

MONITORING OF RUSSIA'S ECONOMIC OUTLOOK:

TRENDS AND CHALLENGES OF SOCIO-ECONOMIC DEVELOPMENT

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Monitoring of Russia's Economic Outlook

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1. IMF AND WORLD BANK DOWNGRADED FORECAST FOR GLOBAL ECONOMY GROWTH IN 2022–2023 AND RAISED THE INFLATION FORECAST FOR 2022

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The imposition of sweeping sanctions against Russia has a negative impact on the entire global economy, contributing to accelerating inflation and slowing economic growth. The decline in GDP growth in most G-20 countries has been influenced, among other things, by tightening of the monetary policy in developed and developing countries. Record high price growth resulted in raising monetary policy rates by monetary authorities in the USA, Australia, the UK, Canada, South Korea, India and Brazil between 1 April 1 and 10 May 2022. The US Federal Reserve announced the start of a balance sheet reduction from 1 June 2022. The Bank of Russia cut its key rate twice in April by a total of 6 p.p. from a record level of 20% due to a reduction in risks to financial and price stability in the Russian economy.

According to the International Monetary Fund, the growth rate of the global economy in 2022 will be 3.6%, which is 0.8 p.p. lower than the forecast of January 2022. The deterioration of the forecast is explained by the economic impacts of the military operation in Ukraine, accelerated inflation and tighter monetary policies in developed and developing countries. The forecast for 2023 was lowered by 0.2 p.p. to 3.6%. The IMF expects Russian GDP to fall by a total of 10.6% in 2022 and 2023.

According to the updated forecast of the World Bank, the Russian economy will fall by 11.2% in 2022 and grow by 0.6% in 2023; this would bring it to the same level at the end of 2023 as in the IMF forecast. The main reasons for the revision are the negative economic effects of the sanctions imposed on Russia.

The IMF has raised its inflation forecast for 2022 for all G-20 countries, which remains linked to rising global energy prices (the price of Brent oil rose by 4.7% in April to \$109.34/barrel) and food (the FAO¹ price index fell by 0.8% in April from its March record level, but was 29.8% above the same period last year), disrupting logistics chains and rising transportation costs.

Central banks of 13 out of 15 inflation-targeting G-20 countries held monetary policy meetings between 1 April and 10 May. Among them, 5 left the rate unchanged (ECB, People's Bank of China, Banks of Japan, Indonesia and Turkey), 7 increased rates (US Federal Reserve, Banks of England, Canada, South Korea, Brazil and Reserve Banks of Australia and India) and only the Bank of Russia cut its key rate (twice by 3 p.p., including at an extraordinary meeting on 8 April). The US Federal Reserve, the Reserve Bank of Australia and the Bank of Canada

1 Food and Agricultural Organization of the United Nations.

announced the start of balance sheet reductions. The ECB plans to complete its asset purchases under the APP (Asset Purchase Program, the European Central Bank's non-standard monetary measures program) in Q 3 of this year.

Russia has introduced large-scale measures to support the aviation, industrial, construction and IT industries with about Rb 300bn allocated from the federal budget and the Russian government reserve fund. The Bank of Russia has eased currency controls and relaxed macro-prudential requirements amid a gradual mainstreaming of the financial market. The average ruble-dollar exchange rate strengthened by 24.9% in April compared with February and by the end of the month returned to levels observed before the start of military operation in Ukraine.

IMF forecast. Date of publication: April 19, 2022

In an updated forecast, the IMF has lowered the expected global GDP growth rate for 2022, revising downwards the trend for almost all G-20 countries (with the exception of Brazil and Saudi Arabia) (*Table 1*). The report points to five factors that have lowered global GDP growth forecasts for 2022–2023. A primary factor is the military operation in Ukraine and the subsequent imposition of sanctions on Russia. The military conflict has a negative impact through rising prices on raw commodities¹ on the industrial and food production of the countries importing oil, natural gas and neon², metals³, agricultural products and fertilizers⁴ [1].

The second factor is tightening of monetary policy in developed and developing countries (excluding China), resulting in capital outflows from developing countries and slower growth in the developed ones. In particular, a 0.3p.p. reduction in the US GDP growth forecast for 2022 is due to the normalization of monetary policy by the FRS and a slowdown in the GDP growth rate of trading partner countries.

Due to rising interest rates, the cost of servicing public debt is increasing, which represents a third factor in the change in forecasts. The fourth factor is the government's zero-tolerance policy for the spread of coronavirus in China (resulting in the introduction of large-scale lockdown in major cities), as well as tighter credit controls on Chinese construction companies, which reduces final consumption and investment in the country.

A fifth factor worsening the prognosis for 2022–2023 is the limited access to vaccine for people in developing countries, which increases the risks of coronavirus spreading in these countries [1].

In addition to the global context, IMF researchers identify individual reasons for negative revisions of the forecasts for certain G-20 countries: (i) for Japan, India and the eurozone it is the rising energy prices and disruptions in commodity supply; (ii) for the UK it is the falling household disposable incomes; (iii) For the US, it is the cancellation of the Build Back Better⁵, fiscal program, supply disruptions

1 According to World Bank estimates, growth of prices for natural gas evidenced 70%, coal – 65%, wheat – 40%, Brent oil – 30% since the beginning of a military operation [2].

2 Neon is an essential resource in the production of high-tech goods, such as integrated circuits and computers, thermal engines and solar panels, cars and aircraft. 90% of the US neon imports come from Ukraine.

3 Russia supplies globally 12.3% of palladium and 20.7% of platinum, which are used in semiconductor manufacturing.

4 Russia is the No.1 exporter of agricultural fertilizers, accounting for 13% of global exports [2].

5 Act "Build Back Better" is a development program of renewable energy sources; support of household employment; small enterprises; construction of transportation routes. Source: USA Congress.

1. IMF and World Bank downgraded forecast for global economy

Table 1

GDP growth rates (% against previous year)

Country	Fact	Forecast of 19.04.2022	Deviation from forecast 25.01.2022	Forecast of 19.04.2022	Deviation from forecast 25.01.2022
USA	5.7	3.7	-0.3	2.3	-0.3
Eurozone	5.3	2.8	-1.1	2.3	-0.2
Germany	2.8	2.1	-1.7	2.7	+0.2
France	7.0	2.9	-0.6	1.4	-0.4
Italy	6.6	2.3	-1.5	1.7	-0.5
Spain	5.1	4.8	-1.0	3.3	-0.5
Great Britain	7.4	3.7	-1.0	1.2	-1.1
Canada	4.6	3.9	-0.2	2.8	0.0
Japan	1.6	2.4	-0.9	2.3	+0.5
China	8.1	4.4	-0.4	5.1	-0.1
India	8.9	8.2	-0.8	6.9	-0.2
Brazil	4.6	0.8	+0.5	1.4	-0.2
Russia	4.7	-8.5	-11.3	-2.3	-4.4
Mexico	4.8	2.0	-0.8	2.5	-0.2
Saudi Arabia	3.2	7.6	+2.8	3.6	+0.8
South Africa	4.9	1.9	0.0	1.4	0.0
Developed	5.2	3.3	-0.6	2.4	-0.2
Developing	6.8	3.8	-1.0	4.4	-0.3
World	6.1	3.6	-0.8	3.6	-0.2

Source: IMF World Economic Outlook [1].

and expected tightening of the FRS monetary policy; (iv) For Canada, it is the decline in demand for its exports from the US; v) for China, it is the lockdown in Shanghai and Shenzhen and lower real estate investment; vi) for Brazil and Mexico, it is the tighter monetary policy and deteriorating economic prospects for trading partner countries such as the US and China; vii) for Russia, it is the disconnection from SWIFT payment system; restrictions on oil and natural gas exports; termination of foreign companies' activity followed by a negative impact on aviation, automobile industries, financial services, IT and agriculture [1].

The IMF has raised the inflation forecast for all G-20 countries for 2022 and the vast majority of countries for 2023 (Table 2), driven by the following factors: i) for the advanced eurozone countries it is the growth of prices for raw commodities due to the rejection of Russian energy imports in response to military operation in Ukraine; ii) for developing countries it is the deterioration in crop prospects in 2022 due to extreme weather conditions; iii) supply and demand imbalances in some commodity markets due to supply disruptions; iv) higher nominal wages against the reduced employment due to quarantine measures; v) faster growth in demand for goods compared to services whose prices have stabilized in 2021. [1].

The IMF noted that there are downside risks to the baseline scenario for GDP growth projections for developed and developing countries in 2022–2023. First, the military conflict in Ukraine could aggravate, as could growing social protests (such as in Sri Lanka) and geopolitical conflicts around the world. The second risk factor is a worsening epidemiological situation. The third risk factor is related to structural changes in the Chinese economy: growth of municipal debt of provinces, as well as bad debts of construction companies and households. Fourth, inflationary expectations in developed and developing countries may rise against growth in public debt service costs. The fifth factor is related to extreme natural phenomena, such as drought, floods, fires, hurricanes. [1].

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Table 2

Inflation forecast (yearly average, % against respective period of the previous year)

Country	Fact	Forecast of 19.04.2022	Deviation from forecast 12.10.2021	Forecast of 19.04.2022	Deviation from forecast 12.10.2021
	2021	2022	2022	2023	2023
USA	4.7	7.4	+3.9	2.9	+0.2
Eurozone	2.6	5.3	+3.6	2.3	+2.3
Germany	3.2	5.5	+4.0	2.9	+1.6
France	2.1	4.1	+2.5	1.8	+0.6
Italy	1.9	5.3	+3.5	2.5	+1.3
Spain	3.1	5.3	+3.7	1.3	-0.1
Great Britain	2.6	7.4	+4.8	5.3	+3.3
Canada	3.4	5.6	+3.0	2.4	+0.4
Japan	-0.3	1.0	+0.5	0.8	+0.1
China	0.9	2.1	+0.3	1.8	-0.1
India	5.5	6.1	+1.2	4.8	+0.5
Brazil	8.3	8.2	+2.9	5.1	+1.6
Russia	6.7	21.3	+16.5	14.3	+9.8
Mexico	5.7	6.8	+3.0	3.9	+0.9
Saudi Arabia	3.1	2.5	+0.3	2.0	0.0
Turkey	19.6	60.5	+45.1	37.2	+24.4
South Africa	4.5	5.7	+1.2	4.6	+0.1

Source: IMF World Economic Outlook [1].

2. World Bank forecast. Date of publication: April 22, 2022

Table 3

Growth rates of real GDP (% against previous year)

Country	Fact	Forecast of 22.04.2022	Deviation from forecast 21.10.2021	Forecast of 22.04.2022	Deviation from forecast 21.10.2021
	2021	2022	2022	2023	2023
China	8.1	5.0	-0.4	5.2	-0.1
Russia	4.7	-11.2	-14.0	0.6	-1.2
Argentina	10.3	3.6	+1.0	2.5	+0.4
Brazil	4.6	0.7	-1.0	1.3	-1.2
India	8.3	8.0	+0.5	7.1	+0.6
Indonesia	3.7	5.1	-0.1	5.3	+0.2
Mexico	4.8	2.1	-0.9	2.1	-0.1
Saudi Arabia	3.3	7.0	+2.1	3.0	+0.7
Turkey	11.0	1.4	-0.6	3.2	-0.8
South Africa	4.9	2.1	0.0	1.5	0.0

Source: World Bank ECA [2]; Africa Pulse [3]; EAP [4]; LAC [5]; South Asia [6]; Macro Poverty [7].

The World Bank's forecast assumes a deeper decline of Russian GDP in 2022, but slight growth is forecasted in 2023 (Table 3). According to IMF and World Bank forecasts, Russian GDP will be about 10.0–10.7% lower than in 2021 by the end of 2023. The updated World Bank forecast highlights that the decline in aggregate demand will be caused by falling employment and negative dynamics of real wages due to withdrawal of foreign companies from Russia (in particular, over 400 US companies), accelerating inflation and rising interest rates. The impact of sanctions on the financial system is particularly highlighted: restrictions on transactions in the international SWIFT system; freezing of international reserves; restrictions on the foreign exchange market. The decline

1. IMF and World Bank downgraded forecast for global economy

in revenues from oil and natural gas exports presents the risk according to the forecast [2].

The deteriorating prospect for the Chinese economy is linked to three factors. Firstly, there is the slowdown in construction activity due to stricter government regulation of debt in the construction industry accounting for 25% of value added and total investment in China. Secondly, industrial production is expected to decline due to the implementation of a strategy to reduce harmful emissions into the atmosphere. Thirdly, a slowdown in service sector due to the zero-tolerance policy against the spread of the coronavirus [4]. The risk of the GDP growth forecast is further deterioration of the epidemiological situation in China [7].

Monetary and fiscal measures of economic policy

Between 1 April and 10 May, central banks from 13 out of 15 inflation-targeting G20 countries held monetary policy meetings. Among them, 5 left the rate unchanged (ECB, People's Bank of China, Banks of Japan, Indonesia and Turkey), 7 increased the rate (US Federal Reserve, Banks of England, Canada, South Korea, Brazil and Reserve Banks of Australia and India), and only the Bank of Russia reduced the key rate (*Table 4*).

The decisions to keep rates steady have been motivated by the monetary authorities of developed (ECB and Bank of Japan) and developing countries (People's Bank of China, Banks of Indonesia and Turkey) to maintain conditions for sustainable economic growth amid geopolitical risks and high economic uncertainty (accelerating growth for energy and food price; spread of a new form of coronavirus infection (stels omicron) and introduction of lockdown in China; supply chain disruptions).

The ECB has announced that it plans to complete the Asset Purchase Program (APP) in Q 3 2022. Monthly buybacks in May were reduced by €10 bn (compared to April) to €30 bn, and in June it will decrease to €20 bn [8; 9].

Most central banks of the developed G-20 countries (the US FRS, the British, Canadian and South Korean banks and the Reserve Bank of Australia) decided to tighten their monetary policy during the period under review. Moreover, the Bank of Canada announced that it would stop reinvesting maturing government bonds on its balance sheet and start a quantitative tightening program. Likewise, the Reserve Bank of Australia has no plans to reinvest the proceeds of maturing government bonds. The US FRS will start to reduce assets on its balance sheet from 1 June [9; 10; 11; 12; 13] (*Table 5* for more details).

Among the monetary authorities of developing countries, the Reserve Bank of India and the Bank of Brazil raised their monetary policy rates between 1 April and 10 May [14; 15]. The Reserve Bank of India raised its inflation forecast for 2022 from 4.5% to 5.7% at its April meeting but kept the rate unchanged, having signaled the imminent withdrawal of the monetary policy stimulus. However, at an extraordinary meeting on 4 May, the Indian regulator raised the direct REPO rate by 0.4p.p. to 4.4% and also the reserve requirement rate for commercial banks by 0.5p.p. to 4.5%.

The Bank of Russia has twice decided to mitigate its monetary policy in April: by 3 p.p. to 17.00% (at an extraordinary meeting on April 8) and by 3 p.p. to 14.00% (at the core meeting on April 29) due to lower risks to price and financial stability in the Russian economy. Measures taken by the RF Central Bank in February-April made it possible to stop a massive outflow of the population funds from the banking system and stabilize the ruble-dollar exchange rate

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Table 4

Monetary policy in G20 countries

G20 countries	January	February	March	April – May 10	Inflation target	Current inflation March 2022, % compared to previous year
Developed	Monetary policy rate, %					
USA	0.25	0.25	0.50	1.00	2.00	8.50
Eurozone	0.00	0.00	0.00	0.00	2.00	7.40
Australia	0.10	0.10	0.10	0.35	2.0–3.0	5.10
Great Britain	0.25	0.50	0.75	1.00	2.00	7.00
Canada	0.25	0.25	0.50	1.00	2.0 (+/-1.0)	6.70
South Korea	1.25	1.25	1.25	1.50	2.00	4.10
Japan	-0.10	-0.10	-0.10	-0.10	2.00	1.20
Developing	Monetary policy rate, %					
China	3.70	3.70	3.70	3.70	3.00	1.50
India	4.00	4.00	4.00	4.40	4.0 (+/- 2.0)	6.95
Brazil	9.25	10.75	11.75	12.75	3.75 (+/-1.5)	11.30
Russia	8.50	20.00	20.00	14.00	4.00	16.70
Argentina	Target monetary base					55,1
Indonesia	3.50	3.50	3.50	3.50	3.0 (+/- 1.0)	2.64
Mexico	5.50	6.00	6.50	6.50	3.0 (+/- 1.0)	7.45
Saudi Arabia	US Dollar peg					2
Turkey	14.00	14.00	14.00	14.00	5.0 (+/- 2.0)	61.14
South Africa	4.00	4.00	4.25	4.25	3.0-6.0	5.90

Note. Banks that did not meet during the month under review are in italics.

Source: Authors' estimates based on official websites of central banks.

in the domestic market, which in April was on average 24.9% stronger than in February (Rb 77.69/dollar against Rb 103.47/dollar).¹ [16; 17].

In April, the Russian Government continued to take measures to support people and businesses. In particular, restrictions on the export of mineral fertilizers were eased due to the risk of downtime resulted from low demand on the domestic market and sanctions imposed by unfriendly states. Thus, export quotas were increased by 501.000 tons until 31 May 2022.

The federal budget and the Government's Contingency Fund allocated over Rb 52.1bn to finance the construction sector, Rb 26.9bn for IT sector, and Rb 100bn for industry and trade. The federal budget has allocated more than RUR 52.1bn to the construction industry and trade. The government has allocated Rb 100bn for implementing a new tool to support air carriers, that is, partial reimbursement of costs to organize domestic flights. Moreover, the federal budget has allocated over Rb 3.7bn to modernize industrial enterprises and Rb 35bn to support healthcare systems in Russian regions.

Thus, in April and early May the global economic situation was marked by a high level of uncertainty due to rising geopolitical tensions, accelerating energy and food prices, which are the main drivers of consumer inflation, and, as a result, tightening monetary conditions by central banks in most developed and developing countries.

¹ Average based on daily rate of exchange

1. IMF and World Bank downgraded forecast for global economy

Table 5

Monetary policy measures of G20 countries

Country	Monetary policy rate, %		Inflation, % compared to previous year		Context	Source
	March	April 1 – May 10	Target	Fact		
USA	0.50	1.00	2.00	8.50	The US FRS has raised the federal funds interest rate by 0.5p.p. to 0.75-1.00% per annum. The regulator will start to reduce its assets on the balance sheet from 1 June: government bonds, debt obligations and mortgage-backed debt securities.	[19]
Eurozone	0.00	0.00	2.00	7.40	The ECB kept the benchmark interest rate for loans at 0%, for deposits at (-0.5%) and for margin loans at 0.25%. Asset purchases under the APP will run at €30bn in May, €20bn in June and end in Q3 2022. Reinvestment of proceeds from redeemable bonds under the PEPP program ended in March, will continue until the end of 2024.	[9]
Australia	0.10	0.35	2.0–3.0	5.10	The Reserve Bank of Australia raised its target interest rate (for the first time in 11 years) by 0.25p.p. to 0.35% and the foreign exchange interest rate to 0.25%. Likewise, the regulator has no plans to reinvest funds from the redemption of government bonds or to sell securities acquired during the pandemic. The Central Bank expects its balance sheet to shrink significantly by 2024 as the Term Funding Facility (TFF) comes to an end.	[11; 20]
Great Britain	0.75	0.10	2.00	7.00	The Bank of England raised key rate by 0.25 p.p. to 1.00% (maximum since 2009).	[10]
Canada	0.50	1.0	2.0 (+/- 1.0)	6.70	The Bank of Canada raised key rate overnight to 1.0% per annum to combat inflation. The regulator has completed the program of quantitative tightening, having interrupted purchasing government bonds. Their volume on the CB's balance sheet will gradually decrease as maturing assets will no longer be reinvested. Their volume owned by CB will gradually reduce, as maturing assets will no longer be reinvested.	[12]
South Korea	1.25	1.5	2.00	4.10	The Bank of Korea raised the rate of 7-days REPO by 0.25 p.p. to 1.5%.	[13]
Japan	-0.10	-0.10	2.00	1.20	The Bank of Japan kept its key rate at -0.1% p.a. and continued to target 10-year government bond yields at 0%. The Central Bank maintained its annual buyback of exchange-traded funds (ETF) at ¥12 trillion, real estate investment trust assets (J-REITs) at ¥180bn, commercial paper at ¥3 trillion and corporate bonds at ¥2 trillion. The government bond buyback program remains unrestricted. The inflation forecast for 2022 has been raised from 1.1 to 1.9%.	[21]
China	3.70	3.70	3.00	1.50	The People's Bank of China kept the benchmark interest rate for medium-term lending to prime borrowers (LPR) at 3.7% for one year and LPR for five years at 4.6%.	[22]
India	4.00	4.40	4.0 (+/- 2.0)	6.95	The Reserve Bank of India raised the direct REPO rate by 0.4p.p. to 4.4% and the reserve requirement ratio for commercial banks by 0.5p.p. to 4.5% at an extraordinary meeting on May 4. The regulator raised the inflation forecast for 2022 from 4.5% to 5.7%.	[8; 15]
Brazil	11.75	12.75	4.0 (+/- 2.0)	6.95	The Bank of Brazil raised key rate by 1 p.p. to 12.75%.	[14]
Russia	20.00	14.00	4.00	16.70	The Bank of Russia reduced its key rate twice during April by 3 p.p. - first to 17%, then to 14% per annum, as risks to Russia's pricing and financial stability declined.	[23; 24]
Indonesia	3.50	3.50	3.0 (+/- 1.0)	2.64	The Bank of Indonesia kept the 7-day reverse REPO rate at 3.50%, the deposit rate at 2.75% (DF) and the medium-term lending rate (LF) at 4.25%.	[25]
Turkey	14.00	14.00	5.0 (+/- 2.0)	61,14	The Bank of Turkey kept its key rate at 14% further to the fourth consecutive meeting. The regulator raised its inflation forecast from 23.2% to 42.8% at the end of 2022.	[26]

Source: Authors' estimates based on official websites of central banks

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2. CURRENT ACCOUNT BALANCE ROSE IN Q1 2022 AMID RECORD CAPITAL OUTFLOW

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The positive balance of trade in goods and services surged by more than 2.5-fold in Q1 2022 against the backdrop of high commodity prices and ongoing significant export deliveries. Due to the geopolitical crisis and the imposition of sanctions, the private sector's net capital outflow in Q1 2022 hit the highest level since Q4 2014. The freezing of international reserves forced the Bank of Russia to impose tough restrictions on capital movement, which made it possible to stabilize the ruble exchange rate.

According to a preliminary assessment of the balance of payments released by the Bank of Russia, the current account balance in Q1 2022 amounted to \$58.2 bn, which is 2.6 times higher than in Q1 2021 (\$22.5 bn). Due to less breakdown of the released statistics of the balance of payments of the Russian Federation, the structure of the current account can be described only in the context of two main balances: the balance of trade in goods and services and the balance of primary and secondary income.

The balance of trade in goods and services amounted to \$66.3 bn, which is 2.6 times higher (by the absolute value by \$40.5 bn) than in Q1 2021 (\$25.8 bn). The growth of the export value of goods and services from \$104.8 bn in Q1 2021 to \$156.7 bn in Q1 2022 (by 50%) played a crucial role in the increase.

Such dynamics of exports stems from remaining of (mainly) pre-sanctioned conditions of Russian products delivery in January-March (despite the introduction of restrictive measures during February and March, they started to apply in full measure in April) and high prices for basic goods of Russian export (oil, gas, petroleum products, grain, coal, ferrous and nonferrous metals).

The observed dynamics of imports of goods and services, namely the growth from \$79 bn in Q1 2021 to \$90.4 bn in Q1 2022, is typical of the continued growth of the Russian GDP and increase in real disposable incomes of the population, resumption of foreign travel for Russian people after the pandemic. Growth in imports of goods and services at the same time was restrained by the weakening of the national currency: according to the Bank of Russia, the growth of the index of the real ruble exchange rate to the dollar in Q1 2022 relative to Q2 2021 amounted to -9%, i.e. there was a significant weakening of the ruble, which means a relative appreciation of import deliveries.¹

¹ On the impact of exchange rate dynamics on trade, see *Knobel A.Yu.* Estimation of import demand function in Russia // *Applied Econometrics*. 2011. No. 4 (24). P. 3–26; *Knobel A., Firanchuk A.* Russia in the global exports in 2017 // *Russian economic development*. 2018. No. 9. P. 17–21.

2. Current account balance rose in Q1 2022 amid record capital outflow

The balance of primary and secondary income (factor and transfer income, respectively) in Q1 constituted -\$8.1 bn, 1.45 times higher than in Q1 2021 (-\$3.3 bn). That being said, both income receivable and income payable went up in Q1 2022. Income receivable rose by \$5.9 bn (from \$16.6 bn to \$22.5 bn) and income payable increased by \$10.8 bn (from \$19.8 bn to \$30.6 bn) compared to Q1 2021.

In the coming quarters, given the imposed capital flow restrictions, difficulties with repatriation of profits from Russia by foreign investors and sanctions, primary and secondary income receivable will be declining and their balance will remain low.

The assessment of the balance of payments for Q1 2022 was released by the Bank of Russia with less detail than before, the financial account is presented by aggregate data on net external assets and liabilities of all sectors of the economy and includes changes in reserve assets. Such a high level of aggregation makes it difficult to analyze the state of individual components of the financial account.

The key challenge for the balance of payments of the Russian Federation in Q1 2022 was the freezing of about 50% of international reserve assets of the Bank of Russia, as well as record capital outflow and weakening of the ruble. Deprived of the possibility to exert stabilizing influence on the foreign exchange market by the means of currency interventions, at the end of February 2022, the Central Bank of Russia imposed strict restrictions on the movement of capital (suspension of execution of all orders of non-residents concerning the sale of securities; requirements to mandatory sale of export proceeds; a ban on taking out of Russia of foreign currency cash equivalent to more than 10,000 dollars; setting of a special procedure for giving out money from retail foreign currency deposits and a 30% commission for individuals when buying foreign currency). These restrictions provided significant support to the financial account of the balance of payments, halting the rapid capital outflow.

Liabilities of all sectors of the Russian economy to the world in Q1 2022 surged by \$3.9 bn (-0.3 bn in Q1 2021). As of April 1, 2022, the share of non-residents in the OFZ market constituted 17.7%, having decreased by 2.2 p.p. as compared to the beginning of 2022. Thus, in January and February 2022, prior to the introduction of foreign exchange control, non-residents withdrew from the Russian OFZ market around Rb 0.3 trillion (about \$3.9 bn). The data on Russia's external debt as of Q1 2022 indicate that the public authorities and the Bank of Russia reduced the amount of the external debt by \$10.3 bn, while the private sector decreased their liabilities to the external world by \$16.2 bn. In the absence of publicly available data on the structure of the financial account for Q1 2022, the source of growth in the total amount of residents' liabilities remains unclear.

The increase in foreign assets of all sectors of the Russian Federation in Q1 of the current year amounted to \$61.9 bn (\$22.4 bn in Q1 2021). Given the fact that foreign currency purchase operations in the framework of the budget rule were suspended back in January 2022 triggered by increased volatility on the financial markets (\$4.7 bn over the period from January 10 to 25, 2022), the demand for foreign assets was mostly demonstrated by the private sector. The capital outflow took place in January-February 2022, before the introduction of strict currency control measures as a result of the geopolitical tension and negative expectations of investors with regard to the yield of Russian assets.

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Overall, private sector net capital outflows in Q1 2022 hit a record high since Q4 2014, amounting to \$64.2 bn (\$17.5 bn in Q1 2021).

Given the high volatility on the financial markets and investors' panic, the average nominal ruble/dollar exchange rate in Q1 2022 was Rb 84.7, i.e. 16.7% higher than in Q4 2021. On March 11, 2022, the ruble hit a historic low of Rb 120.4 /USD, which is a 55.4% depreciation vs the beginning of February 2022.

Nevertheless, the imposed tough restrictions on capital movement (which in the current situation to some extent replaced international reserves) contributed to the stabilization of the situation on the foreign exchange market. By the end of Q1 2022, the ruble strengthened to the pre-crisis level. In addition to currency controls, the ruble was supported by growing energy prices and a sharp rise in the monetary policy rate (from 9.5% to 20% per year). As the situation on the foreign exchange market stabilized and the risks of excessive ruble appreciation increased, the regulator switched to a step-by-step easing of a number of measures of foreign exchange control, as well as reduction of the key interest rate.

In January-March 2022, *international reserves* of the Russian Federation declined by 3.8% to \$606.4 bn as of April 1, 2022. Around half of the reserves are blocked.

The freezing of international reserves made it impossible to implement the fiscal rule mechanism in its previous form. Previously, the Bank of Russia, on the instructions of the Ministry of Finance of Russia, was buying (selling) foreign currency on the domestic foreign exchange market depending on the ratio of the actual and the base oil price, which significantly reduced the correlation between fluctuations in oil prices and the nominal ruble exchange rate. When the Central Bank of Russia has no opportunity to carry out operations on the foreign exchange market (at least, in the part of operations with the major reserve currencies), this correlation increases, which in the medium and long term will increase the exposure of the Russian economy to external shocks. At the same time, the fiscal rule that was in effect before created a certain "safety cushion", providing the Russian economy with some short-term opportunities for adapting to export restrictions. 

3. INDUSTRIAL PRODUCTION DYNAMICS IN Q1 2022¹

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In Q1 2022, the extractive sector showed growth due to the continued impact of the factors that emerged in 2021: growth of demand for thermal coal and natural gas from the European and Asian countries; weakening of the effect of restrictions related to the OPEC+ agreement following the increase in quotas on daily oil production in the member countries. The manufacturing sector demonstrated around zero growth rates; growth was mainly observed in the food, textile, chemical and machine-building industries. The sanctions imposed against Russia have not yet affected the dynamics of the industrial sectors; the negative impact is likely to be felt in Q2 2022.

To provide accurate interpretation of trends in individual industries we decompose their output into calendar, seasonal, non-recurrent and trend components²; the interpretation of trend component is of particular interest. Experts at the Gaidar Institute cleared seasonal and calendar components from all of manufacturing industries indices for 2003–2021 and singled out the trend component³ based on statistics published by Rosstat on output indices in industrial sectors of the economy.

The resulting series for the industrial production index on the whole are presented in *Fig. 1*. Shown in *Fig. 2* is the result for aggregate indices of the extractive and manufacturing sectors and production and distribution of electricity, gas and water. The results for the decomposition of other series are presented in *Table 1*.

According to the results of Q1 2022, the trend component of the industrial production index showed around zero growth rates. The main contribution was made by the extraction of fuel and energy minerals at the expense of:

- oil production growth. The OPEC+ agreement to increase the total agreed level of oil production under the deal, which was extended until the end of April 2022 remains the stabilizing factor. The OPEC+ agreement to raise the total agreed level of oil production under the deal,⁴ which was extended until the end of April 2022, remains a stabilizing factor,

1 The authors should like to express gratitude to M. Turuntseva and T. Gorshkova for assistance in preparing the statistical analysis.

2 “Trend component” is a well-established term in the literature; however, it is noteworthy that this component is not a “trend” in a strict sense and is used in econometrics for analyzing time series: in this particular case, it is the remainder after the time series have been cleared from calendar, seasonal and non-recurrent components. It is incorrect to use the “trend component” for forecasting time series: for most industrial production indices it is time-varying in levels (and time-invariant in differences), but can be used for interpreting short-term dynamics and for comparison with events that have taken place.

3 The trend component was determined using the Demetra package with the X12-ARIMA procedure.

4 Oil production increases by 400,000 barrels per day each month. This increment is extended until the end of April 2022. See: 26st OPEC and non-OPEC Ministerial Meeting concludes // OPEC. 02.03.2022. URL: https://www.opec.org/opec_web/en/press_room/6830.htm

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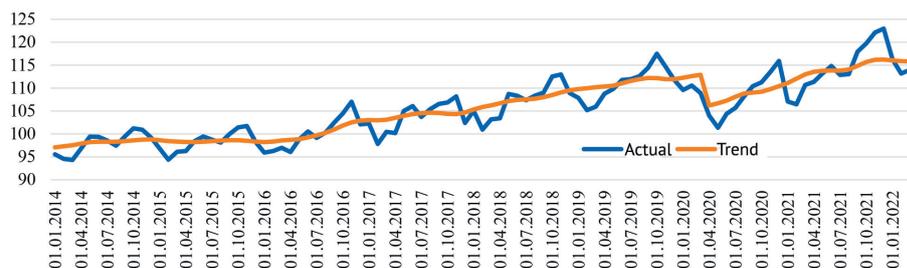


Fig. 1. Industrial Production Index Dynamics, 2014–2022 (actual data and trend component), % change relative to average annual value in 2016

Sources: Rosstat, own calculations.

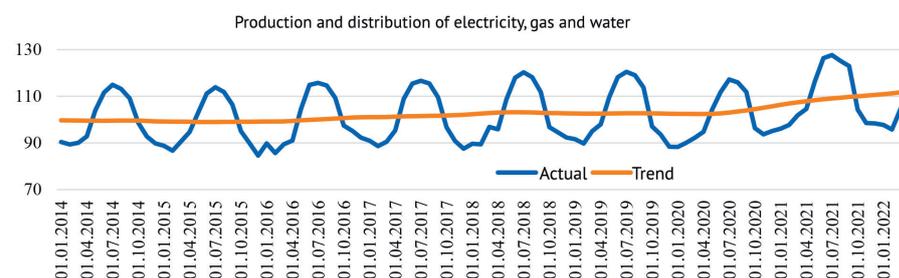
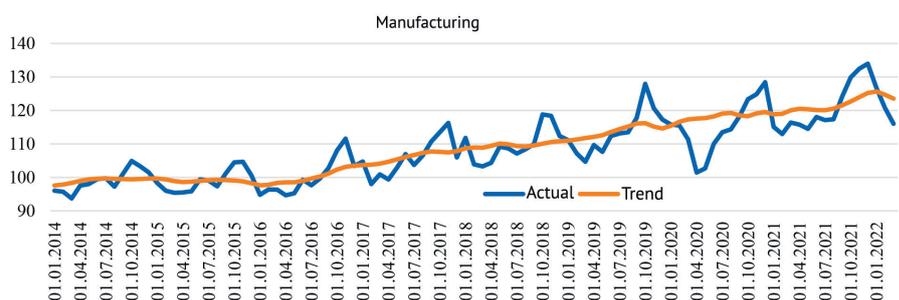
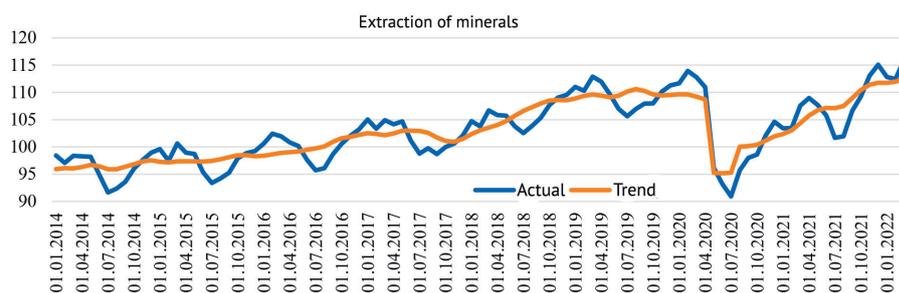


Fig. 2. Production indices' dynamics across sectors, 2014–2022 (actual data and trend component), % change relative to the 2016 annual average value

Sources: Rosstat, own calculations.

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- despite a number of restrictions on Russian oil supplies imposed by some countries in March 2022 due to the events in Ukraine;
- growth in gas production despite a decrease in export supplies to Europe due to warm weather and an increase in U.S. LNG supplies to

3. Industrial Production Dynamics in Q1 2022

the European market and the imposition of sanctions against Russia. Production growth in this period was provided by increased gas supplies to China via the Power of Siberia pipeline (including owing to reduced LNG exports to China from the US and Australia) and domestic demand (economic recovery after the pandemic)

- growth in coal production due to demand for coal in Europe and the Asia-Pacific market, which was facilitated by higher natural gas prices that made coal-fired generation competitive. The growth in demand from Asian countries has not been fully realized because of the existing infrastructural constraints in the Far East, which do not allow the entire additional volume of coal to be transported to the Asia-Pacific market by rail. In March, the existing infrastructural constraints were supplemented by competition from other cargoes, which had to reorient their shipments to the eastern direction after sanctions were imposed on Russian product supplies.

Based on results for Q1 2022, the manufacturing sector's trend component saw slow growth, as in H1 2021, the main positive contribution to the dynamics continued to be made by:

- production of food, textile and leather products. The shift of consumer demand to the lower price segment (as a rule represented by Russian-made products) was supplemented by the factor of panic buying due to the withdrawal from Russia and temporary shutdown of some foreign companies;
- production of chemical products mainly on triggered by increased domestic and foreign demand for pharmaceuticals, medical supplies, and fertilizers;
- machine building, mainly on the back of the agricultural machinery growth. High world prices for agricultural products in 2021 provided additional funds to its producers, who had an opportunity to invest these funds in the renewal of the machine park, which drove up demand for exports of Russian agricultural equipment and, consequently, boosting production. Besides, consumers stepped up purchases of equipment amid concerns of its appreciation caused by the expected increase in utilization fee, exchange rate fluctuations and increase in prices for metals and polymers observed on the world and domestic markets during 2021. Since March 2022, the restructuring of logistic chains, search of new partners (manufacturers and suppliers of components) are the constraining factors for agricultural equipment export growth.

Wholesale and retail trade showed growth: wholesale trade mainly due to increased sales of medicines and medical materials, chemical fertilizers, and agricultural equipment; retail trade was driven by increased sales of non-food products due to feverish demand for products from foreign companies temporarily closing down operations in Russia.

The trend component of paid services to the population retained negative dynamics. The movement of the trend component of freight turnover showed around zero growth rates. The main decrease in the freight base followed a decrease in export shipments in the context of sanctions and restrictions imposed, as well as the Russian Government's retaliatory actions.

The sanctions have not yet affected the movement of most industrial sectors, the negative impact will be felt in Q2 2022, as the following factors will affect the industrial production process: increased transportation costs,

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the breakdown of old supply chains, the cost of finding new consumers, etc., so we can expect the dynamics of Russian industry to deteriorate due to the geopolitical crisis, which will lead to a narrowing of export sales markets.

Table 1
Output index change across economic sectors, %

Name of sector	Share in industrial production index, %	March 2022 / March 2021, %	March 2021 / December 2021, %	Change over past months
Industrial production index		102.50	99.66	stagnation
Extraction of minerals	34.54	107.74	100.61	slow growth
Manufacturing, including:	54.91	102.92	98.65	slow growth
Production of food products, including beverages and tobacco	16.34	112.26	102.60	growth
Textile and garment industry	1.14	104.29	100.33	stagnation
Manufacturing of leather, articles thereof and footwear	0.27	104.15	100.49	stagnation
Wood processing and woodware manufacturing	2.02	101.20	98.27	recession
Pulp-and-paper industry	3.35	83.56	93.27	recession
Production of charred coal and petrochemicals	17.25	103.77	100.35	stagnation
Chemical industry	7.56	115.02	103.44	growth
Manufacturing of rubber and plastic articles	2.14	106.36	101.57	growth
Manufacturing of other nonmetallic mineral products	4.02	109.51	99.25	slow growth
Metallurgy and manufacturing of ready-made fabricated metal products	17.42	122.56	100.74	slow growth
Manufacturing of machinery and equipment	6.97	116.27	102.00	growth
Manufacturing of electrical, electronic and optical equipment	6.27	102.41	99.46	stagnation
Manufacturing of transport vehicles and equipment	6.75	111.34	103.07	growth
Other industries	2.42	108.84	103.01	growth
Electricity, gas and water supply	13.51	104.00	101.00	slow growth
Wholesale trade		102.35	98.19	slow growth
Retail trade		98.90	106.32	growth
Cargo turnover		102.27	100.28	stagnation
Building		105.31	101.27	slow growth
Volumes of paid services to households		104.08	100.62	slow recession

Sources: Rosstat, own calculations. 

4. THE SHORT- AND LONG-TERM EFFECTS OF ECONOMIC SANCTIONS ON ECONOMIC DYNAMICS: THE YUGOSLAV EXPERIENCE

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Restrictive economic measures that the UN Security Council imposed first on the SFRY and then on the Federal Republic of Yugoslavia on September 25, 1991 that partially remained in effect until September 10, 2001, are one of the few examples of foreign trade restrictions comparable to the collective international sanctions imposed by the United States, EU, Great Britain and several other countries against the Russian Federation in February-March 2022. The Yugoslav experience is also valuable because that country's economy faced difficulties not only during the introduction and operation of sanctions, but also after they were lifted.

The analysis of Yugoslavia's economic dynamics in 1991–2001 confirms that despite the importance of stabilizing the macroeconomic situation and conducting a sustainable disciplined monetary and budgetary policy in the context of sanctions is not sufficient for the resumption of economic growth – only structural reforms can launch full-fledged economic growth. In the Balkan state, such transformations (including deregulation of the economy, privatization and political liberalization) became possible only after the settlement of the political-military conflict.

Financial and foreign trade restrictions will inevitably push entrepreneurs to find ways to circumvent them, including not quite legal ways. In the short term, this makes adaptation to the new conditions less painful. However, as the experience of Yugoslavia shows, the systemic circumvention of sanctions contributes to the formation of the shadow sector of the economy and the informal institutions serving it (power intermediation, artificial monopolization of the market, large-scale corruption). Primary adaptation is achieved at the cost of increasing the influence of the layer of security entrepreneurs, which deteriorates the investment climate in the long term.

The Yugoslav adaptation case showed that the lifting of sanctions is not necessarily followed by a quick economic recovery: the sanctions fallout (from continuing macroeconomic instability to deteriorating institutional quality) continue to depress economic growth. The situation is particularly negative when investors expect the re-imposition of sanctions. If economic agents are convinced that their re-imposition is possible, they will not hurry to resume their activities in the sanctioned country.

The consequences of the sanctions imposed on Russia in 2022 remain uncertain in the medium and long term, since there are not many examples of such severe and comprehensive restrictions in modern history. The more interesting for us is the experience of the Federal Republic of Yugoslavia, which was under similar tough sanctions and foreign trade restrictions for most of the 1990s.

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By 1991, prolonged economic stagnation and growing ethnic tensions led to the declaration of independence by four of the six republics that had made up the Socialist Federal Republic of Yugoslavia. The remaining two (Serbia and Montenegro) de jure recognized the dissolution of the SFRY and formed a new state, the Federal Republic of Yugoslavia. The new state started to support Serb separatists living in the territory of the former Yugoslav republics. In the fall of 1991, the war for the independence of Croatia broke out, in which Yugoslavia provided military and financial assistance to the Serbian Krajina, and in 1992 the civil war broke out in Bosnia and Herzegovina, where the Yugoslav authorities also actively helped the Serbian separatists.

The first trade sanctions were imposed by the European Union in the fall of 1991, at the outbreak of the war in Croatia, including a ban on textile exports (including those made by Western companies, which were actively establishing production facilities in Yugoslavia in the 1970s) and a curtailment of economic aid to Belgrade. In May 1992, against the background of the humanitarian disaster in Sarajevo caused by the siege of the Bosnian capital by the Serbian army, a much tougher package of sanctions was imposed by the UN Security Council. It included a complete ban on exports and imports (except for humanitarian aid), a ban on investment activities in Yugoslavia, the closure of the skies to Yugoslav aircraft, and the curtailment of joint cultural, scientific and sporting events. A meaningful comparison of the above sanctions with the 2022 anti-Russian sanctions is presented in *Table 1*.

Table 1

Comparison of sanctions against Russia and Yugoslavia

Sanctions against Russia, 2022 (as of March 28)	Sanctions against Yugoslavia, 1992
Imposed by the US, Great Britain, Australia, Japan, Taiwan and the European Union	Imposed by all UN member states
Restrictions on major Russian banks (primarily state-owned ones)	Restrictions against all Yugoslav banks
Sanctions against sovereign debt, blocking the reserves of the Central Bank	Winding down of loan programs and economic aid to the government of Yugoslavia
Personal sanctions against the country's leadership, as well as restrictions on scientific and cultural cooperation	Personal sanctions against the country's leadership, as well as restrictions on scientific and cultural cooperation
Formal ban on investment in a wide range of Russian corporations, informal curtailment of investment programs by major international companies	Official ban on all investment in Yugoslav enterprises
A formal ban on exports of high-tech and luxury goods to Russia, the departure of a significant number of corporations from the Russian market	Formal ban on all exports to Yugoslavia, except for essential goods
Predominantly informal restrictions on imports of Russian goods; restrictions on the purchase of hydrocarbons by some countries	Formal ban on any procurement of goods produced in Yugoslavia
Restrictions on flights and aircraft maintenance	Restrictions on flights and aircraft maintenance
Restrictions on international financial transactions	There were no such restrictions

Source: own data.

The sanctions described above, which were even more severe than those currently in effect against Russia, coincided with the breakup of Yugoslavia and the severance of ties between the Balkan states and dealt a significant blow to the Yugoslav economy. While in 1991 Yugoslavia's GDP per capita at PPP stood

4. The Short- and Long-Term Effects of Economic Sanctions on Economic

at around \$18,500, it was already just over \$9,000 in 1992 and \$6,700 in 1993. This significant drop in output was due to several reasons.

1. The dissipation of state and the ban on practically all foreign trade activities led to the destruction of existing economic ties with the rest of the world, which, by virtue of the neutral status of socialist Yugoslavia, had been very extensive. This resulted in the disappearance of imported components used in production, as well as in a significant decline in demand for Yugoslav products. Moreover, the foreign corporations that had opened representative offices in socialist Yugoslavia hastily closed them, so that some production halted. All this led to a decrease in the purchasing power of citizens (imported goods could be bought only at inflated prices on the black market) and to an increase in the unemployment rate – from 14% in 1991 to 39% in 1993.
2. The irresponsible macroeconomic policy of the state led to hyperinflation and the virtual destruction of the financial system. S. Milosevic's socialist government decided neither to privatize, nor to cut social expenditures, nor to reduce support for Serbian separatists in neighboring countries, which forced the country's leadership to opt for money printing press. By 1993, the situation worsened - trust in the dinar (national currency) was undermined, hyperinflation embraced the country and German marks were used instead of the dinar (which was tolerated by the government). In addition, the rapid depreciation of the currency encouraged citizens to invest in pyramid schemes, and as a result, many of their savings vaporized. In 1994, the authorities announced the launch of the "new dinar," the exchange rate of which was pegged to the German currency. This decision halted hyperinflation and stabilized the currency, but failed to make citizens trust the banking system after a chain of bankruptcies and thereby limited borrowing opportunities for businesses.
3. Under sanctions, the shadow economy survived best of all, taking advantage of loopholes in restrictions and corrupt bureaucracy to export and import goods. Already in 1992, schemes of illegal import and export of products emerged. Many goods that formally entered Yugoslavia in transit, in fact, remained in the country, and the transit trucks and ships were used to smuggle them out of Yugoslavia. The high profitability of shadow activities created a breeding ground for "security entrepreneurs"¹ – organized crime (mostly former participants in the armed conflicts in Bosnia and Croatia) and corrupt security services capable of securing and guaranteeing informal contracts. The collapse of formal institutions and the proliferation of costly informal ones created additional costs for private business and unjustified preferences for less efficient companies (up to informal monopolies on the import of goods) associated with government representatives.

In 1995, the Bosnian Serbs, faced with the prospect of military defeat, were forced to accept an agreement with the Bosnian authorities. Peace led to the lifting of most of the sanctions. However, this did not lead to a rapid economic recovery. Per capita GDP in Yugoslavia reached 1992 levels only by the end of the 1990s. Destroyed trade links with the former Yugoslav republics never recovered; preferences to quasi-state companies remained, and organized crime only increased its pressure on private businesses, extorting not only illegal but also legal importers. Foreign investors feared new sanctions against the Milosevic regime. These fears proved to be well-founded – recurrent sanctions

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had already been discussed by the EU during the political crisis in Serbia in 1997, and in 1999, when the war in Kosovo broke out, the sanctions were returned to almost the same extent.

The real recovery of the economy and foreign trade relations began only after S. Milosevic resigned in the fall of 2000, the cessation of hostilities in Kosovo and new elections, which were won by more moderate politicians. The new government began to pursue a more liberal and market-oriented economic policy than the socialist Milosevic, and a more peaceful and EU-oriented foreign policy. This helped attract foreign investors and opened foreign markets for Serbian producers. The recovery proceeded at a fast pace: by 2004 the Serbian economy surpassed the pre-sanctions indicators, and in 2012, despite the Pan-European crisis, it reached the maximum indexes of the mid-1980s (Fig. 1).

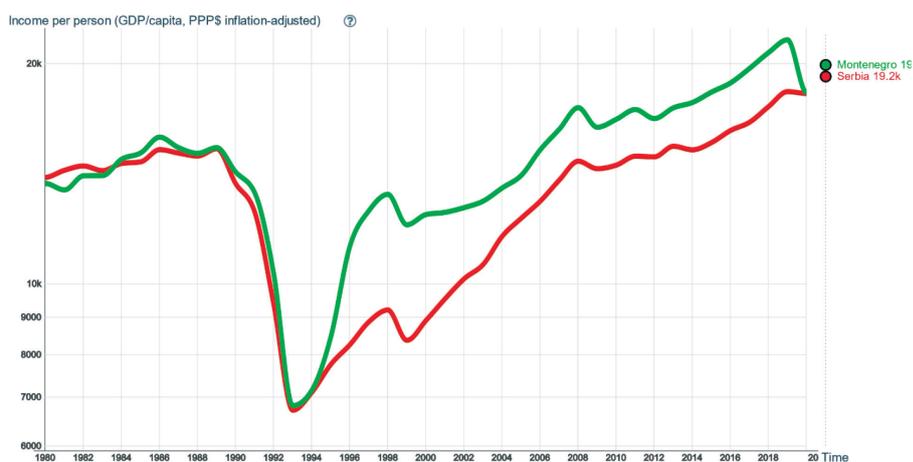


Fig. 1. GDP per capita at PPP, 1980–2020, Serbia and Montenegro

5. THE PRIMARY HOUSING MARKET: SCENARIOS FOR THE DEVELOPMENT

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In March-April 2022, the key macroeconomic parameters of the Russian economy changed markedly. These changes make it necessary to adjust the previous forecast of the primary housing market dynamics, as the new factors have a significant impact on prices and sales in the construction industry.

Changes in the dynamics of the primary housing market are inevitable – by the beginning of Q2 2022, prices on new buildings can be expected to decline on the back of a significant drop in demand and an increase in interest rates under the preferential mortgage program. The consequence of the price decline will be an additional reduction in the construction companies' revenues. Changes in the macroeconomic situation, including a rise in interest rates on loans, will also lead to a deterioration in the financial stability of construction companies.

In this connection, it is advisable to consider the possibility of an additional reduction in interest rates under the preferential mortgage program down to 9–10% per year. It is necessary to adjust the parameters of the monitoring of the financial stability of construction companies in order to forecast the probability of their bankruptcy in the next 6–12 months by including in it the assessment of additional financial parameters of developers and parameters of the macroeconomic environment - the ruble exchange rate and the mortgage rate.

Dynamics of demand and supply of housing on the primary market in the new environment

The construction sector, due to the sharp increase in the key rate of the Bank of Russia, inflation growth, changes in the exchange rate and redistribution of public demand from the purchase of real estate to essential goods and services, is one of the most affected by the international sanctions. The RANEPА econometric model¹ developed in 2022 was used to assess the consequences of the sanctions pressure on the industry. The model represents a system of simultaneous equations of supply and demand on the primary housing market. The demand factors are: real incomes of the population; price growth index on the primary housing market in the current period; mortgage rate; volume of available housing stock; ruble-dollar exchange rate. Supply factors are: the cost of rental housing (as the main alternative to buying housing), real incomes, unemployment rate, the basic consumer price index, the mortgage rate, the index of the cost of building materials, the volume of housing stock, the ruble-dollar exchange rate, the number of developers; price growth index for the primary housing market in the past period (housing prices in the dynamics show a high level of inertia). The model was estimated on the panel data from

¹ The model was developed within the framework of the state order: "Development of proposals for the evolution of the primary housing market, taking into account macroeconomic factors of price dynamics".

Q1 2013 to Q2 2020, the regions of the Russian Federation were the object of observation.

Subsequently, the model was used to forecast the dynamics of prices and the number of transactions in the primary housing market, taking into account a set of assumptions about the short-term dynamics of the main factors of supply and demand.

Estimates of expert organizations, the Bank of Russia and the Ministry of Economic Development of Russia¹ allow us to formulate assumptions regarding the dynamics of key macroeconomic indicators - inflation, unemployment, real income of the population and the ruble-dollar exchange rate; they are presented in *Table 1*.²

According to expert estimates, in 2022, prices will rise by 20–22%, however the worst inflation forecast of the Bank of Russia³ expects an increase in inflation to 35%.

Since some of the foreign companies that suspended their operations in the context of the sanctions have begun procedures to sell their assets, we can expect a less negative scenario of an increase in the number of unemployed people than was originally forecast. Most experts say the unemployment rate will be 7–9% at the end of 2022, with experts revising their forecast downwards over time.⁴

Also, most expert organizations assume that the decline in real income and real wages will be 7–11%. The most conservative forecast is based on the absence of growth of nominal incomes and fall of real incomes by the inflation amount.

In February-March 2022, the dynamics of the ruble exchange rate against the dollar was unstable, a significant weakening of the ruble was followed by its sharp strengthening. At present, the majority of expert organizations predict the depreciation of the ruble to 80–85 rubles to the dollar (or approximately by 8–15%).

In February and early March 2022, there was considerable uncertainty in the parameters of prices for construction materials. In March 2022, estimates of the growth of the cost of construction went up by 30% (the growth for some items of expenditure amounted to 50%),⁵ as a result, by the end of the year we can expect a stronger increase in prices – up to 150%.

One expects that the combination of these factors will contribute to a more rapid decline in the primary housing market prices than expected against the backdrop of the depreciating ruble exchange rate and the high cost of credit.

On the basis of the RANEPА quantitative model of the dynamics of demand and supply in the real estate market, as well as the assumptions indicated in *Table 1*, the forecast of the dynamics of prices and number of sales on the primary housing market was formed, as well as the assessment of incomes under-received by construction companies in connection with these changes, see *Table 2*.

1 The government discussed the parameters of the updated macro forecast, 27.04.2022. URL: <https://www.vedomosti.ru/economics/articles/2022/04/27/919912-parametri-obnovlennogo-makroprognoza>

2 *Table 1* also demonstrates the values of the main indicators for the previous version of the forecast, developed before significant changes in the exchange rate and the key rate of the Bank of Russia, as well as in the context of uncertainty in the price dynamics for construction materials due to the breakdown of logistics chains.

3 Macroeconomic survey of the Bank of Russia, 21.04.2022 r. URL: http://www.cbr.ru/statistics/ddkp/mo_br/

4 For example, in April, the forecast of the Bank of Russia was revised.

5 Lenta.ru. The scale of the growth of prices for building materials in Russia is estimated, 29.03.2022, URL: <https://lenta.ru/news/2022/03/29/stroi/>

5. The Primary Housing Market: Scenarios for the Development

Table 1

The assumptions used in the calculations about the dynamics of the main macroeconomic indicators

Indicator	Value at the end of 2022 (version of 18.03.2022)	Value at the end of 2022 (version of 15.04.2022)	Note
Dynamics of the rental cost	+10%	+10%	
Dynamics of real incomes of the population	-15%	-15%	
Unemployment rate dynamics	+8.7 p.p.	+4.8 p.p.	Owing to the closure of some foreign companies amid the sanctions, an uneven release of labor was expected (the largest part of layoffs happens in Q1 2022).
Core CPI dynamics	+30%	+30%	
Dynamics of the price index on construction materials	+70%	+100%	According to the results of the quantitative assessment, the indicator has a relatively small impact on the market dynamics).
Dynamics of the ruble-dollar exchange rate	+100%	+15%	The indicator was expected to grow unevenly (due to the imposition of sanctions the largest growth in Q1 2022).
Dynamics of the number of issued mortgage loans	-15%	-15%	
Dynamics of the housing stock volume	0%	0%	In the short term (1 year) the volume of housing stock changes insignificantly.
Mortgage rate (without state support)	23%	16.9%	

Note. Compiled taking into account the dynamics of macroeconomic indicators in 2008–2009 and 2014–2015.

Assessment of the socio-economic effects of the support options for the construction sector

To assess the socio-economic impact and make decisions about the level of support for the industry, we considered 4 scenarios¹:

- 1) no preferential mortgage (rate at 16.9% per year);
- 2) preferential mortgage at the rate of 12% per year (accepted option);
- 3) preferential mortgage at 9% per year;
- 4) preferential mortgage at 6% per year.

The estimated quantitative model allows us to calculate the effects of the imposed sanctions and the preferential mortgage program on the dynamics of prices on the primary housing market, the dynamics of the number of concluded share participation agreements (SPA) relative to the primary housing market, as well as the dynamics of revenue of the construction sector in relation to the average quarterly values of these indicators, they are shown in *Table 2*.

To make a quantitative assessment of losses in the construction industry, we proceeded from the fact that the average number of share participation agreements signed in one quarter is about 250 thousand and the average

¹ The change in the number of scenarios was due to a decrease in the key rate and changes in the preferential mortgage program.

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Table 2

Scenario forecasts of changes in prices and number of sales on the primary housing market

Scenario	Index	2022			
		Q1	Q2	Q3	Q4
<i>Scenario 1:</i> no preferential mortgage	Change in the price of 1 sq. m against the average price of 1 sq. m in 2021, %	-3	-10	-16	-21
	The change in the number of CSAs relative to the average number of CSAs in 2021 per quarter, %	21	37	52	64
	Change in construction companies' revenues to average quarterly revenue in 2021, Rb bn	-6.87	-41.20	-85.80	-131.53
<i>Scenario 2:</i> preferential mortgage at 12% per year	Support amount, Rb bn	Not required			
	Change in the price of 1 sq. m against the average price of 1 sq. m in 2021, %	-2	-9	-15	-21
	The change in the number of CSAs relative to the average number of CSAs in 2021 per quarter, %	15	26	40	52
<i>Scenario 3:</i> preferential mortgage at 9% per year	Change in construction companies' revenues to average quarterly revenue in 2021, Rb bn	-3.25	-27.42	-65.07	-106.04
	Support amount, Rb bn	2.9			
	Change in the price of 1 sq. m against the average price of 1 sq. m in 2021, %	-2	-9	-15	-20
<i>Scenario 4:</i> preferential mortgage at 6% per year	The change in the number of CSAs relative to the average number of CSAs in 2021 per quarter, %	11	23	37	49
	Change in construction companies' revenues to average quarterly revenue in 2021, Rb bn	-2.20	-23.36	-58.95	-98.49
	Support amount.	5.1			
<i>Scenario 4:</i> preferential mortgage at 6% per year	Change in the price of 1 sq. m against the average price of 1 sq. m in 2021, %	-1	-8	-14	-19
	The change in the number of CSAs relative to the average number of CSAs in 2021 per quarter, %	7	16	31	43
	Change in construction companies' revenues to average quarterly revenue in 2021, Rb bn	-0.64	-14.57	-45.39	-81.73
Support amount.	6.7				

Source: Own calculations according to econometric model calculations.

5. The Primary Housing Market: Scenarios for the Development

number of mortgage loans for primary housing will be about 425,000 per year (taking into account that this index in 2020–2021 stood at 500,000 and one can expect a 15% drop in the number of loans issued).

Table 2 shows that in the context of the strengthening ruble with high inflation, there will be a more rapid decline in prices in the primary housing market and a less significant drop in the number of sales than expected in the previous version of the forecast. There will be a more significant reduction in companies' incomes, which will require less funds for the implementation of the preferential mortgage program (owing to the reduction of interest rates on loans). A considerable difference between the current situation and 2020 is a more significant increase in the prices of consumer goods and a high probability of reallocation of expenditures of the population from the purchase of real estate to other categories of spending, which will lead to inadequate demand in the primary housing market. 

6. CHANGES IN NINETH-GRADE SCHOOL LEAVERS' EDUCATIONAL TRAJECTORY PREFERENCES

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Research carried out by the Center for Economics of Continuous Education of the Institute of Applied Economic Studies, RANEPa has revealed that the share of ninth-graders who leave school after passing a basic state exam (BSE) varies from 40% to 55% depending on a subject of the Russian Federation. Most school leavers are enrolled in secondary vocational education institutions (SVEI), but a certain portion of ninth-graders stop studying at educational institutions (EI) of their regions with some school leavers moving to other regions to enter vocational training institutions. At the same time, plenty of ninth-graders do not continue their studies, but start working, particularly, in the informal economy and there are also some who neither study, nor work.

As seen from the analysis of educational trajectory preferences of ninth-grade school-leavers in 2017/2018 – 2021/2022 academic years¹, the share of ninth-graders who leave school is growing with each year and has increased over five years by 2.9 p.p. in the Urals Federal Okrug (UFO) (minimum value) and 4.8 p.p. in the Privolzhsky Federal Okrug (PFO) and the Southern Federal Okrug (SFO) (maximum value) (Fig. 1).

Maximum growth in the number of ninth-grade school leavers relative to a previous academic year took place in the 2020/2021 academic year (Fig. 2). In the beginning of 2020 when the coronavirus pandemic broke out in Russia, schools had to shift for the first time to remote education without having any previous experience and there were also uncertainties about Unified State Exam dates (eventually, the dates of Unified State Exams were postponed from May-June when they were normally held to July). Further, that period included a two-month lockdown which brought about economic and psychological instabilities in families [2].

Another factor explaining growth in the number of school-leavers was the prospect for them to complete nine-year general school education with subsequent enrollment in secondary vocational education institutions without taking Basic State Exams and Unified State Exams [3]. All these factors substantiated sudden growth in the share of ninth-graders who left general school. In the 2021/2022 academic year, a decrease in the number of young people aged 15, as well as adaptation of the population to new conditions of life have led to a reduction in the growth rates of enrollments in SVE institutions. Notably, the 2021/2022 academic year saw quite a considerable shift of ninth-graders to SVE institutions as compared with the 2019/2020 academic year: an increase of 2.4 p.p. in Russia as a whole, 2.5 p.p. in the Central Federal Okrug

1 For the sake of analysis, statistical survey forms OO-1 [4] and SPO-1 [5]-[7] were used.

6. Changes in Ninth-Grade School Leavers' Educational Trajectory Preferences

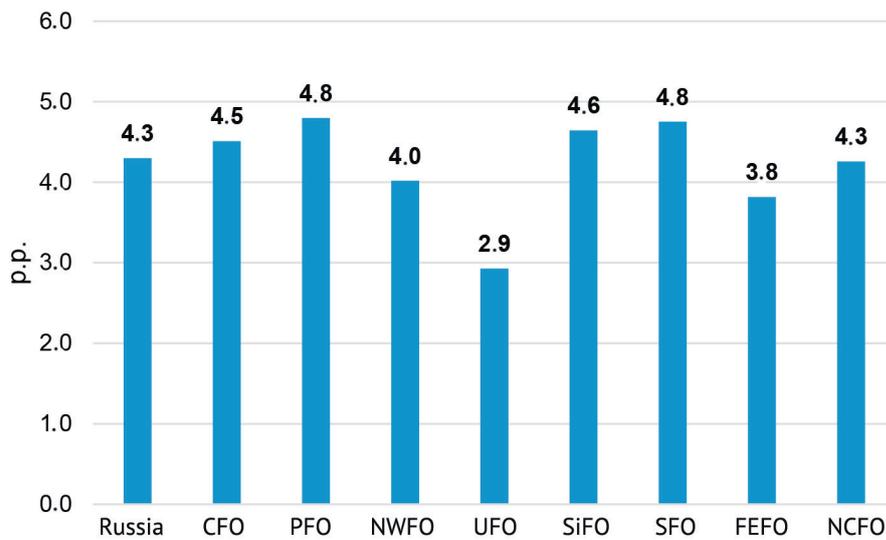


Fig. 1. Growth in the share of ninth-graders who left school in 2017/2018 – 2021/2022 academic years, p.p.

Source: own calculations based on [5].

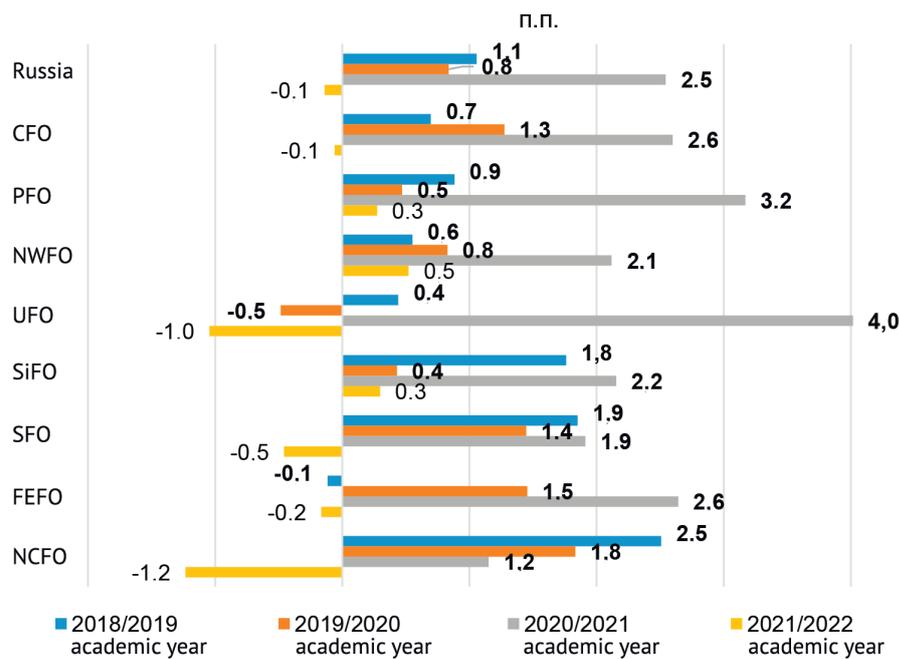
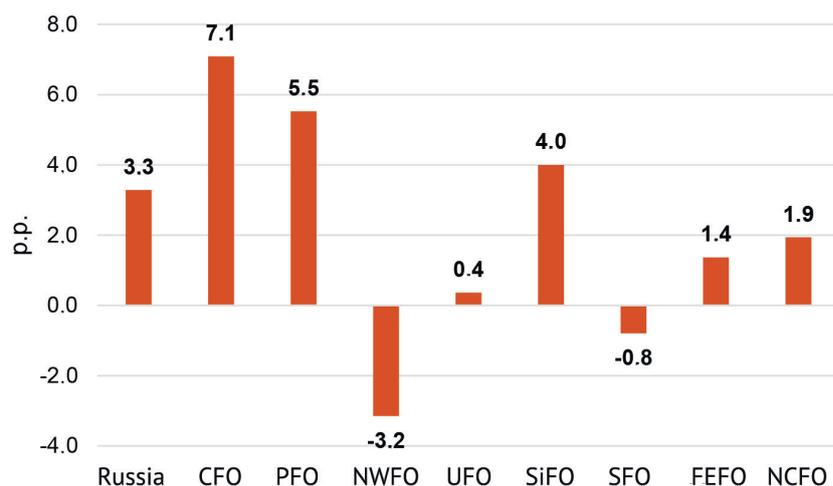


Fig. 2. A change in the share of ninth-graders who left school relative to the previous year, p.p.

Source: own calculations based on [4].

(CFO), 3.4 p.p. in the Privolzhsky Federal Okrug (PFO), 2.7 p.p. in the North-Western Federal Okrug (NWFO), 3.0 p.p. in the Urals Federal Okrug (UFO), 5.6 p.p. in the Siberian Federal Okrug (SiFO), 1.5 p.p. in the South Federal Okrug (SFO) and 2.5 p.p. in the Far-Eastern Federal Okrug (FEFO). An exception was the North-Caucasian Federal Okrug (NCFO) where a decrease in this indicator in the 2021/2022 academic year was comparable with its increase in the 2020/2021 academic year.

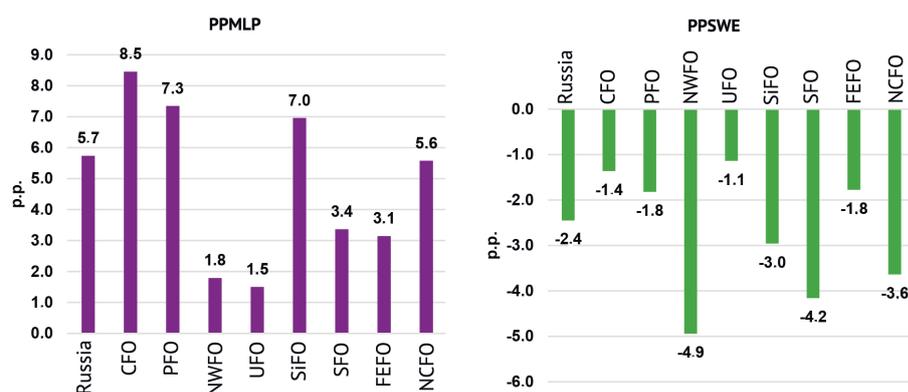
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Note. Calculation was based on the overall number of ninth-grade school leavers.

Fig. 3. A change in the share of ninth-graders who continued education at SVE institutions in 2017/2018 – 2021/2022 academic years, p.p.

Source: own calculations based on [5].



Note. Calculation was based on the overall number of ninth-graders who left school.

Fig. 4. A change in the share of ninth-graders who continued their education at SVE institutions on PPMLP and PPSWE in 2017/2018 – 2021/2022 academic years, p.p.

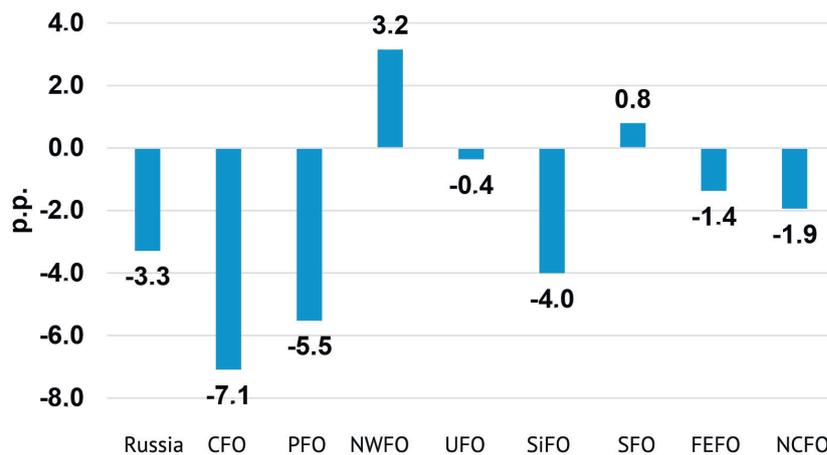
Source: own calculations based on [5].

The situation with ninth-graders' enrollment in SVE institutions was not so unambiguous as it was with those who left school after completing nine grades (Fig. 3).

Amid growth in the share of ninth-graders who left school over the past five years in all federal okrugs, NWFO and SFO saw a decrease in the share of ninth-graders who continued training at SVE institutions (relative to those who left school), while UFO saw a rather small increase in this indicator as compared with other federal okrugs. This situation took place amid an insignificant increase in the number of enrollments in SVE institutions in NWFO, SFO and UFO on programs preparing mid-level professionals (PPMLP) and a substantial decrease in enrollments on programs preparing skilled workers and employees (PPSWE) – Fig. 4.

At the same time, on the back of a decline in the share of ninth-graders who were enrolled in SVE institutions in some federal okrugs amid growth in the

6. Changes in Ninth-Grade School Leavers' Educational Trajectory Preferences



Note. Calculation of shares was made relative to the overall number of ninth-grade school leavers.

Fig. 5. A change in the share of ninth-grade school leavers who did not continue education in EI of their regions, 2017/2018–2021/2022 academic years, p.p.

Source: own calculations based on [4].

share of those who left school the share of ninth-graders who did not continue their training at educational institutions of their regions increased (*Fig. 5*).¹ It is infeasible to determine on the basis of forms [5]–[7] the exact number of those who moved to other regions to continue their education. However, based on the data of the sociological survey carried out by CECE RANEPa in 2021, out of 96,000 surveyed SVE graduates in 2019 about 4,000 graduates (4.2%) studied in other regions. Accordingly, it can be said that a relatively small portion of those who did not continue studying at educational institutions of their regions moves to other regions to carry on their education. Those ninth-graders who left school, but stayed in their region neither study, nor get employed (they work most likely illegally or on temporary jobs), or join the ranks of unemployed. Eventually, they often come under influence of criminal activities.

The policy of budget-funded admission to SVE institutions fails to reduce the share of ninth-graders who did not continue education at EI of their regions. By comparing supply and demand for PPMLP and PPSWE on budget-funded and contract basis, it can be noted that with growth in demand for specified programs from 2017 till 2021 budget-funded admission to PPMLP increased insignificantly (*Fig. 6*), while that to PPSWE declined (*Fig. 7*). It is noteworthy that contract-based admission both to PPMLP and PPSWE was growing, but in case of programs preparing workers growth in contract-based enrollments was insignificant as compared with budget-funded ones.

So, SVE institutions' supply (admission) fails to meet young people's demand for vocational education. At the same time, one may ask if SVE institutions' supply (admission) is consistent with the labor market's demand in terms of required and future-oriented trades and professions, as well as quantitative parameters of demand for personnel with certain skills. If SVE institutions'

¹ Negative values mean that over a five-year period a federal okrug saw a decrease in the number of those ninth-grade school leavers who did not continue education in EI of their region and this factor is deemed positive, while positive values, on the contrary, point to this indicators' growth.

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supply is not in harmony with labor market requirements, it is necessary to identify the reasons for which it happens.

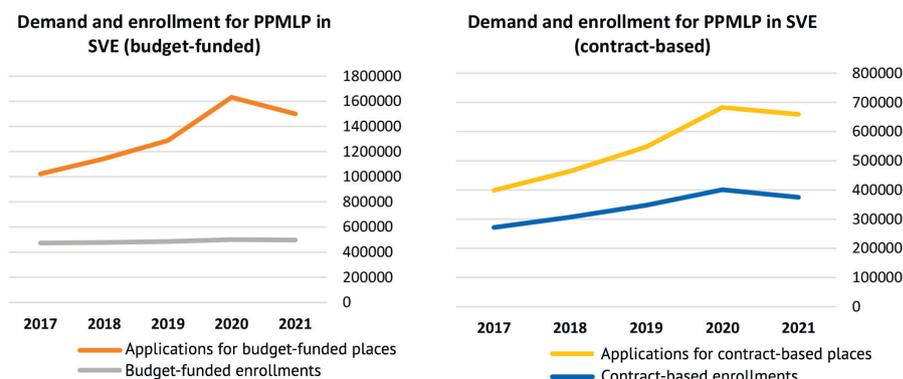


Fig. 6. Demand and enrollment for PPMLP in SVE depending on the enrollment status (data on the Russian Federation as a whole), persons

Source: own calculations based on [5].

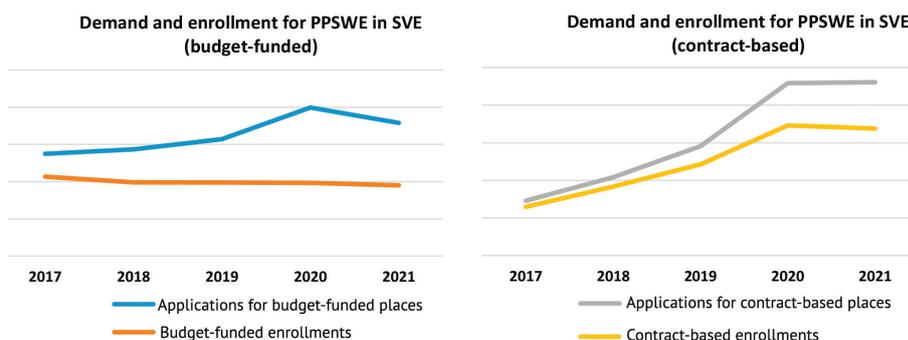


Fig. 7. Demand and enrollment for PPSWE in SVE depending on the enrollment status (data on the Russian Federation as a whole), persons

Source: own calculations based on [5].

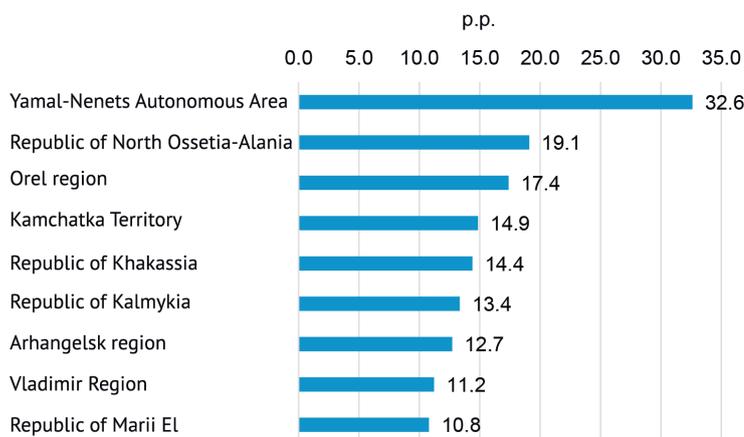


Fig. 8. Growth of over 10 p.p. in the share of ninth-graders who did not continue education in EI of their regions in 2017/2018–2021/2022 academic years.

Source: own calculations based on [6].

6. Changes in Ninth-Grade School Leavers' Educational Trajectory Preferences

Such inconsistencies are evidenced by the fact that in comparing TOP-REGION¹ regional lists of trades and professions with lists of trades and professions, which regional SVE institutions train their students for, in 84 RF constituent entities out of 85 RF constituent entities (the Archangelsk region is an exception) there are trades and professions from the TOP-REGION list which SVE institutions do not prepare their students for.

It is feasible to single out a few groups of regions on the basis of growth or decrease in the share of ninth-grade school leavers who did not continue education in their regions. For instance, this indicator's growth of over 10 p.p. was seen in nine regions of the Russian Federation (*Fig. 8*).

In the period under review, in ten regions an increase in the share of ninth-graders who did not continue training in educational institutions of their regions varied from 4p.p. to 10 p.p. These regions include: the Republic of Crimea (8 p.p.), St. Petersburg (7.8 p.p.), the Nenets Autonomous Area (7 p.p.), the Omsk Region (6.7 p.p.), the Kaluga Region (6 p.p.), the Republic of Buryatia (5.8 p.p.), the Republic of Kabardino-Balkaria (5.6 p.p.), the Bryansk Region (4.6 p.p.), the Murmansk Region (4.2 p.p.) and the Republic of Bashkortostan (4.1 p.p.). In the remaining 24 regions, this index was below 4 p.p.

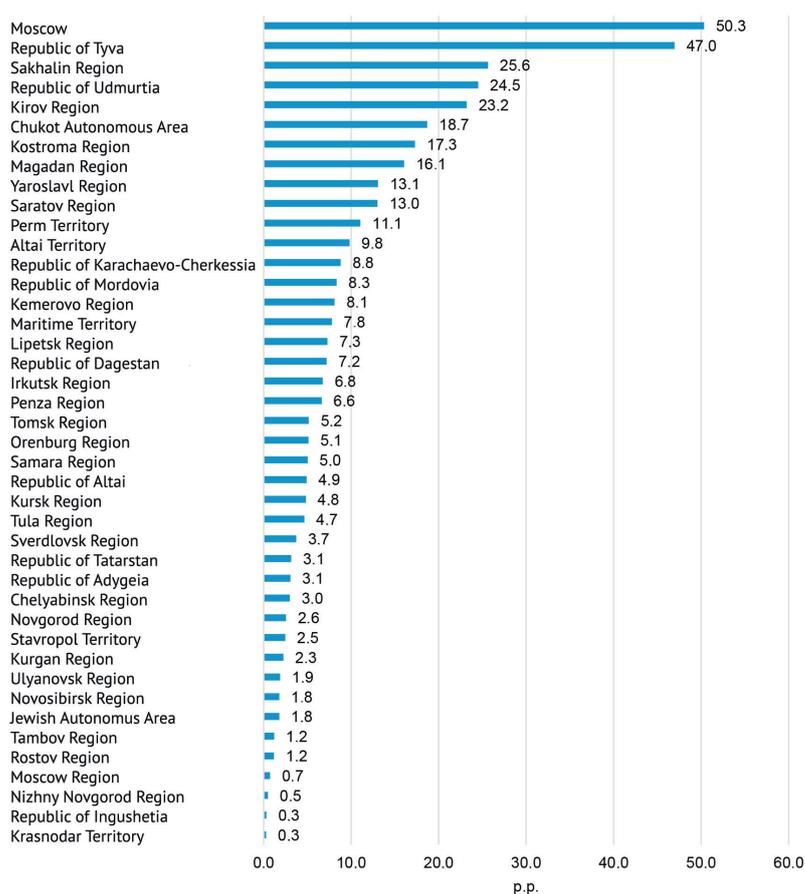


Fig. 9. An increase in the inflow of ninth-grade school leavers from other regions to SVE institutions in 2017/2018 – 2021/2022 academic years, p.p.

Source: own calculations based on [6].

1 TOP-REGION is the list of the most required and future-oriented trades and professions on regional labor market.

Over five years, in 42 RF regions an inflow of ninth-grade school leavers from other regions to SVE institutions increased, particularly, in Moscow (growth of 50.3 p.p.) and the Republic of Tyva (47 p.p.) – *Fig. 9*.

Thus, Moscow remains the center of attraction for numerous regional school leavers, while St. Petersburg is losing ground as regards the inflow of young people from other regions to SVE institutions. This can primarily be substantiated by a fast-track development of the SVE system in the Leningrad Region. If earlier ninth-graders who left their schools in the Leningrad Region went to continue their education at SVE institutions of St. Petersburg, at present they can choose the desired educational trajectory in their region. A substantial pickup in the inflow of students from other regions to SVE institutions of the Republic of Tyva can be substantiated by low costs of living and education in this constituent entity of the Russian Federation.

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