04. INFLATION

Annual inflation, measured by the percentage variation of the consumer price index (CPI) for Metropolitan Lima at year-end, was 1.97 percent in 2024 (3.24 percent in 2023), in the middle of the target range (between 1 and 3 percent) since May. Thus, Peru was one of the first countries whose inflation was within the target range. At the national level, CPI variation reached 1.90 percent (3.41 percent in 2023).

Statistical trend measures recorded rates between 2.3 and 2.7 percent, within the target range. All indicators showed a marked downward trend. Inflation without food and energy was 2.60 percent (2.90 percent in 2023). For its part, the variation in food and energy prices was 1.23 percent (3.63 percent in 2023).

Table 58

TREND INDICATORS OF INFLATION				
(12-month % chg.)				
	CPI	Re-weighted 1/	Bounded mean 2/	Percentile 63 3/	CPI without food and energy 4/
2001-2024					
Average % chg.	2.96	2.80	2.90	2.89	2.37
Standard dev.	0.33	0.17	0.16	0.17	0.24
Dec.20	1.97	1.69	1.31	0.99	1.76
Dec.21	6.43	4.22	4.53	4.23	3.24
Dec.22	8.46	7.62	8.22	8.84	5.59
Dec.23	3.24	4.23	4.21	4.80	2.90
Jan.24	3.02	4.06	4.08	4.68	2.86
Feb.24	3.29	4.05	4.03	4.49	3.10
Mar.24	3.05	3.84	3.94	4.23	3.10
Apr.24	2.42	3.53	3.72	4.10	3.01
May.24	2.00	3.30	3.50	3.92	3.10
Jun.24	2.29	3.10	3.24	3.65	3.12
Jul.24	2.13	2.88	2.99	3.42	3.02
Aug.24	2.03	2.74	2.76	3.20	2.78
Sep.24	1.78	2.54	2.59	2.97	2.64
Oct.24	2.01	2.37	2.42	2.80	2.50
Nov.24	2.27	2.34	2.40	2.72	2.56
Dec.24	1.97	2.27	2.36	2.68	2.60

1/ Re-weighted: Reduces the weight of items with greater volatility, considers the original weights of each item between the standard deviation of their monthly percentage changes.
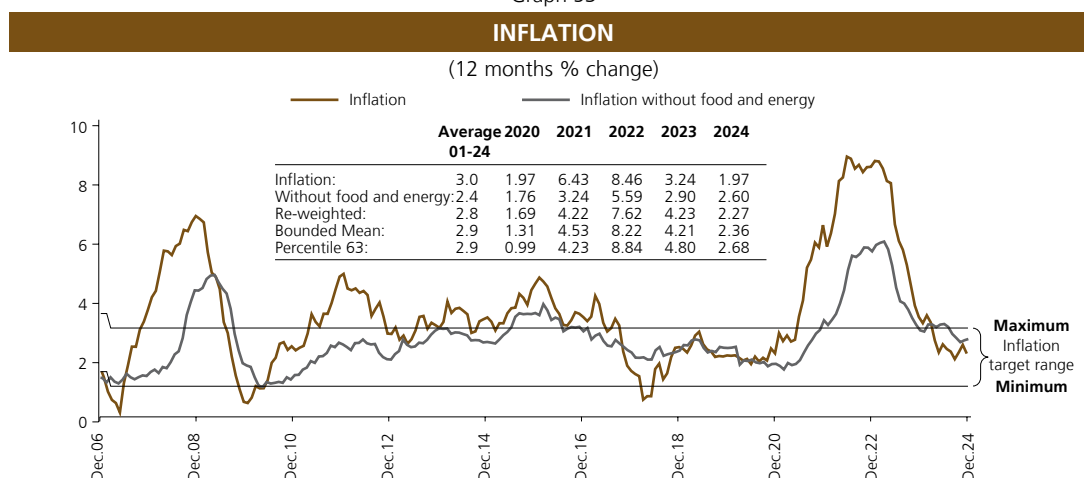2/ Bounded mean: Weighted average of the percentage change of prices between the 34th and 84th percentiles.
3/ Percentile 63: Corresponds to the percentage changes of the item placed in the 63th percentile.
4/ CPI without food and energy: CPI excluding food, fuel and electricity.
Source: INEI and BCRP.

Graph 53

INFLATION

(12 months % change)

	Average 01-24	2020	2021	2022	2023	2024
Inflation:	3.0	1.97	6.43	8.46	3.24	1.97
Without food and energy:	2.4	1.76	3.24	5.59	2.90	2.60
Re-weighted:	2.8	1.69	4.22	7.62	4.23	2.27
Bounded Mean:	2.9	1.31	4.53	8.22	4.21	2.36
Percentile 63:	2.9	0.99	4.23	8.84	4.80	2.68

Source: INEI.

Table 59

INFLATION

(% change)

	Weight	2021	2022	2023	2024	Average % chg. 2015-2024
CPI	**100.0**	**6.43**	**8.46**	**3.24**	**1.97**	**3.49**
1. CPI excluding food and energy	**55.3**	**3.24**	**5.59**	**2.90**	**2.60**	**2.91**
a. **Goods**	**17.4**	**2.6**	**5.3**	**2.7**	**1.6**	**2.6**
Of which						
Textiles and footwear	4.1	1.1	2.5	2.7	0.7	1.4
Domestic appliances	0.5	4.1	4.5	0.7	2.0	1.7
Other industrial products	12.8	3.1	6.2	2.7	1.9	3.0
b. **Services**	**37.9**	**3.6**	**5.7**	**3.0**	**3.0**	**3.1**
Of which						
Education	8.6	1.6	3.9	6.4	5.1	4.4
Rent	4.5	1.8	2.4	-0.2	0.6	1.3
Health	1.5	2.8	7.3	3.3	1.6	3.2
Transportation	9.1	3.7	12.3	2.9	3.8	3.4
Water consumption	1.4	11.6	7.9	1.3	7.5	5.7
2. Food and energy	**44.7**	**10.18**	**12.02**	**3.63**	**1.23**	**4.18**
a. **Food and beverages**	**40.0**	**8.0**	**12.6**	**4.8**	**1.2**	**4.0**
Of which						
Chicken meat	2.7	23.4	-1.0	8.0	2.7	3.0
Bread	1.4	15.5	18.8	0.7	-0.2	3.7
Rice	1.2	5.2	4.4	9.1	6.3	3.4
Sugar	0.4	12.7	31.7	5.4	-2.3	6.3
Noodles	0.3	10.4	52.7	3.6	-8.1	6.6
Oil	0.4	63.5	10.9	-9.2	-9.3	4.7
Potato	0.7	11.9	93.9	-21.2	-12.9	5.8
Lemon	0.2	-13.2	63.8	-39.9	15.7	-1.0
Fresh and frozen fish	0.7	14.5	9.7	-17.4	5.9	0.4
Meals outside the home	15.5	4.5	9.7	6.6	2.9	4.2
b. **Fuels and electricity**	**4.8**	**24.4**	**6.8**	**-6.8**	**1.0**	**4.5**
Fuels	**2.1**	**47.2**	**1.0**	**-6.4**	**3.3**	**3.5**
Of which:						
Oil and lubricants	1.1	46.4	11.6	-8.4	-4.6	2.8
Gas	0.8	51.0	-9.2	-5.8	16.5	4.4
Electricity	**2.6**	**9.5**	**11.5**	**-7.1**	**-0.7**	**5.4**

Source: INEI.

Graph 54

CONTRIBUTIONS TO THE ANNUAL CPI CHANGE

(% points)

Source: INEI.
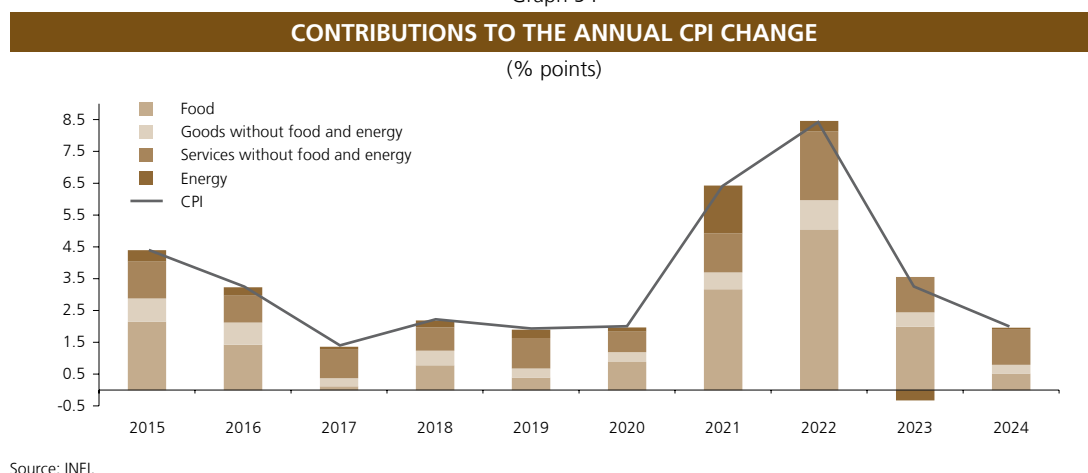
In terms of contribution to inflation, the items with the highest positive impact were meals away from home (0.47 percentage points), education (0.43 percentage points), local transportation (0.31 percentage points), domestic gas (0.11 percentage points), personal care products (0.10 percentage points) and water supply (0.10 percentage points). On the other hand, among the products with the highest negative contribution were eggs (-0.17 percentage points), potatoes (- 0.13 percentage points), corn (-0.09 percentage points), "other fresh fruits" (-0.06 percentage points), other tubers (-0.05 percentage points) and avocado (-0.05 percentage points).

Table 60

ITEM WITH THE HIGHEST WEIGHTED CONTRIBUTION TO INFLATION: 2024

Positive	Weight	% chg.	Contribution	Negative	Weight	% chg.	Contribution
Meals outside the home	15.5	2.9	0.47	Eggs	0.7	-17.7	-0.17
Tuition fees	8.6	5.1	0.43	Potato	0.7	-12.9	-0.13
Local transportation	8.1	3.6	0.31	Corn	0.1	-42.0	-0.09
Gas	0.8	16.5	0.11	Other fresh fruits	0.6	-8.5	-0.06
Toiletries	4.0	2.5	0.10	Other tubers	0.1	-35.9	-0.05
Public water supply	1.4	7.5	0.10	Avocado	0.2	-17.9	-0.05
Rice	1.2	6.3	0.08	Vehicle fuels	1.1	-4.6	-0.04
Chicken meat	2.7	2.7	0.07	Dry noodles	0.3	-8.1	-0.04
Olive and other vegetables	0.1	56.9	0.05	Carrots	0.1	-22.7	-0.04
Tangerine	0.3	18.7	0.05	Vegetal oil	0.4	-9.3	-0.03
Total			**1.77**	**Total**			**-0.70**

Source: INEI.

1.   INFLATION WITHOUT FOOD AND ENERGY

Inflation excluding food and energy, an indicator that reflects trend inflation, has remained within the target range since August 2024. The goods inflation rate declined from 2.7 percent in 2023 to 1.6 percent in 2024, with the largest contribution coming from the slowdown in the prices of personal care products (from 4.8 percent in 2023 to 2.5 percent in 2024) and cleaning products and supplies

(4.7 percent in 2023 to 1.3 percent in 2024). The services component remained at 3.0 percent in 2023 and 2024, with the slowdown in prices for primary education (from 10.4 percent in 2023 to 6.3 percent in 2024) and secondary education (from 10,7 percent in 2023 to 6.4 percent in 2024) which was offset by the increase in the price of water supply (from 1.3 percent in 2023 to 7.5 percent in 2024) and international air transportation (from -9.1 percent in 2023 to 2.1 percent in 2024).

Graph 55

CPI GOODS AND SERVICES WITHOUT FOOD AND ENERGY

(% change last 12 months)

Source: INEI.
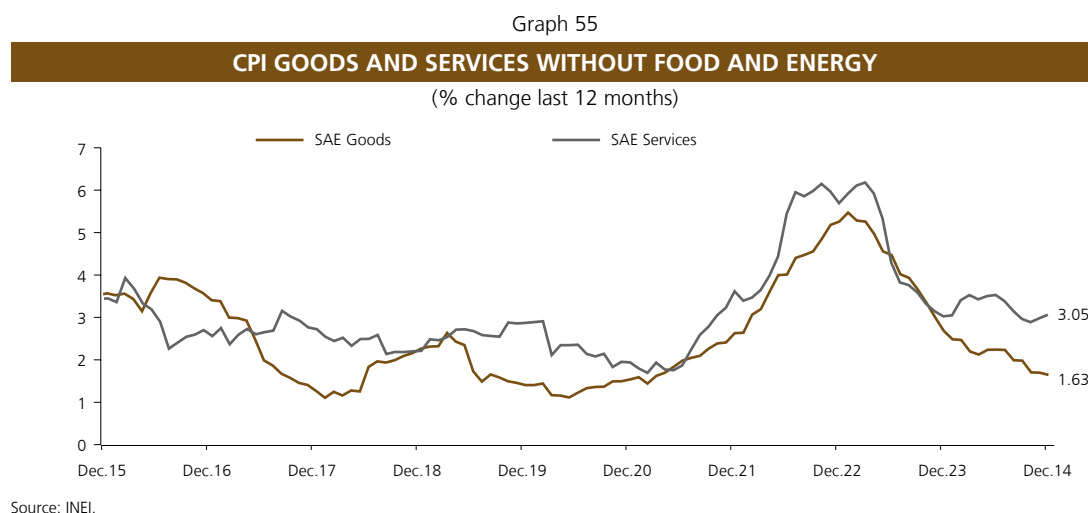
Goods

The price variation of the goods category was 1.6 percent in 2024, a result influenced by the increase in the personal care products category (2.5 percent), followed by motor vehicles (3.0 percent) and medicines (1.5 percent).

The increase in the "personal care products" category was due to the increase in demand, which led to a greater supply of a wide range of products such as facial creams, Sol protection creams, shampoos, colognes and toilet soaps. These products are mainly of imported origin or manufactured in the country, mostly with imported inputs. The lower increase in this item with respect to 2023 (4.8 percent) was due to the greater supply of the aforementioned products, which was influenced by the higher domestic production of perfumes and toiletries (11.1 percent with respect to 2023).

In the case of motor vehicles, increases were recorded in certain months due to the introduction of new models; nevertheless, sales of light vehicles, on average for the year, were lower than in 2023. With regard to medicines, prices showed ongoing increases during the year, recording the largest increases in the prices of analgesics, topical anti-inflammatory drugs and anxiolytics.

Services

The 3.0 percent year-over-year change in services prices in 2024 reflected increases in education (5.1 percent), local transportation (3.6 percent), and water supply (7.5 percent).

Fees for school education services were readjusted at the beginning of the school year at all levels (pre-school, primary and secondary), although at a lower rate than in 2023, the year in which on-site classes were resumed. Regarding primary education, an average monthly increase of 5.7 percent was recorded in March (8.7 percent in March 2023), due to the increase in pensions in private

schools, while the secondary level rose 5.9 percent in the same month (9.2 percent in March 2023). Higher education rose 3.4 percent on average, as a result of increases in tuition and pensions at private universities (4.2 and 3.8 percent, respectively), and at non-state higher education institutes (2.7 and 2.9 percent, respectively).

Local transportation recorded the highest increases in motorcycle cab and cab fares, mainly in vehicles that use liquefied petroleum gas, due to the price increase (6.3 percent). The readjustments of Metropolitano fares (trunk route plus feeder) ordered by the Urban Transport Authority for Lima and Callao (ATU) also had an influence. However, as in previous years, the largest increase in this item was recorded in December, due to the increase in demand during the year-end holidays.

In the month of February 2024, the water tariff rose 7.5 percent, an increase contemplated in Sedapal's five-year plan for the 2022-2026 period, which was approved by the regulatory agency Sunass, based on the fulfillment of management goals.

2. VARIATION IN FOOD AND ENERGY PRICES

Food and energy prices, whose variations are mainly related to supply factors, increased by 1.2 percent year-on-year (3.6 percent in 2023). The slowdown in 2024 relative to 2023 reflected lower variations in food and vehicle fuels.

Food

Meals away from home" (2.9 percent) was the item with the highest positive contribution to inflation due to the higher demand for this service and the increase in costs, mainly energy (increase in the price of gas). However, the increase was lower than in the previous three years, due to the greater supply and activity of restaurants.

Increases in the prices of foods such as rice and chicken meat were counterbalanced by lower prices of products such as eggs and potatoes.

The price of rice rose 6.3 percent year-on-year due to higher production costs, both for chemical inputs (fungicides, herbicides, pesticides, among others) and labor. Although domestic production recorded a positive evolution in 2024, partly due to warm conditions during crop ripening and climatic changes, the heavy rains on the northern coast during the summer and the water deficit in recent months resulted in an irregular entry into the wholesale channel, which contributed to the price rise.

The price of chicken rose 2.7 percent, a result that was influenced by the shipment of a larger quantity of chicken to the provinces, mainly in August and September, as well as the increase in bonito and jack mackerel prices, mainly in the last months of the year.

The price of eggs decreased 17.7 percent, after the seasonal rise at the beginning of the year, in a context of no cost pressures. The price of hard yellow maize and soybeans, the main components of poultry feed, recorded a negative variation during the year (-28.1 and 22.4 percent, respectively, compared to the average for 2023).

Potato prices declined 12.9 percent, with a significant negative variation of 30.3 percent in the price of the "yellow" variety, which was influenced by the lower price of the product, mainly in the

months of January through August. Fungal diseases in Huánuco, the main source of the crop, affected yields and crop quality due to the inadequate application of fertilizers and pesticides in previous seasons. This situation was partially reversed starting in September with the beginning of the large season in that region.

Energy

Vehicle fuel prices decreased 4.6 percent; in contrast, the price of domestic gas rose 16.5 percent.

Gasohol and diesel oil prices recorded negative variations. In the case of gasohol, the price decrease reflected the lower international parity price, which was transferred to the refinery price. In the case of diesel oil, the price decreased reflecting the adjustment of price bands.

The price of domestic gas recorded successive increases throughout the year. The price increase in the first months of the year was mainly due to the update of the price band for bottled LPG. In the month of June, the domestic gas cylinder - bottled liquefied petroleum gas (LPG-E) - was excluded from the Fuel Price Stabilization Fund (FEPC), so it was no longer subject to economic regulation. The price rise in the following months mainly reflected increases in the commercialization chain due to higher demand and lower domestic production, and the seasonal increase in the international price.

3.   NATIONAL INFLATION

National inflation in 2024 was 1.9 percent year-on-year, lower than the 2023 result of 3.4 percent.

National inflation is calculated as the weighted average of inflation in the country's 26 main cities. In 2024, 8 cities recorded higher inflation rates than Lima and 17 cities presented lower variations.

Graph 56

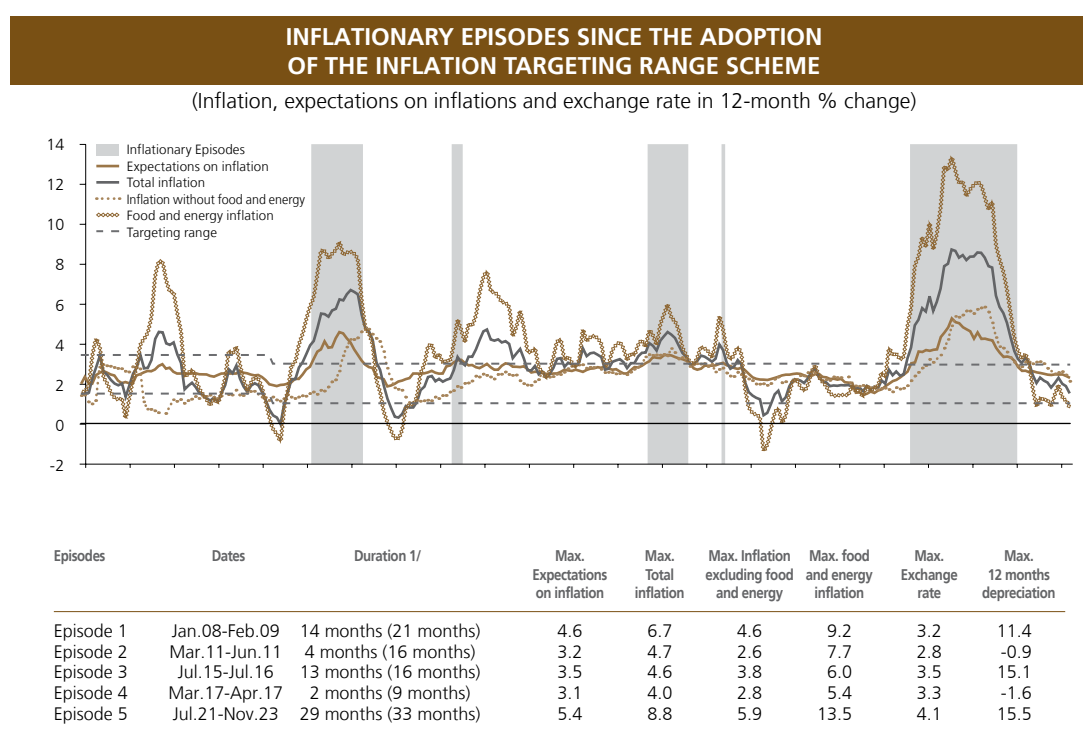**INFLATION BY CITY: 2024**

(Annual % change)
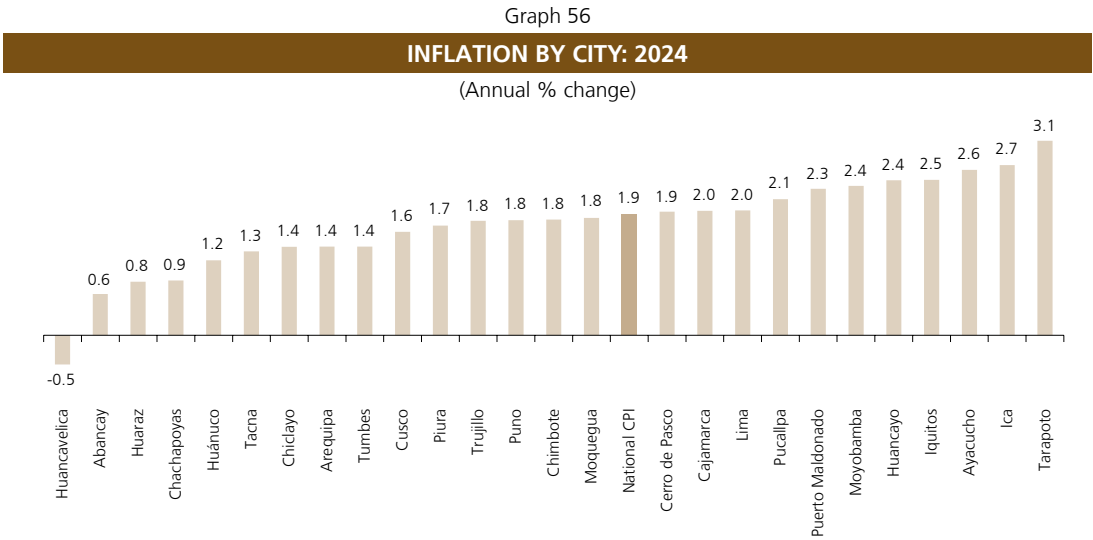
Source: INEI.

The cities with the highest inflation in 2024 were Tarapoto (3.1 percent), Ica (2.7 percent), Ayacucho (2.6 percent) and Iquitos (2.5 percent).

<div align="center">

Box 2

THE PERUVIAN EXPERIENCE IN THE LAST INFLATIONARY EPISODE 2021-2024

</div>

Between mid-2021 and the end of 2023, most economies, including Peru, experienced a significant inflationary process. In the case of Peru, both inflation and its one-year inflation expectations outweighed the inflation target range, marking the fifth inflationary episode since the adoption of the Explicit Inflation Targeting (EIT) scheme.[19] This episode was the longest (29 months), far outweighing the second longest, in 2008-2009, which lasted less than half the time (14 months). The longest inflationary episodes in Peru have coincided with annual double-digit depreciations of the domestic currency and significant, albeit temporary, increases in Food and Energy (F&E) prices. This contrasts with deviations from the Non-Food and Energy (NF&E) inflation target range, which tend to be more moderate, but also more persistent.

<div align="center">

**INFLATIONARY EPISODES SINCE THE ADOPTION
OF THE INFLATION TARGETING RANGE SCHEME**

(Inflation, expectations on inflations and exchange rate in 12-month % change)

</div>

Episodes	Dates	Duration 1/	Max. Expectations on inflation	Max. Total inflation	Max. Inflation excluding food and energy	Max. food and energy inflation	Max. Exchange rate	Max. 12 months depreciation
Episode 1	Jan.08-Feb.09	14 months (21 months)	4.6	6.7	4.6	9.2	3.2	11.4
Episode 2	Mar.11-Jun.11	4 months (16 months)	3.2	4.7	2.6	7.7	2.8	-0.9
Episode 3	Jul.15-Jul.16	13 months (16 months)	3.5	4.6	3.8	6.0	3.5	15.1
Episode 4	Mar.17-Apr.17	2 months (9 months)	3.1	4.0	2.8	5.4	3.3	-1.6
Episode 5	Jul.21-Nov.23	29 months (33 months)	5.4	8.8	5.9	13.5	4.1	15.5

1/ In parentheses is the time in which total inflation remains outside the target range.

This box analyzes the factors that drove inflation during this fifth inflationary period, the role of relative prices, the evolution of inflation expectations and the subsequent normalization of inflation. In addition, the Peruvian experience is compared with that of other developed and emerging countries.

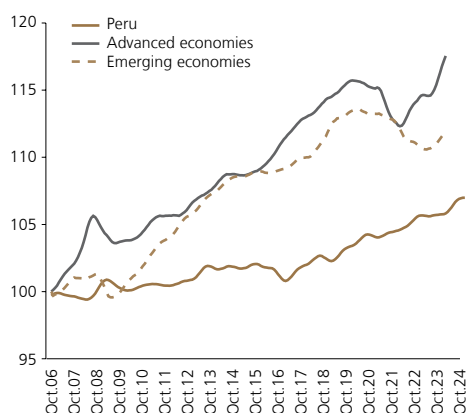### Inflation and relative price shocks during 2021-2023

This fifth inflationary episode was marked by the impact of several supply shocks, whose persistence was unusually high, and contrasts with the typically transitory nature of these events in the past. External factors associated with the disruption of the global supply chain, the rise in international

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19   In several boxes of the Inflation Report, an inflationary episode is defined as those periods in which inflation expectations outweigh the upper limit of the target range, 3 percent. These episodes have had varying durations, ranging from 2 to 29 months, and have coincided with periods of inflation above 3 percent, ranging from 9 to 33 months. These episodes are documented in the Inflation Report Box "Monetary Policy Response to Supply Shocks" of the March 2022 Inflation Report.

prices of commodities, and the beginning and subsequent prolongation of the conflict between Russia and Ukraine stood out. On the domestic side, the La Niña event of 2023 and the political-social conflict of the same year also had a negative impact on the supply of products. In sum, these events generated significant inflationary pressure. Thus, compared to previous episodes, the highest values were recorded for both expectations (5.4 percent) and inflation (8.8 percent) and its food and energy components (13.5 percent) and the rest, which excludes food and energy (5.9 percent).

It should be noted that the relative importance of supply shocks and the inflationary experience manifested themselves in different ways at the international level. As documented by the Bank for International Settlements, in advanced and emerging economies, the relative prices of services and goods showed a similar pronounced positive trend in the pre-pandemic period.[20] This trend was interrupted, and in the 2021-2023 period, the prices of goods grew faster and in some cases even faster than those of services. In particular, the relative price of services over goods in emerging economies is well below its pre-pandemic level, while for advanced economies it has partially recovered its level. However, in Peru, the behavior of the relative price has contrasted with that of other economies. The ratio of the price of services to goods has remained more stable and with a lower slope, a trend that in the 2021-2023 period is very similar to that of pre-pandemic.

<table>
<tr><td>

Relative prices of services to goods in Peru, advanced and emerging economies
(December 2016=100)

</td><td>

Relative prices of goods in Peru
(December 2019=100)

</td></tr>
</table>
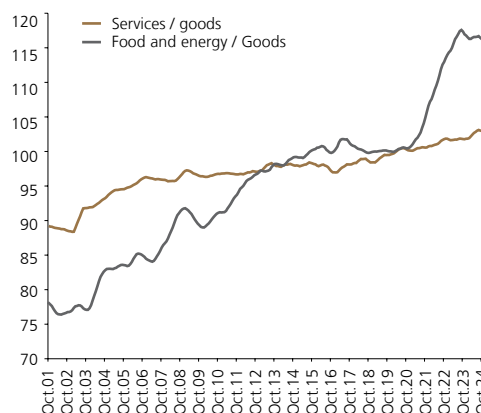
Memo: Relative prices are presented as a 6-month moving average. Relative prices for Services/Goods in advanced economies and emerging economies come from the BIS Quarterly Review, March 4, 2024. These relative prices are calculated as weighted averages, with weights corresponding to GDP at Purchasing Power Parity, for 11 advanced economies and 12 emerging economies (excluding China).

Thus, in Peru, the systematic increase in food and energy prices with respect to goods was observed, a trend that steepened abruptly since 2021. Although the energy sector has shown higher growth than the CPI since 2002, this pattern has been more prominent between December 2020 and April 2023 in the context of high inflation. Meanwhile, food expenditure components experienced the highest growth in the period from January 2021 to August 2023. The most notable were higher food prices dependent on international prices, such as noodles, sugar, eggs and chicken; agricultural food items, which were influenced by climatic factors and fertilizer prices; and processed food items.[21]

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20   As discussed in the article by the name "Sectoral Price Dynamics in the Last Mile of Post-Covid-19 Disinflation" in the BIS Quarterly Review, published on March 4, 2024 (see https://www.bis.org/publ/qtrpdf/r_qt2403.pdf).
21   For further details see "Relative prices and inflation in the Peruvian economy" of the June 2024 Inflation Report.

RELATIVE PRICES RESPECT TO CONSUMER PRICE INDEX SINCE DECEMBER 2019 UP TO APRIL 2024

(December 2019=100)
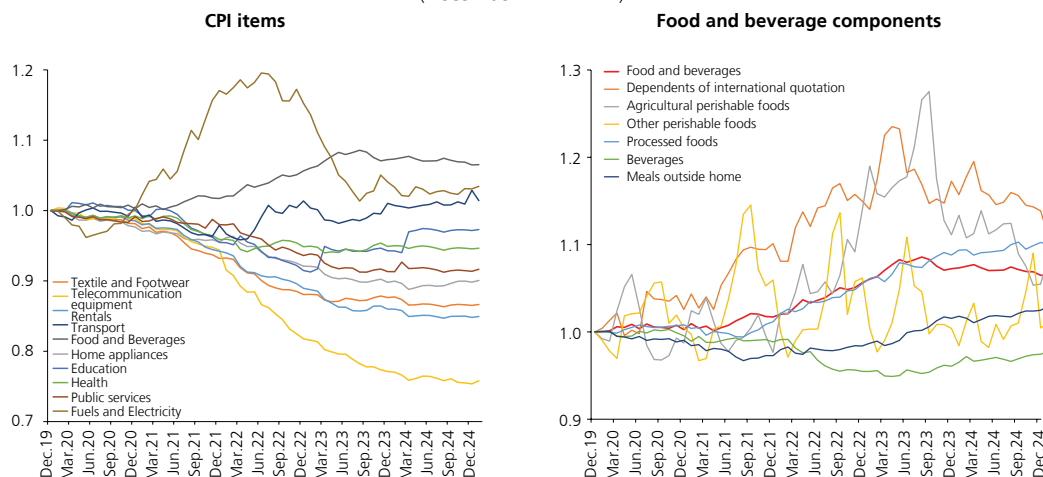
CPI items / **Food and beverage components**

Memo: Relative prices are presented as a 6-month moving average. Relative prices for Services/Goods in advanced economies and emerging economies come from the BIS Quarterly Review, March 4, 2024. These relative prices are calculated as weighted averages, with weights corresponding to GDP at Purchasing Power Parity, for 11 advanced economies and 12 emerging economies (excluding China).

This observation indicates that inflation shocks manifested themselves mainly through sharp increases in one or a few specific categories, rather than generalized increases. In addition, these increases are mainly concentrated in the food and energy categories, a characteristic consistent with a greater participation of supply shocks in the evolution of inflation.

This pattern was also observed in previous inflationary episodes: inflation fluctuations tend to originate in supply shocks focused on a few items. The following table shows the percentage of variance attributable to the items whose relative prices outweighed the thresholds specified in the table, together with their weight in the CPI basket. As expected, as the threshold increases, both the contribution to variance and the weight in the CPI decrease, as fewer items outweigh progressively higher thresholds. However, the contribution to variance decreases at a slower rate than the weight of items in the CPI. This suggests that inflation variability tends to be concentrated in a few items whose aggregate weight is small. For example, between 2002 and 2024, items whose relative price increased by more than 3 percent accounted for only 10 percent of the CPI weight, but explained about 60 percent of the variance of inflation.

DECOMPOSITION OF THE VARIANCE OF INFLATION ACCORDING TO THE MAGNITUDE OF THE CHANGE IN THE RELATIVE PRICE OF THE ITEM 1/ 2/

| Change in relative price is greater than (%):	Contribution to the variance of inflation		Weight in the CPI (contribution to spending)	
	Non-inflationary periods	Inflationary periods	Non-inflationary periods	Inflationary periods
0.25	0.73	0.75	0.55	0.66
1	0.68	0.60	0.16	0.20
2	0.63	0.57	0.09	0.11
3	0.60	0.41	0.07	0.07
5	0.49	0.35	0.04	0.04
10	0.26	0.15	0.01	0.01

1/ Each row shows the contribution to the variance and weight in the CPI of those items whose change in relative price is greater than the threshold indicated in the first column, that is, those whose inflation is greater than total inflation by at least that number of percentage points.
2/ The contributions to the variance are calculated as the ratio between the variance of inflation corresponding to the items that exceed the threshold (weighted by their respective weights) and the variance of total inflation.

In general, in these inflationary episodes, CPI-AE items lead the increase in inflation. In these episodes, its components show a higher proportion of items growing more than 3 percent. This is most evident in the inflationary periods starting in 2007 and 2021. Subsequently, these supply shocks spread, and after synchronization with the other inflation components, an increase in the contribution of CPI SAE items with variations greater than 3 percent is observed with a time lag.[22]

Likewise, the duration of these inflationary episodes is linked to the persistence of shocks to the CPI SAE. Typically, after the reversion of expectations to the target range, a reversal is also observed in the CPI-AE items, with negative contributions to inflation. This is followed by a reduction, with time lags, in the positive contributions of the CPI SAE components.

CONTRIBUTION TO INFLATION BY GROUPS OF FOOD AND BEVERAGES AND INFLATION WITHOUT FOOD AND BEVERAGES ITEMS WITH INTERANUAL VARIATION ABOVE AND BELOW 3%
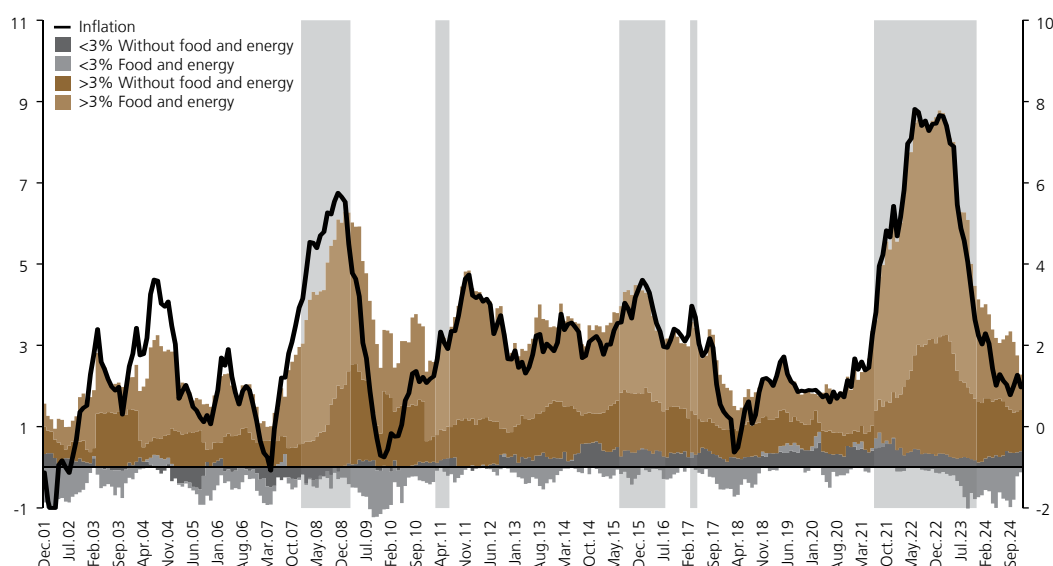
Note: Gray shaded areas indicate periods of expectations on inflation above the target range. For the contribution to 12-month inflation between groups, the weighted sum of the interannual variation of each item is considered, taking account its weight in the CPI basket.

In addition, these supply shocks also explain most of the variability in inflation expectations. The following table shows the decomposition of the dynamics of expectations among their determinants. In the two longest inflationary episodes corresponding to the last one, 2021-2023, and the previous one, the financial crisis, the contribution of imported inflation in dollars and domestic inflation were the most relevant. This is consistent with the important participation of supply shocks of external origin in the volatility experienced by inflation in both episodes, which due to their high persistence, as well as domestic supply shocks such as the La Niña event, can also affect inflation expectations and generate second round effects, affecting other components of the basic food basket. [23]

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22   For more details on the price synchronization of CPI components in periods of high inflation, see the Box "Disaggregated analysis of inflation: changes in the level, persistence and volatility over time" of the June 2024 Inflation Report, the box "Recent evolution of the distribution of inflation by item" of the September 2024 Inflation Report, and the Box "Distribution of relative prices and inflation dynamics" of the December 2024 Inflation Report.

23   See Box "Historical Decomposition of Inflation Expectations" in the June 2024 Inflation Report.

CONTRIBUTION TO DEVIATIONS FROM EXPECTATIONS ON INFLATION IN INFLATIONARY EPISODES					
(Percentage contribution)					
Episodes	Duration (months)	Imported inflation in USD	Inflation 1/	Demand	Nominal depreciation	Deviation of expectations with respect to 2 percent
Jan.08-Feb.09	14	0.94	0.50	0.47	0.00	1.92
Mar.11-May.11	3	0.49	0.59	0.30	-0.22	1.16
Aug.15-Jun.16	11	-0.80	1.20	0.34	0.58	1.32
Mar.17-Apr.17	2	0.15	0.29	0.27	0.31	1.03
Jul.21-Nov.23	29	0.72	0.74	0.26	0.36	2.09
Inside target range	192	0.11	0.16	0.18	0.02	0.47

1/ Shocks to inflation are all components that affect inflation independent of demand, imported inflation in USD and nominal depreciation. An additional important component to these are the conditions of domestic aggregate supply. A Structural Bayesian Autoregressive Vector model is estimated with which the historical contribution of each of these determinants is calculated.

Normalization of Inflation in 2024

While the BCRP can influence aggregate inflation through its monetary policy instruments, relative prices are beyond its direct control. In a context of changes in these prices, the central bank's task of containing inflation becomes more complex. This is because such changes have repercussions on other economic sectors and on inflation expectations, intensifying the dilemma between controlling inflation and mitigating the contraction of output .[24] At this juncture, more decisive monetary policy action, keeping inflation expectations contained, was important to preserve price stability. In response to the persistent relative price shocks, the BCRP reversed its expansionary stance adopted during the pandemic, implementing a contractionary policy, which was necessary to contain the deviations of inflation expectations from the target range, thus mitigating the effect of supply shocks. This translated into an increase in the benchmark rate from 0.25 percent prior to August 2021 to 7.75 percent in January 2023, a level that was maintained until August 2023. This timely response helped to anchor inflation expectations, and Peru managed to maintain inflation lower than most countries in the region, even at the time of greatest inflationary pressure.
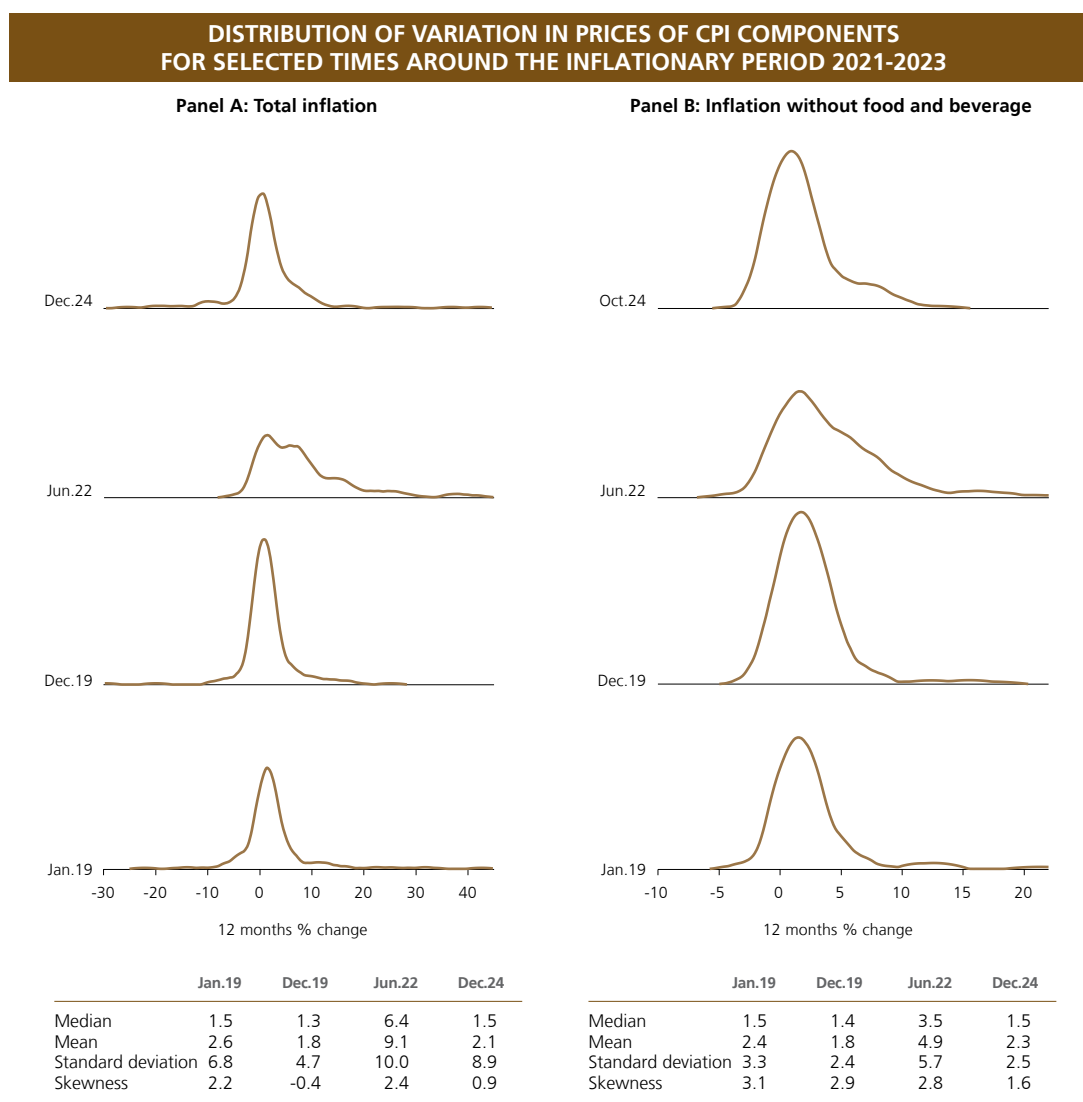
Subsequently, the shocks that kept relative food and energy prices up began to reverse. During the 2021-2022 period, the CPI-AE experienced average annual growth of 11.4 percent. However, this rate of change slowed significantly to 3.6 percent in 2023 and 1.2 percent in 2024. The following graph illustrates the evolution of the distribution of the price variation of CPI components at four key moments around the inflationary period 2021-2023. These moments are: two periods prior to the COVID-19 pandemic crisis, when inflation remained stable at around 2 percent (January and December 2019); June 2022, which corresponds to the month of highest inflation of the last episode (8.8 percent); and December 2024, which represents the current normalization period.

In the two months of low inflation (January and December 2019), the distributions of total inflation and SAE inflation by item show a remarkable similarity. This is also reflected in the location moments (mean and median). Variations are concentrated in a defined way around a center value, and although there are extreme variations, their influence is limited. On the contrary, in periods of high inflation, such as June 2022, the distributions become more dispersed, showing a marked bias towards significant positive variations and, in the case of total inflation, the appearance of multiple fashions.

After the inflationary episode, the December 2024 distributions more closely resemble those of stable inflation periods, especially in the case of SAE inflation. Although the distribution of total

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24   See Box "Monetary Policy Response to Supply Shocks" of the March 2022 Inflation Report (see: https://www.bcrp. gob.pe/docs/Publicaciones/Reporte-Inflacion/2022/marzo/ri-marzo-2022-recuadro-6.pdf).

inflation still has wide tails, indicating the presence of extreme positive and negative variations, its central moments are closer to those of the SAE inflation distribution.

DISTRIBUTION OF VARIATION IN PRICES OF CPI COMPONENTS FOR SELECTED TIMES AROUND THE INFLATIONARY PERIOD 2021-2023

Panel A: Total inflation

Panel B: Inflation without food and beverage

	Jan.19	Dec.19	Jun.22	Dec.24
Median	1.5	1.3	6.4	1.5
Mean	2.6	1.8	9.1	2.1
Standard deviation	6.8	4.7	10.0	8.9
Skewness	2.2	-0.4	2.4	0.9

	Jan.19	Dec.19	Jun.22	Dec.24
Median	1.5	1.4	3.5	1.5
Mean	2.4	1.8	4.9	2.3
Standard deviation	3.3	2.4	5.7	2.5
Skewness	3.1	2.9	2.8	1.6

Memo: Non-parametric densities of 12-month price changes of the CPI components, using the Epanechnikov kernel with a bandwidth of 1.3.
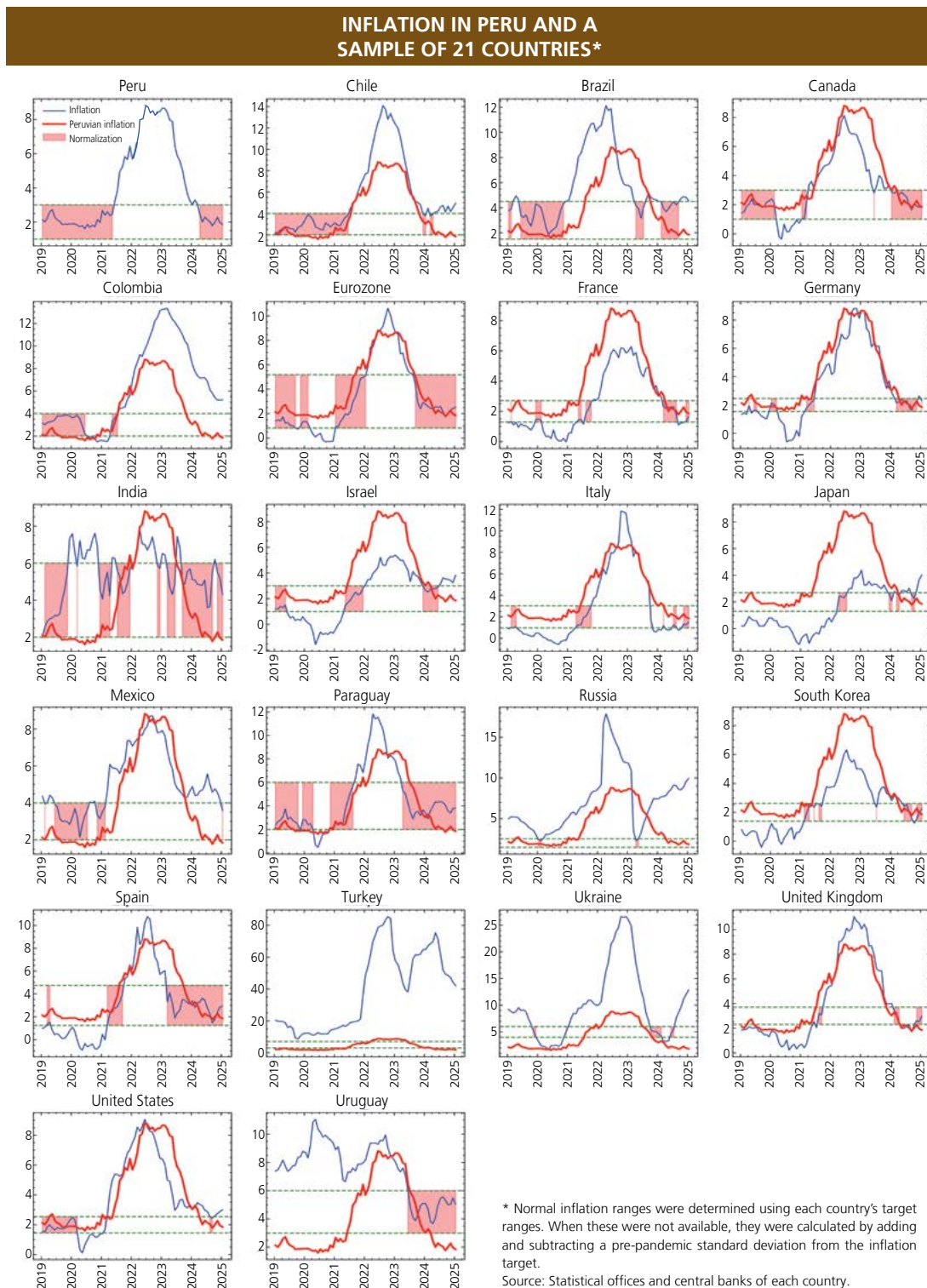
As a result, as of December 2024, the reversal of supply shocks together with the BCRP's timely action, contributed to bring total inflation and inflation expectations within the inflation target range, at 2.0 percent and 2.5 percent, respectively.

International comparison

The following graph compares Peru's inflation rate with that of a sample of 21 countries, highlighting three key points:

1. During the 2021-2024 global inflationary episode, developed economies experienced, on average, lower inflation rates than developing economies. The Peruvian case was one of the exceptions, recording lower rates than those observed in developed countries.
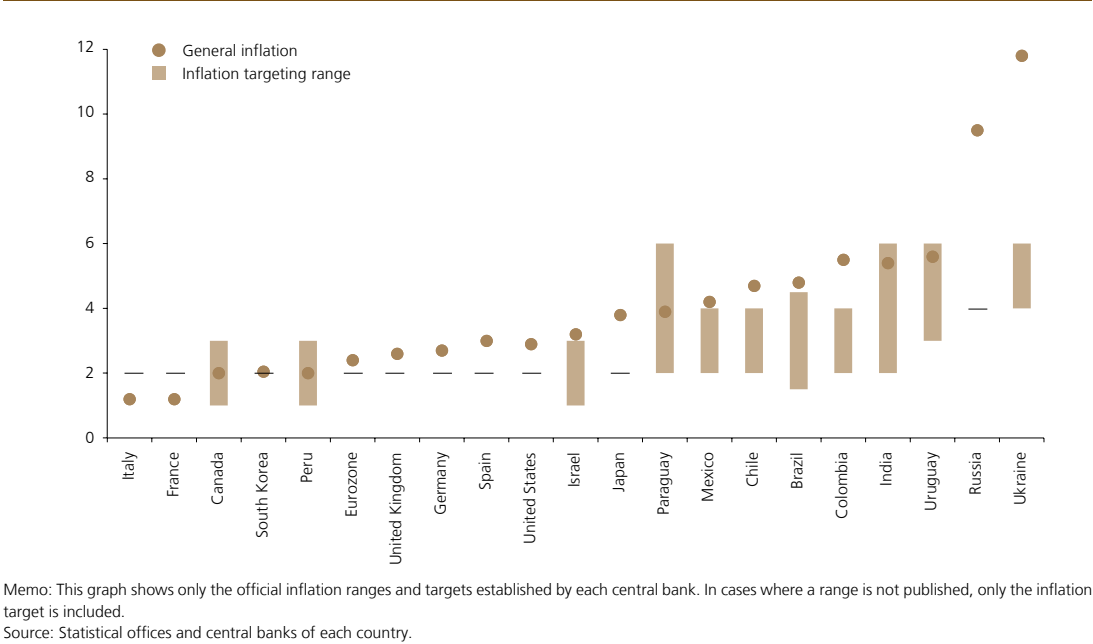
2. The evolution of inflation in Peru was more similar to that observed in developed economies than in developing economies.

3. The persistence of supply shocks particular to Peru caused the inflation rate to remain above 8 percent for a longer period of time (11 months), but after these shocks were reversed, a rapid convergence to developed country inflation rates was observed.

INFLATION IN PERU AND A SAMPLE OF 21 COUNTRIES*

* Normal inflation ranges were determined using each country's target ranges. When these were not available, they were calculated by adding and subtracting a pre-pandemic standard deviation from the inflation target.
Source: Statistical offices and central banks of each country.

This comparison evidences the influence of global factors on Peruvian inflation, identified in the high correlation of Peru's inflation with that of the other countries in the sample, while at the same time allowing us to observe the differences in the inflation dynamics of developed and developing economies in the face of these shocks. It is also observed that in 12 of the 22 countries included in the sample, inflation has not been able to return to its target level or range after the last inflationary episode.

By December 2024, Peru's inflation is slightly below the center of the target range. Within the study sample, Peru stands out as one of the countries with better inflation control compared to developed countries. Countries in the region still maintain inflation rates above their target ranges.

INFLATION RATES IN DECEMBER 2024 AND THE INFLATION TARGETING RANGE FOR THE SAMPLE COUNTRIES

Memo: This graph shows only the official inflation ranges and targets established by each central bank. In cases where a range is not published, only the inflation target is included.
Source: Statistical offices and central banks of each country.

In the Peruvian case, the return of inflation to the target range after persistent, global and idiosyncratic supply shocks is attributable to a combination of factors, including the moderation of these shocks and the adequate response and communication of monetary policy.