023 | |
|---|---|---|---|---|
| | | | In Thousands | In % |
| **I. ECONOMICALLY ACTIVE POPULATION (EAP): 1 + 2** | **18,184** | **18,157** | **- 27** | **-0.2** |
| **1. BUSY** | **17,337** | **17,180** | **- 157** | **-0.9** |
| *By area of residence* | | | | |
| Urban | 13,794 | 13,805 | 12 | 0.1 |
| Rural | 3,543 | 3,375 | - 168 | -4.8 |
| *By economic activity* | | | | |
| Agriculture/Fishing/Mining | 4,441 | 4,162 | - 279 | -6.3 |
| Manufacturing | 1,445 | 1,443 | - 2 | -0.1 |
| Construction | 1,255 | 1,133 | - 122 | -9.7 |
| Trade | 3,140 | 3,201 | 61 | 1.9 |
| Services | 7,055 | 7,241 | 185 | 2.6 |
| *By company size* | | | | |
| From 1 to 10 workers | 12,845 | 12,448 | - 397 | -3.1 |
| From 11 to 50 workers | 1,224 | 1,195 | - 30 | -2.4 |
| From 50 to more workers | 3,268 | 3,537 | 269 | 8.2 |
| **2. DISCONTINUED** | **848** | **977** | **130** | **15.3** |
| **II. INACTIVE POPULATION** | **7,297** | **7,753** | **455** | **6.2** |
| **III. WORKING-AGE POPULATION (PET)** | **25,482** | **25,910** | **428** | **1.7** |
| **RATES (in percent)** | | | | |
| Activity rate (EAP / PET) | 71.4 | 70.1 | | |
| Employment/population ratio (employed EAP/TEP) | 68.0 | 66.3 | | |
| Unemployment rate (Unemployed EAP/EAP) | 4.7 | 5.4 | | |

Source: INEI, Permanent National Employment Survey

According to EPEN, the average monthly income was S/ 1,674 with a nominal increase of 9.9 percent compared to 2022. By productive sectors, the increase occurred in all sectors, with manufacturing and commerce standing out. By gender, the increase was higher for women. By age group, real income decreased among 14 to 24 year-olds. By educational level, income increased the most among workers with a university education. In real terms, average monthly income increased 3.4 percent over 2022.

Table 19

## INGRESO AVERAGE MENSUAL

(In soles)

| | 2022 | 2023 | Annual var. 2023 | |
|---|---|---|---|---|
| | | | Nominal | Real |
| **Total** | **1,524** | **1,674** | **9.9** | **3.4** |
| *Area of residence* | | | | |
| Urban | 1,669 | 1,833 | 9.9 | 3.4 |
| Rural | 816 | 880 | 7.9 | 1.5 |
| *Sex* | | | | |
| Male | 1,727 | 1,874 | 8.5 | 2.1 |
| Female | 1,247 | 1,405 | 12.7 | 6.0 |
| *Production sector* | | | | |
| Agriculture/Fishing/Mining | 904 | 992 | 9.8 | 3.3 |
| Manufacturing | 1,544 | 1,735 | 12.3 | 5.7 |
| Construction | 1,848 | 2,029 | 9.8 | 3.3 |
| Trade | 1,323 | 1,484 | 12.1 | 5.5 |
| Services | 1,844 | 1,996 | 8.2 | 1.9 |
| *Age* | | | | |
| From 14 to 24 years old | 1,098 | 1,134 | 3.3 | -2.8 |
| From 25 to 44 years old | 1,642 | 1,815 | 10.5 | 4.0 |
| 45 years and older | 1,512 | 1,663 | 10.0 | 3.5 |
| *Education level* | | | | |
| Up to primary | 793 | 853 | 7.6 | 1.3 |
| Secondary | 1,252 | 1,329 | 6.2 | -0.1 |
| Non-university higher education | 1,688 | 1,822 | 7.9 | 1.6 |
| Superior university | 2,675 | 2,936 | 9.7 | 3.3 |

Source: INEI, Permanent National Employment Survey.

## Box 1
## THE EL NIÑO PHENOMENON AND ITS IMPACT ON THE 2023 GDP

The El Niño phenomenon is an ocean-atmospheric event characterized by the presence of high sea temperatures during several months[6]. Depending on the region where this warming occurs, two concepts can be distinguished: "coastal El Niño" and "global El Niño". The former occurs in the Eastern Pacific, in the Niño 1+2 region off the northern coast of Peru; while the latter, also known as El NiñoSouthern Oscillation (ENSO), occurs in the Central Pacific, in the region known as Niño 3.4. Both events may or may not coincide, as for example in 2017, when a coastal Niño occurred, but not a global one.

The coastal El Niño is the most damaging for the Peruvian economy, as it is characterized by the occurrence of rains and floods in the northern coast of the country. This is mainly detrimental to agriculture and fishing production; it raises food prices and causes a transitory increase in inflation. For its part, global El Niño does not necessarily imply a warming of the Peruvian coast, but it could affect it and, during the summer, it could cause droughts in the Andes[7] . It should be pointed out that global El Niño could also have an impact on inflation, due to lower agricultural production of the main food *commodities* in other regions of the world.

Anomalous sea warming off the Peruvian coast is not an infrequent event. In fact, since 1950 there have been 24 coastal El Niño events, including the one in 2023. All of these events have been of different intensity, onset and duration, which translates into differentiated impacts on the economy.

**EL NIÑO COSTERO EVENTS 1/**

| Initial year | Initial month | Final year | Final month | Duration (months) | Magnitude |
|---|---|---|---|---|---|
| 1951 | 5 | 1951 | 11 | 7 | Moderate |
| 1953 | 3 | 1953 | 6 | 4 | Weak |
| 1957 | 3 | 1957 | 12 | 10 | Strong |
| 1965 | 3 | 1965 | 9 | 7 | Moderate |
| 1969 | 4 | 1969 | 7 | 4 | Weak |
| 1972 | 3 | 1973 | 1 | 11 | Moderate |
| 1976 | 5 | 1976 | 11 | 7 | Moderate |
| 1982 | 7 | 1983 | 11 | 17 | Extraordinary |
| 1986 | 12 | 1987 | 12 | 13 | Moderate |
| 1991 | 7 | 1992 | 6 | 12 | Moderate |
| 1993 | 3 | 1993 | 9 | 7 | Moderate |
| 1994 | 11 | 1995 | 1 | 3 | Weak |
| 1997 | 3 | 1998 | 9 | 19 | Extraordinary |
| 2002 | 3 | 2002 | 5 | 3 | Weak |
| 2002 | 10 | 2002 | 12 | 3 | Weak |
| 2006 | 8 | 2007 | 1 | 6 | Weak |
| 2008 | 3 | 2008 | 9 | 7 | Weak |
| 2009 | 5 | 2009 | 9 | 5 | Weak |
| 2012 | 3 | 2012 | 7 | 5 | Weak |
| 2014 | 5 | 2014 | 11 | 7 | Weak |
| 2015 | 4 | 2016 | 7 | 16 | Strong |
| 2016 | 12 | 2017 | 5 | 6 | Moderate |
| 2018 | 11 | 2019 | 3 | 5 | Weak |
| 2023 | 2 | 2024 | 3 | 14 | Strong |

1/ Under the latest available information, El Niño Costero 2023-2024 would have ended in March 2024.
Source: IGP.

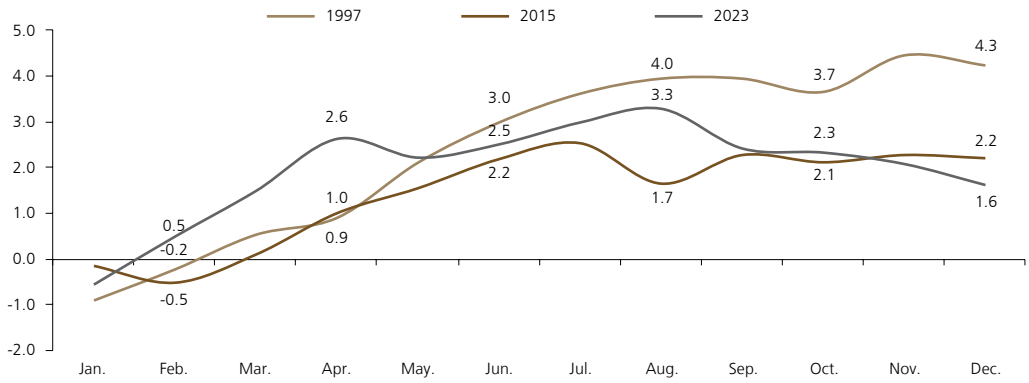
The coastal El Niño of 2023 began suddenly in February. In January, the communiqué of the Multisectoral Commission in charge of the National Study of the El Niño Phenomenon (ENFEN) did not warn about the occurrence of this event in 2023, and even predicted neutral conditions until autumn.

6 Senamhi (2014). El Niño phenomenon in Peru. Takahashi (2017). El Niño event: "Global" vs "Coastal".
7 Takahashi (2017). El Niño event: "Global" vs "Coastal".

Because of its initial warming pattern, the 2023 El Niño was compared earlier this year to the extraordinary event of 1997-1998. In fact, during the summer, the 2023 El Niño reached higher sea surface temperature anomalies (SSTA) than those observed in 1997, which led to fears of another extraordinary event. However, a decrease in ATSMs was observed in May, so the 2023 El Niño began to be compared to the 2015-2016 El Niño, although the 2023 El Niño recorded higher temperatures, reaching an overall maximum ATSM of 3.3 °C in August.

**SEA SURFACE TEMPERATURE ANOMALIES (°C) - NIÑO ZONE 1+2**

(Data ERSSTv5)




Source: NOAA.

**Economic impact of El Niño 2023**

The magnitude of the impact of El Niño on economic activity is contingent on the months of occurrence and the magnitude of the warm anomalies. In the case of the 2023 El Niño, the anomalous warm temperatures were present for almost the entire year and extended into the summer of the following year[8] , mainly affecting the agriculture and fisheries sectors.

*Primary sectors*

The **agriculture sector** slowed down due to the drop in production from the coastal region. El Niño particularly affected the northern coast, comprising Tumbes, Piura, La Libertad and Lambayeque. These departments together concentrate the production of lemons, blueberries, mangoes, sugarcane, and account for around 50 percent of avocado and 40 percent of rice, grapes and cotton.

The coastal El Niño of 2023 affected agricultural activities (by interrupting crops, postponing sowing and loss of crop areas); agricultural and export calendars (by delaying and advancing harvests); and agricultural yields (by reducing flowering, tropicalization of crops, increased presence of pests and adverse weather conditions). In addition, it deteriorated rural roads and water infrastructure and hindered the transport of agricultural production, due to the presence of thermal and rainfall anomalies.

The impacts were immediate on crops with a short growing season[9] oriented to the domestic market, due to their greater dependence on weather conditions. Meanwhile, prolonged impacts occurred in the production of fresh fruit for export (concentrated in the coastal region), due to the

8 In April 2024, the ENFEN changed the coastal El Niño warning system to “Not Active”.
9 About 5 months of vegetative period.

persistence of high ambient temperatures; and in livestock activity, due to weight loss in the poultry population as a result of dehydration.

In the **fisheries sector,** the anomalous warming of the sea reduced the availability of anchoveta through the reduced abundance of phytoplankton (the main food of the resource), alterations in the reproductive activity of the species and changes in its distribution[10] . Although greater abundance of other species, such as sardines, jack mackerel and mackerel, has also been documented during El Niño events[11], the negative effect is predominant, due to the reduction in anchoveta catches.

During 2023 the fishing sector was severely affected by the presence of coastal El Niño from the first quarter of the year. In particular, the anchoveta *stock* in the north-central zone experienced a process of retreat to the coast and deepening. Likewise, until April, a population structure was found that consisted mainly of juvenile specimens and a reduced biomass, which led to the non-opening of the first fishing season of the resource in that area. Towards the fourth quarter this biomass improved slightly (from 6.5 million MT in April to 7.2 million MT in October), as well as the proportion of juvenile specimens in the *stock* (82 percent in April and 67 percent in number of individuals), which led to the opening of the second fishing season of the year. The lower catch of anchoveta in 2023 was partially offset by the higher extraction of resources such as squid and jack mackerel, which reached high catch levels compared to previous years.

The lower fishing activity affected **primary manufacturing,** as flour production was reduced**.** and fish oil.

*Non-primary sectors*

The coastal El Niño also affected non-primary sectors. In fact, the warm anomalies prevented the planned sales of clothing for the fall-winter season, affecting commerce and the textile industry. Likewise, in the construction sector, the uncertainty regarding the arrival or not of a strong El Niño caused lower private investments. All this translated into lower household income, which reinforced the negative effect on non-primary sectors, through lower private consumption[12].

The 2023 El Niño is estimated to have subtracted 1.1 percentage points from that year's GDP, which contracted by 0.6 percent. The greatest losses came from the primary sectors (agriculture, fisheries and manufacturing[13] ), which were particularly affected by high sea and environmental temperatures and abnormal rainfall.

**IMPACTS OF EL NIÑO ON ECONOMIC SECTORS**

| Sector | Variation 2023 (%) | Contribution to loss of GDP 2023 (pp.) |
|---|---|---|
| Agriculture sector | -2.9 | 0.3 |
| Fishing | -19.7 | 0.1 |
| Primary manufacturing | -2.6 | 0.3 |
| Non-Primary GDP | -1.4 | 0.4 |
| Total GDP | -0.6 | 1.1 |

Source: BCRP.

10 Bouchón, Peña and Salcedo (2015). The 2014 El Niño event and its impact on the anchoveta fishery.
11 Ñiquen and Bouchon (2004). Impact of El Niño events on pelagic fisheries in Peruvian waters.
12 To calculate the indirect effects, the supply and use tables (COU) of the Peruvian economy were used to estimate the Leontief multipliers. This takes into account how one sector affects another through a decrease in its input requirements. The lower demand for inputs ends up contracting the demand for products, thus generating a contraction greater than initially estimated (multiplier effect).
13 For all these sectors, counterfactual scenarios were generated where El Niño did not occur. Then, the affected products were identified and only the loss caused by El Niño was accounted for.

### *Economic impact of major El Niño phenomena*

A similar exercise was performed for previous relevant events, such as the Extraordinary Coastal Children of 1983 and 1998 and the most recent event of 2017. The latter only reached the moderate category, but caused significant personal and material damage due to the high thermal and rainfall anomalies recorded.

A comparison of these events shows that the greatest losses in GDP due to the occurrence of the El Niño phenomenon occurred in 1983. That year, El Niño subtracted 4.1 pp. from annual growth, as it was of greater magnitude and the sectors directly affected had more weight in the production[14].

**CONTRIBUTION TO GDP LOSS ACCORDING EL NIÑO EPISODES (IN PP.)**

(In pp.)

| | 1983 | 1998 | 2017 | 2023 |
|---|---|---|---|---|
| **Primary sectors** | **2.9** | **1.1** | **0.5** | **0.7** |
| Agriculture sector | 1.5 | 0.1 | 0.1 | 0.3 |
| Fishing | 0.3 | 0.2 | 0.1 | 0.1 |
| Hydrocarbons | 0.4 | 0 | 0 | 0 |
| Primary manufacturing | 0.7 | 0.8 | 0.3 | 0.3 |
| **Non-primary sectors** | **1.2** | **0.6** | **0.3** | **0.4** |
| **GDP** | **4.1** | **1.7** | **0.8** | **1.1** |

Note: Impacts for the year 1983 have been calculated using 1979 base year soles; those for 1998, using 1994 base year soles; and those for 2017 and 2023, using 2007 base year soles.
Source: BCRP.

In summary, El Niño 2023 was a shock that negatively affected the economy and subtracted 1.1 p.p. from the year's growth, mainly due to its negative impact on primary sectors. This loss was greater than that recorded by the 2017 El Niño, but less than that experienced with the extraordinary events of the last century.

It is important to note that, although the 1982-1983 and 1997-1998 events had the same intensity, they did not record similar impacts on GDP. This confirms that in order to accurately determine the economic impact of a given event, it is essential to know in detail its characteristics and the state of the Peruvian economy at that time. This is because a change in the productive structure or the concurrence of other shocks could increase or decrease the estimated impact.

14 The agricultural sector, fisheries and primary manufacturing accounted for 16.2 percent of GDP, instead of the 9.2 percent they currently represent.

## Box 2
## FOOD SECURITY OF PERUVIAN HOUSEHOLDS

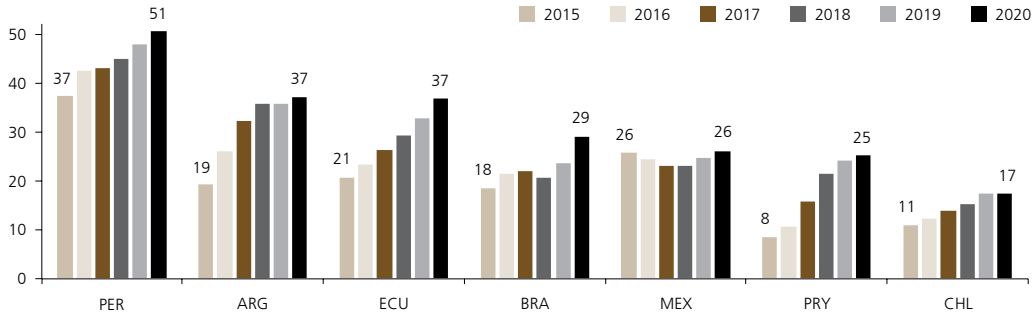
This box deepens the analysis of the food security of Peruvian households with information on caloric deficit, anemia and chronic child malnutrition. It analyzes whether these variables show a recent deterioration, similar to that of the food insecurity indicator published by the Food and Agriculture Organization of the United Nations (FAO). In addition, we explore whether these variables are linked to the dynamics of the household economic environment (monetary poverty, inflation and economic adversity).

FAO defines food insecurity as the lack of regular access to sufficient and safe nutritious food necessary for normal growth and physiological development[15]. FAO measures the level of food insecurity directly through surveys. Based on this process, FAO divides food insecurity into a threelevel scale: severe insecurity, moderate insecurity and mild (or no) insecurity[16].

Specifically, experiencing severe food insecurity means having gone a day or more without eating. While moderate insecurity implies that individuals have been forced to skip a meal during the day or have had to sacrifice the quality or variety of their food.[17] For its part, mild insecurity refers only to having uncertainty about the ability to get food. As shown in the Figure, between 2015 and 2020, Peru was the country with the highest prevalence of moderate or severe food insecurity among countries in the region with available information (FAO omits other vulnerable countries such as Bolivia or Venezuela).

**PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY, 2015-2020**

(As to percentage of the total population, 3-year average)




Note: For South America, FAO omits certain countries that would have higher levels of food insecurity (Bolivia and Venezuela, for example).
Source: FAO.

According to the graph above, food insecurity has been increasing over time in all the countries analyzed. Peru experienced a significant increase in the indicator between 2015 and 2020, although behind the growth of Argentina, Paraguay and Ecuador. Thus, in 2020, 51 percent of the Peruvian population faced, on average, problems in accessing adequate food, higher than the 37 percent reported in 2015[18].

15 The FAO definition also includes the importance of access to an active and healthy lifestyle.
16 These levels are calculated through the application of a questionnaire of 8 questions focusing on behaviors and experiences associated with difficulty in accessing food due to resource constraints
17 In moderate insecurity, the family may not have skipped any meals during the day, but they may have compromised the quality or variety of their food.
18 It is worth noting that when analyzing moderate and severe food insecurity separately, a similar pattern is found: (i) both types of food insecurity have increased in Peru in the years of analysis; and, (ii) Peru is the country with the highest prevalence of both severe and moderate food insecurity. In the Peruvian case, severe insecurity increased from 14 to 21 percent between 2015 and 2020 while moderate insecurity increased from 24 to 30 percent.

FAO figures only allow us to analyze the country's results in aggregate up to 2020. However, Peru reports other variables that would be related to food security - understood as the capacity to ensure sufficient and regular access to food for a person's normal development - and that allow inferences at regional level and by geographic area up to 2022.

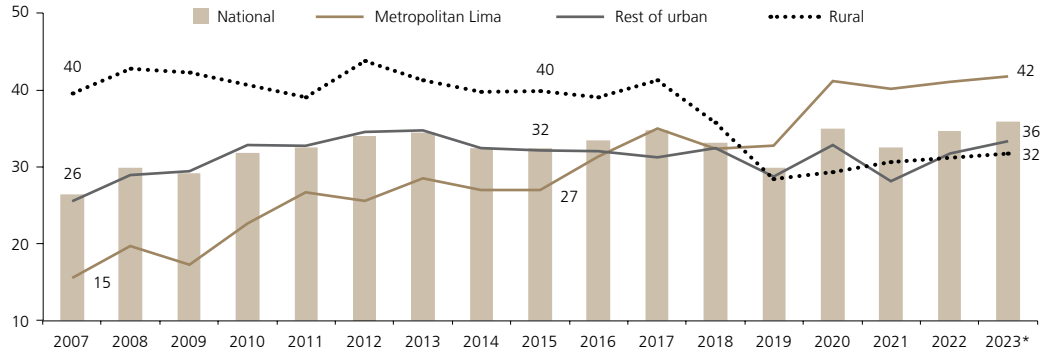
**Evolution of variables related to food security in Peru**

***Caloric Deficiency***

A first variable related to the capacity of households to ensure sufficient access to food is the **calorie deficit**[19], which is obtained by comparing calorie consumption with the calorie requirements of each individual according to sex, age, level of physical activity, as well as at the household level. In Peru, this deficit increased from 26 to 36 percent between 2007 and the first half of 2023.

**CALORIC DEFICIT IN PERU**

(Percentage)




* Information as of the second quarter.
Note: Data for Metropolitan Lima are inferred from the national value, and urban/rural population.
Source: INEI.
Elaborated by: BCRP.

The increase is mainly explained by Metropolitan Lima (26 percentage points), which is also the region with the highest incidence (42 percent). For its part, in the rest of urban areas, the behavior has been similar to the national average. On the other hand, in rural areas, the calorie deficit has decreased by 8 percentage points and the level is below the rest of the geographic areas.

It is important to note that the evolution of the caloric deficit does not correlate with the behavior of extreme poverty. In this regard, extreme poverty measures the ability of households to purchase a basic food basket, which is also calculated on the basis of basic caloric needs. Between 2007 and 2019, extreme poverty decreased by 8 percentage points at the national level, driven by a 23-point reduction in rural areas and stagnation in urban areas and Metropolitan Lima. However, the aggregate caloric deficit increased between 2007 and 2019 due to an increase in urban areas and Lima. Similarly, the incidence of extreme poverty in rural areas is 6 times the same as in urban areas (14.6 versus 2.6 percent in 2022), in contrast with what is indicated by the caloric deficit (rural areas below urban areas). The indicator is also unrelated to the evolution of non-extreme poverty, as this also falls in the period of analysis, and is more prevalent among rural than urban households.

19 This variable is reported directly by INEI in its Technical Report on Living Conditions in Peru, and is calculated based on the National Household Survey (ENAHO)

This disparity between the evolution of the caloric deficit and poverty in Peru has been studied previously. Specifically, Guabloche and Alfageme (2011)[20] suggest that there are methodological problems with the estimation of the caloric deficit. They detail that the INEI makes a detailed review of the caloric intake of food within the home, but for food outside the home an average caloric content is imputed, which may end up overestimating the caloric deficit.

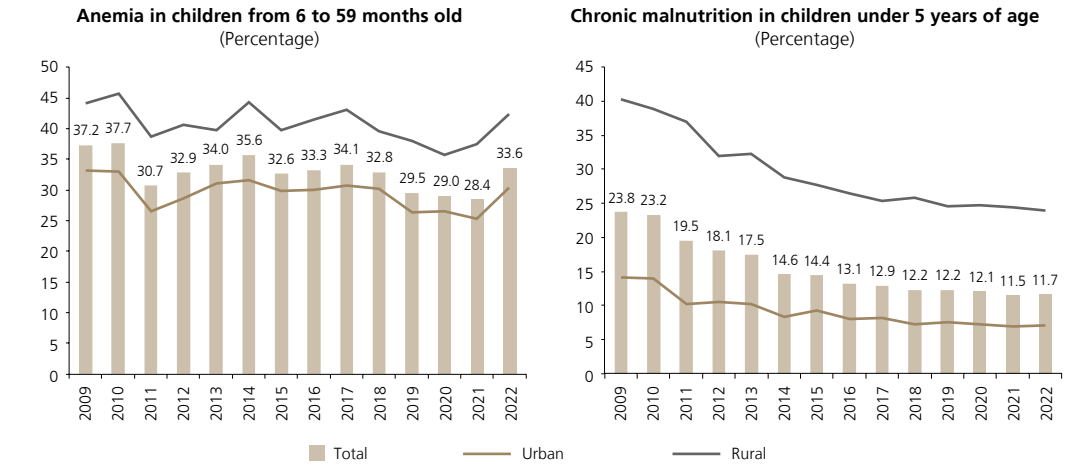
### *Anemia and Chronic Malnutrition*

In addition to calorie deficit figures, there are two variables that could reflect households' secure access to food: anemia and chronic child malnutrition. Anemia is a condition in which the body produces a reduced amount of red blood cells, causing a decrease in oxygenation. This directly affects a person's physical and cognitive development. For its part, chronic childhood malnutrition refers to a delay in the physical growth of children. In both cases, a significant cause is inadequate nutrition: anemia arises from iron deficiency in the diet (especially in children with the presence of intestinal parasites) and chronic malnutrition is related to factors such as inadequate food consumption, infections and diarrheal diseases. Therefore, these have a higher incidence in populations with greater food insecurity.

The prevalence of **childhood anemia** has declined slightly since 2009 (3.6 percentage points), but in 2022 there was an increase of 5.2 percentage points similarly in urban and rural settings compared to the previous year. **Chronic child undernutrition** has also decreased since 2009 (12.1 percentage points), although the reduction stalled in 2022. In both cases, rural areas are above the national average, showing greater food vulnerability. This behavior is more in line with the incidence of monetary poverty in Peru, and its recent evolution in 2022 (up almost 1 percentage point at the national level).

It is important to note that the prevalence of anemia has not declined significantly despite various public health interventions to reduce it. There have been nutritional programs since 1990, and in 2018 a Multisectoral Plan was created for its reduction to 19 percent by the Bicentennial (2021). In the Incentive Programs for the Improvement of Municipal Management (which grants resources to municipalities based on the fulfillment of goals), anemia reduction is also included.

**ANEMIA AND CHRONIC CHILD MALNUTRITION BY GEOGRAPHIC AREA**

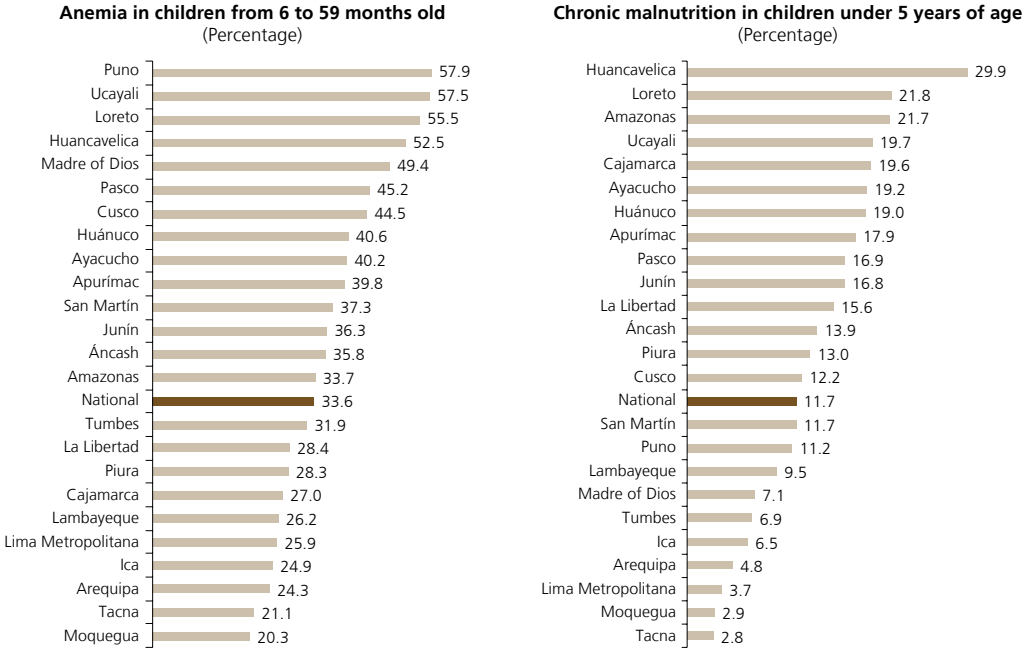



Source: INEI.
Elaborated by: BCRP.

20 Guabloche, J. and Alfageme, A. (2011). Poverty and caloric deficit What has been the trend? Coin 149.

In regional terms, the departments with the highest prevalence of anemia and chronic malnutrition are in the highlands and jungle. The regions with the highest prevalence of both indicators are Huancavelica, Loreto and Ucayali. For its part, the regions with the lowest prevalence of both indicators are Metropolitan Lima, Arequipa and Tacna (see graph below).

**ANEMIA AND CHRONIC CHILD MALNUTRITION BY DEPARTMENTS**




Source: INEI.
Elaborated by: BCRP.

### Poverty, inflation and child anemia and malnutrition indicators

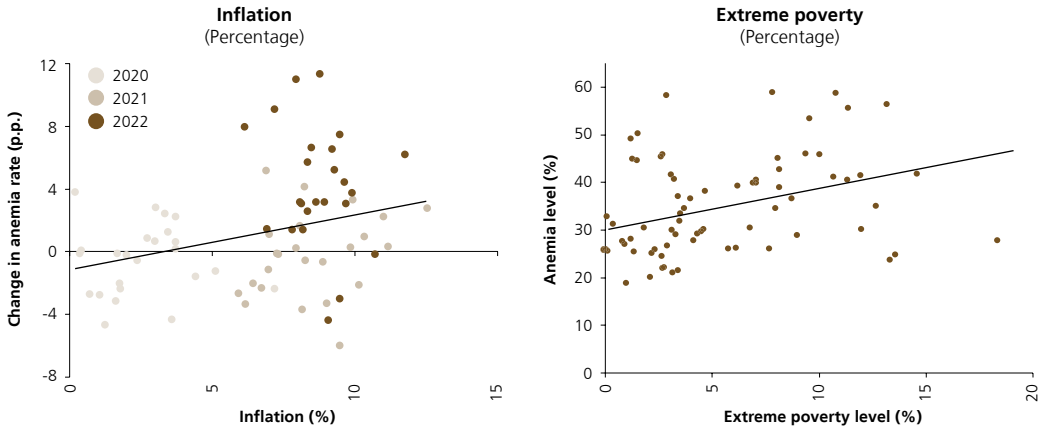
A relevant question when analyzing these indicators linked to food security is how they relate to other economic variables that affect households' ability to obtain food. On the one hand, a higher inflation rate could make it more difficult for households to afford the food required for their nutrition[21]. Consequently, higher levels of inflation could be associated with greater increases in food insecurity.

On the other hand, a higher extreme poverty rate should be correlated with a higher incidence of these indicators, since, as previously explained, it measures the monetary capacity to acquire a basic food basket. Thus, places with greater deprivation in terms of expenditure should show higher levels of anemia and malnutrition.

The following graph, with information on city inflation and the change in the prevalence of childhood anemia, shows that in regions with higher inflation, there was also a greater increase in the prevalence of anemia between 2020 and 2022. In addition, in 2022, the second consecutive year of high inflation rates, a higher percentage of departments saw an increase in the incidence of this condition than in previous years. On the other hand, regions with higher levels of extreme poverty are shown to have higher levels of childhood anemia.

21 This should be understood in a context of wage rigidities that prevent a rapid adjustment of nominal income in the face of the inflationary process.

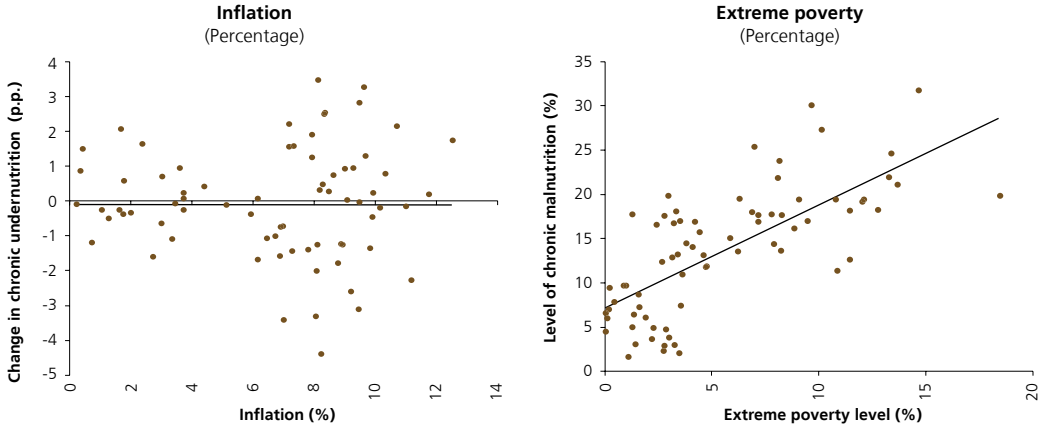
**RELATIONSHIP BETWEEN CHILDHOOD ANEMIA, INFLATION AND EXTREME POVERTY IN REGIONS, 2020-2022**




Source: INEI.
Elaborated by: BCRP.

For its part, the graph below shows that chronic child malnutrition is not associated with higher levels of inflation, but it is associated with extreme poverty. The former could be explained by understanding that chronic malnutrition is a more structural condition than anemia, since it is measured as stunting. Therefore, in the face of a price increase, it would take longer to manifest itself, unlike what happens with iron levels in the child population. On the other hand, there is a clear and strong positive association between the level of extreme poverty and chronic child malnutrition.

**RELATIONSHIP BETWEEN CHRONIC CHILD MALNUTRITION, INFLATION AND EXTREME POVERTY IN REGIONS, 2020-2022**




Source: INEI.
Elaborated by: BCRP.

### Prevalence of eating problems and economic hardship

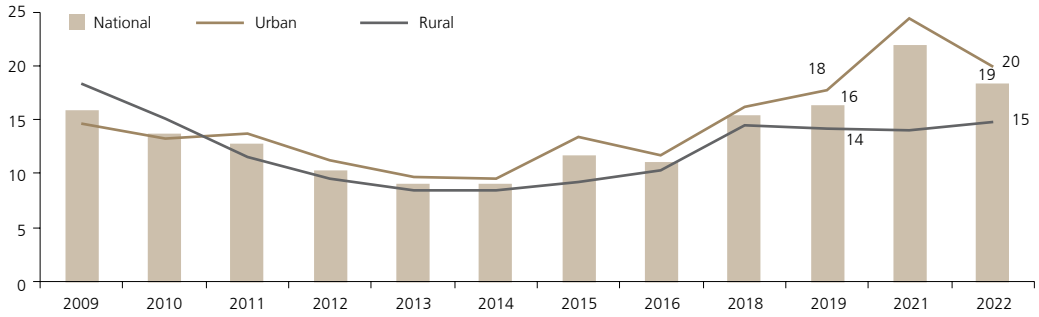
To complement the previous analysis, the National Household Survey (ENAHO) is used to identify the behavior of households with respect to food reduction. According to the ENAHO[22], in 2022, 19 percent of households that faced a reduction in income or wealth due to various adversities

22 The ENAHO only asks about the decrease in food for households that experienced adverse shocks (such as job loss, family business failure, natural disasters, among others). These households represented 20, 32 and 28 percent of the total population in 2019, 2021 and 2022, respectively (2020 is not analyzed since that year presented incomplete results in its third quarter). In this sense, the population that in total would have decreased its food intake could be higher, as it does not take into account people who did not experience shocks.

(representing 26 percent of all households) reduced their intake as a response measure. Although this indicator is lower than in 2021 (22 percent), it still outweighs the value recorded in 2019 (16 percent). On the other hand, as can be seen in the following graph, urban households are more likely to adjust their food as a response to adverse shocks than rural households.

**HOUSEHOLDS THAT REDUCE THEIR FOOD OR CONSUMPTION TO COPE WITH A DECREASE IN INCOME OR LOSS OF ASSETS AS TO RESULT OF AN ADVERSE EVENT**

(Percentage of households facing to decrease in income or assets due to an adverse event)




Note: Incomplete results were presented for the third quarter of 2020. Therefore, the period is omitted.
Memo: The number of households that decreased their food due to income or wealth losses in the face of an adverse shock accounted for 3 percent, 7 percent, and 5 percent of the total population in 2019, 2021, and 2022, respectively.
Source: INEI-ENAHO.
Elaborated by: BCRP.

### Food assistance programs in Peru

Faced with the problem of food security, the Peruvian government has social programs for food assistance. These include the National School Feeding Program Qali Warma and the Food Complementation Program, which consists of management and support guidelines for soup kitchens[23] and home-shelters recognized by district municipalities. For its part, civil society also has other voluntary and solidarity initiatives, such as the common pots. During the pandemic, an effort was made to harmonize these initiatives and to increase state support for food.

With respect to the National School Feeding Program Qali Warma, it provides a complementary food service (breakfasts and lunches) for about 4 million students of public educational institutions of kindergarten, primary and secondary. Given that schools in Peru were closed during 2020 and 2021 (there was only a partial reopening towards the end of that year), through Supreme Decree 008-2020-MC, educational institutions were allowed to deliver raw food to parents for home preparation.

In addition, given Qali Warma's experience and capacity in the massive purchase of food (the program has been operating since 2013), through DL 1472, it was allowed that Qali Warma can also provide a complementary food service for people in vulnerable situations during the state of health emergency. This meant the purchase of food in coordination with district municipalities and ministries for distribution. This facilitated the purchase of food for the centers of attention of the Food Complementation Program (canteens, homes-shelters, among others) and for common cooking pots.

Finally, the common pots are citizen initiatives for food assistance, both permanent and temporary, organized on a voluntary basis. In 2022, the Congress approved Law 31458 which recognizes the

23 Canteens are grassroots social organizations whose main activity is the preparation of food for social support. They may be soup kitchens, mothers' clubs, parish soup kitchens, among others

common pots and guarantees their sustainability, financing and the productive work of their beneficiaries[24]. This allows the State to allocate resources to totally or partially finance the common pots in case of natural disasters, health emergencies or other emergency circumstances. Previously, there was no regulation for this purpose.

As of October 2023, there were close to 5,000 active common pots at the national level recorded in the common pots registry. These serve a total of 303,000 users.

**Final Comments**

In 2020, Peru had a high prevalence of moderate and severe food insecurity according to FAO. Although there are no measurements for the post-pandemic period, the increase in caloric deficit and child anemia, as well as the stagnation in the reduction of chronic child malnutrition between 2020 and 2022, suggest that the inability to ensure sufficient and regular food access persists. In addition, the percentage of households that reduce their food intake in response to adversities is still higher than the pre-pandemic level.

On the other hand, anemia and malnutrition variables show a high relationship with the level of extreme poverty, so that stagnation in real household income after the pandemic presents a risk for future food security. Moreover, anemia correlates with the level of inflation, demonstrating the importance of supportive policies during periods of rising food prices.

In this regard, the Peruvian government has a food assistance program for schoolchildren, and has guidelines and financing mechanisms for canteens, home-shelters and common kitchens. In the face of growing food insecurity, it would be pertinent to evaluate mechanisms to strengthen these interventions and focus resources on the most vulnerable areas.

Finally, food insecurity is particularly relevant to the occurrence of climatic events that raise food prices faced by households.

24 The common pots were previously self-supporting or financed by donations from neighbors, parishes and other community stakeholders