

## Monitoring the Impact of Sanctions on the Russian Economy

Vasily Astrov, Artem Kochnev, Lisa Scheckenhofer, Vincent Stamer,  
Feodora Teti

The present report was prepared on 4 October 2023 as the outcome of research cooperation between the Vienna Institute for International Economic Studies (wiiw, coordinator), the Kiel Institute for the World Economy (IfW), the Leibniz Institute for Economic Research (ifo) and the Austrian Institute of Economic Research (WIFO) on behalf of the **German Federal Ministry for Economic Affairs and Climate Action**. The views expressed in the report are those of the authors and do not necessarily represent the views of the Federal Ministry for Economic Affairs and Climate Action or the minister.

An identical version of this report is published by the Vienna Institute for International Economic Studies (wiiw), furthering our commitment to sharing meaningful insights and contributing to the ongoing discourse in our field.



EconPol Europe is CESifo's economic policy platform. With key support from the ifo Institute, it seeks to leverage CESifo's globe-spanning network of more than 2000 high-ranked economists – at least a dozen of whom have won the Nobel Prize – and ifo's decades-deep research expertise to provide well-founded advice to European policymakers and to facilitate informed decisions. Drawing on the wide range of specializations of its members, EconPol's mission is to contribute to the crafting of evidence-based, effective economic policy in the face of the rapidly evolving challenges faced by the European economies and their global partners.

---



EconPol POLICY REPORT  
A publication of the CESifo Research Network

Publisher and distributor: CESifo GmbH  
Poschingerstr. 5, 81679 Munich, Germany  
Telephone +49 89 9224-0, Email [office@cesifo.de](mailto:office@cesifo.de)  
Editors: Clemens Fuest, Florian Dorn  
Reproduction permitted only if source is stated and copy is sent to CESifo.

**EconPol Europe: [www.econpol.eu](http://www.econpol.eu)**

# Monitoring the Impact of Sanctions on the Russian Economy

*Vasily Astrov, Artem Kochnev, Lisa Scheckenhofer, Vincent Stamer, Feodora Teti\**

## Abstract

Russia's foreign trade has shifted, causing a 30% depreciation in the Rouble due to declining oil prices and EU embargoes on Russian oil. While exports have decreased by 32%, imports have increased by 17% due to innovative ways to bypass trade sanctions. Despite EU restrictions, only around one-third of pre-war exports to Russia are fully sanctioned; most trade remains unaffected or subject to numerous exemptions. The central bank's rate hikes stabilized the exchange rate, but inflationary pressures persist. The Russian economy shows signs of recovery, driven by robust domestic demand from wartime fiscal stimulus, contributing about 10% to GDP in 2022-23. Real GDP and industrial production have grown by 2.5% and 3%, respectively, indicating recovery from the economic crisis. Sectors benefiting include manufacturing with significant military output, construction, and hospitality. This year's economic growth forecast for Russia is revised upward to 2.3%, but labor shortages and technological setbacks due to Western sanctions pose challenges. The expected slowdown to below 2% in the coming years could result from higher interest rates limiting credit growth. Prolonged conflict may lead to continued reliance on military spending, potentially causing post-war economic stagnation.

\* Vasily Astrov: Wiener Institut für Internationale Wirtschaftsvergleiche (wiiw), Artem Kochnev: Wiener Institut für Internationale Wirtschaftsvergleiche (wiiw), Lisa Scheckenhofer: LMU and ifo Institute, Vincent Stamer: Institut für Weltwirtschaft (ifw), Feodora Teti: LMU and ifo Institute.

# TABLE OF CONTENTS

<b>Executive Summary .....</b>	<b>3</b>
<b>1 Economic Recovery Motors On – Despite Mounting Capacity Constraints.....</b>	<b>4</b>
1.1 Military Production Boom Leading the Way .....	4
1.2 Economy on the Verge of Production Capacities.....	6
1.3 Import Substitution to the Rescue? .....	8
<b>2 Recent Turnaround in Foreign Trade .....</b>	<b>9</b>
<b>3 Sanctions Prevent EU Exports, but Missing Goods can be Partly Substituted.....</b>	<b>12</b>
<b>4 Resisting Depreciation Pressures .....</b>	<b>15</b>
<b>5 Fiscal Situation Better than Expected, but Deficits will not be Avoided .....</b>	<b>17</b>
<b>6 Can Russian Statistics be Trusted? .....</b>	<b>18</b>
<b>References.....</b>	<b>22</b>
<b>List of Tables and Figures .....</b>	<b>24</b>

## Executive Summary

**The marked turnaround in Russia's foreign trade this year has put a strong downward pressure on the Russian rouble, which has lost around 30% since January.**

Global oil prices were declining (until recently), the EU import embargo on Russian oil suppressed prices even further, and on top of that, Russia lost a large slice of its historically main gas market: the EU. As a result, goods exports declined by 32% in January-August, while imports, on the contrary, surged by 17%, as the economic recovery gained momentum and new ways to circumvent trade sanctions were found. In response to a weakening rouble and mounting inflationary pressures, the central bank has hiked its key rate in three steps since July, by a combined 5.5 pp to 13%. These measures have been successful in stabilising the exchange rate for now, although inflationary pressures will stay high in the coming months due to the pass-through of the past depreciation into consumer prices.

**Otherwise, the economy continues recovering on the strength of domestic demand, driven in a large part by (war-related) fiscal stimulus. Its overall magnitude in 2022-23 is officially put at around 10% of GDP.**

In the first eight months, real GDP and gross industrial production picked up by 2.5% and 3%, respectively, meaning that the economic crisis has been essentially left behind, at least on an aggregate level. Among the main winners of the ongoing structural change have been manufacturing industries that enjoy a large share of military production, as well as construction and hospitality and catering. Official data suggest that capacity utilisation has reached very high levels, the labour market is extremely tight, and unemployment has plunged to an all-time low (although the latter is not supported by wiiw model estimations, which indicate that there are hidden imbalances in the labour market). The potential for economic growth based on idle production capacities has been by now largely exhausted, with new investments becoming crucial.

**On the strength of recent performance, the wiiw growth forecast for this year has been revised upwards, to 2.3%. However, growth will likely slow to below 2% next year and in 2025, as higher interest rates will constrain credit growth and cool domestic demand somewhat.**

With no end to the war in sight, the current growth trajectory – based as it is in large part on military fiscal stimulus – will likely continue for some time, despite the economy suffering increased labour shortages and falling behind on the technological front, due to the Western sanctions. However, the longer the war lasts, the more addicted the economy will become to military spending, raising the risk of stagnation (or even outright crisis) once the conflict is over.

# 1 Economic Recovery Motors On – Despite Mounting Capacity Constraints

## 1.1 Military Production Boom Leading the Way

The Russian economy continues recovering from last year's slump. According to estimates by the Ministry of Economy, in August 2023 real GDP grew by 5.2% year on year,<sup>1</sup> bringing growth in the first eight months to 2.5%. During the same period, industrial production grew by 3% year on year, with those industries that enjoy a large share of military production leading the way. For instance, the production of 'finished metal products except machinery and equipment' soared by 27.4%, largely on account of the 39.5% increase in the production of 'other metal products not included elsewhere' (NACE 25.04.AF), which include inter alia 'weapons and ammunition'. Among other industries with a high share of military output were 'computers, electronic and optical products' (+34.6%), 'other transport vehicles and equipment' (+29.4%), and 'electric equipment' (+23.2%). Crucially, the military production boom is being assisted by the fact that Russia reportedly imports most of the products it requires, including badly needed semiconductor chips, via third countries – Western trade sanctions notwithstanding.<sup>2</sup> It needs to be mentioned, though, that the current military production boom does not fundamentally change the basic industrial structure, which continues to be largely resource-oriented. Mining accounted for around 26% of gross industrial production in July, and three industries – 'extraction of crude petroleum and natural gas', 'coke and refined petroleum products manufacturing', and 'basic metals manufacturing' – made up more than 40% of the total (Table 1).

Other sectors that have recorded above-average growth included construction (+9.8% in the first half of 2023, in value-added terms) and hospitality and catering (+12.3%). Construction benefited in large part from the creation of military infrastructure in regions bordering Ukraine, as well as of transport and logistics infrastructure in the Far East, along the Trans-Siberian Railway (in the wake of the foreign trade reorientation towards Asia); meanwhile, the upsurge in hospitality and catering partly reflects the boom in domestic tourism, since travelling abroad has become so much more difficult.<sup>3</sup>

<sup>1</sup> However, on a monthly (seasonally adjusted) basis economic growth slowed somewhat: to 0.4%, after 0.6% in July.

<sup>2</sup> See e.g., <https://verstka.media/rassledovanie-kak-v-rossiyu-popadayut-lyubye-sankcionnie-tovary>, <https://www.nytimes.com/2023/09/13/us/politics/russia-sanctions-missile-production.html>, and <https://www.agents.media/rossijskij-vpk-prodolzhil-poluchat-nemetskie-stanki-posle-nachala-vojnny/>.

<sup>3</sup> Direct flights between the EU and Russia were cancelled immediately after the start of the war, and most land borders were effectively closed during the subsequent months as well. Besides, EU visa procedures for Russians have become much more restrictive.

In contrast, mining output declined by 1.3% in the first eight months, largely on account of the 12.7% decline in natural gas production (for more on that, see below). However, the mining of metal ores and other minerals recorded modest declines as well, reflecting the impact of Western sanctions and logistical difficulties in re-orienting trade flows towards Asia. Within manufacturing, the main losers were pharmaceuticals (-5.1%), wood and cork products (-4.9%), printing and reproduction of recorded media (-2.8%), paper and paper products (-2.6%), and textiles (-1.5%). All of them have been affected to varying degrees by sanctions and/or the withdrawal of foreign firms. In contrast, the automotive industry – which was hit hard initially, as Western and Japanese car manufacturers left Russia *en masse* – has been strongly recovering on a monthly basis, benefiting from Chinese companies stepping in.<sup>4</sup> As a result, its performance in the first eight months of 2023 was flat (year on year).

**Table 1: Structure of Gross Industrial Production in July 2023, at NACE 2-digit Level, in %**

Industry	Share in %
<i>B: Mining</i>	25.81
<i>C: Manufacturing</i>	67.17
<i>D: Electricity, gas, steam and air conditioning supply</i>	5.23
<i>E: Water supply; sewerage, waste management and remediation activities</i>	1.78
B06: Extraction of crude petroleum and natural gas	18.31
C19: Coke and refined petroleum products manufacturing	13.59
C24: Basic metals manufacturing	11.20
C10: Manufacture of food products	9.44
C20: Chemicals and chemical products manufacturing	5.07
C25: Fabricated metal products except machinery and equipment manufacturing	4.52
C23: Other non-metallic mineral products manufacturing	3.04
B09: Mining support activities	2.69
C30: Manufacture of other transport equipment	2.44
C28: Machinery and equipment not elsewhere classified manufacturing	2.08
C22: Rubber and plastic products manufacturing	2.07
B07: Mining of metal ores	1.99
B05: Mining of coal and lignite	1.99
C29: Manufacture of motor vehicles, trailers and semi-trailers	1.96
C26: Manufacture of computer, electronic and optical products	1.95
C27: Manufacture of electrical equipment	1.74
C33: Repair and installation of machinery and equipment	1.39
C11: Beverage manufacturing	1.32
C17: Paper and paper products manufacturing	1.27
E38: Collection, processing, and disposal of waste; processing of secondary raw materials	1.14
C21: Pharmaceuticals, medicinal chemicals and botanical products manufacturing	0.94
C16: Wood and cork products except furniture; straw and plaiting materials manufacturing	0.85

<sup>4</sup> The former Renault factory in Moscow, which has started producing Moskvich car brand using Chinese parts and components, is the case in point.

B08: Other mining and quarrying	0.83
C13: Manufacture of textiles	0.38
C31: Furniture manufacturing	0.38
C18: Printing and reproduction of recorded media	0.37
C32: Other manufacturing	0.37
E36: Water collection, purification, and distribution	0.36
C12: Tobacco product manufacturing	0.34
C14: Manufacture of wearing apparel	0.34
E37: Collection and treatment of wastewater	0.28
C15: Leather and related products manufacturing	0.12
E39: Provision of services in the field of pollution control and waste disposal	0.00

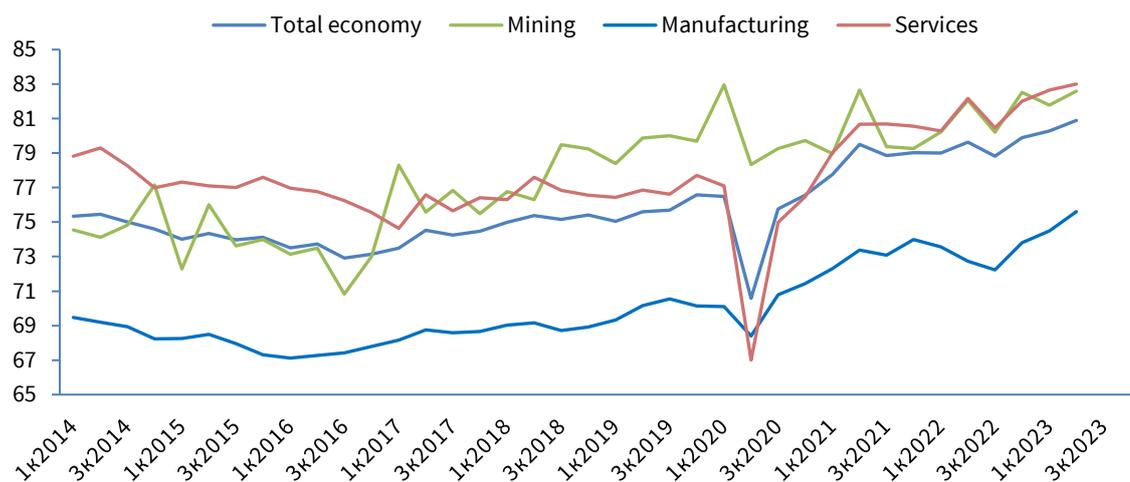
Note: Data on oil production is classified since March 2023.

Source: wiiw calculations based on Rosstat data.

## 1.2 Economy on the Verge of Production Capacities

As already indicated in our previous (August 2023) report, the level of capacity utilisation in the Russian economy has been generally rising and, according to various surveys, stands now at historically very high levels. For instance, the survey conducted by the Russian Central Bank (CBR) has found that by Q2 2023, it reached 80.9% - the all-time high (Figure 1),<sup>5</sup> albeit with marked differences across sectors: in manufacturing, capacity utilisation tends to be substantially lower than in mining and services. Another survey conducted by the Primakov Centre in May 2023<sup>6</sup> suggested an even higher level (90%), also the highest in Russia’s recent history, while the labour utilisation rate was also found to be very high: 97%, which is just one percentage point below the maximum value ever recorded.

**Figure 1: Rate of Capacity Utilization, Seasonally Adjusted, in %**



Source: Central Bank of Russia.

<sup>5</sup> [https://www.cbr.ru/analytics/dkp/monitoring/07\\_23/](https://www.cbr.ru/analytics/dkp/monitoring/07_23/)

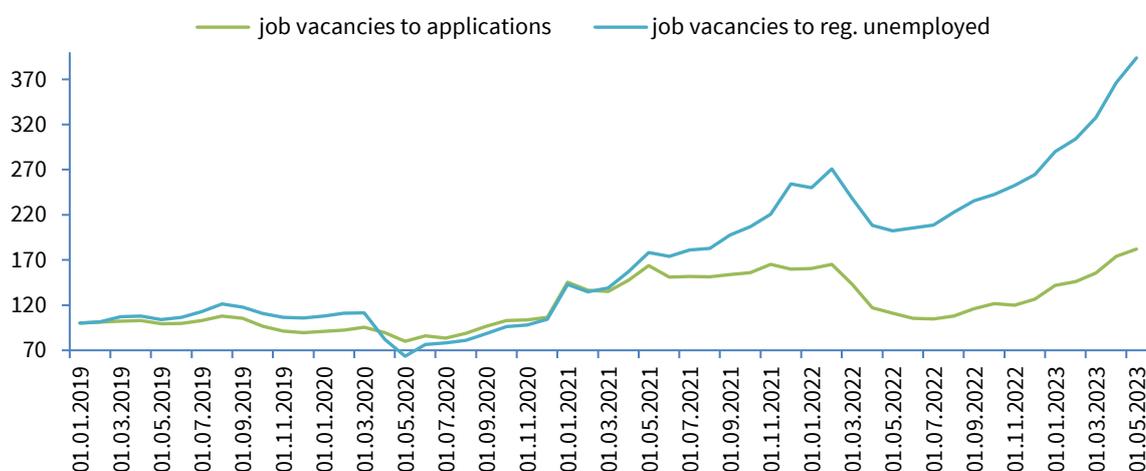
<sup>6</sup> [http://www.edrussia.ru/images/pdf/2023/08/red\\_0823.pdf](http://www.edrussia.ru/images/pdf/2023/08/red_0823.pdf)

The latter squares with the evidence of the tight labour market and widespread labour shortages. By July 2023, the unemployment rate had plunged to a mere 3% according to official (LFS) statistics – an all-time low (even though in reality it is probably higher, more to the tune of 4-5% – for more on that, see the last section). On the one hand, after near-stagnation last year, employment growth has gained momentum, reaching 2.6% year on year in July 2023. On the other hand, labour supply has been shrinking for many years now on account of long-term demographic decline. The ‘partial’ military mobilisation announced in September 2022 (of up to 500,000 men) and the recent emigration of many Russians fleeing mobilisation and the increasingly repressive political regime have only served to aggravate this trend. According to recent estimates,<sup>7</sup> some 800-900 thousand have left Russia since the beginning of the war. While most of them have gone to countries offering visa-free regimes (such as other CIS countries, Serbia, Israel and Turkey), the EU has recorded a surge as well.<sup>8</sup>

As a result, the labour market has been increasingly tight, which is suggested by the sharply rising number of job vacancies, both in relation to the number of applications and of registered unemployed (Figure 2). Labour and skill shortages are particularly acute in the IT sector, which has suffered from the recent exodus of many IT professionals. The structural mismatch also plays a role: workers laid off in sectors that are affected by sanctions and by the withdrawal of foreign firms often cannot be absorbed by those industries that are booming, such as the arms industry. Labour and skills shortages are typically identified as likely to be among the key constraints on Russia’s growth performance in years to come. However, there is a welcome demand-side effect: with employers forced to compete for labour, real wages are being pushed up – in H1 2023, earnings soared by 6.8% to become an important driver of recovering private consumption.

<sup>7</sup> <https://re-russia.net/en/review/347/>

<sup>8</sup> According to Eurostat data, 26 EU countries (without Croatia, data for which are not available) combined issued around 110,000 first residence permits to Russians last year. This is 66% more than the average for 2017-2019.

**Figure 2: Labour Market Tightness, Seasonally Adjusted, January 2019 = 100**

Source: Central Bank of Russia based on data from Rosstat and HeadHunter.

### 1.3 Import Substitution to the Rescue?

The high levels of capacity and labour utilisation suggest that the potential for economic recovery based on idle production capacities may now be largely exhausted. Under these circumstances, the continuation of economic growth will crucially hinge on new (labour-saving) investments and their productivity. Indeed, there is evidence of vibrant investment activity currently under way in Russia: fixed capital investment was up 7.6% in H1 2023, partly on account of the above-mentioned construction boom, but also in the wake of the realignment of production and logistic value chains by private businesses in response to the recent shocks. However, there are question marks over the productivity of investments, given Russia's reduced access to Western technology.

Unsurprisingly, the main beneficiaries of Western sanctions appear to be third countries. For instance, a recent survey conducted in August by the Gaidar Institute for Economic Policy found that 77% of Russian industrial companies are planning to purchase equipment from such countries as China, India and Turkey, compared to 59% a year ago.<sup>9</sup> Only 9% of companies have said that they are planning to purchase equipment from Western Europe (down from 55% in 2021),<sup>10</sup> and almost none from the US and Japan, while the share of those planning to buy domestically produced equipment stayed the same: 63%.

Overall, and despite the government's efforts to the contrary, the success of Russia's import substitution strategy when it comes to investment goods appears questionable at best. This is also confirmed by the recent strong performance of imports – Western

<sup>9</sup> <https://www.rbc.ru/newspaper/2023/09/04/64f0a32d9a794727112cf60f>

<sup>10</sup> However, the share of industrial firms, which would prefer to buy West European equipment, has gone up from 65% to 72%.

trade sanctions notwithstanding (for more on that, see the next section). According to the above-mentioned survey, 80% of industrial firms mentioned the lack of Russian-made substitutes as the main reason why they opt for foreign equipment, 46% said the main reason was the insufficient quality of Russian-made substitutes, while domestic capacity constraints in the production of equipment ranked third. Another recent survey conducted by the Higher School of Economics found that around two-thirds of industrial enterprises were dependent on foreign equipment, with the coal industry, printing and textiles ranking among the most vulnerable sectors.<sup>11</sup> Successful import substitution is largely confined to industries, where Russia has had competitive strengths anyway; elsewhere, its success is much more modest – even when it is supported by massive investments, such as in the aviation industry<sup>12</sup> and the semiconductor production.

## 2 Recent Turnaround in Foreign Trade

While economic recovery has been firmly underway on the back of strong domestic demand, Russia's foreign trade performance has undergone a dramatic turnaround recently. Back in 2022, goods exports surged by 19.5% in US dollar terms, mostly on account of the high oil prices and high natural gas prices in the EU - themselves largely the legacy of Russia's invasion of Ukraine. Imports of goods, on the contrary, plunged by 9% last year, as economic recession, Western trade sanctions and the withdrawal of many foreign firms from Russia sharply constrained both the demand and the supply of imports. As a result, Russia's trade surplus, including services, surged to USD 292 billion last year, and the current account surplus to USD 236 billion, corresponding to 10.5% of GDP.

This year, those trends have largely gone into reverse. Global oil prices have generally declined (Figure 3); moreover, the price spread between Brent and the Russian oil widened, at least initially, following the imposition of the EU import embargo (in December 2022 for crude oil and in February 2023 for oil products), although Russia then successfully reoriented the bulk of its oil exports to Asia.<sup>13</sup> It was not until July 2023 that oil prices started to rise again, in large part due to voluntary production cuts by Russia and

<sup>11</sup> Ibid.

<sup>12</sup> <https://topwar.ru/226524-silno-vpravo-programma-razvitiya-otchestvennoj-aviaotrasli-gotovitsja-k-prizemleniju.html>

<sup>13</sup> China and India now absorb more than half of Russia's oil exports.

## Recent Turnaround in Foreign Trade

Saudi Arabia (by 0.5 and 1 million barrels per day, respectively), while the Brent-Urals spread has narrowed recently.<sup>14</sup>

### Box 1: Russian Commodity Exports Struggling

#### Overall Exports

In Q1 2023, Russia exported fossil energy products valued at USD 55 billion to countries reporting to the Comtrade platform, as well as China. Besides crude oil, which represents 56% of this export revenue, the fossil energy products include oil products, natural gas and coal. Export revenues in Q2 2023 likely remained at the same level, as indicated by monthly trade data (which are not yet fully reported for June). As compared to the reference period (Q1 of 2018, 2019 and 2021), exports in Q1 2023 increased by 24%, but decreased by 19% as compared to Q1 2022. Ship movements indicate that oil tankers departing from Russia unload 42% of the cargo in countries such as Turkey, which do not report crude oil imports to Comtrade and are not included in the above figures. Hence, above totals may significantly underestimate Russian export values. The expansion of exports to these countries accounts at least partly for the decrease in export value as compared to the previous year.

#### Coal

The export value of coal to all reporting countries, as well as China has stabilized in the range of USD 7 billion per quarter. Coal exports to China, which represent 62% of all observed Russian coal exports, have decreased from an average of USD 1.4 billion per month in H1 2023 to approximately USD 1.0 billion in July and August, respectively. Bulk ship movements confirm a slowdown of coal exports during the months of June through August.

#### Crude Oil

The export value of crude oil rebounded slightly: from USD 27 billion in Q1 2023 to USD 29 billion in Q2. India continued to expand its quarterly oil imports from Russia reaching USD 12.3 billion in Q2. China's imports of crude oil from Russia remained stable at high levels in July and August. Despite these trends, oil tanker departures declined in July and August. This may indicate that India's expansion of oil imports from Russia has reached its peak.

#### Oil Products

Russia's exports of oil products have dropped substantially, from USD 13.2 billion in Q4 2022 to USD 9.6 and 7.9 billion in Q1 and Q2 2023, respectively. Turkey and China remain

<sup>14</sup> Figure 3 also demonstrates the price cap, set by the G-7 at USD 60 per barrel for Russian oil shipments to third countries, has played little part (if any) in these developments. The price of Urals (Russian oil shipped to Europe) has exceeded the price cap starting from July 2023, while the price of ESPO (Russian oil shipped to Asia; this is precisely where the price cap was supposed to be binding) has *invariably* been higher than the cap.

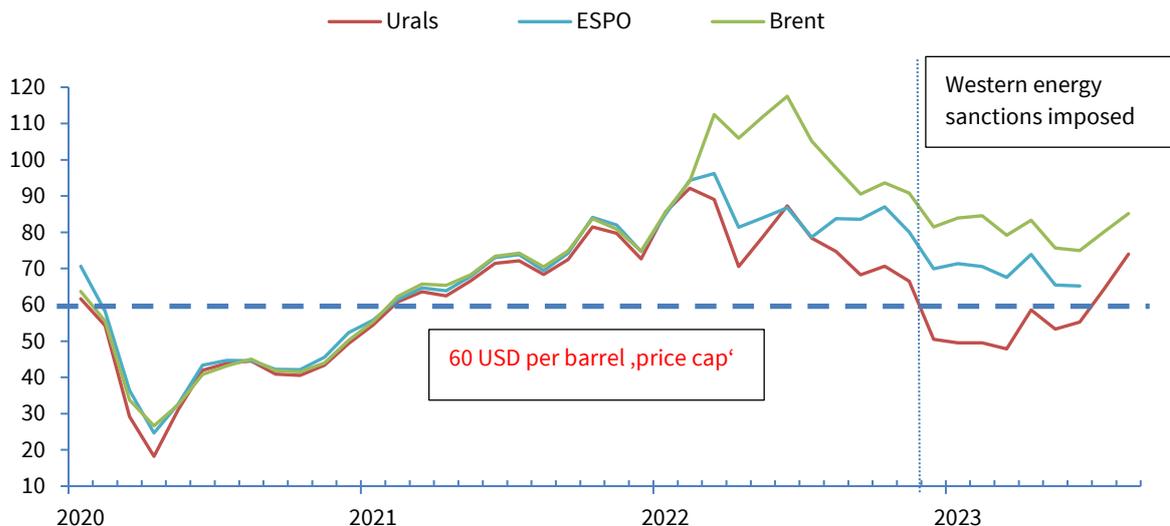
the primary importers of oil products from Russia. China's monthly imports of oil products in July and August fell, however, from their peak values in May.

### Natural Gas

Since September 2022, natural gas exports of Russia have decreased consistently. In Q2 2023, they reached only USD 8.1 billion – approximately half of the value of Q3 2022. A drop in natural gas prices and reduced pipeline exports likely account for the bulk of this effect, which is also suggested by constant LNG exports via tankers.

Russia's exports of natural gas have also struggled: since the beginning of the war, the country has lost a large slice of its main gas market – the EU, largely on account of the mysterious destruction of Nord Stream 1 in September last year and Russia's own supply cuts via the Yamal-Europe pipeline (crossing Poland). At the same time, the limitations of the existing pipeline infrastructure (most Russian gas export pipelines currently run westwards) mean that it will take some time to fully reorient these gas flows to Asia. All in all, Russian goods exports declined by 32% in January-August 2023 (year on year, in US dollar terms). By contrast, imports surged by 17% (again, year on year) and since May 2023 have been at the same level as the 2021 average, as economic recovery gained momentum and new ways were found to circumvent the trade sanctions (see Box 2). The current account surplus in the first eight months of the year shrank by more than 85% year on year, putting pressure on the exchange rate.

Figure 3: Oil Price, in USD per Barrel



Note: Urals price is estimated by the Russian Finance Ministry, ESPO stands for Eastern Siberia-Pacific Ocean export pipeline serving Asian markets, ESPO price FOB.

Source: Central Bank of Russia, wiiw.

### 3 Sanctions Prevent EU Exports, but Missing Goods can be Partly Substituted

Here we cover Russia's monthly imports (in real USD terms) across origin countries starting from January 2021. We combine data from various sources. First, data on total monthly imports (until July 2023) are available from the Russian Central Bank, which is the best source to obtain the most recent data points. However, these data do not contain any additional information. Hence, to analyse trends across different origin countries and sectors, we turn to UN Comtrade and national sources, which provide trade data for 58 countries (EU27 plus 31 other countries) at the product (HS6)-level that accounted for 82% of all Russian imports in 2019. Data availability varies significantly across reporters, with some countries having spotty reporting records for the most recent months. For example, for Azerbaijan and Uzbekistan data are only available for January 2023 and then again for April 2023, while the EU27 and China provide regular data up until July and June 2023, respectively. These differences in reporting make cross-country comparisons challenging. However, in order to make our analysis as up-to-date as possible, we add all available months for all disaggregated country-specific time series. Indicators that contain aggregated data, for example, when we refer to all CIS countries covered in our sample, only include data up until January 2023, the latest available month, for which all important countries report.

We are particularly interested in how trade patterns of sanctioned goods change over time and across countries. To determine the sanction status of a good, we employ the ifo sanctions database, which combines information available through TARIC and the relevant legal texts to determine for every CN8 product, whether its export from the EU to Russia is restricted. For many products that are affected by the sanction regime of the EU, it is straightforward to identify the status because their CN8 product code is listed in the respective legal text. However, there are two groups of products for which an unequivocal classification is not possible because the sanctions are defined at an even more disaggregated level than CN8. First, some CN8 products (e.g., luxury goods such as caviar) are only partially sanctioned; hence, not all tariff lines within the respective CN8 product are restricted. Second, for some products (e.g., dual-use goods such as specific pumps), the EU legal documents refer to them by describing them instead of using the CN8 code. The rationale is that only a very specific technical design of a product can be used for military purposes and is therefore sanctioned, while similar goods without the crucial technical feature can still be exported. Again, an unambiguous definition of the sanction status is not possible because the trade data at CN8 are too aggregated to make these fine distinctions. We refer to goods that are partially sanctioned as 'other'; the remaining goods are non-sanctioned ones.

To be able to compare trade patterns across time, the set of sanctioned and non-sanctioned products should be constant over time. Therefore, we define the sanction status by the last available month, i.e., for India, data are available until March 2023, hence, all products that are sanctioned by then are categorized as sanctioned. Unfortunately, CN8 products can only be analysed for the EU, as this is a national product nomenclature that is not comparable across countries. To allow cross-country analyses, we aggregate to 6-digit products and use the HS2017 nomenclature. We define an HS6 product to be sanctioned when all corresponding CN8 products are sanctioned, all HS6 products with less than 100% of all CN8 products sanctioned are classified as ‘other’; the remaining goods are non-sanctioned ones. Our analysis shows three headline results.

First, the Russian Central Bank data indicate that imports have fully recovered after a seven-month-long slump after the beginning of the war with Ukraine and since May 2023 have been at the same level as the 2021 average (USD 25.3 billion). One might worry about the quality of the data reported by the Russian authorities. However, as Borin et al. (2023) show, concerns about forged trade data can be largely discarded. Therefore, the decrease by 20 percentage points of the share of imports that is covered by the 58 countries in our sample since March 2022 suggests that countries that are not included in our sample such as Belarus, Tajikistan, Turkmenistan (they do not report data to UN Comtrade), and the United Arab Emirates might play a bigger role now. Differences in statistical recording might also matter: Russia imports a significant part through the so-called ‘parallel importing’ scheme, which refers to the practice of setting up a shell company in a third country (e.g., CIS countries) that is used to legally buy relevant products from the EU and then re-sell it to Russia. Since the third country is only used for transit, the export flow of the third country due to the parallel importing scheme might not be counted by the respective national statistics and hence is not included in our mirror data using UN Comtrade and national sources, while Russian statistics record this trade flow as imports. However, further analyses are necessary to make a definitive statement on this.

Second, sanctions are effectively preventing exports from the EU and the other G7plus countries to Russia and, as of January 2023, full substitution with goods from other source countries was not possible – roughly one-third of sanctioned goods are missing, compared to pre-war levels. China is by far the most important alternative source country for sanctioned goods: the Chinese share in total imports of sanctioned products increased from an average of 21% in 2021 to 57% (average of July–December 2022), 17% come from Turkey and the CIS countries combined (average of March 2022 to January 2023). While for China at least part of this development can be explained by ramp-ups in domestic production, for the other countries sanction evasion comes naturally to mind, as the sudden and large increases in trade volumes (e.g., Turkey exports more

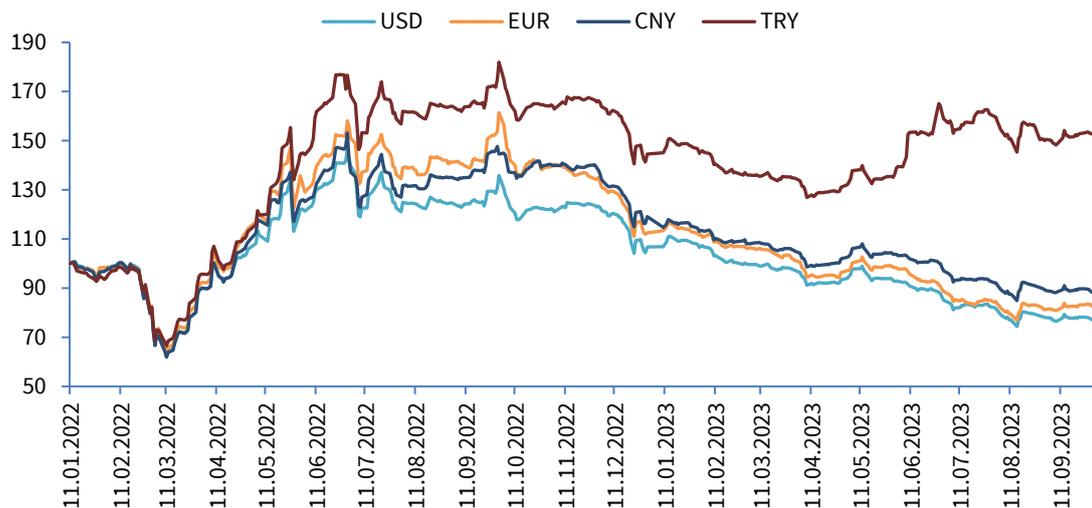
than three times the average of 2021 and Armenia ten times) seem very suspicious. Does this mean that sanctions do not have any effect at all, because EU products still reach Russia? Not necessarily, as circumventing sanctions entails higher trade costs, driving up the prices for Russian consumers who then often substitute expensive EU products with cheaper (but probably also lower-quality) alternatives. With monthly exports of sanctioned goods ranging from USD 12 to 63 million in 2022, India plays a negligible role. However, in March 2023, Indian exports to Russia roughly doubled compared to 2021. In contrast to many CIS countries, where sudden spikes in exports to Russia were driven by very few products (e.g., footwear in Kyrgyzstan in November 2022), this development took place in more than half of the products that India exports to Russia and should be observed further in the future.

Third, exports of non-sanctioned products from the EU are at lower levels than before the war. In absolute terms, Russian imports of non-sanctioned goods decreased on average by roughly USD 0.7 billion, which corresponds to one-third of the absolute reduction in the imports of sanctioned products. Given the fact that total Russian imports are close to pre-war levels, this reduction can be explained by the shift in the structure of Russian demand from EU towards non-EU goods. Since European firms export now less to Russia directly (due to higher reputational risks, higher expectations of being hit with sanctions later, or other factors such as solidarity reasons), many European goods enter Russia via third countries within the framework of ‘parallel’ imports (similarly to sanctioned goods), which makes them generally more expensive and forces consumers to look for alternatives. For medical goods, however, the EU is still the most important supplier for Russia.

## 4 Resisting Depreciation Pressures

The Russian rouble has lost around 30% of its value with respect to most main currencies (except the Turkish lira) since the beginning of this year (Figure 4), briefly surpassing the psychological threshold of 100 RUB/USD on 15 August and on 3 October. Unfavourable trends in foreign trade (described in the previous chapter) have been one important reason for this, as they resulted in a sharp decline in the supply of foreign exchange from current account transactions. In addition, Russia's efforts at 'de-dollarisation' of its foreign trade, primarily in the form of a switch from the US dollar to other currencies as a means of payment for its exports, have ironically backfired: As a result of such a switch in trade with India, for example, by early May 2023 Russian exporters had accumulated claims worth some USD 10 billion in Indian rupees, which have been notoriously difficult to get hold of and convert into 'hard' currencies.<sup>15</sup>

**Figure 4: Nominal Exchange Rate of the Rouble Against Main Currencies, 11.1.2022 = 100**



Note: Declining (increasing) line corresponds to depreciation (appreciation) of the rouble.

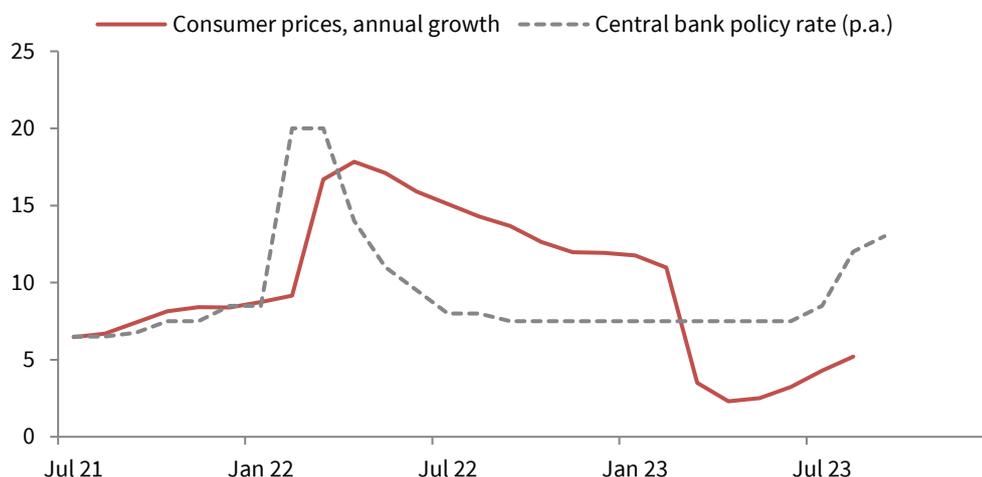
Source: Central Bank of Russia.

Because of the rouble depreciation (and also because imported goods have generally become more expensive even in foreign currency terms), consumer price inflation has been constantly on the rise recently. After the low of 2.3% (on an annual basis) in April 2023, it reached 4.3% in July and 5.2% in August (Figure 5) – thus above the 4% inflation target, and with annualised inflation (based on the most recent trends) even higher, reaching 9-11% at the time of writing. Exchange rate depreciation apart, the steep rise in the price of petrol and diesel fuel following the recent cuts to the subsidies has played

<sup>15</sup> <https://www.vedomosti.ru/economics/articles/2023/05/05/974042-rossiya-reshit-problemu-zavisshih-rupii>

a role as well (leading the government to impose a ban on exports of these products as of 21 September).

**Figure 5: and Poli Inflation cy Rate, in %**



Source: wiiw Monthly Database, incorporating national statistics.

Under these circumstances, the CBR has hiked the key rate in three steps since July, by a combined 5.5pp (to 13%), and has stepped up foreign exchange interventions (Figure 5).<sup>16</sup> These measures, coupled with the increased ‘voluntary’ conversion by exporters of their foreign currency earnings,<sup>17</sup> have been successful in stabilising the exchange rate for now. Such fundamental factors as recovering oil prices should provide support for the rouble in the coming months as well. However, as the pass-through from the previous depreciation into consumer prices is not yet over, inflationary pressures may not subside very rapidly. Besides, the CBR is concerned about an ‘overheated’ economy, whereby strong domestic demand is increasingly facing capacity bottlenecks, with potentially adverse inflationary consequences.

<sup>16</sup> Another move in this vein has been the tightening, as of September 2023, of regulations on subsidised mortgages, which had been an important driver of credit growth. The minimum downpayment required has been raised from 15% to 20%, and the interest rate subsidy on mortgages has been cut by 0.5pp.

<sup>17</sup> Exporters have been strongly ‘advised’ to exchange their export proceeds into roubles; otherwise, the government has threatened to tighten capital controls.

## 5 Fiscal Situation Better than Expected, but Deficits will not be Avoided

Low energy exports this year have affected the government's energy revenues, which historically used to account for around 40% of the federal budget. Although the recent upturn in oil prices and the rouble depreciation have brought some relief, on average in January-August 2023 these revenues were still down by 38%. However, non-energy tax revenues picked up by 24%, thanks to the economic recovery under way. Moreover, the growth in budget expenditure – which was very high at the beginning of the year – has moderated and averaged a mere 12% in the period January-August. While the budget deficit reached RUB 2.4 trillion in the first eight months, the whole-year target of RUB 2.9 trillion (corresponding to 1.7% of the now projected GDP) appears broadly realistic.

Thanks to the better-than-expected performance of the economy and of tax revenues, the medium-term fiscal outlook has generally brightened as well. According to the government draft for 2024-2026 (yet to be adopted by the parliament),<sup>18</sup> federal budget deficits for the next three years will stand at 0.9%, 0.4% and 0.8% of GDP, respectively. These are very low figures by international standards, and they imply that public debt will rise very slowly and stay below 20% of GDP up until 2026. However, they represent a novelty for Russia, which has a solid track record of (mostly) fiscal surpluses over the past two decades. The deterioration in Russian fiscal balances over the forecast horizon is a direct consequence of the war and the high war-related government spending. For 2022-2023 alone, the size of the enacted fiscal stimulus (including off-budget support) is estimated at around 10% of GDP, according to estimates of the Finance Ministry.<sup>19</sup>

The sharp rise in planned government expenditures in 2024, by 26% in nominal terms, is mostly due to the 68% rise in 'defence' spending, which will reach 6% of projected GDP.<sup>20</sup> On the contrary, spending on 'national economy' (which includes public sector investments and subsidies) will be cut by 5.7% next year, which will likely further impede government efforts at import substitution. Noteworthy, USD 1.85bn will be allocated next year in fiscal transfers to four Ukrainian territories annexed by Russia last year (Donetsk, Luhansk, Zaporizhzhia and Kherson), in addition to USD 390mn envisaged for their reconstruction and development.<sup>21</sup>

<sup>18</sup> [https://minfin.gov.ru/common/upload/library/2023/09/main/ONBNITTP\\_2024-2026.pdf](https://minfin.gov.ru/common/upload/library/2023/09/main/ONBNITTP_2024-2026.pdf)

<sup>19</sup> Ibid.

<sup>20</sup> However, in 2025 and 2026 defence spending is planned to be cut again, by 21% and another 13%, respectively, probably reflecting the government's belief that the war will be over by that time (or at least its intensity will decline substantially).

<sup>21</sup> Own calculations based on the current exchange rate of 96 USD/RUB, <https://www.vedomosti.ru/economics/articles/2023/09/27/997295-v-proekt-byudzheta-vklyuchili-gosprogrammu-vosstanovleniya-novih-regionov>.

## Can Russian Statistics be Trusted?

The planned growth in government spending next year should be matched by a 34% growth of revenues (again, in nominal terms), facilitated by the higher nominal GDP,<sup>22</sup> rouble depreciation,<sup>23</sup> as well as the higher average price for Russian oil: USD 71.3 per barrel, according to government projections (up from USD 63.4 this year). By and large, these assumptions look realistic. Besides, revenues should be helped by a higher taxation burden, e.g., the introduction starting from 1 October 2023 of export duties on selected Russian commodities.<sup>24</sup> The measure has been justified by the government on the grounds that the weak rouble is providing exporters with bonanza profits, which should be taxed. Starting from 2025, the budget draft envisages a return to the ‘fiscal rule’, which was abandoned with the start of the war. The new version of the fiscal rule foresees the threshold oil price of USD 60 per barrel (instead of USD 45 prior to the war), meaning that only revenues from the oil price exceeding the threshold will be channelled to the National Welfare Fund, while the remainder will go to the federal budget. This should provide some RUB 1.5 trillion in additional government revenues, according to Bloomberg Economics.<sup>25</sup>

## 6 Can Russian Statistics be Trusted?

With statistical reporting by Russian authorities becoming less transparent and more sporadic (while some statistics have been discontinued altogether), there is more demand for alternative data sources, which can serve for validation of the official data. This section describes the results of modelling carried out at wiiw, which aimed at verifying how realistic Russian official statistics is, using Google Trends data.<sup>26</sup> This approach is not new and has been tested for multiple countries in both stable and unstable settings: sometimes alone, and sometimes together with other data sources: both conventional and unconventional ones. A more detailed memo, outlining the methodology of the approach used, has been provided to the BMWK earlier and is available upon request.

Figure 6 shows the predictions of our model for four macroeconomic indicators – Consumer Price Index (CPI), GDP, retail sales and unemployment rate – as well as the actual data reported by the Russian Statistical Office. Grey-coloured lines represent individual model predictions; the violet-coloured line shows the model average (the mean of all predictions across all models); the yellow-coloured line shows the ‘best’ model as measured

<sup>22</sup> For 2024, the government reckons with real GDP growth of 2.3% and end-year inflation of 4.5%.

<sup>23</sup> Average exchange rate in 2024 is projected at 90.1 USD/RUB, versus 85.2 USD/RUB this year.

<sup>24</sup> The duty will be applied to all exports, except oil, natural gas, grain and timber, if the rouble is below 80 USD/RUB. It will range between 4 and 7% depending on the exchange rate. For fertilizers, exports of which are already subject to 7% export duty, a uniform rate of 10% will be applied, <https://www.interfax.ru/business/922398>

<sup>25</sup> <https://t.me/c0ldness/1902?comment=14561>

<sup>26</sup> The model estimations were done in mid-2023 and are based on data up until April. The more recent trends, such as the pick-up in inflation and the acceleration of GDP growth, are therefore not reflected in the estimations and the accompanying analysis.

by root-mean-square-error (RMSE) for the period between 1 January 2021 and 1 March 2022; and the pink-coloured line shows the actual value of the model. In what follows, we mostly concentrate our analysis on the model average and best-performing models for each of the four variables.

### **Consumer Price Index (CPI)**

Our model results generally support the officially reported CPI variation during the war-time in Russia. The deviations from the best model are mostly negligible for the 2022-2023 period, with the exception of the latest month when the official inflation was reported below 3%. Although models at the upper bound of the distribution indicate the downward trend for inflation, none of them supports the speed of deceleration suggested by official statistics. That being said, uncertainty across the models is fairly large at both ends of the distribution.

### **Retail Sales**

The best model follows retail trade dynamics closely to the official figures, with the difference being negligible. Retail sales remain below the zero line, showing barely any signs of recovery after the war-time shock. Note that the distribution of the predictions is heavily skewed downwards, suggesting that, if anything, official statistics are at the upper end of the spectrum.

### **GDP**

Our GDP predictions follow a similar pattern as retail sales: a dip in Q2 2022, with unclear signs of recovery.<sup>27</sup>

### **Unemployment**

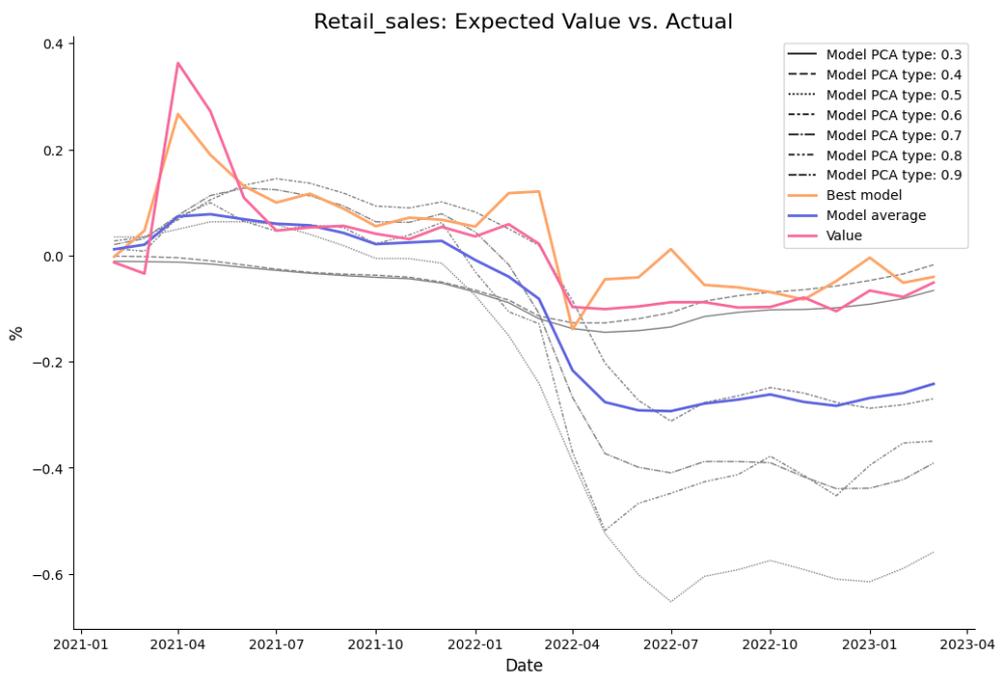
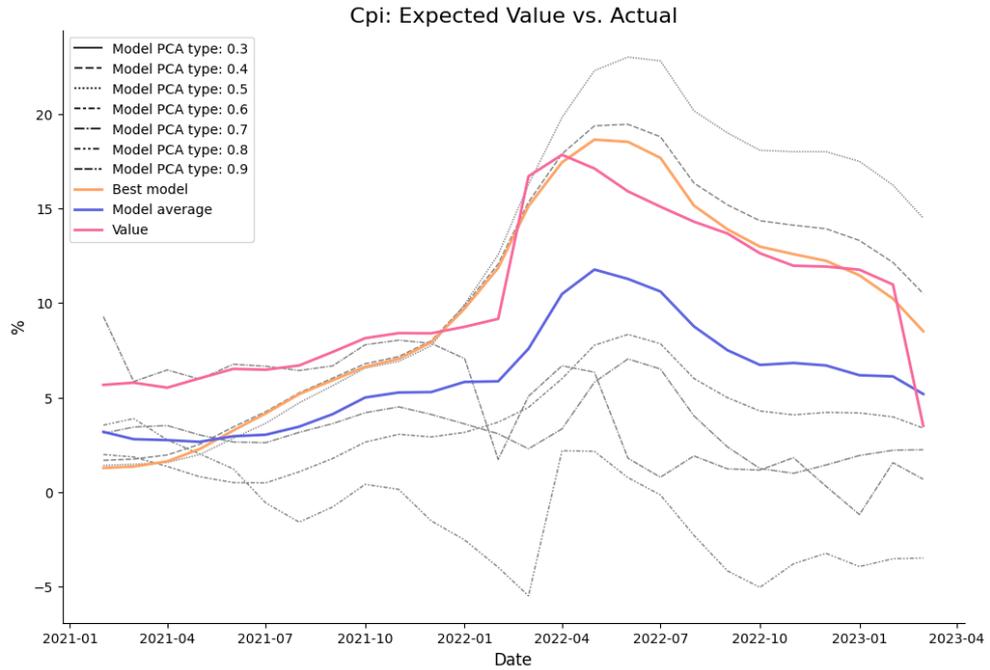
Comparison of the unemployment statistics with the modelled results shows the largest divergence between the official and predicted data. What stands out in this example is the shape of the trend line. While during the period of test data (1 January 2021 to 1 March 2022) the slope of the trendlines generated by model averages and the 'best' model remains in line with the official statistics, the recent trends of model results and official statistics (based on labour force survey, LFS) diverge. It appears that the behaviour of Google users started to diverge from the labour force surveys. There are several possible explanations for that. The first is that the official statistics do not reflect partial employment, which provides little or insufficient income. People employed in these jobs are likely to stay in the active job search process, looking for an opportunity to improve their financial situation. The second explanation is that official statistics might not capture the dynamics in the informal/shadow economy to the same degree as the

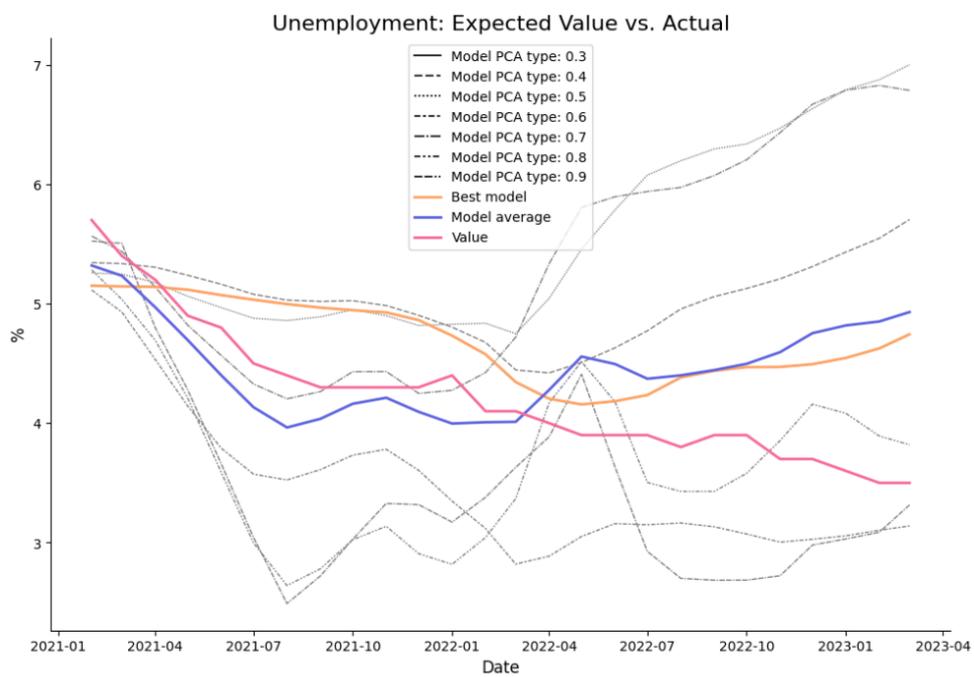
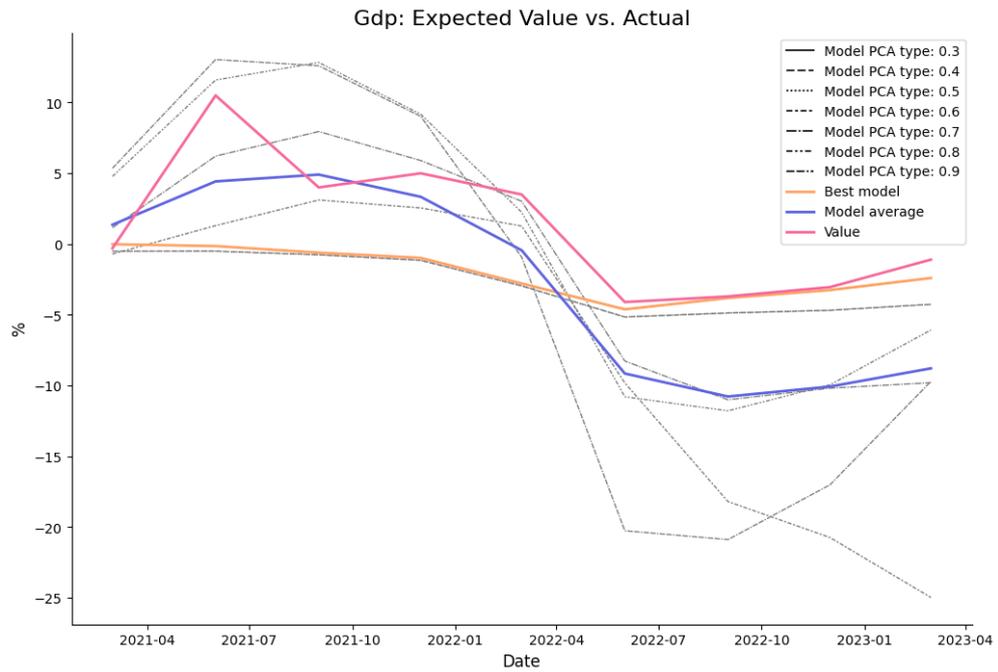
<sup>27</sup> It is worth noting, however, that this is an instance where model averages perform better at approximating GDP than the model with the lowest RMSE over the test period and suggest a larger and continuing contraction. This result stems from the fact that the probability distribution is heavily skewed downwards.

## Can Russian Statistics be Trusted?

Google search trends do. Finally, the Google search results could be potentially elevated by Russian emigrants who are still sending search queries in Russian, while looking for a job abroad or in Russia as remote workers.

**Figure 6: Predicted and Actual Values for Key Macroeconomic Indicators**





Source: wiiw calculations.

## References

- Agentstvo (2023), “The Russian Military-industrial Complex Continued to Receive German Machines After the Start of the War”, 27 September (in Russian), <https://www.agents.media/rossijskij-vpk-prodolzhil-poluchat-nemetskie-stanki-posle-nachala-vojny/>, English translation: <https://www-agents-media.translate.google.com/translate?sl=ru&tl=en&hl=en-US&pt=wapp>.
- Aukutsionek S. et al. (2023), Survey of Current Business (May-August 2023), Russian Economic Development, Vol. 30, Nr. 8, August, pp. 37-44 (in Russian), [http://www.edrussia.ru/images/pdf/2023/08/red\\_0823.pdf](http://www.edrussia.ru/images/pdf/2023/08/red_0823.pdf).
- Borin A. et al. (2023), “The Impact of EU Sanctions on Russian Imports”, 29 May, VoxEU/CEPR Policy debate, <https://cepr.org/voxeu/columns/impact-eu-sanctions-russian-imports>.
- Central Bank of Russia (2023), “Monitoring of Enterprises”, Nr. 7, July (in Russian), [https://www.cbr.ru/analytics/dkp/monitoring/07\\_23/](https://www.cbr.ru/analytics/dkp/monitoring/07_23/).
- Important Stories (2023), “Why are Planes still Flying in Russia?”, 12 September (in Russian), English translation: <https://important-stories-media.translate.google.com/translate?sl=ru&tl=en&hl=en-US&pt=wapp>.
- Interfax (2023), “In 2023-34, it is Planned to Receive 755.3 Billion Rubles from “Exchange Rate” Export Duties”, 24 September, <https://www.interfax.ru/business/922398>.
- International New York Times (2023), “Russia Overcomes Sanctions to Expand Missile Production, Officials say”, 13 September, <https://www.nytimes.com/2023/09/13/us/politics/russia-sanctions-missile-production.html>.
- Military Survey (2023), Strongly to the Right: The Domestic Aviation Industry Development Program is Preparing to Land, 25 September (in Russian), <https://topwar.ru/226524-silno-vpravo-programma-razvitija-otechestvennoj-aviaotrasli-gotovitsja-k-prizemleniju.html>.
- Ministry of Finance (2023), “The Main Directions of Budget, Tax and Customs Policies for 2024, 2025 and 2026”, September (in Russian), [https://minfin.gov.ru/common/upload/library/2023/09/main/ONBNiTTP\\_2024-2026.pdf](https://minfin.gov.ru/common/upload/library/2023/09/main/ONBNiTTP_2024-2026.pdf).
- ReRussia (2023), “Escape from War: New Data puts the Number of Russians who have Left at More Than 800,000 People”, 28 July 2023, <https://re-russia.net/en/review/347/>

- RosBusinessConsulting (2023), “Industry is Growing”, 1 September (in Russian), <https://www.rbc.ru/newspaper/2023/09/04/64f0a32d9a794727112cf60f>.
- Vedomosti (2023a), “How Russia can Solve the Problem of Hovering Rupees in India”, 5 May (in Russian), <https://www.vedomosti.ru/economics/articles/2023/05/05/974042-rossiya-reshit-problemu-zavisshih-rupii>.
- Vedomosti (2023b), “The Draft Budget Includes a State Program for the Restoration of New Regions”, 27 September (in Russian), <https://www.vedomosti.ru/economics/articles/2023/09/27/997295-v-proekt-byudzheta-vklyuchili-gosprogrammuvosstanovleniya-novih-regionov>.
- Verstka Media (2023), “Sanction Hole”, 31 July (in Russian), <https://verstka.media/rassledovanie-kak-v-rossiyu-popadayut-lyubye-sankcionnie-tovary>, English translation: [https://verstka-media.translate.google.com/rassledovanie-kak-v-rossiyu-popadayut-lyubye-sankcionnie-tovary?x\\_tr\\_sl=ru&x\\_tr\\_tl=en&x\\_tr\\_hl=en-US&x\\_tr\\_pto=wapp#25](https://verstka-media.translate.google.com/rassledovanie-kak-v-rossiyu-popadayut-lyubye-sankcionnie-tovary?x_tr_sl=ru&x_tr_tl=en&x_tr_hl=en-US&x_tr_pto=wapp#25).

## List of Tables and Figures

Table 1: Structure of Gross Industrial Production in July 2023, at NACE 2-digit Level, in %.....	5
Figure 1: Rate of Capacity Utilization, Seasonally Adjusted, in %.....	6
Figure 2: Labour Market Tightness, Seasonally Adjusted, January 2019 = 100 .....	8
Figure 3: Oil Price, in USD per Barrel .....	11
Figure 4: Nominal Exchange Rate of the Rouble Against Main Currencies, 11.1.2022 = 100.....	15
Figure 5: Inflation and Policy Rate, in %.....	16
Figure 6: Predicted and Actual Values for Key Macroeconomic Indicators .....	20

Table 1: Structure of Gross Industrial Production in July 2023, at NACE 2-digit Level, in % .....	5
.....	24
Figure 1: Rate of Capacity Utilization, Seasonally Adjusted, in % 6.....	24
Figure 2: Labour Market Tightness, Seasonally Adjusted, January 2019 = 100 8.....	24
Figure 3: Oil Price, in USD per Barrel 11 .....	24
Figure 4: Nominal Exchange Rate of the Rouble Against Main Currencies, 11.1.2022 = 100 .....	15
.....	24
Figure 5: Inflation and Policy Rate, in % 16.....	24
Figure 6: Predicted and Actual Values for Key Macroeconomic Indicators 20.....	24

# Authors of this Issue

## Vasily Astrov



Vasily Astrov has been working as economist for the Vienna Institute for International Economic Studies (wiiw) since 2003, primarily covering Russia, Ukraine, their relations with the EU, as well as macro-economic and energy issues in Central, East and South-east Europe. He is also Editor of the wiiw Monthly Report. During his time at wiiw, he has served as a consultant for the Austrian National Bank, has been involved in several projects for the European Commission, and has had extensive media exposure. He holds an M.Sc. in economics from Warwick University (UK), a Diploma in economics from Westfälische Wilhelms University of Münster (Germany), and a B.A. in geography from Saint-Petersburg State University (Russia).

## Artem Kochnev



Artem Kochnev is Economist at wiiw. He specializes on applying methods of geographic information system (GIS) research and digital humanities to research questions in political economy of conflicts and reforms. He works on developing macro-economic scenarios and the economic history of Eastern Europe before the Transition. His previous research was dedicated to estimating the impact of war on real economy, asset prices, and reform progress in Ukraine. He worked in liquidity risk management in banking and as a freelance economist for European and US think tanks. He holds a Ph.D. in economics from Johannes Kepler University Linz.

## Lisa Scheckenhofer



Lisa Scheckenhofer has been employed as a junior economist and doctoral student at the ifo Center of International Economics since October 2022. Her research focuses on trade policy. She earned a bachelor's degree in business administration and economics, along with international cultural and business studies, from the University of Passau. Furthermore, she holds a master's degree in economics from LMU Munich.

## Vincent Stamer



Vincent Stamer is a research associate at the Kiel Institute for the World Economy. He earned his bachelor's degree at Brown University in the USA and his master's degree at the Ludwig-Maximilians-University in Munich. Following his engagement at the Boston Consulting Group, he transitioned to his research role at the Kiel Institute for the World Economy, culminating in his PhD dissertation on the interactions between the container ship network and international trade. Presently, he works at the Research Center for Business Cycles and Growth, with a specific focus on German foreign trade.

## Feodora Teti



Feodora Teti has been working as a trade economist and deputy department head at the ifo Center for International Economics since 2015. She received her PhD from Ludwig-Maximilians-University in Munich in 2020. In her research, she is interested in trade policy, particularly tariffs, non-tariff barriers, and sanctions.