ACRA

MACROECONOMICS | RUSSIA

NOVEMBER 22, 2021

RESEARCH

# GLOBAL ENERGY AND FOOD PRICES, INFLATION IN RUSSIA


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CONTENTS



# MAIN CONCLUSIONS

- **ACRA has updated its macroeconomic forecast for 2022–2025.** The Agency took into account the consequences of higher global energy and food prices, and increased its expectations regarding the short-term dynamics of ruble interest rates and nominal budget revenues. Real GDP growth dynamics give us reason to believe that the period of recovery growth will end in the near future. Ruble exchange rate forecasts have been slightly adjusted, while global inflation continues to be the main source of uncertainty.
- **In the base case scenario, average annual inflation in Russia will decline to 5.5–6.0 pps, while the December-on-December indicator may reach 4.0–4.5%,** which is close to the target. Due to this, for most of 2022, the Bank of Russia's monetary policy will be rather tight, but in the second half of the year it is entirely possible that a softer approach will rapidly be applied.
- **Global energy (oil, gas and coal) and food prices are volatile.** Current prices are partially the result of one-off or short-term supply-side factors, and prices may normalize in spring or summer 2022. The current level of prices may constrain global economic activity in the short term, dampen the post-pandemic recovery, and is most dangerous for commodity exporting countries.
- **The total contribution of external factors to inflation in Russia is currently 1.4–1.8 pps in annual terms, but by the end of 2022, this indicator may stand at just below zero.** The elasticity of the consumer price index (CPI) in relation to changes in global energy prices is only about 1.1–1.2%. The elasticity of the cost of the consumer basket in relation to external food prices, adjusted for new customs duties, is less than 1%. In the event of significant volatility of external prices, this is sufficient to have a noticeable effect on the cost of the entire consumer basket. The uncertainty of external assumptions is high and therefore when forming inflation expectations it is prudent to consider the ranges of possible values.
- **The total contribution of internal factors to inflation in Russia is currently 6.3–6.7 pps in annual terms, but by the end of 2022 it will reach 4.2–4.7 pps** thanks to tight monetary policy, restrained indexation of regulated prices and tariffs, neutral fiscal policy, and a possible improvement of the situation in food markets. Next year, the dynamics of monetary aggregates, which are reflected in inflation with the largest time lag, will exert 1.5–2 times less pressure on prices compared to 2021.

## Table 1. Base case scenario of the macroeconomic forecast from 2021 to 2025

| INDICATOR | | UoM | ACTUAL | | ESTIMATE 31.05.2021 | ESTIMATE 15.11.2021 | FORECAST | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2019 | 2020 | 2021 | 2021 | 2022 | 2023 | 2024 | 2025 |
| **Key external environment indicators** | Urals crude oil price (annual average) | USD per barrel | 63.7 | 41.6 | 57.0 | **70.4** | 64.0 | 60.5 | 61.1 | 61.7 |
| | Global GDP [1] | %, y-o-y | 2.5 | -3.3 | 4.7 | **4.9** | 3.4 | 2.3 | 2.0 | 1.9 |
| | US GDP | %, y-o-y | 2.2 | -3.5 | 4.9 | **5.3** | 3.4 | 2.6 | 1.9 | 1.8 |
| | China GDP | %, y-o-y | 6.1 | 2.3 | 6.7 | **6.8** | 5.0 | 4.5 | 4.3 | 4.3 |
| | EU GDP | %, y-o-y | 1.7 | -6.1 | 5.0 | **4.8** | 4.1 | 2.0 | 1.5 | 1.5 |
| **Production indicators** | GDP (current prices) | RUB bln | 109,242 | 106,968 | 120,894 | **130,265** | 137,266 | 142,744 | 149,986 | 157,905 |
| | GDP (fixed prices) | %, y-o-y | 2.0 | -3.0 | 3.5 | **4.1** | 2.7 | 1.9 | 1.8 | 2.0 |
| | Fixed investments | %, y-o-y | 2.1 | -1.4 | 2.0 | **3.8** | 3.3 | 1.6 | 1.9 | 1.8 |
| | Industrial output index | %, y-o-y | 3.4 | -2.6 | 3.0 | **4.4** | 2.7 | 2.0 | 1.5 | 1.9 |
| | Retail turnover | RUB bln | 33,624 | 33,874 | 37,427 | **39,178** | 42,596 | 44,296 | 46,544 | 49,001 |
| **Balance of payments indicators** | Exports | USD bln | 420 | 332 | 384 | **475** | 446 | 425 | 430 | 434 |
| | Imports | USD bln | 255 | 240 | 298 | **321** | 343 | 355 | 372 | 390 |
| | Annual average USD exchange rate | RUB/USD | 64.7 | 72.1 | 73.2 | **73.3** | 72.1 | 72.5 | 72.7 | 72.9 |
| | Annual average EUR exchange rate | RUB/EUR | 72.4 | 82.4 | 87.5 | **87.0** | 82.9 | 83.7 | 83.9 | 84.2 |
| **Income and labor market** | Average wage | RUB/month | 47,420 | 51,017 | 57,669 | **57,701** | 64,588 | 70,596 | 77,015 | 84,177 |
| | Real disposable income | %, y-o-y | 1.0 | -3.0 | 3.7 | **2.7** | 2.4 | 2.0 | 1.9 | 2.1 |
| | Population (annual average) | mln | 146.8 | 146.5 | 146.3 | **145.8** | 145.3 | 145.2 | 145.2 | 145.1 |
| | EAP[2] (annual average) | mln | 75.4 | 74.9 | 74.6 | **75.3** | 75.4 | 75.6 | 75.9 | 76.3 |
| | Unemployment (annual average) | % of EAP | 4.6 | 5.8 | 5.3 | **4.9** | 4.7 | 4.6 | 4.5 | 4.5 |
| **Financial market prices and indicators** | Inflation (CPI) | %, Dec/Dec | 3.0 | 4.9 | 5.1 | **8.0** | 4.2 | 3.7 | 3.8 | 3.9 |
| | Key interest rate (as of end of year) | % | 6.25 | 4.25 | 5.75 | **8.0** | 6.75 | 5.25 | 5.25 | 5.5 |
| | Key interest rate (annual average) | % | 7.3 | 5.1 | - | **5.8** | 7.5 | 5.7 | 5.3 | 5.4 |
| | 5-year zero-coupon OFZ rate (as of end of year) | % | 6.1 | 5.5 | - | **8.4** | 7.2 | 5.8 | 6.3 | 6.5 |
| | 5-year zero-coupon OFZ rate (annual average) | % | 7.3 | 5.6 | 6.9 | **7.0** | 7.7 | 6.6 | 6.2 | 6.3 |
| **Budget** | Federal budget balance | % of GDP | 1.8 | -3.8 | -1.1 | **1.1** | 0.6 | -0.3 | -0.3 | -0.2 |

Source: ACRA

[1] Real growth rate according to the World Bank's methodology.

[2] Economically active population.

## ADJUSTMENT OF FORECAST INDICATORS

See ACRA's research Specifics of Sources for Russian Macroeconomic Forecasts from May 31, 2021 and the analytical commentary A Significant Positive Revision of Industry Data is the Norm for Russia and Many Other Countries from October 20, 2020 for information on the specifics of using macroeconomic data and forecasts in Russia.

The assumptions used by ACRA to calculate the indicators of the base case scenario of the macroeconomic forecast and their dynamics were adjusted taking into account new information (*Table 1*). The main changes affected assumptions associated with the impact of external factors.

**The Agency took into account the consequences of higher global energy and food prices.** External demand expectations were lowered slightly and the effect of the transfer of external prices onto domestic market prices was estimated (*pages 6–8*).

Taking into account the abovementioned changes, the Agency **revised its expectations for short-term ruble interest rate dynamics**. ACRA assumes that the key rate will be above the neutral level (5–6%) for a longer period of time — throughout 2022 and for part of 2023.

The Agency **increased its budget revenue forecast** for 2021–2022 by more than a trillion rubles at the end of each of these two years: in nominal terms, this is due to inflation, while in real terms it is due to the oil and gas component. Expectations of real GDP growth and exchange rate dynamics have undergone minor changes.

## INFLUENCE OF GROWTH IN WORLD PRICES ON RAW MATERIALS AND ENERGY

Over 10 months of 2021, global prices for energy products (primarily oil, gas, and coal) increased by more than 80% and 25% on average compared to 2020 and 2019, respectively (*Fig. 1*). Such a significant increase in prices and the revision by China and the EU of plans for the generation of electricity and production of industrial goods gave rise to talk about a global energy crisis that could have a noticeable impact on economic activity and slow the recovery from the recession caused by the pandemic. This scenario cannot be ruled out, but the impact of price dynamics on economic activity is likely to be short-term.

**Figure 1. Indices of world prices for energy products and weighted average external prices for food products, 2005 = 100 ***


* The food price index is calculated for goods whose domestic prices correlate with or have ever correlated with the prices of the Russian domestic market.

Sources: World Bank, ACRA

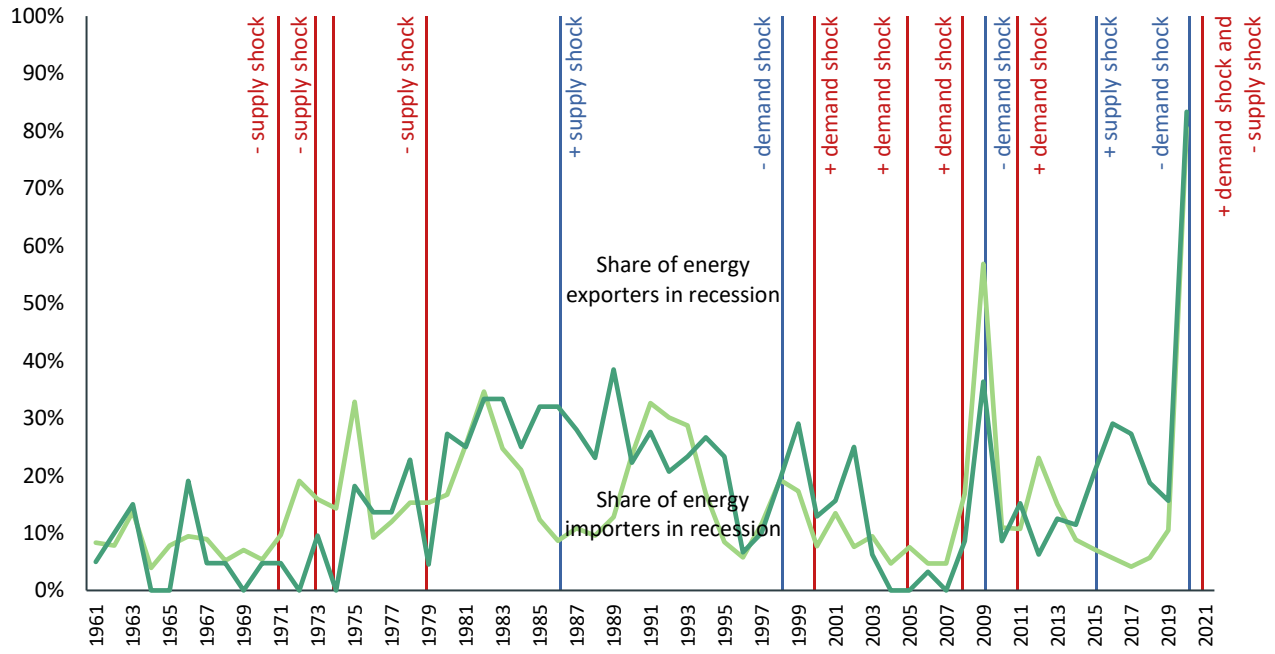
Price fluctuations do not necessarily cause a recession; often, price movements and recession simply share common factors.

Episodes of this scale are observed quite often in the world — over the past 60 years, the value of the price index for energy products has sharply changed in average annual terms at least 14 times (*Fig. 2*). Countries exporting and importing natural resources are usually almost equally likely to be in a state of recession: the shares of exporters and importers who recorded a drop in GDP in a particular year are approximately equal. However, a year after a sharp change in energy prices, the share of these countries start to differ — importers are expected to suffer more after a shock rise in prices, while the likelihood of a recession in exporting countries increases after a fall in prices.

*Figure 2* shows, among other things, how strong the pandemic's impact was on business activity: over the past 60 years, the share of countries in recession had never exceeded 60%, while in 2020 this share topped 80%.

The duration of the impact of price dynamics on business activity — in other words, how long importers and exporters are in different positions — appears to depend on the causes of price fluctuations. They can be triggered by shocks from both demand and supply of energy goods. In the former, it usually takes a year or two for business activity to normalize. In the latter, the period is usually longer (four to five years), as it is related to long-term production plans of producers, their investment cycle, and long-term political decisions (wars, embargoes, etc.).

**Figure 2. Energy price shocks and recessions in economies around the world***




* Red bars mark years when the Global Energy Price Index grew by more than 28% on an annualized basis. Blue bars mark years when the index fell by more than 20%. The shares of countries in recession are calculated by their number (not weighted by the size of economies). A recession is at least one calendar year when real GDP falls. A country is considered to be an energy exporter in a particular year if net exports under Code 27 of the Foreign Trade Goods Nomenclature exceed 1% of GDP for at least three years out of the previous five; an importer — if the same criterion is met by a similar value taken with a minus sign (net imports).

Sources: World Bank, Trademap, ACRA

According to ACRA's estimates, the global surge in energy prices that occurred in 2021 was almost equally due to supply and demand shocks. The rapid recovery in post-lockdown business activity (demand) was accompanied by a decline in energy production by wind farms in Europe (which created additional demand due to source substitution) and floods in coal mining regions in China (supply). Such weather shocks are one-offs, and they are unlikely to have a comparable impact on the situation in the spring of 2022, so the current situation differs from other supply shocks shown in *Fig. 2*. Consequently, **current energy prices are not sustainable**: under the base case scenario, they will decline to levels close to 2019 in the short term. As a result, the

impact of price dynamics on business activity will persist for about six months and mainly affect countries that import natural resources.

These risks affect prices for energy resources in different directions; therefore, the formulation of the scenario depends on the estimated relative strengths of each of these risks.

In stress scenarios, it is worth considering a situation where climatic risks systematically materialize in the longer term. An increase in the frequency of previously rare natural phenomena (floods, degradation of permafrost, changes in winds, etc.) would result in a fundamental decrease in the supply of energy commodities and electricity, as well as a change in demand, for example, due to an increase or decrease in the volume of heating in winter or air conditioning in summer. In addition, climate policies of different countries may contribute to a more or less rapid energy transition, changing the preferences of energy consumers in terms of raw materials and/or technologies used for energy production.

## FUTURE INFLATION DYNAMICS IN RUSSIA

Taking into account the time lag between changes in monetary policy and their actual impact on inflation, as well as the budget cycle length, ACRA believes that their effect on inflation in 2022 is largely predetermined.

**The total contribution of internal factors to inflation** in Russia is currently 6.3–6.7 pps in annual terms (out of total inflation at 8.1% as of October 2021 against the level of 2020), but will reach 4.2–4.7 pps by the end of 2022. The reasons for such dynamics will be tight monetary policy, restrained indexation of regulated prices and tariffs, neutral fiscal policy, and a likely improvement in the situation in domestic food markets. In particular, next year, the dynamics of monetary aggregates, which are reflected in inflation with the largest time lag, will exert 1.5–2 times less pressure on prices compared to 2021.

Despite the expected decrease in the contribution of internal factors to inflation, their relative role, on the contrary, will increase amid a decrease in the importance of external factors.

For more about the long-term factors behind the growth of global prices, see ACRA's forecast The Moment of Truth for Global Inflation dated May 31, 2021.

**The contribution of external factors to inflation** in Russia is currently relatively high. Domestic consumer prices take into account the dynamics of global energy prices, as well as the rise in world food prices. Measures taken to protect the domestic food market dampen the impact of external prices, but do not fully offset it.

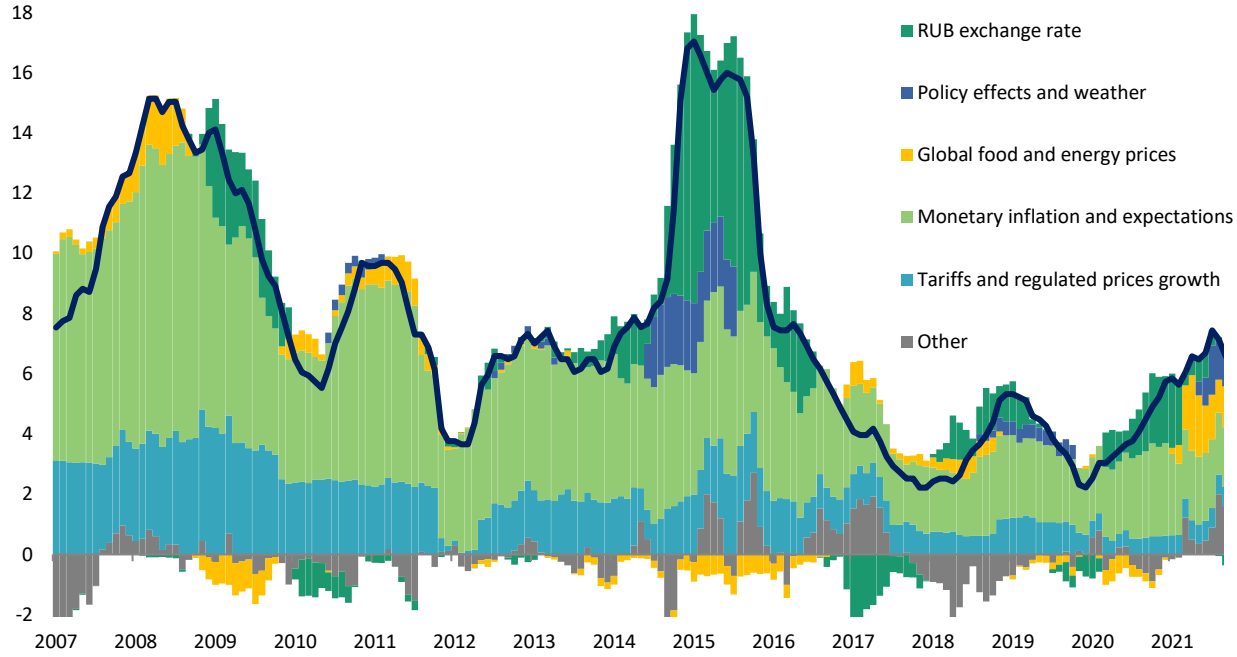
External factors of inflation shown in *Fig. 3* include World Energy and Food Prices and Ruble Exchange Rate.

The mechanisms for transferring external prices onto internal prices are relatively well understood. If we talk, for example, about Europe and energy: the elasticity of the EU producer price index with respect to the world price index for energy commodities is stable at about 10%[3], and the dynamics of the average price index for imports of all types of goods to Russia (in foreign currency) are very close to the dynamics of the EU producer price index.

Import prices expressed in rubles is the main factor affecting the final domestic prices when it comes to consumer goods, which account for about a third of imports. In the case of intermediate or investment goods (25% and 40%, respectively), producers' costs are partially transferred onto the price of final goods, and the amount of transfer depends on the type of market and product. Imported goods only satisfy part of domestic demand — 10–15% in value — so the final elasticity of the CPI to changes in global energy prices is only about 1.1–1.2%. Nevertheless, given significant fluctuations in external prices, this is sufficient to have a noticeable effect on the cost of the entire consumer basket. The elasticity of the basket value to external food prices adjusted for new customs duties is less than 1%.

[3] All other things being equal, a 1 pps change in the energy price index leads to a co-directional change in the EU producer price index by an average of 0.1 pps.

**Figure 3. Main factors of inflation in Russia in 2007–2021*, y-o-y**




* Decomposition was carried out using ACRA's model for short-term inflation forecasting. The model explains, with acceptable accuracy, the actual dynamics of CPI y-o-y in 2004–2021. For illustration purposes, factors are grouped into six classes. Monetary inflation means a set of factors the Bank of Russia may control directly, by taking decisions as part of its monetary policy and under the floating currency exchange rate regime.

Sources: Bank of Russia, World Bank, ACRA

Taking into account the listed estimates of elasticities, out of the total current inflation rate of 8.1% (October 2021/October 2020), 1.5–1.8 pps can be attributed to external factors that caused a surge in global energy and food prices (*Fig. 3*). It is highly likely that energy prices will fall in the spring of 2022 or earlier. At the same time, food prices may remain elevated until next summer. If our assumptions about the dynamics of prices for base commodities are justified, the contribution of external factors to inflation will decrease to 0–0.2 pps by mid-2022 and may become slightly negative by the end of the year, since the time lag of the influence of external factors on the CPI is two to three months.

**The assumptions regarding the external environment are highly uncertain**, therefore, when formulating expectations, it is reasonable to consider the ranges of possible values. *Tables 2–3* show ACRA's estimates of the contribution of external factors to inflation in Russia, depending on the selected assumptions for energy and food prices. Depending on the chosen dynamics of global prices, inflation in Russia may be in the range of 4–5% by the end of 2022.

In *Tables 2–3*, the set of assumptions corresponding to ACRA's base case scenario is highlighted.

## Table 2. Contribution of external factors to inflation, Dec. 2022/Dec. 2021, pps

| | | GROWTH IN ANNUAL AVERAGE EXTERNAL ENERGY PRICE INDEX | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **-50%** | **-40%** | **-30%** | **-20%** | **-10%** | **+0%** | **+10%** | **+20%** |
| GROWTH IN ANNUAL AVERAGE EXTERNAL FOOD PRICE INDEX | **-50%** | -0.14 | -0.13 | -0.13 | -0.20 | -0.28 | -0.36 | -0.46 | -0.58 |
| | **-40%** | -0.08 | -0.07 | -0.07 | -0.14 | -0.22 | -0.30 | -0.40 | -0.53 |
| | **-30%** | -0.06 | -0.05 | -0.05 | -0.12 | -0.20 | -0.28 | -0.38 | -0.51 |
| | **-20%** | 0.00 | 0.01 | 0.01 | -0.05 | -0.13 | -0.22 | -0.32 | -0.44 |
| | **-10%** | 0.08 | 0.09 | 0.09 | 0.03 | -0.05 | -0.14 | -0.24 | -0.36 |
| | **+0%** | 0.15 | 0.16 | 0.16 | 0.09 | 0.01 | -0.07 | -0.17 | -0.29 |
| | **+10%** | 0.24 | 0.25 | 0.25 | 0.19 | 0.11 | 0.03 | -0.07 | -0.20 |
| | **+20%** | 0.37 | 0.38 | 0.38 | 0.31 | 0.23 | 0.15 | 0.05 | -0.08 |

Source: ACRA

## Table 3. Contribution of external factors to annual average inflation in 2022, pps

| | | GROWTH IN ANNUAL AVERAGE EXTERNAL ENERGY PRICE INDEX | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | **-50%** | **-40%** | **-30%** | **-20%** | **-10%** | **+0%** | **+10%** | **+20%** |
| GROWTH IN ANNUAL AVERAGE EXTERNAL FOOD PRICE INDEX | **-50%** | -0.24 | -0.26 | -0.26 | -0.27 | -0.30 | -0.33 | -0.37 | -0.41 |
| | **-40%** | -0.19 | -0.21 | -0.21 | -0.22 | -0.25 | -0.28 | -0.32 | -0.36 |
| | **-30%** | -0.13 | -0.15 | -0.15 | -0.17 | -0.19 | -0.22 | -0.26 | -0.30 |
| | **-20%** | -0.07 | -0.10 | -0.10 | -0.11 | -0.13 | -0.17 | -0.20 | -0.24 |
| | **-10%** | -0.02 | -0.04 | -0.04 | -0.05 | -0.08 | -0.11 | -0.15 | -0.19 |
| | **0%** | 0.02 | 0.00 | 0.00 | -0.01 | -0.04 | -0.07 | -0.11 | -0.15 |
| | **10%** | 0.06 | 0.04 | 0.04 | 0.03 | 0.00 | -0.03 | -0.06 | -0.10 |
| | **20%** | 0.10 | 0.08 | 0.08 | 0.07 | 0.04 | 0.01 | -0.02 | -0.06 |

Source: ACRA

**According to ACRA's base case scenario, average annual inflation will decrease to 5.5–6.0 pps in 2022, and the figure for Dec. 2022/Dec. 2021 may reach 4.0–4.5%, that is, close to the target.** At the same time, ACRA expects monthly inflation to be close to the seasonal rate as early as spring-summer next year. This means that the Bank of Russia's monetary policy will remain relatively tight for much of 2022, but should begin to soften in the second half of the year.

A longer period of tight monetary policy may result from the persistence of high inflationary expectations amid normalization of inflation, as well as new global or local shocks on the supply side.

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