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IMPACT OF SANCTIONS ON THE RUSSIAN ECONOMY

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EXECUTIVE SUMMARY

Recently, the near-term outlook for the Russian economy has improved. Consensus forecasts of 2022 contraction have been lowered from -10-30% to -6-9.5%. Consensus forecasts for 2022 inflation have also been reduced from ~20% to 12-15%. Recent PMIs have moved back into expansion territory. This improved 2022 outlook has been underpinned by high oil and gas revenues, which have helped the RUB to recover, and in combination with policy support, has partially shielded the economy from the impact of the initial wave of sanctions. As the RUB has recovered and inflation expectations have eased, the central bank has reduced interest rates from the post-invasion peak of 20% to 8%, and eased capital controls.

However, we see this as a temporary improvement, and see Russian performance as weak and the Russian outlook as fragile for several reasons:

First, it is a remarkably weak performance for an oil and gas exporter at a time of record prices. Despite high oil and gas prices - which underpinned the strong current account surplus which helped to stabilise the RUB, control inflation and allow the CBR to cut rates - Russia still contracted in 2Q22, down by 4.9%YoY. This weak performance compares to strong growth among other oil and gas exporters, such as the 11.8%YoY expansion recorded by Saudi Arabia in 2Q22. We believe the striking gap between Russia and Saudi performance - of some 15pp – is largely explained by the impact of sanctions.

Second, oil and gas export earnings - Russia's key defence against sanctions - are set to decline from here. The key sanctions on oil and gas are having an impact: for instance, the Central Bank of Russia reported that the average selling price for Russian oil in 2Q was slightly under $80/bbl, when the average price was $113/bbl, confirming the discount on Russian crude at around the previously estimated $35/bbl. This implies a 2Q loss of around $20 bn on oil earnings as a result of sanctions. More importantly, oil and gas sanctions are set to bite much deeper as the European oil embargo - from December 5th on Russian seaborne crude, and from February 5th on oil products - drives oil earnings lower. Meanwhile, the volume of Russian gas sales to Europe is running at one third of last year's levels, and looks set to decline from here, and effectively stop no later than 2024, when Germany expects to be fully independent of Russian gas.

Notably, Putin's Russia is dependent on oil and gas, which finances the budget and imports of other goods and services, and experienced economic crises in 2008, 2014-15 and 2020 when oil and gas revenues have fallen sharply. Next year, as the European oil embargo is implemented, we expect, based on standard pricing and volume assumptions, a 40% reduction in Russia's oil and gas revenues. Once oil and gas revenues fall below a critical level – below $200 bn per year - Russia struggles to maintain external balance, which is likely to require either the extensive use of international reserves and/or a major adjustment in the RUB exchange rate. In practice, the Russian authorities would then face a difficult choice between letting the RUB weaken, and accepting a reacceleration of inflation, which will squeeze real incomes, or implementing a sharp tightening in policy, as seen this spring, to weaken outflows and support the RUB, which will slow the economy. In either scenario, the Russian economy will be seriously impaired – with the impact similar to that seen in the 2008-09, 2014-15 and 2020 crises - weakening Putin's ability to continue waging his war of imperial aggression against Ukraine.

With the current level of sanctions, our modelling suggests this critical point will be reached by the end of 2023 - but the tipping point could be accelerated if further sanctions were imposed. In particular, if Europe stops buying Russian gas - now down to only just over 10% of Europe's gas supply and immediately replaceable, we believe, by reopening the valves at the Groningen gas field – this could accelerate the Russia balance of payments crisis to early 2023, we think.

Third, sanctions are hitting the domestic Russian economy. Industrial production is down 1.8%YoY in June – including car production down 62%YoY - 2Q GDP is down 4.9%YoY, and real incomes are down 6.1%YoY in May. We expect further impact over the summer, as company exits start to bite and the impact of sanctions cumulates, with unemployment expected to rise sharply. We also see the Russian move to reduce the level of public disclosure on economic performance – with detailed trade and banking data already classified and a recent decree proposing to classify reserves data – as further evidence that sanctions are proving effective.

Fourth, Russia has seen a sharp contraction in trade, led by a 22% 2Q-22 contraction in imports. While this may score as a positive in GDP accounting terms by boosting net exports, it is generally a sign of fragility. Russia is often dependent upon these imports and the technology embedded in them, and will struggle without them - as seen in Russian airlines cannibalizing their aircraft for spare parts, and the Russian military's dependence on components from Ukraine's allies for its military hardware.

More generally, Russia's attempt to reorient its trade and investment relations from the advanced to developing economies has a high cost, which will widen the gap between Russia and the advanced economies, as a result of

reduced skills and technology transfer, and higher logistical, infrastructure and entry costs. In particular, we estimate that the shift will drive a permanent loss of around $80 bn in annual Russian exports, as gas and oil products currently exported to Europe stay in the ground.

Fifth, Russia has started to cut its social spending, as the war and sanctioned companies get first call on fiscal resources. To date the cuts appear relatively modest at ~$ 26 bn for 2023-2025 (~2.5% of planned budget spending) on social and investment programmes, to finance the Russian government's priorities of military spending and support to Russian companies and banks hit by sanctions. But the bill is already much higher, including foregoing dividends from state-owned companies hit by sanctions, and transfers from the National Wealth Fund, which has already committed around a third of its resources since the war began to support companies and counteract sanctions. Moreover, we believe this is just the start. As sanctions bite and oil and gas earnings fall, we expect the wider impact in the economy to fall on the public sector balance sheet, consuming Russia's oil funds, triggering large losses at the CBR, which is backstopping the banking system, and squeezing the resources available for Russian public services and pensions for years to come.

This overview of the impact of sanctions highlights that they are already having a huge impact on the Russian domestic economy, trade and the budget, and this impact is set to grow. Moreover, they highlight that implementation of sanctions currently planned – notably, the European oil embargo – will severely weaken Russia's ability to wage war. However, on current sanctions this tipping point – when oil and gas revenues fall to a critical level - will only be reached in 2H-23. This would mean at least another year of further war and destruction inflicted by Putin's military on Ukraine. We therefore urge Ukraine's allies to impose further sanctions urgently - particularly a European gas embargo and further sanctions on Russian oil to widen the Russian discount – in accelerate the moment when Russian export revenues, particularly from oil and gas, fall to a critical level, supporting an earlier end to the war.

ACKNOWLEDGMENT

We would like to acknowledge the work on sanctions which is being done in many dimensions by Ukrainian and international experts to harden sanctions against Russia and therefore reduce capacity of Russia to wage the war:

- Yermak-McFaul International Expert Group on Russian Sanctions hosted by Stanford University, led by Andrii Yermak and Ambassador McFaul and coordinated in Ukraine by Vladyslav Vlasiuk and Darina Zarivna; As well as the key experts from Ukraine working in the group, including Andrii Pyshnyy, Yurii Vitrenko, Alex Rodniansky, Oleksandr Novikov, Daria Sofina, Andrii Boytsun and others
- Intergovernmental Group on sanctions against Russia led by the Minister of foreign affairs, Dmytro Kyleba, and the Special Envoy on Sanctions, Olexii Makeiev, who arranged work of all ministries to prepare and advocate sectoral and individual sanctions and other actions against Russia in the areas of their work.
- Ambassadors of Ukraine in allied countries who directly work with partner countries on implementation of the new sanctions.
- State Security Council of Ukraine, who develop and adopt sanctions of Ukraine against Russia.

We would like to express our appreciation to the think tanks and universities who produced great products. Including Yale School of Management for cooperation and providing their expertise in compiling a database on sanctions and preparing a flagship report with non-conventional measures of impact of sanctions on Russia; Economists 4 Russia group; Institute for International Finance.

It has been a great honor to work with many people from above.

For details on sanctions advocated by Yermak-McFaul International Expert Group on Russian Sanctions please see:

- Paper #1: *Action Plan on Strengthening Sanctions against the Russian Federation*
- Paper #2: *Energy Sanctions Roadmap: Recommendations for Sanctions against the Russian Federation*
- Paper #3: *Individual Sanctions Roadmap:Recommendations for Sanctions against the Russian Federation*
- Paper #4*: Strengthening Financial Sanctions against the Russian Federation* .
- *Monitoring of implementation of the Action Plan of Sanctions (as per Paper #1)* by KSE Institute

Other recommended sources:

- *Report of Yale School of Management on impact of sanctions*
- *Report by Josep Borrell "Beyond sanctions: what future for Russia"*
- Analysis of Institute for International Finance on Russian economy (see for example *"Russia Sanctions: Adapting to a moving target"*)
- Reports of the *Economists 4 Ukraine Group*
- Data and analysis of *sanctions imposed on individuals and legal entities*

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INTRODUCTION

Since Russia launched its full-scale invasion of Ukraine, sanctions have become the second most important policy instrument after weapons in the efforts of Ukraine's allies to stop Russia. Sanctions have always been a highly debated policy instrument. But in every case when they were implemented, they were the best alternative. Evil grows if not punished, so there is obviously no way not to impose sanctions on the aggressor. Yet, the reasonable challenge lies in whether sanctions are smart and targeted enough to damage the aggressor economy without redundant and undue damage to those imposing the sanctions, or to third countries.

Evaluating the impact and effectiveness of sanctions and finetuning them further to optimize the impact is critical. This report aims to contribute to this discussion in several ways. It (1) collects all major statistics from Russian authorities and think tanks about the state of the Russian economy; (2) evaluates the impact on the Russian economy of the major trade sanctions, including those on oil, gas, and other non-military trade; (3) estimates when the impact on the Russian economy would become sufficient to impede Russia's ability to finance the war. We hope this comprehensive review will help other analysts and researchers working on the evaluation of the impact of sanctions to develop their own estimates of the effect.

The report is composed of three parts.

The first part reviews changes in the Russian economy during the war that Russia started against Ukraine on February 24, 2022 based on available and reasonably trustworthy official statistics. We cover GDP, production, labor market, budget, inflation, balance of payments.

The second part provides statistics from the international agencies and Russia's trade partners about the changes in Russian international trade in oil, gas, and other non-military products. Descriptive statistics are complemented by KSE estimates of the expected effects going further.

The third part provides a simple model forecasting Russia`s oil and gas revenues - the key to the Russian external account - to provide simple scenarios of when the effect of sanctions on the Russian economy will cumulate so as to impede Russia's ability to finance the war.

As correctly mentioned in the *Yale School of management` recent report*, Russia will likely manipulate its statistics. Therefore, wherever we consider that statistics are manipulated, we provide an appropriate comment.

PART 1. REVIEW OF RUSSIAN OFFICIAL STATISTICS AND FORECASTS

Russian economy - SNAPSHOT

Share of Russia in global GDP (2021) – 1.74%
Global rank of Russia by GDP (2021) – 11

	2015	2016	2017	2018	2019	2020	2021	2022	Comment
Population, mln	146.5	146.8	146.9	146.8	146.7	146.2	146.2		
Nominal GDP, bn USD	1,357	1,281	1,575	1,653	1,696	1,483	1,776		
GDP per capita, USD	9,258	8,724	10,724	11,262	11,555	10,148	12,198		
Real GDP	-2.0%	0.2%	1.8%	2.8%	2.2%	-2.7%	4.7%	-4.3% *-9.5%* *-4-(-6)%* *-6%*	Jun 22 *AVG forecast* *CBR (Jul)* *IMF (Jul WEO)*
Inflation, eop	12.9%	5.4%	2.5%	4.3%	3.0%	4.9%	8.4%	15.9% *12-15%*	Jun 22 *CBR (Jul)*
Unemployment	5.6%	5.5%	5.2%	4.8%	4.6%	5.8%	4.8%	3.9% *9.3%*	Jun 22 *IMF (Apr WEO)*
Budget balance, % of GDP	-3.4%	-3.7%	-1.5%	2.9%	1.9%	-4.0%	0.7%	*-1.2%*	*RFMinFin (Jun)*
Expenditures bn USD	254.7	245.6	281.7	265.6	281.9	315.6	336.1	130.4 118.8 *~342.8* *~372.5*	Jan-May 22 Jan-May 21 *Plan for 2022* *Expected 2022*
Revenues, bn USD	222.8	201.4	258.8	309.2	312.4	258.8	343.2	148.9 124.8 *~324.6* *~349.7*	Jan-May 22 Jan-May 21 *Planned 2022* *Expected 2022*
Oil&Gas Revenues, trln RUB	95.6	72.5	102.4	143.3	122.6	72.4	122.9	-22.5% 83.3 50.8	Jul, YoY H1 22 H1 21
Public debt, % of GDP	15.3%	14.8%	14.3%	13.6%	13.8%	19.3%	17%		
Current account balance, % of GDP	5.0%	1.9%	2.0%	7.0%	3.9%	2.4%	6,9%		
bn USD						35.4	122.3	70.1 17.3	Q2 22 Q2 21
Trade balance, bn USD						76.7	170.1	80.7 34.8	Q2 22 Q2 21
Central bank reserves, bn USD	376.2	371.6	390.6	447.7	475.9	562.3	630.7	572.1	Jul 29

Source: Rosstat, CBR, RF MinFin

Projections for 2022

GDP & PRODUCTION

Forecasts for Russian 2022 GDP growth on average are for a -9.5% fall in 2022. At the beginning of the war, estimates were higher and ranged up to 30-50% contraction, although those forecasts assumed a sharp contraction in Russian oil and gas export earnings.

As the initial assumptions that the West would impose rapid and damaging sanctions on trade with Russia didn't materialize, analysts in Russia and in the international organizations revised their forecasts of contraction to smaller figures. For instance, in June experts in the Russian central bank`s Macroeconomic survey improved their expectations from -9.2% to -7.5%, while both the IMF and the World Bank improved their 2022 forecasts in recent revisions, while downgrading their expectations for 2023. Interestingly, these forecasts expect that Russian GDP will continue to decline in 2023 and start recovery from 2024.

GDP growth forecasts for 2022 (2023)

	2022 (2023)		2022 (2023)		2022 (2023)
CBR (Jul)	-4.0 to -6.0% ((-4,0)-(-1,0%))	IMF (Jul WEO)	-6% (-3.5%)	S&P	-8.5% (0.3%)
CBR (Apr)	*-8.0 to -10.0% ((-3,0)-0,0%)*	*IMF (Apr WEO)*	*-8.5% (-2.3%)*	Barclays	-12.4% (-3.5%)
RF MinEcon (May)	-7.8% to -8.8% ((-2.9)-(-0.7%))	EBRD	-10.0% (0%)	Fitch	-8.0% (-0.2%)
RF MinEcon	*-8.8% to -12.4%*	World Bank	-8.9% (-2.0%)	Capital Economics	-12%
CBR Survey (Jul)	-6.0% (-1.3%)	*World Bank (Apr)*	*-11.2% (0.6%)*	Goldman Sachs	-10%
CBR Survey (Jun)	*-7.5% (0%)*	FocusEconomics	-10.2% (-1.1%)	IIF	-15% (-3%)
EU Commission	-10.4% (1.5%)	Morgan Stanley	-12.0% (1.5%)	IIF Chief Econ.	-30%

Analysts contribute GDP contraction in 2022 to (1) decrease in domestic demand (estimates range between 3-5 and ~15%YoY reduction) due to inflation and deficit of imported goods; (2) drop in fixed investments (19.4-25.8% drop); (3)

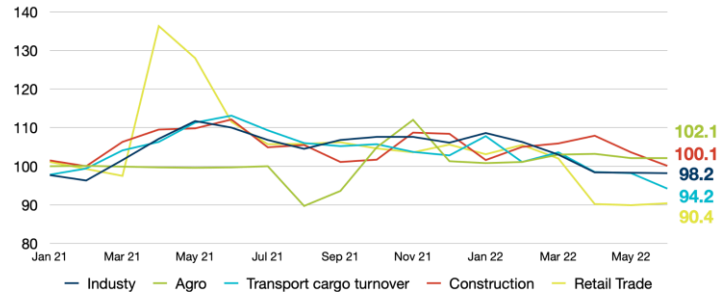
growth in net exports with exports contracting less than imports (~26%: export fall between 13 and 22.3%; import reduction 26.5-32.4%).

According to S&P Global Market Intelligence, Russia's economic recovery to the level of 2021 will take 10 years. The head of Sberbank also stated that it might take ten years to restore Russia's GDP to the level of 2021.

In June, the fall in Russian GDP accelerated to -4.9% YoY from -4.3% YoY observed in May. In Apr, a 2.8% decline was recorded (RF MinFin). While Q1 22 results were still positive - GDP grew by 3.5% YoY after +5.0% YoY in Q4 21 (Rosstat).

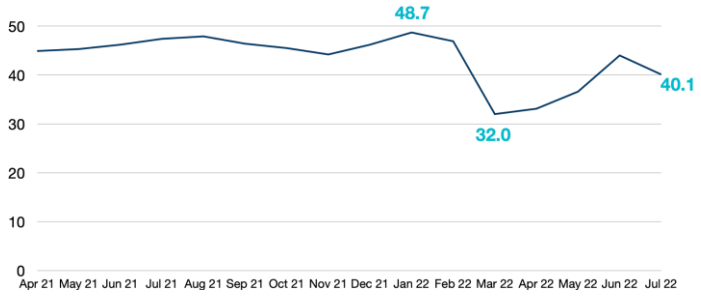
For the second month in a row Russian industrial production contracted. In June, the index fell by -1.8% YoY (*see chart below)*. However, cumulative results for Jan-Jun are still positive, showing +2.0% growth compared to Jan-Jun 21.

Change in production of key sectors, YoY



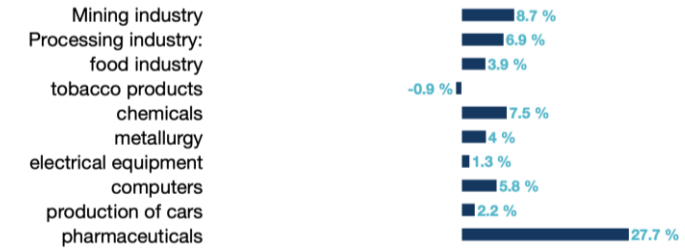
Source: Rosstat

Business Environment Index



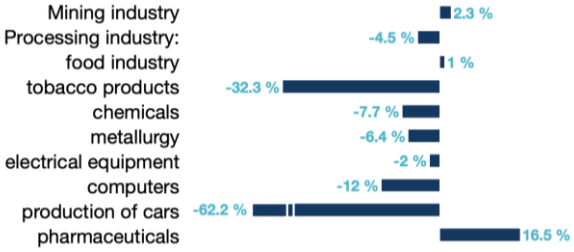
Source: Russian Union of Industrialists and Entrepreneurs (RSPP)

Output of selected industries in Feb 2022, %, YoY



Source: Rosstat

Output of selected industries in June 2022, %, YoY



Source: Rosstat

After June's upswing, the Business Environment Index in July again deteriorated – to 40.1 points (-3.9). Primarily, this reflects problems with logistics (inc. more frequent cases with lead times and non-compliance with contractual obligations). Also, companies reported that relations with banks and financial institutions became more complicated.

S&P Global Russia Manufacturing PMI[1] equaled 50.3 in July, a third successive month where the the Russian manufacturing sector was marginally in positive territory. The report states that manufacturers faced material shortages and subdued demand but that sentiment and new orders improved. S&P Global Russia Services PMI showed a stronger recovery[2] – from 48.5 in May to 54.1 in July. This is the fastest putput growth in a year, driven by domestic demand, as export orders fell.

Investment activity continued to decline at an accelerating pace in May 2022, according to the Russian Center for Macroeconomic Analysis and Short-term Forecasting (CAMAC). The corresponding index, which is a weighted average of the indices of production (excluding exports) and imports of investment equipment and vehicles, as well as supply (production and imports, excluding exports) of building materials, in May amounted to 91.9% of the avg monthly level of pre-COVID 2019. On avg for 2021, the index was equal to 109.5% of the level of 2019.

In June, the CBR's Business Climate Indicator[3] moved into positive territory for the first time since February. Assessments of current conditions have become less negative due to ongoing adaptation of enterprises to new economic conditions. Companies' expectations for the next three months have improved as well. The most confident are representatives of the mining industry, who are hopeful of redirecting exports of Russian energy resources from the EU to other countries.

On the other hand, the Gaidar Institute Industrial Optimism Index (IEP), as of July 14, fell by another 5 points, reaching a new low in the current crisis and falling below the March 2022 level, which implies a noticeable decline in industrial activity in July.

[1] S&P Global Russia Manufacturing PMI June
[2] S&P Global Russia Services PMI
[3] CBR

BALANCE OF PAYMENTS

According to the Central Bank of Russia, in Q2-22, Russia's current account surplus widened to $70bn, a new historical record. The main factors contributing to this expansion include: (1) increase of Russia's exports of goods and services by 19.7% YoY due to high energy prices (2) contraction of Russia's imports by 22.4% due to sanctions.

However, Russia's trade dynamics deteriorated in Q2-22 as compared to Q1-22.

First of all, Russia's export growth slowed down (from +58.8% YoY in Q1 22 to +19.7% YoY in Q2 22) in value terms. Exports were affected by two opposite trends: (1) surging commodity prices on Russia's major export items (energy, fertilizers, agricultural products) and (2) contracting physical volumes of Russia's exports to major Western partners.

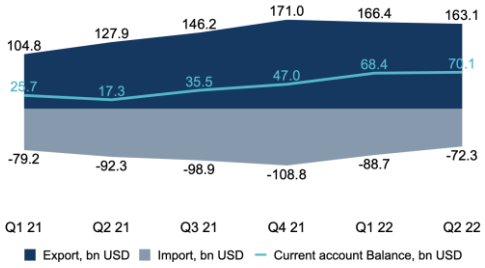
However, the contraction of physical volumes to Western partners was not always sufficient to surpass the effect from higher commodity prices. Besides, Russia's exports (mainly, energy exports) started shifting from Western markets to India, China, Turkey and other Asian markets that observed considerable growth of Russian supplies.

Secondly, Russia's import growth turned negative in Q2-22 (vs +12.1% in Q1-22) as major Western partners cut off their supplies to Russia as a result of trade sanctions. In total, Russian imports in Q2-22 contracted to $72.3bn, which is $20bn or 22% lower vs Q2-21 and $36.5bn or more than a third lower vs Q4-22. However, in May-June, Russia's imports from major trade partners seemed to stabilize as "business began to find new routes for shipments".

RF Current account and trade balance in 2021 and 2022, bn USD

	2021					2022		Growth, YoY	
	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q1	Q2
Exports of goods and services	104.8	127.9	146.2	171	550	166.4	153.1	58.8 %	19.7 %
Imports of goods and services	79.1	93.2	98.9	108.8	379.9	88.7	72.3	12.1 %	-22.4 %
Trade balance in goods and services	25.7	34.8	47.4	62.2	170.1	77.7	80.7	202.3 %	131.9 %
Current account	22.4	17.3	35.5	47	122.3	68.4	70.1	205.4 %	305.2 %

RF Current account balance, bn USD



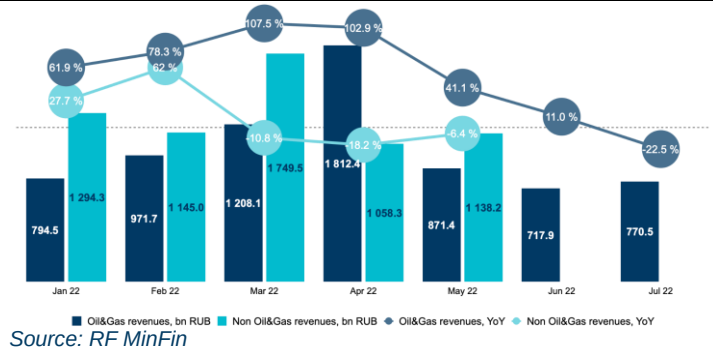
Source: CBR

BUDGET & NATIONAL WEALTH FUND

In H1-22, the Russian budget was executed with a surplus of 1.4 trln RUB (~$23.5bn) according to RF MinFin. However, almost the entire amount of this surplus was accumulated in Q1 22. In Q2-22 revenues were almost equal to expenditures. Oil&Gas revenues in Q2-22 rose 58% YoY due to high energy prices and equaled 3.4 trln RUB (~$56.5bn). The Non-Oil&Gas revenues are noticeably lower than expectations and fell by 9% YoY. As a result, the dependence on Oil&Gas revenues has increased again - their share reached 50% of all revenues compared to an avg of 32% in 2020-2021.

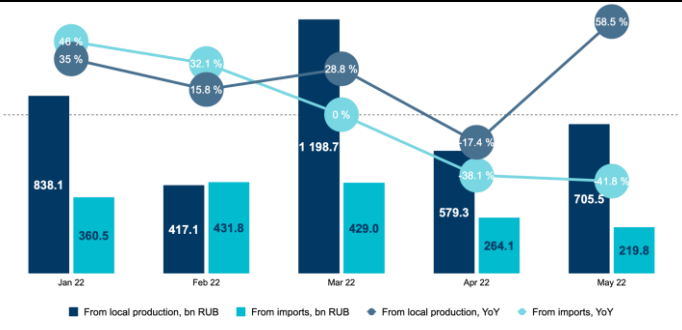
As of Jan-May 22, the Russian budget surplus equaled 1.495 trln RUB (preliminary RF Minfin data), which is 3.4 times more compared to the equivalent period of 2021. Cumulative revenues reached 12.043 trln RUB (or +29.2% YoY), while expenditures – 10.547 trln RUB (or + 18.8% YoY). In the month of May, the budget surplus equaled 331.0 bn RUB.

RF Budget revenues, monthly



Source: RF MinFin

Non-Oil&Gas revenues, monthly



Source: RF MinFin

Oil&Gas revenues reached 5.658 trln RUB, which is 80.8% more compared to Jan-May 21. However, in monthly terms, after peaking in April, they started to fall. By July Oil&Gas revenues had declined to 770.5 (~$12.8bn) or by -22.5% compared to Jul 21, showing a drop in annual terms for the first time since inadequately high energy prices.

Non-Oil&Gas revenues reached 6.385 trln RUB, which is only 3.1% more compared to Jan-May 21. After dropping in April, in May non-Oil&gas revenues slightly recovered to 1.138 bn RUB, which is still 6.4% less compared to May 21.

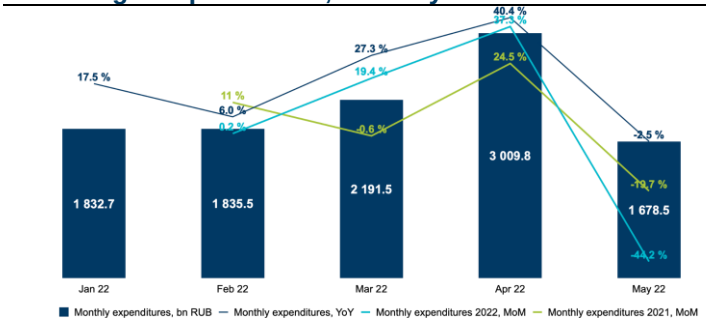
Non-Oil&Gas revenues from imports have fallen steadily since February, reflecting the drop in imports. In May they were 41.8% less YoY, while cumulatively for Jan-May 22 they equaled 1.705 trln RUB, which is 5.7% less YoY.

Back in April, a record drop in VAT collections was recorded. Only 191.9 bn RUB were raised (or -54%), compared to 414.7 bn RUB in April 2021. At the same time, revenues from imports (excises, duties, import VAT) dropped sharply - by 38% YoY, to 264.1 bn RUB. As a result, non-Oil&Gas revenues fell by 18% in total, to 1.058 trln RUB.

In Jan-May 22, the share of Oil&Gas revenues in total RF budget revenues reached 47% (+11.2 p.p compared to 2021). Almost 40% or 4.162 trln RUB of total RF budget expenditures in Jan-May 22 were covered by Oil&Gas revenues, while compared to last year the level of coverage grew by 9.2 p.p.

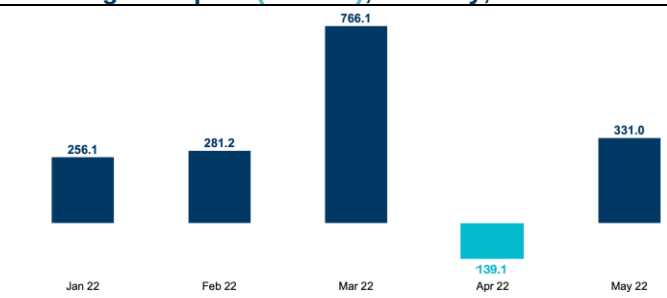
RF Minfin has hidden the structure of budget expenditures. However, according to Higher School of Economics[4] in Apr 22 expenditures on national defense grew at the fastest rate (2.5x increase), expenditures on the national economy and social policy grew by 55%, while expenditures on environmental protection (28%) and health care (30%) decreased.

RF Budget expenditures, monthly



Source: RF MinFin

RF Budget Surplus (-Deficit), monthly, bn RUB



Source: RF Minfin

Budget deficit projections

According to RF MinFin, the 2022 budget deficit could reach 1.2% of GDP, in 2023 - 1.1% of GDP, in 2024 - 0.9% of GDP, and in 2025 - 0.8% of GDP. These estimates were presented in "Main directions of fiscal, tax and customs and tariff policy for 2023 and for the planning period of 2024 and 2025" by RF Minfin in June, however, the document itself is not publicly available.

However, at SPIEF-22 (Jun 16), the RF Minister of Finance admitted that in 2022 the budget deficit could be up to 2% of GDP. Despite having a surplus now, the Minister expects the bulk of the expenditures to occur in the second half of the year. To cover the deficit, about RUB 3-4 trln (~$50-66bn) will be spent from the NWF.

Also, at SPIEF-22, Siluanov stated that budget spending in 2022 will grow by 3 trln RUB to 26 trln RUB. Initially, RF State Duma adopted the federal budget with spending at the level of 23.69 trln RUB. Siluanov said that the increase in budget spending was motivated by the "allocation of funds for import subsidies".

Budget optimization & countermeasures

RF MinFin[5] proposed to cut more than 500 bn RUB (~$8.2bn) of budget expenditures from state programs and non-programmed areas in 2023. Such expenditures are planned to be cut by a similar amount also in 2024 and 2025. Overall, it was proposed to reduce 1.6 trln RUB (~$26.1 bn) of expenditures on state programs in 2023-2025. The last time RF MinFin optimized expenditures to balance the three-year budget was in the pandemic year of 2020.

In June 22, RF PM approved an increase in the reserve fund of the RF GoV by 1.6 bn RUB (~$26.1 mln) as a sanctions countermeasure. This was done at the expense of unused federal budget balances in 2021.

Besides, on June 21, RF MinFin proposed to raise the withholding tax for Gazprom for Sep-Nov in connection with excess profits the company receives as a result of the situation on EU markets. The amount collected may amount to 416 bln RUB (~$6.8bn). On Jun 30, RF State Duma adopted respective amendments to the Tax Code in the 2nd reading. Prior to that, Gazprom shareholders decided not to pay dividends for 2021, which could have amounted to a record 1.244 trln RUB in total. On July 14, Putin signed a law that obliged Gazprom to transfer to the budget an additional 1.248 trln RUB (~$20.4bn)

[4] HSE
[5] Vedomosti.ru

in the form of withholding tax. This amount coincides with the amount of dividends that the company refused to pay to shareholders in respect of 2021.

According to the RF Minister of Finance public statement made at the end of May[6] Russia has allocated a total of RUB 8 trln (more than $130bn) to support the economy.

Despite having hidden detailed information about budget expenditures, there were a number of cases of direct support to Russian companies publicly communicated. For example, at the end of Apr, RF MinFin announced that RF GoV would recapitalize Aeroflot, Russian Railways, Dom.RF and Gazprombank at the expense of the NWF. As of July 6[7], the NWF owned shares of DOM.RF on 50bn RUB and of Russian Railways on 250bn RUB (prior to mid April such securities were not in the Fund's portfolio). Also, on June 2, RF Prime Minister announced that as a measure of support, the RF GoV would buy back bonds of S7 Airlines worth 13.7bn RUB, Ural Airlines – 3 bn RUB, Aurora – 366 mln RUB as well at the costs of NWF.

Under-received Oil&Gas tax revenues

In July, RF budget under-received 74.7bn RUB (~$1.3bn) of additional Oil&gas tax revenues (meaning that actual revenues were lower than RF MinFin expected). As follows from the MinFin materials, total Oil&Gas revenues in July amounted to 770.5 bln RUB, which is 22.5% lower than in July 21. In particular, revenues from export duties decreased YoY by one third.

In Jun, the volume of Oil&Gas revenues exceeded the expectations of MinFin by 138.9 bn (~$2.4bn).

In May, the volume of Oil&Gas revenues exceeded the expectations of MinFin by 263.7bn (~$4.2bn).

In Apr, RF budget under-received 133.1bn RUB (~$1.7bn) of Oil&Gas tax revenues.

In Mar, RF budget under-received 302 bn RUB (~$2.9bn) of Oil&Gas tax revenues.

In Feb, RF budget under-received 216.4 bn RUB (~$2.8bn) of Oil&Gas tax revenues.

In Jan, RF budget under-received 74.8 bn RUB (~$1bn) of Oil&Gas tax revenues.

**US values calculated on AVG monthly exchange rates*

Trend for suspending dividend payments in 2022

Back in spring, there was a wave of decisions by Russian companies to suspend paying dividends to shareholders for 2021 on the background of stressed financial conditions and unpredictable economic situation as a result of Russia's full scale invasion in Ukraine. Besides, CBR, on April 15, recommended non-credit financial institutions and banks complying with capital adequacy ratios to suspend payment of dividends in 2022, while later on June 15, CBR recommended that banks refrain from paying dividends to shareholders and paying bonuses to the board until the end of the year to ensure financial stability in the short and medium term.

If in case of a private company such a decision affects only the relationship with shareholders and value of the company's stocks, then in case of SOE this means lower incomes for the RF state budget this year. So far, Russian SOEs that publicly announced their decision not to pay dividends include Russian Railways, VTB Bank, Sberbank, Aeroflot, Rostelecom MOEX and Gazprom (which later was still forced to pay previously planned amounts to budget by Putin's decree).

National Wealth Fund

As of July 1, the NWF equaled $210.6bn or 10.8 trln RUB or 8.1% of GDP. For comparison, as of Jan 1 it equaled $182,6bn or 13.6 trln RUB or 10.4% of GDP. In US dollar terms, the volume of NWF grew by $28bn or 15%, while in rubles NWF has lost 2.8 trln RUB or 26%. Such changes happened due to ruble appreciation and revaluation of the fund's assets in foreign currencies and gold. However, at the same time the RF authorities have been using the NWF to support the economy and state budget.

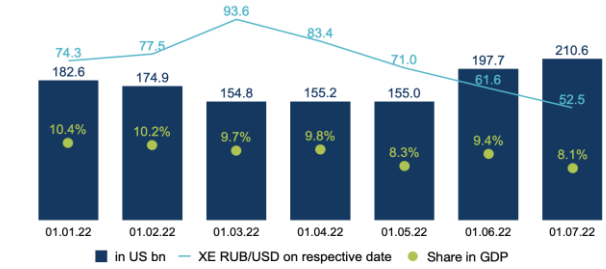
The amount of the Fund's liquid assets (cash in bank accounts and the CBR) also decreased – as of July 1, liquid asset equaled $145,2bn or 7.4 trln RUB or 5.6% of GDP, which is $31.7bn or 1 trln RUB or 1.7 p.p. less compared to Jan 1.

According to Izvestia (Russian media resource) back in May, a significant part of the foreign currency component of NWF, including ~$38bn, fell under sanctions and was frozen. However, this number has not been confirmed via any other source.

[6] RBC.ru
[7] RF Minfin

Back in June 2021, it was decided to cease investing NWF assets in dollars (at that time they accounted for 35% of NWF investments). It was done in fear of possible sanctions and that transactions in U.S. dollars would be complicated. Funds were moved into euros and yuan, while gold was included in the Fund for the first time.

NWF Dynamics



Source: RF Minfin

On July 15, RF Government allowed the NWF to invest up to 50% of its resources in government securities. Previously, on Apr 6, RF State Duma adopted a law, allowing the RF MinFin to purchase preferred shares of banks at the expense of the NWF based on certain decisions of the RF Gov, while such purchases can be done without prior (subsequent) consent of the CBR and Federal Antimonopoly Service. As of July 6, the value of preferred shares of credit organizations owned by NWF grew by 51bn (~$0.8bn) or 18% to 328.9bn RUB (~$5.5bn), which can be a sign of bank recapitalization at the expense of NWF. RF MinFin does not specify preferred shares of which credit organizations are owned by NWF.

On July 24, RF Accounts of Chamber published a report, which recommended the RF MinFin to exclude from the NWF assets in currencies of unfriendly states which have sanctioned Russia..

According to RF MinFin public communications, the NWF won't be replenished this year – the seizure of RF reserves, coupled with economic difficulties, led to the suspension of the budget rule. Back in 2018, a budget rule was established that all budget revenues from oil and gas generated from prices above $42/b Urals would be collected in the NWF.

On Apr 29, RF State Duma adopted a law, allowing the use of the NWF funds for balancing (financing the deficit) the federal budget by decision of the Russian government, without any amendments to the budget.

At the end of April, RF Minister of Finance announced that from 2021 NWF would be replenished in rubles. In the same period, Siluanov stated that the RF MinFin is preparing new budget rules – changes will limit spending from the NWF to prevent its complete depletion. Siluanov expects that funds from the NWF spent to support the economy will return to the fund next year. However, there is no official information on whether a revised budget rule was indeed adopted.

LABOR MARKET

In June, for the second month in a row unemployment in RF equaled 3.9% or 2.9 mln people. Avg value for Q1 22 – 4.2%.

IMF forecasts unemployment in RF to reach 9.3% in 2022, which would equal ~3.8 mln additional unemployed persons[8].

According to estimates of the Russian Center for Strategic Research (CSR), by the end of 2022 there will be a significant increase in unemployment in 63% of the RF regions, in 16 regions unemployment will increase relative to the average level for Jan-Mar 2022 by 2 or more times, in 53 regions - 1.5 times or more[9]. Top 5 industries by the number of expected jobs cut – transport and logistics, automotive, wholesale and e-commerce, timber industry and wood products.

Real wages in RF in May fell by 6.1% YoY (Rosstat), while in April the fall was recorded at the level of -7.2% YoY, which was for the first time since Apr 2020. Moreover, the recorded fall in real incomes was at its maximum for the last seven years. Russians became more impoverished only in 2015, after the annexation of Crimea and the first Western sanctions and the fall in the oil price, which triggered a collapse in the RUB and a rise in inflation. For Jan-May 22, real wage fell by 0.9% YoY.

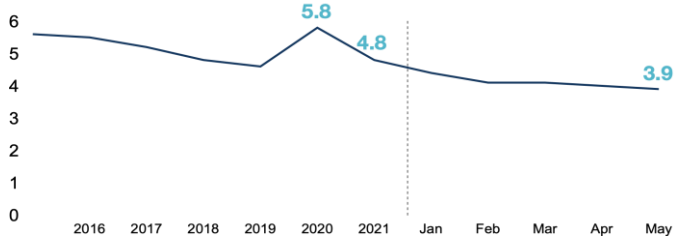
In its May forecast[10], RF Minecon projects real wage to decrease by 3.8% and real disposable income of the population by 6.8% in 2022. Back in Mar, the Centre for Economic and Business Research (UK)[11] forcated that real wages in RF would fall by 18% over the next 12 months, while by Dec 2024 they would be reduced by 25.7%.

[8] IMP, April's WEO
[9] Centre of Strategic Research, Regional Labor Markets in the New Economic Conditions, May 2022
[10] RF MinEconon, May forecast
[11] CEBR

Gaidar Institute for Economic Policy (RF)[12] states that the effect of sanctions on the labor market is not yet visible so far. Compared to the COVID crisis, sanctions have a long term effect on the labor market, on the other hand, large and medium-sized companies, which are less inclined to lay off workers and may hoard them through downturns, were the first to bear the main economic blow.

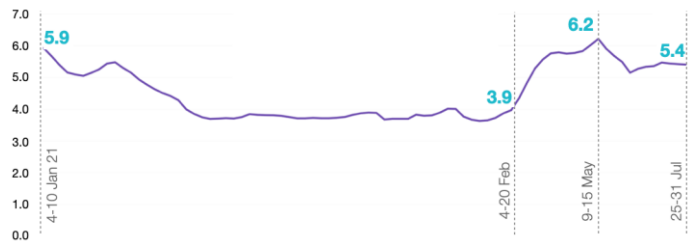
According to HH.ru on week 25-31 July the number of active vacancies on the platform was only 4% less compared to the beginning of 2022. Meanwhile, there are 29% more who are looking for a job. HH.index (CVs to Vacancies ratio), after reaching a max level of 6.2 points on 9-15 May, decreased to 5.4 and stayed on a plateau *(see graph below).*

Unemployment, %



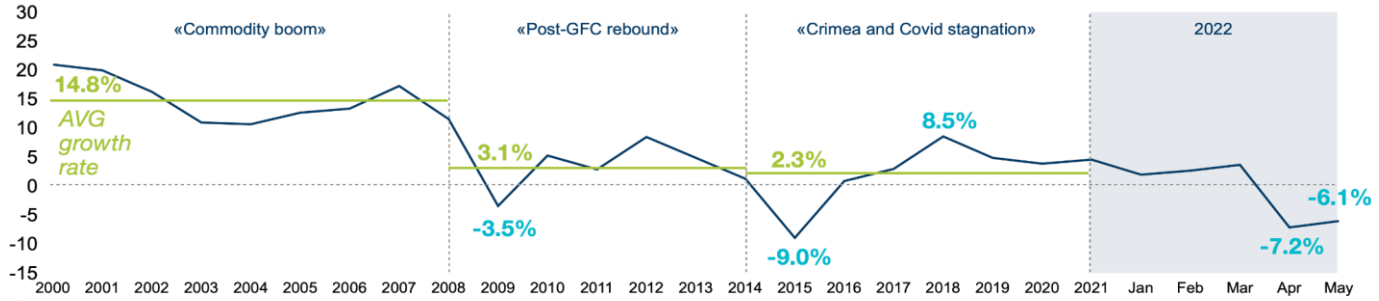
Source: Rosstat

CVs to Vacancies ration (HH.index)



Source: HH.ru

Real wage, %, YoY



Source: Rosstat

On June 22, RF Minister of Labor stated that officially unemployed persons grew to 700K, compared to 660-680K in spring. In addition, RF officials admit a "brain-drain" in the IT sector: RF Ministry for internal affairs stated that due to emigration, the RF IT industry lacks about 170K workers[13].

Experts say that unemployment is about to grow rapidly, since the contracts of most people who work in international companies are set to expire on 31st July - in other words, the withdrawal of foreign companies is due shortly to have an impact on the labor market. According to KSE Institute[14] 800 analyzed companies that have curtailed their operations in RF or exited had a total staff of ~410K. Due to their withdrawal most of them are at risk of unemployment. Comparable numbers are provided by the Russian Center for Strategic Research, according to which foreign business in RF accounted for ~2 mln jobs. Due to the departure of foreign companies from the RF, at least 350K Russians may be left without work.

Back at the end of April, RF Federation Council estimated that ~600K in RF have "gone idle" or are at risk of being fired.

INFLATION

Annual inflation in Russia slowed to 15.37% YoY in the first three weeks of July. In June inflation was 15.90%, in May - 17.10%, in Apr - 17.83%, in Mar - 16.69%, in Feb - 9.15%. The peak of inflation was in April at 17.83%.

In June, annual inflation declined in 79 out of 82 Russian regions, ranging from 21.0% in the Republic of Ingushetia to 2.1% in the Chukotka Autonomous Okrug. Inflation slowed under the influence of a large number of short-lived factors, including a further correction in prices for goods that rose sharply in Mar, as well as a period of rapid ruble appreciation and good market conditions for vegetables and fruits. At the same time, the increase in production and transportation costs for many goods continued to be passed on to prices.

Over June, the average price level declined due to a reduction in demand after a surge in March, as well as the strengthening of the ruble and one-off factors in the fruit and vegetable market. Sugar, pasta and cereals, household appliances and electronics, cars have fallen in price. Prices for most other goods and services continued to rise as costs increased.

[12] IEP.ru
[13] www.kommersant.ru
[14] KSE Institute

In June, compared to May, prices in RF decreased by 0.35%, before that deflation was not recorded once since 1991 - Rosstat. The main reason was the decrease in prices for fruit and vegetable products, which fell by 9.6%. Prices for food products as a whole decreased by 1.2%, for non-food products - by 0.4%. Experts explain this by decreasing consumer demand and strengthening the ruble, which affected the value of exchange-sensitive goods. The probability of maintaining deflation after August is extremely low.

In July, inflation expectations of the population and price expectations of enterprises decreased significantly and reached the levels of spring 2021, largely reflecting the strengthening of the ruble and the general slowdown in inflation.

- Median estimate of household inflation expectations for the year ahead decreased by 1.6 p.p., to 10.8% - the lowest value since March 21. Annual inflation observed by the population in July continued to decline for the 2nd month in a row - median estimate was 22.2% (-1.5 p.p. against June). But estimates of current inflation remain close to highs since late 2015.
- Short-term price expectations of enterprises continued to decline: from 22,7 in May to 16,0 in Jul – staying at the level of early 2021. Decrease in price expectations of enterprises was facilitated by a slowdown in the growth of costs and risks of economic activity, ruble strengthening, the stabilization of fuel prices and adjustment of the economy to changes in external conditions. Price expectations declined most significantly in agriculture amid expectations of a record grain harvest. In trade, a decrease occurred both in the retail and wholesale sectors, most of all in the trade in motor vehicles.

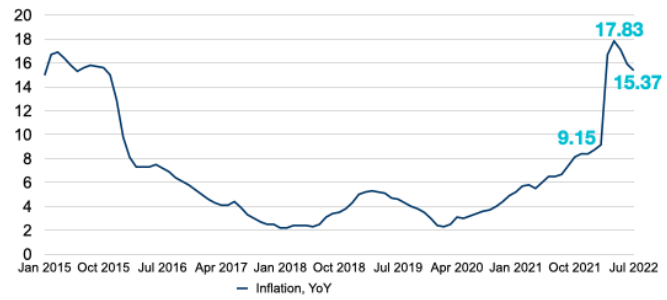
On 22 July, the CBR published a new inflation forecast - 12-15% in 2022, keeping the forecast at 5-7% in 2023 and 4% in 2024. The consensus forecast of experts in early July on inflation in 2022 is 14.6% (down from 16.7% in a survey in early June), in 2023 - 6.5% (Interfax poll). According to the July survey of the Bank of Russia, in 2022 analysts expect inflation on the level of 15% and 6.1% in 2023. In 2024 consensus expects inflation to return to the range of around 4%.

International rating agencies did not revise their forecasts for inflation in Russia. Now their attention is focused mainly on the forecast of world inflation, therefore, we cannot discern the same positive expectations regarding inflation from international experts that their Russian counterparts have.

Inflation forecasts for 2022 (2023), CBR inflation target = 4%

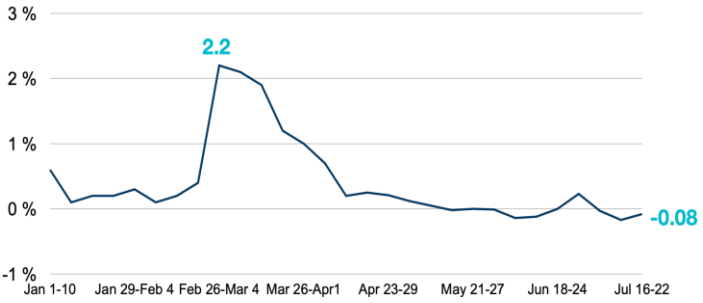
	2022 (2023)		2022 (2023)		2022 (2023)
CBR (Jul)	12.0-15.0% (5.0–7.0%)	CBR Survey (Jun)	15% (6.1%)	EC	20.5% (10%)
CBR (Jun)	*14.0-17.0% (5.0–7.0%)*	*CBR Survey (Apl)*	*21.3% (14.3%)*	IMF	21.3% (14.3%)
CBR (May)	*18.0-23.0% (5.0–7.0%)*	*CBR Survey (Mar)*	*22% (13%)*	Fitch	18% (15%)
RF MinFin (Apr)	~20% (6.2%)			World Bank	22% (13%)
RF MinFin (May)	*17,5% (6.1%)*				

Inflation, %, YoY



Source: CBR

Weekly CPI (to previous registered date)



Source: Rosstat

Inflation expectations of consumers, % (over the next 12 months)



Source: CBR

Price expectations of enterprises for the next 3 months, balance of responses in %



Source: CBR

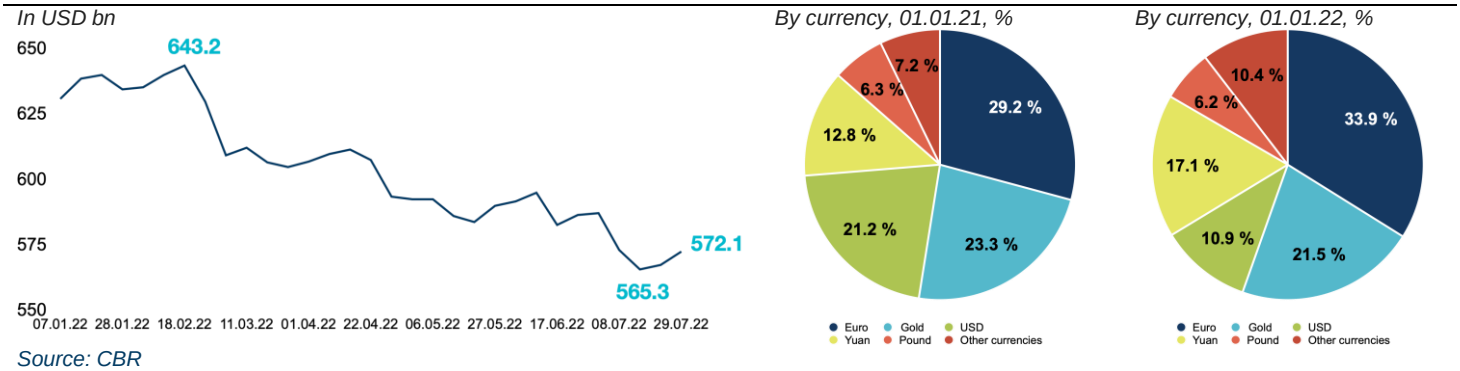
CBR RESERVES, EXCHANGE RATE, MONETARY POLICY & FX CONTROLS

Over five months of the war, RF international reserves dropped from a historically high level of $643.2bn before the invasion to $572.1bn (-$71.1bn or -11%) as of July 22. For the week from July 8 to July 15 the CBR's reserves dropped by an additional $7.4bn, which as CBR stated happened due to negative revaluation, and then recovered this value in the following two weeks.

A bit over half of the CBR reserves (~$300bn) is frozen by Ukraine's allies and cannot be reached to mitigate the effects of sanctions. The volume of frozen reserves was confirmed by the Russian Elites, Proxies, and Oligarchs (REPO) task force.

On July 14, Putin signed a law, allowing information regarding the value and structure of international reserves to be concealed by classifying the data a state secret. In addition, the document allows for the reorganization of banks subject to sanctions. Its purpose is to form a new legal entity with assets frozen as a result of sanctions. Which implies RF authorities are concerned about the level of reserves and asset freezes and are trying somehow to protect remaining reserves. So far CBR continues to publish aggregate weekly data on its reserves.

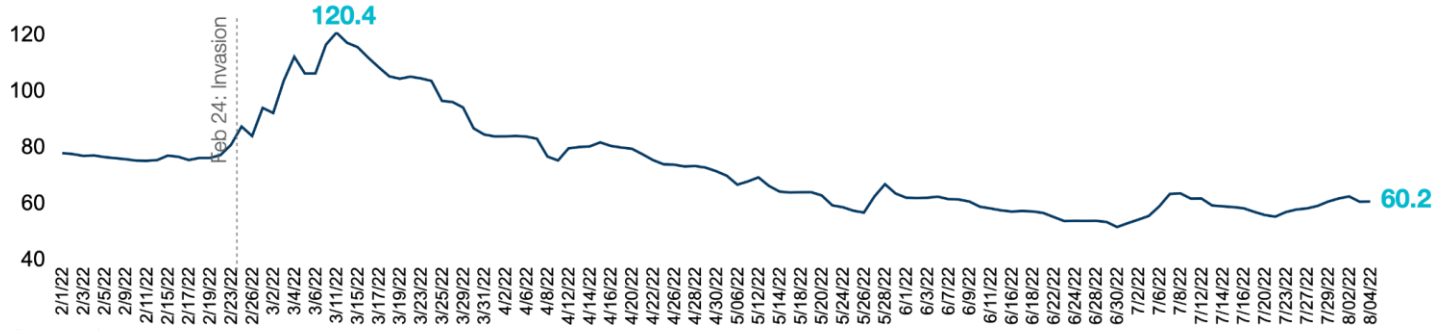
International reserves



Source: CBR

Among reasons for the weakening of the ruble at the end of May was an easing in capital controls. This included a reduction of the threshold for the sale of FX by exporters from 80% to 50%, as well as an increase in the amounts individuals could transfer abroad - in particular at the beginning of July, CBR increased the monthly limit on currency transfers for residents from $150K to $1M. Other factors included the ongoing cut in the CBR policy rate down to 8%, as well as the statement by the RF Minister of Finance about the possibility of currency interventions at the expense of excess profits from oil & gas sales in order to stabilize the exchange rate, which contributed to the weakening of the ruble.

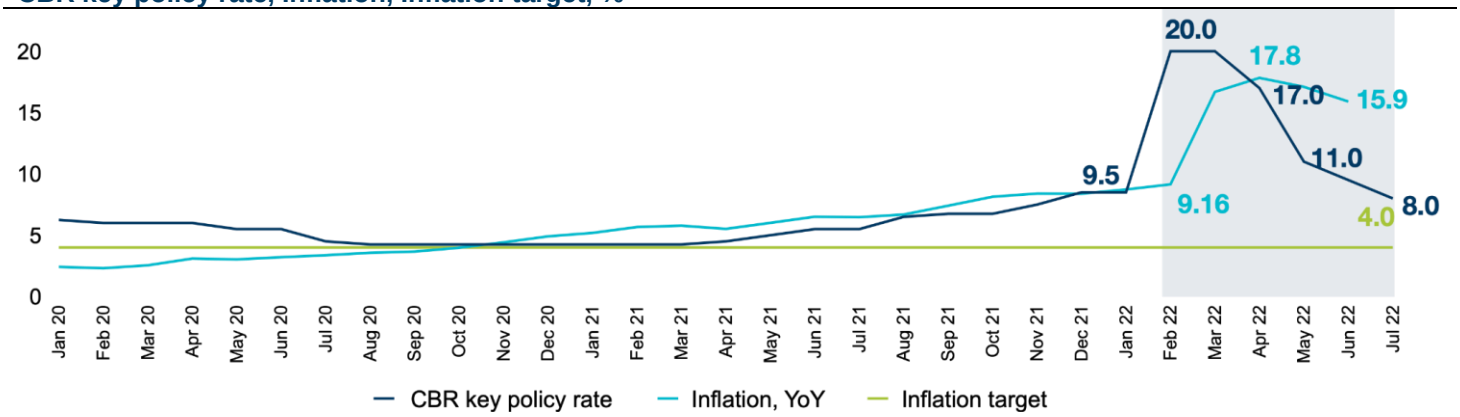
Official RUB/USD exchange rate



Source: CBR

The CBR continues to cut its key interest rate. On July 22, the rate was cut by an additional 150 b.p. to 8%. The CBR motivated its decision for continuation of monetary easing by inflation slowdown (due to the restrained dynamics of consumer demand and the decrease in inflationary expectations of business and the population), as well as, the decline in business activity which is slower than the CBR anticipated in June.

CBR key policy rate, Inflation, Inflation target, %



Source: CBR, Rosstat

On the background of ruble overappreciation due to trade shocks (imports fell more steeply than exports), RF authorities have eased almost all the capital and foreign exchange controls imposed at the beginning of the war (see Table below). Among recent decisions, on May 26, CBR extended the time frame of the mandatory sale of foreign currency to 120 days (at the beginning of the war a 3 day period was adopted, and on Apr 20 extended to 60 days), while on July 1, the limit on transfers by individuals abroad was increased to $1M.

FX controls imposed and eased since February 24

Date	Restriction imposed	Date	Restriction softened
Feb 28	Mandatory FX sale of at least 80% of FX by exporters within 3 working days (Presidential decree of 28.02.2022)	May 15	RF GoV has allowed exporters not to sell foreign exchange earnings if they have existing import contracts
		May 23	The mandatory FX sales by exporters were lowered to 50%
		Apr 20	CBR softened currency controls to all exporters – now mandatory sale of foreign currency must take place within 60 working days
		May 26	Mandatory sale of FX was extended to 120 working days
Mar 1	Residents are prohibited from providing foreign currency loans to non-residents	-	Active
Mar 1	Residents were prohibited from FX transfers abroad to their foreign bank accounts or FX transfers abroad through foreign payment systems	Mar 18	There were exempted transfers to accounts of representative offices and branches of resident organizations located outside Russia, diplomatic missions and consular offices of the RF ect.
Mar 5	$5K limit was set on foreign currency transfers of Russian resident individuals in favor of their family members abroad	Apr 1	Limit was increased to $10K
		May 17	CBR allowed individuals to transfer abroad up to $50K a month
		June 8	CBR increased the limit amount to $150K
		July 1	CBR increased the limit amount of transfers by individuals from an account in a Russian bank to an account abroad to $1M
Mar 1	Non-residents, who are the residents of countries that sanctioned Russia, are prohibited from any money transfers abroad; Transfers of non-residents from all other countries limited to $5K per month		Active
Mar 2	Prohibited to export from Russia cash foreign currency (and/or monetary instruments in foreign currency) in an amount exceeding the equivalent of $10K		Active
Mar 4	12% commission was set on foreign-currency purchases by individuals and entities through brokers (initially on March 3, 30% was adopted, but after additional analysis was changed to 12%)	Apr 11	12% commission on FX purchase through brokers was canceled

Mar 9	Banks are prohibited from selling FX cash for rubles. Reverse transactions were not limited. The purchase of currency on the FX exchange through a brokerage company was not prohibited	Apr 18	Banks are allowed to sell FX cash in USD and EUR to citizens, but only cash that has been received by banks since Apr 9, 2022. There are no restrictions on the sale of other FX.
		Aug 1	In force until 9 Mar 2023
Mar 9	Withdrawal of funds from foreign currency deposits and accounts in Russia was limited to $10K until September 9. Only those who had opened an account before March 9 could withdraw the currency up to the limit. New deposits or funds above the limit can be withdrawn in rubles only	Apr 11	Those individuals, who had opened foreign currency accounts or deposits before March 9, 2022 are allowed to withdraw dollars, and euros from these bank accounts (if they have not yet reached the withdrawal limit set at the level equivalent of $10K)
		Aug 1	CBR extended restrictions on foreign cash withdrawals for another six months until 9 Mar 2023
Mar 10	Resident legal entities and resident individual entrepreneurs may receive cash in US dollars, Japanese yen, British pounds, and euros in the amount not exceeding $5K and only to cover expenses for foreign business trips until Sep 10.	Aug 1	CBR extended restrictions for another six months until 9 Mar 2023
Mar 29	Banks were obliged to set the exchange rate used to sell FX for businesses not more than 10 rubles higher than the rate at FX currency exchange. Special requirements were set for selling FX for importers - spread was limited to 2 rubles	Apr 11	Requirement for banks to limit the difference in foreign currency buying and selling rate was canceled, except for import companies (limit of 2 rubles is still applicable for them)

BANKING SYSTEM

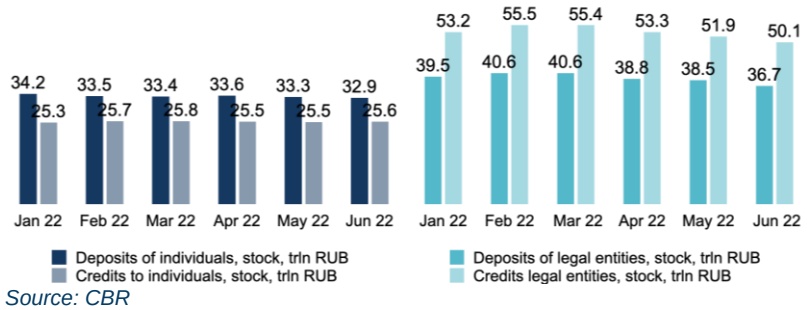
Over H1 22, the stock of deposits of individuals in the Russian bank system decreased by 1.3 trln RUB (~$21.6bn) or by 3.8% and as of June equaled 32.9 trln RUB. At the same time, the stock of loans provided to Russian citizens remains almost unchanged and stays on the plateau of about 25.5 trln RUB. Russian public started withdrawing money from bank accounts to hold as cash.

The stock of deposits attracted from legal entities grew until March 22, then dropped by almost 4 trln RUB or 9.7% and as of Jun 22 equaled 36.7 trln RUB. At the same time, the credit activity of legal entities in Russia shows similar weakening – since Feb 22 the stock dropped to 50.1 trln RUB or by 9.5%.

After rocketing at the start of March to 20.5%, the maximum interest rates on deposits in RUB based on data from the 10 credit institution attracting the largest amount of deposits from individuals, decreased to pre-war levels and equaled 6.9% in the 3rd decade of July. These rate dynamics are driven above all by CBR monetary policy, tracking the rise in the key policy rate to 20% and the subsequent reduction to 8%.

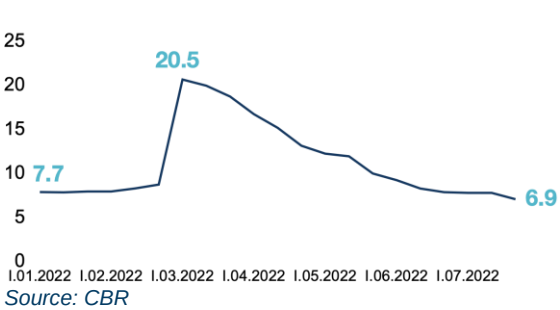
It is important to notice that on July 6 the RF State Duma adopted a law, allowing banks to introduce commissions for servicing foreign currency deposits of legal entities. However, the size of such commissions can exceed the profitability of the deposit, meaning deposits will essentially have a negative interest rate. This is done to discourage usage of currencies of “unfriendly” countries and reduce their presence in the Russian banking system.

Deposits & Loans in Russian bank system, trln RUB

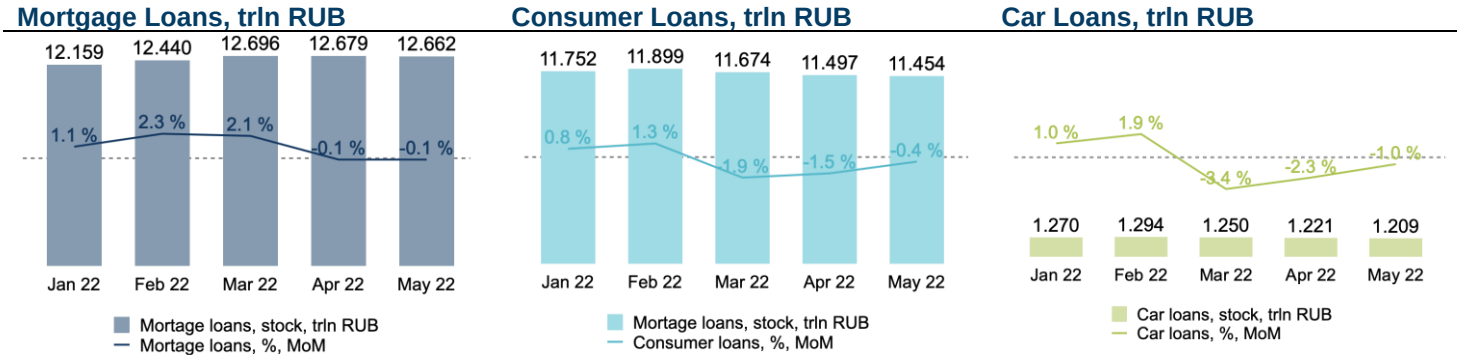


Source: CBR

Maximum interest rates on deposits in RUB, %



Source: CBR



Source: CBR

Mortgage loans grew until March 22, whereupon this market “froze” both due to lack of demand and lower readiness of banks to provide loans at the beginning of spring. To boost demand for mortgage loans, the rate on preferential mortgages was reduced from 12% to 9% from May 1, with a consequent decrease to 7% from June 21.

Since March 22 consumer loans contracted for 3 months in a row (-1.9% in Mar 22, -1.5% in Apr 22, and -0,4% in May 22), however, recently the pace of decline has slowed. Likely, the decrease in interest rates along with softening the requirements for borrowers from banks’ side will help to boost consumer loan demand in the coming months.

On a percentage scale, the most noticeable drop is recorded in the car loans segment, which showed a sustained decline for 3 months in a row, as with consumer loans, (-3.4% in Mar 22, -2.3% in Apr 22, and -1,0% in May 22). In addition to overall uncertainty, this segment was influenced by sanctions imposed on the car industry (that led most local facilities to suspend operations), as well as the exit of foreign car producers and retailers from the Russian market.

Besides, the Russian banking sector is becoming increasingly non-transparent. In April 22, Russian banks were allowed not to disclose interim and annual financial statements, etc until Sep 22. Also, the CBR won’t publish reports of banks until Oct 1, 22, while the CBR has also stopped publishing the SPFS participant list. In addition, on May 1, Putin signed a law, forbidding banks to share banking secrets with "unfriendly" countries.

In addition, we note that the CBR has played a key role as a backstop to the banking system through this crisis, stepping in to provide additional liquidity, including through accepting additional collateral, providing longer term funding and a higher volume of funding, and through a wide range of regulatory easements. This implies that the central bank balance sheet will be at risk as the impact of sanctions feeds through into bad loans and defaults.

PART 2. IMPACT OF SANCTIONS ON RUSSIAN ENERGY SECTOR AND INTERNATIONAL TRADE

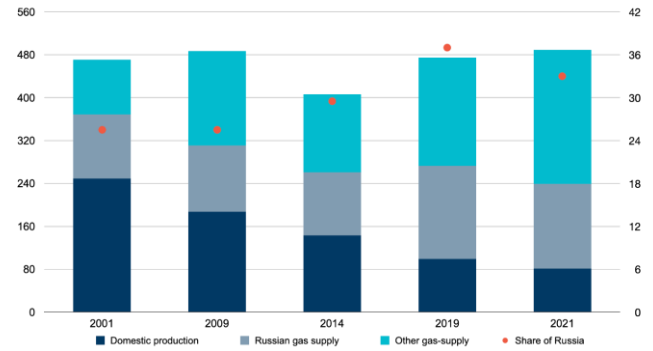
NATURAL GAS

Read in more detail here

Russia is the world’s largest gas exporter, it also has the world’s largest gas reserves and is the worlds’ second-largest producer behind the United States. In 2021 Russia produced 762 bcm of natural gas and exported approximately 210 bcm (28%) via pipelines.

Europe is the main destination for Russian gas exports. In 2021 European countries imported 140 bcm of Russian gas via pipeline and 15 bcm of LNG (155 bcm together, or 20% of all Russia's production; 74% of all Russian gas exports). The reliance of the European Union and the UK on Russian gas supplies has increased over the last decade. Natural gas demand in the EU and UK remained rather flat in aggregate over this period, but domestic production declined considerably, and increased imports, including from Russia, filled the gap. The share of Russian pipeline gas supplies increased from 25% of the region’s total gas demand in 2009 to 37% in 2019 but dropped to 32% in 2021, to a large extent as a result of Gazprom’s strategy of reducing short-term sales to the EU.

Share of Russian pipeline gas in EU and UK gas demand, 2001-2021



Source: IEA

Changes in exports

In response to the Russian invasion, the European Commission approved the REPowerEU Plan detailing the measures and investments required to reduce fossil fuel dependence on Russia to zero by 2027. As the first step, the EU pledged to cut its Russian gas supply to one-third by the end of the year. However, the EU has already reached a more aggressive target with ~43% of the gas flows being ceased either by countries themselves or by Gazprom as of August. Several EU member countries have already refused Russian gas. Lithuania, Estonia and Latvia ceased Russian gas imports at the beginning of April. Bulgaria, the Netherlands and Poland all announced that they do not intend to renew long-term contracts with Gazprom, which are expiring at the end of 2022. In May-June Gazprom ceased supply to Poland, Bulgaria, Netherlands, Finland and Denmark in response to them not being willing to cooperate on RUB schemes or decisions not to renew contracts in 2023. In June-July Gazprom reduced supply to Germany by 60% and to Italy by 15%. Supplies of Moldova remain under question. In June the Slovak Republic reduced purchases from Russia by 66%.

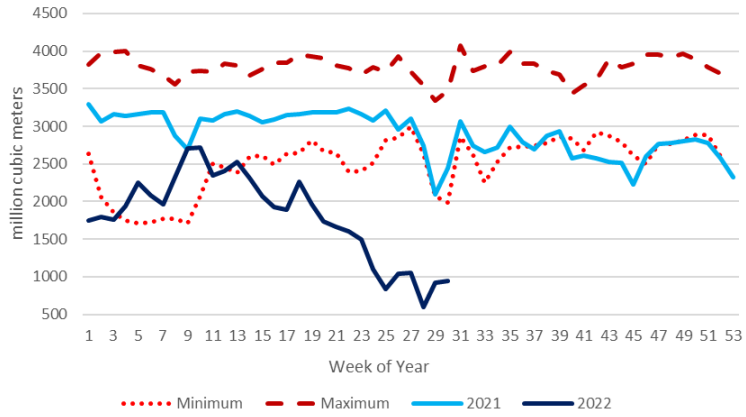
EU countries that cut off or reduced dependence on Russian gas in 2022 and their level of reliance on Russian gas in 2020

	Country	TJ (terajoules) 202	bcm 202	Reliance on russian energy, %, 2020	Reliance on russian energy, %, bcm 2020	Ceased in April 2022, bcm (2020 estimate)	Ceased in May 2022, bcm (2020 estimate)	Ceased in June 2022, bcm (2020 estimate)	Reduced since in June -July 2022, bcm (2020 estimate)	Comment	Total estimated reduction of imports from Russia as of August 2022
1	Austria	305 616	8,0	76%	6,1						
2	Belgium	633 872	16,6	8%	1,3						
3	Bulgaria	102 234	2,7	73%	2,0		2,7				
4	Croatia	100 733	2,6	0%	0,0						
5	Cyprus		0,0	0%	0,0						
6	Czech	304 646	8,0	86%	6,9						
7	Denmark	86 828	2,3		0,0			2,3			
8	Estonia	14 576	0,4	46%	0,2	0,4					
9	Finland	87 792	2,3	68%	1,6			2,3			
10	France	1 463 842	38,3	20%	7,7						
11	Germany	3 118 859	81,6	46%	37,3				32,6	60% reduction	
12	Greece	206 346	5,4	39%	2,1						
13	Hungary	366 421	9,6	111%	10,6						
14	Ireland	190 695	5,0		0,0						
15	Italy	2 448 407	64,0	41%	26,2				54,4	15% reduction	
16	Latvia	38 111	1,0	100%	1,0	1,0					
17	Lithuania	82 553	2,2	50%	1,1	2.2					
18	Luxembourg	26 011	0,7	25%	0,2						
19	Malta	12 820	0,3		0,00						
20	Netherlands	1 316 248	34,4	36%	12,36			34,3			
21	Poland	715 468	18,7	46%	8,69		18,7				
22	Portugal	216 612	5,7	10%	0,55						
23	Romania	382 802	10,0	9%	0,86						
24	Slovak Rep.	170 552	4,5	88%	3,94				2,0	66% (self imposed)	
25	Slovenia	30 795	0,8	12%	0,09						
26	Spain	1 168 586	30,6	11%	3,23						
27	Sweden	52 459	1,4	14%	0,19						
	Total 2020 mb/d		**356,9**		**139,9**	**3,5**	**21,4**	**39,0**			**153,0**
											43 %

Source: IEA
Note: Reliance_Fuel. This indicator is the ratio of Russian imports to domestic fuel consumption. This indicator represents the importance of imports from Russia and is calculated for natural gas.

Russia continues weaponizing its gas supply since the invasion to create pressure on EU members and punish them for imposing sanctions. Russian gas supply to the EU has been steadily declining in 2022 (see Figure below). At the beginning of August, EU imports from Russia fell to below 1 bcm per week compared to the 3 bcm per week average in 2021. Russia completely halted the gas supply via the Yamal-Europe pipeline, uses only around 40% of booked and paid transit capacities of Ukrainian Gas #Transit System, and a week ago decreased the utilization of Nord Stream capacities by 20%.

EU natural gas imports from RF



Source: McWilliams, B., G. Sgaravatti, G. Zachmann (2021) 'European natural gas imports', Bruegel Datasets

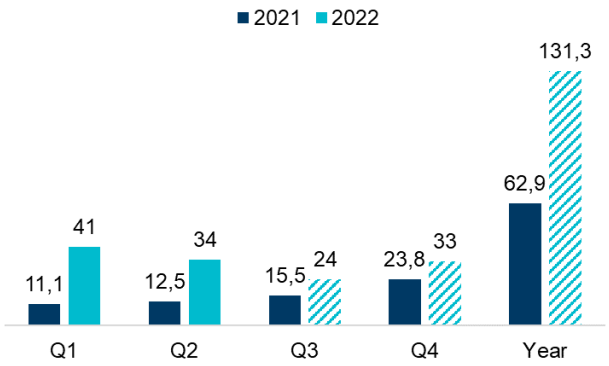
Russia successfully blackmailed Germany by limiting Nord Stream supply until it returned to Russia a Nord Stream turbine repaired by Siemens Canada. But Gazprom did not need the turbine to continue gas supply via Nord Stream at full capacity. The compressor stations are equipped with backup turbines and there was no technical need to reduce the gas supply from 167 to 67 mcm per day. In addition, Gazprom could ensure the contracted gas supply through either Ukrainian Gas Transport System (GTS) or by resuming gas supply through Yamal-Europe pipeline. The German-Canadian decision to break sanctions to satisfy Russia's demands risks encouraging the Kremlin to increase pressure on Western Allies and apply pressure elsewhere to phase out sanctions that are starting to bite. Thus, Gazprom further reduced gas supply through the Nord Stream pipeline to 33 mcm per day after the turbine was delivered to Germany and shipped to Russia.

Changes in export revenues

Despite the very significant drop in volumes, Russia is receiving record revenues from gas exports due to record gas prices in Europe. For example, in the first and second quarter of 2022, gas prices were 5.0 and 3.4 times higher than the corresponding prices last year (quarter-to-quarter). Russia has been the main culprit for high gas prices in Europe, largely driven by the artificial tightness iit has engineered in the European market since the middle of 2021.

So far, revenues from sales of gas have been affected more by the increased price and increased purchases to stockpile for winter, while the impact of cut-offs didn't materializes. Over the first half a year Russia received around $75bn for gas sales to EU with $34bn coming in the second quarter during the war. Thus, revenues that Russia received from EU in the first half of 2022 were more than 3 time higher than during the same period in 2021.

Russia`s revenues from gas sales, Q1 21-Q2 22, bn USD (KSE estimate for dashed bars)



Source: Bruegel datasets, KSE Institute estimates.See Annex for the full list of data

Changes in production

Gazprom and Novatek are Russia's main gas producers, but many Russian oil companies, including Rosneft, also operate gas production facilities. Gazprom is the largest gas producer, but its share of production has declined over the past decade, as Novatek and Rosneft have expanded their production capacity. However, Gazprom still accounted for 68% of Russian gas production in 2021. Most production is concentrated in West Siberia, but investment plans envision the shift to Yamal and Eastern Siberia and the Far East, as well as the offshore Arctic.

The IEA projects that Russian production will go down from 762 to 668 bcm or by 12% (YoY) in 2022 but admits the forecast is mired in uncertainty due to Russia's unpredictable behavior. Russian demand will fall from 501 to 484 bcm due to the slowdown of the economy stemming from Western sanctions. EU imports of Russian pipeline gas are projected to decline by over 45% in 2022 to below 80 bcm, while Russian LNG inflows are expected to be sustained at above last year's level of 15 bcm. Thus, the share of Russian gas in EU gas demand is projected to drop to 25% in 2022 – its lowest level in more than two decades. Export may decline even further if Russia continues supplying gas at current level or decides to cut it further.

Sanctions limiting access to major capital markets and key energy technologies, together with the European Union's decision to phase out Russian gas purchases as soon as possible will very negatively affect Russia's upstream development. The IEA projects the cumulative production loss will go up to 550 bcm for the 2022-2025 period (-27% decline compared to 2021). Upstream developments in western Siberia and the Yamal Peninsula are expected to be the most affected, while the production in east Siberian fields aimed at supplying gas to the China market is set to be more resilient.

Russia will not be able to implement investment projects that were supposed to increase production capacity by 77 bcm/year in 2023-2025. Instead, the expected increase of capacity with the new project will be only 10 bcm/year.

The Arctic LNG 2 project (with a capacity of 27 bcm/year) is experiencing delays and will not be completed in the projected timelines. Novatek, the project's developer, noted that the company is not in a position to confirm the previously adopted project timelines. Though the almost completed Train 1 may be commissioned in 2023, Trains 2 and 3 will not be commissioned in the mid-term. Thus, the production of Utrenneye field will amount to no more than 10 bcm/year by 2025, twice lower than was initially projected.

The abandonment of Nord Stream 2 leaves the Kharasavey field and the Bovanenkovo expansion project without offtake export markets. The Kharasavey field (32 bcm/year nameplate capacity) was due to start production in 2023. The 18 bcm/yr Baltic LNG project was planned for commissioning for 2023-2024. However, current sanctions on western technology export to Russia will delay the start of the project, which, in turn, delay the start of the supergiant Tambey field, previously planned by 2026.

OIL INDUSTRY

See the full report here

Russia is the third largest oil producer behind the United States and Saudi Arabia and the world's largest exporter of crude and oil products to global markets. Russia was responsible for around 14% of world crude oil supply in 2021. It exports around two-thirds of its oil production. Russia relies heavily on revenues from oil and natural gas, which in 2021 made up 45% of Russia's federal budget.

According to the data of the International Energy Agency (IEA), total Russian oil exports was around 7.9 million barrels a day (mb/d) in February 2022, in which OECD countries accounted for 5.4 mmb/d or 68% of total crude oil exports (see Table below). China was Russia's largest buyer of oil with a share of 20% in total exports while the major destination of Russian oil was the EU countries, which were responsible for a half of Russian oil exports.

Changes in exports

Around of 92% of Russian oil supply to the EU and 100% to the US and the UK are sanctioned since June 4 when EU had introduced the 6th package of sanctions. This is nearly 62% of all Russian oil and oil products exports in the oil supply structure before the invasion[15]. The EU embargo on seaborne crude only takes effect from December 5th and the embargo on oil products only takes effect from February 5th 2023. Still, these embargos cover nearly 45% of all Russian exports of oil.

[15] On 3 June, the EU under the 6th package introduced the ban on the purchase, import or transfer of crude oil and petroleum products from Russia into the EU. The pipeline oil supplied is temporarily excluded from the ban, Germany and Poland supplied via the northern route of Druzhba pipeline committed to phase out Russian oil by the end of 2022. Thus, only landlocked Czech Republic, Hungary and Slovakia will continue buying Russian oil via southern Druzhba route with a capacity 0.25 mb/d after 2022 which accounts for about 8% if Russian oil supply to the EU in 2021.

Full prohibition on crude oil will enter into force on December 5, 2022; on oil products - on February 5, 2023.
Fore details on current exemptions see Monitoring of sanctions implementation here

There have been some notable changes in Russian exports since the invasion. In June 2022, EU countries remained the major destination for Russian crude oil and oil products but their share in Russian oil exports decreased from 50% to 39%. The share of the United States and the United Kingdom fell to zero from 11% before the invasion. OECD Asia countries also decreased their purchases of Russian oil from 0.3 mb/d to 0.1 mb/d and their share correspondingly dropped to 1% in June from 4% in February. The reliance of Russia on China's market increased further, and the correspondent share has gone up by 4% to 24% in June, while India, which bought less than 1% before the war, increased its share in Russian oil exports to 11% in June (see Figure below).

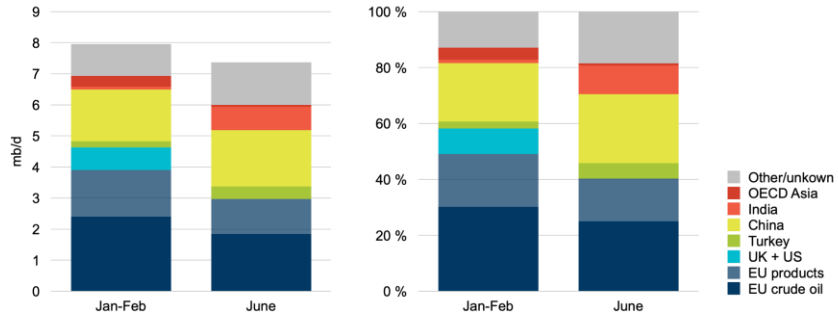
Russian Oil Exports, mb/d

	2021 AVG	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22
EU crude	2.1	2.3	2.4	2.1	2.1	2.0	1.8
EU products	1.3	1.5	1.6	1.3	1.4	1.3	1.1
US+UK	0.7	0.6	0.9	0.2	0.1	0.0	0.0
China	1.6	1.7	1.6	1.8	1.8	2.0	1.8
India	0.1	0.1	0.1	0.5	1.0	1.0	0.8
Turkey	0.2	0.2	0.2	0.4	0.4	0.3	0.4
OECD Asia	0.4	0.4	0.3	0.3	0.3	0.0	0.1
Others	1.2	1.1	0.9	1.0	0.9	1.0	1.4
Total	**7.5**	**8.0**	**7.9**	**7.7**	**7.9**	**7.6**	**7.4**
Estimated export revenues, bn UDS	**14.6**	**20.2**	**19.6**	**22.2**	**18.1**	**19.7**	**20.4**

Source: Source: IEA (2022), Oil Market Report - July 2022, IEA, Paris

Russian oil exports in June fell by 250 kb/d (m-o-m) to 7.4 mmb/d, the lowest since August 2021. Meanwhile, export revenues rose back above the $20bn mark, increasing by US 700 m (m-o-m) on higher oil prices. In May Russia lowered exports by about 0.2 mmb/d (m-o-m) but earned an additional $1.6bn in revenues due to higher prices. Thus, Russia continues to earn more by exporting less, partly on market fears of possible oil supply disruption from RF. However, the oil export revenues are projected to go down to $17.0bn in August, the lowest level since the invasion, amid further export decline and lower prices.

Structure of Russian Oil Exports in February and June 2022



Source: Source: IEA (2022), Oil Market Report - July 2022, IEA, Paris

So far, Russia has been able to divert the major part of sanctioned oil from Europe and North America to India and China. However, it had to shut in part of its production since China and India could not absorb the total amount that was either sanctioned or self-sanctioned by Western Allies. Russian oil supply was 920 kb/d below its OPEC+ supply quota in June. As the EU embargo on Russian oil is phased in, the diversion of additional export from European to these markets faces significant logistical challenges. First, China has well diversified its oil imports structure and most likely will not be willing to hurt its energy security by becoming heavily reliant on Russia. Second, the shipping of these huge quantities will be logistically challenging and could be problematic due to restrictions on oil transport services that come into effect along with the EU ban on Russian oil purchases.

Both China and Brazil are net oil product exporters and Russia will have to find other markets or shut in some of its refineries after the EU ban of Russian oil products in February 2023. Brazil's president announced in early July a deal to directly import Russian diesel to lower prices in the country. Direct flows of all Russian oil products to Brazil are just 25 kb/d, or 5% of Brazil's imports. Brazil imports 250 kb/d of diesel, mostly from the US and India. This is equivalent to 30% of current Russian diesel exports, and could be a significant development in the reorientation of trade flows. However, as with crude oil the EU's insurance ban may pose significant logistical challenges to facilitate these trade flows. Another potential destination for diversion of trade flows from Europe is African countries, which have not supported Russian sanctions.

Fujairah oil product re-exports

Russian oil export to Fujairah hit a record high of 116 thousand barrels a day (kb/d) in June, according to Kpler estimates. This is six times higher than Russian fuel flowed to this UEA hub in February. The increase of Russian fuel oil flows to Fujairah coincided with an increase in fuel oil exports from Fujairah to the US as the US refineries look to replace Russian fuel oil feedstocks. Fujairah has historically not been a significant exporter to the US, according to Kpler and US customs data before February 2022.

STS tracking activity

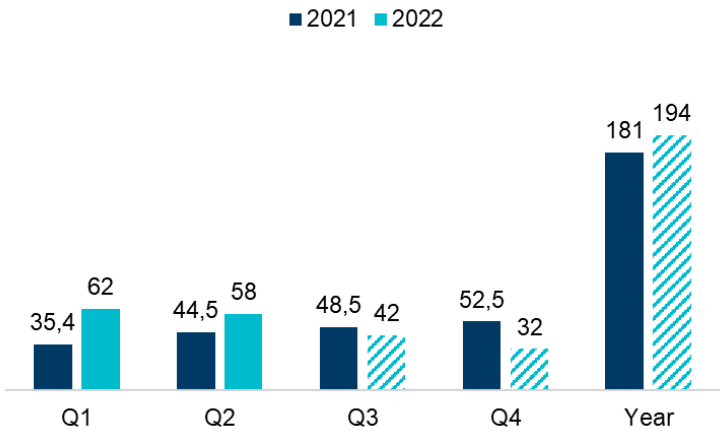
Ship-to-Ship (STS) transfer operations provide additional challenges to the enforcement of already imposed and planned sanctions on Russian oil. Following the invasion, an increase of Russian oil to Greek port Kalamata was recorded. According to S&P Global, the three-month average fuel oil shipments from Russian Black Sea ports to Kalamata soared from 218,000 mt in February to an all-time high of 481,000 mt at the end of May. STS transfers was recorded in other regions as well. For example, there were three STS cases in June, with vessels loading in the Russian Baltic ports and then performing STS transfers, while their transponders were turned off.

Once the EU embargo will take effect it will become harder to send Russian oil in larger quantities to some destinations, even with the help of STS activity, mask the origin as in Fujairah case or re-export from blending hubs. KSE projects Russia will be able to redirect only 0.7–1.0 mb/d of its oil exports when the adopted sanction package will come into effect, shifting crude oil to Asia and oil products mostly to Africa or Brazil, driving an overall decline in Russian oil exports of 3.1 mb/d.

Changes in export revenues

Russia received $120bn from sales of oil in the first half of 2022. Despite a 6% reduction in the second quarter, as compared to the first quarter of the year, H1 2022 export revenues were 1.5 times higher than during the same period 2021.

Russia`s revenues from oil exports, Q1 21-Q2 22, bn USD (KSE estimate for dashed bars)



Source: IEA, KSE Institute estimates.See Annex for the full list of data

Changes in production

Oil majors such as BP, Equinor, Shell, ExxonMobil and Total Energies as well as all of the ‘big four’ oilfield service companies - Halliburton, Schlumberger, Weatherford and Baker Hughes - either decided to exit or suspended new investments in the country. The developed countries also banned export of technology and equipment for the oil industry in Russia. Lost access to western financing and technologies already resulted in disruption of oil production at joint projects and halted the development of several ambitious Russian oil projects. The ExxonMobil-operated Sakhalin-1 Project recorded output of just 10 kb/d versus 220 kb/d before Russia invaded Ukraine. The most ambitious Russian project - the $180bn Vostok oil project - is now delayed until 2029 instead of the planned 2024 after sanctions delayed or restricted everything from drilling equipment and software to ice-class tankers. Located in the Russian far north, the project was supposed to produce 2 mb/d of premium, easy-to-refine crude and account for 2% of daily global output by the end of this decade. Now the project looks likely not to proceed.

TRADE DYNAMICS

Coverage of trade with sanctions

We estimated coverage of sanctioned exports to and imports from Russia. We used the trade data of 2019 for all computations, as some countries have not reported the trade data for 2021 yet, while 2020 was an abnormal year, because of the shock of the Covid pandemic. We use trade data (Russian imports and exports) from the World Bank's World Integrated Trade Solutions[16] and the data on the trade restrictions imposed by the partners of Ukraine from the website Global Trade Alerts[17].

As of 21st of July, countries from the sanction coalition[18] have imposed major export sanctions[19] on 25% of total Russian imports which cover $55bn. Major import sanctions[20] cover 9% of Russian exports or $34bn, while the EU oil embargo will add 21 p.p. or $84bn in coverage. The highest nominal sanctioned exports were imposed by the EU (40 billions USD in value, or 42%) and the highest share of sanctioned exports were imposed by Japan (91%), UK (63%) and Canada (62%). The highest nominal sanctioned imports were imposed by the EU ($15bn, or 10%), while the oil embargo will add $83bn (55 p.p.). The highest share of sanctioned imports were imposed by New Zealand (99%), Canada (97%) and Australia (92%).

While the sanction coalition has imposed significant economic pressure on both Russian exports and imports, there is still room for increasing the cost to trade of Russia's unprovoked and unjustified invasion. The EU, as the main trade partner with Russia, can increase the sanction coverage the most. However, other countries from the sanction coalition could also cover a significant further share of Russian trade. For instance, non-sanctioned imports from Russia to the United Kingdom, Republic of Korea, Japan and Singapore together account for more than 11% of total Russian exports.

At the same time, the sanction coalition countries should stick to their commitments about cutting trade with Russia and should impose supervision on exports to/imports from Russia via other countries and, if necessary, impose secondary sanctions.

Russia`s trade statistics so far and possibility to reorient trade flows from West to China, Turkey, India

In the second quarter of 2022, Russia's exports growth slowed down to +19.7% y/y from +58.8% y/y in Q1 2022 (in value terms). Increase of Russia's export revenues was supported by soaring commodity prices on major Russia's export items, while Russia's exports in physical terms have contracted. Russia's imports growth was impacted the most and turned negative to -22.4% y/y (vs +12.1% y/y in Q1 2022), as major Western partners from the sanctions coalition cut off their supplies to Russia (due to export control and export restrictions in regard to military, dual-use products and other technological exports). In addition, the withdrawal of a number of foreign companies from the Russian market also had a negative impact on Russia's imports, while many Russian companies reported import problems and shortages of raw materials, parts, and components.

In turn, amid numerous sanctions imposed by major advanced economies, Russia has been trying to divert its trade flows (mainly Russia's exports) from Western markets to India, China, Turkey and other Asian markets.

By countries, in Jan-May 2022, UK, USA, UK and EU observed the largest cuts in their exports to Russia. While China and Turkey slightly increased their exports to Russia though they did not offset import losses from advanced countries. USA, UK and Canada also reduced their imports from Russia the most (in both value and physical terms). At the same time, there were significant increases in imports from Russia (mostly, energy resources) by Turkey, India, China. In June-July, Russia's trade reorientation continued and Russia's trade flows seemed to partially stabilize.

The sanction coalition which supports Ukraine is comprised of the advanced economies (US, Canada, UK, EU, Japan, Australia, New Zealand, Taiwan, Singapore, Korea), while developing countries have generally not sanctioned Russia. So the trade adjustment which Russia is seeking to make can be reasonably fairly characterized as an effort to divert trade and investment relations away from advanced economies and to trade and investment with less developed economies.

[16] https://wits.worldbank.org/

[17] https://www.globaltradealert.org/ - website that aggregates trade restrictions, created by University of St.Gallen (Switzerland). Some sanctions on this website are being presumed from public statements, while the official documents are unpublished or unavailable.

[18] Sanction coalition — a diplomatic informal alliance of major democratic states-partners of Ukraine, which imposed financial, personal or trade restrictions on Russia for its invasion of Ukraine. Currently, the sanction coalition consists of 20 countries. For this work we consider countries that have more than 150 millions USD trade with Russia.

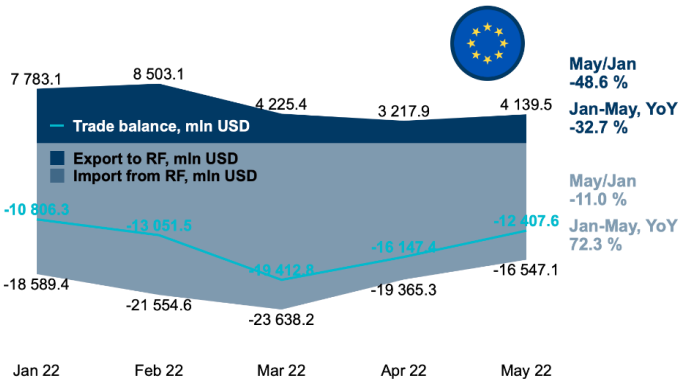
[19] Major export sanctions — export ban and/or export licensing requirements for the entire product code (not firm-specific) based on the 6-digit HS 2017 classification. Export licensing requirements were imposed by the USA and considered harmful enough to reduce export to Russia of these products almost to zero.

[20] Major import sanctions — import ban and/or import blocking tariff of additional 35 % for the entire product code (not firm-specific) based on the 6-digit HS 2017 classification. Some countries also imposed withdrawal of Most-favoured nation status from Russia. However, we cannot measure how harmful such a sanction is for Russian exports to different countries, while we consider an additional 35% of tariff harmful enough to reduce Russian export of these products almost to zero.

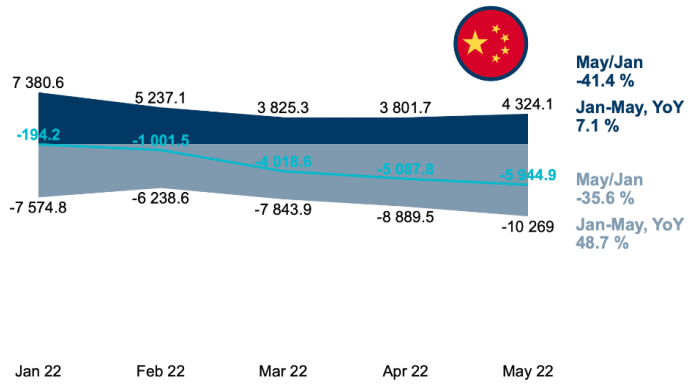
Forecast. *It is expected that Russia's trade flows (both exports and imports) will continue declining in physical volumes y/y, as more sanctions will come into full effect and sanction exemptions will be over. As a result, in the second half of 2022, Russia's exports (especially non-energy exports) growth is expected to turn negative in value terms y/y, however this decline will be mitigated by elevated commodity prices. According to WB estimates, wheat prices are forecast to increase more than 40 percent, reaching an all-time high in nominal terms in 2022. Successful implementation of grain deal to resume Ukrainian grain exports will help stabilize markets and prices to some extent. Metal prices are projected to increase by 16 percent in 2022 before easing in 2023 but will remain at elevated levels. Russia's import flows are expected to experience significant negative growth because of sanctions and contracted domestic demand. In 2023, negative developments in trade will prevail, first of all due to a sharp drop in Russia's energy exports and revenues following the full application of the oil embargo by the EU. Imports of goods and services are not expected to recover, import growth will stay negative as a result of further deterioration of economic situation (declining employment and real wages, investment, and private consumption), additional rounds of sanctions.*

Russia's trade dynamics with major partners, mln USD

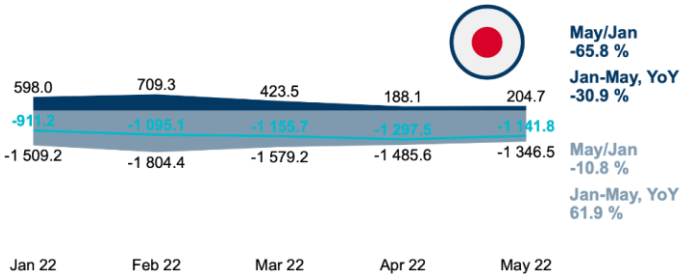
EU 27 Trade Balance with RF, mln USD



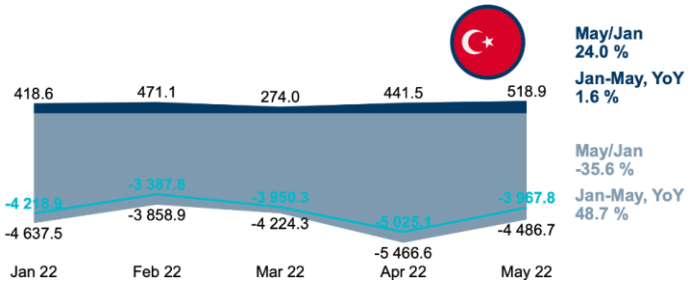
China Trade Balance with RF, mln USD



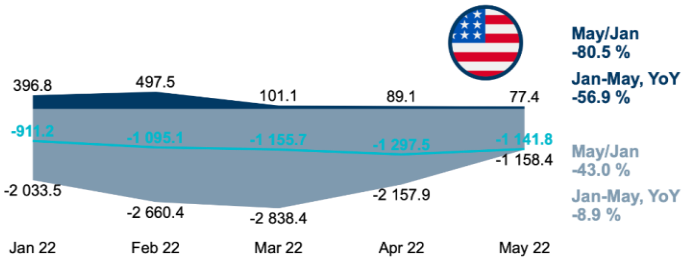
Japan Trade Balance with RF, mln USD



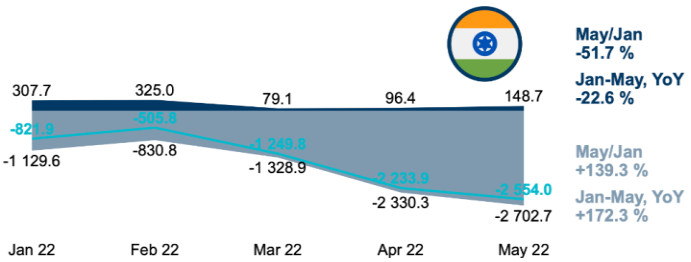
Turkey Trade Balance with RF, mln USD



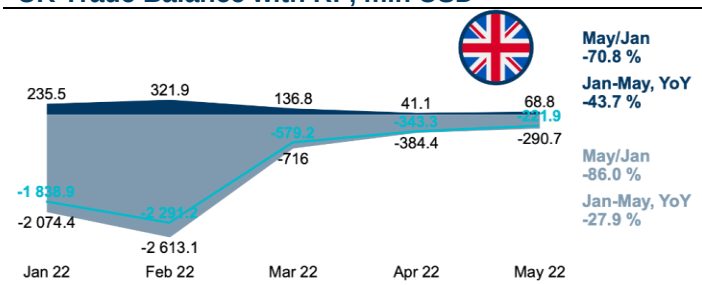
USA Trade Balance with RF, mln USD



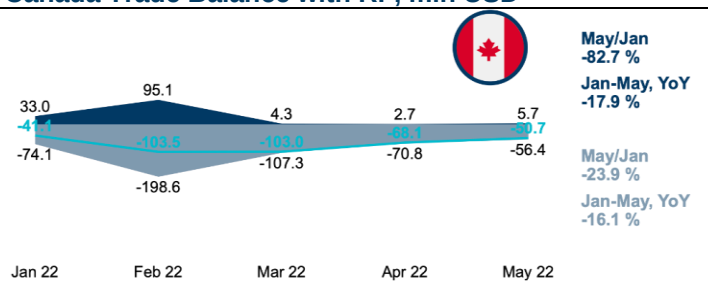
India Trade Balance with RF, mln USD



UK Trade Balance with RF, mln USD



Canada Trade Balance with RF, mln USD



Source: UN Comtrade, Customs Service of China

Russia's trade dynamics with major partners, mln USD

	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jan-May, YoY
Exports to Russia						
EU27	7 783.1	8 503.1	4 225.4	3 217.9	4 139.5	-32.7 %
UK	235.5	321.9	136.8	41.1	68.8	-43.7 %
USA	396.8	497.5	101.1	89.1	77.4	-56.9 %
China*	7 380.6	5 237.1	3 825.3	3 801.7	4 324.1	7.1 %
India	307.7	325.0	79.1	96.4	148.7	-22.6 %
Turkey	418.6	471.1	274.0	441.5	518.9	1.6 %
Japan	598.0	709.3	423.5	188.1	204.7	-30.9 %
Canada	33.0	95.1	4.3	2.7	5.7	-17.9 %
Imports from Russia						
EU27	18 589.4	21 554.6	23 638.2	19 365.3	16 547.1	73.2 %
UK	2 074.4	2 613.1	716.0	384.4	290.7	-27.0 %
USA	2 033.5	2 660.4	2 838.4	2 157.9	1 158.4	-8.9 %
China*	7 574.8	6 238.6	7 843.9	8 889.5	10 269.0	48.7 %
India	1 129.6	830.8	1 328.9	2 330.3	2 702.7	172.3 %
Turkey	4 637.5	3 858.9	4 224.3	5 466.6	4 486.7	119.9 %
Japan	1 509.2	1 804.4	1 579.2	1 485.6	1 346.5	61.9 %
Canada	74.1	198.6	107.3	70.8	56.4	-16.1 %

Source: UN Comtrade, Customs Service of China

Russia is essentially a commodity exporter, and the growth in demand for commodities is largely expected to come from developing countries, so it looks plausible in principle that Russia can partially reorient its export trade to these countries. However, in practice, there expected high costs to Russia from this adjustment.

General costs to Russia from its trade division from advanced economies, include:

- less scope for technology transfer, and timely adjustment to the changing economy, so Russia's gap to the advanced economies will widen. Generally, we would expect trade and investment relations with developing countries to provide less scope for technology transfer and associated productivity gains than trade with the advanced economies. Moreover, isolation from the advanced economies further complicates Russia's adaptation to the changing global economy - in particular net zero by 2050 implies a shrinking market for Russia's key exports of oil and gas over the next 25 years, and Russia's isolation from the advanced economies makes it unlikely that it will establish an important role in the supply chain for the new renewable economy to replace its declining role as an oil and gas exporter.

- "gravity" costs. Russia's economy and population is centered in European Russia, making it natural for Russia's closest trade and investment ties to be with Europe. Trading with more distant economies in Asia will impose additional logistical costs.

- infrastructure costs. Much of Russia's export infrastructure will now be redundant, such as the oil and gas pipelines to Europe, while new infrastructure to support trade with new partners will be required, including additional pipelines to China.

- entry costs. In terms of exports, Russia's potential new markets did not need Russian products before, and so customers in new markets may have to be persuaded to buy Russian through a discount, especially if buying Russian comes with additional risk of sanctions. In terms of imports, Russia tends to import advanced manufacturing, consumer goods and advanced services from the advanced economies, which often are associated with high levels of technology and service, which developing countries may struggle to replicate, or require significant investment in service infrastructure.

Crucially, there is a likelihood that a significant part of gas and oil product exports will likely not be redirected to new markets. In the case of gas, infrastructure does not yet exist to deliver the gas to new markets, so it will stay in the ground for years - and if and when the infrastructure is built to deliver it to China or other customers, Russia's weak bargaining position suggests that, as now with Chinese gas, it will be sold for a small fraction of the price Europe pays for Russian gas. Further, in the case of oil products, in many cases it will likely not be possible to find a viable commercial niche in new markets, at least for the remaining over 1 mb/d of Russian product supplied to Europe, especially if sanctions are properly policed. We estimate that this may amount to a permanent net export loss of around 140 bn m^3 of gas and 50 mln t of oil product per annum, worth around $80 bn pa, even at "normal" prices of $425/mcm and $400/tonne, and more than twice as much at current elevated prices.

In addition, it will be harder to circumvent technology export bans, e.g. on military and advanced oil and gas components, which are only produced in countries which are allied with Ukraine, if Russia has a minimal trade presence in the advanced economies.

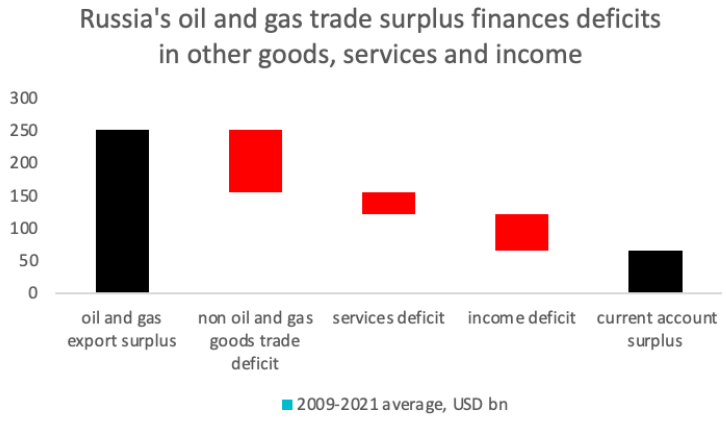
PART 3. FORECAST OF RUSSIAN OIL AND GAS REVENUES

Outlook for Oil and Gas Revenues

The Russian economy is underpinned by oil and gas revenues, which in 1H-22 have accounted for half of budget revenues and 61% of exports. Past experience shows that when oil and gas revenues have dropped sharply - as in 2008, 2014-15, and 2020 - there has been a sharp fall in the RUB, which has then led to higher inflation, tighter policy and a weaker economy. This oil and gas dependency reflects a balance of payments in Russia where typically the positive trade balance, driven by oil and gas revenues, financed deficits on the services and income account of the current account, as well as net outflows on the financial account. Once oil and gas revenues fall below a critical level - which seems to be about $150 bn per annum - then external balance will require either the extensive use of international reserves and/or a major adjustment in the RUB exchange rate. In practice, we think the Russian authorities would then face a difficult choice between letting the RUB weaken, and accepting a reacceleration of inflation, which will squeeze real incomes, or implementing a sharp tightening in policy, as seen this spring, to weaken outflows and support the RUB, which will slow the economy.

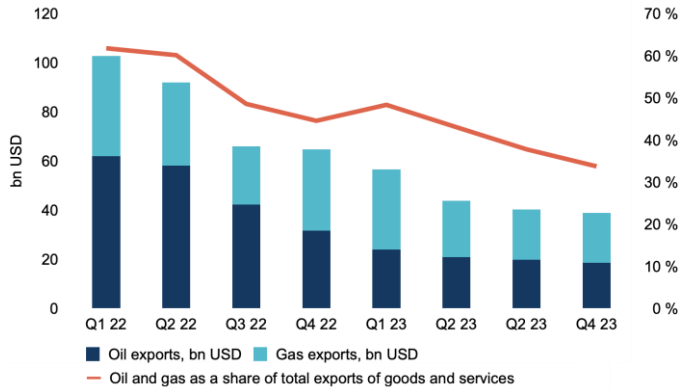
The graph below illustrates Russia's dependency on O&G export earnings by showing average components of the current account 2009-2021 - showing that the O&G surplus finances deficits in other goods trade, services and income.

Components of current account of Russia, 2009-2021



In either scenario, the Russian economy will be seriously impaired, weakening Putin’s ability to continue waging his war of imperial aggression against Ukraine.

Russian oil and gas exports revenue projections



Source: KSE Institute estimates, See Annex for the full list of data

Our detailed bottom-up projections of Russian oil and gas revenues, which are aligned with the estimates of reputable international agencies such as the IEA, suggest that next year Russia will experience a massive drop in oil and gas revenues as the European oil embargo comes into force, with revenues falling by over 40% from around $325 bn in 2022 to $180 bn in 2023 in our base case, and running at around the critical $150 bn a year pace by the end of 2023.

Russian oil and gas revenue, bn USD: base case

Oil and gas revenues, bn USD: base case

	Q1 22	Q2 22	Q3 22	Q4 22	Q1 23	Q2 23	Q3 23	Q4 23
Oil exports	62	58	42	32	24	21	20	19
Gas exports	41	34	24	33	33	23	20	20
Total oil and gas	103	92	69	68	59	46	43	42

Source: KSE Institute estimates and projections

Moreover, we model the scenario of a global recession which gradually pushes the global oil price back down to $60/bb by the end of 2022, while allowing the sanction coalition more scope in a looser oil market to tighten the sanctions on Russian oil without driving a higher price, widening the discount on Russian oil to $40/bbl. This would reduce Russian oil revenues by a further 140 bn to 54 bn in 2023. Moreover, the scenario of a cutoff of Russian gas supply to Europe via NordStream and the Ukrainian GTS in the 4Q 22 and thereafter would reduce Russian gas revenues by a further $79 bn in 2023, reducing oil and gas revenues to $150bn in 2023. Combined these two measures would reduce Russia's oil and gas revenues substantially in 2023 to a $107 bn.

Sensitivity analysis: low oil price and stronger sanctions scenario

Only high oil and gas prices keep the Russian economy afloat. However, the fear of global recession already pushed Brent price to $95/bbl in the first decade of August from $120/bbl recorded in June. The price may decline much faster and to a lower level than in the base case scenario if the global economy falls into recession. In addition, the record earning of Gazprom in the five months after the invasion has encouraged Russia to forgo gas revenue by squeezing supplies to Europe, with a significant risk that they may completely cut off gas to the EU to gain political leverage. Thus, we modeled sensitivities by assuming a gradual decline of the Brent price to $60/bbl from September 2022 to December 2023, widening the discount of Urals over Brent to $40/bbl on dissipating fears of supply disruptions, and assumed complete cut off of all Russian pipeline gas to Europe from 4Q 22 with the exception of gas supply to Hungary and Serbia via TurkStream. The results of the modeling are presented in the table below.

Oil and gas revenues, bn USD: low oil price and stronger sanctions scenario

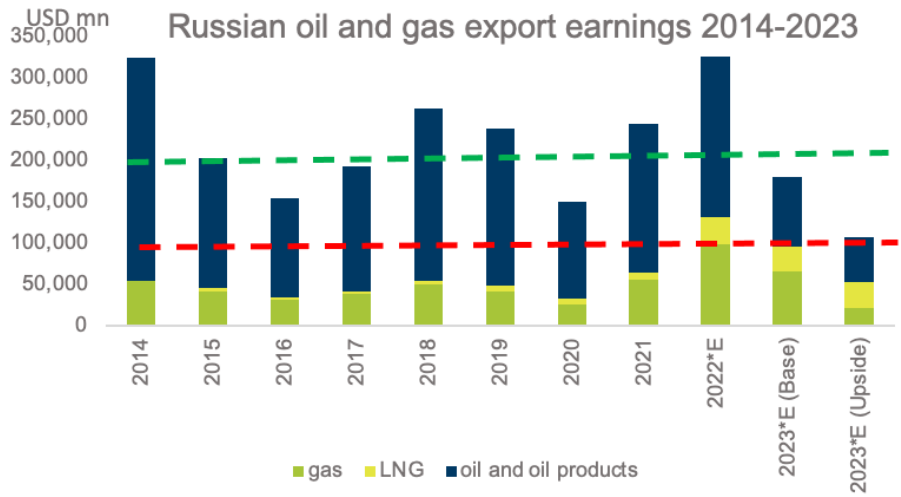
	Q1 22	Q2 22	Q3 22	Q4 22	Q1 23	Q2 23	Q3 23	Q4 23
Oil exports	62	58	40	27	19	14	12	9
Gas exports	41	34	24	16	16	13	12	12
Total oil and gas	103	92	64	43	34	27	24	21

Source: KSE Institute estimates and projections

As was stated above this combination depressed the modeled Russian oil gas revenues from $180 bn to $109 bn in 2023, far below the critical level of $150 bn per annum, which has triggered a Russian balance of payments crisis twice in the last ten years. The crucial importance for oil and gas revenues for an external balance is clearly seen at the figure below. Green and red lines show the adequacy of external balance. Oil and gas revenues are clearly adequate for external balance above the green line while below the red line oil and gas revenues revenues are clearly inadequate for external balance. Thus, implementation of the current sanctions will reduce oil and gas revenues into the zone where their adequacy for external balance is in question, and in an upside case with additional decline of oil and gas revenue will clearly trigger the balance of payments crisis.

As was mentioned above, so far only record high oil and gas prices are keeping the Russian economy afloat. Current oil and natural gas prices do not have any economic fundamentals and soared after invasion on concerns of possible oil and gas supply disruptions. Therefore, it is important to ease these concerns to bring prices back to the level determined by actual supply and demand for oil and gas. In the oil sector, the prices already went down in July-August over the concerns of global economic recession, and implementation of oil embargo as wells as extension of current sanctions to maritime oil transportation by vessels registered in the EU jurisdiction will further lower export volume and increase the discount for Russian oil. In the gas sector, it is important to return the production of Groningen to full-scale production capacity to ensure gas supply security in the EU and impose the price cap on Russian gas sales as was described above to curb Russian revenues stemmed from its gas supply cuts to Europe.

Scenarios of Russian oil and gas revenues in 2023. Green and red lines show adequacy of external balance



Source: KSE Institute estimates

ANNEX. MODEL ASSUMPTIONS

OIL

Exports

- January-June 2022 actual Russian oil and oil products exports documented by the IEA
- Assumption of gradual phasing out of 3.1 mb/d by April 2023 over May 2022. (The IEA projected 3.0 mb/d and S&P Global projected 3.1 mb/d)

Prices

- January-June 2022 average price of Russian oil and oil products exports documented by the IEA
- Platts analytics Brent price minus $35 discount for Russian oil in July
- Brent gradual decline to $80 by the end of 2022 minus US$35 discount for Russian oil since August 2022

GAS

Exports

- Russian pipeline export to the EU from Bruegel dataset minus 11/4 bcm export to Hungary and Serbia
- 11/4 bcm export to Hungary and Serbia for oil indexed contracts
- The LNG export to the EU is assumed at 2021 level (Source: Russian Minenergo)
- The LNG export to Southeast Asia is assumed at 2021 level(Source: Russian Minenergo)
- The pipeline export to China is assumed at 2021 level (Source: Russian Minenergo)
- The export to Turkey is assumed at 2021 level (Source: Russian Minenergo)
- The export to CIS is assumed at 2021 level (Source: Russian Minenergo)

Prices

- TTF price minus one quarter lag for hub-indexed contracts. S&P projections of $50/mmbtu for Q3&Q4 22, assumption of price decline to US$30/mmbtu and US$25/mmbtu in the Q1 23 and afterwards respectively in case of average winter and sufficient storage level. WB commodity April forecast is US$25/mmbtu average in 2023
- Assumed 17.2% relationship for gas-oil parity for Hungary and Serbia oil-indexed contract with one quarter lag
- The TTF price for LNG in the EU
- The Japan LNG price to Southeast Asia (WB commodity). The price is assumed unchanged since the Q2 22
- $200 for pipeline export to China
- Oil indexed price for Turkey deliveries. The Q3 21 price was recalculated based on actual and projected quarterly Brent prices
- The price in Belarus is expected to remain in 2023 unchanged since 2022
- Other CIS price is assumed at $165/tcm