Elina Ribakova

US-China Economic and Security Review Commission

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Economic Linkages and Sanctions Evasion

Export Controls and Technology Transfer: Lessons from Russia

I. Summary of Testimony

Honorable members of the Commission and esteemed staff, thank you for the opportunity to testify today. It is both a pleasure and an honor to present my views before the Commission.

My name is Elina Ribakova, and I am the director of the International Affairs Program and vice president for foreign policy at the Kyiv School of Economics, non-resident senior fellow at the Peterson Institute for International Economics and at Bruegel.

My testimony today is not on behalf of any organization and should be considered as reflecting my own views alone. The testimony draws on a large body of research that I have conducted – including with my colleagues at the Peterson Institute for International Economics and the Kyiv School of Economics – on economic statecraft, sanctions, and export controls. It also reflects my prior experience in the financial markets and at the International Monetary Fund.

There are several key messages that I would like to convey in my testimony:

- The economic relationship between Russia and China has **undergone a significant change** since the start of Russia's full-scale invasion of Ukraine and the imposition of sanctions on the country by the United States and its allies.
- The relationship is **symbiotic but deeply asymmetrical**. China has become an indispensable partner for Russia, providing the markets for Russia's exports and access to critical inputs, while Russia is a beneficial but inessential to China, who opportunistically exploits commercial ties without engaging in a full partnership.
- Russia's ability to continue its war against Ukraine and to challenge the rules-based international order is entirely **dependent on Chinese support**. Russia would have neither the financial means to pay for the war, nor the technology required on the battlefield without China's help with sanctions evasion and circumvention.
- While China does not officially embrace Western sanctions, it attempts to **minimize risks posed by sanctions**. Chinese companies, including banks, are wary of transactions that may expose them to sanctions or jeopardize their commercial interests which extend far beyond the relatively small Russian market.
- The Russia-China relationship is **not without tensions** despite somewhat aligned objectives and Chinese support is not without limits. Russia's increasing reliance on the Chinese market, China-based circumvention networks, and Chinese financial infrastructure creates new vulnerabilities for Russia.

- The challenge posed by Russia and China to the rules-based international order is a **concerted joint effort**. China is Russia's lifeline in the current situation, but, following a potential settlement to the war in Ukraine and potential removal of sanctions from Russia, their roles may reverse.
- It is possible to envision a scenario where in case of rising tensions between the US and China, **Russia helps China circumvent sanctions imposed on China** by the US and others. Fundamentally, Russia will owe China and enable it as much as possible.

My key policy recommendations for congressional consideration are as follows:

- Revise the current energy sanctions framework to remove Russian oil from the market in a manner that raises costs for Russia, without granting China the benefit of cheaper energy. Russia is a key energy competitor to the U.S., which, alongside other producers, is capable of absorbing the loss of Russian oil barrels from the global market.
- Thoroughly examine the Russia sanctions case for lessons applicable to China policy.
- Approach the task of improving controls on critical technology exports to Russia as a pilot with possible applicability to a future confrontation with China. This includes strengthening the enforcement measures focused on Chinese entities and individuals involved in the evasion and circumvention of Russia-related technology restrictions as well as stepped-up due-diligence by Western companies.
- Leverage the primacy of the US and Western financial systems for global sanctions enforcements. The Russia case shows that, despite concerns about attempts by countries such as Russia and China to move away from Western systems, the power of financial sanctions remains very much intact.

Let me conclude by stressing that the challenges emanating from Russia and China with regard to US interests around the world are somewhat similar. Therefore, the Russia case can teach important lessons with regard to any policies with regard to China.

Furthermore, it is important to understand the challenge from these countries to US primacy and the rules-based international order as a concerted and joint effort. China may be Russia's lifeline in the current situation but, following a settlement to the war in Ukraine and potential removal of sanctions on Russia, the shoe may quickly be on the other foot.

I am deeply grateful for the opportunity to address these critical issues and look forward to your questions.

II. China-Russia: Economic Linkages

Since Russia's full-scale invasion of Ukraine in 2022, bilateral trade between Russia and China has surged to record levels.[1] Both nations benefit from their new "no limits"[2] partnership, though not equally so. Their relationship is symbiotic, yet profoundly asymmetric, with China playing a much more dominant role. For Russia, China has become an essential trading partner, overtaking Europe in importance, while for China, Russia remains a relatively unimportant market. In exchange for its energy and commodities,[3] which are critical to Russia, but not indispensable for China, Russia receives Chinese consumer goods, cars, and technological imports.[4]

Although trade between Russia and China has steadily increased since the 2000s, both countries remain cautious with one another. Trade volumes were much lower than expected, given their proximity, the size of their economies, and the natural synergies. However, Russia's invasion of Ukraine in 2022 marked a pivotal moment, significantly boosting trade between the two nations. Despite this surge in trade flows, China appears to follow a more transactional approach, rather than offering full support to the Russian economy. While trade flows are booming, investment from China to Russia remains modest.

Chinese companies have opportunistically capitalized on the withdrawal of Western competitors from Russia. However, despite bold announcements of planned investments totaling $200 billion,[5] most cooperation projects remain largely theoretical, and large-scale ventures like the Power of Siberia 2 pipeline exist only on paper. While there has been some progress in areas of financial and payment system linkages, cooperation in these sectors, and even trade transactions, has been significantly hindered by the US's threat of secondary sanctions.

Both Russia and China are discontent with the current multilateral order,[6] though with different motives. Russia has long been advocating for a multipolar world and increasingly isolationist policies, seeking to reduce its reliance on the West. In contrast, China, which has benefited significantly from the existing multilateral system, aims to claim a greater role on the global stage, rather than seeking to dismantle it entirely. China continues to engage actively in trade with the EU, the US, and other global powers, while Russia's global presence has been significantly scaled down, particularly by sanctions following its invasion of Ukraine in 2022, narrowing its opportunities for international engagement.

The relationship between Russia and China, while strategically significant, is not without its tensions. Russia resents its position as a junior partner and a price taker in the partnership. This dissatisfaction is underscored by the fact that Russia, once a major exporter of higher value-added goods to China, has been reduced to primarily exporting energy and other commodities,

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[1] "China-Russia 2024 Trade Value Hits Record High - Chinese Customs." Reuters, 13 Jan. 2025, URL.
[2] Joint Statement of the Russian Federation and the People's Republic of China on the International Relations Entering a New Era and the Global Sustainable Development. 4 Feb. 2022, URL.
[3] It is worth remembering that Russia's energy exports to China are just as, if not more, necessary for Russia than China.
[4] Seddon, Max, et al. "China-Russia: An Economic 'Friendship' That Could Rattle the World." Financial Times, 15 May 2024, URL.
[5] Skan, Oksana. "Investments in Russian-Chinese Business Projects Exceeded 200 Billion Dollars." garant.ru, 19 Dec. 2024, URL. [ru]
[6] Gabuev, Alexander. "Can Trump Split China and Russia?" Foreign Affairs, 6 Dec. 2024. Foreign Affairs, URL.

while increasingly relying, in some sectors almost entirely, on importing more complex products from China. Russia is also disillusioned by China's reluctance to invest and its hesitation to cross key red lines, established by Western sanctions. Additionally, Russian authorities are concerned over the growing influence of the yuan. Ultimately, Russia's stance toward the Trump administration in the U.S. is expected to differ significantly from that of China.

China's relationship with Russia faces its own set of challenges. Russia remains a relatively small market for China's exports, and China is not heavily reliant on Russia for energy imports, as it adheres to its approach of diversified energy sources. Additionally, the energy intensity of China's growth model has been steadily decreasing. Leading Chinese companies are unwilling to risk their access to global markets by running afoul of Western sanctions through closer ties with Russia. China is also apprehensive about Russia's strengthening ties with North Korea, given China’s historical role as the patron for the regime. This evolving dynamic could complicate China's strategic interests in the region. Finally, while the border issues between the two nations are currently dormant, historical grievances persist.

The fundamental asymmetry inherent in the Russia-China relationship has been exacerbated by Russia’s war in Ukraine. China is a *necessary* partner for Russia, while Russia is a *nice to have* partner for China. China’s approach to the relationship has been opportunistic. But without China, Russia’s ability to continue its war of aggression would be seriously compromised as it would lack the money and technology to pursue it.

A. How Does Russia Benefit from China’s Support?

China has become an essential lifeline for Russia in the face of international sanctions. With few exceptions, sanctions and export controls have effectively cut Russia off from directly acquiring Western dual-use products, severely limiting its access to critical technologies, high-end machinery, and advanced components. In response, Russia has turned to China as a vital partner to circumvent these restrictions. By utilizing complex trade routes via China (but also, to a lesser degree, Turkey, the UAE, and the member states of the Eurasian Economic Union: Armenia, Belarus, Kazakhstan, and Kyrgyzstan), Russia continues to import goods that are crucial for its economy and military production, including items that are part of the Bureau of Industry and Security’s Common High Priority List (CHPL).[7]

China also plays a crucial role as a source of energy earnings for Russia, which the Kremlin desperately needs as a source of balance of payments inflows as well as budget revenues. Oil and gas exports currently make up around 30% of Russia's budget revenues, meaning the loss of the European market would have been devastating without a viable alternative. China became the top destination for Russian oil, and by 2023, Russia emerged as China’s leading source of crude oil.[8] This shift has helped Russia offset the loss of European buyers and the US, and has ensured a steady stream of revenues from its energy exports. Diverting gas exports from Europe to Asia has been more complex, however, due to the gas trade’s reliance on pipelines.

China is not merely a facilitator for Russia's sanctions evasion and a hydrocarbon revenue stream. It also provides broader economic support. In addition to the vast quantities of consumer goods,

[7] See the full list on BIS’ website here.

[8] For more analysis of Russia’s oil exports, see KSE Institute’s monthly publications, Russia Chartbook and Russian Oil Tracker, here. For more on China’ energy imports, see EIA’s analyses of oil here and gas here.

cars, electronics, and other products necessary for Russia's economy, China supplies critical raw materials[9] essential for Russia's industrial and military needs. Without these imports, Russia lacks the industrial capacity to produce the tools, components, and machinery required to sustain both its war efforts and its economy. These Chinese supplies are crucial for keeping Russia's economy operational in the face of increasing isolation from the West.

With Russia's ability to transact in dollars and euros severely restricted by sanctions, the Chinese yuan has steadily grown in prominence in the Russian economy. Importantly, Western sanctions have targeted Russia's central bank (CBR), its sovereign wealth fund (NWF), its stock exchange (Moscow Exchange, MOEX), as well as foreign financial institutions involved in trade with Russia. As a result, Russia has undertaken a concerted effort to move away from US dollar and euro as far as settlements for its trade are concerned, with the combined share of currencies of countries "unfriendly" to Russia declining from 87% to 18% for exports and 67% to 18% for imports between January 2022 and December 2024. At the same time, the ruble's share and that of other currencies, largely yuan, rose significantly. Reportedly, more than 90% of Russia-China trade is now settled in yuan or ruble. As a result, currency trading in Russia has also shifted towards the yuan. This is not without potentially negative consequences, however, as yuan shortages have emerged in Russia during sanctions-triggered stress episodes.

Accepting a major role for a foreign currency in one's economy—especially when that currency is subject to strict capital controls, lacks liquid markets, and is beyond one's control—indicates a position of weakness. In addition to currencies used in trade, China has also been critically important for Russia in terms of the setup of payments processing system alternatives to SWIFT and CHIPS. Furthermore, to evade secondary sanctions from the US, Russia is dependent on its friends' setting up infrastructure for cross-border transactions that cannot be reached by them. Reportedly, this has been a key focus of interactions between Russian and Chinese officials in recent months and years, as well as Russia pressure on the BRICS partners.[10]

B. What Are the Economic Benefits to China?

For China, Russia's primary advantage as an economic partner lies in its role as a more affordable source of energy. Due to sanctions, including embargoes and the G7+ oil price cap, Russian oil has been sold at a wider discount since 2022.[11] While China is not strictly dependent on increased imports of Russian oil and gas—there are other sources available and China limits its exposure to any single energy supplier—this discounted supply is advantageous, allowing China to secure energy at lower prices and strengthen its energy security.

In addition, the broad sanctions against Russia, including its disconnection from SWIFT, have given China a valuable opportunity to expand the use of its homegrown alternatives to Western

[9] Ovsyaniy, Kyrylo, et al. "China Supplying Key Chemicals For Russian Missiles, RFE/RL Investigation Finds." Radio Free Europe/Radio Liberty, 30 Jan. 2025, URL. A forthcoming KSE Institute report will further address the sources of raw materials used in Russia's military industrial complex.

[10] Prokopenko, Alexandra. "Putin's Trip to China May Show US Threats Are Wishful Thinking." Financial Times, 14 May 2024, URL.

[11] Ribakova, Elina. "Sanctions against Russia Will Worsen Its Already Poor Economic Prospects." Realtime Economics, 17 Apr. 2023, URL;
KSE Institute, "Energy sanctions impact summary", July 2024, see here;
Kilian, Lutz, et al. The Impact of the 2022 Oil Embargo and Price Cap on Russian Oil Prices. Federal Reserve Bank of Dallas, Jan. 2025, URL.

financial infrastructure. While the Chinese yuan does not pose a significant challenge to the US dollar or Euro in global trade or finance, the increasing use of the yuan in Russian-Chinese trade highlights what China can offer to countries that fall out of favor with the West. The shift towards yuan-based trade not only strengthens China's financial influence–much like the use of the dollar strengthens America's global reach–but also positions its currency as an alternative for nations seeking to bypass Western-dominated systems.

Chinese companies have opportunistically filled the void left by others, although they have largely refrained from making significant investments. In automotive exports, China has become the dominant player. Russia is now the largest importer of Chinese cars globally, with Chinese vehicles accounting for over 60% of Russia's new car market.[12] With slowing domestic demand, China needed to export most of its car production. Thanks to the Russian market, China has become the world's largest car exporter, as it faces trade barriers when exporting to the US and the EU.[13] Importantly, most of the Chinese cars on Russian roads are imports, unlike before when Western companies operated manufacturing facilities in Russia. As a result, Russia recently increased import taxes, effectively targeting Chinese-made cars.[14] Cars are just one of several export categories that have made Russia a more valuable trading partner for China. By fulfilling the demand in the Russian domestic vehicle market, Chinese companies have allowed Russian companies to redirect their focus more towards military production.

C. Dramatic Shift in Economic Linkages

Summary of International Trade Dynamics

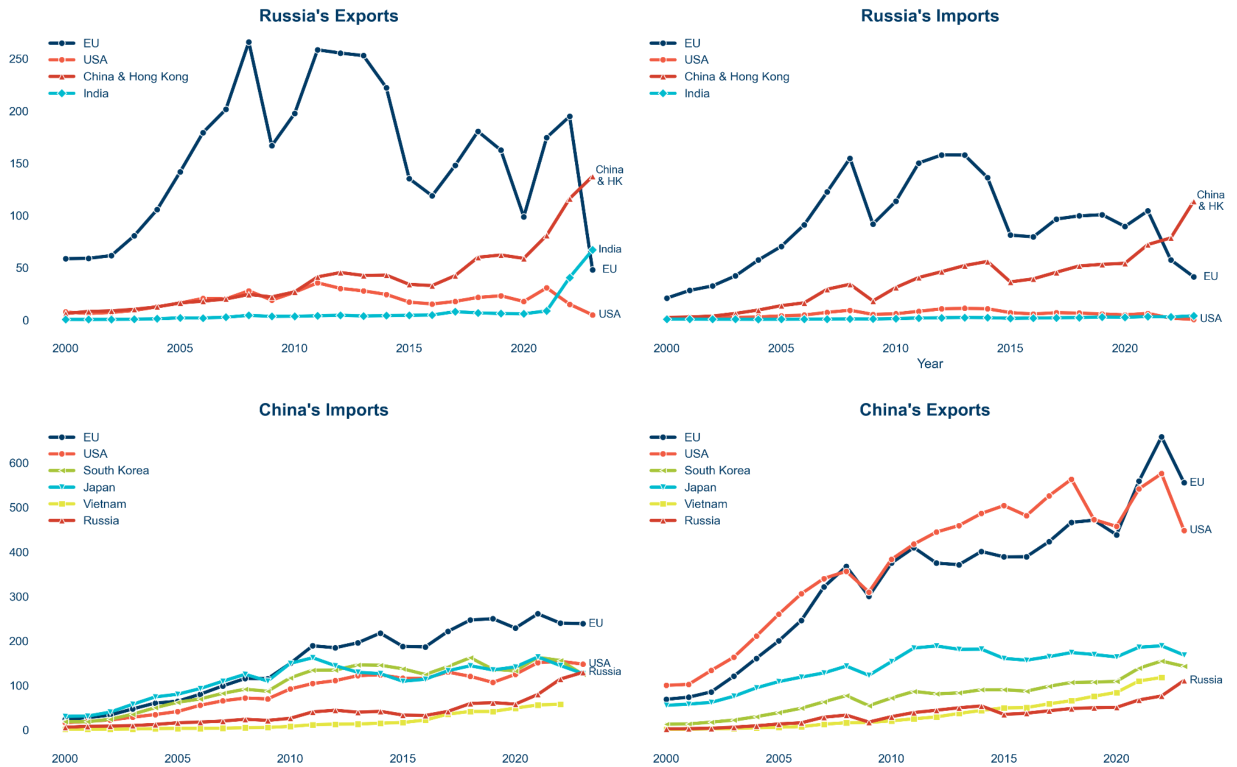
Since 2022, China has been Russia's largest trade partner, surpassing the EU (Figure 1). However, while China accounts for 34% of Russia's total trade turnover (i.e., the sum of exports and imports),[15] Russia represents only 4% of China's total turnover.[16] For China, Russia remains a much less important trading partner vs. countries in the sanctions coalition. Trade between Russia and China increased by 26% in 2023 vs. 2022 to $240 billion, but only moderately in 2024 vs. 2023 to $245 billion.[17] Clearly, the reorientation of Russia's trade relations after the start of the full-scale invasion and imposition of sanctions has now largely been completed.

The threat of US secondary sanctions on Chinese banks in an executive order issued in December 2023[18] is another key reason behind this as it could extend to non-financial companies in the future. Exports from China to Russia contracted by about 1% in the first half of 2024, while

[12] If one counts the EU as a whole, then the EU countries import the most significant number of cars (~32 billion), followed by Russia (~25 billion), and then the US (~20 billion). See: here and here [ru].
[13] Chang, Agnes, and Keith Bradsher. "How China Became the World's Largest Car Exporter." The New York Times, 29 Nov. 2024. NYTimes.com, URL.
García-Herrero, Alicia. "The EU's Duties on EVs Are a Turning Point in EU-China Relations." The Wire China, 20 Oct. 2024, URL.
[14] "Imported Cars Face Higher Fees as Russia Plans Domestic Production Boost." Reuters, 30 Sept. 2024. www.reuters.com, URL.
[15] "Customs Revealed Russia's Top 10 Trading Partners." РБК, 2 Jan. 2025, URL [ru].
[16] "China's Total Export & Import Values by Country/Region, December 2024 (in USD)." General Administration of Customs People's Republic of China, 13 Jan. 2025, URL.
[17] International Trade Centre (ITC) Trade Map (ITC calculations based on General Customs Administration of China statistics), KSE Institute
[18] Executive Order 14114: Taking Additional Steps With Respect to the Russian Federation's Harmful Activities. 22 Dec. 2023, URL.

Russian exports to China grew only modestly. Nearly 90% of the transactions are reportedly settled in yuan and rubles, as President Putin announced in December 2024.[19]

Figure 1: China, Russia: Top Trading Partners, in $ billion



Source: UN Comtrade, KSE Institute

Russia's Exports to China

Energy (i.e., oil and gas) dominates Russia's export to China, accounting for more than 70% of the total (Figure 2). When combined with metals—particularly aluminum, copper, and nickel—and other minerals, over 85% of Russia's exports to China consist of natural resources. This marks a stark shift from the 2000s, when energy accounted for roughly 15% of Russia's exports to China, and machinery and industrial equipment were the leading categories, making up over 20% of total exports to China. And it is the opposite of what countries generally try to achieve with regard to their exports, i.e., selling higher value-added products instead of raw materials. Sanctions imposed on Russia play a major role for these developments.

Following the imposition of embargoes on Russian oil, most importantly by the EU in late 2022, and the adoption of the G7+ oil price cap mechanism, which intends to reduce Russia's export earnings from oil while keeping its supplies on the market, Russia had to pivot to Asia to find new buyers. India became the most important one, but China's purchases also rose. While the oil price cap had a limited effect on the price of Russian oil,[20] alongside the embargo, it created an

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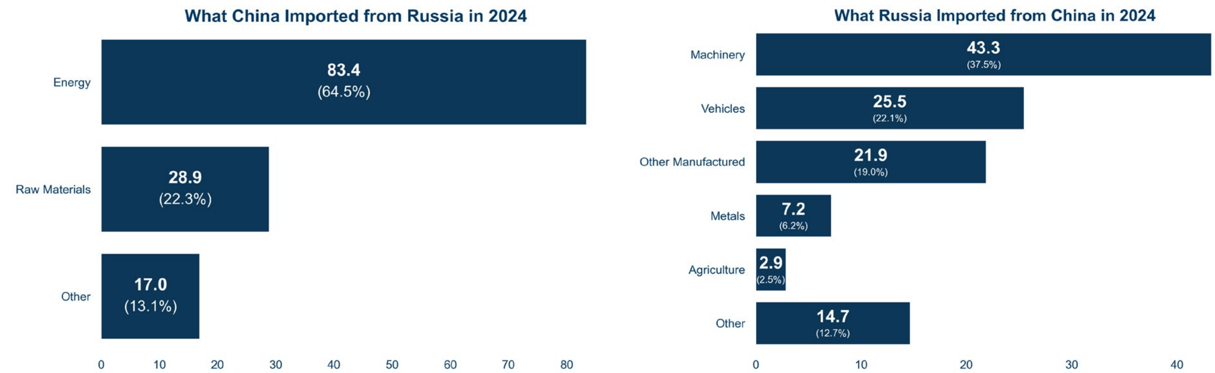
[19] "Putin Says Russia-China Mutual Investment Policies Effective." Xinhua News Agency, 4 Dec. 2024, URL.

[20] Ribakova, Elina. "Sanctions against Russia Will Worsen Its Already Poor Economic Prospects." Realtime Economics, 17 Apr. 2023, URL;

environment where Russia became highly dependent on a limited number of buyers from countries non-aligned with Western sanctions (Figure 3). This created a market situation where Russia had to offer a much wider discount and these buyers benefited from lower prices.

Figure 2: China, Russia: Composition of Trade, in $ billion

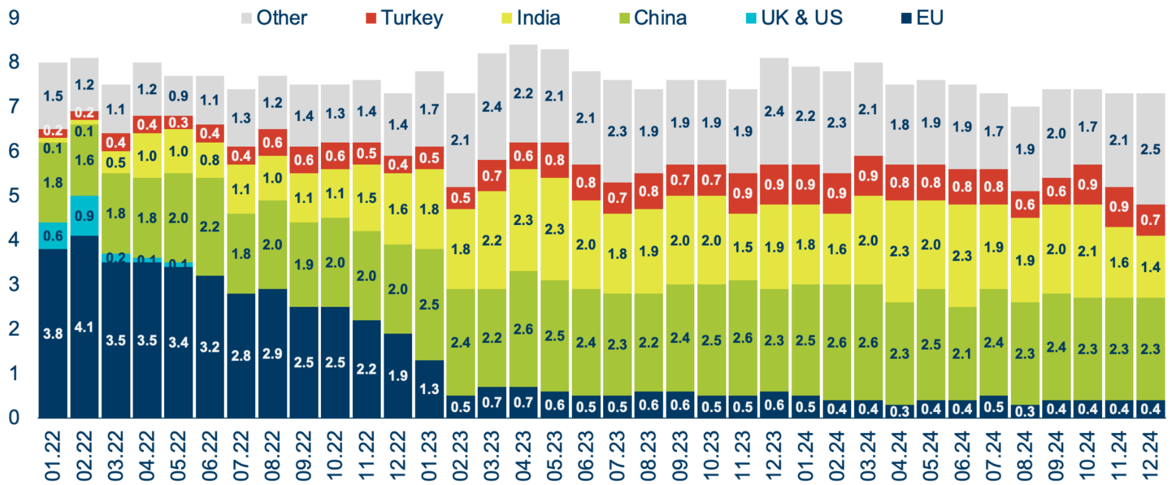


Source: General Administration of Customs of People’s Republic of China, KSE Institute

Russia’s oil exports to China have increased significantly (Figure 4), rising to about 20% of China’s total oil imports (vs. 16% in 2021). This shift has allowed Russia to gain market share in China vis-a-vis Saudi Arabia as China’s largest oil supplier (Figure 5). However, if the moderate discount on Russian oil were to disappear, there is no guarantee that China would continue purchasing such high volumes, which could drastically alter the terms of trade between the two countries. Ultimately, China is opportunistically taking advantage of the current situation.

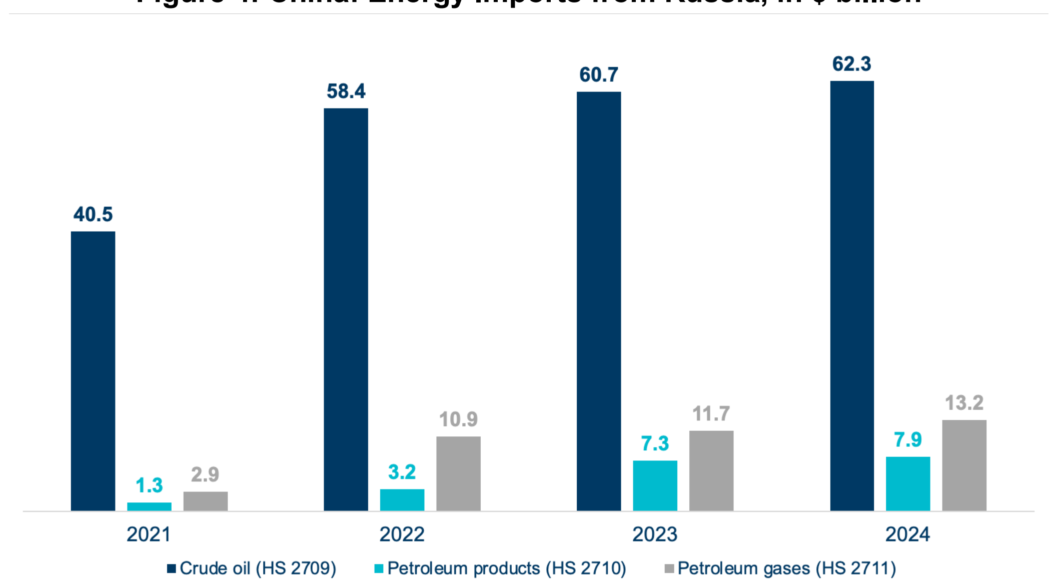
KSE Institute, "Energy sanctions impact summary", July 2024, see here;
Kilian, Lutz, et al. The Impact of the 2022 Oil Embargo and Price Cap on Russian Oil Prices. Federal Reserve Bank of Dallas, Jan. 2025, URL.

Figure 3: Russia: Oil Exports by Destination, in mbd



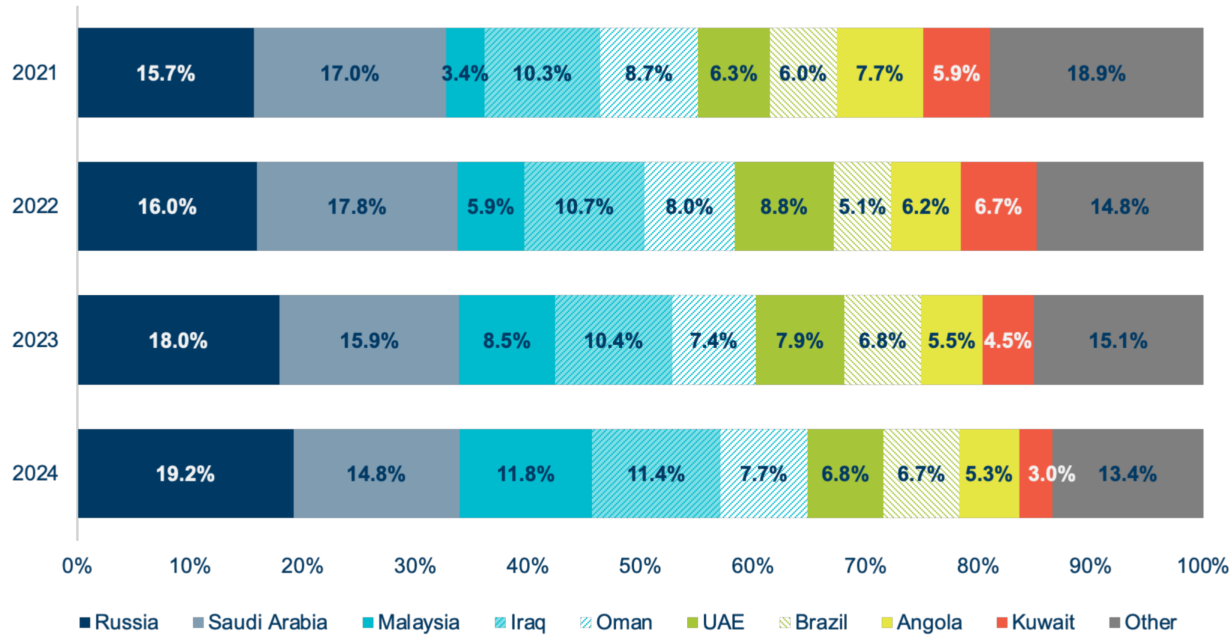
Source: International Energy Agency, KSE Institute

Figure 4: China: Energy Imports from Russia, in $ billion



Source: International Trade Centre (ITC) Trade Map (ITC calculations based on General Customs Administration of China statistics), KSE Institute

Figure 5: China: Top Suppliers of Crude Oil (HS 2709), in $ billion



Source: International Trade Centre (ITC) Trade Map (ITC calculations based on General Customs Administration of China statistics), KSE Institute

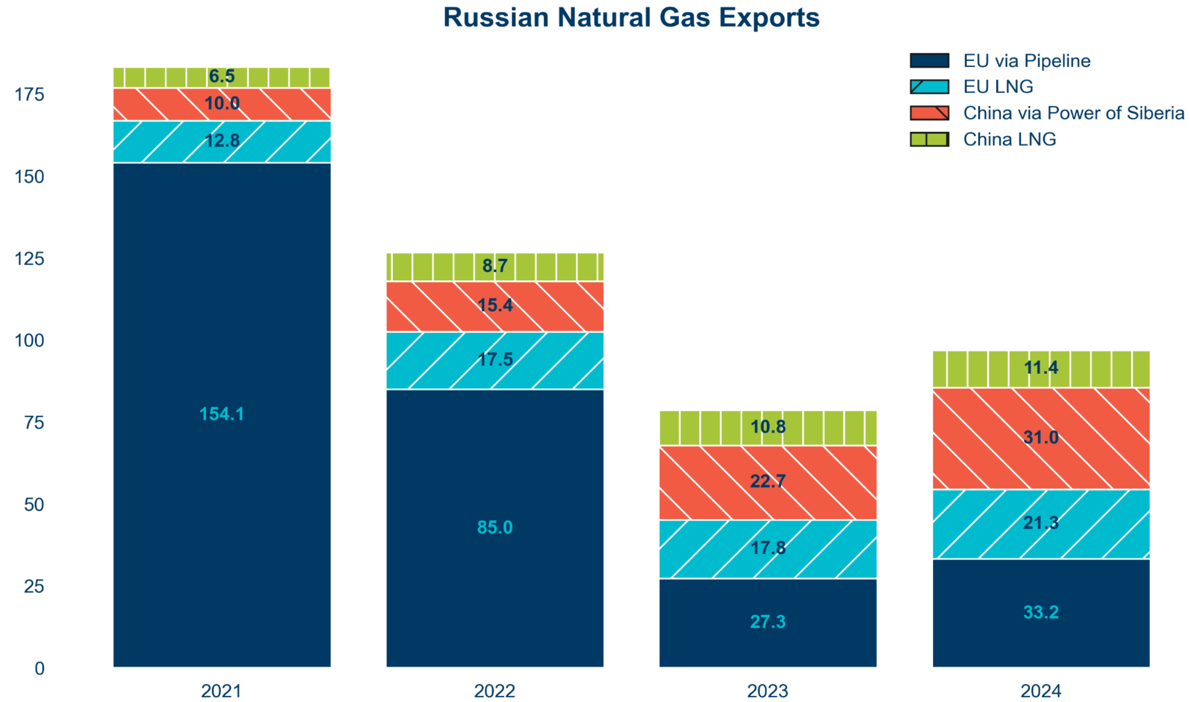
Unlike oil, redirecting natural gas exports from Europe to Asia has been more complex due to the reliance on pipelines for gas trade–and absence of sufficient such infrastructure. While Russia continues to export LNG globally, including to Europe, the increase in gas sales to China has not come close to replacing the volumes lost from the European market (Figure 6). As a result, Russia's gas sector is under significant pressure. Gazprom, once the crown jewel of Russia's state-owned companies, posted a staggering $7.3 billion[21] loss in 2023. Historically, Gazprom earned two-thirds of its profits from just one-third of its production, primarily exported to Europe.

From 2021 to 2023, EU imports of Russian natural gas dropped by 73% (or 122 billion cubic metres), driven by a collapse in pipeline flows (-82%, -127 bcm), while LNG deliveries increased (+39%, +5 bcm). Over the same period, exports to China more than doubled, but the difference in volume terms was only 17 bcm. In 2024, exports to the EU increased by 21% vs. 2023 (or 9.4 bcm), largely in the form of LNG, and to China by 27% (or 8.9 bcm).

However, as far as China is concerned, a further increase is unlikely due to limited capacity of the existing infrastructure and total exports to Europe and China are still 47% lower than in 2021. What is more, with the end of transit through Ukraine, roughly half of the pipeline gas exports to Europe will disappear in 2025 and the EU is considering a quicker phaseout of Russian LNG. Any talks from Russia about building new, eastward-flowing pipelines (e.g., Power of Siberia 2) to replace its lost European customers so far appear to be empty political declarations and would take many years to become a reality in any case.

[21] Seddon, Max, and Anastasia Stognei. "Gazprom Plunges to Worst Loss in Decades as Sales to Europe Collapse." Financial Times, 2 May 2024, URL.

Figure 6: Russia: Natural Gas Exports, in billion cubic meters (bcm)



Source: Bruegel, Eurostat, S&P Global, KSE Institute

China has so far refused to invest in expanding pipeline capacity (e.g., Power of Siberia 2) despite the already significant discounts on Russian gas, demanding prices similar to domestic gas prices in Russia. According to the Russian government's forecast, the price of gas for China will be $261 per thousand cubic meters in 2025, $247 in 2026, and $235 in 2027, which represents discounts of 23%, 25%, and 29%, respectively, compared to other foreign buyers.[22] This is significantly lower than the current European price of above $500 per thousand cm. Importantly, domestic gas prices in Russia are heavily subsidized and gas producers have traditionally lost money in this market segment, which they offset with earnings from highly-profitable exports. What China is demanding here is, thus, something which would be extremely difficult for Russia to accept.

Russia's Imports from China

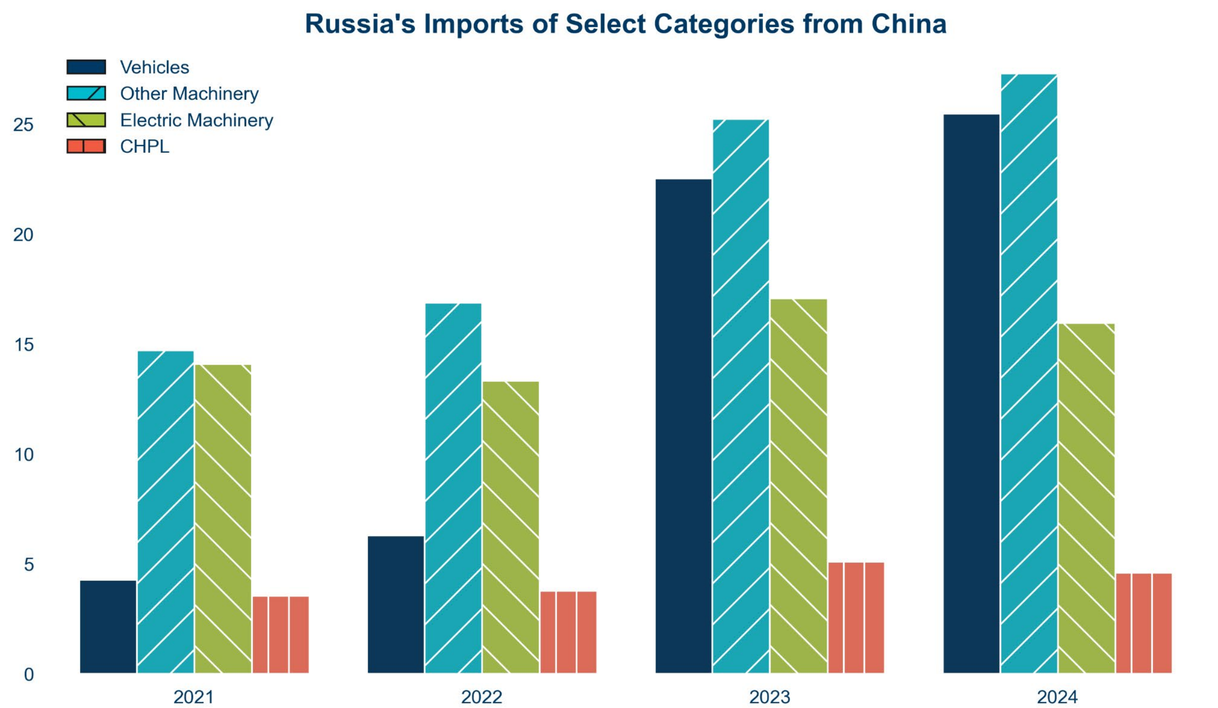
Russia's imports from China are diverse and technologically advanced, reaching $115 billion in 2024, led by machinery, electronics, and vehicles (see Figure 7). While these imports have served as a crucial lifeline for Moscow in the face of its increasing isolation from the West, the trade flows are far less meaningful for China. Russia, on the other hand, is running significant risk by accepting any one country, in this case China, as the sole dominant supplier of industrial equipment and machinery, as well as cars.

Some of the categories have seen dramatic increases since the start of Russia's full-scale invasion of Ukraine and imposition of sanctions on the export of goods to the country. For instance, in value terms, Chinese car exports to Russia increased by a cumulative 495% between

[22] "The Russian Budget Includes a 30 Percent Discount on Gas for China." Moscow Times (Russian Service), 12 Sept. 2024, URL [ru].

2021 and 2024 (from $4.3 billion to $25.5 billion) with the largest increase taking place in 2023. For other machinery, the increase is smaller, both in percentage as well as absolute terms, but still significant. Between 2021 and 2024, Chinese exports of these items to Russia increased by 86% (from $14.7 billion to $27.3 billion). China's role with regard to Russian imports of common-high priority list (CHPL) items is discussed in more detail below.

Figure 7: Russia: Composition of Imports from China, in $ billion



Source: International Trade Centre (ITC) Trade Map (ITC calculations based on General Customs Administration of China statistics)

Note: CHPL category calculated based on 8-digit HS codes; possible partial overlap with other categories.

China's Investment in Russia

Russia hoped that China would help revive some of the production facilities abandoned by Western companies. However, China seems more focused on exports to Russia rather than setting up or supporting local production. Additionally, China may be concerned about the potential for technology transfer if it were to establish production facilities in Russia. Most of the announced investments totaling $200 billion for now only exist on paper.

China's foreign direct investment (FDI) in Russia totaled only $10.7 billion in 2023, representing a small fraction (0.4%) of China's overall outward FDI of $2.96 trillion (Figure 8), which has primarily been directed toward the West. In terms of FDI stocks, both Germany and France still report holding nearly twice the amount of foreign direct investment in Russia as China did in 2023. Even with the tightening of sanctions or the potential confiscation of Western corporate assets by the Kremlin, Chinese investment in Russia remains significantly smaller compared to that of the West (see Figure 9). It is important to emphasize that companies from the sanctions coalition face serious challenges when attempting to pull out their investments from Russia, including potential expropriation. Specifically, Russian discriminatory legislation targets the United States and its allies that are defined as “unfriendly states” by law in Russia[23]. Restrictive measures imposed on companies associated with “unfriendly states” span from capital controls[24] to “suspension” of shareholders’ rights[25]. In order to divest from Russia, Western companies are required to receive permission either from the specialized governmental commission[26] or from Putin himself[27], sell their business with at least a 60% discount, and pay a mandatory fee to the Russian federal budget amounting to 35% of the of the market value of the assets[28]. Notably, the regulatory framework applicable to Western businesses has been deteriorating progressively from the start of the full-scale invasion, therefore companies that made a decision to divest from Russia early on were able to exit on less expropriatory terms[29].

[23] Governmental Decree No.430-p of March 5, 2022 approving the list of “unfriendly” states, see here. The list of unfriendly jurisdictions includes more than 50 states and territories, including the United States, all EU member states, Ukraine, the United Kingdom (including all British Overseas Territories and Crown Dependencies), Australia, Canada, Norway and Switzerland.

[24] On March 1, 2022 Central Bank of Russia circulated a letter establishing a ban on all bank transfers abroad from bank accounts of individuals and legal entities from “unfriendly” states, see here. Decision of the Board of Directors of Bank of Russia of June 24, 2022, on establishing regime of type “C” bank accounts, effectively blocking any FX payments abroad by entities associated with unfriendly states, see here.

[25]Federal Law No. 470-ФЗ of September 4, 2023 “On Certain Aspects of Regulating Corporate Relations in Business Entities that are Economically Significant Organizations”, see here.

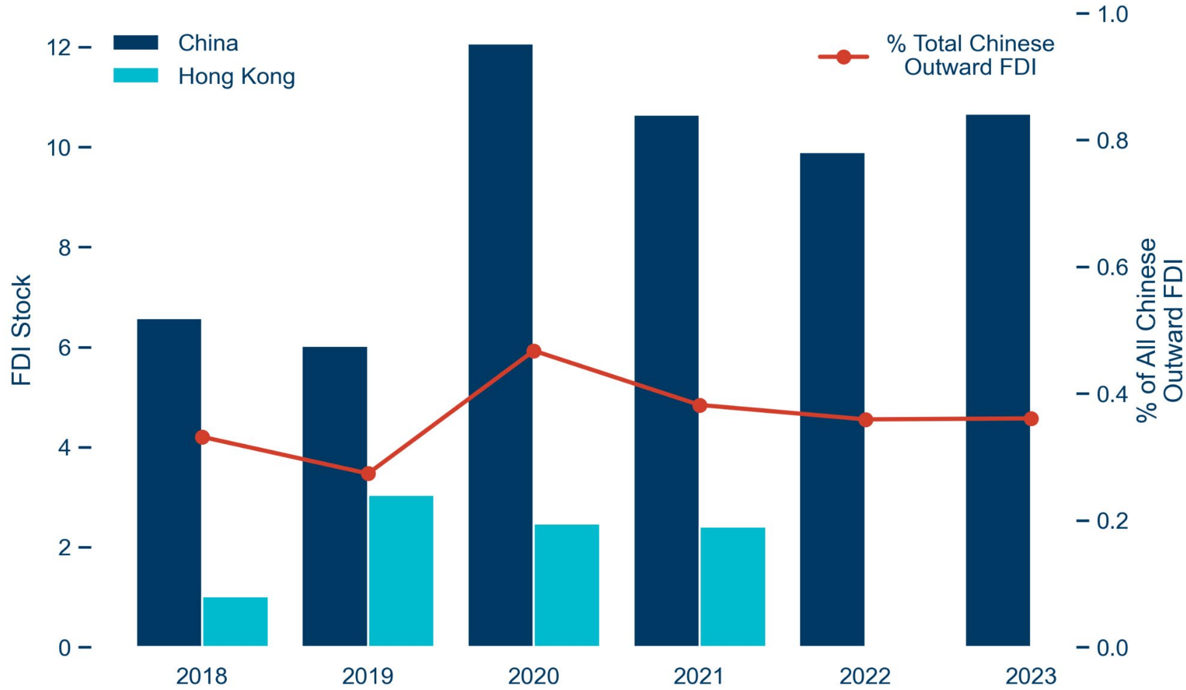
[26]Presidential Decree No.618 of September 8, 2022 “On a Special Procedure For The Implementation (Execution) Of Certain Types Of Transactions Between Certain Persons”, see here.

[27] Presidential Decree No. 520 of August 5, 2022 "On Application of Special Economic Measures in Financial and Fuel and Energy Sectors in Connection with Unfriendly Actions of Certain Foreign States and International Organizations", see here.

[28] Extract from the minutes of the meeting of the subcommittee of the Government Commission for control of foreign investments in the Russian Federation dated October 15, 2024 N 268/1, see here.

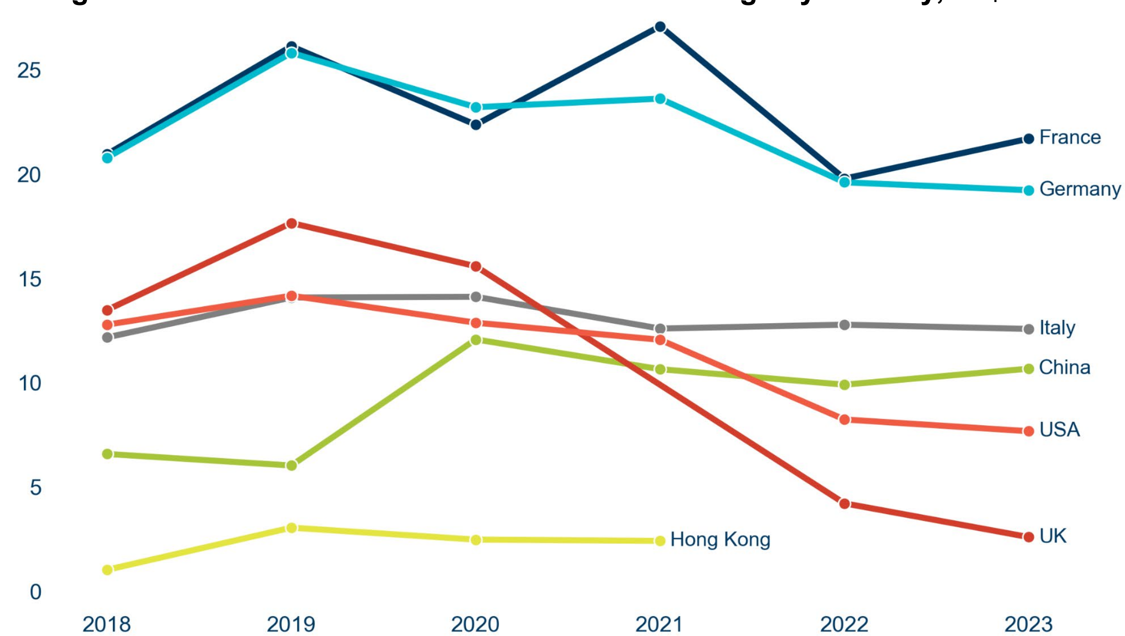
[29] For more details and discussion of options available to Western investors in Russia please see “The Business of Leaving: How Multinationals Can Responsibly Exit Russia” here.

Figure 8: China: Outward Direct Investment Holdings, in $ billion



Source: IMF CDIS, KSE Institute

Figure 9: Russia: Inward Direct Investment Holdings by Country, in $ billion



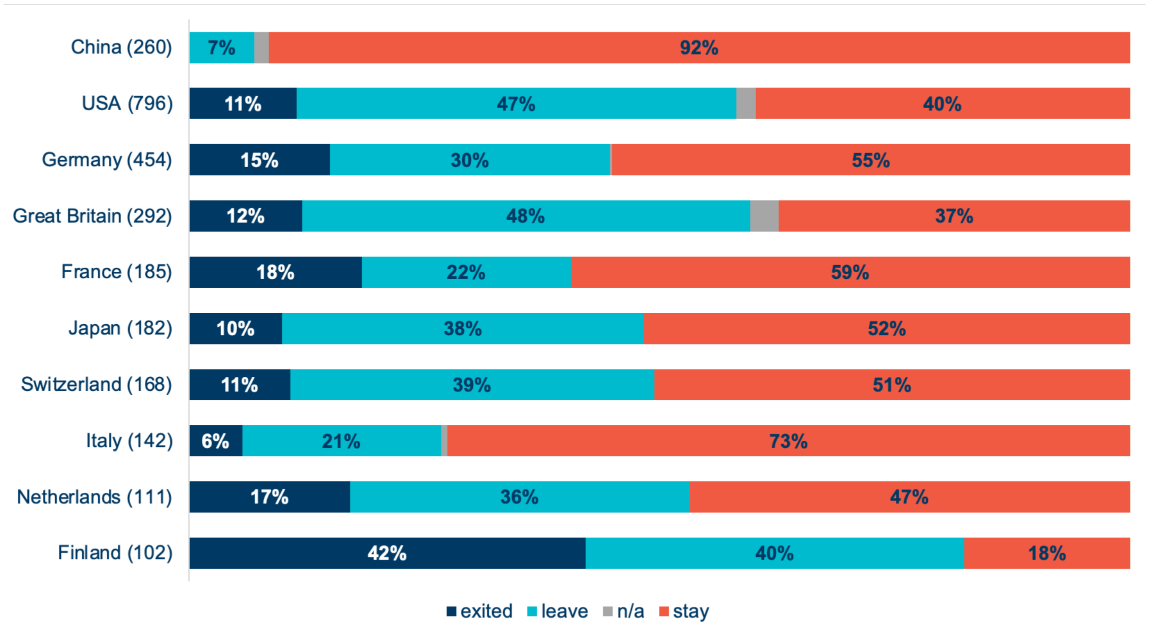
Source: IMF CDIS
Note: All values reported by partner countries except for Hong Kong. Excludes tax havens, including Cyprus, the Netherlands, and Switzerland.

A small group of oligarchs around Putin with business interests in the oil and gas sectors, as well as the military-industrial complex appear to have benefited the most from Russia-China cooperation in terms of investment.[30] Even here, Chinese companies have so far remained restrained since 2022. This cautious approach is largely due to fears of triggering further sanctions, as well as the lack of necessary technological expertise and infrastructure to fully replace the capabilities once provided by Western companies.

Chinese Companies in Russia

Not surprisingly, Chinese companies have overwhelmingly remained in the Russian market while many Western counterparts exited or are in the process of leaving (Figure 10). KSE Institute's "Leave-Russia" project tracks the status of more than 4,000 foreign companies that had operated in Russia before the full-scale invasion.[31] 92% of the 260 Chinese ones included in the database are assessed to be staying, while only 7% are exiting the market. Chinese companies are largely concentrated in the electronics, automotive, defense, finance, and energy sectors (Figure 11).

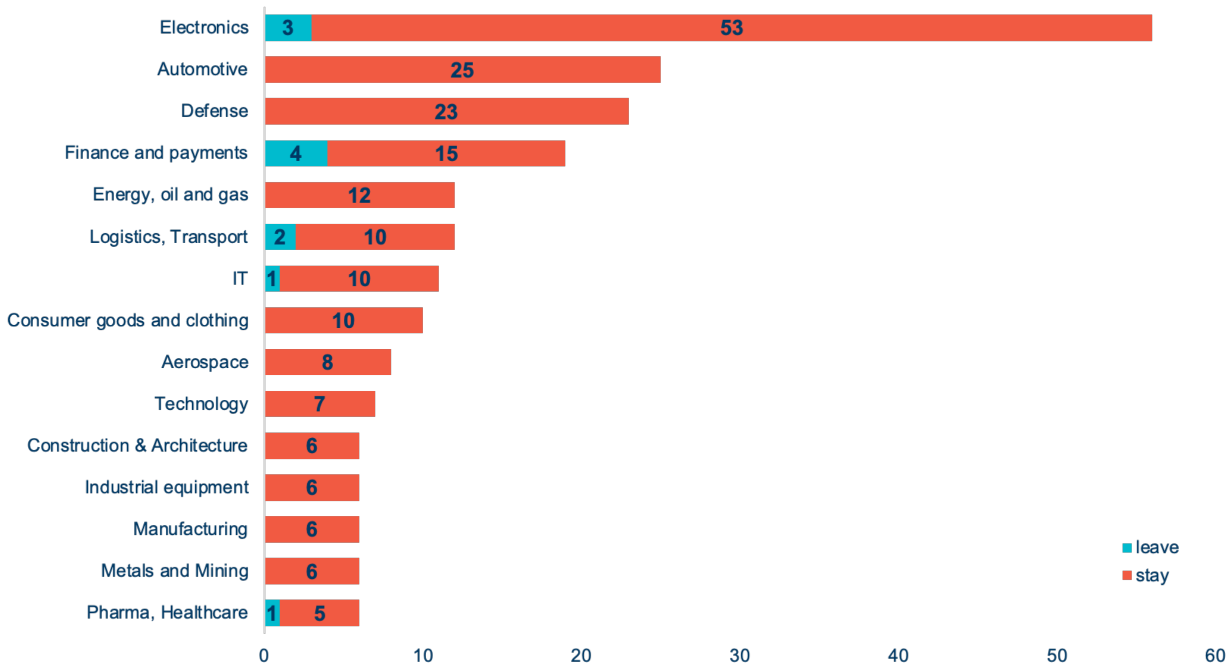
Figure 10: Russia: Status of Foreign Companies by Country



Source: KSE Institute "Leave-Russia"

[30] Kluge, Janis. Russia-China Economic Relations: Moscow's Road to Economic Dependence. SWP Research Paper 6, German Institute for International and Security Affairs, May 2024, URL.
[31] KSE Institute's "Leave-Russia" projects, see here.

Figure 11: Status of Chinese Companies in Russia by Sector



Source: KSE Institute "Leave-Russia"

Entities already present in the Russian market aside, the footprint of Chinese companies has gradually expanded, particularly in select industries. However, their ability to expand in Russia remains limited due to Russia's complex administrative framework, the absence of the rule of law, and the fear of potential future sanctions. Despite the lack of big investment projects (see above), it appears over the period from 2022 to mid-2024, over 2,400 companies from China have registered in Russia, bringing the total number of registered Chinese companies in Russian to 9,000.[32] However, over 90% of the newly registered companies plan to engage in wholesale or retail trade, including e-commerce (545 companies), wholesale trade in non-food consumer goods (529 companies), motor vehicles (438 companies) and machinery and equipment (222 companies) and warehousing and transportation (118 companies).[33]

[32] Russian-Chinese Investment Index: Q2 2024. National Coordination Center for International Business Cooperation, URL [ru]. The difference with the Leave Russia study is likely due to the accounting for small companies.
[33] "Experts Named the Most Popular Industries for Chinese Business in Russia." OPORA Russia, 20 Aug. 2024, URL [ru].

III. How China Supports Russia's War in Ukraine

A. Financing and Macroeconomic Stability

As mentioned above, China is one of the key buyers of Russian oil and gas–and, thus, an important provider of critically-needed balance of payments inflows. For a country with substantial capital outflows, as well as service and income deficits, earnings from goods exports, especially oil and gas are essential. In 2024, these accounted for an estimated $241 billion–or 58% of total goods exports–and China was responsible for $83 billion (35% of Russia's oil and gas exports and 20% of Russia's total goods exports). It therefore provides an important lifeline to Russia and provides support to its macroeconomic stability. Without Chinese purchases of Russian oil and gas, the country would face a dramatically smaller trade surplus, additional significant depreciation pressure on the ruble, and even higher inflation.

While Russian budget revenues from oil and gas are largely generated through extraction taxes, very limited storage capacities mean that lower exports would directly affect production. In 2024, oil and gas revenues accounted for 11.1 trillion rubles (30% of total budget revenues and roughly $125 billion). The complexity of Russia's oil and gas tax regime makes it difficult to estimate China's exact contribution to the total, but, under the simplified assumption that budget revenues are proportional to export earnings, the number is likely significant, possibly around ~4 trillion rubles (or $43 billion). Compared with Russia's war spending of (an estimated) $130 billion in 2024[34], it is clear that the continuation of its war of aggression against Ukraine is heavily dependent on China as far as finances are concerned.

B. Russia's Military-Industrial Complex

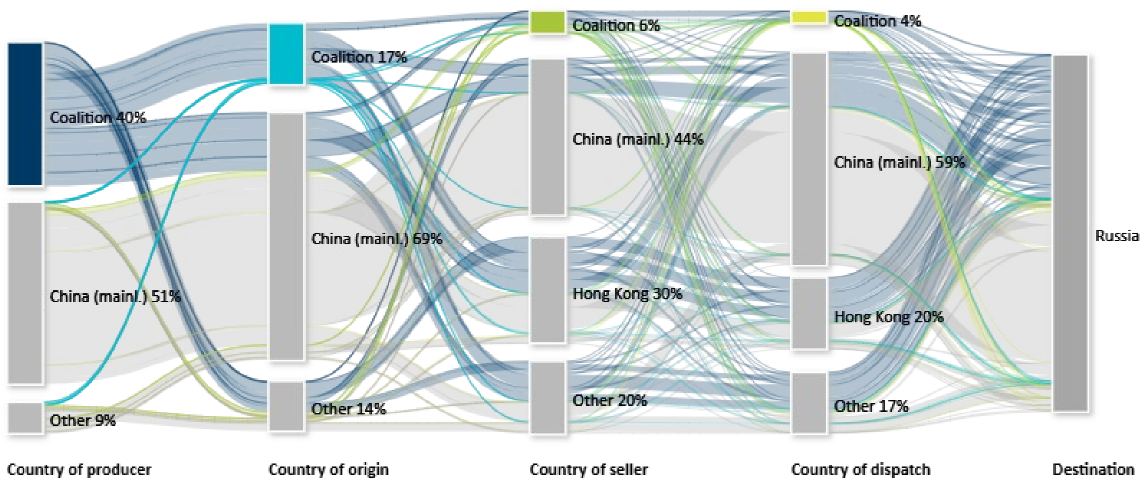
Not only Russia's economy as a whole, but in particular its military-industrial complex, has become critically dependent on China in the past three years. After sanctions severely limited Russian direct access to Western components, Russia was left with practically a single source for all its high-tech components: China. Prior to its full-scale invasion of Ukraine, Russia heavily relied on Europe in terms of its supply chains of critically important technology. Since early 2022, though, it has been forced to pivot its supply chains away from Europe and towards China. Thus, even without apparently providing lethal aid, China has served as the chief enabler of Russia's aggression. When we analyze all imports of CHPL items that eventually made their way to Russia in 2023, 90% of them in value terms were in some way facilitated by China. For all summary statistics presented here, mainland China and Hong Kong are counted together.

China's facilitation of Russian export controls evasion occurs primarily in one of three ways. *First*, items can be made by Chinese companies in China–these deliveries are the least accessible for export control enforcement by the sanctions coalition. In 2023, this accounted for just under half (49%) of all Russian imports of CHPL item imports. Second, items can be delivered to Russia via transshipment–these are items manufactured outside of China by Western companies that are then shipped or sold from China. This category accounted for 18% of CHPL imports in 2023. Third, items can be manufactured by Western companies in Chinese factories. This offshore production accounted for 16% of CHPL imports in 2023.

[34] Luzin, Pavel. "Russia's Year of Truth: The Runaway Military Budget." CEPA: Europe's Edge, 22 Jan. 2025, URL.

The purchases of goods in these manners, while necessary for an import-dependent economy under heavy sanctions, come with significant costs in terms of the quality of Chinese substitutes, significant delays of financial transactions and deliveries, as well as high mark ups due to intermediaries asking for compensation for their risks. Figure 12 visualizes the paths that CHPL items took to reach Russia in 2023, highlighting the goods that circumvented or violated the sanctions coalition's export controls regime in the process (42% of all CHPL imports).

Figure 12: Supply Chains of CHPL Items Imported by Russia in 2023[35]



Source: KSE Institute

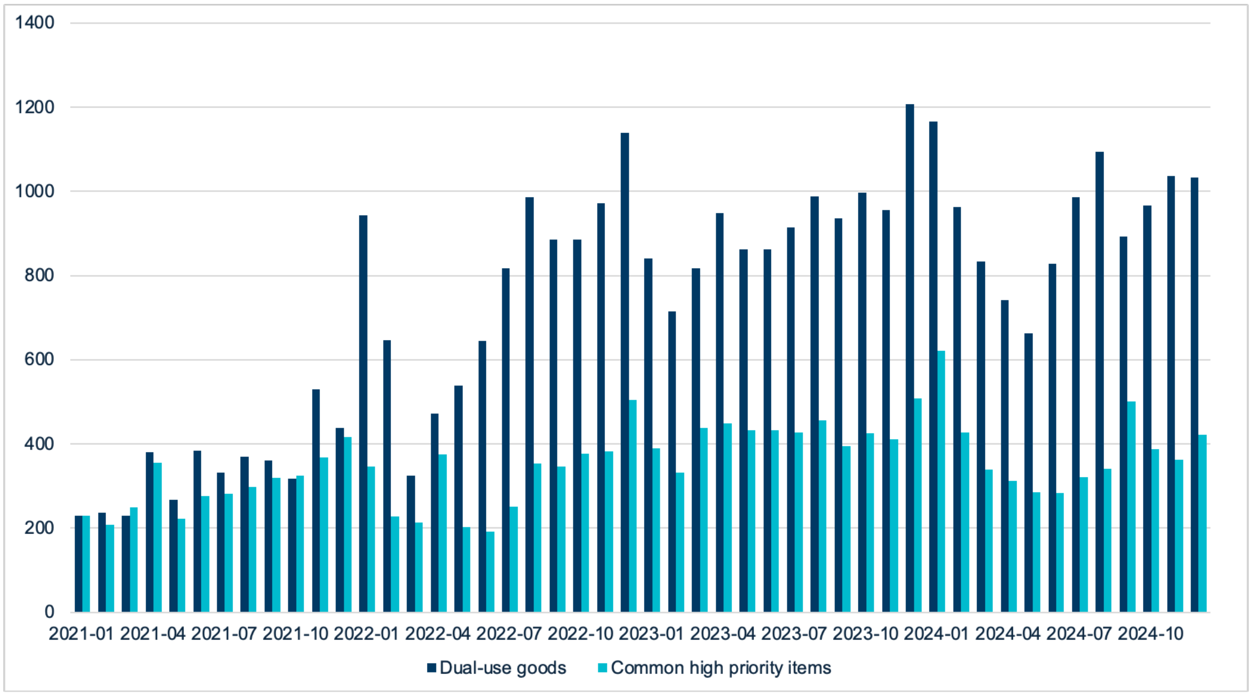
Country of producer = location of company ultimately responsible for the good; country of origin = location of manufacturing; Country of seller = location of final seller to Russia; country of dispatch = location from which final shipment to Russia was made.

Russia depends to a large extent on networks of unscrupulous distributors and companies that pose as end-users in third countries and then redirect the flow of goods to Russia. The fact that Western companies have not been compelled to invest in thorough due diligence processes makes it easier for these diversions to go unnoticed and under-reported to authorities. Countries such as China, the UAE, Turkey, Kazakhstan and other former-Soviet countries have benefited greatly from this trade diversion. For example, in 2022-23, Turkey emerged as one of the key exporters of chips to Russia, after China, despite not being a producer itself.

As a result of such circumvention efforts, Russia has been able to acquire considerable amounts of goods that are under export controls and/or identified by coalition countries as priorities for their enforcement, so-called "common high-priority list" (CHPL) items, from China. Figure 13 shows overall import values for the two samples of goods and Figure 14 provides a further breakdown of CHPL items into specific categories, i.e., tiers.

[35] Chart shows all imports for which the full supply chain is known. This is the case for roughly 80% Russia's CHPL imports in 2023 ($10.0 billion of $12.5 billion).

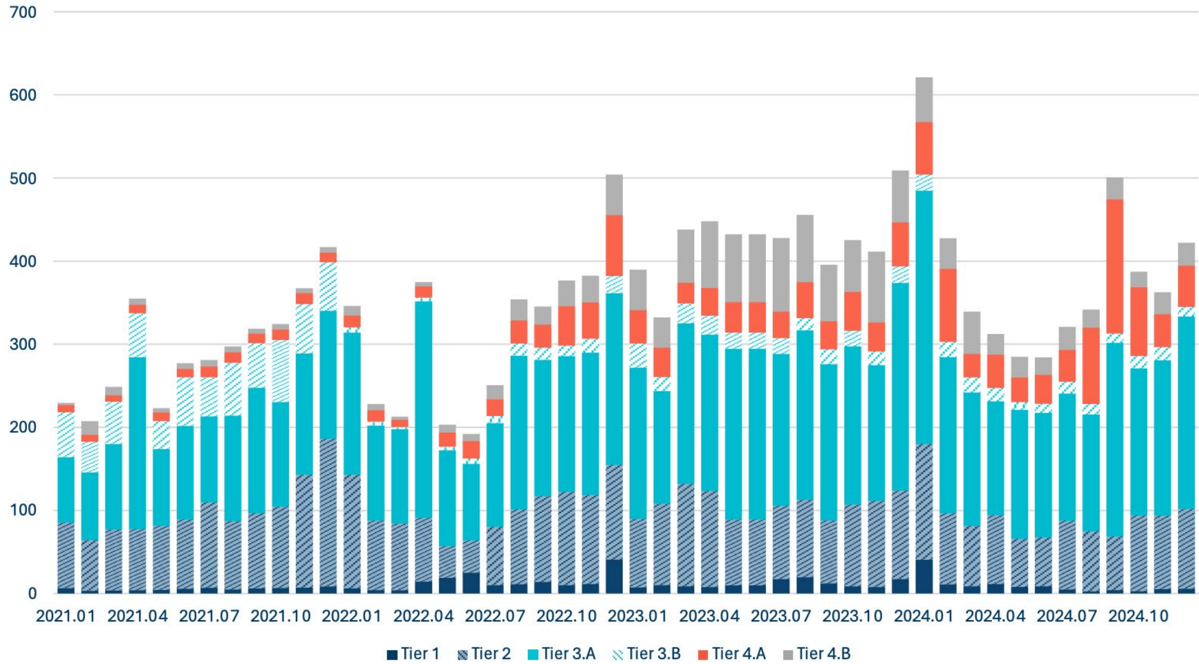
Figure 13: Chinese export of critical technology to Russia, in $ million



Source: International Trade Centre (ITC) Trade Map (ITC calculations based on General Customs Administration of China statistics), KSE Institute.

Note: The calculation of trade volumes for dual-use items is based on the list of goods, software, and technology that can be used for both civilian and military applications, as defined by the European Commission and regulated under Regulation (EU) 2021/821, in accordance with the Dual-Use Correlation Table. The Common High Priority Items (CHPI) List, jointly developed by the United States, the European Union, Japan, and the United Kingdom, comprises 50 goods identified by 6-digit Harmonized System (HS) Codes that are at high risk of being diverted to Russia due to their critical role in supporting its military and defense efforts.

Figure 14: Chinese exports of CHP items to Russia by tier, in $ million



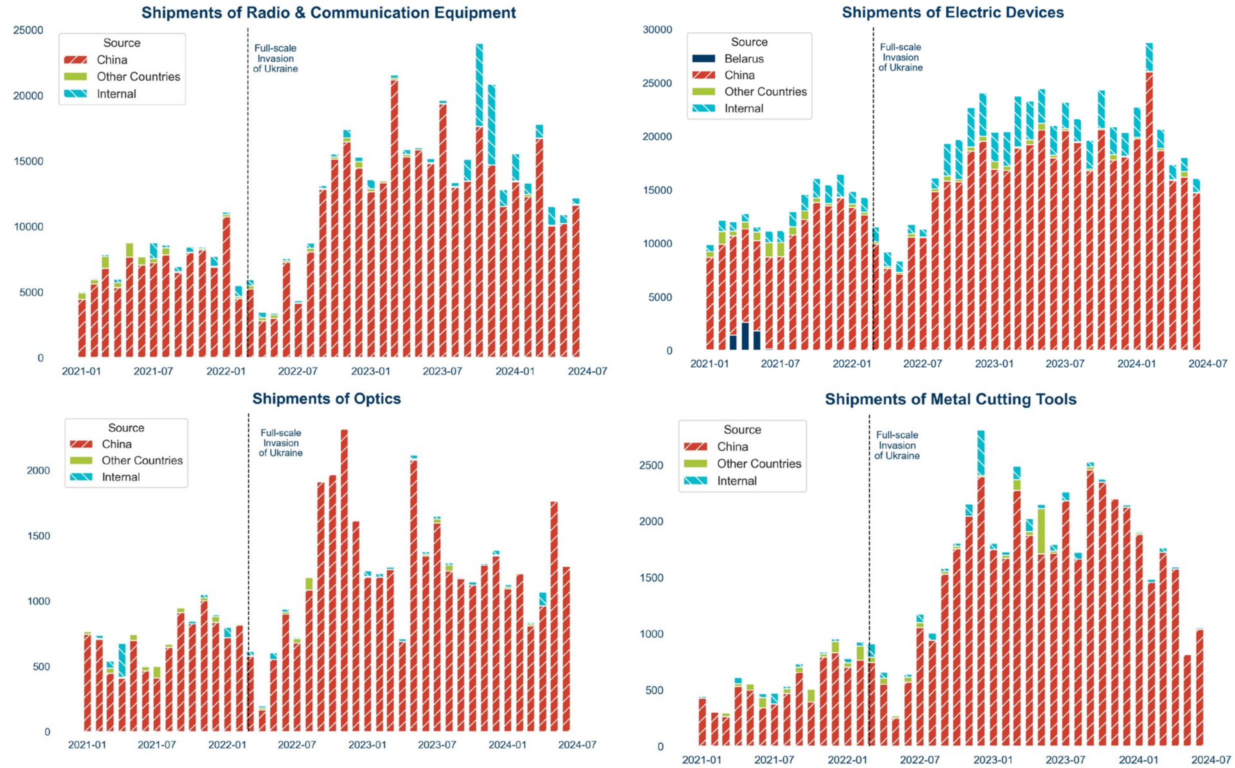
Source: International Trade Centre (ITC) Trade Map (ITC calculations based on General Customs Administration of China statistics), KSE Institute.

Note: Tier 1: Items of the highest concern due to their critical role in the production of advanced Russian precision-guided weapons systems, Russia's lack of domestic production, and limited global manufacturers. Tier 2: Additional electronics items for which Russia may have some domestic production capability but a preference to source from the United States and its partners and allies. Tier 3.A: Further electronic components used in Russian weapons systems, with a broader range of suppliers. Tier 3.B: Mechanical and other components utilized in Russian weapons systems. Tier 4.A: Manufacturing, production and quality testing equipment for electronic components, circuit boards and modules. Tier 4.B: Computer Numerically Controlled (CNC) machine tools and components.

Another way to assess Russia's dependence on China is to examine the cargo categories that are shipped within Russia. Several types of items used in the Russian defense industry are sourced almost entirely from China. As a general rule, the more technologically advanced the component, the more likely Russia relies on imports. After the imposition of stronger sanctions in February 2022, Russia's import dependence more accurately became a China dependence.

Consider, for example, dual use radio and communication equipment. Shipments from China far surpass all other sources–including domestic production–combined. When the Russian economy was put on a war footing in Q3 2022, Russian industry doubled their shipments of these goods from China (Figure 15). Electric devices, which include various electrical instruments and antennas, and optics exhibit a similar pattern. Optics, in particular, are a clear example of Russia's reliance on China for components that make their way to the battlefield.

Figure 15: Shipments within Russia, in metric tons



Source: KSE Institute

Russia depends on China for its high-precision manufacturing capabilities as well. Metal cutting tools–a category that includes Computer Numerical Control, or CNC, machines–are sourced almost exclusively from China. CNC machines are used extensively in the production of weapons systems and are a high priority for the West's export controls. While Russia previously relied upon Western CNC machines (often imported through Chinese distributors), its usage of Chinese CNC machines has increased since 2022 due to the limited availability of higher quality Western versions.

C. Alternatives to the US Dollar and Western Payments Systems

Financial sanctions restrict countries' ability to borrow, finance trade deficits, and invest internationally, limiting risk sharing and consumption smoothing. Payment system sanctions block the use of global financial infrastructure for transmitting and clearing payments essential for international trade. Countries that do not depend on international trade financing and export easily relocatable commodities, as is the case with Russia, are less affected by sanctions, especially if many third countries are not part of the sanctioning coalition. However, payment system sanctions can create significant barriers and disrupt trade with third countries.[36]

Since 2014, Russia has developed alternative systems in order to move away from the US dollar and other "unfriendly currencies, created an alternative messaging system to SWIFT for domestic

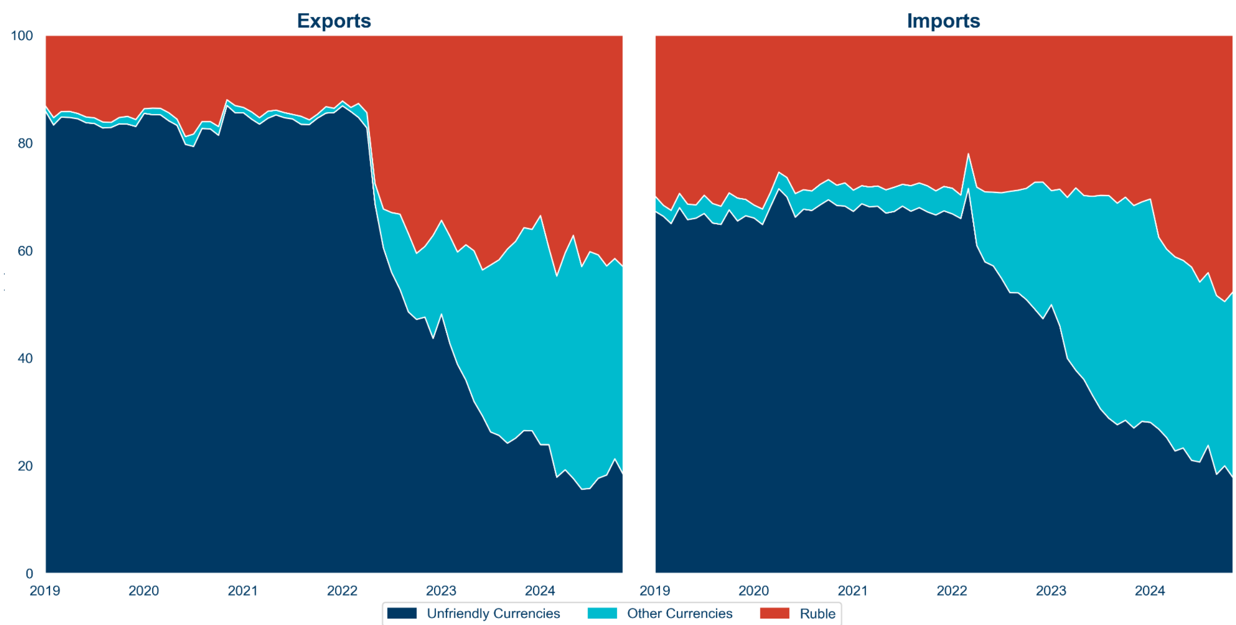
[36] Itskhoki, Oleg, and Elina Ribakova. The Economics of Sanctions: From Theory into Practice. Brookings Institute, 2024, URL.

and, ideally, international payments, increased the use of domestic payments systems for transactions, and develop domestic cards alternatives to VISA and Mastercard.

Increasing Yuanization of the Russian Financial System

Due to sanctions, including the most recent ones targeting the Moscow Exchange (MOEX), Russia has become heavily reliant on the yuan/renminbi for both trade and foreign exchange reserves. This dependence makes Russia's financial markets and economy vulnerable to fluctuations in China's exchange rate. As far as goods exports are concerned, the share of currencies from countries not deemed "unfriendly" to Russia grew from 0.9% in January 2022 to 38.6% in December 2024 (Figure 16). From other Bank of Russia reports, it is known that this segment is almost exclusively settled in yuan.[37] Over the same period, the ruble's share rose from 12.2% to 43.0% while the share of currencies from "unfriendly" countries–essentially USD and EUR–fell from 86.9% to 18.4%. For Russian imports, the corresponding changes are from 4.8% to 34.6% (for currencies of non-"unfriendly" countries, i.e., yuan), 28.4% to 47.6% (for ruble), and 66.8% to 17.8% (for currencies of "unfriendly" countries). According to Russia, almost 90% of the trade between Russia and China is now settled in yuan or ruble.[38]

Figure 16: Russia: Currency composition of external trade, in %



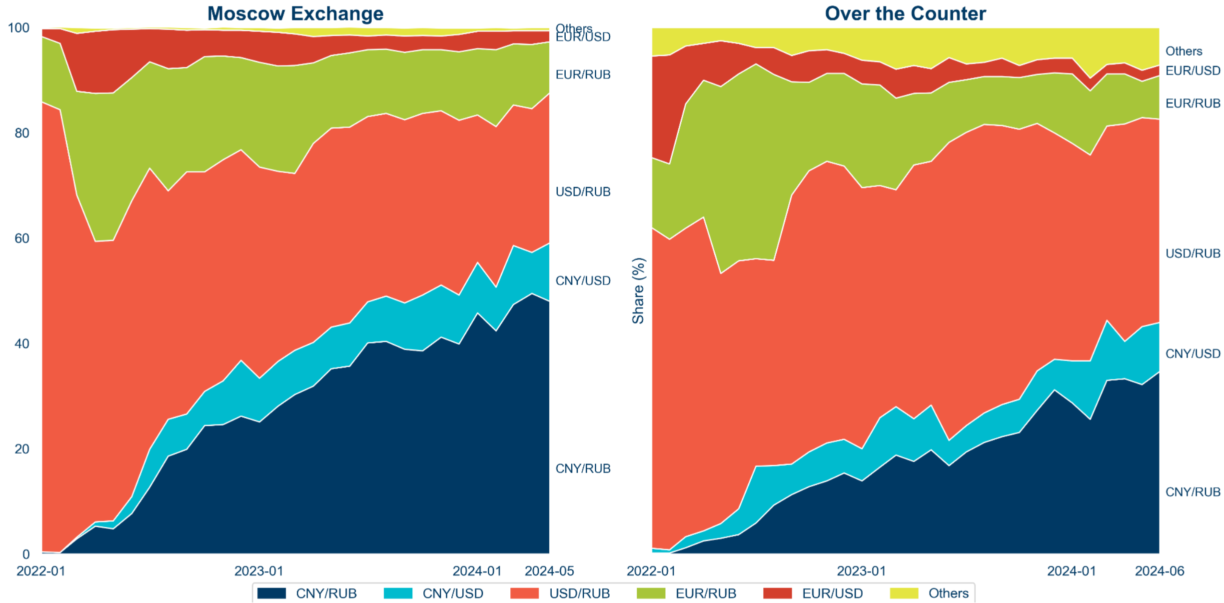
Source: Bank of Russia

These developments are also reflected in the currency pairs most often traded at the Moscow Exchange with the RUB/CNY share increasing from 0.4% in January 2022 to 49.5% in April 2024. Yuan-related transactions overall rose from 0.4% to 57.3% (Figure 17)[39]. After sanctions were imposed on MOEX in mid-June 2024, they reached above 99%. Outside of MOEX, the dynamics are significantly different, with the RUB/CNY share increasing from 0.2% in January 2022 to

[37] Overview of Financial Markets Risks. Central Bank of Russia, Feb. 2024, URL [ru].
[38] "Putin Says Russia-China Mutual Investment Policies Effective." Xinhua News Agency, 4 Dec. 2024, URL.
[39] The Central Bank of Russia has since ceased publishing some of the statistics in Figure 17.

34.7% in June 2024 and the share of CNY-related transactions overall from 1.2% to 45.2%. Sanctions by the US and UK clearly pushed trading in hard currency over the counter.

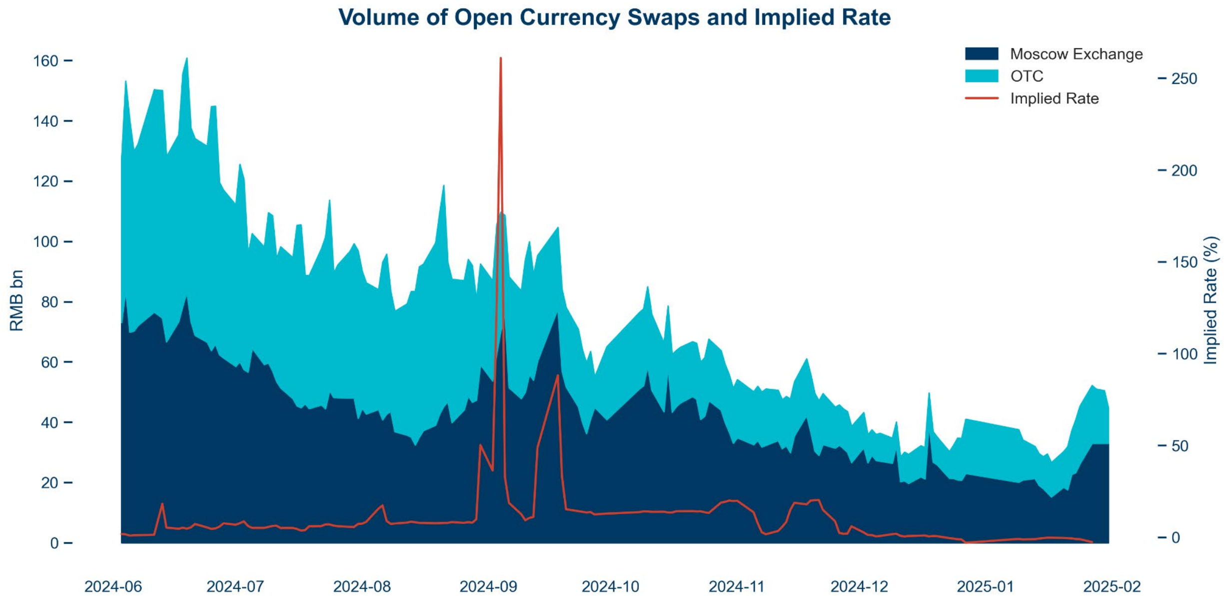
Figure 17: Russia: Composition of currency trade, in %



Source: Bank of Russia

Increasing reliance on yuan in the Russian economy (i.e., Yuanization) creates new challenges, however. A look at open swap positions within MOEX and outside shows that, during stress episodes, including those triggered by additional sanctions, yuan shortages emerge and, in turn, the cost of borrowing in yuan increases dramatically (Figure 18). The Bank of Russia can provide temporary liquidity support, but can not provide permanent funding to banks. There are also more fundamental questions about the reliable supply of a foreign currency that now plays such an important role for the Russian economy. The threat of sanctions and capital controls in China makes it difficult to arbitrage the renminbi between China and Russia.

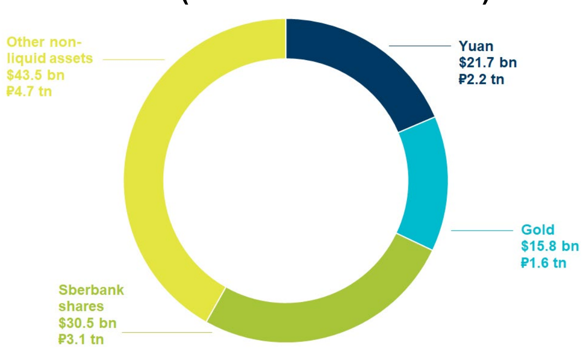
Figure 18: Russia: Access to Yuan



Source: Bank of Russia

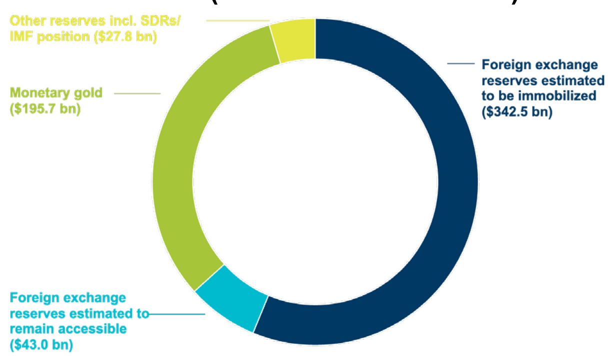
It is worth noting that yuan-denominated assets are also increasingly important for Russia's macroeconomic buffers–its sovereign wealth fund (National Welfare Fund or NWF) as well as other reserves. As of December 2024, the liquid portion of the NWF consisted of 2.2 trillion rubles in yuan assets (or $21.7 billion) and 1.6 trillion rubles (or $15.8 billion) in gold, while all other assets, including those in euros, pound sterling, or yen were sold after February 2022 (Figure 19). For reserves overall, it is estimated that Russia has access to $43.0 billion foreign currency assets, likely largely yuan, $195.7 billion gold, and $27.8 billion other assets, while more than $340 billion in FX reserves are immobilized due to Western sanctions (Figure 20).

Figure 19: Russia: Composition of NWF assets (as of December 2024)



Source: Ministry of Finance, KSE Institute

Figure 20: Russia: Composition of reserve assets (as of December 2024)



Source: Bank of Russia, KSE Institute

Alternative Payments Infrastructure

In response to the introduction of sanctions in 2014 and in anticipation of additional measures in the future, Russia began to create domestic wholesale and retail payments and messaging systems and has made substantial progress in this area. At the time, partially motivated by economic sovereignty concerns, Russia was embracing digitalization, including in finance, faster than other countries, and the implications of the pandemic have only accelerated this process. In 2014, the Bank of Russia (CBR) began to develop its own Financial Communications System (SPFS). While it is less flexible than existing international systems, SPFS could handle all domestic messaging traffic.

Despite progress in recent years, the systems' international connectivity remains limited, making it difficult to reduce dependence on non-Russian financial services providers. Due to SPFS's limited international reach, Russia has undertaken efforts to link it to China's national payments system (CNAPS for onshore use and CIPS for cross border transactions, even if CIPS still relies on SWIFT for its indirect participants, which are most, if not all foreign banks). Russia has also been discussing an alternative system with BRICs countries, albeit with limited success.

Russia has struggled to find alternatives to Visa and Mastercard for cross-border payments, with only a few countries accepting MIR cards,[40] Russia's alternative to Visa and Mastercard, which was launched in 2014 and is operated by the National Payment Card System Joint Stock Company (NSPK JSC), fearful of US sanctions. After Visa and Mastercard voluntarily withdrew from Russia, their credit cards continued to be used domestically, as all payments were routed through Russia's domestic payment infrastructure. However, individuals traveling outside of Russia with Visa or Mastercard issued by Russian banks could no longer use them. Russian banks began issuing MIR as well as UnionPay cards. However, similar to MIR cardholders, UnionPay cardholders have increasingly faced difficulties using them abroad, especially after Gazprom was targeted by US sanctions.[41]

Limits to China's Support

Despite trade between Russia and China being settled in national currencies—yuan and rubles—reaching 90%, this did not shield Russia from sanctions pressure. The December executive order by the US threatening secondary sanctions against foreign financial institutions involved in transactions related to export controlled goods likely contributed to a reduction in trade volume, with China's exports to Russia dropping by 16% in March 2024. Many Chinese financial institutions increased compliance checks, leading to longer clearing times and even returns on a wide range of HS codes, including industrial equipment, electronics, spare parts and components, microelectronics, and IT and telecommunications equipment.

This prompted Russian buyers to seek alternative methods for facilitating cross-border payments with China, even when not conducted in US dollars, but in national currencies.[42] Some of these methods include using Russian bank branches in China (such as VTB Bank), engaging in barter,

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[40] In Abkhazia, Belarus, Cuba, and South Ossetia. See: here [ru].
[41] "Gazprombank Warns of UnionPay Card Issues Abroad Following U.S. Sanctions." The Moscow Times, 22 Nov. 2024, URL.
[42] "The Hard Path of the Yuan: The Intricacies of Current Financial Logistics." East Russia, 9 Apr. 2024, URL [ru].

transactions via third countries, for instance in Central Asia,[43] working with smaller Chinese financial institutions specifically focused on transactions with Russian companies, similar to the Bank of Kunlun, which facilitated transactions for Iran.[44] Furthermore, Russian banks may try to access China's Cross-Border Interbank Payment System (CIPS) directly or indirectly. Russian analysts report that there are at least a few direct participants in CIPS that are based in Russia, and possibly 30 indirect members (the number of indirect members has increased from 1,288 in February 2022 to 1,413 in December 2024). Finally, the Bank of Russia recently approved the establishment of branches in Russia, a clear move to find the work-arounds sanctions, despite previously opposing foreign branches due to supervisory concerns.[45]

[43] "Russia Survived Sanctions by Exchanging the Dollar for the Yuan." ProFinance.Ru, 3 Jan. 2025, URL.
[44] OFAC, FAQ, see here.
[45] Central Bank of Russia, press-release, December 27, 2024, see here.

IV. Lessons Learned and Policy Recommendations

A. Lessons Learned

The Russia-China Relationship

China is a critical lifeline for Russia's macroeconomic stability and its ability to continue the war against Ukraine as well as the assault on the rules-based international order. Without Chinese purchases of Russian oil and gas, export earnings would drop sharply and sharply lower budget revenues would force Russia to spend less on the war or cut expenditures everywhere else. Without China providing critical technology–either made by Chinese companies or delivered to Russia in circumvention of Western export controls–Russia's military industry would not be able to maintain production levels of weapons needed for the war. Without Chinese help in setting up alternative financial interlinkages, Russia would struggle even more to move away from Western systems that are susceptible to sanctions.

The Russia-China relationship is symbiotic but asymmetrical–essential for Russia but only a "nice to have" for China, which exploits opportunities presented by Russia's weakness. For China, its "partnership" with Russia means access to somewhat cheaper energy and access to an attractive market for its consumer goods. However, China is not interested in becoming dependent on Russian oil and gas to a large extent, the Russian market pales in size to China's commercial linkages around the world, and China does not really invest in the future development of Russia. Western sanctions play a role for China's hesitancy. While China does not participate in the sanctions regime and, in fact, helps Russia to circumvent restrictions on a large scale, Chinese companies generally do not want to risk facing sanctions themselves as they would represent a threat to their broader economic interests.

Effectiveness of Sanctions

Sanctions are an important tool in the arsenal of economic statecraft, but they are not a magic wand for resolving geopolitical conflicts. While sanctions can be impactful, their success often hinges on the clarity of their objectives and the robustness of their enforcement.[46] Furthermore, sanctions are likely more effective when implemented decisively and comprehensively, rather than through a piecemeal approach, which allows the target country to adapt gradually. It is crucial to acknowledge that unrealistic or conflicting goals can undermine the effectiveness of sanctions, especially when enforcement is inadequate. This nuanced understanding highlights that sanctions are not inherently ineffective but must be tailored to achieve specific, attainable objectives to maximize their impact.

The sanctions imposed on Russia following its 2022 full-scale invasion as well as those imposed since 2014 provide important lessons in this regard. **On one hand, sanctions did impose substantial costs on Russia. However, their design, particularly in 2022—allowing energy exports to continue due to Russia's integration into global commodity markets and concerns about cost to the sender—limited their overall effectiveness.** Additionally, the timing of the sanctions, with a gradual rather than immediate imposition, and the leakages caused by insufficient enforcement and the lucrative nature of Russia's exports further diluted their impact.

[46] Itskhoki, Oleg, and Elina Ribakova. The Economics of Sanctions: From Theory into Practice. Brookings Institute, 2024, URL.

Finally, 2014 sanctions and the subsequent policy debate on the escalation ladder gave Russia a forewarning on what to prepare for next. Moreover, the scale of Russia's economy and its substantial share in global commodity markets made sanctions particularly challenging. Russia's size and economic leverage meant that sanctions resembled a decoupling process, which had more symmetrical impacts on both sides. This scenario suggests that smaller countries might experience more pronounced deterrent effects from similar sanctions, while larger, economically integrated nations might find ways to mitigate their impact.

The involvement of "black knights", nations like China, Turkey and UAE, which helped Russia find ways to circumvent the sanctions, demonstrates the complexity of maintaining a unified and effective sanctions regime. This emphasizes the tradeoff between open-ended sanctions, with vague terms and enforcement, versus sanctions with clear objectives, enforcement, and conditions for removal. The former may be effective to send a signal and contain future escalation of the conflict. Such sanctions may backfire in an all-out conflict, where clear structure of sanctions and firm commitment to enforce them with secondary sanctions on third countries become most effective.

B. Policy Recommendations

The analysis of the Russia sanctions regime and, in particular, China's role as a lifeline to Russia's economy and war effort leads to the following policy recommendations.

1. **Replace the current energy sanctions regime with an approach that is more costly to Russia while not creating positive effects for China through cheaper energy.** Any attempts to reduce Russian export earnings through prices rather than volumes will lead to positive externalities for those countries that still buy its oil and gas, including, most importantly, China. In 2024, the average export price for Russian oil was roughly $10/barrel lower than Brent, which is often used as a global reference point. While this is a much smaller discount than during H1 2023 when Western energy sanctions were most effective, it still means that Russia's clients pay less for their imports of its oil.

   For the US, Russia is a key competitor in the energy sector and Russia's oil and gas mean less market share and less attractive prices for American companies. President Trump's expressed intention to significantly increase US oil and gas production as well as exports faces a challenge as this would negatively impact prices on global markets and reduce incentives to produce for US companies. However, should higher production be accompanied by a reduction in Russian supplies to the global market, the US–and, potentially, its ally Saudi Arabia–would gain market share while maintaining attractive prices. Reducing Russian exports could be achieved by sanctioning its oil and gas–or specific companies or facilities. The extraterritorial reach of US sanctions would effectively force the buyers of Russian oil and gas, including China, to choose a side.

2. **Ensure that export controls on critical technology are effective in the Russia case as they are a test for broader restrictions on exports to China in the future.** Currently, it is China that helps Russia circumvent export controls and maintain access to technology critical for its war effort. But in the future it could easily be the other way around with Russia returning the favor and helping China acquire high-tech from the US. Furthermore, the circumvention strategies are fundamentally the same: intermediaries in third countries ensure that the goods in question continue to flow to certain destinations and conceal their

end use via complex supply chains and distribution networks. While this makes it very challenging for producers to control what happens to their products, export controls on Russia–and, by extension, on China–will not be effective without the buy-in from the private sector. It is simply impossible for authorities to follow millions of individual shipments around the world once they have left production facilities. Export controls compliance by all companies is also critical as it maintains a level playing field.[47] Otherwise, less scrupulous players, including in the US, will gain an unfair competitive advantage, which will distort incentives for everyone.

Aggressively go after Chinese players involved in the evasion and circumvention of Russia export controls, including producers, financial institutions, and intermediaries. Chinese entities are accumulating important experience with regard to working around technology sanctions–and are building up structures and networks for this purpose–that they will eventually employ to get around restrictions with regard to China itself. As instruments of the US's most important geopolitical competitor's interest, they should be targeted as much as possible as early as possible. Sanctioning of intermediaries (e.g., traders) is worthwhile–although it means engaging in somewhat of a cat-and-mouse-game–as it forces nefarious actors to repeatedly spend time and money on rebuilding their networks, which drives up the cost of acquisition quite significantly as has been shown with regard to Russian CHPL imports. In addition, it is a relatively low-cost strategy for those imposing the sanctions. The use of secondary sanctions–or, rather, the threat thereof–has the advantage that it does not require to identify specific targets. Instead, a vague threat is being issued and it is left to actors in third countries to determine how to comply with measures by the US. In the case of financial institutions and Russian CHPL imports, this has proven to be very effective but would also work for Chinese producers of specific goods. Ultimately, they would be forced to choose between certain business activities that the US opposes and their access to the US dollar, the US financial system, and the US market.

3. **Leverage the continued primacy of the Western financial system to effectively enforce sanctions and related measures around the world.** The experience from the Russia sanctions regime shows clearly that the extraterritorial nature of some US measures–i.e., the threat to disconnect those interacting with sanctioned entities from the US dollar and US financial system–remains an extremely powerful tool.[48] Such secondary sanctions had previously been very effective with regard to Iran as well as Nord Stream 2. And despite concerns over countries such as Russia and China moving away from Western currencies and Western financial infrastructure, this has proven to be harder than it looks at first glance. For instance, to insulate oneself from such US sanctions, it is not sufficient to conduct certain transactions in currencies other than the US dollar, but necessary to undertake no meaningful business in US dollars altogether. As long as part of an entity's business requires access to the US financial system, the US' leverage

[47] Senate Committee on Homeland Security and Governmental Affairs Permanent Subcommittee on Investigations, testimony by Elina Ribakova "The U.S. Technology Fueling Russia's War in Ukraine: How and Why", February 27, 2024, see here.
[48] Ribakova, Elina. "Our Experience with Russia Holds Lessons for Future Sanctions." Financial Times, 27 Feb. 2024, URL.

remains fully in place. Needless to say, countries such as China attempt to set up systems–e.g., banks–that can fully operate independent of the US financial system, but this is quite challenging to do at scale. Most internationally operating banks and non-financial companies cannot do business without links to the US.

With regard to the leveraging of the continued primacy of Western financial architecture, it is important to distinguish between different areas where attempts to establish alternative systems have had different levels of success–specifically, trade finance and the currency composition of exports and imports, financial messaging and payments systems, credit cards etc. In many cases, establishing such structures is much harder than political statements make it sound (e.g., a common BRICS currency or a BRICS payment system) and trigger hard-to-manage second-round effects.

V. Additional Analysis

The following reports are used in preparing this testimony and are listed here for the convenience of the Committee in its future work.

Disassembling the Russian War Machine: Key Players and Nodes (Forthcoming), KSE Institute

Bunzel, Theodore, and Elina Ribakova. "The Russian Economy Remains Putin's Greatest Weakness." Foreign Affairs, 9 Dec. 2024, https://www.foreignaffairs.com/russia/russian-economy-remains-putins-greatest-weakness.

Itskhoki, Oleg, and Elina Ribakova. The Economics of Sanctions: From Theory into Practice. Brookings Institute, 2024, https://www.brookings.edu/articles/the-economics-of-sanctions-from-theory-into-practice/.

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