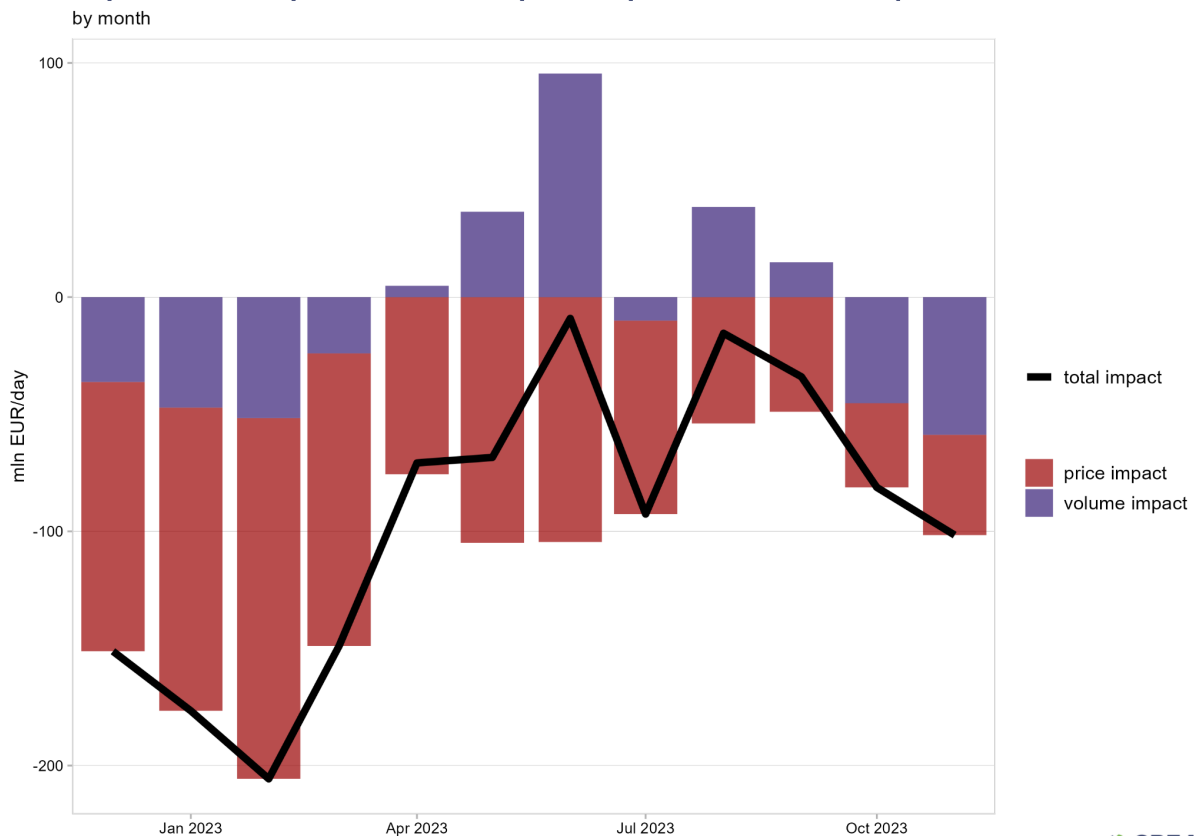


One year of sanctions: Russia's oil export revenues cut by EUR 34 bn

Key findings

- The EU ban on Russian oil and the G7 price cap has cost Russia an estimated EUR 34 bn in lost oil export revenue, lowering export earnings by 14% during the first year of the sanctions. The sanctions have worked mainly by lowering Russian oil prices compared to global prices. This discount accounts for EUR 32 bn in lost revenue, while a small reduction in export volumes accounts for EUR 2 bn.
- The price cap has had an impact but has failed to live up to its potential. The price difference on Russian oil and benchmark global oil has declined steadily since early 2023, showing that the effectiveness of the sanctions has fallen. Consequently, the impact of the sanctions largely took place in the first half of 2023, peaking at EUR 180 mn per day in the first quarter of 2023.
- The declining effect of the sanctions is due to the failure of G7 and EU governments to enforce and strengthen the price cap. This failure has enabled Russia to sell its oil above the price cap level, while increasing export volumes to new willing buyers that are not imposing sanctions. Additionally, oil products refined from Russian crude are legally exported to price cap imposing countries. This “refining loophole” provides an outlet for Putin’s oil exports.
- The G7 and the EU retain a stranglehold on Russia's oil exports but have balked at using it. In October 2023, 48% of Russian oil shipments were carried on tankers owned or insured in G7 and EU countries. Given Russia’s ongoing reliance on European tankers and insurance, stronger enforcement and lower price-cap levels can multiply the impact of the sanctions. Measures to close the “refining loophole” and curtail the increase in “shadow” tanker capacity and activities can further enhance the impact.

Impact of EU import ban and G7 price cap on Russia's oil export revenues



Introduction

“The decision will hit Russia's revenues even harder and reduce its ability to wage war in Ukraine,” Ursula von der Leyen, President of the European Commission, said when heralding the USD 60 per barrel price cap and import ban on Russian crude in December last year. While the sanctions have not reduced the Kremlin's resolve for war a year on, CREA analysis can reveal that the EU oil import ban and G7 price cap have cut the country's export earnings from oil by 14% costing them EUR 34 bn in export revenue.

That impact though is far short of what could have been achieved with more decisive measures. CREA analysis shows that the sanctions impacted Russian oil export revenues heavily for the first half of the year — peaking at losses of EUR 180 mn per day in the first quarter of 2023. In January 2023, Russia saw a significant 45% month-on-month decline in overall fossil fuel revenues, with crude oil alone experiencing a 25% decrease. A failure to enforce, strengthen and consistently monitor the price cap has allowed Russia to undo the

impact in the second half of the year though. Revenue losses shrank to EUR 50 mn per day in the second and third quarters, and then recovered to EUR 90 mn per day in the last quarter of the year, due to reductions in Russia's export volumes.

The discount between Russian oil and benchmark global oil has shrunk steadily since early 2023, showing that the effectiveness of the sanctions has fallen. The most important reason is that insufficient monitoring and enforcement of the oil price cap policy enables Russia to sell its oil at prices above the set cap level.

Additionally, the "[refining loophole](#)" legally enables oil products produced from Russian crude oil to enter countries imposing sanctions.

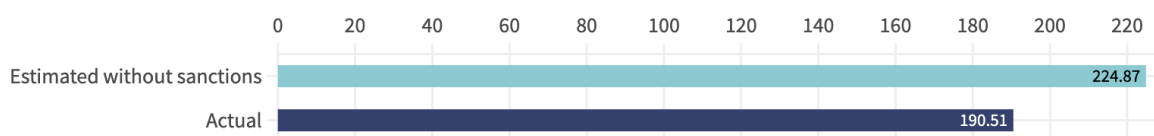
Russia has also capitalised on derogations provided to countries in the EU that import cheap Russian crude and sell their refined products to the EU as well as to other regions globally. A prime example of this is the Neftochim Burgas refinery in Bulgaria owned by Russian company Lukoil. [CREA's investigation](#) found that since the implementation of the EU's import ban on Russian crude oil, Burgas imported Russian crude oil worth over EUR 1.1 bn in tax revenues to the Kremlin.

Russia's [increased use of "shadow" tankers](#) to transport its oil reduces the impact of the price cap and raises the price at which they can export their oil, a further blow to the impact of the sanctions. Our policy recommendations address the ways in which the EU and G7 can curtail both the growth in the number of "shadow" tankers and their activities.

Impact of the oil price cap and import ban

Russia's total oil export revenue in the first year of oil sanctions

Billions EUR of oil exported by Russia | 5 December 2022-4 December 2023



CREA analysis using data from Kpler and Reuters

The sanctions initially forced Russia to increase the discount on the price of its oil sold to attract new buyers and replace sales that previously went to price cap coalition countries (PCC countries¹). The resultant losses were significant, with Russian oil export revenues falling by 14% (EUR 34 bn) in the 12 months² after the sanctions were implemented — 32 bn in lost revenue, and a small reduction in export volumes accounting for EUR 2 bn. The losses peaked at EUR 180 mn per day in the first quarter of 2023.

Data from the Russian Ministry of Finance [shows](#) that until January 2023, 43% of Russia's annual tax earnings consisted of revenues from oil and gas. In the first 10 months of 2023, oil and gas' share dipped to 28% of the total.

A failure to enforce and strengthen the price cap saw discounts on Russian oil narrow in the second half of the year, allowing Russia to increase export volumes to new willing buyers at levels above the price cap and reduce revenue losses. In the second and third quarters of the year, Russia's revenue losses have shrunk EUR 50 per day and EUR 90 mn per day respectively.

There have been other factors that have helped narrow discounts too. In March, Russia voluntarily [decided](#) to cut production by 500,000 barrels per day and subsequently [announced](#) an aim to cut oil exports by 500,000 barrels in August. The announcement — data from the monthly International Energy Agency (IEA) [reports](#) show that oil production remained consistent from March — helped drive pressure on global oil prices and also saw average prices rise above the price cap, where they have remained since.

Russia's ability to transport its oil using tankers owned or insured in countries that do not implement the oil price cap policy ("shadow" tankers) has grown — they can sell their oil at prices above the cap level which has helped reduce the discount on Russian oil. Since the implementation of sanctions, "shadow" tankers voyages transporting Russian oil have increased by 82%. In October alone, 62% of Russian crude oil was transported by "shadow" tankers, while ships owned or insured in countries implementing the price cap transported the rest.

¹ [Price cap coalition countries](#) consist of the EU, G7 and Australia. [Norway](#) and [Switzerland](#) also implement the oil price cap policy.

² From 5 December 2022 until 5 December 2023.

These “shadow” tankers transported 38% of all Russian oil exports (47% of crude and 27% of oil products) since the embargo and price cap was imposed on 5 December 2022 until 5 November 2023.

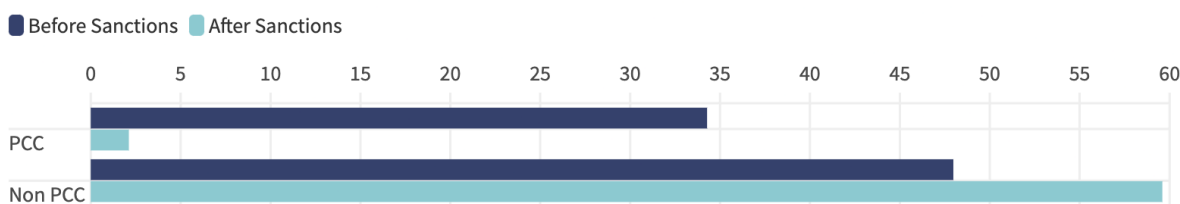
Additionally, traders continue to transport Russian oil on tankers that are subject to compliance with the price cap during periods when [prices](#) remain significantly above the price cap level (since July 2023). This shows that penalties for violating the policy are weak and enforcing compliance of the policy is far too limited.

Russia has been able to sell high quantities of crude oil to countries that refine this crude and then export the petroleum products to countries imposing sanctions. This has increased Russia’s crude oil export volumes, providing an outlet for Putin to sell oil to the global market. Since the implementation of sanctions on Russia, they have over time found sufficient new willing buyers such that they have not been forced to offer steep discounts to maintain similar export volumes. As a result, the discount has shrunk. The “refining loophole” has reduced the impact of the sanctions and raised Russia’s export revenues.

Who is buying Russian seaborne crude?

Impact of Sanctions

Russian seaborne crude oil export revenues after the sanctions | EUR billion



Source: CREA analysis from Kpler data • PCC = Price cap coalition countries • Non PCC = Non price cap coalition countries

In the 11 months³ since the sanctions were implemented, non-price cap countries increased their imports of seaborne Russian crude by 24% (EUR 11.6 bn) compared to the same period the prior year. At the same time, imports of seaborne Russian crude to the Price Cap Coalition decreased by 94% (EUR 32.2 bn).

³ From 5 December 2022 until 5 November 2023.

As a result of the embargo on Russian oil, Russia's seaborne crude exports to price cap coalition countries dropped by 91% (58 million tonnes) in the 11 months since the sanctions were implemented. While Russia made up the deficit in volume terms — exports to non price-cap coalition countries rose 69% (61 million tonnes) — they were forced to sell their oil at sharper discounts to encourage new buyers. The drop in the price of seaborne exported Russian oil ensured that their losses in revenue were never fully covered.

The largest increase in exports were to India whose import values for seaborne Russian crude rose 134% (EUR 32 bn) from the EUR 13.7 bn they imported in the eleven month period before the sanctions were implemented. 46% (EUR 27.4 bn) of Russia's seaborne crude oil exports after sanctions were implemented went to India.

In the same period, China's volume of imports went up 27% (12 mn tonnes) but dropped in terms of value — suggesting that their imports reduced once the discounts shrunk.

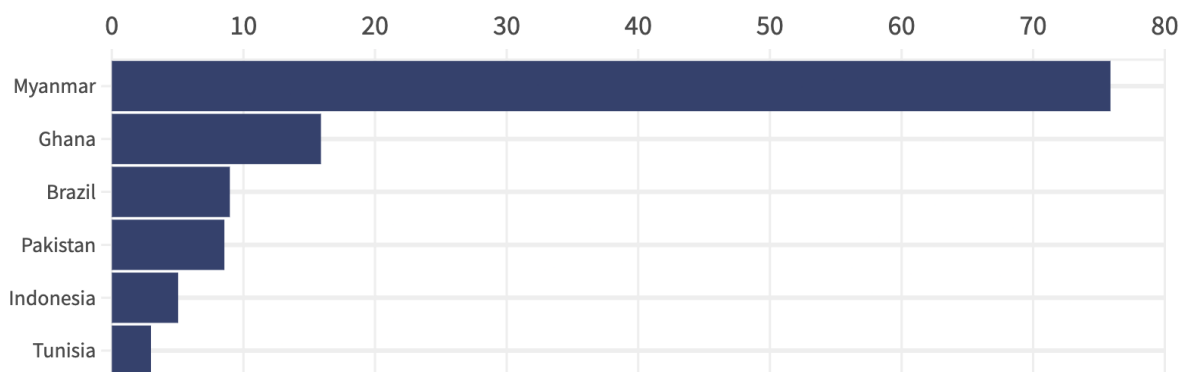
Immediately after the imposition of the price cap, Russian imports of crude oil declined even in existing markets that did not implement the price cap. This shows that the price cap had an impact initially, forcing down Russia's selling prices to attract new buyers.

At the beginning of 2023, shortly after the sanctions entered into force, there was a drop in Russia's overall export volumes but levels soon started to increase, with high seaborne exports to non-sanction imposing countries making up for a loss in pipeline and shipped oil exports to Europe. This shows that fears of a lower and stricter price cap disrupting oil supply were unfounded — rather, Russian producers sought to make up for lower prices by increasing supply.

There was a drop in Russia's total export flows in the first months after the sanctions entered into force, but volumes started to increase above 2021 levels in the summer. There was a small shift in the composition of exports from oil products to crude oil exports.

New markets for Russian seaborne crude oil

New markets after the sanctions | EUR million



Source: CREA analysis from Kpler data



To balance the losses, Russian oil has also found its way into [new markets](#) over the past eleven months, with many countries who had not imported Russian crude for the past three years re-engaging in its trade. Myanmar's imports have been the highest, with Russian crude worth EUR 758 mn imported into the country over the past 11 months, all of which has gone to the PetroChina owned refinery in Made Island. The second highest of the new markets has been Ghana, whose [China owned Tema Oil refinery](#) has imported Russian crude worth EUR 158 mn — 0.08 mn tonnes in January and 0.29 mn tonnes in August 2023.

Despite regularly importing Russian oil products, Brazil had [never imported Russian crude prior to August 2023](#). Their first shipment (0.08 mn tonnes) of Russian crude was followed by another of 0.14 mn tonnes in September 2023.

Upswing in Russia's October tax revenues

Despite implementing fiscal changes and reducing oil production, Russia's year-on-year budget [revenues](#) from fossil fuels dropped by 40% in the initial ten months of 2023. Nevertheless, the first ten months indicate consistent growth in Russian tax revenues from fossil fuels, reaching a peak in October. Month-on-month revenues from fossil fuels also increased by 29%, contributing to a 17% rise in the overall revenues of the Russian Federal Budget. This substantial tax revenue growth has reduced Russia's budget deficit — which has decreased for the third consecutive month.

This has resulted in a consistent increase in tax payments from the Mineral Extraction Tax (MET) and Export Duty (ED), with the exchange rate staying stable and high. The sanctions have not been sufficiently successful at cutting Russia's tax revenues earned from fossil fuel exports used to finance their record high levels of military spending.

Tightening the screws

The most important way to cut Russia's export revenues further will be to drive down the oil price cap. Lowering the price cap would be deflationary, reducing Russia's oil export prices and inducing more production from Russia to make up for the drop in revenue.

A price cap of USD 30 per barrel (still well above Russia's production cost that [averages USD 15 per barrel](#)) would have slashed Russia's revenue by 49% (EUR 59 bn) since the sanctions were imposed until the end of October.

Vessels owned or insured by G7 and European countries have persisted in loading Russian oil at all ports within Russia during periods when prices remain above the price cap. These occurrences serve as compelling evidence of violations against the price cap policy. Yet there is very little [information](#) on enforcement agencies implementing penalties against shippers, insurers or vessel owners in the public domain.

Penalties for violations remain weak. Current measures could impose a 90-day ban of vessels from securing maritime services, a mere slap on the wrist. Additionally, a lack of punishments being imposed on traders who have violated measures by falsifying attestation documents has enabled Russia to export its oil at higher prices in the second half of 2023.

Tanker sales by price cap coalition countries to owners registered outside of the oil price cap coalition should be banned to hinder the growth of Russia's access to "shadow" tankers that are immune to compliance with the policy. Mandatory Protection & Indemnity (P&I) insurance from Western insurance companies should be required as a condition for passage through the Danish Straits, Gibraltar and other maritime choke points.

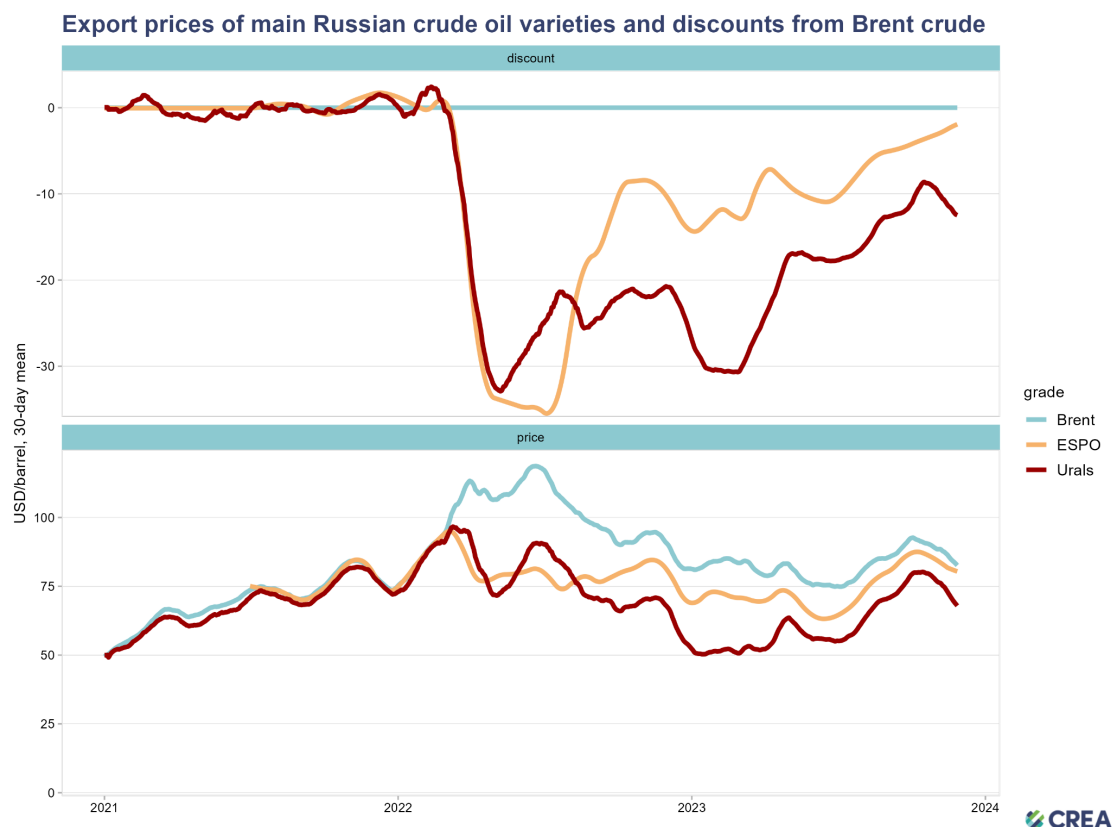
Price cap coalition countries must improve monitoring and enforcement of the oil price cap and alter sanctions legislation to tie up loopholes that enable significant funds flowing back to the Kremlin war chest, making them much less effective. The oil price cap should

be strengthened such that if a bank processes a payment as part of a transaction that exceeds the cap, it would be registered as a violation.

Finally, sanction imposing countries should ban the importation of oil products produced from Russian crude oil to enhance the impact of sanctions.

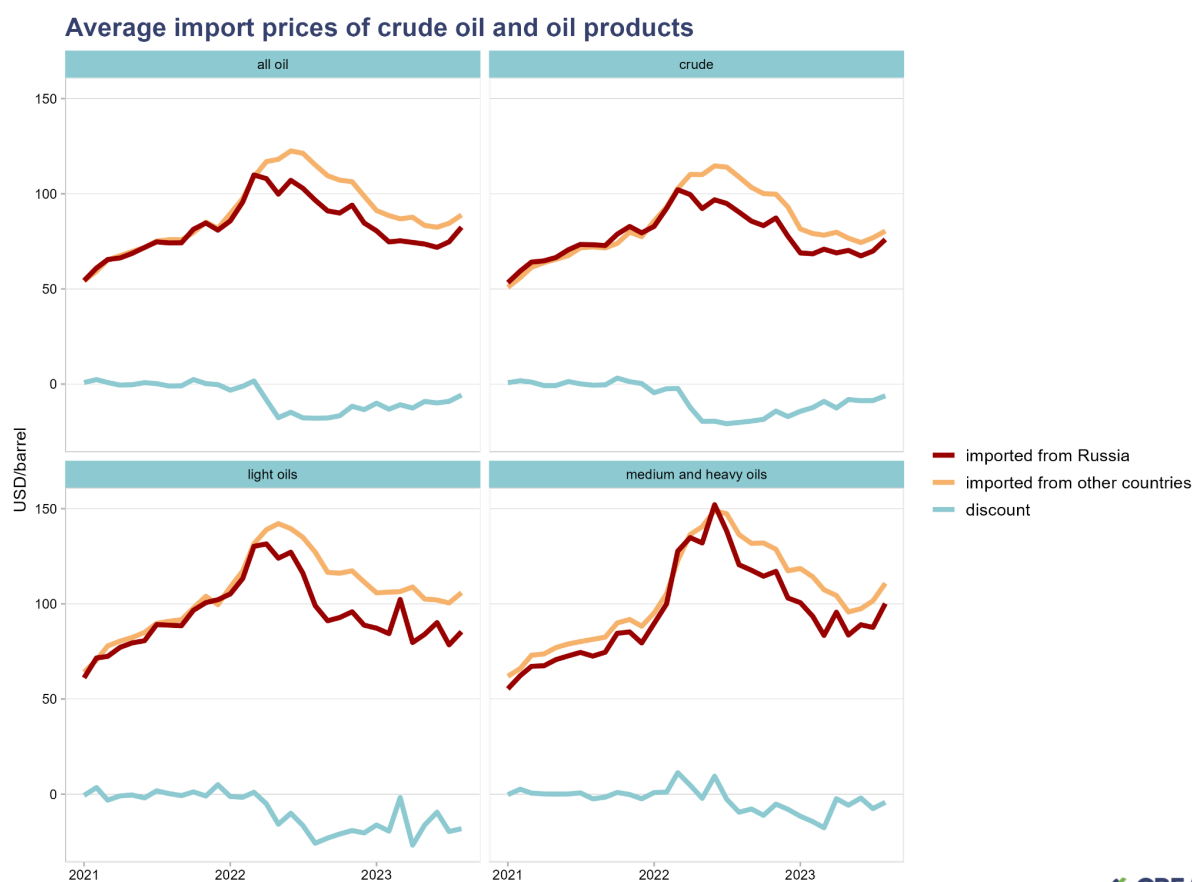
Methodology

For crude oil, we applied the discount from Brent crude oil prices reported for Russia's two main crude oil varieties, Urals and Eastern Siberia–Pacific Ocean (ESPO) crude oil. We took the increase in the discounts from pre-invasion (2021) levels as the effect of the sanctions (and the threat of sanctions, as well as other measures to avoid Russian oil, e.g. in corporate decision-making).



For oil products, we calculated the average discount on Russian oil products from import data reported to UN COMTRADE by countries importing Russian oil. We calculated the average price paid for light oil products as well as medium and heavy products, and

compared the average import prices for Russian and non-Russian oil in each category. For those countries that didn't report data, we applied the weighted average of prices in countries for which data was available. The increase in the discount for Russian oil compared with the period before the invasion was taken as the impact of the EU and G7 measures on Russia's export prices.



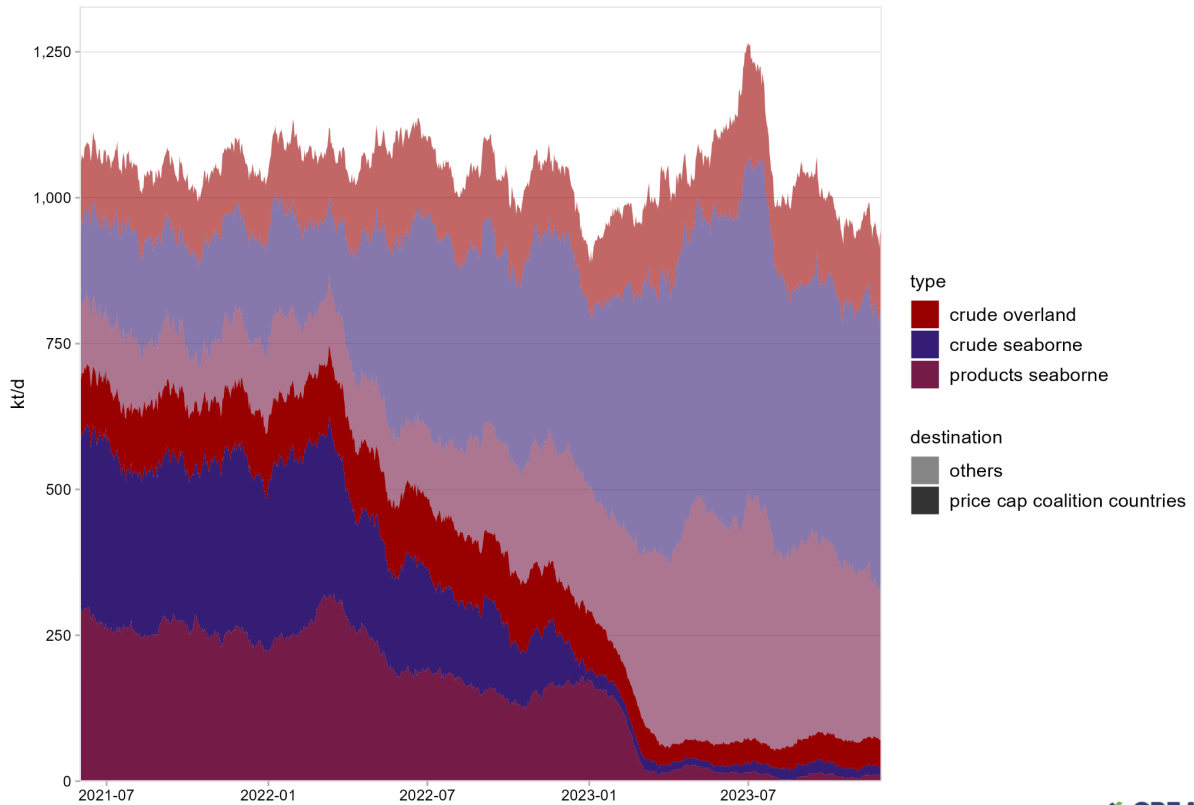
For crude oil, the discount in Urals and ESPO prices is reported on a free-on-board (FOB) basis, i.e. not including the cost of shipping, insurance and freight (CIF). Import prices calculated from global trade data, in contrast, include CIF. The discount in FOB prices was larger than the discount in average import prices. This indicates that shippers, insurers and other intermediate actors are making higher margins on Russian oil. Many of these actors are Russian, but the profits from the trade are not captured by Russia's oil taxation and therefore the FOB prices better reflect the impact of the sanctions on Russia's ability to finance its aggression against Ukraine.

It is likely that the same intermediaries are capturing similar margins from the trade in oil products, but FOB prices for oil products were not available. We applied the average difference in estimated CIF and FOB discounts per barrel for crude also to oil products. This is a slightly conservative assumption as oil products are more valuable, meaning our assumption implies lower margins for oil products. Our results are not overly sensitive to this assumption, as even the extreme assumption that there are no elevated profits for intermediaries involved in the trade in Russian oil products would reduce the estimated impact of the sanctions from EUR 34 bn to 30 bn.

We also took into account the impact of changes in export volumes, assigning the deviation from seasonally adjusted values as the impact of sanctions. There was a steep drop in volumes in early 2023 and a rebound above 2022 levels in summer 2023. In aggregate, changes in volumes had little effect on the results, but currently and likely in the near future, increases in Russia's export volumes are dampening the effect of the sanctions. The figure on page 2 differentiates the impact of changes in discounts and volumes.

Russia's oil exports by destination and type

30-day rolling mean



 CREA

Note: The type of Russian oil is categorised by colours noted by the key in the right hand side of the above chart for crude overland, crude seaborne and products seaborne. The destination is determined by the transparency of the colour – darker to price cap coalition countries and lighter to others.

We use an array of different datasets to undertake our analysis of Russia's fossil fuel exports, our oil shipment data is based on the Kpler dataset. More information on our datasets and methodology can be seen [here](#).