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**Drifting East: Russia's Import Substitution
and Its Pivot to Asia**

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Abstract

In response to Western sanctions, Russia launched a policy of import substitution with the aim of safeguarding its economic and technological sovereignty. Over the last five years, the program of import substitution has failed to achieve full economic sovereignty. Due to the lack of domestic capabilities, poor inter-sectoral cooperation, and rent-seeking, progress on substitution was protracted and weighed down by uncompetitive prices and poor-quality products.

As a result, Russia adapted its approach. Moscow resorted to import diversification to non-Western markets and localization of foreign goods and technology—two strategies that have gradually replaced Russian-made import substitution. Russia’s pivot to Asia has proven to be crucial in buying time and alleviating external pressure. But the turn to the East has its own pitfalls and does not present a panacea to Western sanctions.

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Drifting East: Russia's Import Substitution and Its Pivot to Asia

By Maria Shagina

► Introduction

Following Russia's annexation of Crimea and its military intervention in eastern Ukraine in 2014, the West introduced visa bans, asset freezes, and economic sanctions. The latter targeted the Russian economy's strategic sectors and aimed to deny access to securities, as well as certain technology and services, for Russian banks, energy, and defense firms. By imposing sanctions, the West aimed to increase the long-term costs for Russia and to effect a reversal of its Ukraine policy. The objectives of the Western measures were threefold: they aimed to coerce Moscow to change its behavior, to constrain its military escalation in eastern Ukraine, and to signal to Russia and the world that the violation of international norms would not be tolerated. In response to Western sanctions, Russia retaliated with its own countermeasures by imposing an agricultural ban on the states that joined the Western sanctions regime.

The prevailing narrative about Western sanctions and Russia's countermeasures commonly revolves around their effectiveness. Various studies have examined whether US and EU sanctions have worked and the impact they have had on Russia's economy and, vice versa, how Russia's counter-sanctions have affected the economic performance of the United States and the EU. Scholars are divided in their assessment of the economic effect of Western sanctions on Russia. Some argue that the Russian economy contracted largely due to the sharp drop in the oil price, whereas the effect of sanctions has been limited. Russia managed to adapt and re-shape its political economy, minimizing the economic pain inflicted by

sanctions.¹ Others posit that the cumulative effect of sanctions will be more discernible in the longer term, exposing vulnerabilities in the Russian economy.² No agreement exists on the political effect of sanctions either: some argue that sanctions triggered a "rally-around-the-flag" effect that worked in the Kremlin's favor, while others claim that sanctions have put an enormous strain on Russia's internal balance of power, fostering division among the country's political and economic elite.³

In contrast, this paper sets a different focus. Instead of directly addressing the effectiveness of sanctions, it examines Russia's response to Western sanctions and how Asian states have lessened their impact. As sanctions never operate in a vacuum, it is important to understand how targets react to external pressure, what type of policies they design to counteract the effect of sanctions, and what role third parties play in mitigating the sanctions burden.

This paper is divided into three sections. First, it will examine the vulnerability of the Russian economy and establish its dependence on foreign imports and technology before the imposition of sanctions. Second, it will analyze the policy of import substitution and de-dollarization and will assess its achievements. Third, it will evaluate the role of Asian states in supplanting Western capital and technology and the degree to which this has helped alleviate the impact of sanctions. Finally, the paper will draw conclusions on the effectiveness of sanctions and Russia's geopolitical re-orientations to the East.

► High Dependence on Western Goods and Technology

Before the imposition of sanctions, the Russian economy was highly dependent on foreign goods and services. Although the USSR had a longstanding reputation for being a scientific and technological powerhouse, the break-up of economic links in the aftermath of the Soviet collapse disrupted the full production cycle. R&D investment levels scored well below the OECD average, leaving the scientific-technological base chronically underfunded. Unable to adapt to market conditions, Russian R&D remained primarily in the remit of state-funded research institutions. The poor connections between R&D and businesses furthered a glaring technological lag. As a result, it was more cost-effective for the private sector to import necessary items from abroad than to launch domestic production from scratch. This rationale has disincentivized Russian businesses from investing in homegrown products for years.⁴

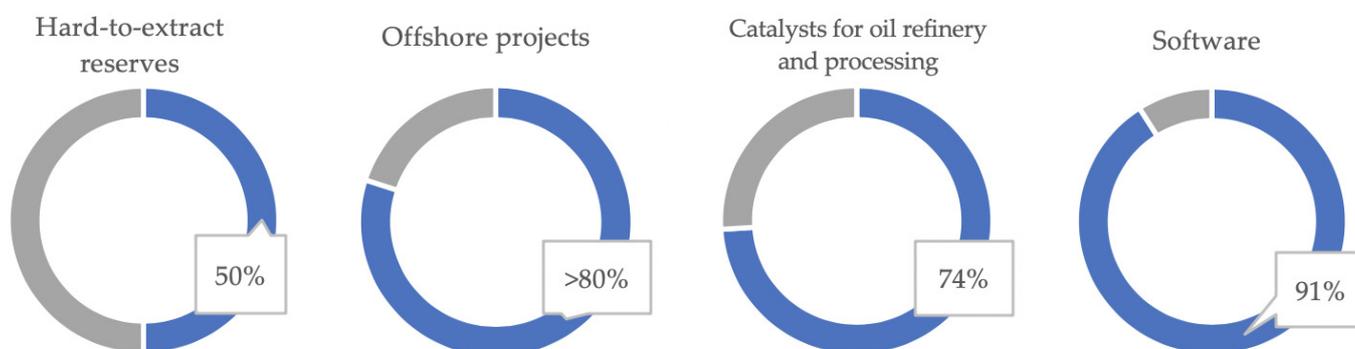
In the wake of the events of 2014, the West's "smart sanctions" managed to target Russia's key vulnerabilities—critical dependency on Western capital, advanced equipment, and technology. By imposing sectoral restrictions, the West succeeded in using

asymmetric network structures to its advantage in order to achieve its foreign policy objectives. This phenomenon has been described as weaponized interdependence—states can use control of particular nodes of the international economy to inflict pain on others.⁵ In the Russian context, Western states used their technological statecraft and control over supply value chains to exercise leverage over Russia's technological underdevelopment and financial uncertainty.

► Energy Sector

Russia's overall dependence on Western technology before the imposition of sanctions constituted 70 percent. Western oilfield service companies such as Schlumberger, Baker Hughes, and Halliburton provided over 50 percent of technologies for Russia's technically advanced projects.⁶ While the reliance on imported goods in conventional projects was low, the share of foreign equipment in unconventional projects was up to 80 percent. Dependency on foreign software was particularly high—over 90 percent. The domestic analogues of advanced equipment required for the exploration and production of hydrocarbons in the offshore, shale, and liquified natural gas (LNG) projects were largely absent (fig. 1).⁷

Figure 1. The share of foreign technology in the Russian oil and gas sector



Source: The Ministry of Energy of the Russian Federation, Ministry of Industry and Trade of the Russian Federation

As a result of technological sanctions, several projects were put on hold or postponed indefinitely: a joint project between Lukoil and Total for tight oil exploration on the Bazhenov formation; eight projects between Rosneft and ExxonMobil for tight oil production in West Siberia, geological research in the Black Sea, and an offshore oil project in the Sea of Okhotsk as well as test-drilling in the Kara Sea; and a joint project between Gazprom and Royal Dutch Shell for oil and gas production in the Sea of Okhotsk.⁸ Combined with low oil prices, exploration and production on the continental shelf looked too risky and less profitable. Given added financial constraints, Gazprom, Rosneft, and Novatek officially postponed their Arctic offshore and shale projects until 2030.⁹

Currently, Russian output growth is maintained by intense production drilling, currency devaluation, and generous tax breaks. In 2016–18, Russian oil output was at its highest in a decade, maintained by the increase of production drilling, performed largely in Western Siberia's brownfields.¹⁰ The currency devaluation decreased export costs for Russian energy producers and lowered prices for Russian manufacturers.¹¹ Low mineral extraction tax and export duties kept projects profitable even amid plunging oil prices. All of these measures cushioned the sanctions' impact and kept Russian energy companies afloat. In the long term, however, it will be more difficult to sustain Russia's current record-level oil and gas exports.¹² By 2030, energy sanctions are projected to have a compounding effect with negative consequences. With traditional oilfields depleting, Russia's ability to keep production volumes at their current level will be at risk, while access to greenfields will be more urgent. Significant capital investments and tertiary extraction technology such as enhanced oil recovery will remain key to sustain future production levels. Yet it is currently denied by the sanctions.¹³

► *Defense Sector*

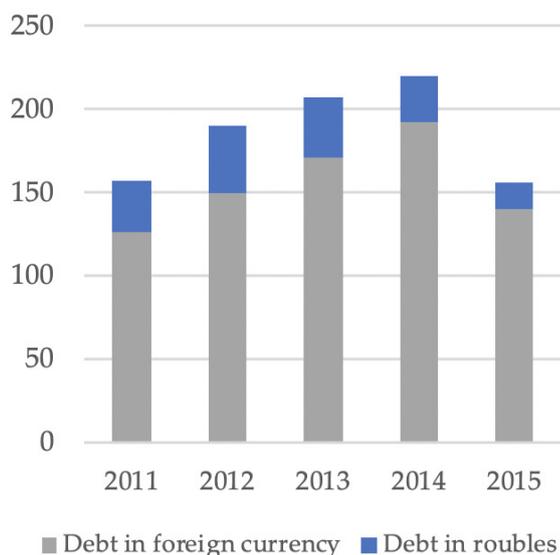
In 2010–14, in an attempt to modernize its defense industry, Russia sought to reduce its reliance on suppliers from the former Soviet republics and switched to Western technologies. As many Russian analogues were non-existent, cooperation between the Russian military and Western suppliers gradually deepened, exposing the industry's vulnerabilities. Although reliance on foreign capital and items was relatively limited in comparison with the energy sector, Russia's dependence on machine tools, advanced equipment, and ready-made platforms was critical. Before 2014, Russia reportedly imported some 860 different types of components from NATO countries and some seven hundred components from Ukraine.¹⁴ Dependence on foreign suppliers of dual-use goods was particularly pronounced, as it reached nearly 90 percent. Due to Western sanctions, foreign companies minimized their involvement in the Russian defense sector, including the cancellation of the delivery of two French Mistral helicopter carriers and of the building of a combat training center by German Rheinmetall.¹⁵

In 2014, the Ukrainian government issued a moratorium on arms sales and the supply of weapons and military equipment to Russia. Originally underestimated, the sanctions proved to be effective due to the critical share of Ukrainian defense manufacturing in the Russian military-industrial complex. According to the SIPRI Arms Transfers Database, in 2009–13, before the moratorium, up to 87 percent of Russia's imports of conventional arms systems, components, and subsystems came from Ukraine. In particular, Russian dependence on Ukrainian helicopter and aircraft engines and gas turbines was critically high. The Ukrainian sanctions affected more than three thousand parts and units for more than two hundred different Russian arms systems, leading to project delays in the production of Russian ballistic missiles, submarine cruisers, surface ships, helicopters, airplanes, and air fighters.¹⁷

► Finance Sector

Before sanctions were imposed, the Russian financial system was closely intertwined with global capital markets, while the Russian banking sector relied heavily on borrowing from the West and on the US dollar. Given the country's energy-driven export-oriented trade structure, nearly 80 percent of Russia's currency settlements were dominated by the greenback.¹⁸ In the wake of sanctions, Russian banks possessed large amounts of external debt in foreign currency (fig. 2).

Figure 2. External debt of Russian banks, million US\$



Source: Central Bank of Russia

The long-term borrowing restrictions for VTB (former VneshtorgBank), Rosselkhozbank, VEB (Vnesheconombank), and Sberbank affected their financial strategies and reduced their liquidity. In turn, the financial insecurity of Russia's systemic banks worsened the borrowing conditions for sanctioned Russian businesses. It is estimated that a sanctioned entity lost "about one-quarter of its operating revenue, over one-half of its asset value, and about one-third of its employees" in comparison with non-targeted companies.¹⁹ The state-owned defense corporation Rostec, for example, saw a drop in its net profit of 15 percent in 2015.²⁰ Among Russian energy majors, Novatek was particularly hit by the financial restric-

tions, as over 70 percent of its original financing for Yamal LNG came from American banks. The long-term restrictions on Western capital markets forced Russian companies either to abandon their investment plans or to look for alternative—but more expensive—sources of funding.

As a result of the aggravated economic situation, the Russian economy became less attractive to foreign investors. The business environment deteriorated, reducing foreign bank exposure and accelerating the capital outflow. In 2018, over \$67 billion flowed out of Russia—more than in any year since the annexation of Crimea.²¹

► Safeguarding Economic Sovereignty

In response to Western sanctions, Russia launched a policy of import substitution aimed at safeguarding its economic and technological sovereignty. The idea of import substitution predated the geopolitical rift between Russia and the West, but it was Western sanctions that encouraged the Russian government to launch an institutionalized and well-funded program. The geopolitical standoff gave the program a sense of urgency and mobilized the country to enhance its economic security. The program also covered sectors such as pharmaceuticals, agriculture, and the automobile industry that were not directly targeted by sectoral sanctions.

With the mounting tensions between Russia and the West, the import-substitution strategy was re-framed through security concerns. Import substitution was viewed as a way of shielding the state from external threats, including the "discriminatory measures" used by hostile foreign powers.²² Originally designed as a strategy for spurring economic growth and stimulating competitiveness, import substitution became a strategy for the "securitization" of the Russian economy, whereby Russia has framed its economic policies as being essential to the security of the state.²³ In line with the narrative of securitization, Russia's 2015 National Security Strategy called for increased domestic capabilities to reduce the

country's vulnerability and enhance its economic sovereignty.²⁴

Launched in 2015, the government commission on import substitution laid out an institutional framework for the replacement of over two thousand products and technologies across nineteen branches of the economy. The program did not seek to replace all foreign imports but solely those crucial ones that undermined Russia's technological sovereignty. It was projected that the program would help to reduce dependence on imports in the targeted sectors to 50–60 percent by 2020. The government's lofty ambitions were supported by equally generous state support, ranging from tax breaks and subsidized credit lines to favorable procurement. Since 2014, more than six hundred billion rubles have been allocated to the program. The Industrial Development Fund (IDF) was created to assist firms involved in import substitution and the localization of industrial projects by providing low-interest loans and tax incentives.

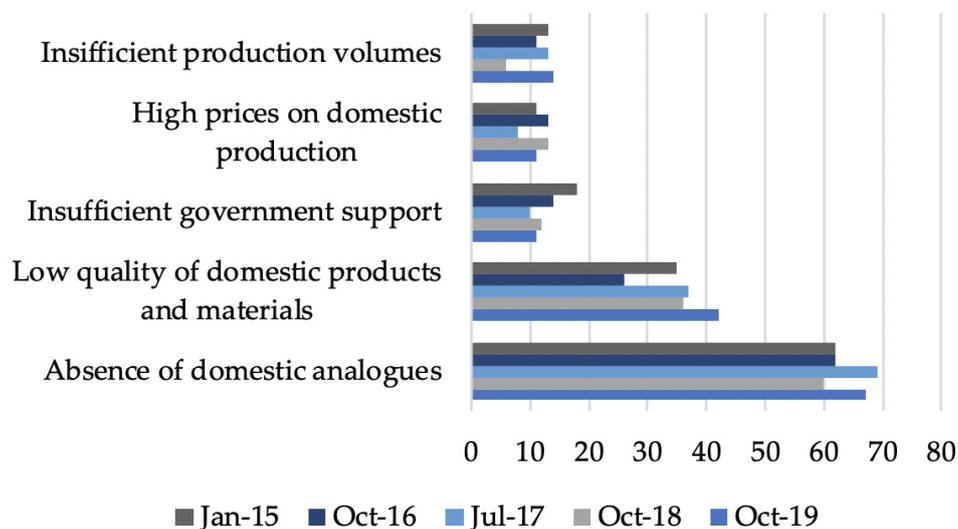
► Results of Import Substitution and De-dollarization

Despite the government's rhetoric about self-sufficiency, import substitution has only been partly successful. The development of homegrown technology

was mainly successful in the low-tech sector, such as the domestic production of pipes. In contrast, the substitution of high-tech items and advanced equipment has largely failed. Outlined in the style of the Soviet five-year plans, the program's timeline was overly optimistic, leading to many unfulfilled or postponed targets. The culmination of import substitution was reached in 2015 when Russian energy majors and defense companies managed to slightly reduce their share of imported goods. By 2019, however, the advancement of import substitution came to naught.

According to the latest monitoring by Russia's Gaidar Institute for Economic Policy, the main obstacles to successful import substitution were the lack of Russian analogues and the poor quality of its domestic products. Since 2015, over 60 percent of Russian manufacturers have consistently complained about the absence of domestic equivalents, and nearly 40 percent of them were dissatisfied with the quality of homegrown production (fig. 3). The institute also revealed that over 40 percent of Russian manufacturing firms would still favor the import of foreign equipment and technology regardless of the price.²⁵

Figure 3. Obstacles in import substitution for Russian manufacturers (2015-19), %



Source: Gaidar Institute for Economic Policy

► *Energy Sector*

To enhance coordination of import substitution, in 2015 the Scientific and Technical Council for the Development of Oil and Gas Equipment was created, comprising fourteen expert groups in key areas such as equipment for offshore projects, subsea production complexes, gas transportation technologies and equipment, and natural gas liquefaction technologies. The aim of the council is to foster communication across energy companies, synchronize investment projects, and explore the potential of national manufacturers.²⁶

After five years, the Russian energy majors managed to supplant certain foreign equipment and technology. For example, Gazprom Neft developed full-cycle technology for shale oil fracking; Novatek and Gazprom progressed in the localization of key aspects of LNG technology; and Lukoil developed drilling platforms and implemented multistage hydraulic fracturing. However, the development of such advanced technology required the participation of foreign companies. One such example is the Rosneft-led Zvezda Shipyard. Generously funded by the government, the shipyard was touted a leader of Russia's import substitution and was scheduled to construct forty-one vessels, twelve offshore platforms, and 153 drilling rigs by 2030. However, it would be unfeasible without the participation of Western and Asian engineering companies. To compensate for its lack of technological expertise, the Zvezda Shipyard teamed up with General Electric and Samsung Heavy Industr, among others, to fulfill its orders.

The progress of import substitution was also halted by the lack of cooperation between Russian companies, with successful examples of substitution remaining largely within a single company. Due to fierce domestic competition, innovations did not spread across the sector. For example, the Russian energy majors showed little willingness to cooperate and share their in-house expertise. Rosneft and Novatek refused to join the single engineering center for LNG projects that was initiated by Gazprom. As a result, poor inter-company collaboration and cross-sector coordination led to cost inefficiency and often resulted in unnecessary parallel production of

the same item.

In the long term, substitution of advanced technology in the energy sector will be crucial. Officials from Russia's energy ministry warned that if no technological solutions are found, oil production is expected to decline by up to 40 percent over the next fifteen years.²⁷ For the gas sector, the extension of sanctions to LNG technology and shipbuilding would be the most damaging and would delay a number of Russian LNG projects.

► *Defense Sector*

With the imposition of Western and Ukrainian sanctions, the original plan to modernize 70 percent of Russia's military equipment by 2020 became unfeasible.²⁸ To offset the negative effect of sanctions, the short-term solution was to resort to stockpiling of parts and components. In the long term, local production and import diversification were designed to mitigate dependence and enhance technological sovereignty.

Given the similarities between the Russian and Ukrainian technological bases, the substitution of Ukrainian parts and components was relatively easy to achieve. In 2017, 64 percent of Ukrainian imports were substituted.²⁹ Although the percentage was below the original 100 percent, the main efforts were directed to the substitution of crucial parts. Despite a two-year delay, the Russian defense industry reportedly replaced Ukrainian helicopter and ship engines—a weak spot in the Russian defense sector. Cooperation with regional partners from the Eurasian Economic Union also helped to alleviate the negative effect of the Ukrainian moratorium. Belarus was particularly well positioned to substitute Ukrainian subcontractors due to its traditionally close ties with the Russian defense industry.

The sanctions adopted by NATO and EU states were more damaging, as the substitution of Western machine tools, advanced equipment, and electronic components was more difficult to achieve. Russia's outdated production base hampered the progress of import substitution. Facing those difficulties, the Russian defense industry was forced to postpone the final program's deadline for achieving self-sufficiency from 2018 to 2025.³⁰

Having adopted a tough budgetary and financial policy, the next armament program of 2025 will have less funding. Supplies to alternative markets and diversification to the civilian sector will become the industry's main source of revenue. It remains to be seen whether the industry will manage to adapt to the changing environment and make its civilian products commercially profitable.³¹

► *Finance Sector*

Russia's endeavor to decouple its financial system from the global financial network was multifaceted in nature. The Russian government implemented various measures of macroeconomic and monetary stabilization to shield sanctioned firms from financial instability. Acting as a lender of last resort, the Central Bank became the largest creditor to Russian commercial banks and energy majors. It assisted sanctioned entities in obtaining access to foreign currency and repaying external debt. In the aftermath of sanctions, the government launched a one-trillion-ruble recapitalization of the financial sector while providing dollar loans to heavily indebted Rosneft and Gazprom to clear their external payments. The recapitalization aimed to bolster the banking sector's resilience and provide a safety net for the energy and defense firms.

Protecting targeted entities, the government took over the main sanctions burden in the financial sector. Sanctioned companies were granted favorable procurement contracts and bail-out schemes while enjoying a special tax and regulatory regime. Minimizing the sanctions risks, certain banks were designated for special financial functions—Promsvyazbank became the main financial vehicle for Russia's defense industry; VTB was selected as the sole manager of the government's bonds; and the Russian National Commercial Bank became the most widespread banking institution in Crimea. In return, the government called for the repatriation of capital from abroad and announced a capital amnesty.

To undercut the current dollar-dominated financial system, the government introduced a national card payment system and created a Russian analogue for SWIFT, the Society for Worldwide Interbank Financial Telecommunication. The national card payment system allowed US-based Visa and MasterCard to

continue operations in Crimea, as all information about international transactions was cleared through the Russian banking center. Russia's alternative to SWIFT—System for Transfer of Financial Messages (SPFS)—was introduced to replicate the functions of its Brussels-based equivalent. According to the Central Bank, 18 percent of all domestic transfers are done through SPFS, while its network is gradually being expanded to other countries, such as China, Turkey, and Iran.³²

The Russian government restructured its foreign reserves and cross-border payments in line with geopolitics. In the wake of looming US sanctions, the government dumped \$101 billion in US dollar reserves and diversified it with acquisitions of euro, gold, and yuan. The share of gold in Russia's currency reserves more than tripled, amounting to nearly 18 percent of the value reserves in 2018.³³ Following the Central Bank's diversification of assets, the Ministry of Finance announced that by 2020 it will cut the share of the US dollar in the National Wealth Fund and replace it with the euro.

The main objective of these measures was to create a more sustainable and less vulnerable financial system. Enhancing economic efficiency was a second-order purpose. As a result, the steps that the Russian government undertook to reduce vulnerability came at a cost. Beyond inflation and higher operational costs, de-dollarization has cost \$7.7 billion in potential returns due to the restructuring of international reserves.³⁴

Russia's drive to reduce its reliance on the US dollar coincided with the growing transatlantic rift between the United States and the EU. Dissatisfied with the United States' overuse of economic statecraft, the EU recently declared its intention to strengthen the geopolitical role of the euro, in particular in oil trading. The suggestion of a euro-denominated price benchmark for crude oil was tabled.³⁵ Furthermore, disagreeing with the US decision to re-impose sanctions on Iran, the EU initiated INSTEX, a special purpose vehicle, as an alternative to SWIFT. Both EU initiatives could become a convenient and legitimate way for Russia to avoid the US economic nexus in the future. The Russian energy majors have already started using the euro as the default payment.³⁶

► Localization as Import Substitution 2.0

The protracted progress on import substitution forced the Russian government to adjust its strategy, with the narrative shifting from self-sufficiency to localization. In other words, the government started inviting foreign companies to localize their production in Russia rather than relying solely on domestic manufacturers. It allowed the government to address the lingering progress on import substitution, whereas foreign companies could preserve their market shares in Russia. For example, Schlumberger, a French–American oilfield services provider, opened a scientific technological center to localize the production of drilling wells, imports of which are currently restricted due to the sanctions regime.³⁷ German Linde Group, a leading engineering company, signed a cooperation agreement with Gazprom and Power Machines for the localization of cryogenic equipment and technology for LNG production.³⁸

To attract more foreign investment, the government launched special investment contracts (SPIC). The format of cooperation was envisaged to be mutually beneficial: while the industrial sector could obtain access to government contracts with favorable tax conditions, the state sector could stimulate the modernization of industrial production. In 2019, the government significantly revamped the legislation (SPIC 2.0). The main emphasis was put on technology transfer rather than merely attracting investment. According to the new rules, the investor must implement state-of-the-art technology from the List of Advanced Technologies formulated by the government and ensure that the manufactured products are competitive on the global market. SPIC 2.0 is solely available to joint ventures between the investor and the Russian government, including the regional authorities and the municipalities. A minimal investment threshold was abolished, while the duration of SPIC 2.0 was extended from five to twenty years.³⁹ The government's requirements for localization va-

ried significantly depending on the industry, but the bottom line was to ensure the domestic production of key components that were heavily reliant on foreign imports. Localization was designed to be gradual. For example, the production of dual-use goods envisaged that, by 2016, the share of foreign components would constitute less than 70 percent of the product's price, whereas by 2020 this share was supposed to be less than 30 percent. The legislation also stipulated that the investor should ensure the availability of a service and maintenance center—an important requirement that would guarantee the sustainability of the transferred technology in light of sanctions. The service center could be located either in Russia or on the territory of the Eurasian Economic Union—a stipulation that aims to mitigate the sanctions risk. Progressively, however, the Russian government relaxed its protectionist requirements pertaining to localization. Due to the lack of domestic capabilities and small production volumes, strict requirements made local production commercially unprofitable. As the example of substitution of high-powered gas turbines illustrates, the government lowered the requirements for localization and opened the tender to General Electric and Siemens. Originally, the Russian companies were obliged to hold a 75 percent stake in their joint ventures. However, as a minority share disincentivized foreign firms from providing technology transfers, the requirement was reduced to 50 percent.⁴⁰ Similarly, the Federal Anti-monopoly Service softened the requirements in the IT sector. Initially, Russian producers were obliged to install domestic software on their products regardless of its costs and quality. However, as the Russian analogues often failed to meet the required technical standards, the state-owned companies lobbied for the localization of software with foreign producers such as Microsoft and Oracle.⁴¹

► Greater State Involvement and Weakened Transparency

Since the launch of import substitution, the Russian state has strengthened its grip over the economy. In a dirigiste fashion, the state has controlled the allocation of resources and administered the distribution of subsidies across sectors. The government has shielded the designated strategic companies by providing them with privileged access to state procurement mechanisms. Being awarded a lion's share of state contracts, the strategic companies have considerably increased their presence in the sectors targeted by sanctions. In contrast, the non-strategic entities were effectively sidelined and received far less affordable sources of financing, endangering their survival.⁴²

Generously funded, the program of import substitution has created a negative side effect. With the lack of control over monitoring and implementation, the program suffered from the country's inherent problem—systematic rent-seeking. The government authorities and companies were ready to exploit state resources on the pretext of sanctions. The financial audit of the Industrial Development Fund revealed that companies used sanctions as an excuse to receive additional state funding. Over 2014–18, the funds ballooned twelvefold, as companies intentionally inflated the costs and purposefully failed to meet targets on schedule.⁴³ Companies seemed to prioritize their individual gains even while safeguarding economic security.

The securitization of the economy has resulted in even less transparency. To protect the strategic sectors, the Russian government allowed the targeted companies to conceal crucial information on beneficial shareholders, management structures, and financial reporting. The state register containing public information on the targets became classified. An amendment to the Criminal Code was even tabled to introduce penalties for disseminating and disclosing information on sanctioned individuals and entities to the media, though this received strong resistance from the private sector.

► Pivot to Asia

In light of Western sanctions, cooperation with Asian countries became more important. As none of the Asian countries sided with Washington's punitive measures,⁴⁴ their non-alignment became particularly useful for Moscow's efforts to adapt to Western sanctions. Russia has consequently intensified its turn to the East, as it helped to offset the impact of sanctions and alleviate the burden on the Russian economy. China and India emerged as the leading countries in supplanting Western items and providing external financing. Japan and South Korea played a crucial role in sectors adjacent to the sanctioned ones. As US strategic partners, Tokyo and Seoul were careful about directly supporting activities sanctioned by Washington, thus limiting the scope of their cooperation with Moscow.

Initially, Russia's pivot to Asia was envisioned as a short-term tactical measure designed to buy valuable time to develop homegrown analogues. With the protracted progress on import substitution, however, cooperation with Asian countries has become a crucial part of Russia's long-term agenda. Asia emerged as a new export market for hydrocarbons and weapons, as the leading supplier of state-of-the-art technology, and as the main alternative to Western capital.

► Market Diversification

As the relationship with the West deteriorated, Russia aimed to boost its energy exports and arms sales to Asian customers. With the launch of the East Siberia–Pacific Ocean (ESPO) pipeline, Russia's oil exports to China increased and in 2017 Russia became the largest oil supplier to China, replacing Saudi Arabia. Russia's plans to expand the pipeline capacity will mean that one-third of its oil exports will be destined for the Asia-Pacific.⁴⁵ Moscow is also slated to become a major natural gas supplier to China. In December 2019, the long-awaited Power of Siberia came online, starting the delivery of thirty-eight billion cubic meters of natural gas per year for thirty years.

Further negotiations have been launched with the China National Petroleum Corporation (CNPC) for gas supplies through Mongolia. A burgeoning Asian LNG market with high premium prices attracted Novatek, Russia's leading LNG company. The company is planning to ship 80 to 85 percent of its LNG from the Yamal and Gydan peninsulas to the Asia-Pacific. Russia has also sought to pivot to Asian customers in the defense sector. After the imposition of economic sanctions, Russia ramped up its weapons sales to Southeast Asia and became the largest arms exporter to the region. Over 60 percent of its arms shipments, including missile defense systems, tanks, and fighter jets, were directed to India, Laos, Vietnam, Myanmar, the Philippines, and Indonesia.⁴⁶ India strengthened its position as Russia's largest weapons customer and purchased more than \$4 billion worth of arms in 2017. Defying US sanctions, Russia sold its advanced military weapons such as the Sukhoi Su-35 air fighter and the S-400 surface-to-air missile defense system to China and India.⁴⁷

► *Delivery of Advanced Technology and Equipment*

Since 2014, Chinese companies have rapidly come to occupy Russia's market of technological equipment and gradually enhanced their prowess. In the energy sector, Chinese oilfield services became a notable alternative supplier of drilling rigs—a market that was previously dominated by Western firms. Jereh Group and Sichuan Honghua Petroleum Equipment have become notable suppliers of drilling rigs, increasing their share in the Russian market to 45 percent.

The quality of Chinese LNG technology and offshore equipment has improved significantly, standing the test at Novatek's Yamal LNG. Breaking the Western monopoly, China's six offshore engineering companies were involved in the module construction and manufacturing of transportation ships. China's technological expertise in the Arctic offshore has gradually been enhanced. Previously, Chinese technology was considered unsuitable for harsh Arctic conditions. Recently, however, Gazprom Neft and

Rosneft used the Chinese semi-submersible drilling rig "Nanhai VIII" to make two of Russia's biggest offshore findings in the Sea of Okhotsk and in the Kara Sea over the last decade.⁴⁸ In a technological partnership with CNPC, Gazprom Neft seeks to develop enhanced oil recovery technology necessary for maintaining the growth output, the transfer of which is currently partially banned by the sanctions.

Wary of Washington's reaction, Japan, South Korea, and Singapore have played a limited role and have mainly assisted in sectors adjacent to the sanctioned ones—LNG and shipbuilding. Japan's JGC Corporation and Chiyoda Corporation became the main engineering contractors for Yamal LNG, while South Korean shipyards constructed fifteen LNG vessels for the same project. For Arctic LNG-2, Samsung Heavy Industries and Hyundai Samho Heavy Industries will provide technology transfer to the Zvezda Shipyard to compensate for its lack of expertise in shipbuilding.⁴⁹

In the defense sector, cooperation with India and Southeast Asia has played a vital role. India strengthened its role in military-technological cooperation with Russia. Indian chipsets were chosen for Russia's new generation satellites GLONASS after being deprived of Western components. In 2018, India finalized a long-pending contract for the building of four Russian guided-missile frigates at the Goa Shipyard. The ships were originally designed to be equipped with Ukrainian-made gas turbines, but after the Ukrainian ban on dual-use goods, construction was moved to the Indian state-owned shipyard for a lucrative price.⁵⁰ At the 2019 Eastern Economic Forum, India signed a cooperation agreement on the joint manufacturing of spare parts and components for Russian military equipment. It remains to be seen whether military-technological ties will bear fruit—in the past, Indian–Russian military cooperation ran into stumbling blocks on several deals.⁵¹ Southeast Asia, including Taiwan, Indonesia, and Malaysia, became crucial suppliers of electronic components previously procured from NATO states.

In contrast to India, military-industrial cooperation with Beijing has been limited, apart from Russia's

sales of advanced weapons to China. Having been previously engaged in reverse-engineering, the quality of Chinese defense technology still lags behind that of its competitors. The use of Chinese equivalents of NATO and Ukrainian engines proved to be particularly problematic. High-tech cooperation appears to be a promising area of collaboration, however. Despite Moscow's lingering distrust and reservations, Chinese Huawei became involved in the building of Russia's 5G infrastructure.

► *Alternatives to Western Funding*

Concerned about secondary US sanctions, the Asian private sector was reluctant to deal with sanctioned Russian entities. Compounded by Russia's complex bureaucracy and the lack of regional expertise, the banking institutions often over-complied and failed to approve transactions, even those allowed by the sanctions. Without the government's assurances, the participation of the Asian private sector was less than guaranteed. In 2014, Chinese private banks refused to provide loans to sanctions-hit Novatek's Yamal LNG. External financing was secured only after a high-level political intervention and the restructuring of the loans with China's state-owned Silk Road Fund, the China Development Bank, and the Export-Import Bank of China.⁵² Similarly, the Japanese private trading house Mitsui & Co. agreed to acquire a 10 percent stake in Novatek's Arctic LNG-2 only after the Japan Oil, Gas, and Metals National Corporation, a government agency, agreed to cover 75 percent of investments.

Against this backdrop, the Asian government-backed institutions have emerged as the main financial vehicles for cash-strapped Russian entities. Decoupled from Western financial systems, the government-linked banks provided assurances for the private sector to mitigate the sanctions risks. For example, Japan Bank for International Cooperation (JBIC) issued several loans to Novatek, Sberbank, and Transneft—all of which are sanctioned by the

United States. Spared from Western financial sanctions, Gazprom secured a \$2 billion loan from the Bank of China, the largest loan from a single bank in Gazprom's history, and raised ¥65 billion (\$576 million) from JBIC, the second-largest yen-denominated deal for an emerging market borrower.⁵³

Mutual intergovernmental investment funds and alternative financial arrangements became another way of securing financial operations. Despite being sanctioned, the Russian Direct Investment Fund has reportedly attracted over \$40 billion in joint funds through long-term strategic partnerships with China, South Korea, India, Japan, Thailand, and Vietnam, among others.⁵⁴ Prepayment arrangements and equity participation were practiced as an alternative to raise capital. In particular, Rosneft widely used the prepayment deals to obtain bank funding or debt issuance. For the first time, Russia has opened its upstream sector to external investors for equity participation. Since 2014, Chinese companies have acquired stakes in Sibur, Russia's largest petrochemical plant, in Rosneft and Novatek's Arctic LNG-2, while Indian ONGC bought shares in Rosneft's Vankor field.

However, engagement with state-owned institutions was not as effortless as it seemed. Several deals on equity participation and financial lending ran into difficulties. Russia's reluctance to grant controlling stakes and disagreements over the asking price hampered negotiations. The Chinese withdrawal from equity participation in the Vankor field and the failure to provide \$25 billion prepayment to Gazprom for Power of Siberia showed the limitations of China's readiness to bankroll Russia's ambitious projects at any price.⁵⁵

Driven by the strong motivation to de-dollarize, Russia shifted its international reserves and cross-border payments away from the US dollar. As of 2018, Russia became the largest holder of yuan globally, holding \$67 billion in the Chinese currency in its foreign reserves.⁵⁶ In Sino-Russian trade rela-

tions, the share of the euro increased. Being chosen as a safe option to the dollar, the euro has emerged as a clear winner of de-dollarization. Since 2018, the share of the euro in Russia's foreign reserves has grown from 7.3 percent to 21.9 percent in 2019.⁵⁷ The role of national currencies remained marginal. Poor liquidity and volatility of the yuan and the ruble put limitations on the increase of their shares. With India–Russia relations intensifying, the ruble gained some traction, mainly as a payment currency in the energy and weapons deals. With Rosneft's purchase of Nayara Energy (former Essar Oil), India's second-largest private oil firm, the share of the ruble increased from 1.1 percent to 37.2 percent.⁵⁸ Similarly, the Russian–Indian contract on the delivery of S-400 defense systems was signed in the Russian national currency.

► Conclusion

After five years, Russia's import substitution has failed to achieve full economic sovereignty. A lack of domestic capabilities and the poor quality of homegrown products have slowed down the progress. Poor inter-sectoral coordination and rent-seeking added to the complexities. As a result, localization with foreign partners and import diversification to non-Western states have incrementally replaced the lingering import substitution. Although Western sanctions had largely failed to coerce Russia to change its behavior, they increased the economic costs of its foreign policy and forced it to adapt. This adaptation triggered the securitization of the economy and the shift of Russia's geopolitical orientations to the East. The securitization of the Russian economy and the country's pivot to Asia will have several consequences for the effectiveness of sanctions. First, Russia's policy of securitization will have negative effects on the economy's efficiency and transparency. Shielding the Russian economy from external pressure, greater state involvement will only compound the problems of Russia's "rent management system."⁵⁹ At the same time, the classification of crucial financial information will reduce transparency in the economy and may cause difficulties for sanctioning authorities when it comes to identifying potential targets in the future. Second, Russia's increasing overreliance on China and India will be detrimental to Russia's aspirations for self-sufficiency and technological sovereignty. Abandoning the idea of the development of homegrown production will exacerbate Russia's technological gap in the long term. China's and India's assistance did not come at a low cost. Capitalizing on Russia's isolation from the West, Beijing and Delhi could already leverage their bargaining positions and dictate financial conditions, and this trend is likely to continue in the future. Offering binding contracts, China and India could use Russia as a testing ground for the advancement of their own technological development. Reliance on Chinese technology will, in particular, add to the already established

dependence on China's financing and export market, aggravating the asymmetrical relations between Beijing and Moscow even further. Finally, Russia's pivot to Asia underlines the importance of sanctions solidarity for the effectiveness of sanctions. It highlights how crucial third-party alignment is when it comes to alleviating the sanctions burden and facilitating sanctions circumvention. The pivot to Asia has been particularly instrumental in mitigating the sanctions impact, but it also has clear limitations. With US secondary sanctions expanding, participation of the Asian companies will be contingent on their governments' backing to reduce the sanctions risks. The effectiveness of Western sanctions will essentially be boiled down to a question of whether Russia's policies are able to counteract the long-term cumulative effect of Western measures and how third states assist in mitigating the sanctions impact. From this standpoint, the Russian case gives an apt illustration of the mechanics of sanctions as a two-way game. On the one hand, it takes time for the sender's sanctions to be effective. On the other hand, the target does not remain idle, and its response affects the effectiveness of the sender's measures. How effective and costly Russia's concerted response to sanctions will be remains an open question.

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Notes

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