

FEBRUARY 2023

# Bearing the Brunt

*The Impact of the Sanctions on Russia's Economy and  
Lessons for the Use of Sanctions on China*

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A Report of the CSIS Economics Program

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The views expressed in the report are those of the authors and not of the experts with whom we consulted or their affiliated institutions.

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# Executive Summary

This report assesses the effects and effectiveness of the international sanctions and export controls aimed at Russia since its full-scale invasion of Ukraine in February 2022. It is the first of three reports assessing the feasibility and implications of the United States using economic measures to deter China in a crisis over Taiwan. Subsequent reports will analyze the economic interdependencies and vulnerabilities of the Chinese and U.S. economies and evaluate how economic measures might be deployed during various Taiwan contingencies.

This report finds that while the economic measures are slowly bleeding the Russian economy, they are unlikely to deliver a knockout blow. Early predictions of their impact were overstated. Russia's financial sector teetered in the weeks after the invasion but has since stabilized. Russia's imports dropped in the first few months after the measures but by the end of 2022 had nearly recovered to their prewar levels by shifting away from Europe toward China, Turkey, and a few other economies. Moscow posted only a modest fiscal deficit in 2022 largely because of oil and gas exports. However, Russia's industrial sector probably has weakened, inflation has worsened, and real wages have fallen.

Going forward, Russia's ability to continue collecting revenue for oil and gas exports will be a key determinant of Moscow's ability to avoid draining its sovereign wealth fund or borrowing domestically to fund its war effort. If the economic measures remain in place, Russia's economic outlook will be bleak, with Russian households looking forward to stagnation at best. Russia is likely to increasingly substitute lower-quality domestic goods for foreign goods and rely on China as its top source of imported goods.

Western governments' goals for sanctions and export controls have shifted over the past year. Initially, the threat of their use was intended to deter Moscow from attacking Ukraine. That goal failed in large part because Russian president Vladimir Putin believed his war of aggression would quickly succeed. Brief hopes of

destabilizing Russia were dashed after Russia's banking sector and exchange rate recovered. The primary goal is now to degrade Russia's ability to sustain its war through economic attrition. The measures are doing that to some degree, but they are unlikely to be as decisive as battlefield outcomes.

The use of such measures against Russia has spurred speculation about their potential use against China, particularly in a crisis over Taiwan. Enacting comparable sanctions and export controls on China would be far more difficult and disruptive to the global economy. The biggest differences between the economies of China and Russia in this context are their size, importance to international firms and investors, and degree of integration into global supply chains. That said, the use of such measures is still possible in a crisis where economic logic is superseded by strategic, political, and military priorities.

The economic measures aimed at Russia so far demonstrate some lessons with implications for potential sanctions or export controls against China. These include the following:

- Economic integration and interdependence are not a guarantee against conflict. However, Russia's invasion of Ukraine is a sample size of one, and Chinese leaders' calculus, including regarding Taiwan and their prioritization of economic development, could be quite different.
- If economic sanctions are to be used as a deterrent, the United States and its allies should credibly signal their willingness to impose such measures.
- Economic measures are far more effective when imposed in coordination with allies. Organizing an economic alliance against China would be more difficult than it has been for sanctioning Russia.
- Inflicting maximum economic pain on a target economy requires cutting off its external sources of revenue, which has not occurred with Russia. This might require increasing the economic resiliency of states imposing such measures.
- The effectiveness of measures can wane as work-arounds are discovered, and sustained use of such measures can spur networks to evade them.
- The effectiveness of sanctions is limited by the willingness of leaders in countries imposing them to pay costs themselves.
- Economic deterrence should be considered a supplement to, but not a substitute for, military deterrence.

# Introduction

The international sanctions and export controls imposed on Russia in response to its full-scale invasion of Ukraine in February 2022 offer a unique test case of the power and limits of such measures. The sanctions are the most substantial and rapid aimed at a major economy—previously the 11th largest in the world, with a gross domestic product (GDP) of \$1.78 trillion in 2021<sup>1</sup>—since World War II. The current measures build on those imposed on Russia in 2014. Russia is now the world’s most sanctioned country in terms of the number of measures imposed on it, but the measures are less comprehensive than those the United States has imposed on Iran because Russia remains allowed to export commodities.<sup>2</sup> Still, the sanctions and export controls are hurting Russia’s economy. This study evaluates their effects and effectiveness and draws lessons for future use, including against China.

## The 2014 Sanctions on Russia

In 2014, the United States, European Union, and other allies responded to Russia’s invasion of Crimea with three types of sanctions and export controls: (1) asset freezes and travel bans aimed at individuals and companies linked to Crimea’s occupation and Russia’s incursion into the Donbas;<sup>3</sup> (2) financial sanctions, including prohibitions on EU and U.S. entities buying or selling new bonds or equity issued by Russia’s largest state-owned banks;<sup>4</sup> and (3) export restrictions on oil-related equipment as well as dual-use and military items.<sup>5</sup>

The 2014 sanctions hit Russia’s energy sector, finances, and military but did not include embargoes on Russian energy products or measures to bar Russian banks from the Society for Worldwide Interbank Financial Telecommunication (SWIFT) network.<sup>6</sup> These actions triggered large capital outflows, substantial depreciation of the ruble, inflation, and contractions in GDP and fiscal revenues.<sup>7</sup> Overall, the estimated loss of potential foreign investments in Russia amounted to nearly \$500 billion.<sup>8</sup>

The Kremlin’s “Fortress Russia” strategy arose in response to these sanctions. Its goal was to render Russia a self-reliant economy with a “fortress” balance sheet designed to protect the country from future balance-of-payments shocks and further sanctions. Moscow achieved this goal in four ways.

First, the Central Bank of the Russian Federation (CBR) carried out a substantial de-dollarization of its assets because it believed U.S. assets would be the most at risk of future sanctions. Beginning in 2018, the CBR reallocated its reserves away from U.S. dollar assets, with the euro accounting for 32 percent of CBR reserve assets by mid-2021 and the remainder in gold (22 percent), U.S. dollars (16 percent), renminbi (13 percent), and other currencies (17 percent).<sup>9</sup>

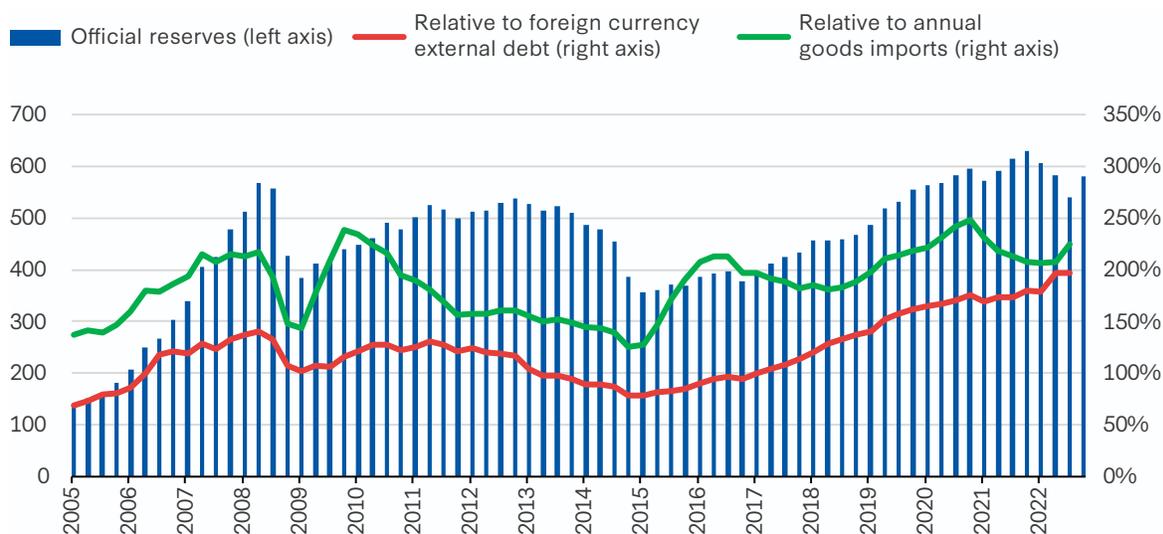
Second, Moscow reinforced its conservative fiscal posture, including by assuming low oil prices.<sup>10</sup> Russia’s public debt—about 75 percent of which is domestic—was fairly stable after 2014 and jumped to \$290 billion, or 16 percent of GDP, in 2021 only because of the Covid-19 pandemic.<sup>11</sup> Russia’s public and private sectors reduced foreign currency-denominated external debt for all sectors from \$539 billion in early 2014 to \$350 billion by the end of 2021.<sup>12</sup>

Third, the CBR built up foreign reserves by intervening to limit ruble appreciation. As a result, Russia’s foreign reserves nearly doubled from 2015 to 2022, from \$356 billion to over \$630 billion (Figure 1).<sup>13</sup>

Finally, Moscow attempted to spur self-sufficiency in agricultural and industrial goods with subsidies and embargoes on Western food imports.<sup>14</sup> In the industrial sector, self-sufficiency largely failed: Russia’s machine tools and electronics, for example, have remained reliant on foreign inputs.<sup>15</sup>

**Figure 1: Russia’s Official Reserve Assets, 2005–2022**

USD, billions (left axis); percent (right axis)



Source: CSIS’s calculations based on “Bank of Russia, Official Reserve Assets,” CEIC, <https://www.ceicdata.com/en>.

## The Current Sanctions and Export Controls on Russia

The Western sanctions in response to Russia’s 2022 invasion of Ukraine have required a much greater level of coordination. Since the invasion, Washington, Brussels, and the governments of other major advanced economies have imposed a series of coordinated measures on Moscow, including the following:

- **Financial sanctions**, which banned some Russian banks from the SWIFT network, barred foreign banks from transacting with designated Russian firms and banks, and froze most of the overseas assets held by the CBR. Close to two-thirds of Russia’s banking system has lost access to U.S. or European financial systems.<sup>16</sup>
- **Export controls** on commodities or technologies deemed relevant for Russia’s defense, aerospace, or maritime sectors, including semiconductors, lasers, and sensors.<sup>17</sup>
- **Import restrictions**, including energy embargoes on Russia’s crude oil and refined petroleum products by the United States, Canada, and Australia soon after the invasion and by the European Union and the United Kingdom in December 2022.<sup>18</sup> The European Union implemented its embargo on refined petroleum products in February 2023.<sup>19</sup>
- **A G7-led cap on the price of seaborne Russian oil**, set at \$60 per barrel since December 2022. Third parties must demonstrate compliance with the oil cap to receive Western maritime shipping insurance and services.<sup>20</sup> In February 2023, the G7, the European Union, and Australia implemented price caps on Russian refined petroleum products.<sup>21</sup>
- **Sanctions on individuals and entities involved with the war, including defense sector firms.** Measures included asset freezes and travel bans on Russian government officials, as well as Russian oligarchs and propagandists.<sup>22</sup> Overall, an estimated \$100 billion in private Russian assets has been frozen.<sup>23</sup>
- **Indirect sanctions**, or “self-sanctioning,” by foreign firms exiting the Russian market or suspending operations because of pressures from customers or commercial constraints imposed by the sanctions.

# The Economic Impacts on Russia

The sanctions aimed at Russia in response to its February 2022 invasion of Ukraine nearly triggered a crisis at the onset. However, after a few months, Russia's banking sector and exchange rate had largely recovered. The economic effectiveness of the Western measures has been limited by Moscow's Fortress Russia preparations; adept policy responses, especially from the CBR; and Russia's continued ability to export key commodities, particularly oil and natural gas.

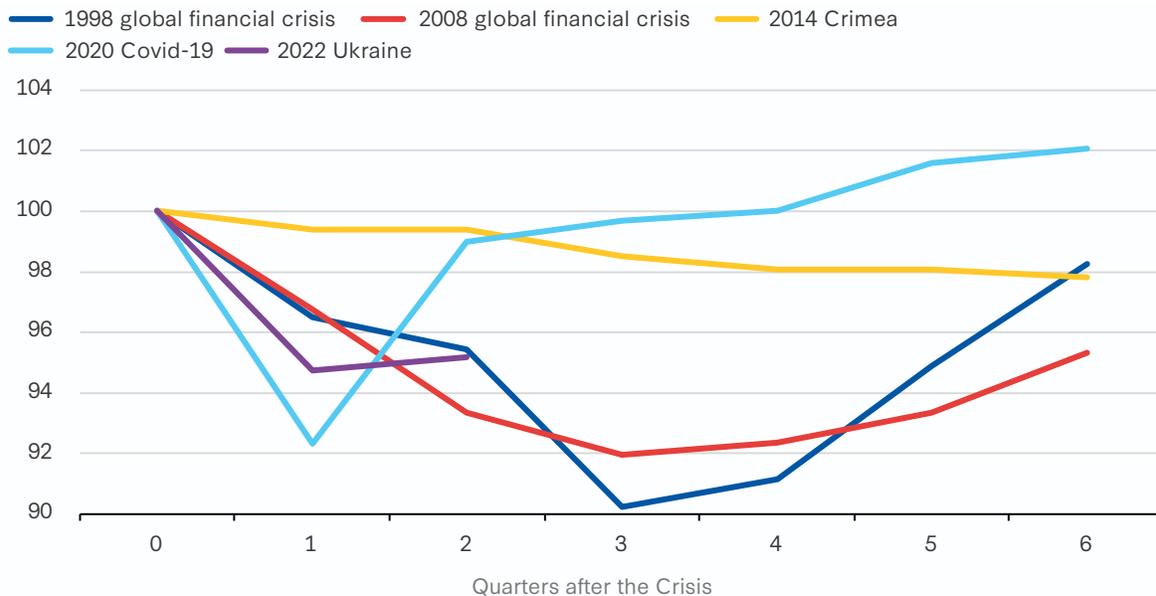
At a high level, the economic shock to Russia from Western economic measures was less than many expected in the weeks following Moscow's invasion. Early forecasts suggested Russia's real GDP would fall by 10 to 15 percent in 2022.<sup>24</sup> However, Russia's real GDP contracted only 2.1 percent in 2022, according to preliminary data from Rosstat.<sup>25</sup> For perspective, the contraction in Russia's economy in 2022 was greater than that caused by the 2014 sanctions but less sharp than the Covid-19 shock in 2020 and even less so than the aftermath of the global financial crisis in 2008 or the sovereign debt crisis of the late 1990s (Figure 2).

It can be difficult to parse the causal impacts from Western measures, voluntary actions from foreign firms, Russian retaliatory actions, or the war more generally. Western measures—especially the export controls and efforts to reduce Russia's energy revenues—are harming Russia's economy, as is the general chilling effect of those measures and political pressures on foreign firms to exit the Russian market. Internationally, Russian officials like to blame Western sanctions for negative spillovers to other countries, including higher prices and grain shortages.<sup>26</sup> However, Russia's actions, disruptions to Black Sea trade, and increased risk premiums are more likely causes, at least after the initial shock from financial sanctions.

The Russian economy has not, and probably will not, sustain anything like a knockout blow, but it is limping along and slowly bleeding. Going forward, the quantity and price of Russia's energy exports will be a key determinant of fiscal and inflationary pressures felt by Moscow and Russian households.

**Figure 2: Russia's Real GDP after Crises**

Index, 100 = GDP at quarter when crisis began



Source: CSIS's calculations based on "Federal State Statistics Service, Gross Domestic Product," CEIC, <https://www.ceicdata.com/en>.

## Financial Shock and Recovery

During the two to three months following their imposition, Western financial sanctions had a substantial impact on Russia's exchange rate and banking sector. Coordinated sanctions to freeze the CBR's foreign exchange reserves were probably the most unexpected and dramatic early economic action after the war began.<sup>27</sup> The sanctions rendered roughly \$300 billion of the CBR's \$630 billion assets mostly useless, except for those in Chinese renminbi or gold, constraining the CBR's ability to intervene in foreign exchange markets. The ruble's value fell from 75 rubles per U.S. dollar before the February invasion to a low of around 120 rubles per U.S. dollar in mid-March.<sup>28</sup> The CBR imposed strong capital controls and raised interest rates from 9.5 percent to 20 percent to stem outflows and mitigate exchange rate pressures.<sup>29</sup> Meanwhile, worried Russians rushed to withdraw their bank deposits, contributing to financial distress and a severe lack of banking sector liquidity in March 2022.<sup>30</sup>

But the period of acute financial stress passed. By mid-April, the ruble's exchange rate had recovered to its prewar level, though this is somewhat misleading because the ruble is no longer a fully convertible currency (Figure 3). Banking sector liquidity returned to surplus in April. The CBR began lowering its benchmark interest rate in April and subsequently returned to its prewar rate in June. Most Russians temporarily lost access to their foreign currency deposits, which had been forcefully converted to rubles, but capital controls eased in May to weaken the ruble because it was threatening the competitiveness of Russian exports and ruble-denominated budget revenues.<sup>31</sup>

**Figure 3: Exchange Rate of Russian Ruble, January 2021–February 2023**

RUB/USD



Note: Data as of February 14, 2023

Source: “Bank of Russia, Foreign Exchange Rate: Bank of Russia: US Dollar,” CEIC, <https://www.ceicdata.com/en>.

## Sustained Trade Surplus

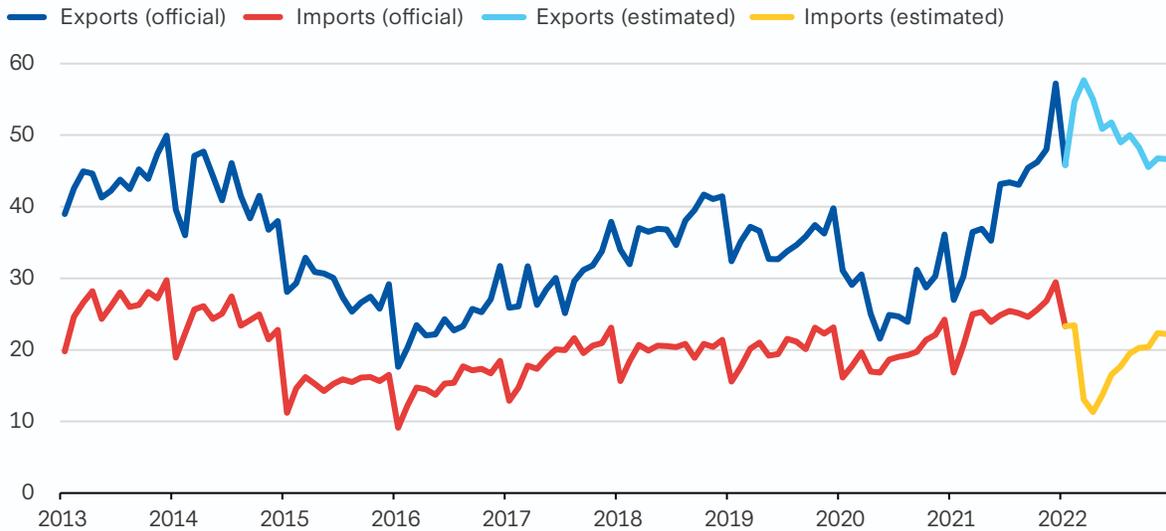
Russia’s energy exports only partially mitigated the impact of sanctions and export controls in 2022. Russia’s current account surplus, which includes its trade balance in goods and services plus income, increased after mid-2021 because of higher energy prices. In October 2022, it reached an all-time high of \$245 billion on an annualized basis, equal to roughly 10 percent of Russia’s GDP. The CBR’s reported reserve assets, which count frozen foreign accounts, fell from a peak of \$643 billion in February to \$540 billion in September before recovering to about \$600 billion in early February 2023.<sup>32</sup> Russia maintained a substantial trade surplus, allowing the central bank to stabilize the exchange rate and giving the banking sector access to foreign exchange.

Russia’s exports increased more than its imports declined in 2022. The Russian government stopped publishing trade data in early 2022, but it is possible to estimate the value of Russia’s imports and exports by using statistics from other countries. Based on data from 51 other countries, the authors estimate that in 2022, Russia’s exports increased \$104 billion year over year while its imports fell \$70 billion. An October 2022 study from Bruegel estimates that from January to September 2022 Russia generated \$120 billion in extra export revenue because of higher prices, especially for natural gas.<sup>33</sup>

Russia’s imports dropped substantially after the war began but partially recovered during the summer of 2022. Based on mirror trade statistics, Russia’s goods imports likely decreased 50 percent from March to May 2022 compared to the previous three-month period. Russia’s total imports in 2022 fell to \$223 billion from \$294 billion in 2021 (Figure 4).<sup>34</sup>

**Figure 4: Russia’s Foreign Trade, January 2013–December 2022**

USD, billions



Note: Estimates based on 51 countries’ reported trade with Russia.  
 Source: CSIS’s calculations based on “National sources, Imports and Exports: Russia,” CEIC, <https://www.ceicdata.com/en>.

Russia’s imports have shifted away from advanced economies in favor of a few emerging market economies, especially China and Turkey. In 2022, EU and U.S. exports to Russia fell by 40 percent (\$43 billion) and 73 percent (\$4.7 billion), respectively, compared to 2021. Meanwhile, exports from China and Turkey to Russia increased by 13 percent (\$8.7 billion) and 62 percent (\$3.6 billion), respectively, though data from Turkey probably capture transshipments rerouted from other countries.<sup>35</sup> China has overtaken the European Union as Russia’s top source of imports, with Russia’s imports from China increasing as a share of its total imports from 25 percent in 2021 to an estimated 34 percent in 2022 (Figure 5).<sup>36</sup>

**Figure 5: China’s Goods Trade with Russia, January 2019–December 2022**

USD, billions



Source: CSIS’s calculations based on “General Administration of Customs, China: Imports and Exports: Russia,” CEIC, <https://www.ceicdata.com/en>.

However, EU exports of machinery and other manufactured goods to Commonwealth of Independent States (CIS) countries were abnormally high at the end of 2022, suggesting transshipment to Russia is occurring.<sup>37</sup> Russia's semiconductor imports have shifted away from the United States and Germany as top providers toward China and Hong Kong, with Western chips probably reaching Russia through intermediaries.<sup>38</sup>

To reduce exposure to Western sanctions, Russian entities have pivoted to the Chinese renminbi for some international transactions. International renminbi transactions can be processed via China's Cross-Border Interbank Bank Payment System (CIPS), which primarily uses SWIFT for messaging but also has its own messaging system.<sup>39</sup> CIPS does not report its volumes by country, but overall CIPS transactions increased from RMB 374 billion (\$59 billion) per day in the first quarter of 2022 to RMB 421 billion (\$59 billion) in the fourth quarter, which might reflect greater renminbi-based China-Russia trade settlement or changes in the renminbi's exchange rate.<sup>40</sup> Russian companies have been increasingly issuing renminbi-denominated bonds, although their outstanding renminbi debts remain small.<sup>41</sup> Moreover, in September 2022, energy giants Gazprom and China's National Petroleum Corporation agreed to use rubles and renminbi to pay for Russia's natural gas to China.<sup>42</sup>

As a result, the renminbi-ruble pair is gaining momentum in Russia. Renminbi-ruble trading on the Moscow exchange totaled RMB 185 billion (\$26 billion) in October 2022, more than 80 times larger than in February 2022.<sup>43</sup> In China, however, renminbi-ruble trading volumes in 2022 were down 57 percent compared to in 2021, suggesting that Russian entities are far more interested in holding renminbi than Chinese entities are interested in holding rubles.<sup>44</sup> Overall, the share of the dollar-ruble pair trading volumes on the Russian market declined from 80 percent to 40 percent during the January to October 2022 period.<sup>45</sup>

Capital has flowed out of Russia, although this is difficult to estimate because Russia no longer reports detailed balance-of-payments data. During the first months of the war, fleeing Russians withdrew foreign currency from their banks and deposited in accounts located abroad. Foreign direct investments in Russia decreased substantially, though Russian foreign investments abroad fell equally.<sup>46</sup>

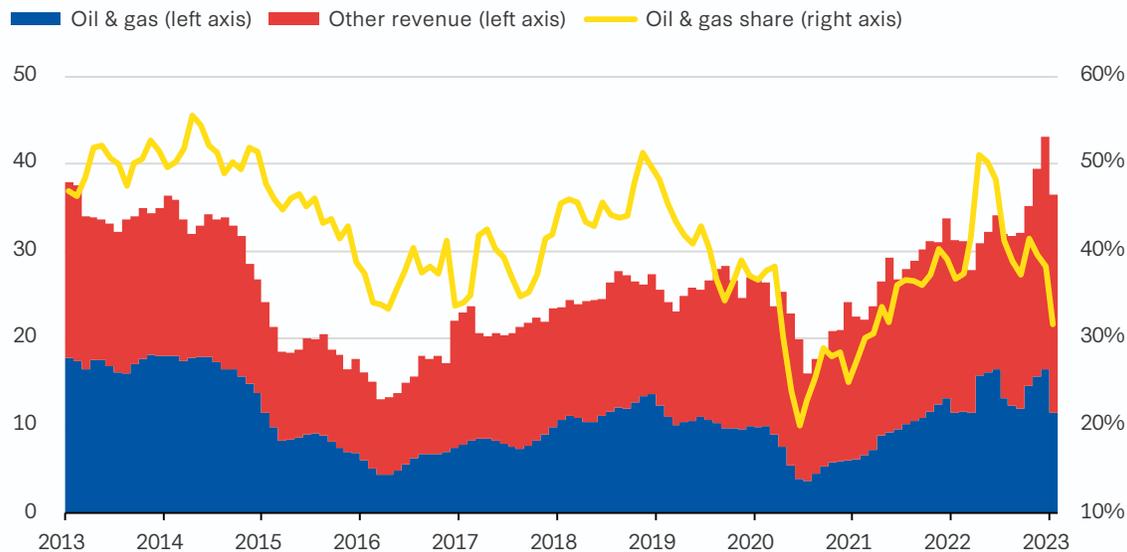
## **Fiscal Impact Mitigated by Energy Exports**

The Russian federal government has been able to pay for its spending—including for its armed forces—largely through taxes and fees from oil and natural gas exports. Total revenues and expenditures were RUB 27.8 trillion (\$412 billion) and RUB 31.1 trillion (\$461 billion), respectively, in 2022. This suggests a fiscal deficit of RUB 3.3 trillion (\$49 billion), or about 2.3 percent of GDP, which is modest by international standards.<sup>47</sup>

In 2022, Russia's budget benefited from higher energy prices, with oil and gas revenues accounting for nearly all of Moscow's increased revenues. Oil and gas revenues, which typically are about 40 percent of federal revenues, jumped to half of Moscow's income during the second quarter. For every U.S. dollar of oil and gas exports, Moscow takes more than 50 cents as its cut. In 2022, Moscow earned about \$170 billion, or \$464 million per day on average, from oil and gas revenues (Figure 6).<sup>48</sup> This understates Moscow's reliance on oil and gas revenues, however, because such export revenues also influence profit taxes and dividends from state-owned enterprises. Gazprom—the national gas giant—reported net profits of RUB 2.51 trillion (\$34 billion) in the first half of 2022, almost three times its profit during the first half of 2021; this reflects Gazprom's ability to charge non-CIS countries—basically, the European Union—3.5 times more than it did during the first half of 2021.<sup>49</sup> Moscow also imposed a separate windfall profit tax on Gazprom that padded the budget in late 2022.<sup>50</sup>

**Figure 6: Russian Federal Revenues, January 2013–January 2023**

USD, billions, three-month moving average (left axis); percent (right axis)



Note: Converted from rubles using the exchange rate during each month.

Source: CSIS's calculations based on "Ministry of Finance, Federal Government Revenue," CEIC, <https://www.ceicdata.com/en>.

After the invasion began, Russia boosted its official defense budget for the year to RUB 3.85 trillion (\$57 billion), up from RUB 3.58 trillion (\$49 billion) in 2021.<sup>51</sup> Estimating Russia's actual military expenditures is difficult because Moscow stopped reporting detailed budget data after April 2022, but defense spending has clearly increased dramatically. As of July 2022—the latest high-level spending data available—national defense and national security spending had reached RUB 2.9 trillion (\$40 billion) and RUB 1.3 trillion (\$18 billion), respectively, year to date. Together these budget items accounted for 27 percent of total federal expenditures as of that month, with national defense spending increasing 72 percent and national security growing 9 percent year on year in ruble terms. For scale, Gazprom's net profits in the first half of 2022 were enough to cover all Russia's reported national defense expenditures. An official document released in September indicated that Russia's actual defense expenditures would reach RUB 4.68 trillion (\$69 billion) in 2022.<sup>52</sup>

Russia has been covering its budget deficit with money from its sovereign wealth fund, the National Wealth Fund. The Finance Ministry said in early January that it had withdrawn RUB 2.41 trillion (\$35 billion) to cover the fiscal deficit in December 2022.<sup>53</sup> Total assets in the National Wealth Fund fell from \$183 billion at the end of 2021 to \$148 billion in December 2022. With assets worth 7.8 percent of Russia's GDP, the fund offers Moscow a fiscal buffer, but only \$87 billion, or 4.6 percent of GDP, is in liquid assets, with about half of that in renminbi-denominated assets. Moscow can also sell its foreign exchange reserves to cover budget deficits.<sup>54</sup>

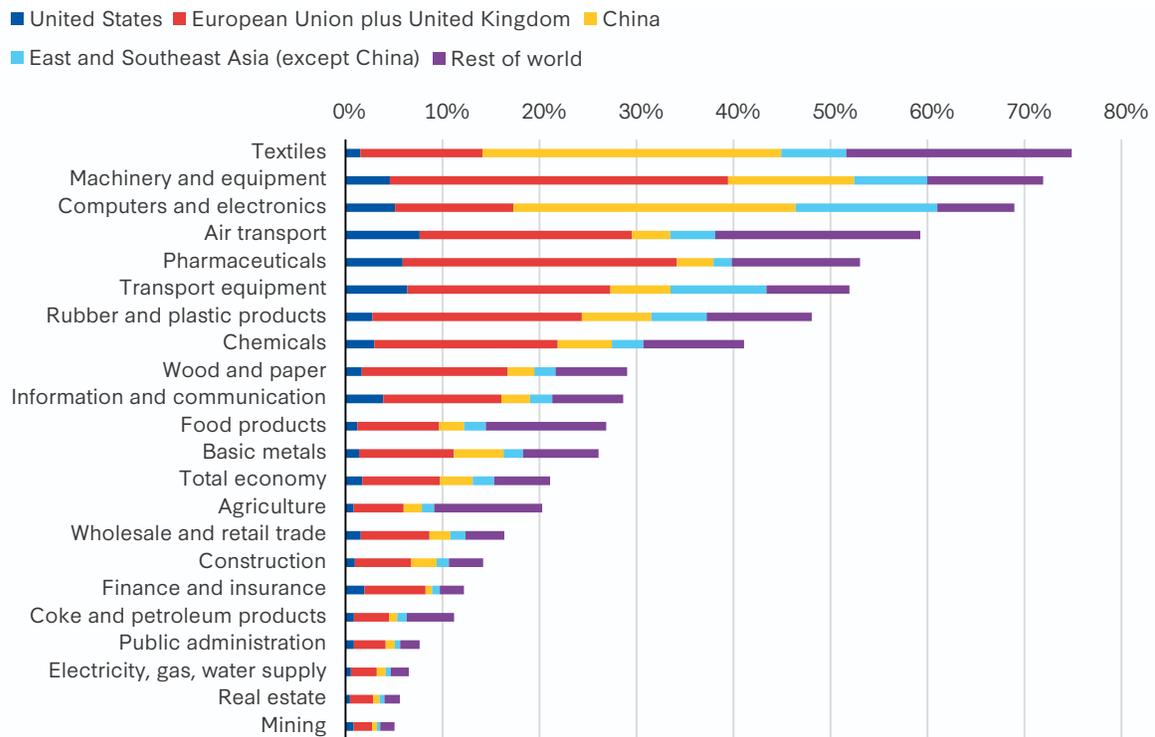
Moscow could cover its deficits by borrowing domestically. After avoiding net debt issuance for most of 2022, Moscow issued RUB 2.57 trillion (\$39 billion) in sovereign bonds—mostly with floating-rate coupons—in the fourth quarter.<sup>55</sup> Russia's debt levels, however, are quite low, with a public debt as a share of GDP of 16 percent and interest payments of only RUB 1.33 trillion (\$19.7 billion), or 4.2 percent of federal expenditures, in 2022.<sup>56</sup> The sanctions prevent the Russian government from borrowing in international markets, but—despite hype about a Russian sovereign bond default—Moscow did not rely on external borrowing even before the war.<sup>57</sup>

## Disrupted Production, Higher Prices, and Lower Living Standards

Export controls and sanctions, as well as foreign firms’ fears of running afoul of them, are weakening Russia’s economy and industrial capacity. Official Russian data suggest that overall industrial production declined only 1 percent in the months after the war began. However, military-related sectors are propping up overall industrial production, and this conceals the unequal impact across sectors and the degradation of product quality.<sup>58</sup> Sectors most reliant on foreign inputs—especially high-tech components—are those most affected. According to Organization for Economic Cooperation and Development (OECD) data, Russia’s textiles, machinery, computer and electronics, air transport, pharmaceutical, and transport equipment sectors are the most reliant on foreign inputs and, therefore, the most vulnerable to sanctions and export controls (Figure 7).<sup>59</sup> Alan Estevez, U.S. undersecretary of commerce for industry and security, claimed in June 2022 that global chip exports to Russia were down 90 percent, with 38 countries imposing export controls.<sup>60</sup> Production of motor vehicles, for example, on average fell about 61 percent from January to December 2022 compared to the previous year (Figure 8).<sup>61</sup>

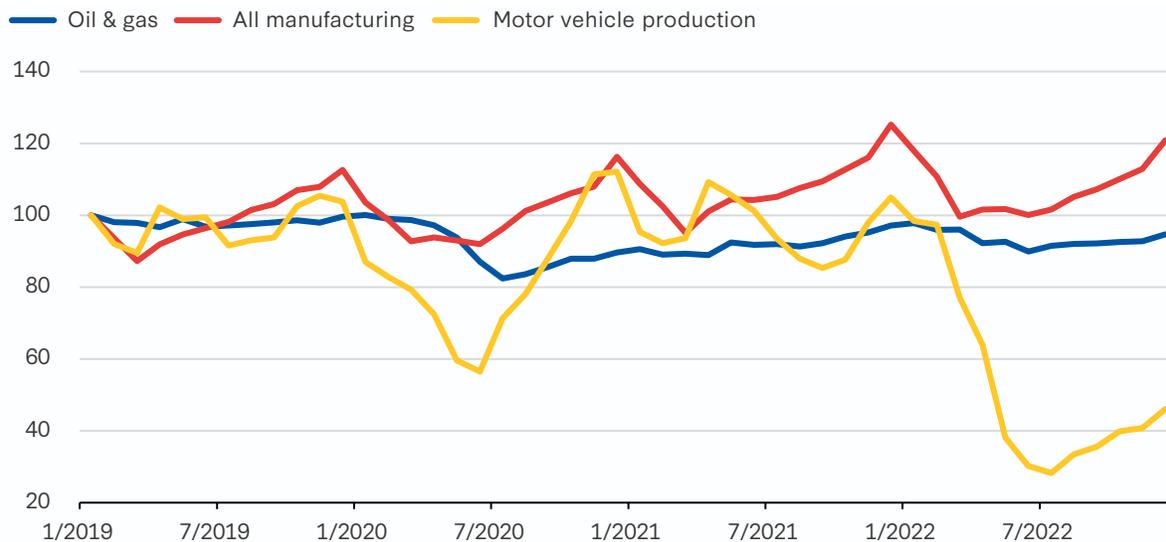
**Figure 7: Foreign Value Added in Russia’s Final Demand by Sector, 2018**

Percent



Source: CSIS’s calculations based on “Trade in Value Added (TiVA) 2021 Ed: Origin of Value Added in Final Demand,” OECD.Stat, accessed January 15, 2023, [https://stats.oecd.org/Index.aspx?DataSetCode=TIVA\\_2021\\_C3](https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2021_C3).

**Figure 8: Russian Industrial Production, January 2019–December 2022**  
 Index, January 2019 = 100 (three-month moving average)



Source: CSIS’s calculations based on “Federal State Statistics Service, Industrial Production Indexes: 2018 Base Year,” CEIC, <https://www.ceicdata.com/en>.

Export controls are also likely disrupting Russia’s armaments industry.<sup>62</sup> Moscow claims it is ramping up production of all kinds of weapons and munitions.<sup>63</sup> However, it is opting for a quantity-over-quality strategy, as some high-tech inputs and machinery are hard to obtain, limiting its ability to produce advanced weapons. Instead, the Defense Ministry is upgrading obsolete weapons, such as T-62 tanks. Furthermore, Russia’s armament production rates were inadequate to cover losses in 2022, indicating that Russia needs to dramatically expand its defense industrial base as it struggles to obtain foreign inputs and attract skilled workers.<sup>64</sup> Nonetheless, export controls are imperfect, and some controlled or dual-use high-tech goods are probably reaching Russian factories via China, Turkey, Cyprus, and the United Arab Emirates.<sup>65</sup> Chinese defense firms are reportedly provided dual-use goods to Russia, based on confidential Russian customs data.<sup>66</sup>

Many foreign companies are self-sanctioning by curtailing operations or leaving Russia, even if not required by law. As of January 2023, of more than 1,350 foreign companies in Russia, 12 percent were scaling back operations, 35 percent were suspending operations, and 24 percent had announced they would withdraw entirely.<sup>67</sup> However, a separate study showed that, as of November 2022, only 8.5 percent of EU and G7 companies in Russia had divested from the country. This reflects, in part, the difficulty of divesting equity positions quickly and under such conditions. But the study also notes that some of the exiting foreign firms maintain buy-back provisions with their former local subsidiaries, giving them the option to reenter the market in a few years.<sup>68</sup>

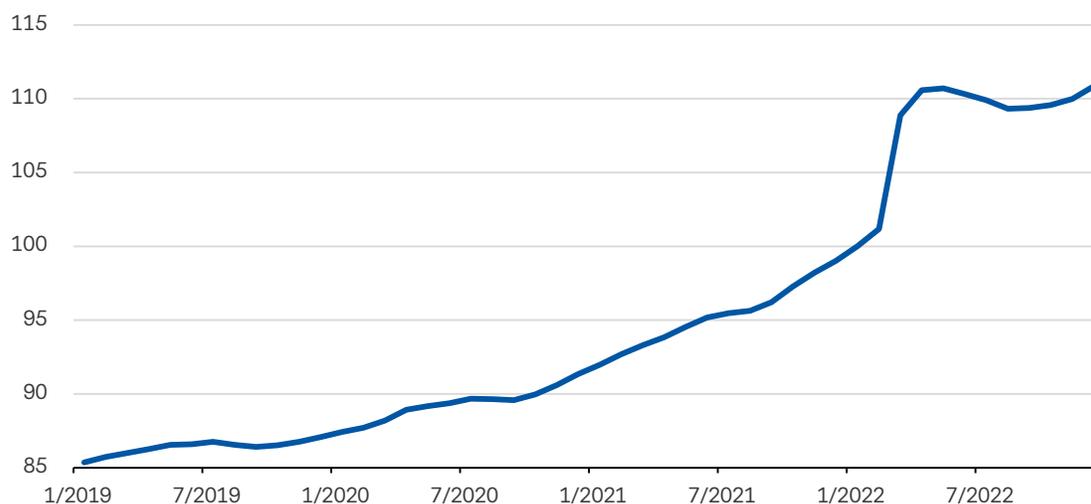
Many Russians have fled in pursuit of better opportunities or to avoid military conscription. Official statistics suggest that about 550,000 Russians emigrated during the first three quarters of 2022, up from 220,000 during the same period in 2021.<sup>69</sup> However, these figures probably understate emigration because many Russians do not want to declare their intentions to leave. Meanwhile, in September 2022, Moscow announced it would conscript 300,000 reservists.<sup>70</sup> These are notable losses for an economy that had a workforce of 75 million in 2021, but the emigrants probably skew toward those with more skills and resources.<sup>71</sup> By some

estimates, 100,000 IT professionals fled Russia after the partial mobilization in September 2022.<sup>72</sup> Tourism data suggest that primary destinations are Georgia, CIS countries, Turkey, the United Arab Emirates, and Finland.<sup>73</sup> Visa requirements limit Russians' ability to flee to Western countries.

Prices in Russia have jumped, and some foreign goods or brands are no longer available. The official consumer price index suggests that prices increased almost 11 percent in the 10 weeks after the invasion but then stabilized by early May, probably reflecting the restrengthening of the ruble (Figure 9). But inflation statistics do not account for suddenly reduced quality or what is no longer available.<sup>74</sup> For example, Russian-made automobiles no longer have airbags.<sup>75</sup>

**Figure 9: Russia's Consumer Price Index, January 2019–December 2022**

Index, January 2022 = 100

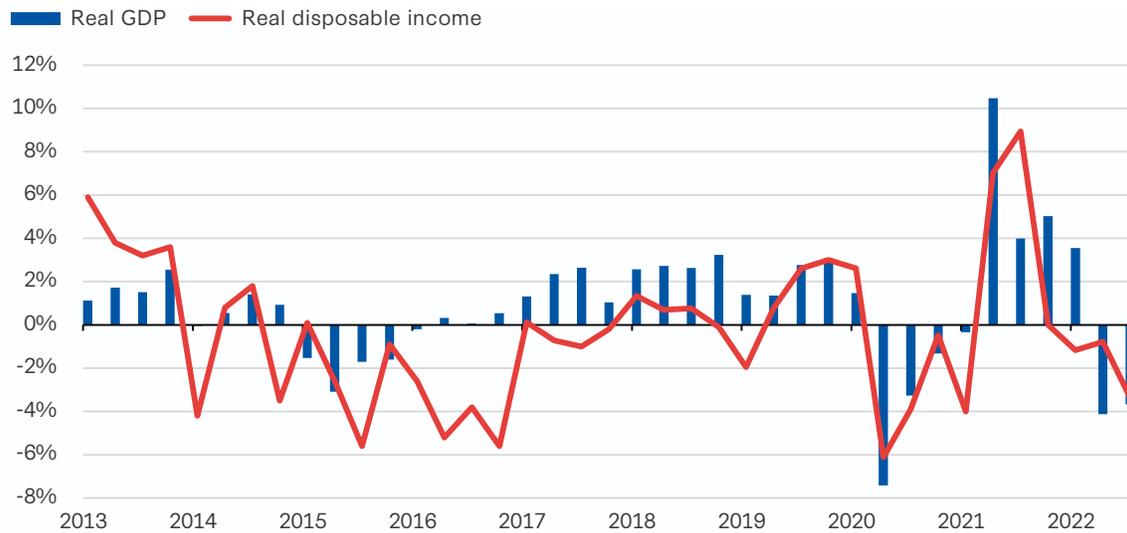


Source: CSIS's calculations based on "Federal State Statistics Service, Consumer Price Index," CEIC, <https://www.ceicdata.com/en>.

The cumulative costs of the sanctions, export controls, and war are likely adding to the economic distress of many Russian households. The average real disposable income of Russian households tripled from about 2000 to 2014 but has stagnated or declined since then (Figure 10). The war will exacerbate that trend.<sup>76</sup> Russia's headline unemployment rate—3.7 percent as of December 2022—did not increase in 2022, unlike during the previous shocks.<sup>77</sup> But this conceals the impact on Russian households. Many employers have furloughed employees or cut their pay rather than firing them. Russia is a "high-employment, low-wage" economy, where employers often pay a low base wage and offer a substantial but discretionary bonus; this allows them to adjust total compensation in response to shocks.<sup>78</sup> Workers in Russia absorbed the shock in 2022 mostly by losing purchasing power instead of jobs, evident in their falling consumption in real terms. As of December 2022, retail sales volume had fallen by 10.5 percent compared to 2021.<sup>79</sup>

**Figure 10: Russian GDP and Household Income, Q1 2013–Q3 2022**

Percent change, year over year



Source: CSIS's calculations based on "Federal State Statistics Service, Real GDP: Volume Index; Real Disposable Income Index," CEIC, <https://www.ceicdata.cvom/en>.

## HOW RELIABLE ARE RUSSIAN ECONOMIC DATA?

Before the 2022 invasion of Ukraine, Russian economic data were among the most reliable and comprehensive of any major emerging market economy. However, since the invasion, Moscow has treated some data as state secrets, making it harder to assess trends in the Russian economy and raising questions about the available data's reliability.<sup>80</sup> Before 2022, the International Monetary Fund (IMF) had categorized Russia's data as "broadly adequate," in contrast with, for example, China's data, which the IMF considers "barely adequate."<sup>81</sup> In recent years, some economists have raised concerns about the independence of Russia's Federal Service for State Statistics (Rosstat) after turnover in its leadership and suspicious data revisions.<sup>82</sup> In 2022, Moscow stopped publishing data series on foreign trade, balance of payments, the banking sector, detailed budgetary expenditures, and oil and gas production. The Russian government has classified such data, ostensibly to reduce foreign governments' ability to target the Russian economy, but some believe the data blackout is intended to hide negative economic news.<sup>83</sup> However, even with the available data, negative trends in the Russian economy remain clearly visible.

## A Dismal Economic Outlook

As the war drags on and Western economic measures persist, Russia's economic outlook will probably remain stagnant at best. In January, the IMF forecasted that Russia's GDP would grow only 0.3 percent in 2023, while the Kyiv School of Economics projected a 6.1 percent decline in 2023, with the expectations about Russia's hydrocarbon exports explaining the difference.<sup>84</sup> On the one hand, economies facing sanctions and export controls learn to adapt. But on the other hand, and in Russia's case, growing wartime demands and declining energy revenues suggest that Moscow's fiscal position will worsen and its economic trade-offs will become more acute.

Russia's oil and gas revenues will likely decline as Europe weans itself off Russian pipelines, as Russian crude oil sells at a discount, and as the European Union's embargo on refined products takes effect. European

imports of Russian gas fell from an average of 2.2 billion cubic meters per week during the first quarter of 2022 to 560 million cubic meters per week during the last quarter of 2022.<sup>85</sup>

The price of Russian crude oil has probably declined, but it is difficult to say by how much. The price of Urals crude oil—the normal benchmark for Russian oil—has fallen from \$90 per barrel in June 2022 to \$50 per barrel as of February 2023. Part of this reflects lower oil prices globally, but it is also the result of a reportedly widening spread between Urals crude oil and other global benchmarks since late 2022.<sup>86</sup> As of January 2023, this spread was primarily the result of the EU ban on Russian oil shipments, with the G7's oil price cap of \$60 having not yet been tested because Russian crude is selling at prices below the cap.<sup>87</sup> However, energy analysts note that the methodology for calculating the Urals crude price may be compromised, with Russian officials reporting lower prices to skirt the price cap and actual Russian revenues much closer to the Brent crude oil benchmark.<sup>88</sup> Chinese import data also suggest that the discount on Russian crude oil shrank from the third to the fourth quarter of 2022.<sup>89</sup>

Nonetheless, in December 2022, Russia's energy export earnings fell to an estimated \$678 million per day, down from a peak of about \$1 billion per day from March to May 2022.<sup>90</sup> A Russian official said in January that the EU ban on Russian refined petroleum products, which took effect on February 5, 2023, will limit Russia's ability to export such products and result in substituting crude oil in its exports.<sup>91</sup>

Russia's 2023 federal budget calls for expenditures of RUB 29.1 trillion (\$416 billion) and revenues of RUB 26.1 trillion (\$373 billion), but it assumes that Russian crude oil will be sold for \$70 per barrel.<sup>92</sup> The budget also projects national defense and national security expenditures of RUB 4.97 trillion (\$71 billion) and RUB 3.56 trillion (\$51 billion), respectively. Together, these items would account for nearly 30 percent of the budget.<sup>93</sup> Planned expenditures on infrastructure, healthcare, education, and research and development are due to be cut, though Moscow probably will continue to prioritize assistance to the poorest households for political reasons.<sup>94</sup> Russia's finance minister admitted in December 2022 that the planned fiscal deficit of only 2 percent of GDP in 2023 may not be attainable.<sup>95</sup> The budget also assumes Russia's GDP will decline by 0.8 percent in 2023.<sup>96</sup> Preliminary budget data indicates that Moscow's fiscal deficit reached RUB 1.76 trillion (\$25 billion) in January 2023 because oil and gas revenues dropped to RUB 426 billion (\$6 billion), a 54 percent decrease from December 2022, and because of a surge in military spending.<sup>97</sup>

In the longer term, Russia's economic prospects are bleak. The exodus of foreign firms and skilled Russian workers are risks to Russia's economic potential. Russia might struggle to maintain oil and gas production at current levels because of controls on needed foreign technologies. Assuming the Western measures remain in place, Russia likely will attempt import substitution of foreign technologies—with which it has a poor track record—or reorient its economy toward Asia, especially China. This latter shift has already begun, but the geographic center of the Russian economy is much closer to Europe. Furthermore, becoming overly reliant on China for manufactured goods and technologies poses its own geopolitical risks to Russia.<sup>98</sup>

# The Goals and Effectiveness of the Economic Measures on Russia

Whether the sanctions and export controls are *having an effect* and whether they are *effective* are distinct questions. As discussed in the previous chapter, sanctions and export controls are having an effect. But the answer to whether they are effective depends on Western policymakers' goals. Their primary objectives have evolved from trying to *deter* Russia from invading Ukraine, to attempting to *destabilize* Russia's economy to compel a termination of the war, to *degrading* Russia's ability to sustain its war effort, perhaps over the long term.<sup>99</sup>

The first goal, deterrence, failed for at least two reasons. First, Western leaders did not communicate accurately the extent to which they were willing to sanction Russia if Putin invaded. Western allies ended up enacting stronger measures than suggested before the invasion. For example, before Russia's attack, the White House suggested that the initial sanctions package would not bar Russian banks from SWIFT, and no one publicly discussed sanctions on the CBR.<sup>100</sup> Second, and more significantly, Putin believed Russia would quickly win the war and that the European Union and Japan would not join U.S. sanctions efforts.

Western leaders did not initially signal their intent to impose such measures for several reasons. First, some Western governments—excluding the United States and United Kingdom—did not believe Putin would invade Ukraine.<sup>101</sup> Second, those who believed Putin would attack probably did not expect the strength and effectiveness of Ukrainian resistance, perhaps believing that imposing large costs would be in pursuit of a hopeless goal. Third, they did not anticipate the degree of moral outrage that would emerge, especially in Europe.<sup>102</sup>

However, threats of stronger economic measures from Western leaders still may not have deterred Putin. A month before the full-scale invasion, economic officials reportedly briefed Putin on the potential impacts of sanctions if Russia attacked Ukraine. Officials predicted severe economic effects worse than what ended up happening to the Russian economy, yet Putin still proceeded with his war plans.<sup>103</sup> In January 2023, he boasted that the Russian economy had weathered the sanctions better than Russian economists had expected.<sup>104</sup> But he also believed the war would be brief and that Ukraine would collapse from the Russian onslaught.<sup>105</sup> If that had been the case, it is unlikely that a similar Western economic coalition would have emerged, persisted, and

imposed multiple tranches of sanctions. When considering deterrents, Putin weighed his military, economic, and strategic assumptions. Given those, he might have decided differently if military deterrence, either from Ukraine or other countries, had been stronger. But such military deterrence would have been complicated by Putin's obliviousness to major weaknesses within Russia's military.<sup>106</sup>

The second goal, destabilization, appeared within reach—at least economically, if not politically—in the weeks following the invasion but faded after Russia's financial sector recovered. At the time, some observers speculated that financial instability and widespread freezing of oligarchs' assets might trigger political developments resulting in an end to the invasion.<sup>107</sup> This was probably not a widespread view within Western governments, at least among sanctions experts, but it at least seemed plausible and offered hope at a time when Ukraine's military position was in doubt. The sanctions, especially on the oligarchs, also had the added benefit of showing to Ukraine and the Western public that governments were taking action and punishing bad actors.<sup>108</sup>

The third goal, degradation, is a work in progress. Western officials have said that the sanctions and export controls are intended to weaken Russia's ability to sustain its war effort.<sup>109</sup> The measures are doing that to a degree, and additional sanctions—especially on oil and gas exports—could add to this pressure. But they are unlikely to be as decisive as battlefield outcomes, to which they might contribute by reducing the quantity and quality of Russian armaments. This might be reason enough to maintain or, if possible, strengthen the sanctions and export controls, at least for the duration of the war.

## **An Economic Theory of Victory?**

Could these economic measures alone bring an end to Russia's aggression? An economic theory of victory hinges on imposing enough economic suffering on Russians, both elites and the general population, to force an end to the war.

The main mechanism by which pressure could be brought to bear on the Russian population is likely inflation.<sup>110</sup> In theory, if the Russian government's fiscal revenues—especially from oil and gas—could be reduced and its fiscal savings exhausted, Moscow would have the option of cutting expenditures, raising taxes, or borrowing domestically.<sup>111</sup> Cutting spending is difficult during a war, unless the cuts are concentrated on nonmilitary areas like social payments, education, or healthcare. Raising taxes would increase the transparent costs of the war for Russians if imposed on households or as value-added taxes; if imposed on businesses, employment or wages could suffer. The most expedient option would be to borrow. With Russia's limited access to foreign capital markets, Moscow would have to borrow from domestic banks or perhaps the CBR, increasing the risk of inflation if done at scale, in order to spend on domestic goods and services. Because of its low debt levels, Moscow surely could borrow, but the flow of new credit and spending matters for inflation.

The economic measures aimed at Russia function like Allied strategic bombing in World War II: they are weakening Russia by attrition and perhaps by lowering morale. But the historical track record of using punishments—economic, bombing, or otherwise—to break a country's will to fight is poor.<sup>112</sup> Indeed, Putin is trying to break Ukrainians' will, including by attacking civilian targets, but he has not succeeded.<sup>113</sup>

In Russia's case, many workers have already experienced a decade of stagnant or declining real wages. One interpretation might be that they have become hardened to such conditions. But another could be that they will eventually respond angrily because of the cumulative costs. Some research suggests that personalist authoritarian regimes are sensitive to revenue losses and sanctions, but dominant single-party or military regimes are more resilient.<sup>114</sup>

Economic factors are among several pressures on Putin's regime, including battlefield setbacks and losses, conscription, and weakening credibility. However, other factors such as propaganda, repression, and elites' dependence on the existing system help stabilize the regime. Experts can only speculate which factors, if any, might trigger a power transition in Moscow, though such a transition is at least possible because of a coup, mass protests, or collapse in governance.<sup>115</sup> The only outcome one can predict with confidence is that the war will need to end eventually.

# Comparing Russia and China as Economic Targets

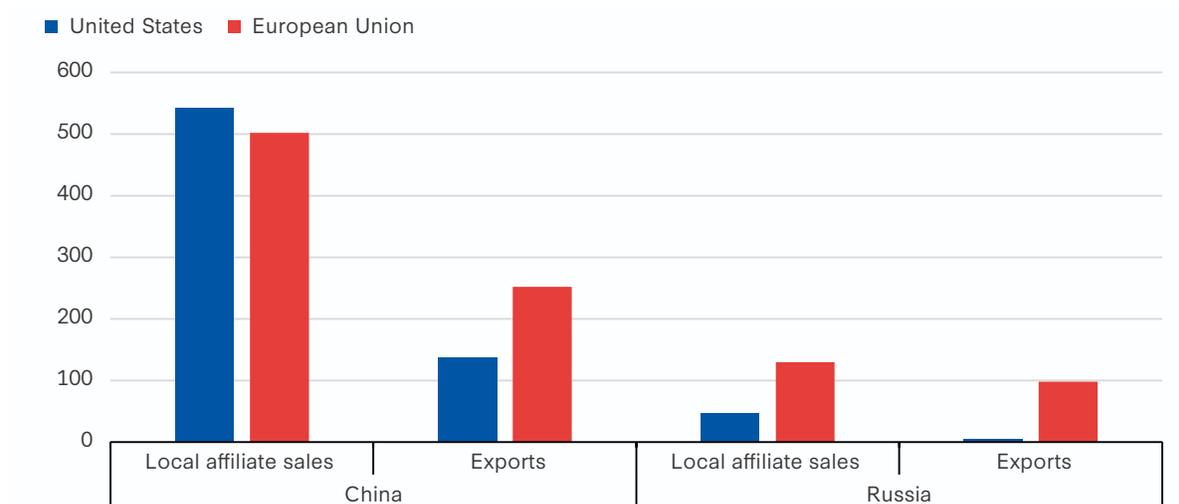
The sanctions and export controls on Russia since early 2022 have spurred discussions in capitals and boardrooms about whether and under what circumstances such measures would be aimed at China. In this project, the authors will analyze the probability, practicality, and implications of using such measures against China under various scenarios in subsequent studies. Comparing the Russian and Chinese economies offers insights into how much more difficult and disruptive imposing equivalent measures on China would be.

The biggest differences between the economies and financial sectors of China and Russia are their size, importance to international firms and investors, and degree of integration into global supply chains. In 2021, China's GDP was \$17.7 trillion, 10 times that of Russia.<sup>116</sup> China's domestic bond market was \$21 trillion, 46 times the size of Russia's.<sup>117</sup> The market capitalization of domestically listed Chinese firms was more than \$12.2 trillion, 18 times that of Russian firms.<sup>118</sup> China's commercial banking sector had \$54 trillion in assets, 33 times the assets of Russian banks.<sup>119</sup>

China is far more important as a destination for international investment, and its domestic market and manufacturing ecosystem are critical for many Western firms. At the end of 2021, foreign banks had nearly \$1.4 trillion in claims on China, compared to \$121 billion in claims on Russia.<sup>120</sup> The stock of foreign direct investment in China was \$3.6 trillion, compared to \$610 billion in Russia, though balance of payments statistics understate the value of those investments in China.<sup>121</sup> EU firms were far more exposed to the Russian market than U.S. firms before 2022. For the United States, imposing sanctions on Russia was comparatively easy because Russia was a modest market for U.S. multinationals and a small destination for U.S. exports. But for both EU and U.S. firms, China is an enormous market. While China has not proved the booming market for U.S. exports many hoped, accounting for only about 7 percent of U.S. exports for the past decade, it is an important market for local affiliates of U.S. firms in China (Figure 11).<sup>122</sup>

**Figure 11: Local Affiliate Sales in and Exports to China and Russia, 2019**

USD, billions

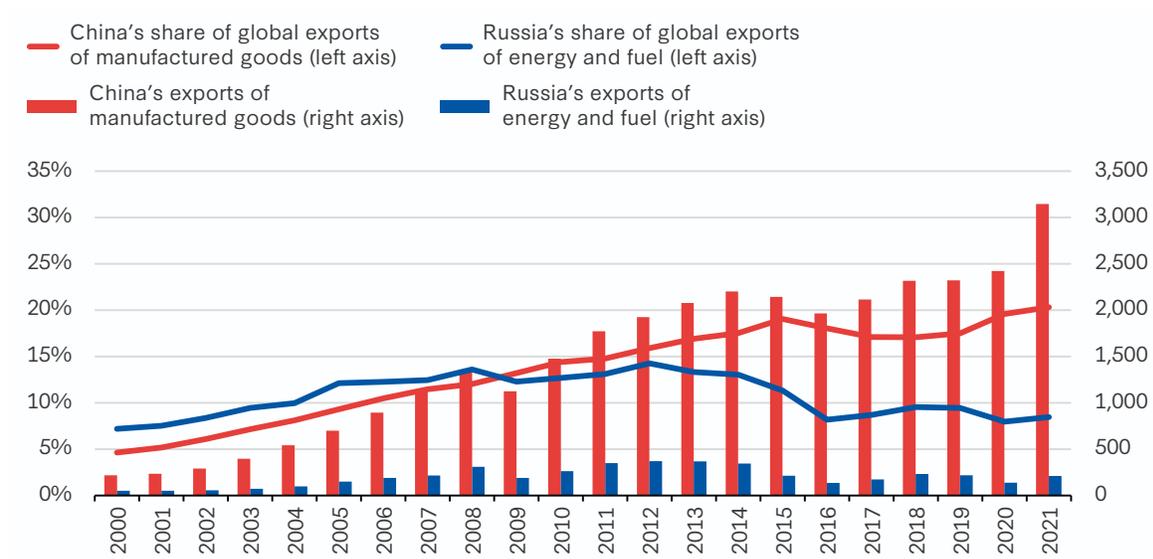


Source: CSIS’s calculations based on “U.S. Direct Investment Abroad: Activities of U.S. Multinational Enterprises,” U.S. Department of Commerce Bureau of Economic Analysis, <https://www.bea.gov/international/di1usdop>; “Outward FATS, main variables - NACE Rev. 2: Industry, construction and services (except public administration, defense, compulsory social security)” Eurostat Data Browser, [https://ec.europa.eu/eurostat/databrowser/view/FATS\\_OUT2\\_R2\\_\\_custom\\_4702223/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/FATS_OUT2_R2__custom_4702223/default/table?lang=en); “U.S. Census Bureau, Exports to China and Russia,” CEIC, <https://www.ceicdata.com/en>; “Eurostat, Exports to China and Russia,” CEIC, <https://www.ceicdata.com/en>.

China and Russia are both current account surplus countries with large exports. The key difference is that whereas Russia exports commodities and imports manufactured goods, China’s trade position is the reverse, with China being the world’s factory and top exporter of manufactured goods. In that regard, China is more important because its market share of global manufactured goods exports is more than twice Russia’s market share of global energy and fuel exports (Figure 12).<sup>123</sup>

**Figure 12: China and Russia: Share of Global Exports, 2000–2021**

Percent (left axis); USD, billions (right axis)



Source: CSIS’s calculations based on “World Bank, Exports: Goods,” CEIC, <https://www.ceicdata.com/en>.

For multinational firms, pulling out of Russia or finding alternatives to Russian goods is far easier than in the case of China and Chinese goods.<sup>124</sup> Whether a specific good can be sourced from elsewhere or substituted depends on the global market dynamics and nature of that good. As such, there is no simple answer to whether it is easier to sanction a commodity or manufactured goods exporters, although commodities probably are more fungible than manufactured goods in general. But the centrality of China to multinationals for production suggests that many Chinese-made goods cannot be easily replaced. Foreign-funded firms accounted for more than 30 percent of China's \$3.6 trillion in exports in 2022.<sup>125</sup>

Chinese firms rely on some foreign technologies and inputs but much less so than Russian firms. Domestic value added accounted for 79 percent of China's manufacturing sector in 2018—the latest data available—compared to only 57 percent of Russia's manufacturing sector.<sup>126</sup> If Western governments wanted to allow trade in critical goods with China to continue under sanctions, they would need far more carve outs than required for energy and commodities trade with Russia. There might be so many critical inputs from Chinese factories that a sanctions regime might need to exempt more than it covers to avoid causing massive global disruptions.

All of this suggests that foreign governments would be far less willing to apply comparable sanctions or export controls to China. Economic disruptions would be an order of magnitude worse, though this does not mean that such measures are impossible, as economic logic may be a lower priority than strategic, national security, or moral considerations in a crisis.<sup>127</sup> However, the bar would be high, and the United States would probably struggle to organize and sustain the same economic coalition against China. The composition of such a coalition would depend in part on the nature of the crisis, its perceived causes, the state of the global economy, and the quality of Western leadership.

Still, China's economic heft does not mean it is invulnerable to foreign economic coercion. Beijing is aware that China's economy has three key external vulnerabilities: foreign technologies, imported commodities such as food and fuel, and reliance on the U.S. dollar for international finance.<sup>128</sup> Beijing is trying to address these vulnerabilities through self-sufficiency efforts, which form the basis of much of the 14th Five-Year Plan (2021–25).<sup>129</sup> The economic measures aimed at Russia have reinforced Beijing's concerns about such vulnerabilities.<sup>130</sup> China also has domestic weaknesses, including government, corporate, and household debts totaling 295 percent of GDP, compared to only 120 percent of GDP in Russia.<sup>131</sup>

Another key distinction is that Russia's economy has been largely stagnant for a decade while China's economy continues to grow. Chinese leaders remain committed to economic development, albeit with a greater focus on national security.<sup>132</sup> This could have implications for their relative priorities in a crisis and their sensitivity to economic deterrents.

# Lessons for the Potential Use of Sanctions against China

The sanctions and export controls on Russia so far demonstrate at least 10 major lessons with implications for potential sanctions or export controls against China in a potential crisis over Taiwan.

**First, while economic interdependencies did not deter Russia, Putin’s decision to launch a full-scale invasion of Ukraine depended on contingent factors that Western policymakers should not overextrapolate to other cases.** The Russia-Ukraine war is a sample size of one. Policymakers should not conclude that economic deterrence is irrelevant, including for Chinese leaders. It is troubling that Moscow was willing to risk its main export market and its access to needed imported technologies in pursuit of territorial expansion.<sup>133</sup> However, Chinese leaders and the Chinese Communist Party have a different cost-benefit calculus than Putin and his personalist regime. In the current context, the apparent reluctance of Chinese firms to offer lethal aid to or violate export controls on behalf of Russia suggests they fear secondary sanctions.<sup>134</sup> Beijing is unlikely to believe that any military action against Taiwan would be as easy as Putin believed the invasion of Ukraine would be. It is important that Western leaders credibly communicate to Beijing that unilateral changes to the status quo regarding Taiwan risk catastrophic costs that would exceed any plausible benefits for China.<sup>135</sup>

**Second, if economic sanctions are to be used as a deterrent, the United States and its allies should not undersell their willingness to impose such measures.** Any threats need to be credible and of sufficient severity to affect Chinese leaders’ calculus. Such warnings should be specific enough to credibly signal that Washington is serious but without giving away details that might allow Beijing to better prepare for their impact. That said, sanctions on individuals likely require more secrecy for impact, as an individual or firm could quickly reposition their assets, whereas broad sanctions on a country’s banking sector or economy cannot be evaded quickly. When or under what circumstances during a crisis the United States should impose such measures is a related and important question, which the authors will explore in future analysis.

**Third, the effectiveness of U.S. sanctions or export controls would be greatly increased if imposed in coordination with U.S. allies.** For example, without multilateral sanctions against Russia, the CBR would still have access to most of its reserves, with only its overseas U.S. dollar assets frozen. To stop it from using those assets, Washington would have had to threaten—and perhaps use—secondary sanctions against financial institutions in allied countries, a costly diplomatic move. Allied coordination is also essential for export control regimes. The United States could rely on foreign direct product rule provisions to impose export controls extraterritorially on a target economy through allied countries. But such an approach would incentivize replacing U.S. components and intellectual property in the long run as well as potentially angering allied governments.<sup>136</sup> Washington needs to work with like-minded nations to supplement the Wassenaar Arrangement for export controls.<sup>137</sup>

**Fourth, multilateral measures could be more effective economically and as a signaling mechanism if Washington prepares for relevant contingencies with allies well in advance of any crisis.** This could be difficult in part because it is hard to anticipate how governments, their polities, and their media would respond to an unprecedented crisis, such as a potential Chinese attack on Taiwan. But it is better to discuss such scenarios early, in part to avoid scrambling like the Western allies did after Russia's 2022 invasion of Ukraine.

**Fifth, the United States and its allies should make early investments in their administrative, intelligence, and enforcement capabilities for sanctions and export controls.** Managing a more complicated regime—especially one aimed at China—would require more resources. For example, the Bureau of Industry and Security in the U.S. Commerce Department needs more resources to manage the export control measures it is already overseeing.<sup>138</sup> Bureaucracies take time to expand and develop. Whatever the gap in expected needs and existing resources, it should be addressed sooner rather than later.

**Sixth, the war in Ukraine highlights the relative importance of flows of real exports and imports—in part dependent on geography—compared to financial flows in determining outcomes.** Until recently, economic policy discussions often focused on financial flows and deemphasized supply chains, commodities, and physical access because the latter have been reliable for the past few decades. But money cannot solve everything, especially during wars, pandemics, or other crises.<sup>139</sup> Ultimately, the effectiveness of any sanctions or export control regime is determined by the target economy's inability to access needed supplies, which is downstream of, but not completely determined by, its ability to access hard currency.

**Seventh, inflicting maximum economic pain on a target country requires cutting off its sources of external financing and trade, and that is not what the current sanctions do to Russia.** While Russian imports are down, Russia is still largely permitted to export its commodities and goods. Roughly 20 percent of Russian banks by assets are not under sanctions, and some major banks such as Gazprombank and Alfa-Bank are under partial sanctions.<sup>140</sup> Cutting off some Russian banks' access to international networks and foreign currency settlement hurts those banks. Freezing reserves can be effective, but ultimately what matters for the target economy is flows, not stocks, of trade and finance. As long as trade in most goods is permitted and there are financial carve outs to allow such trade, sanctions can only go so far. Compared to efforts to sanction other countries, the measures aimed at Russia are vast in scope but not necessarily in intensity. The sanctions on Russia are less comprehensive than those aimed at Iran, for example, primarily because Russia is still allowed to export commodities, while Iran is mostly prohibited from exporting energy by unilateral U.S. sanctions, enforced by the threat of secondary sanctions.<sup>141</sup>

**Eighth, the effectiveness of measures can wane as the target and third parties find work-arounds, and their sustained use against major economies can spur networks to evade the measures.** Financial

sanctions can have a sharp but shorter impact, while export controls may be more difficult to ramp up but more impactful over the long run. Many firms or banks will initially overcomply with the measures until their limits are clarified. Sustaining measures over the long term will incentivize work-arounds, especially if the target economy offers a large market or important exports. The U.S. dollar is unlikely to lose its preeminent status as the global currency, at least in the medium term.<sup>142</sup> However, there is a lower threshold and greater risk that sanctioned countries will find ways of settling international transactions outside the reach of the U.S. dollar network and U.S. financial sanctions. For example, Russia is already encouraging international payments in the currencies of “friendly” countries, particularly in renminbi.<sup>143</sup> China and some other countries would remain interested in such networks even if the sanctions on Russia were removed, but keeping the sanctions in place increases the pressure to operationalize such networks.

**Ninth, economic sanctions are ultimately a political decision, and their effectiveness is determined by the willingness of leaders in Washington and other key capitals to pay costs.** High inflation has contributed to Western leaders’ hesitance to comprehensively sanction Russian energy exports. But even under more benign conditions, the United States probably would be reluctant to disrupt global commodity markets and impose enormous costs on Europe with such an action. Similar measures aimed at China would be even more disruptive.

**Finally, economic deterrence is generally a supplement to, not a substitute for, military deterrence.** Whatever the criticisms about the concept of “integrated deterrence,” policies, signals, and interests need to be considered holistically.<sup>144</sup> Washington’s perceived willingness to sustain economic costs via sanctions or export controls has implications for its willingness to sustain military costs in a crisis. To put it bluntly, if Chinese leaders do not believe the United States or its allies would be willing to use globally devastating sanctions in a crisis over Taiwan, why would they believe the United States would intervene militarily when a regional conflict could be just as economically disruptive?

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