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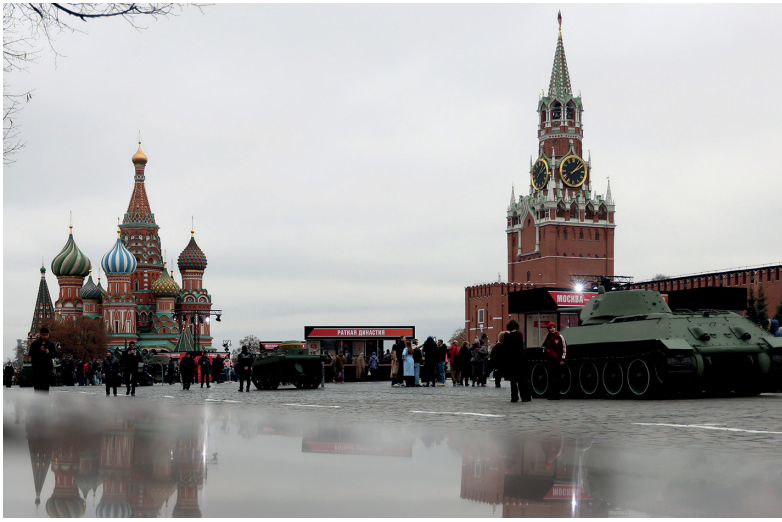

Against the Clock: Why Russia's War Economy is Running Out of Time

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The Peace and Conflict Resolution Evidence Platform (PeaceRep) is a research consortium led by the University of Edinburgh Law School. Our research is rethinking peace and transition processes in the light of changing conflict dynamics in the 21st century.

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Introduction

This report assesses the impact of Russia's full-scale invasion of Ukraine in 2022–2024 on the Russian economy through an analysis of macroeconomic indicators, its sectoral structure, the dynamics of foreign trade, the federal budget revenues and expenditures, household income and changes in Russia's financial reserves.

In this period, the Russian economy's development was shaped by two key factors: the significant increase in military spending as a result of the war, and the application of western sanctions. Prior to the full-scale invasion of Ukraine, Russia was already fundamentally a petrostate, with its revenue-generating sectors subsidising its uncompetitive and dependent sectors.[1] Under the pressure of sanctions and rising military spending, it has developed a fortressed "military Keynesian" economic model.[2] The sanctions covered the banking and financial sectors, energy, transport, and access to important technologies. This has led to a freeze on access to Russia's central bank currency reserves, a collapse in trade with gas, oil, and oil products with Western countries, the withdrawal of Western corporations from Russia, and the restriction of international transactions involving the country's gold reserves.

Western media commentary in relation to Russia's capacities often tends to oscillate between extremes. As Russia was able to withstand the initial wave of sanctions without experiencing a serious financial and economic crisis – and even benefited from skyrocketing oil and gas prices in 2022–2023 – the hope that its economy would collapse has given way to a tendency to overestimate its strength and downplay its significant structural problems.

In this report, we adopt a different tack. Given the fundamentals of the Russian economy, it was never likely to experience serious economic problems between 2022 and 2023. Accumulated financial reserves as well as oil revenues benefiting from the spike in prices gave it clear headroom to manage sanctions and fight the war. Western policy deliberately avoided more radical sanctions on oil due to a concern regarding the political effects of inflation at home.

Oil prices are now on a downward trend in international markets and sanctions have a cumulative and escalating negative impact. It would be a mistake to assume that just because Russia has not experienced a significant crisis and war financing problem to date, this stability will necessarily persist in the future.

Fighting the war entails significant trade-offs and costs for the Russian economy, which have become more pronounced and potentially serious for the regime over time. Even if these problems do not produce a crisis, they entail difficult distributional trade-offs and with them the potential for intra-elite and intra-regime conflicts.

Overestimating Russian strength and resilience can impact how western policy-makers approach negotiations and the scenarios that they anticipate and prepare for. Across the 2025 negotiations round, Russia has kept to a maximalist position, while also leveraging symbolic power in the negotiations through Putin's personal relationship with Trump – notably at the Alaska summit in August 2025. Most recently, as this publication was going to press, the United States and Russia announced a 28-point peace plan[3] strongly skewed towards the maximalist positions of the Kremlin, including the withdrawal of Ukrainian forces from Donbas, amnesty for Russian war crimes, and limits on the size of Ukraine's armed forces. It does, however, step back from some of Russia's earlier positions, such as *de jure* recognition of Russian sovereignty over Donbas and full control of Kherson and Zaporizhzhia oblasts.[4] As Russia is by all accounts on the front foot militarily, its apparent willingness to make concessions could imply that economic problems are now informing its negotiating strategy.

The Trump administration appears to be fluctuating between tougher sanctions on oil and gas and accommodating Russia. It has, above all, suspended US military and financial aid to Ukraine. While the proposed 28 points reflect Kremlin positions, the gains for Russia would still be modest in light of the war's massive costs and have attracted far right opposition. Military blogger Alexander Kot described the clause that implied Russia would only have de facto and not *de jure* control of Donbas as "asking us to give up part of our sovereignty".[5]

This may be suggestive of some of the political tensions on the Russian side. The analysis put forward in this report highlights Russia's economic difficulties, but how this ends up interacting with the politics is very uncertain – and outside the scope of the present report.

Policymakers need to exercise caution and strategic foresight about the scenarios at play, working closely with Russia experts to assess how these economic conditions will interact with intra-elite and intra-regime politics and the potential scenarios ahead. While Russia's recent history has been mostly defined by the stability of the regime, the Wagner uprising of 2023 illustrates the need to be mindful of other possibilities.

Our overall argument is that the Russian economy should not be treated as a metaphysical entity, able to uniquely free itself from the trade-offs that the war entails. The economy lacks sophistication and operates according to a fairly simple structure of oil rent dependency. In the context of war and sanctions this generates distributional tensions between the civilian and military economies as they compete over declining rents.

We highlight the importance of the 20% of Russian society that has benefited significantly in terms of their income as a result of the war and might, on average, be more inclined to continue it regardless of the interests of the majority. But identifying how this stratification will play out politically requires empirical investigation by Russia experts. Our analysis contributes one dimension of this picture by evidencing the hardening of the regime's distributional choices, as continuing the war inflicts heavy costs on the civilian economy.

Policy Recommendations

- Continue to escalate sanctions on the Russian oil and gas sector, including the use of secondary financial sanctions on entities engaging with key Russian firms, to increase pressure on the Kremlin and harden the trade-offs arising from the war.
- Engage in anticipatory governance planning and strategic foresight exercises to address the risks and opportunities arising from a sharpening of domestic conflict in Russia, including at the intra-regime and intra-elite level, as the costs of the war mount.
- Such planning should consider how negotiation formats in ceasefire talks may need to be adapted to a situation of greater social/political contention in Russia.
- Commission mixed methods actor-network analysis from Russian experts to develop a granular picture of how intra-regime and intra-elite conflicts might evolve.
- In the event of a ceasefire agreement acceptable to the Ukrainian side, Western states should develop a credible plan for partial sanctions relief in exchange for concrete and verified actions by the Russian side, with a rapid rollback clause applicable in the event of violations of these commitments. This framework needs to have sufficient inducement for the regime to maintain a ceasefire while also ensuring that a future Russian government still has a substantial incentive for the complete withdrawal of all occupying forces.
- As Russia's deteriorating economic position may impact its ability to maintain the same level of military momentum in 2026, especially given the crucial role played by financial incentives for new military recruits, Ukraine and its European allies should not underestimate the leverage that they have in the latest talks to end the war.

Executive Summary

Russia is spending more but earning less. Military spending in Russia tripled from 2021 to 2024 (rising from 5.9 trillion RUB to 16.2 trillion RUB per year), and its share in the structure of federal budget expenditures increased from 24% to 40%. Exports during this period decreased by 13.5% (from 549.7 billion USD to 475.3 billion USD per year). This means that Russia is forced to spend more, while its earning abilities have decreased substantially.

The war aggressively prioritises the military over the civilian economy. Significant resources are absorbed by unproductive frontline consumption: weapons, military equipment and ammunition are used on the battlefield, and soldiers receive large incomes without performing any socially useful work. This military economy functions at the expense of the civilian sectors, which still encompasses the work of approximately 80% of the population.

A minority of Russians – probably around 20% of the population – have benefited significantly from the war in terms of their incomes, creating a new form of social stratification in society. This group include contract soldiers, workers at military factories and their families, who, in total, make up circa 20% of the Russian population. Their nominal incomes have increased by three to seven times, which is well in excess of inflation. But for the bulk of Russians, real incomes (salaries and pensions) have fallen by 10–23%, with the greatest decline among retired people, social workers, and education and healthcare professionals. This stratification illustrates the need for caution when looking at average income levels in the population.

Russia's import dependence undermines its military Keynesianism. Military spending has stimulated output in a number of sectors involved in the production of goods and equipment demanded by war. But the budgetary stimulus provided by high military spending is significantly limited by the high level of import dependence of the Russian economy overall.

Russia is not booming. Our alternative estimates for GDP growth suggest the economy is in recession. Given the structural context of the Russian economy, there is a legitimate expectation that the war and sanctions should have led to negative consequences. However, official statistics show an increase in GDP and the real i.e. inflation-adjusted incomes of the working population. According to official data, in 2021–2024, Russia's GDP grew by +7.1%, and real household income grew by an unprecedented +24.8%. These figures are however based on questionable official estimates of inflation at between 7.4% and 11.9% per annum in 2022–2024. The very tight monetary policy of the Central Bank of Russia and the growth of the monetary supply imply this official rate is underestimated. Either the Central Bank of Russia was running the world's "tightest monetary policy", with inflation-adjusted interest rates of more than 10% from late 2024 through to 2025,[6] or the true rate was higher as wartime supply constraints and an expanded money supply drove inflation.[7] The likelihood that the inflation rate is higher than publicly reported is further suggested by sources such as the analytical agency ROMIR,[8] which until September 2024 monitored consumer inflation in Russia, estimated inflation in 2022 at 33%, compared to the official rate of 11%.

For the present report an alternative estimate for the inflation rate in 2022–2024 was developed by contrasting the relationship between the official inflation rate and the ROMIR data for the period 2004–2021 and for the period 2022–2024. This allowed us to obtain an alternative inflation rate estimate that is approximately twice as high as official levels in 2022–2024, amounting to 25%, 15% and 20.7%, respectively. Based on the indicators of nominal GDP and personal income and using the real inflation rate (deflator), alternative calculations were made for the dynamics of real GDP and personal income in 2021–2024. The results showed that in this period Russia's GDP fell by 1.5%, while real household incomes declined by 5.3%.

Russia is drawing down its sovereign wealth fund to continue to prosecute the war, and this critical funding source is dwindling. The increase in military spending in 2022–2024 was primarily financed by the liquid reserves of the National Welfare Fund (NWF). At the beginning of the war in May 2022, it stood at 148 billion USD. During three years of the war, 113 billion USD (or 76% of the accumulated liquid resources of the NWF) was spent, which is almost equal to the increase in military spending over this period (circa 135 billion USD). As the added value generated in previous years has been drawn down to support the war effort, this provides further support for questioning the official estimate for Russian GDP growth.

The war has altered the structure of the Russian economy, with the size of the revenue-dependent economy expanding and the revenue-generating economy shrinking. There have been important changes in the structure of Russia's GDP. This was the result of the multidirectional dynamics of the development of sectors that generate revenue for the economy (revenue-generating) and sectors that spend them (revenue-dependent). The key revenue-generating sectors (oil and oil refining, ore mining, metallurgy) reduced production, while the main revenue-dependent sectors (public administration, production of weapons, missiles and ammunition) increased output. As a result, the share of revenue-generating sectors in the GDP structure decreased by 4.6 percentage points (from 47.1% to 42.2%), while the share of revenue-dependent sectors increased by 4.1 points (from 27.9% to 32%). This dualism between revenue-generating and revenue-dependent sectors of the Russian economy, which has been long identified as a feature of its petrostate character,[9] has thus become more pronounced and challenging for the regime to manage in the context of the full-scale invasion.

The budget deficit represents a key financing challenge for the Russian state going into 2026. A direct consequence of the change in the structure of GDP in favour of revenue-dependent industries was the growing budget deficit. In 2021–2024, due to military spending, the expenditures of the budget grew at a higher rate (+62%) than the growth of revenues (+45%). While in pre-war 2021, the budget was in surplus (+0.5 trillion RUB), in 2024, the budget deficit amounted to 3.5 trillion RUB (or 9% of total budget expenditures). The budget deficit is growing most rapidly in 2025, to 3.7 trillion RUB for 6 months, and is expected to reach 7–8 trillion RUB (or 18% of budget expenditures) by the end of the year.

Financing such a high budget deficit could be a serious challenge for the Russian economy. Currently, it has no non-inflationary sources for this financing. In November 2025, the volume of repo transactions (a financial instrument used to provide additional short-term liquidity to the Russian banking system) by the Central Bank of Russia reached 2.83 trillion RUB, indicating the stresses on the system. This will mean additional inflationary pressure on the economy, where inflation has already reached a level of circa 15–25% in 2022–2024.

Russia's access to freely convertible currency has sharply declined as a result of sanctions, limiting its financial room for manoeuvre as the war continues. Due to the freezing of about 300 billion USD of foreign exchange reserves by western, mainly EU, countries, as well as the sanctions on gold transactions, the amount of available hard currency reserves decreased by seven times, from 610 billion USD at the beginning of the war to 86 billion USD at the beginning of 2025. Russia has benefited from the sharp increases in gold prices in international markets, having made a successful bet on the commodity, but it cannot convert these gold reserves easily into freely convertible currency due to the impact of sanctions. While it does provide an economic backstop, which could for example support its banks in a financial crisis, this does not alter fundamentally negative overall assessment of the Russian economy.

The volume of export earnings in hard currency in 2021–2024 decreased by more than 5 times, from 465.2 billion USD to 88.4 billion USD per year. At the same time, exports in rubles increased by 2.5 times, and exports in other currencies (yuan, lira, rupiah) increased 32 times. The change in the currency structure of revenues imposes restrictions on Russia's foreign trade, limiting the scope for dollar-denominated trade without drawing down its financial reserves.

Russia has seen a sharp deduction in accumulated Foreign Direct Investment (FDI) and new FDI inflows, undermining its long-term productive capacity. Accumulated FDI in Russia has almost halved (from 498 billion USD to 216 billion USD). Western companies continue to cut back production and to exit the market. As Russia's economy is technologically dependent on more advanced markets, this is a very unfavourable trend. Its negative effects are already being felt in sectors such as oil and gas production, automotive, aircraft and energy production.

Russia's state bank nexus may utilise financial repression towards household deposits to prioritise the war economy as trade-offs become harder to manage. The war has brought about a significant increase in household deposits in banks (from 34.7 to 57.5 trillion RUB), particularly from a small percentage of Russians (7.2 million people, or 5%) who are significant beneficiaries of the war. These funds have become an important component of financial stability in Russia's banks as they increased their lending to industry, primarily to the military-industrial complex (from 52.6 to 88.7 trillion rubles).

Russia's banking system is heavily concentrated, largely state-owned[10] and engaged in lending to state enterprises and state-backed enterprises,[11] creating a 'state banking nexus'[12] and potential source of system risk. These deposits have also been finding their way into the consumer market, creating an additional factor in the inflation experienced by the Russian population. The Russian authorities have an interest in limiting withdrawal to maintain the financial position of the bank and control price inflation. They might therefore engage in financial repression in the form of restricting access to withdrawal of deposits, partial freezing of deposits, etc. But given that this would risk a general loss of confidence in the Russian banking system, the regime would likely explore all other options before resorting to such a step, including utilising its gold reserves.

The way Russia's unfavourable economic conditions intersect with the authoritarian political regime is the critical question as the Russo-Ukrainian War heads towards its fifth year. At the close of 2025, after nearly four years of all-out-war, the Russian economy faces a combination of unfavourable factors: the depletion of the NWF's liquid reserves, lack of access to frozen foreign reserves, low oil prices, and a decline in oil and gas revenues, combined with significant increases in military spending. As a result, the Russian economy is substantially less able to finance the war than it was at the beginning of it in 2022. The emerging constraints on the Russian economy are materially significant and will make it more difficult to sustain the war effort in its current form, especially as it has required the use of significant financial incentives to push forward military recruitment. In light of the tensions between the civilian and military dimension of the Russian economy, this must at some point impact on the 'regime dynamics' of the Putin system, posing challenges for this autocratic order to maintain its coalition of support (and the kleptocratic flow of funds to elites that this entails). This means that, while politically the Russian President is committed to a long war, anticipating that the coalition standing behind Ukraine will diminish in his favour overtime, this position is a risky calculation, both from the perspective of Russia's geopolitical position and its regime stability.

Macroeconomic Indicators of the Russian Economy in 2021–2024

Official GDP of Russia: volumes and annual dynamics in 2021–2024

Russia should be analysed as a complex and indeed unique geopolitical player in the global distribution of power. Its vast territory reflects its long history of imperialism that – as we can see in Ukraine – has carried over into the present. However, despite its self-identity as a "great power",[13] the true picture is more complicated. Russia retains the world's largest nuclear arsenal, but its war machine exists on relatively weak economic foundations. The nominal volume of its economy in 2021–2024 was 1.84–2.03 trillion USD/year (Table 1.1). By this metric, Russia ranks only 11th in the world[14] and is significantly inferior to other influential geopolitical players – the United States (circa 13 times), China (circa 9 times) and the European Union (circa 8 times). In terms of size, Russia's economy is comparable to the economies of South Korea, Australia or Canada. Russia's GDP per capita in purchasing power parity (PPP), a measure that controls for population and exchange rate distortions to calculate a country's economic productivity, in 2024 was 47,400 USD.[15] This is 1.8 times less than in the United States (85,800 USD per capita) and 1.3 times less than the European Union (62,400 USD per capita). Russia ranks 51st in the world in terms of this indicator.

Table 1.1. Russia's GDP dynamics in 2021–2024

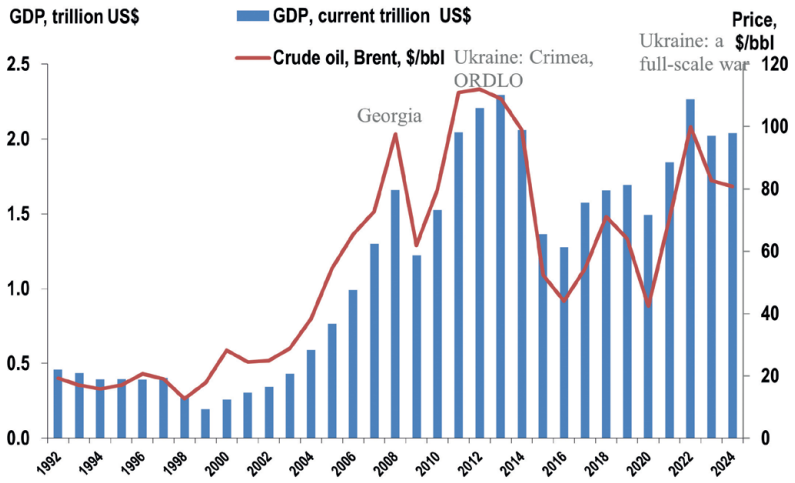
Indicator	2021	2022	2023	2024	Changes in 2024/2021, %
Change in GDP, %	+5.9%	-1.4%	+4.1%	+4.3%	+7.1%
GDP, trillion rubles	128.0	153.4	172.1	201.2	+57%
GDP, trillion US dollars (World Bank)	1.84	2.27	2.02	2.03	+10%

Source: Rosstat,[16] *World Bank*[17]

This relative economic weakness is a critical legacy of how Russia's economic transition from communism was managed by its elites. The "shock therapy" of the 1990s was crippling for the economy. GDP dropped by half, from 460 billion USD in 1992 to 194 billion USD in 1999. However, buoyed by oil prices, over the next 10 years, until the financial crisis of 2008, the Russian economy grew rapidly. During this period, its nominal volumes increased by almost seven times, from 0.26 trillion USD to 1.66 trillion USD per annum. After a brief recession in 2009, the Russian economy continued to grow, reaching a historic high in 2013 of 2.29 trillion USD. This economic recovery was heavily dependent on rising global oil prices. For example, the price of Brent oil rose from $24–30 per barrel in the early 2000s to almost $100 per barrel in 2008 and circa $110 per barrel in 2012–2013.

The decisive impact of oil prices on the Russian economy is evidenced by the high correlation coefficient (r2000-2024= 0.888) between Russian GDP and world oil prices. We illustrate this in Figure 1.1. In other words, a rise in oil prices leads to a similar increase in Russian GDP, and vice versa: when oil prices fall, the Russian economy shrinks.

Figure 1.1. Russia's GDP and oil prices in 2000–2024



Source: Rosstat and US Energy Information Administration

The story of Russia's post-Soviet development is thus one of growing fossil fuel dependency and vulnerability to price shocks. The regime failed to utilise these revenues to diversify and upgrade the productive capacity of the wider economy. After the catastrophic experiment with shock therapy in the 1990s, the Putin regime sought to restore the role of the state as a central economic actor in the management of the market economy. This went hand-in-hand with creating a personalised autocracy, with those oligarchs that were allowed to retain their property pledging their allegiance to the Russian president. Underpinning this whole model of economic development was booming oil and gas revenues, a bonanza that allowed Putin to build a kleptocratic system of rent-distribution.[18] As the regime consolidated its power, it gradually became more confident and aggressive geopolitically.

Figure 1.1 illustrates how periods of high oil prices coincided with acts of aggression Georgia (in 2008) and Ukraine (in 2014 and 2022), perhaps suggesting that these windfalls boosted the risk appetite of the regime to conduct military operations overseas. While it is important not to overstate this factor, it could even be argued that this geopolitical behaviour draws parallels with the old Soviet Union that launched its occupation of Afghanistan in 1979 following a tripling of oil prices (from $12 to $38 per barrel). Perhaps though this argument has more force and plausibility in the inverse direction. The sharp decline in oil prices to $14–15 per barrel between 1986 and 1988 worsened the economic situation at home and led the Political Bureau to withdraw Soviet forces from Afghanistan.

This was also a moment of critical regime instability "at home", and an important factor in the crisis that would lead ultimately to the disintegration of the Soviet Union. While the relationship between politics and economics is always complex and reciprocal, the Russian regime's contracting sources of revenues to support its war effort in Ukraine going into 2026 may also be a factor in driving regime instability "on the home front". The 2023 Wagner rebellion illustrates the risks that the war may still pose to regime cohesion.

Inflation study in Russia in 2021–2024

According to official data, the Russian economy grew by a total of +7.1% in 2022–2024. After the start of the full-scale invasion of Ukraine, Western countries imposed sanctions on Russia, which led to a slight contraction of its economy in 2022 (-1.4%). In the next two years, the Russian economy grew annually, at a rate of +4.1% in 2023 and +4.3% in 2024. As measures of the growth in GDP always have to be inflation adjusted, however, these figures are highly contingent on the reliability of Russia's measurement of inflation.

Russia has been running a very high Central Bank policy rate (which from October 2024 to May 2025 was 21%). This implies inflation was far higher than official rates suggest, otherwise lending would have been made exceptionally expensive (the "world's tightest monetary policy")[19] with inflation adjusted interest rates of more than 10% from late 2024 through to 2025. Table 1.2 shows the official annual inflation rate for Russia in 2022–2024. It is estimated to be in the range of 7–12%. Given the very high Central Bank policy rate and the dynamics of money supply into the economy, measured by the M2X aggregate (see more below), the official rate appears likely to be an underestimate of the true rate of inflation in this time.

Table 1.2. Official inflation in Russia in 2022–2024 (in % compared to the previous year)

Indicator	2022	2023	2024	Accumulated for 2022–2024
Consumer price index	11.9	7.4	9.5	31.6
Producer price index:				
Industry as a whole	11.4	4.0	12.1	29.9
including mining and quarrying*	14.7	4.2	17.7	29.9
Processing industries	11.3	2.8	11.2	27.2

*Mining and quarrying are subject to high levels of price volatility that can impact headline industrial inflation rates.
Source: Rosstat, Ministry of Economic Development of the Russian Federation.

To analyse the relationship between the money supply to the economy and the Central Bank policy rate, we can observe their interaction in the period leading up to 2022 (Fig. 1.2). In addition, there is also an alternative source for price pressures facing consumers from the analytical agency ROMIR,[20] which shows inflation rates for this period (of upwards of 20% per year, approximately double the official figures).

Below, in Figure 1.2 we show the dynamics of money supply, official inflation and the key policy rate in Russia in 2019–2024. We apply the assumption that before the war (2019–2021), these indicators and the correlation between them were true (i.e., they were not distorted as a result of political interference). We can see that the policy rate and the inflation rate track one another closely until October 2023. Whereas the Central Bank policy rate is responsive to the expansion of the monetary supply, the official inflation rate remains curiously and indeed suspiciously low. It appears relatively immune from the massive increase in defence and security spending, as well as spending circa 40% of the NWF's liquid resources (or -59 billion USD) in 2022 to cover the budget deficit.

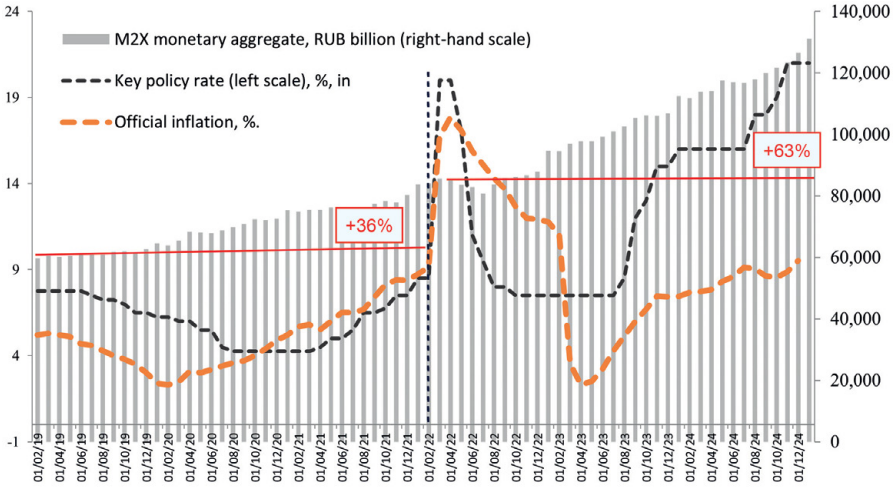
As we can see in Figure 1.2, in the pre-war period (2019–2021), annual inflation and the key policy rate were in the range of 4–8%, and their changes were synchronised over time. Thus, a decrease in inflation led to a corresponding decrease in the key policy rate, and vice versa. The difference between inflation and the key policy rate did not exceed 2–3 percentage points. The money supply did not grow significantly during this period. In total, the money supply in the economy increased by 36% in 2019–2021.

With the full-scale invasion of February 2022, inflation immediately rose sharply, leading the central bank to increase the key policy rate to 20% in late February. As inflation declined in May (the commodity deficit was offset by imports of goods at the expense of significant export earnings), the central bank cut the key policy rate to 7.5% by September 2022. By May 2023, changes in official inflation and the key policy rate were synchronised. Furthermore, during this period, the money supply continued to grow at a moderate pace.

Starting in June 2023, the situation began to change, as the inflation and key policy rate paths began to diverge. Thus, despite the seemingly moderate inflation rate (8–9.5% per annum), the central bank almost tripled its key policy rate between June 2023 and October 2024 (from 7.5% to 21%). As a result, the difference between the official inflation rate and the key policy rate increased to 11 percentage points, which had never been the case in the pre-war period.[21]

The money supply growth rate has also doubled since November 2023. In total, in 2022–2024, the money supply in the economy increased by 63%, almost twice as fast as in the pre-war period.

Figure 1.2. Dynamics of money supply, official inflation and the key policy rate in Russia in 2019–2024 [22]



Source: Central Bank of Russia

This analysis can be further evidenced by augmenting the data used in Figure 1.2 (the described discrepancy between the dynamics of the discount rate and money supply in the economy) with the alternative inflation data from ROMIR. The ROMIR data was calculated through a study involving 40,000 Russians in 240 towns and cities. They scan barcodes from receipts for goods and services purchased. It involves a broader basket of goods than the official rate of inflation but also excludes durable products, focusing on everyday items.[23] These different methodologies may be a factor in the very different estimates of inflation during the war. Analysts at RE: Russia.net have suggested that shifts in consumer behaviour during the pandemic and all-out-war may also be a factor:

> "Rosstat may not account for the fact that many households have started purchasing cheaper alternatives to their usual goods – either to save money or because these goods are no longer available. ROMIR, unlike Rosstat, tracks the price dynamics of specific SKUs (stock keeping units – identification codes corresponding to individual product units), meaning it monitors particular products from specific brands. For higher-income groups, who are able and willing to maintain their quality of consumption, inflation will be significantly higher and closer to what is reflected in the FMCG index; lower-income groups will 'lower' their inflation by sacrificing the quality of their consumption. However, Rosstat's methodology will reflect inflation according to the lower scenario."[24]

As we explain below, the importance of how inflation is calculated in the economy lies in its impact on the economic growth figures. Because real GDP is calculated by adjusting for inflation, if inflation is underestimated, this leads to an artificial overestimation of economic growth.

We utilise the following methodology to develop an alternative calculation. We assume that until 2022 the official inflation rate broadly corresponded to the reality of Russian price measures. This period is characterised by normal ratios between statistical series of the interest rate, alternative inflation estimates by the agency ROMIR and the official rate of inflation. Our analysis shows that in 2022–2024 these ratios that previously aligned became misaligned, suggesting potential manipulation of the official rate of inflation.

On this basis, it is reasonable to calculate mathematically these ratios for 2015–2021 and then use them to estimate inflation for 2022, 2023 and 2024. Table 1.3 shows the statistical series used to create a two-factor regression model where the dependent variable (y) is official inflation, and the independent variables are ROMIR (x1) and the interest rate (x2).

Table 1.3. Statistical series used to create a two-factor regression model

Year	Official inflation (y)	ROMIR (x1)	Interest rate (x2)
2015	12.9%	9.0%	11.0%
2016	5.4%	7.1%	10.0%
2017	2.5%	1.6%	7.8%
2018	4.3%	3.1%	7.5%
2019	3.0%	2.9%	6.5%
2020	4.9%	7.7%	4.3%
2021	8.4%	18.0%	8.5%
2022	?	33.4%	20.0%
2023	?	23.3%	16.0%
2024	?	22.0%	21.0%

Source: Rosstat, ROMIR, Central Bank of the Russian Federation

In our two-factor regression model, we assume that:

1. Changes in the Russian Central Bank key rate in 2022–2024 were a reaction to the growth of real inflation, and therefore largely reflect its dynamics;

2. The amplitude of real inflation fluctuations during this period should have been close to ROMIR indicators, as it was in 2015–2020, when the correlation coefficient between them was r=0.78.

The resulting equation describing the relationship between the interest rate, ROMIR and official inflation is as follows:

Y=-0.03027+0.33034*x1+0.83355*x2

Below in Table 1.4 the inflation rate in Russia for 2022–2024, calculated using this equation, is shown:

Table 1.4. Calculated and official inflation rates in Russia for 2022–2024

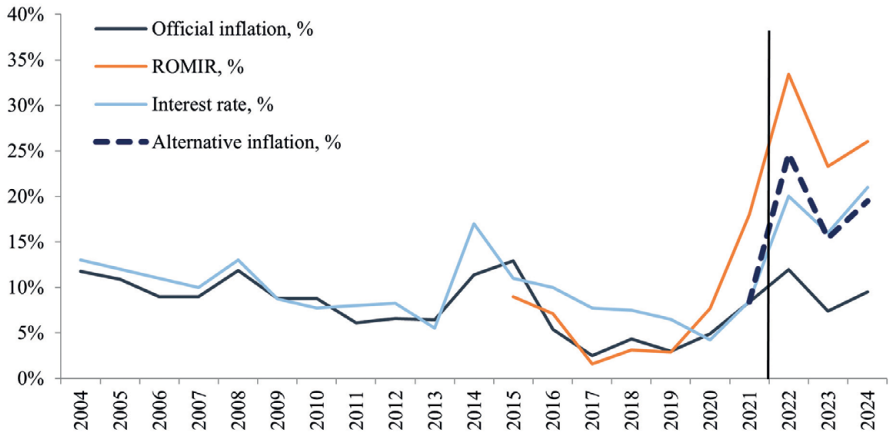
Year	Calculated inflation (y)	Official inflation
2022	25.0%	11.9%
2023	15.0%	7.4%
2024	20.7%	9.5%

Source: calculated by the authors of the study based on data from Rosstat, ROMIR, and the Central Bank of the Russian Federation

Figure 1.3 shows data of the official inflation rate from Rosstat, inflation from the ROMIR, and an alternative inflation rate calculated using a regression equation. In the period up to 2021, the values of the discount rate, the ROMIR inflation rate and the official inflation rate were close to each other, and their dynamics were synchronised. In 2022–2024, the picture significantly changed. Since September 2023, Russia has been experiencing atypical dynamics in official inflation, the key policy rate and the money supply.

An almost triple increase in the discount rate[25] and a doubling of the money supply growth rate indicate that the real rate of inflation was likely to be at least twice as high as the official rate. The alternative calculations of inflation rates give us the following numbers: 25.0% in 2022, 15.0% in 2023, and 20.7% in 2024. It should be noted that these alternative rates are lower than ROMIR, suggesting that this estimate is, if anything, conservative.

Figure 1.3. Official and calculated inflation in Russia in 2004–2024



Source: Rosstat, ROMIR, Central Bank of Russia and authors' calculation

It must be acknowledged that this is a relatively crude estimate based on two factors that should not be taken as a descriptor of the "true" level inflation as such. In the regression model, the "error term"[26] represents the factors that influence the official inflation rate that are not captured by the two explanatory variables, the ROMIR inflation rate and the Central Bank of Russia policy rate. These may include unobserved determinants of inflation that are missed by the two explanatory variables, as well as random variation and shocks. However, in introducing this important caveat to the models estimate, we should also consider a number of indicators that are well established factors in inflation: fiscally expansive government spending (stimulus), expansion of lending, growth in nominal wages, devaluation of the ruble, rising import prices, growth in money supply (M2X), and rising credit costs. They were not used as independent variables for constructing a regression model but are described in the relevant sections of the report. Based on this description, it is reasonable to assume that after the start of the full-scale invasion these factors contributed to inflation and influenced the setting of the policy rate.

Nonetheless, we are also aware that there is a specific analytical problem in comparing the pre-February 2022 Russian economy to the one that developed after this pivot point of change and transformation. As this represented a clear structural break in how the Russian economy was organised, as well as its external relations, there is a risk that the coefficients estimated from the 2015 to 2021 period no longer operate in the same way after 2022. Wartime factors could result in the model misestimating the inflation rate. The rate is also estimated within a fairly wide confidence interval, driven by the relatively short data series that we draw on. However, these important qualifications aside, we would highlight that the rate predicted for 2022–2024 by the model still falls below the ROMIR estimate for inflation in this period. It can therefore be taken as a reasonably conservative "best guess" of the price pressures in the Russian economy. In the context of the disjuncture between the expansion of the monetary supply and the rise in the central bank policy rate, the model provides further grounds for assuming that price pressures in the Russian economy are greater than the official inflation rate suggests.

Dynamics of Russia's GDP in 2022–2024, taking into account the calculation of the alternative inflation rates

If the inflation is something in the region as twice as high as the official figures suggest in the period 2023–2024, then it has a knock-on effect on Russia's GDP growth during this period. The above calculation of inflation rates allows us to make alternative calculations of changes in real GDP, which involves nominal GDP (in current year prices), adjusting it for the GDP deflator index, and then comparing the result with the previous year's GDP.

The calculation of the GDP deflator must consider changes in the prices of goods and services purchased by all sectors of the economy, households, businesses and the government, as well as the exchange rate dynamics of the national currency, which affects the prices of imported goods. Therefore, it is calculated using the consumer price index, the producer price index and the national currency devaluation index.

To calculate an alternative deflator indicator for 2022–2024, the following weighted composition of three indicators was used:

1. Alternative inflation rate (obtained using a regression model) – weight 70% (coefficient 0.7), corresponding to the share of final consumption in the Russian Federation's GDP (circa 70% in 2014–2021);

2. Official annual inflation index of industrial producers – weight 20% (coefficient 0.2), corresponding to the share of gross fixed capital formation (GFCF) in Russia's GDP (circa 20% in 2014–2021);

3. Calculated index of annual change in the price of the Russian ruble against the US dollar – weight 10 (coefficient 0.1), reflecting the share of imports of final goods in final consumption in the Russian Federation (circa 10% in 2014–2021).

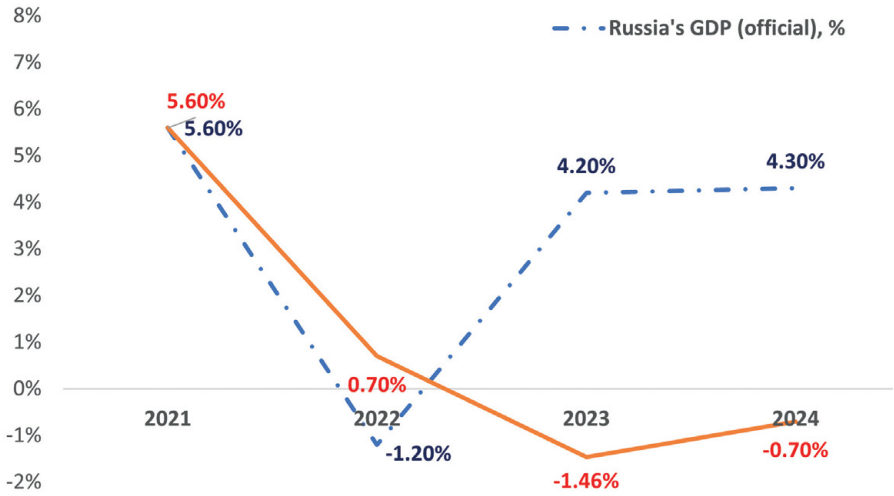
Table 1.5. Alternative calculation of the Russia's real GDP growth rate in 2021–2024

Indicator	2021	2022	2023	2024
Nominal GDP of Russian Federation, trillion RUB	128.0	153.4	172.1	201.2
The annual inflation index calculated using regression	1.00	1.25	1.15	1.21
Industrial Producer Price Index	1.00	1.11	1.04	1.12
Average annual exchange rate, RUB/ USD	73.7	68.4	85.8	92.7
Average annual exchange rate, RUB/ USD	1.00	0.93	1.26	1.08
Ruble devaluation index	1.00	0.93	1.17	1.26
Weight of the annual inflation index calculated using regression	0.7	0.7	0.7	0.7
The weight of the index of industrial producers	0.2	0.2	0.2	0.2
The weight of the ruble devaluation	0.1	0.1	0.1	0.1
Annual deflator	1.00	1.19	1.36	1.60
Deflated GDP of Russian Federation, trillion RUB	128.0	128.8	127.0	126.1
Annual dynamics of GDP change, %		0.66%	-1.46%	-0.70%
Cumulative change in GDP, %		0.66%	-0.81%	-1.51%

Source: Rosstat, World Bank

Using these calculations, we show a trend in Russia's GDP that differs from the official figures. The Russian economy grew by 0.7% in 2022, but decreased in 2023–2024, falling by a total of 1.5% over three years. Interestingly, this shows a level of similarity to the official data in 2022, but departs from it significantly in both dynamics and values in 2023 and 2024.

Figure 1.4. Dynamics of changes in Russia's GDP in 2022–2024, %



Source: Authors' calculation using Rosstat, ROMIR, Central Bank of Russia data

There are other factors that point towards a recessionary environment in the Russian economy where war induced demand runs up against supply constraints and is unable to overcome the effects of sanctions. The significant increase in budget expenditures (from 24.8 trillion RUB in 2021 to 40.2 trillion RUB in 2024) – Russia's "military Keynesianism" – was designed to catalyse increases in production, but in fact only partially compensated the decline in exports of goods (from 592 billion USD in 2022 to 423–433 billion USD/year in 2023–2024), as well as a decline in output in sectors where foreign corporations operated (automotive, food industry, household appliances, etc.).

A significant part of the budget spending went on imports of goods, due to Russia's import-dependency. These imports increased by 9% (from 277 billion USD to 300 billion USD per year) during 2022–2024.

Separate explanations concern the decline in visible unemployment in Russia, which according to official data, decreased from 3.8% to 2.4% (2021–2024). This would normally indicate economic growth but in Russia's case needs to be contextualised in the war environment and its impact on the supply of labour. From September to December 2022, circa 350,000 men of working age were mobilised into the Russian armed forces. During 2023–2024, between 25,000 to 35,000 people signed military contracts every month.[27] In total, circa one million men were shifted into the army from the economy during this period. In addition, according to various estimates, up to 700,000[28] young men under the age of 35 left the country to avoid the military draft. This puts the total loss of workers in the Russian economy from the start of the war to the end of 2024 at some 1.7 million people, or circa 2% of the total workforce. To make up for these losses Russia required massive productive investment. However, it was unable to deliver this due to the introduction of sanctions, the departure of Western corporations, and the lack of investment in the core productive capacity of the economy, Russia was unable to compensate through productivity increases.

If this analysis is correct then it highlights how Russia's economy is experiencing a wartime supply crisis: with the loss of the productive workforce to the army and emigration undermining the ability of the productive economy to meet economic demand unleashed by the expansion of the money supply in the war, spiking inflationary pressures.

These conclusions regarding the negative dynamics in the Russian economy in 2023–2024 are broadly consistent with analysis from some Russian macroeconomists. The Institute for Economic Forecasting of the Russian Academy of Sciences have shown that Russian growth stalled at the beginning of 2024, and since then, national GDP has remained at approximately the same level for some 20 months. They noted that the official GDP growth rate of +4.3% in 2024 was achieved due to an inexplicable jump in GDP in December.[29]

Sectoral Analysis of the Russian Economy in 2021–2024

Main revenue-generating sectors of the Russian economy, dynamics of their development in 2022–2024

The list of major revenue generators includes two groups of industries (Table 2.1). The first group includes export-oriented industries that provide the bulk of foreign exchange earnings to Russia and generate a significant portion of its budget revenues. It includes extractive industries (coal, oil, gas and metal ores), oil refining and metallurgy (ferrous and non-ferrous). Exports of energy and metals account for more than 70% of foreign exchange earnings from exports, and the subsoil tax forms one third of the federal budget revenue. The second group of sectors includes industries that produce civilian goods and services mainly for the domestic market, which reduces the country's import dependence and saves foreign exchange, as well as pays turnover taxes to the budget (income tax, excise taxes, VAT). This group includes agriculture, the construction sector, electricity generation and supply, and a number of manufacturing industries.

Table 2.1. The main revenue-generating sectors of the Russian economy

Export-oriented industries that generate the main foreign exchange earnings	Industries that help reduce dependence on imports and support domestic supply of goods and services
Extractive industry (coal, oil, natural gas, metal ores) Production of coke and petroleum products Metallurgical production	Agriculture Food and beverage production, tobacco production Wood processing and wood products manufacturing Production of paper and paper products Production of medicines Manufacture of rubber and plastic products Production of construction materials Manufacture of machinery and equipment Production and supply of electricity, gas and steam Construction Manufacture of furniture and other finished products

Table 2.2 shows the dynamics of physical output indices of the main revenue-generating sectors of the Russian economy in 2022–2024.

Table 2.2. Changes in production volumes of the main revenue-generating sectors of the Russian economy in 2022–2024, % compared to the previous year

Industry	2022	2023	2024	Shift 2022–2024
Agriculture, forestry	-1.4%	+4.1%	+4.3%	+7.1%
Extractive industry	-1.4%	+4.1%	+4.3%	+7.1%
Production of food, beverages and tobacco products	-1.4%	+4.1%	+4.3%	+7.1%
Wood processing and wood products manufacturing	-1.4%	+4.1%	+4.3%	+7.1%
Production of paper and paper products	-1.4%	+4.1%	+4.3%	+7.1%
Production of coke and petroleum products	-1.4%	+4.1%	+4.3%	+7.1%
Production of medicines	-1.4%	+4.1%	+4.3%	+7.1%
Manufacture of rubber and plastic products	-1.4%	+4.1%	+4.3%	+7.1%
Production of construction materials	-1.4%	+4.1%	+4.3%	+7.1%

Industry	2022	2023	2024	Shift 2022–2024
Metallurgical production	-1.4%	+4.1%	+4.3%	+7.1%
Manufacture of machinery and equipment	-1.4%	+4.1%	+4.3%	+7.1%
Manufacture of furniture and other finished products	-1.4%	+4.1%	+4.3%	+7.1%
Production and supply of electricity, gas and steam	-1.4%	+4.1%	+4.3%	+7.1%
Construction	-1.4%	+4.1%	+4.3%	+7.1%

Source: Rosstat

As shown in Table 2.2, around one third of Russia's revenue-generating industries reduced their output in 2022–2024. The main export-oriented industries - mining (-1.9%), petroleum products (-2.3%), metallurgy (-2%), and woodworking (-7.4%) – all reduced their production volumes. This was primarily the result of sanctions imposed by Western countries, which stopped/reduced imports of these products, with other states like China and India not compensating for this loss of markets. Moderate growth in production was in three sectors: agriculture (+3.4%), production of machinery and equipment (+ 0.8%) and production and supply of electricity (+2.3%). Agriculture has suffered from a decline in the use of foreign agricultural inputs (seeds, pesticides, agricultural machinery) and has been experiencing negative dynamics since 2024. The production of machinery and equipment has been stagnating since 2024 due to a slowdown in investment in the civilian economy. Electricity production is supported only by increased demand from military plants, while consumption in the civilian sector has declined.

At the same time, almost half of the industries significantly increased their production volumes due to rising domestic demand as a result of higher incomes (primarily among the military and defence industry workers) and restrictions on imports due to sanctions. In particular, these are the production of food, beverages and tobacco products (+10.2%), the production of medicines (+25.5%), construction (+21.7%), the production of building materials (+6.9%) and the production of furniture (+25.1%). However, in 2024, growth rates in most of these sectors declined significantly, indicating that the initial effect of the import cessation and the increase in household incomes had worn off.

Thus, in 2022–2024, output in the main export-oriented sectors of the economy that earn foreign currency declined. Output in industries that produce civilian goods and services for the domestic market increased, but, in 2024, growth rates trended downwards.

The main revenue-dependent sectors of the Russian economy and the dynamics of their development in 2022–2024

The main revenue-dependent industries are those whose demand for products is covered by the federal budget. There are two groups of such industries (Table 2.3).

The first group includes industries whose activities are primarily aimed at supporting the armed forces – the development and production of weapons, ammunition, missiles and military equipment. These sectors also include the production of civilian products, but their share is insignificant and does not exceed 10–15%. This group also includes public administration and military security.

The second group includes industries that provide a social package of services guaranteed by the state, including education, healthcare and social services, as well as cultural activities.

Table 2.3. The main revenue-dependent sectors of the Russian economy

Industries aimed at supporting the Russian armed forces	Industries that provide state-guaranteed social services
Manufacture of finished metal products (small arms, artillery, ammunition) Production of computers, electronic and optical devices (high-precision weapons) Production of electrical equipment (high-precision weapons) Manufacture of other vehicles (production of heavy military equipment) Professional, scientific, technical activities (military developments) Public administration and military security (includes payments related to recruitment and payments to military personnel and their families)	Education Healthcare and social services Activities in the field of culture (propaganda)

Table 2.4 shows the dynamics of physical output indices of the main revenue-dependent sectors of the Russian economy in 2022–2024.

Table 2.4. Changes in production volumes of the main revenue-dependent sectors of the Russian economy in 2022–2024, % compared to the previous year

Industry	2022	2023	2024	Shift 2022–2024
Production of finished metal products	+11.8	+23.9	+35.6	+87.7
Manufacture of computers, electronic and optical devices	+10.6	+37.5	+30.5	+98.5
Production of electrical equipment	-3.8	+20.2	+5.1	+21.6
Manufacture of other vehicles	-5.8	+25.8	+26.5	+49.9
Professional, scientific, technical activities	+1.3	+7.6	+3.9	+13.2
Public administration and military security	+6.8	+8.8	+8.9	+26.6
Education	+2.0	0.0	+0.9	+2.8
Healthcare and social services	-6.8	+0.4	+0.6	-5.8
Activities in the field of culture	+8.1	+2.1	+8.3	+19.6

Source: Rosstat

As shown in Table 2.4, the industries supporting the armed forces experienced significant and moderate growth in production in 2022–2024. Output in three industries increased significantly: computers, electronic and optical devices (+98.5%), the production of finished metal products (+87.7%) and the production of other vehicles (+49.9%). That is, Russia has increased the production of high-precision weapons (missiles), artillery and ammunition, and heavy military equipment (tanks) by 1.5–2 times. In the case of artillery and tanks, the production also includes the restoration of Soviet stocks.

In the other three industries, output growth was strong but not as dramatic: production of electrical equipment (+21.6%), scientific activities (+13.2%), and public administration and military security (+26.6%). The situation is different in the sectors that provide the social package of services guaranteed by the state. Here, only the cultural activities segment (+19.6%) showed moderate growth, mainly due to an increase in propaganda spending. In the other two sectors, output declined (healthcare and social services by 5.8%) or increased slightly (education by +2.8).

Accordingly, in 2022–2024, the industries whose activities are mainly aimed at supporting the armed forces increased their output by 1.5–2 times. This primarily concerns the production of weapons, ammunition, missiles and military equipment.

At the same time, the industries that provide the social package of services guaranteed by the state remained virtually unchanged, with the exception of the cultural sector, where a moderate increase was due to an increase in propaganda spending.

Mixed sectors and their development dynamics

Some manufacturing industries produce products for both civilian and military use, in roughly equal proportions.

These include:

1. Manufacture of textiles, clothing, leather and leather products – this group of goods includes the manufacture of textiles, clothing and footwear for civilian use, as well as the manufacture of military uniforms and equipment;

2. Production of chemicals and chemical products – covers the production of civilian chemicals (fertilisers, polymers, acids, etc.) and explosives for ammunition and rocket fuel;

3. Production of motor vehicles, trailers and semi-trailers – includes production of civilian cars, as well as trucks and light military vehicles.

Table 2.5 shows the data on changes in production volumes in 2022–2024 in the mixed manufacturing industry.

Table 2.5. Change in production volumes in the mixed sectors of the manufacturing industry in 2022–2024, % compared to the previous year

Industry	2022	2023	2024	Shift 2022–2024
Manufacture of textiles, clothing, leather and leather goods	+1.2	+11.1	+5.5	+18.5
Production of chemicals and chemical products	-3.6	+4.8	+3.0	+4.1
Production of motor vehicles, trailers and semi-trailers	-44.1	+15.8	+17.2	-24.1

Source: Rosstat

As shown in Table 2.5, in 2022–2024 two mixed manufacturing industries experienced moderate growth in output. The decline in civilian production was apparently offset by an increase in military production.

In motor vehicle production, the almost double reduction in output in 2022 (due to the withdrawal of Western automakers from Russia) was not offset by a moderate increase in car production in 2023–2024.

Thus, in 2022–2024, two mixed industries in Russia showed moderate growth rates in production. The third industry, automotive manufacturing, after a sharp decline in production in 2022, has not yet recovered its output to pre-war levels.

Structural changes in the Russian economy in 2021–2024

What the above outline reveals is the multidirectional dynamics of Russia's wartime economy and the uneven impact of the war. The structure of the Russian economy in 2021–2024 shifted sharply to war related and military-industrial complex sectors (Table 2.6).

Table 2.6. Structural changes in Russia's GDP in 2021–2024, %

Sector of economy	2023	2024	Change 2021–2024 (percentage points)
Revenue-generating sectors:			
Agriculture	4.1	3.0	-1.1 pp
Extractive industry	13.3	11.7	-1.5 pp
Production of coke and petroleum products	2.3	2.1	-0.2 pp
Metallurgical production	2.9	2.1	-0.8 pp
Production and supply of electricity, gas and steam	2.3	2.1	-0.2 pp
Construction	4.7	4.9	+0.2 pp
Wholesale trade	8.3	7.6	-0.7 pp

Sector of economy	2023	2024	Change 2021–2024 (percentage points)
Retail	4.0	4.3	+0.3 pp
Finance and insurance	5.2	4.4	-0.8 pp
Total revenue generating	**47.1**	**42.2**	**-4.9 pp**
Revenue-dependent sectors:			
Production of metal products	0.8	1.2	+0.4 pp
Manufacture of computers, electronic and optical products	0.5	0.9	+0.3 pp
Transport and storage	6.2	6.9	+0.7 pp
Information and communication	2.9	3.5	+0.6 pp
Professional, scientific and technical activities	4.0	4.7	+0.8 pp
Public administration, military security	6.9	8.8	+1.9 pp
Education	3.0	2.9	-0.1 pp
Healthcare and social services	3.6	3.1	-0.5 pp
Total income dependent	**27.9**	**32.0**	**+4.1 pp**
Other industries	**25.0**	**25.8**	**+0.8 pp**

Source: Rosstat

The largest declines were in the mining industry (-1.5 pp), agriculture (-1.1 pp), finance and insurance (-0.8 pp), and wholesale trade (-0.7 pp). This is largely a result of the sanctions imposed by Western countries, which reduced imports of Russian energy and supplies of essential goods, as well as restricted the financial activities of Russian banks.

At the same time, the shares of war-related sectors grew the most: public administration and military security (+1.9 pp), professional, scientific and technical activities (+0.8 pp), and transport and storage (+0.7 pp). Manufacturing industries that earn money have reduced their presence (oil refining and metallurgy – by -1.0 pp in total), while the share of arms and ammunition manufacturers that spend money has increased (by +0.7 pp in total).

This analysis reveals a clear shift in the Russian economy: with those elements that are revenue dependent growing at the expense of those that revenue generating. In total, the share of industries classified as revenue-generating decreased from 47.1% to 42.2%, while the share of revenue-dependent industries increased from 27.9% to 32%.

The change in GDP structure in favour of income-dependent sectors has resulted in a number of negative socio-economic consequences:

1. It has given rise to an economy that is far more dependent on budget expenditure, as income-dependent sectors, including military production, require state funding.

2. This changed economic structure has caused budgetary distortions, with expenditure growth outpacing revenue growth. A direct consequence of these distortions is a chronic budget deficit in 2022–2024, amounting to a total of 10 trillion RUB. In pre-war 2021, Russia's budget was in surplus, amounting to 0.5 trillion RUB.

3. Against the background of a decline in the share of revenue-generating sectors and an increase in budget expenditures, a need to increase taxation of non-financial corporations and households has arisen. In particular, in 2025, the income tax was increased from 20% to 25%, and a progressive income tax scale was implemented (13–22%).

The shift in the economic structure towards income-dependent sectors breaks the overall balance of income and expenditure in the economy and is, accordingly, driving a negative cycle of cause-and-effect relationships. In the absence of access to international borrowing, the budget deficit is covered by pro-inflationary growth in the money supply. This stimulates inflation, which, in turn, increases budget expenditure due to the need for indexation (i.e., adjusting spending to the rise in prices) to pay for government salaries, procurement, and so on. Fighting inflation enforces an increase in the discount rate, which makes loans more expensive for businesses suppressing their economic activity. As businesses pay less in tax, budget revenues fall and lead to an increase in the budget deficit, which again has to be financed by pro-inflationary growth in the money supply. The prolonged continuation of such state of affairs could have serious negative consequences for the Russian economy.

Russia's Foreign Trade in 2021–2024

Total volumes of Russian exports and imports of goods and services in 2021–2024

The total volume of Russia's foreign trade in 2021–2024 changed annually (Table 3.1). After rising to a record 641 billion USD in 2022, due to the sharp increase in energy and metals prices, in 2023–2024, export volumes declined in 2023–2024 to 465–475 billion USD/year. As a result, exports in 2024 were 13.5% lower than in 2021. As sanctions kick in these have diminished the space for Russian export earnings.

Imports showed a completely different trend. They were down 8% in 2022 with volumes then recovering in 2023–2024 to 2021 levels. This is due to the fact that after the outbreak of the war, the Russian government restricted imports of goods from Western countries (primarily food) in response to their sanctions. Western governments also restricted the supply of high-tech products, including dual-use products, and energy equipment to Russia. Subsequently, Russia shifted its focus to purchasing technological goods from China. The financial sanctions made it difficult to pay for imports, but Russian companies circumvented them by using banks and financial institutions in non-western countries.

Russia's foreign trade surplus rose to a record high in 2022 to 293.5 billion USD. This was on the back of rising exports and falling imports, having more than tripled over the next two years. As a result, the trade balance in 2023–2024 is half of what it was in pre-war 2021.

Table 3.1. Russian foreign trade volumes in 2021–2024, billion USD

Indicator	2021	2022	2023	2024	Changes by 2021 to 2024, %
Exports, total	**549.7**	**640.9**	**465.2**	**475.3**	**-13.5%**
Products	494.2	592.1	424.7	433.1	-12.4%
Services	55.6	48.8	40.5	42.2	-24.1%
Imports, total	**376.9**	**347.4**	**379.7**	**381.5**	**1.2%**

Indicator	2021	2022	2023	2024	Changes by 2021 to 2024, %
Products	301.0	276.5	303.1	300.1	-0.3%
Services	75.9	70.9	76.6	81.3	7.1%
Trade balance	**172.8**	**293.5**	**85.6**	**93.8**	**-45.7%**
Products	193.1	315.6	121.7	133.0	-31.1%
Services	-20.3	-22.1	-36.1	-39.1	92.6%

Source: Central Bank of Russia

Consequently, in 2021–2024, there was a decline in Russian exports of goods and services against a backdrop of virtually unchanged imports. The exception was 2022, when due to high prices and the absence of restrictions, exports were record-breaking, while imports declined due to restrictions imposed by the Russian government on the import of food from Western countries and sanctions imposed by Western governments on the supply of high-tech products to Russia, including dual-use ones.
The foreign trade balance in 2023–2024 halved compared to pre-war 2021 and amounted to 85.6–93.8 billion USD/year.

Key commodities of Russian exports and imports in 2021–2024, changing geography of trade in key commodities, increasing dependence on China

Since the beginning of the war, Russia has classified its statistics on the geographical and commodity structure of exports and imports. Therefore, to assess changes in the commodity and geographical structure of foreign trade, we analysed the available mirror data of the main partner countries.

For this purpose, foreign trade statistics of 45 key trading partners of Russia, including 27 countries of the European Union, as well as: China, the United States, Turkey, the Republic of Korea, the United Kingdom, Kazakhstan, Japan, India, Brazil, Uzbekistan, Taiwan, Azerbaijan, Indonesia, Armenia, Israel, Singapore, Saudi Arabia and Georgia. Belarus, which is an important foreign trade partner of Russia, also classified its foreign trade information since the beginning of the war.

According to official Russian data for 2021, the above 45 countries accounted for 82.0% of the Russian Federation's total exports and 82.4% of its imports. This indicates the representativeness of the selected sample for further analysis. A detailed ranking of countries by volume of imports from and exports to Russia is provided in Annex 1 to the Report.

An analysis of the mirror data of Russia's partner countries shows significant changes in the geographical structure of the Russian Federation's foreign trade in 2021–2024, both in exports and imports (Table 3.2).

In particular, there is a clear turn in exports towards the countries of the Global South and the former Soviet Union. The largest year-on-year growth in exports was observed in relations with India (+55.5 bn USD), China (+50.9 bn USD), Turkey (+15.1 bn USD), Armenia (+7.5 bn USD), Uzbekistan (+7.1 bn USD), and Brazil (+5.3 bn USD).

At the same time, there was a sharp decline in exports to Western countries: The European Union (-139.3 bn USD), the United States (-27.4 bn USD), the United Kingdom (-24.4 bn USD), the Republic of Korea (-10.5 bn USD), and Japan (-8.5 bn USD).

The geography of imports also saw a reorientation towards new partners, in particular: China (+48.0 bn USD), Turkey and Uzbekistan (+2.8 bn USD each), Kazakhstan (+2.5 bn USD), and Armenia (+2.3 bn USD).

These changes took place against the backdrop of a significant reduction in imports from countries that joined the sanctions pressure: the EU (-68.1 bn USD), the US (-5.9 bn USD), Japan (-5.7 bn USD), South Korea (-5.4 bn USD) and the UK (-3.0 bn USD).

Table 3.2. Changes in Russian foreign trade in 2021–2024 by major trading partners, million USD

Flow	Country	2021	2022	2023	2024	Change 2024/ 2021
RU exports (country's imports from Russia)	India	8 695	40 628	60 596	64 239	55 544
	China	78 142	114 149	128 485	129 071	50 928
	Türkiye	28 959	58 853	45 600	44 019	15 060
	Armenia	1 785	2 622	3 881	9 239	7 454
	Uzbekistan	5 332	6 053	6 541	12 453	7 121
	Brazil	5 699	7 852	10 013	10 965	5 267
	Saudi Arabia	1 437	2 171	3 467	3 387	1 950
	Israel	705	392	2 058	2 371	1 666
	Azerbaijan	2 073	2 733	3 107	3 621	1 547
	Singapore	3 266	2 292	3 579	4 374	1 108
	Indonesia	1 254	2 181	2 434	2 240	987
	Georgia	991	1 718	1 735	1 725	734
	Kazakhstan	17 606	17 343	16 192	18 252	647
	Taipei, Chinese	5 024	4 883	4 199	4 556	-468

Flow	Country	2021	2022	2023	2024	Change 2024/ 2021
RU exports (country's imports from Russia)	Japan	14 145	14 998	7 399	5 688	-8 457
	Korea, Republic of	17 352	14 817	8 892	6 873	-10 480
	United Kingdom	24 849	6 767	350	471	-24 379
	United States of America	30 701	15 071	4 902	3 272	-27 428
	European Union (EU 27)	177 040	204 296	51 957	37 717	-139 322
RU imports (country's exports to Russia)	China	67 550	76 123	111 057	115 503	47 953
	Türkiye	5 776	9 343	10 907	8 563	2 787
	Uzbekistan	1 704	2 600	3 023	4 473	2 769
	Kazakhstan	7 019	8 781	9 788	9 547	2 528
	Armenia	794	2 365	3 384	3 116	2 322
	India	3 334	2 927	4 054	4 918	1 584
	Azerbaijan	921	975	1 196	1 178	258
	Georgia	567	552	564	654	87
	Saudi Arabia	81	44	19	40	-41

Flow	Country	2021	2022	2023	2024	Change 2024/ 2021
RU imports (country's exports to Russia)	Brazil	1 587	1 974	1 343	1 450	-137
	Indonesia	1 493	1 387	913	1 315	-178
	Israel	794	653	554	490	-304
	Singapore	488	183	139	123	-366
	Taipei, Chinese	1 323	852	794	598	-725
	United Kingdom	3 738	1 262	813	717	-3 021
	Korea, Republic of	9 983	6 328	6 133	4 562	-5 420
	Japan	7 861	4 640	2 823	2 166	-5 694
	United States of America	6 387	1 715	597	526	-5 861
	European Union (EU 27)	102 482	56 799	40 149	34 334	-68 147

Source: mirror trade data from 45 major partner countries

As a result of the above changes, China has become Russia's main foreign trade partner, with trade volumes with it almost doubling to 244.5 billion USD (Table 3.3). Bilateral trade with India and Turkey also increased significantly.

The increase in trade with the Commonwealth of Independent States (CIS) countries (Armenia, Uzbekistan and Kazakhstan) illustrates the methods that Russia is using to circumvent sanctions – a dynamic and response from the regime that has been well established in the wider scholarly literature.[30]

At the same time, trade with the European Union, which was Russia's largest foreign trade partner before the war, decreased by 4 times, to 72 billion USD. The volume of trade with the European Union, which was Russia's largest foreign trade partner before the war, decreased by four times to 72 billion USD in 2024.

Trade with other Western countries also declined. For example, trade with the United States fell 10 times, to a meagre 3.8 billion USD. In 2024, it will be worth 3.8 billion USD.

Table 3.3. Dynamics of foreign trade (exports + imports) between Russia and the main partner countries in 2021–2024, million USD

Country	2021	2022	2023	2024	Change 2024/ 2021
China	145 692	190 272	239 542	244 574	98 881
India	12 029	43 555	64 651	69 158	57 128
Türkiye	34 735	68 197	56 506	52 582	17 847
Uzbekistan	7 035	8 653	9 564	16 925	9 890
Armenia	2 579	4 987	7 265	12 355	9 776
Brazil	7 286	9 826	11 356	12 416	5 130

Country	2021	2022	2023	2024	Change 2024/ 2021
Kazakhstan	24 624	26 123	25 980	27 799	3 174
Saudi Arabia	1 519	2 215	3 486	3 428	1 909
Azerbaijan	2 994	3 709	4 303	4 799	1 805
Israel	1 499	1 045	2 612	2 861	1 362
Georgia	1 558	2 270	2 299	2 379	821
Indonesia	2 747	3 567	3 347	3 555	808
Singapore	3 754	2 475	3 718	4 497	743
Taipei, Chinese	6 347	5 735	4 993	5 154	-1 193
Japan	22 005	19 637	10 221	7 854	-14 151
Korea, Republic of	27 335	21 146	15 025	11 435	-15 900
United Kingdom	28 587	8 028	1 163	1 187	-27 400
United States of America	37 088	16 786	5 500	3 798	-33 289
European Union (EU 27)	279 521	261 095	92 106	72 052	-207 470
TOTAL	**648 934**	**699 323**	**563 637**	**558 806**	**-90 128**

Source: mirror trade data from 45 major partner countries

The above analysis confirms the geo-economic reorientation of Russia's foreign trade from Western countries to the Global South (primarily China and India), with corresponding changes in trade flows, logistics and currency transactions.

It also demonstrates the adaptability of the Russian economy to new conditions through closer economic ties with countries that remain open to cooperation despite the risks of secondary sanctions.

An analysis of changes in the commodity structure of Russian exports and imports in 2021–2024 demonstrates both adaptation to new foreign economic conditions and growing structural imbalances.

The growth in export earnings was mainly due to an increase in crude oil supplies (+14.6 billion USD), which remains a key source of export earnings (Table 3.4). However, it should be noted here that this growth was the result of a decrease in oil refining and, consequently, exports of oil products.

Exports of food products (+3.2 billion USD) and agricultural products (+1.6 billion USD) also showed positive dynamics, indicating attempts to diversify the export base and increase supplies to the countries of the Global South that have not joined the sanctions.

At the same time, there was a sharp decline in exports of manufacturing products, in particular metallurgical products (-34.1 billion USD), petroleum products (-18.1 billion USD), and chemical products (-5.8 billion USD). This indicates a loss of markets, particularly in the EU, due to sanctions, which was not offset by an increase in supplies to other markets, particularly in the Global South.

Table 3.4. Russian exports in 2021–2024 by major product groups, million USD

Country	2021	2022	2023	2024	Change 2024/ 2021
Crude oil	107 338	143 887	116 229	121 939	14 601
Food products	15 487	19 080	17 901	18 702	3 216
Agricultural products	5 851	7 850	10 225	7 403	1 553
Not defined	18 779	38 123	18 922	19 631	852
Fabricated metal products, except machinery and equipment	2 273	2 282	2 633	2 892	619
Clothing	243	260	342	529	286
Textile products	299	282	208	487	188
Fish products	6	9	10	12	5
Printing products	4	2	2	2	-2
Coke and refined petroleum products	14	9	9	9	-5
Other vehicles	1 756	1 051	1 501	1 736	-21
Other minerals	678	638	558	625	-53

Country	2021	2022	2023	2024	Change 2024/ 2021
Leather, leather and other materials	198	200	153	144	-54
Tobacco products	366	300	210	215	-152
Pharmaceutical products	702	525	511	544	-158
Weapons, ammunition; parts and accessories	204	83	16	17	-187
Furniture	429	291	196	207	-223
Beverages	637	564	414	395	-243
Electrical equipment	1 523	1 263	885	1 036	-488
Other machinery and equipment	3 043	2 532	2 325	2 461	-582
Other non-metallic mineral products	1 619	1 398	923	1 029	-590
Paper and paper products	3 835	4 254	3 402	3 224	-611
Coke	1 005	747	335	324	-681
Electricity	1 241	1 105	451	389	-852

Country	2021	2022	2023	2024	Change 2024/ 2021
Forestry and logging products	1 167	334	207	216	-951
Computers, electronic and optical products	1 819	1 267	789	844	-975
Rubber and plastic products	2 346	1 805	1 069	1 215	-1 131
Motor vehicles	2 235	1 322	816	965	-1 271
Metal ores	7 649	5 141	5 129	5 824	-1 825
Coal	23 747	40 541	29 539	21 500	-2 248
Petroleum gases	41 598	76 528	37 188	39 241	-2 357
Woodworking products	9 348	7 716	5 068	5 440	-3 908
Other products	7 142	4 744	3 005	2 886	-4 256
Chemical products	25 629	30 224	20 223	19 815	-5 814
Petroleum products	59 349	66 360	42 492	41 234	-18 115
Metallurgical products	75 491	57 103	41 502	41 402	-34 089
TOTAL	**425 054**	**519 820**	**365 387**	**364 533**	**-60 521**

Source: mirror trade data from 45 major partner countries

Imports of motor vehicles (+4.5 billion USD) and metallurgical products (+1.5 billion USD) grew the most, most likely due to the high share of military or dual-use products (trucks and truck chassis for military equipment, metal products, weapons and ammunition, etc.) (Table 3.5). The supply of these products was mainly increased by China.

At the same time, imports of technologically sophisticated products, including other vehicles (-6.1 billion USD, primarily aircraft and ships), computers, electronic and optical products (-5.5 billion USD, primarily microchips), and chemical products (-3.5 billion USD, primarily pesticides and complex chemicals), declined significantly.

Table 3.5. Volumes of Russian imports in 2021–2024 by major product groups, million USD

Country	2021	2022	2023	2024	Change 2024/ 2021
Crude oil	21 511	13 191	23 855	25 990	4 479
Metallurgical products	7 935	8 234	8 495	9 456	1 521
Food products	9 505	9 930	8 825	10 118	614
Tobacco products	452	760	880	888	436
Textile products	4 195	4 330	4 523	4 613	419
Leather, leather and other materials	4 370	4 172	5 616	4 636	266
Beverages	2 165	2 099	2 393	2 429	264
Pharmaceutical products	10 973	12 338	11 006	11 205	232
Agricultural products	5 137	5 695	5 109	5 210	73

Country	2021	2022	2023	2024	Change 2024/ 2021
Coke and refined petroleum products	41	101	106	77	37
Fish products	171	182	162	207	37
Electricity	44	81	53	74	29
Other minerals	311	401	371	337	26
Printing products	27	22	26	26	-2
Crude oil	26	20	12	7	-19
Coke	51	30	26	15	-36
Weapons, ammunition; parts and accessories	73	37	30	31	-42
Forestry and logging products	141	89	45	87	-54
Coal	258	232	154	160	-98
Petroleum gases	261	207	222	84	-177
Woodworking products	640	527	411	382	-258
Other non-metallic mineral products	2 944	2 421	2 621	2 470	-474

Country	2021	2022	2023	2024	Change 2024/ 2021
Petroleum products	1 280	1 196	682	468	-812
Furniture	1 898	952	969	1 021	-876
Paper and paper products	2 912	2 634	2 204	2 000	-911
Fabricated metal products, except machinery and equipment	8 348	6 626	7 403	7 257	-1 091
Metal ores	2 050	1 036	1 123	931	-1 118
Clothing	8 494	6 361	7 761	7 186	-1 308
Other products	8 035	6 802	7 019	6 529	-1 506
Rubber and plastic products	7 741	6 339	6 865	6 176	-1 565
Not defined	3 644	1 678	1 318	1 654	-1 989
Electrical equipment	13 806	10 404	11 884	11 023	-2 783
Other machinery and equipment	34 423	26 704	33 724	31 445	-2 978
Chemical products	19 963	18 646	17 209	16 417	-3 546

Country	2021	2022	2023	2024	Change 2024/ 2021
Computers, electronic and optical products	22 176	15 937	16 983	16 711	-5 465
Other vehicles	8 454	3 082	2 220	2 397	-6 057
TOTAL	**223 880**	**179 503**	**198 250**	**194 273**	**-29 607**

Source: mirror trade data from 45 major partner countries

The above-mentioned changes in Russia's foreign trade in 2021–2024 indicate a technological slippage and degradation of production chains under sanctions pressure, as well as restrictions on Russian manufacturers' access to critical imported components.

Due to the sanctions, Russia has significantly reduced its exports of manufacturing products (oil products, metal products, chemicals and wood products) and imports of high-tech products (aircraft, microchips, complex chemicals, energy and technological equipment).

China, which has become Russia's main trading partner, has increased its purchases of raw materials (oil, gas and metal ores) rather than processed products. It also did not compensate for the loss of supplies of technological products from Western countries.

Thus, in 2021–2024, there was a simplification of the export and import structure of Russia's foreign trade, with an advantage in favour of raw materials and low-tech items.

So, the share of raw materials and low-tech products in exports increased from 48% in 2021 to 57% in 2024. The share of high-tech products in imports decreased from 35.2% to 31.7% over the same period.

Changes in Russian foreign trade by major commodity groups and major trading partners in 2021–2024

Table 3.6 shows the changes in the annual volumes of Russian exports of the four largest commodity groups by volume to the main partner countries. This includes crude oil, petroleum gases, petroleum products and metallurgical products, which account for about 70% of Russia's merchandise exports. More information on exports is provided in Annex 2. As this shows, all Western countries reduced their purchases of energy and metallurgical products by a total of 159.8 billion USD. EU countries reduced imports the most (-98.7 billion USD). At the same time, the main beneficiary was India, which increased its annual imports from Russia by almost +50 billion USD/year, largely in oil and oil products. China, which became Russia's main foreign trade partner in 2023–2024, increased its purchases of Russian energy and metals by +39.9 billion USD/year.

Turkey and Brazil also significantly increased their purchases of oil products.

The significant increase in purchases of Russian products by Armenia, Uzbekistan and Kazakhstan is likely to be due to the circumvention of sanctions and included their subsequent resale to other countries.

Table 3.6. Changes in annual volumes of Russian exports by major product groups and main trading partners in 2021–2024, million USD/year

Country	Crude oil	Petroleum gases	Petroleum products	Metallurgical products	Total
India	48 957	-28	1 231	-274	**49 886**
China	21 738	10 352	6 820	1 026	**39 936**
Armenia	0	61	3	6 649	**6 713**
Türkiye		286	7 660	-2 238	**5 708**
Brazil	56	0	5 816	-393	**5 479**

Country	Crude oil	Petroleum gases	Petroleum products	Metallurgical products	Total
Uzbekistan	410	1 521	1 710	1 288	**4 929**
Israel	0	0	760	777	**1 537**
Azerbaijan	907	26	181	394	**1 508**
Kazakhstan	0	347	18	1 139	**1 504**
Saudi Arabia		0	1 477	-281	**1 196**
Singapore	-331	-29	2 396	-994	**1 042**
Georgia	6	34	397	115	**552**
Indonesia	0	0	165	-247	**-82**
Taipei, Chinese	0	-939	1 267	-435	**-107**
Japan	-2 350	236	-352	-2 442	**-4 908**
Korea, Republic of	-4 270	-472	-4 650	60	**-9 332**
United Kingdom	-1 421	-1 261	-3 082	-17 349	**-23 113**
United States of America	-4 815	0	-13 182	-5 752	**-23 749**
European Union (EU 27)	-44 284	-12 490	-26 749	-15 132	**-98 655**

Source: mirror trade data from 45 major partner countries

Table 3.7 shows the changes in the annual volumes of Russian imports of the four largest commodity groups by volume by the main partner countries. These include motor vehicles, machinery and equipment, chemical products, and computers, electronic and optical products, which account for circa 65% of Russia's imports of goods. The latter group includes dual-use products, without which Russia would not be able to produce missiles and military equipment. More information on imports is provided in Annex 2.

Western countries reduced supplies of these product groups by 55 billion USD per year. The EU countries reduced their supplies the most (-40.4 billion USD).

Taiwan, Singapore, Israel, and Indonesia also reduced supplies of high-tech products. At the same time, China, Turkey, India and a number of CIS countries increased their supplies of these products to Russia. While China, Turkey, and India most likely supplied their own products, the CIS countries supplied products purchased from other countries. Armenia stands out in particular, as it increased its supplies of high-tech products by +1 billion USD per year.

China replaced the supply of motor vehicles and machinery and equipment but was unable to compensate for the decline in the supply of chemical and high-tech products.

Table 3.7. Changes in annual volumes of Russian imports by major product groups and main trading partners in 2021–2024, million USD/year

Country	Motor transport vehicles	Other machinery and equipment	Chemical products	Computers, electronic and optical products	Total
China	18 788	14 418	3 615	978	**37 799**
Türkiye	142	1 042	825	84	**2 093**
Kazakhstan	208	787	298	322	**1 615**
Armenia	37	105	45	1 023	**1 210**

Country	Motor transport vehicles	Other machinery and equipment	Chemical products	Computers, electronic and optical products	Total
India	-84	311	283	384	**894**
Uzbekistan	24	43	87	39	**193**
Azerbaijan	3	14	49	2	**68**
Georgia	0	-1	6	-1	**4**
Saudi Arabia	0	-9	-23	0	**-32**
Indonesia	3	5	-18	-51	**-61**
Singapore	-6	-15	-11	-137	**-169**
Israel	0	-5	-11	-167	**-183**
Brazil	-25	-119	-68	1	**-211**
Taipei, Chinese	-9	-137	-102	-393	**-641**
United Kingdom	-681	-664	-338	-208	**-1 891**
United States of America	-1 066	-975	-507	-605	**-3 153**
Korea, Republic of	-3 267	-701	-15	-318	**-4 301**
Japan	-2 794	-1 226	-155	-244	**-4 419**
European Union (EU 27)	-10 045	-16 470	-7 463	-6 418	**-40 396**

Source: mirror trade data from 45 major partner countries

Thus, in 2021–2024, Russia significantly reduced the volume of trade in goods with Western countries – by 160 billion USD in exports and by 55 billion USD in imports (a total of -215 billion USD/year). China and India partially compensated for Russia's loss of Western markets by increasing purchases of energy and steel products (+90 billion USD). China also increased its supplies of technological products, primarily motor vehicles, by 38 billion USD.

The increase in trade with some CIS countries – Armenia, Uzbekistan and Kazakhstan – is worthy of particular attention. It seems highly likely that these countries are used by Russia to trade in sanctioned goods.

Russia's balance of payments in 2021–2024: Changes in the currency structure of trade, decrease in trade surplus, FDI outflows, changes in the gold and foreign exchange reserves

Due to the imposition of sanctions by Western countries and the change of major trading partners, the currency structure of Russia's foreign trade underwent significant changes in 2021–2024 (Table 3.8). Thus, hard currencies[31] have lost their dominant position in Russia's foreign trade, reducing their share in exports by almost five times (from 84.6% to 18.6%) and in imports by three times (from 67.6% to 21.9%). First of all, this concerns the US dollar and the euro, which were the main currencies of Russia's foreign trade in the pre-war years.

The reorientation of Russian trade to China, India and Turkey has led to a rapid increase in the share of their currencies (yuan, rupee and lira) in both Russian exports (from 1% to 39.9%) and imports (from 4.3% to 34.5%).

It is important to note that since the rupee and lira are non-convertible currencies, their use is limited to the territory of these countries. Due to the use of non-convertible currencies and the disbalance in bilateral trade, part of Russia's export revenues is in effect "stuck" in these countries. This primarily concerns India, whose imports cover no more than circa 15% of Russian exports.

As of the beginning of 2025, Russia has about 40 billion USD of export earnings stuck in rupees. India has nothing to offer in return, as the supply of technological equipment and automotive machinery required by Russia is impossible due to the use of Western components in their production.

The share of the ruble increased from 14.3% to 41.6% in exports and from 28.1% to 43.6% in imports, mainly in trade with the CIS countries. The ruble is also used in pseudo-barter transactions, when Russian supplies are exchanged for supplies of similar value from Asia and Africa.

Table 3.8. Currency structure of Russia's foreign trade in 2021–2024, %

Indicator	2021	2022	2023	2024	Change 2024/ 2021	
					absolute	relative
Exports	**100**	**100**	**100**	**100,1**	**-**	**-**
Rubles	14.3	27.8	39	41.6	27.3	190%
Hard currency (dollar, euro, pound, yen)	84.6	63.6	31.6	18.6	-66.0	-78%
Other (yuan, rupees, lira)	1.0	8.6	29.4	39.9	38.9	3744%
Imports	**100**	**100**	**100**	**100**	**-**	**-**
Rubles	28.1	28.1	30.0	43.6	15.5	55%
Hard currency (dollar, euro, pound, yen)	67.6	56.6	34.0	21.9	-45.7	-68%
Other (yuan, rupees, lira)	4.3	15.2	36.0	34.5	30.2	706%

Source: Central Bank of Russia

Table 3.9 shows the volume of foreign exchange earnings in Russia's foreign trade in 2021–2024.

Export revenues in hard currency decreased by more than 5 times (from about 465 billion USD to 88 billion USD), while revenues in rubles increased by 2.5 times (from about 79 billion USD to 198 billion USD) and in other currencies by 32 times (from about 6 billion USD to 190 billion USD).

In imports, the volume of hard currency expenditures decreased by three times (from equivalent to 255 billion USD to 84 billion USD), while in rubles it almost doubled (from equivalent to 106 billion USD to 166 billion USD), and in other currencies – by 8 times (from equivalent to 16 billion USD to 132 billion USD).

As a result, Russia's trade surplus in hard currency has declined from equivalent to +211 billion USD/year in 2021–2022 to approaching zero in 2023–2024 (equivalent to 5–18 billion USD). Trade in rubles and other currencies will show the opposite dynamics: a negative balance in 2021 and a positive trend in 2023–2024.

Table 3.9. The volume of foreign exchange earnings in Russia's foreign trade in 2022–2024, equivalent to billion USD

Indicator	2021	2022	2023	2024	Change 2024/ 2021	
					absolute	relative
Exports	**549.7**	**640.9**	**465.2**	**475.8**	**-73.9**	**-13%**
Rubles	78.8	178.2	181.4	197.7	118.9	151%
Hard currency (dollar, euro, pound, yen)	465.2	407.6	147.0	88.4	-376.8	-81%
Other (yuan, rupees, lira)	5.7	55.1	136.8	189.6	183.9	3224%

Indicator	2021	2022	2023	2024	Change 2024/ 2021	
					absolute	relative
Imports	**376.9**	**347.4**	**379.7**	**381.5**	**4.6**	**1%**
Rubles	106.0	97.7	113.8	166.4	60.4	57%
Hard currency (dollar, euro, pound, yen)	254.7	196.7	129.3	83.6	-171.2	-67%
Other (yuan, rupees, lira)	16.1	53.0	136.6	131.5	115.4	715%
Balance Sheet	**172.8**	**293.5**	**85.5**	**94.3**	**-78.5**	**-145%**
Rubles	-27.2	80.5	67.6	31.3	58.5	-315%
Hard currency (dollar, euro, pound, yen)	210.5	210.9	17.7	4.8	-205.7	-198%
Other (yuan, rupees, lira)	-10.4	2.1	0.2	58.1	68.5	-759%

Source: Central Bank of Russia

Consequently, in 2021–2024, foreign exchange earnings in Russia's foreign trade shifted towards a decrease in the balance of inflows of hard currency, in favour of a stronger positive balance of trade in rubles and other currencies.

Table 3.10 shows the aggregate balance of payments of Russia in 2021–2024.[32]

According to the balance of payments, the most favourable year for the Russian economy was 2022, when high energy and raw material prices provided the highest current account figure (237.7 billion USD). Subsequently, it decreased by almost four times to 62.3 billion USD in 2014. In 2024, the current account balance declined by almost four times to 62.3 billion USD due to a significant decline in export prices and volumes, while imports remained stable.

In 2022, foreign companies were actively leaving the Russian market, which led to a significant increase in the financial account balance in that year (227.1 billion USD). Subsequently, the financial account balance decreased by four times, to 53 billion USD in 2014. In 2024, the balance of the financial account decreased by four times to 53 billion USD.

There is also worth noting a significant increase in the annual imbalance (net errors and omissions) in 2022–2024. The total for the three years of the war a record 24 billion USD. This is the amount of currency withdrawn from Russia outside the Central Bank's accounting and attention.

Table 3.10. Russia's Balance of Payments in 2021–2024, billion USD

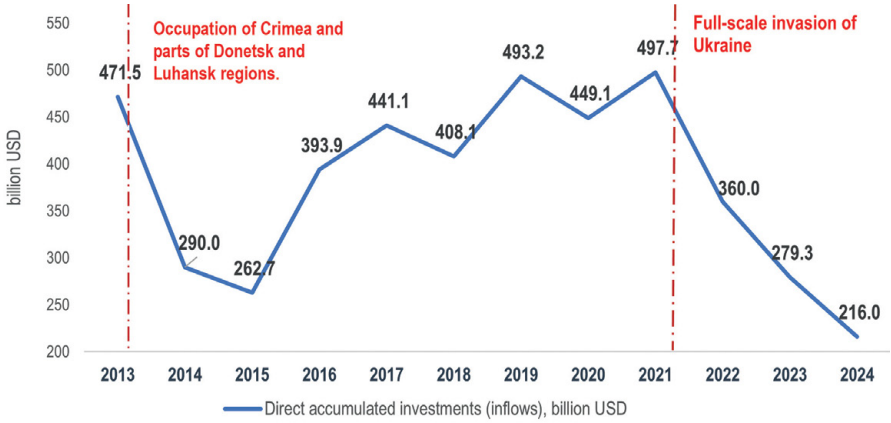
Indicator	2021	2022	2023	2024	Change 2024/ 2021
Current account	**125.0**	**237.7**	**49.4**	**62.3**	**-62.7**
Exports of goods and services, primary and secondary income received	646.0	691.9	510.8	511.6	-134.4
Imports of goods and services, primary and secondary income paid	521.0	454.2	461.4	449.3	-71.7

Indicator	2021 r	2022 r	2023 r	2024 r	Change 2024/ 2021
Balance of goods and services	*172.8*	*293.5*	*85.6*	*93.8*	*-79*
Balance of primary income	*-43.0*	*-47.1*	*-26.8*	*-28,4*	*14,6*
Balance of secondary income	*-4.8*	*-8.7*	*-9.4*	*-3.1*	*1.7*
Capital account	**0.1**	**-4.6**	**-1.4**	**- 0.3**	**-0.4**
Current account and capital account balances	**125.1**	**233.2**	**48.0**	**62.0**	**-63.1**
Financial account balance	**124.1**	**227.1**	**38.7**	**53.0**	**-71.1**
Direct investment	25.4	26.7	20.8	8.3	-17.1
Portfolio investments	32.1	21.2	4.9	- 0.0	-32.1
Derivative financial instruments	-0.7	-3.5	-1.0	2.0	2.7
Other investments	3.7	189.9	24.0	46.4	42.7
Reserve assets	63.5	-7.3	-10.0	-3.8	-67.3
Pure errors and omissions	**-1.0**	**-6.1**	**-9.3**	**-9.0**	**-**

Source: Central Bank of Russia

An important factor that demonstrates the negative impact of the war on the Russian economy is the dynamics of FDI (Figure 3.1). Thus, in 2022–2024, the volume of accumulated FDI in Russia more than halved from 498 billion USD to 216 billion USD respectively. A similar situation occurred in 2014–2015, when in response to the illegal occupation of Crimea and part of Donbas, the volume of accumulated FDI decreased by almost half, from 472 to 163 billion USD. However, in 2016–2021, foreign companies resumed FDI in Russia.[33] A related illustration of the crisis in Russia's relationship to the global economy can be seen in net FDI inflows. These have decreased tenfold from 2021 (38.6 billion USD) to 2024 (3.3 billion USD).[34]

Figure 3.1. Direct accumulated investments of Russia in 2013–2024, billion USD (end of year)[35]



Source: UNCTAD

Due to the imposition of sanctions, a deteriorating balance of payments, and FDI outflows, Russia's foreign exchange reserves declined significantly in 2022–2024. Before the war, total foreign reserves amounted to 630 billion USD. This was enough to cover 15 months of imports of goods and services. The basis of foreign reserves was freely convertible currency (equivalent to 468 billion USD) and monetary gold (equivalent to 133 billion USD).

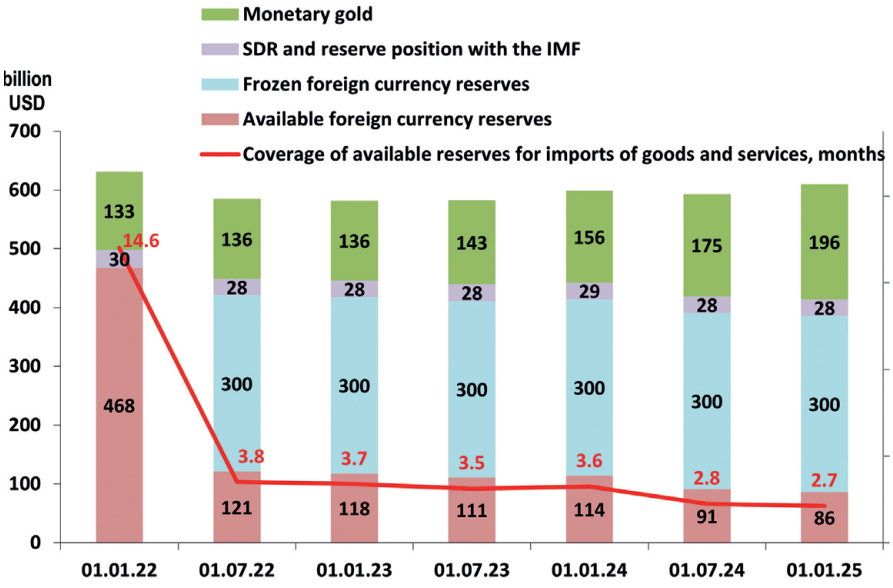
Since the outbreak of the war, Western countries have frozen a significant portion of their foreign exchange resources, and sanctions have limited the ability to sell monetary gold on the global market. Access to IMF resources was also restricted.

According to the official reports of the Central Bank, the total amount of foreign reserves as of 1 January 2025 is circa 610 billion USD. This almost corresponds to the pre-war figure (-3%). However, most of them are currently inaccessible to Russia. In particular, about 300 billion USD are frozen in Western countries, IMF resources (SDR and reserve position) are unavailable, and gold sales on the world market are limited by sanctions.

As of 1 January 2025, Russia's available foreign exchange reserves amount to only about 86 billion USD. This is a 29% decrease since the beginning of the war. They cover less than three months of imports, when it is considered normal to cover six months or more.

While Russia has benefited from the sharp increases in gold prices in international markets, having made a successful bet on the commodity, it cannot convert these gold reserves easily into freely convertible currency due to the impact of sanctions. As of the end of September 2025, Russia's strategic gold reserve, which is entirely held domestically,[36] and may be drawn on in the event of a banking crisis to stabilise the financial system,[37] stands at 282.2 billion USD, having increased from 196 billion USD since January 2025.[38] With the actual reserve in tonnage static during this period (at around 2.33k tonnes),[39] the increase in value is entirely down to commodity price inflation, largely driven global economic turbulence, including Trump's trade policy. The strategic gold reserve does provide a backstop to Russia's difficult financial position, but does not alter the overall negative assessment of the Russian economy.

Figure 3.2. Russia's foreign exchange reserves in 2022–2024, billion USD



Source: Central Bank of Russia

During 2021–2024, the currency structure of Russia's foreign trade therefore deteriorated. The share of hard currency decreased significantly, in favour of an increase in the share of the Russian ruble and partially convertible or non-convertible currencies (yuan, lira, rupee). For example, the share of hard currencies in exports decreased by almost five times (from 84.6% to 18.6%) and in imports – by three times (from 67.6% to 21.9%). The use of non-convertible currencies in trade has led to the accumulation of circa 40 billion USD in India. The use of non-convertible currencies has led to the accumulation of 40 billion USD of Russian oil export revenues in rupees.

Russia's balance of payments in 2022–2024 shows negative dynamics and a reduction in the current account by almost four times. Exports are declining due to sanctions and falling energy and raw material prices, while imports remain almost unchanged. Accumulated FDI has more than halved, reflecting the lack of confidence of international investors.

About 80% of foreign reserves are blocked, and the amount of available foreign exchange reserves (86 billion USD as of 1 January 2025) covers less than three months of imports.

The Federal Budget of Russia in 2021–2024

Dynamics and structure of federal budget revenues and expenditures in 2021–2024

The total revenues of the Russian federal budget in 2021–2024 increased by 45% to 36.7 trillion RUB in 2024 (Table 4.1). Oil and gas revenues increased by 23% (to 11.1 trillion RUB), while non-oil and gas revenues grew by 58% (to 25.6 trillion RUB). Oil and gas revenues varied annually within 8.8–11.6 trillion RUB per year. The largest increases were in the revenues from the subsoil tax (+72%) and the mineral extraction tax (+103%). Due to changes in the taxation of oil exports, the share of payments to the federal budget in oil and gas export revenues almost doubled, respectively, from circa 35% in 2021 to circa 67% in 2024. At the same time, export duty payments decreased by almost 5 times (-78%) due to a significant decline in gas exports to the EU (-90%, to 15 bn cub m/year).

The payment of a damper from the budget[40] (+183%) to ensure stable prices for petroleum products in the domestic market has almost tripled.

Non-oil and gas revenues grew at a high rate in 2023–2024. Revenues related to domestic production increased by +55%, while those related to imports increased by only +32%.

The bulk of non-oil and gas revenues is formed by VAT payments, but in 2023–2024, revenues from other non-oil and gas revenues increased significantly (from RUB 3 trillion to 6.7 trillion RUB per year). There is no detailed breakdown of revenues under this item. It includes the following main revenues: (1) dividends paid by state-owned corporations (Rosneft, Gazprom, Russian Railways…), (2) proceeds from privatisation/sale of state property, including nationalised property, (3) a one-off payment of tax on excess profits of large corporations (introduced in 2023), (4) payment of a recycling fee when buying a new car (tripled since the beginning of the war).

Since the beginning of the war, the number and value of nationalised facilities have increased. For example, in 2022–2024, the value of nationalised companies doubled, from 281 billion RUB to 545 billion RUB. While in 2022–2023 mostly small companies were nationalised, in 2024 the list included "Chelyabinsk Electrometallurgical Plant" (CHMEK, 61 billion RUB) and Russia's largest car dealer "Rolf" (65 billion RUB).

In 2025, the process of nationalising large facilities accelerated. For example, the assets of Petropavlovsk-Kamchatka Sea Port (PKMP), Salavat Catalyst Plant, polyvinyl chloride producer "Sayanskkhimplast", Dalpolymetal mining and metallurgical complex, Russia's largest oilfield service group "Borets", one of the largest logistics companies – "Raven Russia", and Domodedovo Airport were all nationalised. The next step is the nationalisation of the largest agricultural holding "Rusagro" with assets of about 400 billion RUB.
As a result of this activity, accelerating an existing trend in this direction, the Russian state could privatise its numerous nationalized assets to increase budget revenues and partially compensate for the loss of oil and gas revenues after the fall in oil prices.

Table 4.1. Dynamics of the federal budget execution in 2021–2024, trillion RUB

No. p/n	Indicator	2021	2022	2023	2024	Change 2024/ 2021
1	**Revenues, total**	**25.3**	**27.8**	**29.1**	**36.7**	**45%**
1.1	**Oil and gas revenues**	**9.1**	**11.6**	**8.8**	**11.1**	**23%**
1.1.1	*Mineral extraction tax (subsoil tax)*	*7.1*	*10.6*	*9.5*	*12.2*	*72%*
1.1.2	*Export duty*	*2.2*	*2.5*	*1.0*	*0.5*	*-78%*
1.1.3	*PIT (personal income tax)*	*1.0*	*1.7*	*1.3*	*2.0*	*103%*
1.1.4	*Damper**	*-1.3*	*-3.2*	*-2.9*	*-3.6*	*183%*
1.2	**Non-oil and gas revenues**	**16.2**	**16.2**	**20.3**	**25.6**	**58%**
1.2.1	*Related to domestic production*	*8.1*	*9.5*	*10.3*	*12.6*	*55%*
	incl. VAT	*5.5*	*6.5*	*7.2*	*8.7*	*58%*
1.2.2	*Import-related*	*4.7*	*3.8*	*5.7*	*6.3*	*32%*
	incl. VAT	*3.7*	*3.1*	*4.4*	*4.8*	*30%*
1.2.3	*Other*	*3.4*	*3.0*	*4.3*	*6.7*	*99%*

No. p/n	Indicator	2021	2022	2023	2024	Change 2024/ 2021
2	**Expenses, total**	**24.8**	**31.1**	**32.4**	**40.2**	**62%**
2.1	Public administration	1.8			2.7	50%
2.2	National defence	3.6			12.7	253%
2.3	National security and law enforcement	2.3			3.5	52%
2.4	National economy	4.4			5.1	16%
2.5	Education	1.1			1.3	18%
2.6	Healthcare	1.5			1.6	7%
2.7	Social policy	6.7			7.4	10%
2.8	Public debt service	1.1			3	173%
2.9	Intergovernmental transfers	1.1			1.4	27%
2.10	Other	1.1			1.5	25%
3	**Deficit (-)/Surplus (+)**	**0.5**	**-3.3**	**-3.2**	**-3.5**	**-762%**
3.1	*Non-oil and gas deficit*	*-8.5*	*-14.9*	*-12.1*	*-14.6*	*71%*

*Includes refunds of part of the subsoil tax paid by oil companies that sell oil products on the domestic market
Source: Ministry of Finance of Russia, Federal Treasury of Russia

The total expenditures of the Russian federal budget in 2021–2024 increased by 62%, from 24.8 trillion RUB to 40.2 trillion RUB per year, respectively. Since the beginning of the war, the Russian Ministry of Finance has stopped publishing the structure of budget expenditures by area. It is published, with access only through Russian IP addresses, by the Federal Treasury of Russia.[41] It shows that between 2021 and 2024 spending on national defence (3.5 times) and national security (+52%), as well as on public debt service (almost three times) and national issues (+50%) increased significantly.

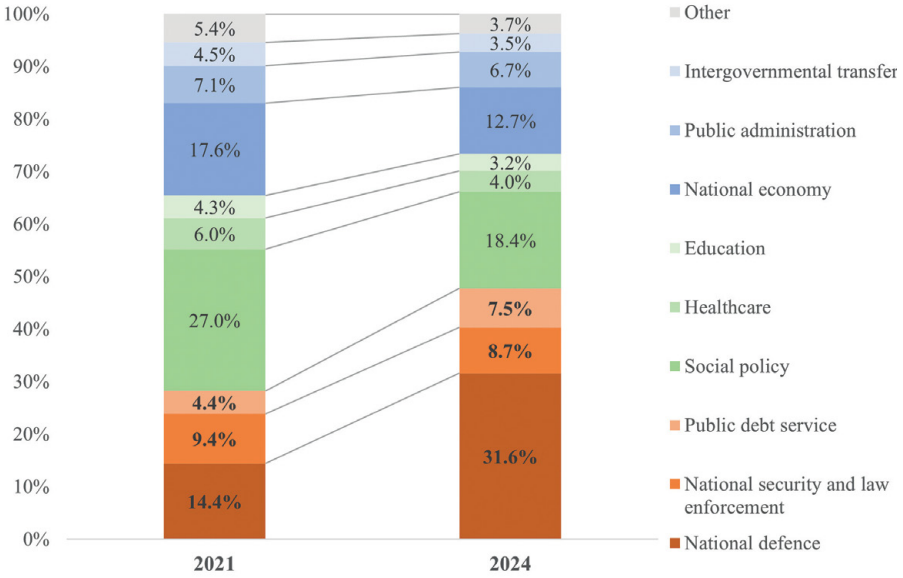
Expenditures on national defence and security include the costs of waging war against Ukraine (see more details in section, 'The amount of war financing by Russia in 2022–2024').

The cost of servicing the public debt has increased significantly due to its increase (to cover the budget deficit), as well as the increase in the interest rate on federal loan bonds (FLB)) after the central bank raised the key policy rate to 21% in 2024. For more on the growth of public debt see, 'Russia's federal budget deficit in 2021–2024'.

Public administration costs increased by +50%, due to higher salaries for government officials.

Expenditures on other items increased at a much slower pace, with the lowest growth rates for social items (education, healthcare, social policy) at only +7–18%.

Figure 4.1. Structure of the federal budget expenditures in 2021 and 2024, %



Source: Rosstat

The structure of federal budget expenditures in 2021–2024 has changed significantly. In fact, there was a redistribution of expenditures by major groups. The share of expenditures directly related to the war (defence + security) increased from 24% to 40% (+16 pp). At the same time, the share of social expenditures (education, healthcare, social policy) and intergovernmental transfers decreased from 42% to 28% (-14 pp). The share of spending on public debt servicing doubled from 4 to 8% (+4 pp), meanwhile the share of spending on the national economy (economic programmes) fell from 18% to 13% (-5 pp).

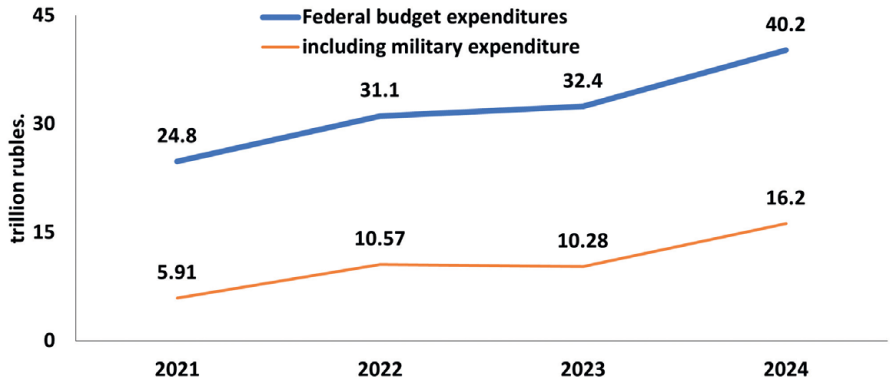
The amount of war financing by Russia in 2022–2024

Russia's full-scale war with Ukraine is financed from the federal budget. The main expenditures fall under two headings: (1) defence expenditures and (2) national security and law enforcement expenditures. They include salaries for military personnel and the Rosgvardia, the purchase of weapons and ammunition (from Russian manufacturers and imports), maintenance of military infrastructure, etc.

In total, they form military expenditures, which almost tripled in 2021–2024, to 16.2 trillion RUB in 2024. It is important to note that in 2024, actual expenditures exceeded the planned ones by 13%, or 1.9 trillion RUB.

The share of military spending in the total structure of federal budget expenditures increased from 24% in 2021 to 40% in 2024.

Figure 4.2. Federal budget expenditures in 2021–2024, trillion rubles



Source: Rosstat

In addition to these two items, the cost of war is also included in other expenditure items. In particular, in 2023, local budgets were responsible for the main payments for signing the contract, which, depending on the region, amounted to 0.4–3.5 million UAH/contract. Given that in 2024 up to 400,000 people were recruited for the contract, the estimated expenditures of local budgets in 2024 for these purposes amounted to about 500 billion RUB.

Military plants were also granted preferential loans with low interest rates. The government covered the difference between the market and the preferential lending rate (up to 15 pp) as part of the relevant economic stimulus programme. The total cost of compensating business for the lending rate in 2024 was 1.5 trillion RUB, of which at least a third (500 billion RUB) was incurred by Rostec's military plants (the state defence conglomerate).

It works as follows. The Ministry of Defence places an order for weapons and places it with a defence plant (state defence order). The Ministry of Finance makes a prepayment (up to 30–40% of the order value) from the defence expenditures planned in the budget at the beginning of the year, and the enterprise starts producing weapons/ammunition.

To do this, the company obtains a loan from a commercial bank and orders raw materials and components from subcontractors. Special concessional lending is available for defence industry enterprises at a rate of 5–7%. The Ministry of Finance compensates the difference between the commercial and preferential rates (up to 15 pp) from the budget. The mechanism of compensation of a part of the loan rate is also used for loans to subcontractors.

Thus, banks do not finance but make money from the war by lending to arms manufacturers and civilian enterprises involved in the production of weapons components.

So, the additional costs of financing the war in 2024 amounted to at least 1 trillion RUB. With this in mind, Russia's total military spending in 2024 can be estimated at least 17.2 trillion RUB, which is almost three times higher than in pre-war 2021 (5.9 trillion RUB).

Russia's federal budget deficit in 2021–2024 and sources of its coverage. The state of the NWF and public debt

As expenditures grew faster than revenues due to the large-scale war, the federal budget of Russia in 2022–2024 was in deficit, in the amount of 3.2–3.5 trillion rubles per year (Table 4.1). The total budget deficit for the three years was 10 trillion RUB.

A part of the budget deficit was covered by the liquid resources of Russia's sovereign wealth fund, the NWF (as above, the 'National Welfare Fund'). The NWF was established in February 2008 to accumulate additional budget revenues due to high oil prices and to be used in crisis situations. The liquid part of the NWF includes convertible currencies (euros, pounds, yen, yuan) and monetary gold.

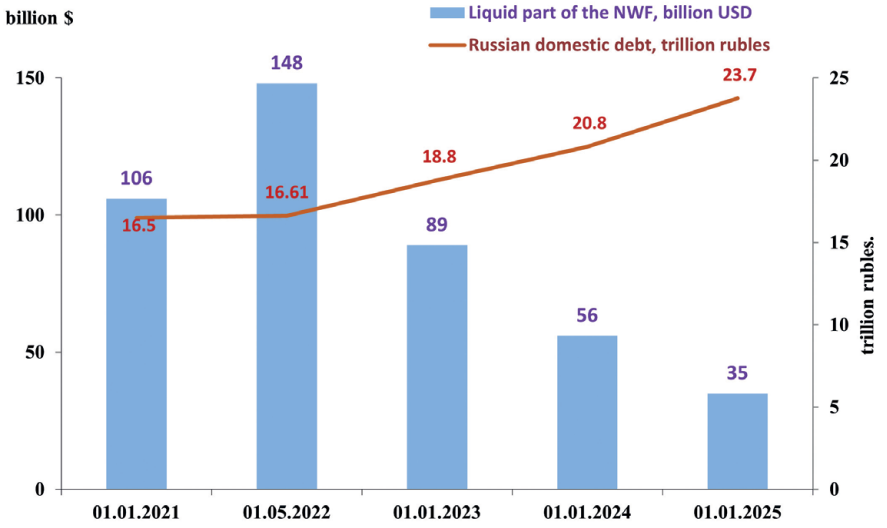
At the beginning of the war, in May 2022, the liquid part of the NWF was at its highest, amounting to 148 billion USD (Figure 4.3). During 2022–2024, it decreased by more than four times to 35 billion USD. The NWF decreased the most in 2022 (-59 billion USD), and in the next two years, the rate slowed to -33 billion USD in 2023 and -21 billion USD in 2024.

The slowdown in the use of the NWF is due to the Russian government's fear of losing liquid resources in the face of uncertainty about the timing of the end of the war and the lifting of Western sanctions. Without "real" money, Russia will not be able to purchase the necessary resources even from friendly countries such as China, Iran and North Korea.

Usually, the bulk of the NWF's resources were spent at the end of the year (in December), when final payments were made to military plants for the weapons produced and delivered.

As of 1 January 2025, the liquid part of the NWF includes 164.3 billion yuan (equivalent to 21 billion USD) and 179 tonnes of gold (equivalent to 14 billion USD).

Figure 4.3. Volumes of the liquid part of the NWF of Russia in 2021–2024, equivalent to USD billion



Source: Central Bank of Russia

Another source of covering the federal budget deficit in 2022–2024 was the sale of federal loan bonds (FLB), i.e. domestic debt. During 2022–2024, the Russian government raised almost five trillion RUB through FLBs to finance the federal budget deficit, and Russia's total domestic debt increased by 44% (+7.2 trillion RUB) during this period. We return to the question of the deficit below.

Real Incomes and Social Stratification of the Russian Population in 2021–2024

Dynamics of real incomes in 2021–2024, the main beneficiaries of the war and the growing social stratification in society

Official real incomes of the Russian population grew at a high rate (7.2–8.0% annually) in 2021–2024 and increased by +24.8% in total over three years (Table 5.1).

At the same time, the calculation of real incomes is based on official inflation rates, which, as noted above, are likely underestimated. Therefore, if we use the estimate or the inflation rate in 2022–2024 (see section in the foregoing 'Inflation study in Russia') developed in this report, the real income of the Russian population during this period decreased annually in 2022 and 2024 by -4.0 and 2.0% respectively, in 2023 there was small increase by 0.7% and the total reduction over these years was -5.3%. In other words, this would mean that the majority of the Russian population has experienced falling real incomes over the three years of war. These new estimates should be treated with considerable caution – and require reiteration of all of the caveats put forward in the earlier analysis that derived new estimates for the true rate of inflation in the Russian economy. Given the presence of factors that we would be expecting to contribute to inflation and the very high policy rate of the Central Bank of Russia, the "best guess" true rate of inflation simply raises the possibility that the average Russian today poorer than they were in February 2022. If correct, this clearly impacts the politics of the war effort.

Table 5.1. Changes in real income of the Russian population in 2021–2024, %

Indicator	2021	2022	2023	2024	Growth, 2021–2024, %
Official data on changes in real disposable incomes, % year-over-year		7.2	7.8	8.0	+24.8%
Adjusted data on changes in real disposable income (adjusted for revised estimate of real inflation)		-4.0	0.7	-2.0	-5.3%

Source: Rosstat, own calculations

The war also increased the social stratification of the Russian population.

Workers at military factories and contract soldiers earn money from the war, and their salaries have increased significantly. For example, in 2021–2024, the average monthly salary of a military factory worker increased by 70%, from 62.7 to 106.8 thousand RUB per month. The annual salary and relocation funds of contract soldier is 4.5 million RUB per year, compared to 0.65 million RUB per year before the war in 2021 (an increase of almost seven times). Soldiers and workers of military factories, together with their family members, form a group of critical war beneficiaries in income terms.

Our analysis of this income breakdown (see Table 5.2) is consistent with the estimate of the Russian economist, Igor Lipsits. Taking into account direct and indirect beneficiaries of the war in relation to the income distribution, Lipsits argues that around 20% of the Russian population – or circa 28 million people – have seen steep improvements in their inflation-adjusted incomes but that this has come at the expense of the remaining 80%.[42] For example, the average monthly salary of a worker at a non-military plant increased by only 45% over the three years of war (from 61.4 to 89.4 thousand RUB per month). The average annual salary of social sector workers increased by 43% over this period (from 47 to 67 thousand RUB per month). Nominal pensions for 40 million Russian pensioners in 2021–2024 grew at the lowest rate, by only +33%, to 22 thousand RUB per month.
Table 5.2. Change in nominal wages of workers in the military and civilian sectors of the economy, and pension payments

Table 5.2. Change in nominal wages of workers in the military and civilian sectors of the economy, and pension payments

Indicator	2021	2022	2023	2024	Growth, 2021–2024, %
Nominal salary, thousand RUB/month	**57.2**	**65.3**	**74.9**	**89.1**	**+56%**
including at military plants*	62.7	72.8	87.8	106.8	+70%
at non-military plants**	61.4	67.9	80.3	89.4	+45%
in the social sphere (education, healthcare, social protection)	47	51.9	58	67.3	+43%
Average pension, thousand RUB/month	16.8	18.1	20.7	22.3	+33%
Difference between wages at military plants and wages at non-military plants	1.02	1.07	1.09	1.19	
The difference between salaries at military plants and salaries in the social sector	1.33	1.40	1.51	1.59	

*including manufacture of finished metal products (small arms, artillery, ammunition); production of computers, electronic and optical devices (high-precision weapons); production of electrical equipment (high-precision weapons); manufacture of other vehicles (production of heavy military equipment)

** Mining and processing industries, with the exception of military plants

Source: Rosstat, own calculations

If nominal wages and pensions are adjusted for the new estimate for inflation in 2022–2024, as provided above, the real wages of non-military sector employees and pensions fell by 16–23%.

Table 5.3. Change in real wages of workers in the military and civilian sectors of the economy, and pension payments in 2021–2024

Indicator	2021	2022	2023	2024	Growth, 2021–2024, %
Nominal salary, thousand RUB/month	**57.2**	**65.3**	**74.9**	**89.1**	
Revised estimate of inflation		25.0%	15.0%		20.7%
Index of accumulated calculated inflation		1.25	1.44		1.74
Nominal salary discounted to 2021, thousand RUB/month	**57.2**	**52.2**	**52.1**	**51.4**	**-10.2%**
including at military plants	62.7	58.2	61.1	61.6	-1.8%
at non-military plants	61.4	54.3	55.9	51.5	-16.1%
in the social sphere (education, healthcare, social protection)	47	41.5	40.3	38.8	-17.5%
Average pension, thousand RUB/month	16.8	14.5	14.4	12.9	-23.5%

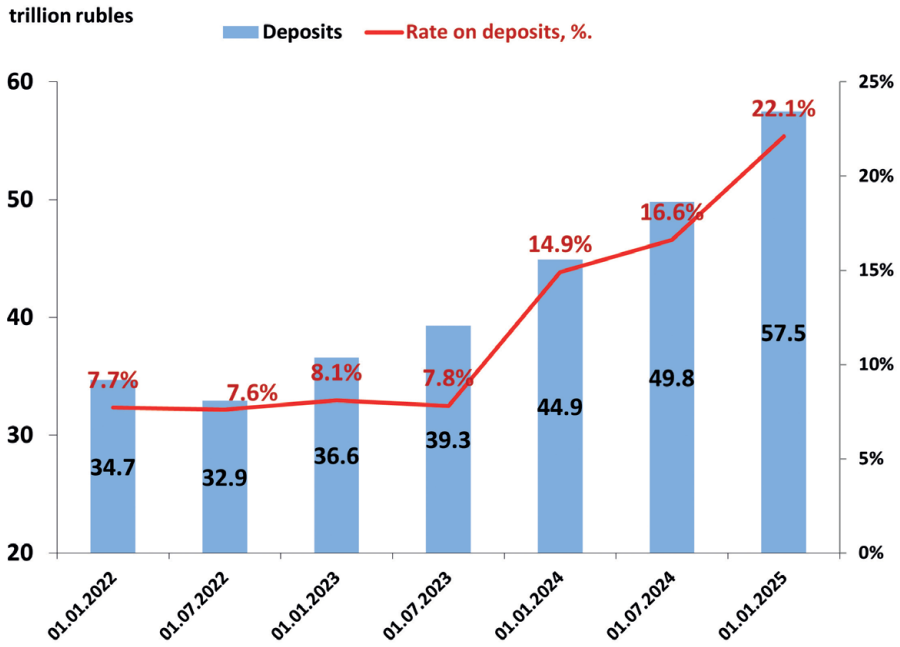
Source: Rosstat, own calculations

Due to the different rates of change in wages, the difference between the salaries of employees of military plants and those of other workers, both civilian and social sector, increased in 2021–2024. For example, while in 2021 the salary of a military plant worker was the same as that of a similar worker at a civilian enterprise, in 2024 it was 19% higher. The difference between the salary of a military plant worker and the salary of social sector workers (education, healthcare, social protection) has increased from 33% to 59% during the war.

Dynamics of household savings (deposits) and debt burden (loans) in 2021–2024

Those Russians that have benefited materially from the war placed part of their growing incomes in bank savings deposits. In 2022–2024, their volume increased by 66%, from 34.7 trillion RUB to 57.5 trillion RUB (Figure 5.2). Deposit growth rates have accelerated significantly since July 2023, which correlates with an increase in the deposit rate (the interest paid by the bank on deposits) from 7.8% to 22.1% per annum.
9.2 million households, or 17% of the total number (54.6 million households in 2024), have increased their deposits in banks. This roughly corresponds to the share of war beneficiaries – soldiers and workers at military factories (circa 20%) – and may well be related, though it is not possible on the data to be certain about this (for example, even though munition factories workers have received significant pay rises they may have put this straight into consumption, rather than savings). Whatever the precise make-up of these savers, these deposits are providing important security for subsidised lending into the war economy. At the same time, these savings deposit accounts play an important role in the fight against inflation. If these funds were to enter the consumer market they would accelerate further inflationary pressure in the wider economy.

Figure 5.1. Dynamics of household deposits and deposit rates in Russia in 2020–2024



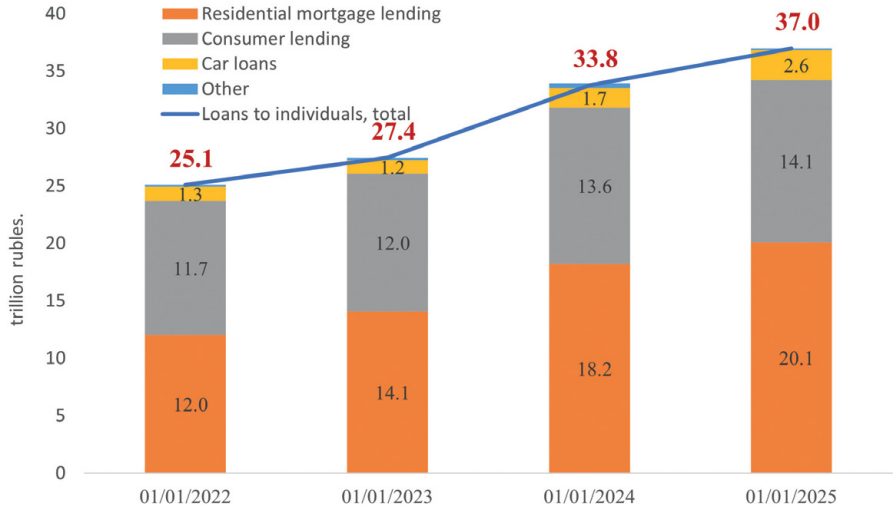
Source: Central Bank of Russia

If these deposits were suddenly to be withdrawn by deposit holders and used in consumption this would represent a significant risk to an economy that is already suffering under the effects of high inflation. So, considering the danger posed by this mass of money, the Russian authorities will likely do everything to prevent it from reaching the consumer market. This means a possibility of financial repression in the form of restrictions on access to deposit withdrawals, partial freezing of deposits, etc. But given the risks this would present to confidence in the Russian banking system, the regime will do their best to avoid this eventuality, though it remains a possibility if a crisis were to develop.

In addition, during 2022–2024, the accounts payable of the Russian population increased by 48% (Figure 5.2). Loans are mainly taken out to purchase housing (54% of the loan portfolio) and consumer goods (38%). In contrast to deposits, more than half of households (28 million households) have loans, one third of which have two or more loans.

The loan portfolio grew most rapidly in 2023, when the concessional mortgage programme was in place at 5–7% per annum and the cost of consumer loans was low (up to 15%). The termination of the concessional mortgage programme in July 2024, as well as the increase in the cost of loans to >27% due to the increase in the discount rate, significantly halted the growth of the loan portfolio by the Russian population.

Figure 5.2. Dynamics of loans to households in Russia in 2021–2024, trillion RUB



Source: Central Bank of Russia

In general, the increase in the balance of deposits and loans of Russians in favour of deposits during 2022–2024 is worth noting. They rose from +10 trillion RUB at the beginning of 2022 to +20 trillion RUB at the end of 2024.

This is in contrast to the situation in the corporate sector, where the loan portfolio increased from 52.6 trillion RUB to 88.7 trillion RUB (+35.1 trillion RUB) in 2022–2024, and deposits from 38 trillion RUB to 61 trillion RUB (+23 trillion RUB).

In other words, household savings have become an important source of increased lending to industry by Russian banks, in effect a form of cross subsidy from consumer to the corporate market. As Russia's banking system is heavily concentrated and largely state-owned, it is subject to political direction by the regime – so should be considered an important civilian component of the war effort, funnelling credit into defence industries.

The Safety Margin and Capabilities of the Russian Economy in 2025–2026

Economic trends in the main revenue-generating sectors of the Russian economy in Q1 2025

In Q1 2025, there was a change in the development trends of most major revenue-generating sectors. Only three sectors retain positive dynamics – (1) agriculture, (2) pharmaceuticals, and (3) construction.

This is significantly different from Q1 2024, when almost all revenue-generating sectors showed positive dynamics (except for oil refining and metallurgy), and most of them had high growth rates.

The worst performance was in the food industry, woodworking, paper and paper products, construction materials, furniture, and electricity generation and supply.

Table 6.1. Dynamics of development of the main revenue-generating sectors of the Russian economy in Q1 2024 and 2025 (in % to the corresponding period of the previous year)

Industry	Q1 2024	Q1 2025
Agriculture, forestry	1.9	1.7
Extractive industry	0.6	-3.7
Production of food, beverages and tobacco products	6.8	-1.0
Wood processing and wood products manufacturing	8.7	-1.1
Production of paper and paper products	9.9	-0.4
Production of coke and petroleum products	-4.1	0.0
Production of medicines	11.9	16.8

Industry	Q1 2024	Q1 2025
Manufacture of rubber and plastic products	5.1	-0.3
Production of construction materials	9.2	-5.8
Metallurgical production	-0.5	-2.8
Manufacture of machinery and equipment	4.9	-0.2
Furniture production	17.4	-1.2
Production and supply of electricity, gas and steam	5	-3.9
Construction	1.7	6.9

Source: Rosstat

The growth rate in agriculture in Q1 2025 was +1.7%, which is comparable to the previous year (+1.9%). At the same time, Q1 is not indicative of the agricultural sector, as during this period, agricultural production is limited to livestock and greenhouse farms (less than 5% of annual production in the sector).

The positive dynamics in the production of medicines accelerated to +16.8% due to additional support from the state in terms of public procurement. Thus, from 1 January 2025, the "second unwanted" regime came into force in public procurement. It provides the rejection of an application for the supply of foreign products (regardless of the proposed price) if there is at least one offer of Russian origin in the tender. As a result, Russian pharmaceutical companies are massively expanding the range of simple "generics" to replace imports in public procurement.

The high rate of construction (+6.9%) is due to the peculiarities of statistical accounting, when only commissioned facilities are considered in calculations. Due to expensive loans, construction companies are focusing on completing and commissioning projects with a high degree of completion in order to start selling them and reduce payables to banks. The number of new construction projects decreased by almost five times.

The mining industry showed a significant decline in production in Q1 2025 (-3.7%) due to a decrease in oil and natural gas production. Oil production decreased due to a gradual decline in well debit following the withdrawal of Western oilfield service companies from the Russian market. Gas production declined due to limited external markets, primarily in the EU (China refuses to increase its imports of Russian gas).

The decline, although small (-1%), in food production was caused by a decrease in the availability of raw materials for processing, primarily fruit and vegetables, and a decrease in beverage production (mainly juices). The sector, which had been developing dynamically in the previous two years of the war, is gradually entering stagnation and recession.

Production of wood products decreased by -1.1% due to lower domestic demand and limited external markets. China prefers to import unprocessed wood, while traditional export markets for wood products (EU, UK) are blocked by sanctions.

The paper and paper products sector are also gradually entering stagnation after high growth rates in previous years (-0.4% in Q1 2025). The reasons are the same as in most sectors – limited foreign markets due to sanctions.

Oil refining volumes, after a significant decline at the beginning of last year (-4.1%) due to Ukrainian drone strikes, remain at the level of the previous year. Repair of damaged refineries is complicated by the lack of access to spare parts for Western equipment. China offers units/assemblies instead of individual spare parts, which are much more expensive and require complex integration with existing Western equipment.

Production of construction materials declined significantly (-5.8%) as construction companies reduced new construction, focusing on completing projects where the need for basic construction materials is minimal. In addition, due to a decrease in government funding, road construction and repair significantly decreased, which reduced demand for construction materials.

The negative dynamics in metallurgical production intensified (to -2.8%), as a result of lower domestic consumption and the inability to increase exports due to sanctions. China is also reducing its purchases of Russian metals, including aluminium, copper and nickel. Production of machinery and equipment declined slightly (-0.2%) due to a slowdown in investment in the country amid high credit costs.

The production and supply of electricity, gas, and steam in Q1 2025 decreased by -3.9% due to a decline in production in most industrial sectors, except for the military-industrial complex. In general, changes in electricity production and distribution are the best indicator of the real state of industrial production in the country.

Growing budget expenditures in 2025–2026

According to the federal budget for 2025–2027 adopted in November 2024, total budget expenditures are expected to reach 41.5 trillion RUB in 2025 (+3% by 2024) and 44.0 trillion RUB in 2026 (+6% by 2025) (Table 6.2). In total, budget expenditures are expected to increase by 9.5% over the next two years, and this rate is a record low. In particular, in 2023–2024, budget expenditures increased by 29% (from 31.1 trillion RUB to 40.2 trillion RUB).

In early May, the government revised expenditures for 2025 upwards to 42.3 trillion RUB (+0.8 trillion RUB), while the figure for 2026 remained unchanged. It is clear that this is not the last upward revision of the budget, with the next one scheduled for early autumn.

Table 6.2. Actual and planned federal budget expenditures in 2024–2026, trillion RUB

Indicator	2024 fact	2025 adjusted plan	Change, 2025 /2024, %, in	2026 plan	Change, 2026/2025, % change
Federal budget expenditures, trillion RUB	**40.2**	**42.3**	**5.2%**	**44.0**	**4.0%**
including military expenditures (national defence and security)	*16.2*	*17*	*4.9%*	*16.4*	*-3.5%*

Source: Ministry of Finance of the Russian Federation

The share of military expenditures in the structure of federal budget expenditures remains high (40%, or 17 trillion RUB), but the planned growth rate is significantly lower than in 2024 (+4.9%, compared to +58%). It is likely that in the context of a continuing large-scale war, actual military spending in 2025 will increase to at least 20 trillion RUB, which is 24% more than in 2024.

Taking this into account, the projected volume of federal budget expenditures in 2025 can be estimated at 46 trillion RUB, which is 8% (or RUB 3.8 trillion) higher than the current planned figure.

If the war of the same intensity continues in 2026, military spending will increase by +15–17%, to 23 trillion RUB per year. Accordingly, the projected federal budget expenditures in 2026 can be estimated at least 50 trillion RUB, which is 6 trillion RUB higher than the current planned figure.

Russia's available reserves (gold and the foreign exchange reserves and the NWF)

Russia's main reserves are concentrated in the gold and the foreign exchange reserves and the NWF. Those reserves are controls are controlled by Centrobank and used to ensure the exchange rate stability of the ruble and to ensure the continuity of imports of goods and services.

The NWF is directly subordinated to the government, and its liquid resources are used to cover the federal budget deficit and finance important infrastructure projects.

The total volume of Russia's foreign reserves as of 1 April 2025 is 647 billion USD. This is an increase of 9.7% over the year (Table 6.3). This growth is due to the increase in the gold price over this period (+38.8%, from 2,249 USD to 3,120 USD/oz).

The bulk of Russia's gold reserves remain unavailable for use, in particular about 300 billion USD. The amount of 300 billion USD is frozen by Western countries, IMF resources (SDR and reserve position) are not available, and the sale of monetary gold is restricted by sanctions.

As of 1 April 2025, Russia's available foreign exchange reserves amount to only circa 90 billion USD. This is a decrease of 6.4% in 2024. Currently, they cover less than three months of imports, when it is considered normal to cover >six months of imports.

Table 6.3. Russia's official foreign exchange reserves, billion USD

Indicator	as of 01.04.24	as of 01.04.25	Change (2025/2024)
Official international reserves	590.4	647.4	9.7%
including frozen reserves in Western countries	300.0	300.0	0.0%
SDR account and IMF reserve position	28.1	28.3	0.7%
Monetary gold*	166.0	229.0	37.9%
Available foreign currency reserves	**96.2**	**90.1**	**-6.4%**

* In the period 01.04.2024–01.04.2025, the gold price increased by 38.8% (from 2,249 to 3,120 USD/oz)
Source: Central Bank of Russia

Liquid resources of the NWF as of 1 April 2025 is 35 billion USD. This is a 36% decrease over the year (Table 6.4). They are not enough to cover even the planned budget deficit in 2025 (3.8 trillion RUB).

Table 6.4. Liquid resources of the NWF, billion USD

Indicator	as of 01.04.24	as of 01.04.25	Change (2025/2024)
Liquid resources of the NWF, billion USD	equivalent to 55 billion USD (228 billion yuan + 335 tonnes of gold)	equivalent to 35 billion USD (164 billion RMB + 168 tonnes of gold)	-36%

Source: Ministry of Finance of the Russian Federation

In other words, Russia has limited resources that it can use to finance the war in 2025–2026. The bulk of foreign reserves are frozen in Western countries (circa 300 billion USD) or have restrictions on their use (monetary gold worth 229 billion USD). The amount of available foreign exchange reserves is only circa 90 billion USD, or 3 months of imports. The NWF's liquid resources amount to 35 billion USD. This is not enough to cover the planned budget deficit in 2025 (3.8 trillion RUB).

Revenues from taxes and fees in 2025–2026

According to the federal budget for 2025–2027 adopted in November 2024, total budget revenues are expected to reach 40.3 trillion RUB in 2025 (+10% by 2024) and 41.8 trillion RUB in 2026 (+4% by 2025) (Table 6.5). In total, over the next two years, the planned revenue growth will be +15% and this rate is half that of 2023–2024 (+32%).

The budget was based on an average annual oil price of 69.7 USD per barrel in 2025 and 66 USD per barrel in 2026. It was planned that oil and gas revenues would gradually decline, and their share in total revenues would decrease from 30% in 2024 to 27% in 2025 and 25% in 2026.

Due to the decline in global oil prices, in early May, the Russian government reduced the budgeted oil price to 56 USD/barrel, which resulted in a reduction of oil and gas revenues planned for 2025 to 8.3 trillion RUB. To partially compensate, non-oil and gas revenues in 2025 will be increased by 0.8 trillion RUB, mainly due to an increase in income taxes.

The planned budget revenues for 2026 have remained unchanged so far.

In total, after the May adjustment, the budget revenue plan for 2025 is 38.5 trillion RUB, which is only 5% higher than in 2024.

Table 6.5. Federal budget revenues in 2024–2026, trillion RUB

Indicator	2024	2025 (before correction)	2025 (after correction	2026
Revenue	**36.7**	**40.3**	**38.5**	**41.8**
Oil and gas revenues	411.1	10.9	8.3	10.6
Non-oil and gas revenues, including:	25.6	29.4	30.2	31.3
Turnover taxes (VAT, excise duties, import duties)	*16.3*	*18.3*	*18.5*	*19.7*
income taxes	*2.6*	*4.7*	*5.1*	*5.2*
Other non-oil and gas revenues	*6.7*	*6.4*	*6.6*	*6.4*

Source: Ministry of Finance of the Russian Federation

As seen from Table 6.5, the Russian government plans to cover the decline in oil and gas revenues in 2025 by increasing non-oil and gas revenues. The main efforts are aimed at increasing the collection of turnover taxes (+2.3 trillion RUB in 2025) and income taxes (+2.5 trillion RUB).

The increase in turnover tax revenues will be provided by inflation (consumer price growth), which is to remain double-digit (>10%) in 2025. Income tax revenues will double due to an increase in the federal income tax rate from 3% to 8%. In 2025, the corporate income tax rate will increase from 20% to 25%, and the entire increase (+5 pp) will be allocated to the federal budget. This will, in effect, squeeze further the civilian economy – reducing demand through higher taxes – in favour of the military economy, undermining the long-term productive capacity of the Russian economy.

Expected budget deficit and the possibility of new internal and external borrowing to cover it

In early May 2025, the government revised the budget to reduce revenues and increase expenditures in 2025, resulting in a budget deficit of -3.8 trillion RUB, which is 8% higher than in 2024. The 2026 budget figures have remained unchanged so far.

Table 6.6. Planned deficit of the federal budget of the Russian Federation in 2025–2026, trillion RUB

Indicator	2024 fact	2025 adjusted plan	Change, 2025 /2024, %, in	2026 plan	Change, 2026/2025, % change
Federal budget revenues	36.7	38.5	4.9%	41.8	8.7%
Federal budget expenditures	40.2	42.3	5.2%	44.0	4.1%
Federal budget deficit	**-3.5**	**-3.8**	**8.6%**	**-2.2**	**-42.1%**

Source: Ministry of Finance of the Russian Federation

At the same time, federal budget expenditures are expected to be higher than planned in 2025–2026 (see section 'Growing budget expenditures'). As a result, the actual budget deficit may reach 7.5 trillion RUB in 2025 and 8.2 trillion RUB in 2026 (Table 6.7).

Table 6.7. Projected federal budget deficit in 2025–2026, trillion RUB

Indicator	2024 fact	2025 forecast	Change, 2025 /2024, %, in	2026 forecast	Change, 2026/2025, % change
Federal budget revenues	36.7	38.5	4.9%	41.8	8.7%
Federal budget expenditures	40.2	46.0	25.3%	50.0	8.7%
Federal budget deficit	**-3.5**	**-7.5**	**114.1%**	**-8.2**	**8.9%**

Source: Ministry of Finance of the Russian Federation

Since access to international financial markets remains closed to Russia due to sanctions, and China has not yet decided to provide Russia with an intergovernmental loan, the Russian government can rely solely on its own reserves and domestic borrowing. While Russia has relied on drawing down liquid reserves in the NWF up until now, which now stands at 35 billion USD, it has committed to not further reducing these resources. Instead, it will look to domestic borrowing in the form of FLB (federal loan bonds). In case of such borrowings, the volume of Russia's public domestic debt will increase by at least one and a half times in 2025–2026, from 23.7 to 37.7 trillion RUB, respectively. As such, this will increase the pressure on the Russian banks. As Russia's banks are highly concentrated and mostly state-owned this creates a state banking nexus vulnerable to political shocks and any loss of trust in the country's overall financial resilience. The strategic gold reserve could play an important role for Russia in addressing a crisis in the banking system given that it is domestically held and therefore easily accessible. It could be used to recapitalise banks, or as security for repo ('repurchase') agreements.

Conclusion

The Russian economy is in "stagflation" (a situation where price pressures sit alongside low to stagnant economic output) with economic growth of minus 1.5% within 2022–2024 accumulatively, and inflation of 15–25% per annum. In these challenging circumstances, it also has to shoulder unproductive military expenditures. Economies experiencing stagflation typically struggle generating budget revenues due to the poor economic performance of companies at the micro level. This poses challenges for maintaining the current high military expenditures, driving the budget deficit.

Russia currently has no non-inflationary sources to cover such a budget deficit. In November 2025, the volume of repo transactions (a financial instrument used to provide additional short-term liquidity to the Russian banking system) by the Central Bank of Russian reached 2.83 trillion RUB, indicating the stresses in the system. This will mean additional inflationary pressure on the economy, where inflation has already reached the level of circa 15–25% in 2022–2024. This situation creates a vicious circle of cause-and-effect ties. It poses a need to substantially decrease unproductive military spending, reduce the budget deficit, lower inflation, and then stimulate economic growth, including use of monetary tools. However, the current intensity of war funding makes it impossible to follow this path. The solution could be, for example, a large external macroeconomic loan or the suspension of huge military spending. Without it, and with the continuation of war funding, Russia's economy faces growing constraints and risks. This circumstance seems likely to push the Russian regime to seek a settlement of the war with Ukraine.

Another conclusion of the report is that Russia's exceptionally low unemployment rate is not an indicator of an "overheating" economy, i.e., a situation where economic growth is so rapid that it runs up against supply side constraints to demand, thus driving inflation. Instead, our analysis suggests that supply side constraints – the impact of sanctions and the mobilisation for the war on the civilian economy – have impacted the ability of the Russian economy to generate broad-based and sustained improvements in output. In this analysis, inflation is a product of the war and the shortages it has brought about, especially in the supply of labour, in combination with the massive expansion in the monetary supply in the form of government spending and subsidised lending by state banks. While this has generated growth in the war-related economy, this has come at the expense of the civilian economy. Russia's military Keynesianism has in this sense been fundamentally constrained by the economy's underlying productive weakness and especially its import dependency in non-energy sectors. Despite western sanctions creating an incentive to reduce import dependency, the regime has not achieved this.

At the close of 2025, official data also observes the trend to stagnation. In October, the Central Bank of Russia's downgraded its estimate for 2025 economic growth to between 0.5% and 1%. In August 2025, the Economic Development Ministry put year-on-year economic growth at 0.4%.[43] These figures assume that the official inflation rate is accurate, but if, as we have argued, there are reasons to question this, then Russia may be experiencing a prolonged war and sanction-induced recession. Since June 2025, the Central Bank of Russia has also been aggressively cutting the policy rate, reducing it from its high of 21% to 16.5% in an attempt to ease the pressure of tight monetary policy on the civilian economy without access to preferential loans. In doing so, the Central Bank acknowledged that "inflation expectations remain high",[44] a sign that they are aware that Russia is, at the very minimum, experiencing a period of stagflation.

The causes of this position have been outlined in our report. War-induced supply-side constraints in the form of labour shortages and low investment in the civilian economy sit alongside massive investments in wasteful military consumption that does not contribute to Russia's productive capacity. Despite the Central Bank admitting a stagflation trend in the economy, the official rate of inflation stands at just 8.2%. This would still make the cost of borrowing – if the inflation rate is presumed to be correct – exceptionally high, with the inflation-adjusted interest rate at 8.3%. Such a rate represents the world's tightest monetary policy. Although Argentina (29% Sept 2025) and Turkey (39.5% October 2025) have higher policy rates, in both cases the official inflation rate is higher, at 31% and 33% respectively. This provides further grounds for the data analysis we have presented in this report, questioning the accuracy of Russia's official rate of inflation.

Our research contributes to the wider literature[45] that has analysed the Russian economy as fundamentally dualistic: divided between revenue-generating sectors (above all oil and oil products) and a revenue-dependent ones that require a steady flow of distributed rents.

In our analysis, we identify how the share of industries classified as revenue-generating decreased from 47.1% to 42.2%, while the share of revenue-dependent industries increased from 27.9% to 32%. This is driven by the dramatic militarisation of the economy – which has, in turn, a contributing impact on the nature of class and social stratification. We highlight the 20% of the Russian population – in the military and defence industries – that have experienced significant, inflation-busting improvements in their incomes and how this contrasts to the remaining 80% of the population. As the growth in the military economy exists in a negative-sum relationship to the development of the wider economy, this stratification is complex for the regime to manage, providing a material base in society for continuing the war against the interests of the majority.

How and whether this disequilibrium between the military and civilian economy can be established by the regime is contingent on external factors. As Russia is, in the end, a petrostate, this refers, above all, to (a) global market demand for oil and gas, and (b) the extent to which western states double down on secondary sanctions in these areas, seeking to choke off markets for these products, especially in India and China. If Russia is unable to translate its resource strength into revenue flows, it faces major problems. If, however, oil market demand holds up and/or it receives sanctions relief from the Trump administration in lieu of any end to the war, then its fortunes will dramatically improve.

If the present dynamic of recession/stagflation and reduced earnings persists then Russia will likely face de-stabilisation. While we do not know how the political effects of this will play out, we insist that the Russian economy is not a metaphysical entity in which the regime is uniquely able to free itself from the material contradictions of its position.

Russia has relied for example on generous financial incentives to recruit soldiers, which will be harder to fund in 2026. The zero-sum relationship between the civilian and military economy must at some point impact on the "regime dynamics" of the Putin system, posing challenges for how the autocratic order maintains its coalition of support, likely driving intra-regime and intra-elite conflict in some form. The fact that Russia may struggle in 2026 to fund the war on the same scale as 2025 may also explain its escalatory logic and demands in 2025. Russia has an incentive to utilise maximum force in the short term given the fragility of the country's longer-term position.

But it may also be the case that the Russian President's commitment to a long war is quite genuine, and he either does not take seriously, or does not feel at risk from, the problems that prioritising the war at all costs pose to the wider Russian economy – and, by extension, the stability of his regime. It is also possible that he views the threat from pro-war elements to be the greatest risk to his own position. Whatever the motive, these are all risky calculations. From a regime stability point of view, i.e., from the vantage point of the Putin system and his goal to remain Russia's unchallenged autocratic leader, there is a clear case for a ceasefire deal – especially if combined with some level of sanctions relief on oil and gas.

Nonetheless, it must be acknowledged that Russia has had significant good fortune in terms of wider (geo)political developments as its economic problems at home are mounting. The latest US peace proposal reflects many of Russia's maximalist demands, while a major corruption scandal has left Kyiv's legitimacy badly undermined. These events illustrate starkly the need to analyse how the economics and politics intersect when assessing the likely contours of the war, and the prospects for some form of negotiated outcome.

Annex 1

Russia's foreign trade in goods in 2021

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
TOTAL	492 314	293 502			
China	68 679	72 693	1	1	yes
Germany	29 646	27 352	3	2	yes
Netherlands	42 145	4 284	2	15	yes
Belarus	23 131	15 636	5	4	
United States of America	17 747	17 265	9	3	yes
Türkiye	26 426	6 515	4	10	yes
Italy	19 286	12 045	7	7	yes
Korea, Republic of	16 895	12 987	10	5	yes
United Kingdom	22 275	4 467	6	13	yes
Kazakhstan	18 494	7 132	8	9	yes
Poland	16 722	5 809	11	11	yes
France	9 910	12 211	13	6	yes
Japan	10 726	9 127	12	8	yes
India	9 128	4 428	15	14	yes
Finland	9 656	3 566	14	18	yes
Ukraine	8 129	4 155	17	16	
Belgium	8 672	2 523	16	23	yes
Czech Republic	4 017	3 622	27	17	yes
Brazil	5 261	2 223	18	27	yes

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Spain	3 844	3 506	28	19	yes
Vietnam	2 239	4 893	41	12	
Slovakia	5 101	1 950	20	29	yes
Uzbekistan	5 204	1 705	19	32	yes
Switzerland	2 822	3 395	37	20	
Hungary	3 719	2 268	29	26	yes
Taipei, Chinese	3 518	2 392	30	25	yes
Austria	3 229	2 658	33	21	yes
United Arab Emirates	5 082	276	21	70	
Lithuania	4 577	655	22	52	yes
Romania	3 343	1 590	32	33	yes
Latvia	4 296	497	23	59	yes
Mexico	3 403	1 380	31	35	
Egypt	4 177	592	25	55	
Estonia	4 131	474	26	60	yes
Greece	4 195	299	24	68	yes
Denmark	2 984	1 251	36	37	yes
Iran, Islamic Republic of	3 068	972	34	42	
Sweden	1 072	2 491	58	24	yes
Azerbaijan	2 324	1 032	40	39	yes
Indonesia	681	2 625	63	22	yes

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Malaysia	1 430	1 822	52	30	
Bulgaria	2 670	570	38	56	yes
Algeria	2 989	18	35	111	
Bangladesh	1 721	1 273	49	36	
Norway	1 815	903	46	44	
Armenia	1 893	712	44	50	yes
Israel	1 736	847	48	45	yes
Ireland	465	2 101	70	28	yes
Kyrgyzstan	2 156	348	42	65	
Malta	2 360	25	39	106	yes
Serbia	1 285	1 057	53	38	
Thailand	494	1 788	69	31	
Singapore	1 670	601	50	54	yes
Saudi Arabia	1 917	335	43	66	yes
Moldova, Republic of	1 755	416	47	62	
Hong Kong, China	1 616	552	51	57	
Ecuador	460	1 460	71	34	
Georgia	1 258	660	54	51	yes
Mongolia	1 817	43	45	97	
Canada	738	928	61	43	
Morocco	1 214	436	56	61	

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Argentina	370	1 012	75	40	
Slovenia	339	986	79	41	yes
Portugal	604	636	64	53	yes
Senegal	1 221	4	55	128	
Tajikistan	1 114	99	57	87	
South Africa	342	797	78	47	
Croatia	867	260	60	71	yes
Philippines	532	512	67	58	
Australia	236	739	90	49	
Nigeria	883	37	59	101	
Paraguay	46	847	129	46	
Chile	100	776	111	48	
Turkmenistan	725	141	62	81	
Area Nes	439	332	72	67	
Pakistan	343	354	77	63	
Peru	368	245	76	73	
Syrian Arab Republic	594	12	66	119	
Kuwait	596	0	65	152	
Lebanon	520	23	68	108	
Colombia	337	202	80	75	
Tunisia	333	146	81	79	

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Uganda	408	24	73	107	
Myanmar	284	147	87	78	
Faroe Islands	54	352	123	64	
Bahamas	394	0	74	191	
Côte d'Ivoire	129	257	106	72	
Sri Lanka	90	283	113	69	
Kenya	221	141	93	80	
Libya, State of	332	0	82	192	
Jordan	248	68	89	93	
Cameroon	310	4	83	127	
Sudan	306	0	84	156	
Togo	288	1	85	146	
Saint Lucia	285	0	86	158	
Iraq	283	0	88	175	
New Zealand	63	219	119	74	
Cyprus	231	42	92	98	yes
Ghana	166	81	98	90	
Cambodia	37	202	132	76	
Yemen	234	0	91	161	
Ethiopia	195	31	95	105	
Guatemala	183	40	96	99	

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Luxembourg	22	179	135	77	yes
Gibraltar	196	0	94	183	
Bosnia and Herzegovina	108	87	110	89	
Tanzania, United Republic of	158	36	100	102	
Macedonia, North	81	95	118	88	
Qatar	124	51	107	96	
Uruguay	51	122	125	82	
Oman	168	3	97	132	
Rwanda	162	5	99	123	
Costa Rica	52	113	124	83	
Honduras	143	21	103	109	
Nicaragua	145	16	102	113	
Guinea	54	102	122	86	
Albania	133	17	104	112	
Venezuela, Bolivarian Republic of	147	2	101	140	
Cuba	131	15	105	117	
Dominican Republic	94	40	112	100	
Congo	122	2	108	134	
Congo, Democratic Republic of the	118	0	109	153	

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Mozambique	55	54	121	95	
European Union Nes	0	109	193	84	yes
Greenland	0	103	183	85	
El Salvador	87	5	116	125	
Gabon	13	77	144	91	
Angola	88	2	115	136	
Mali	89	1	114	147	
Afghanistan	82	5	117	126	
Malawi	10	75	149	92	
Botswana	49	16	127	115	
Panama	61	3	120	130	
Jamaica	1	61	171	94	
Bolivia, Plurinational State of	47	15	128	118	
Djibouti	50	0	126	193	
Zimbabwe	8	35	152	103	
Iceland	22	20	136	110	
Barbados	38	1	130	145	
Montenegro	6	33	156	104	
Benin	38	0	131	149	
Burkina Faso	37	0	133	172	
Madagascar	18	12	137	120	

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Bahrain	14	15	142	116	
Haiti	22	0	134	154	
Zambia	5	16	158	114	
Lao People's Democratic Republic	10	11	148	121	
Nepal	17	2	139	135	
Cayman Islands	18	0	138	151	
Mauritania	16	2	140	137	
Somalia	15	0	141	158	
Namibia	12	2	147	139	
Andorra	13	0	143	174	
British Virgin Islands	13	0	145	184	
Maldives	13	0	146	186	
Liberia	7	5	155	124	
South Sudan	8	4	153	129	
Mauritius	3	8	160	122	
Burundi	9	2	151	141	
Eritrea	9	0	150	166	
Palestine, State of	7	0	154	170	
Central African Republic	6	0	157	160	
Papua New Guinea	1	3	172	131	

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Suriname	3	0	159	180	
Trinidad and Tobago	2	1	165	144	
Seychelles	3	0	161	181	
Guyana	3	0	163	157	
New Caledonia	3	0	162	188	
Brunei Darussalam	3	0	164	189	
Sierra Leone	2	1	167	148	
Eswatini	0	2	190	133	
Marshall Islands	0	2	175	138	
Chad	2	0	166	185	
Equatorial Guinea	2	0	168	187	
Niger	1	0	169	161	
Macao, China	0	1	187	143	
Falkland Islands (Malvinas)	0	1	193	142	
Saint Vincent and the Grenadines	1	0	170	193	
United States Minor Outlying Islands	0	0	177	155	
Curaçao	0	0	176	164	
French Southern and Antarctic Territories	0	0	173	193	
Belize	0	0	185	150	

Country	Exports, million USD	Imports, million USD	Place in exports	Place in imports	Presence in data set
Gambia	0	0	174	189	
Western Sahara	0	0	179	163	
Kiribati	0	0	178	193	
Dominica	0	0	180	173	
Sint Maarten (Dutch part)	0	0	181	193	
Aruba	0	0	182	193	
Comoros	0	0	188	167	
Fiji	0	0	193	165	
Guinea-Bissau	0	0	184	193	
Bermuda	0	0	186	178	
Sao Tome and Principe	0	0	191	168	
Lesotho	0	0	191	169	
Pitcairn	0	0	193	171	
Cabo Verde	0	0	189	182	
Grenada	0	0	193	176	
Korea, Democratic People's Republic of	0	0	193	177	
Cook Islands	0	0	193	179	

Source: Rosstat (rosstat.gov.ru)

Annex 2

Changes in the geography of Russian exports of major commodity groups in 2021–2024, million USD

Group	Country	2021	2024	2024/2021
Crude oil	European Union (EU 27)	51 244	6 959	-44 284
	China	40 541	62 279	21 738
	United States of America	4 815	0	-4 815
	Korea, Republic of	4 270	0	-4 270
	Japan	2 350	0	-2 350
	India	2 310	51 267	48 957
	United Kingdom	1 421	0	-1 421
	Singapore	331	0	-331
	Uzbekistan	40	449	410
	Brazil	17	72	56
	Kazakhstan	0	0	0
	Taipei, Chinese	0	0	0
	Armenia	0	0	0
	Georgia	0	6	6
	Azerbaijan	0	907	907
	Indonesia	0	0	0
	Israel	0	0	0
	European Union (EU 27)	30 346	17 856	-12 490
	Japan	3 387	3 623	236

Group	Country	2021	2024	2024/2021
Crude oil	China	2 869	13 221	10 352
	Korea, Republic of	1 715	1 243	-472
	United Kingdom	1 261	0	-1 261
	Taipei, Chinese	1 153	215	-939
	Armenia	414	475	61
	Kazakhstan	276	623	347
	Georgia	91	124	34
Petroleum gases	India	37	8	-28
	Singapore	29	0	-29
	Türkiye	20	306	286
	Uzbekistan	0	1 521	1 521
	Azerbaijan	0	26	26
	United States of America	0	0	0
	Indonesia	0	0	0
	Saudi Arabia	0	0	0
	Israel	0	0	0
	Brazil	0	0	0
Petroleum products	European Union (EU 27)	27 090	341	-26 749
	United States of America	13 182	0	-13 182
	Korea, Republic of	4 657	6	-4 650
	Türkiye	3 741	11 401	7 660

Group	Country	2021	2024	2024/2021
Petroleum products	United Kingdom	3 082	0	-3 082
	Singapore	1 635	4 032	2 396
	China	1 503	8 322	6 820
	India	1 193	2 424	1 231
	Taipei, Chinese	874	2 142	1 267
	Kazakhstan	518	536	18
	Uzbekistan	440	2 150	1 710
	Brazil	433	6 248	5 816
	Japan	352	0	-352
	Armenia	269	272	3
	Saudi Arabia	136	1 613	1 477
	Georgia	134	531	397
	Azerbaijan	55	236	181
	Indonesia	45	210	165
	Israel	9	770	760
	European Union (EU 27)	20 995	5 863	-15 132
	United Kingdom	17 640	291	-17 349
	China	8 568	9 594	1 026
	United States of America	7 335	1 583	-5 752
	Türkiye	7 028	4 790	-2 238
	Japan	3 081	639	-2 442

Group	Country	2021	2024	2024/2021
Metal-lurgical products	Kazakhstan	2 597	3 736	1 139
	Korea, Republic of	1 631	1 691	60
	Taipei, Chinese	1 494	1 059	-435
	Uzbekistan	1 157	2 445	1 288
	Singapore	1 003	8	-994
	Brazil	854	461	-393
	India	732	458	-274
	Indonesia	497	249	-247
	Saudi Arabia	420	139	-281
	Armenia	200	6 849	6 649
	Azerbaijan	187	580	394
	Georgia	41	156	115
	Israel	32	808	777

Changes in the geography of Russian exports of major commodity groups in 2021–2024, million USD

Country	Motor vehicles	Other machinery and equipment	Chemical products	Computers, electronic and optical products
China	18 788	14 418	3 615	978
Türkiye	142	1 042	825	84
Kazakhstan	208	787	298	322
Armenia	37	105	45	1 023
India	-84	311	283	384
Uzbekistan	24	43	87	39
Azerbaijan	3	14	49	2
Georgia	0	-1	6	-1
Saudi Arabia	0	-9	-23	0
Indonesia	3	5	-18	-51
Singapore	-6	-15	-11	-137
Israel	0	-5	-11	-167
Brazil	-25	-119	-68	1
Taipei, Chinese	-9	-137	-102	-393
United Kingdom	-681	-664	-338	-208
United States of America	-1 066	-975	-507	-605
Korea, Republic of	-3 267	-701	-15	-318
Japan	-2 794	-1 226	-155	-244
European Union (EU 27)	-10 045	-16 470	-7 463	-6 418

Changes in the geography of Russian imports of major commodity groups in 2021–2024, million USD

Group	Country	2021	2024	2024/2021
Motor vehicles	European Union (EU 27)	10 255	210	-10 045
	China	4 357	23 145	18 788
	Japan	4 258	1 464	-2 794
	Korea, Republic of	4 069	802	-3 267
	United States of America	1 075	9	-1 066
	United Kingdom	681	0	-681
	Türkiye	527	668	142
	India	135	50	-84
	Kazakhstan	89	297	208
	Taipei, Chinese	53	44	-9
	Brazil	25	0	-25
	Uzbekistan	12	35	24
	Singapore	10	4	-6
	Armenia	10	47	37
	Indonesia	9	12	3
	Israel	1	1	0
	Azerbaijan	0	3	3
	Saudi Arabia	0	0	0
	Georgia	0	0	0

Group	Country	2021	2024	2024/2021
Motor vehicles	European Union (EU 27)	19 438	2 969	-16 470
	China	10 323	24 741	14 418
	Korea, Republic of	1 289	589	-701
	Japan	1 249	23	-1 226
	United States of America	981	6	-975
	Türkiye	730	1 773	1 042
	United Kingdom	677	13	-664
Other machinery and equipment	India	258	568	311
	Taipei, Chinese	250	113	-137
	Brazil	140	21	-119
	Kazakhstan	125	911	787
	Singapore	40	25	-15
	Indonesia	36	41	5
	Israel	33	28	-5
	Uzbekistan	29	72	43
	Armenia	13	118	105
	Saudi Arabia	13	3	-9
	Azerbaijan	2	17	14
	Georgia	2	0	-1
	European Union (EU 27)	12 350	4 887	-7 463
	China	4 366	7 980	3 615

Group	Country	2021	2024	2024/2021
Chemical products	Korea, Republic of	1 128	1 113	-15
	United States of America	561	54	-507
	United Kingdom	477	140	-338
	India	457	740	283
	Türkiye	377	1 202	825
	Kazakhstan	263	560	298
	Japan	219	65	-155
	Azerbaijan	213	262	49
	Taipei, Chinese	161	59	-102
	Uzbekistan	127	213	87
	Israel	110	98	-11
	Brazil	81	13	-68
	Indonesia	74	56	-18
	Saudi Arabia	30	7	-23
	Armenia	18	63	45
	Singapore	14	3	-11
	Georgia	7	13	6
	China	12 616	13 594	978
	European Union (EU 27)	6 912	495	-6 418
	United States of America	672	67	-605
	India	473	858	384

Group	Country	2021	2024	2024/2021
Computers, electronic and optical products	Taipei, Chinese	460	67	-393
	Korea, Republic of	415	97	-318
	Japan	264	20	-244
	United Kingdom	231	22	-208
	Israel	205	38	-167
	Singapore	154	17	-137
	Indonesia	52	1	-51
	Kazakhstan	29	350	322
	Türkiye	15	100	84
	Armenia	10	1 033	1 023
	Uzbekistan	2	42	39
	Georgia	1	0	-1
	Brazil	1	2	1
	Azerbaijan	1	3	2
	Saudi Arabia	1	1	0

Source: mirror statistics of 45 countries

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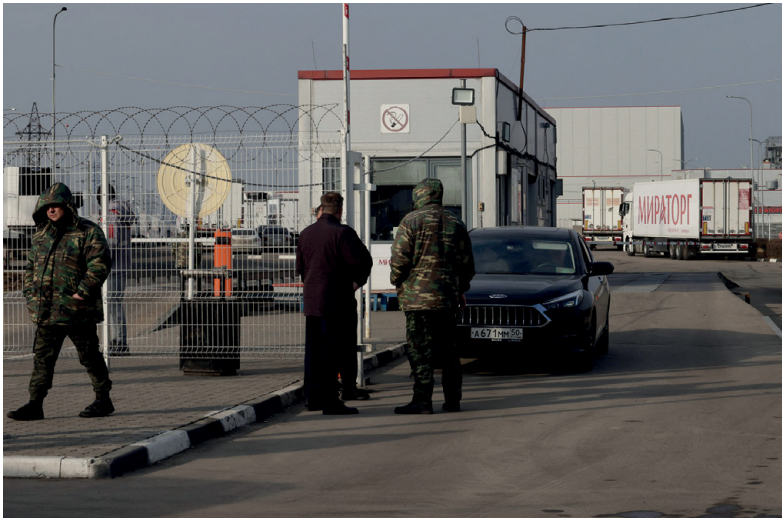

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