

ENERGY MARKETS AND THE DESIGN OF SANCTIONS ON RUSSIA

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Sanctions against the citizens, institutions, and products of the Russian Federation are evolving rapidly. Energy sanctions started late, but the number of countries embargoing energy imports from Russia is expanding. These sanctions are likely to increase global fuel prices while depressing the price and volume of fuels produced in Russia. The experience to date suggests that the current approach of managing this price differential by reducing oil and gas imports gradually has scope to go further.

Before the invasion of Ukraine, the sweeping and unprecedented sanctions promised in the event of a Russian invasion were often conceived as a two-pronged pincer movement. The idea was to isolate Russia from the global financial system while limiting its commodity and energy exports. Both moves were aimed at the source of the financial strength of “fortress Russia,” namely, its persistent balance of payment surplus.

However, the first rounds of coordinated sanctions after the invasion did not target commodity and energy at all, whereas financial sector sanctions were harsher than anticipated, involving the freezing of Russia’s Central Bank’s reserves. Neutralizing these assets robbed fortress Russia of ammunition and impaired its ability to protect its currency and economy.

The financial sector sanctions are affecting energy markets as well. In the long term, they will likely force the world’s largest energy (and commodity) exporter to begin selling raw materials on the cheap. Bereft of economic integration and financial assets, Russia will need all the hard currency income it can get. Already, Russia is no longer in a position to credibly wield the threat of cutting its oil and gas exports.

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In the short term, markets continue to “self-sanction.” Demand for commodity exports from Russia is being curtailed by fear of running afoul of the new regulatory regime and the absence of safe and reliable infrastructure for trade and finance: Corresponding banks have disappeared, letters of credit or cargo insurance are hard to come by, and uncertainty about further sanctions looms large. Many traders are reluctant to touch Russian oil and product shipments and, as a result, Russian oil today is trading at a 25 percent discount to global marker crudes (see Figure 1).

Without further sanctions, however, these distortions will prove temporary. Markets are good at adapting to new rules. The discount on Russian crude oil is likely to evaporate as workarounds are established. Even with most of Russia’s financial reserves frozen, its income from commodity exports would then continue to flow. And so energy sanctions are back on the agenda – with a twist. The US has declared a unilateral moratorium on all Russian energy imports; the UK has announced the phasing out of Russian oil (not gas), the EU of two thirds of Russian gas (not oil); and Germany has added coal to an ever longer list of moratoria. The discussion has moved to “sanction picking,” with individual countries imposing import restrictions they feel they can afford.

Oil is traded in a globally integrated market, and regional natural gas markets are evolving into one global market as well. This means that any drop of oil not imported by one country will eventually enter the global energy system elsewhere as long as sanctions are not universally enforced. This process, however, takes time.

The staggered disruptions caused by import restrictions of individual countries will hurt Western consumers by increasing the global price of oil, as well as Russian exporters by reducing their revenues. To see where on balance the cost will fall, one must take into account the time required to set up physical relocations and fix the aforementioned institutional plumbing of the market. It takes time to add or develop new pipelines, shipping lines, and rail transport, just as it takes time to iron out the distortions of banking, insurance and trade finance, or the absence of legal recourse. As a rule of thumb, the larger the disruption caused by import restrictions, the harder and potentially more time consuming the adjustment.

Embargo-related disruptions will have a dual effect on prices. Any (temporary) unavailability of oil causes a (temporary) shortfall in aggregate supply, which in turn causes an upward shift of its global price. Such disruptions, with reportedly one-third of Russia’s exports, or 2.5 million barrels per day, stranded after the financial sector sanctions, have helped to drive up the price of crude oil in the US and Europe.

At the same time, a successful boycott of one particular type of crude oil opens a price differential between this and other types: that so much Russian oil was left stranded caused Urals Blend, the most prominent Russian type of crude, to trade at a 25 percent discount compared to other, unaffected crudes, such as the global benchmark, Brent. The higher the global price of oil, the higher the pain for consumers everywhere. The higher the price differential, the higher the pain for Russian exporters. It is crucial to understand these two separate price effects after sanctions: *The art of calibrating and targeting sanctions effectively is to minimize the effect on the general price level of oil, while maximizing the discount of the oil produced under sanctions.*



It is here where the size of the physical disruptions comes in. For example, the US moved first on a unilateral import moratorium not because it is “energy independent,” with oil imports and exports roughly balanced, but because Russian oil constituted only a small share of its gross crude and product imports (8%) – small enough to be replaced with oil from Canada, Latin America, the Middle East, or US domestic production without requiring big adjustments globally. It therefore had a manageable impact on the global price of oil.

To replace Russian oil in Europe in one fell swoop would be an entirely different matter. The EU imports approximately 30 percent of its oil consumption from Russia.¹ In the near term, this oil cannot simply be redirected to India and China and replaced with oil from elsewhere because this would require changes to the modes of transportation, shipping capacity, and refinery configurations – essentially, a revamp of the existing physical infrastructure. In the interim, global supplies would be seriously impaired, causing global oil prices to rise. Meanwhile, the value of Urals – unwanted in Europe and unable to go elsewhere – would remain under pressure.

To contrast these consequences with a hypothetical example, if Russia, instead of being sanctioned, were to cut all deliveries to Europe overnight, the global price of oil would escalate – and the price of Urals would go up together with that of all other blends. The different price reaction is explained by the nature of the disruption – from the demand side (sanctions) or the supply side (producer cuts).

The rationale for additional embargoes is more clear-cut in the matter of natural gas. There is no gas pipeline through Siberia and so pipeline exports to Europe cannot be re-directed East. Gas that Europe does not buy remains stranded. However, for Europe to sever all gas imports from Russia would require massive effort and sacrifice, including European households adjusting their thermostats, and finding a way, presumably in a grand political bargain, to persuade Asian importers to forego already contracted shipments of liquified natural gas so they may be sent to Europe instead. (In most of Asia, they could be replaced with coal.) It would also raise the problem of how to refill storage for the next winter, for which Russian supplies are critical, too.²

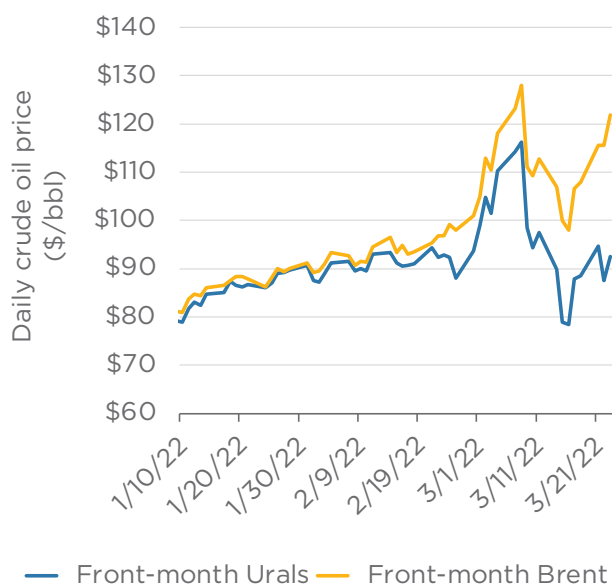
Sanction picking, or the gradual scaling down of natural gas imports, is possible for Europe, whereas curtailing pipeline exports to Europe is not economically rational for Russia (all with the caveat, of course, that economic rationality is not always the guiding light in times of conflict).

The inference is similar for oil. Taking note also of the substantial additional oil resources available to manage the process (e.g., the strategic petroleum reserve and spare capacity in OPEC) leads to the conclusion that it may take coordination, time, and political will, but from an economic perspective, the road of individual moratoria can be pursued further.

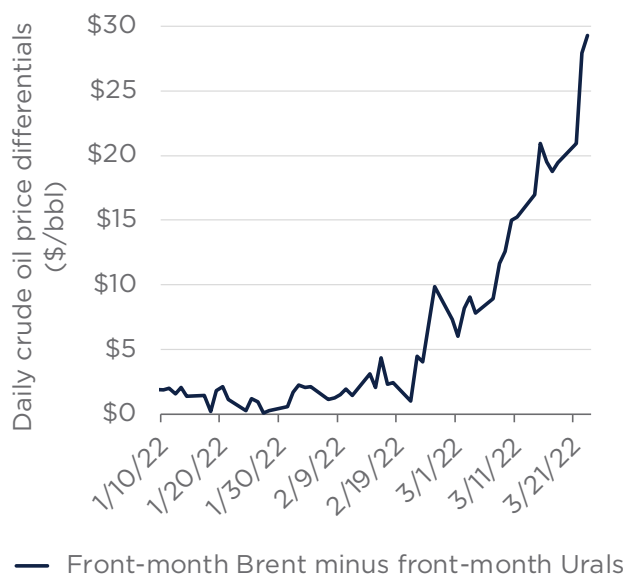


Figure 1: The dual price effect: Sanctions simultaneously increased the global price of oil and depressed the price of oil from Russia

A. Daily price of Brent and Urals



B. Daily price differential between Brent and Urals



Note: Crude oil is a largely fungible commodity. Still, sanctions on oil seek to depress the price (and volumes) of oil sold by the sanctioned country while minimizing any increase in global oil prices.

Source: Bloomberg.

Notes

1. For a useful breakdown of Russian oil exports, see Mark Finley and Jim Krane, “Reroute, Reduce, or Replace? How the oil Market Might Cope with a Loss of Russian Exports after the Invasion of Ukraine,” Rice University, Baker Institute for Public Policy, working paper (2022), <https://www.bakerinstitute.org/media/files/files/5090f474/wp-ukrainerussiaoil-030822.pdf>.
2. For a discussion of options in the case of Russia curtailing its gas supply to Europe, see Collins et al., “Strategic Response Options If Russia Cuts Gas Supplies to Europe,” Rice University, Baker Institute for Public Policy, February 2022, <https://www.bakerinstitute.org/media/files/files/185d955f/ces-pub-strategic-options-022122.pdf>. For data on Europe’s dependence on Russian gas, see Anne-Sophie Corbeau, “Scenarios of Reduced Russian Gas Flow to Europe,” Center on Global Energy Policy, March 11, 2022, <https://www.energypolicy.columbia.edu/research/qa/qa-scenarios-reduced-russian-gas-flow-europe>.



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Christof Rühl is a Senior Research Scholar at the Center on Global Energy Policy at Columbia University SIPA, where he leads research focused on oil and gas and the energy transition. Rühl is an internationally renowned economist, specializing in macroeconomics and energy economics. He most recently served as Global Head of Research at the Abu Dhabi Investment Authority, where he created and managed ADIA's first global research team to provide economic, energy and geopolitical analysis to the Fund. Previously, he was Group Chief Economist and Vice President of BP plc for nine years, credited with a significant contribution to the global debate on energy, climate change, and the various links between energy and economic development. Rühl joined BP from the world of global economic policy, having served at the World Bank, including as Chief Economist in Russia and in Brazil, and at the European Bank for Reconstruction and Development. He started his career as an academic economist, first as a Research Associate at German Universities and later as an Assistant Professor at the University of California in Los Angeles. Rühl is published widely in his fields.



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