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Commentary Series on Putin's War: "Sanctions are Not Keeping Putin Awake at Night. Export Controls Are."

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Russia's invasion of Ukraine has unleashed an unprecedented sanctions response from the US. In less than two months, and in collaboration with European allies, the Biden administration has put more than 1,000 Russian companies, banks and individuals under sanctions; cut the access of several Russian banks to Swift; frozen the reserves that the Russian Central Bank holds in Western currencies; imposed an embargo on Russian oil imports; and curtailed Moscow's ability to raise and repay sovereign debt.¹ These measures are making the headlines, but they are not keeping Russian president Vladimir Putin awake at night. He knows the real threat to the survival of the Russian economy comes from other US measures: export controls on semiconductors and oil-drilling technology.

Sanctions on Russian individuals and companies are immaterial: most of those who were targeted had no US assets or plans to travel to the US. Cutting the access of some Russian banks to Swift was a death penalty for these financial institutions, but the majority of Russian banks were spared and continue to process domestic and international transactions. Restrictions on Russia's access to its foreign-exchange reserves will not bankrupt the Putin regime; the central bank still holds roughly US\$300bn of reserves in renminbi, gold, and other non-Western currencies. The US ban on Russian oil imports was theatre; America imports little Russian oil. Finally, preventing Russia from raising sovereign debt is merely symbolic; Moscow's debt is extremely low.

The most powerful measures that the US has taken against Russia are mostly unknown to the wider public. They come in the form of export controls on energy and semiconductor technology. America's export controls on the Russian energy sector are nothing new: these date back to Russia's illegal annexation of Crimea in 2014. Back then, Washington restricted the ability of US energy companies to explore and produce hydrocarbons in the Arctic region, where most of Russia's untapped oil and gas reserves are located.² As part of these sanctions, Washington also banned the export of US-made oil-drilling equipment to Russia. For Moscow, the development of oil fields in the Arctic is crucial: in the long term, these reserves are meant to replace maturing fields in the Urals and Siberia.

By putting US-made oil-drilling technology off-limits for Moscow, the 2014 vintage of US sanctions dealt a huge, albeit slow to materialize, blow to the Russian energy sector. Exploration of untapped resources in the Arctic is difficult; energy fields are located deep under the Arctic Ocean, which is frozen for most of the year. To succeed, Russia needs Western (and ideally American) technology. Chinese firms would of course be

¹ Chad Bown, "Russia's War on Ukraine: A Sanctions Timeline," Peterson Institute for International Economics, accessed April 15, 2022, <https://www.piie.com/blogs/realtime-economic-issues-watch/russias-war-ukraine-sanctions-timeline>.

² Nigel Gould-Davies, "Russia, the West and Sanctions," *Survival: Global Politics and Strategy* 62 (February–March 2020): 7–28, <https://doi.org/10.1080/00396338.2020.1715060>.

happy to help, but Chinese supplies currently do not meet Moscow's needs in terms of standards and quality. By limiting access to American technology, the 2014 sanctions will slowly asphyxiate the Russian economy by constraining Moscow's ability to exploit its reserves in the Arctic and remain a major energy player.

The second threat that export controls pose to the Kremlin is more immediate. Following the invasion of Ukraine, the US restricted Russia's access to US semiconductor technology.³ Targeting Russia's access to microchips was a natural step for the US: this was a repeat of a strategy that Washington implemented against China a few years ago to slow Beijing's technological advances.⁴ The idea behind export controls on semiconductor technology is simple: all electronic equipment, including computers, cell phones, but also military gear, includes microchips. This is a trump card for Washington: almost all of the technology to design and manufacture semiconductors is American. Russian defense kit is no exception: a lot of it, including Iskander and Kalibr missiles, needs US-made microchips.⁵

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These restrictions have dealt a serious blow to the Russian military, and may well have a huge influence on the course of the war in Ukraine. The Russian army is currently depleting its stocks of Iskander and Kalibr at a fast pace, and it will soon be unable to replenish them as export controls make it impossible to source required microchips. Behind the scenes, the Kremlin is scrambling to find alternative sources for semiconductors, and is unsurprisingly turning to China. However, Chinese microchips are currently far less advanced than those manufactured using American technology. The Kremlin will probably try to turn to friendly third countries, such as Turkey, India or Serbia, to import semiconductors covertly.⁶ The US knows about this and will undoubtedly monitor microchip exports to these countries.

Export controls on energy and semiconductor technology represent the most powerful US weapon against Russia. Moscow has no easy means of circumventing these measures, given that the US is the only country in the world with the technology that the Kremlin needs. The impact of export controls will be felt in the short-term, as these measures will eventually deprive the Russian army of vital military technology to wage the war, and in the long term, as export controls slowly asphyxiate the Russian economy by preventing Russia from developing untapped energy reserves. Washington knows that export controls on Russia will take decades to yield results, but the consensus among US policymakers is that they will pay off in time. Sanctions are not keeping Putin awake at night. Export controls are.

Agathe Demarais is the global forecasting director of the Economist Intelligence Unit (EIU). A former French Treasury official, she is the author of *Backfire*, which will to be published in November 2022 by Columbia University Press, on the global ripple effects of US sanctions.

³ James Byrne, Gary Somerville, Joe Byrne, Jack Watling, Nick Reynolds, and Jane Baker, "Silicon Lifeline: Western Electronics at the Heart of Russia's War Machine," RUSI, August 8, 2022, <https://rusi.org/explore-our-research/publications/special-resources/silicon-lifeline-western-electronics-heart-russias-war-machine>.

⁴ Elizabeth Rosenberg, Peter Harrell, and Ashley Feng, "A New Arsenal for Competition, Coercive Economic Measures in the U.S.-China Relationship," Center for a New American Security, April 24, 2020, <https://www.cnas.org/publications/reports/a-new-arsenal-for-competition>.

⁵ Jack Watling and Nick Reynolds, "Operation Z: The Death Throes of an Imperial Delusion," RUSI, April 22, 2022, <https://rusi.org/explore-our-research/publications/special-resources/operation-z-death-throes-imperial-delusion>.

⁶ Jeffrey Sonnenfeld, Steven Tian, Franek Sokolowski, Michal Wyrebkowski, and Mateusz Kasprowicz, "Business Retreats and Sanctions Are Crippling the Russian Economy," Yale School of Management, July 20, 2022, <https://dx.doi.org/10.2139/ssrn.4167193>.