

Simola, Heli

Research Report

The role of war-related industries in Russia's recent economic recovery

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2023 No. 16

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Bank of Finland
BOFIT – Institute for Emerging Economies

PO Box 160
FIN-00101 Helsinki

Phone: +358 9 1831

Email: bofit@bof.fi
Website: www.bofit.fi/en

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Heli Simola

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Abstract

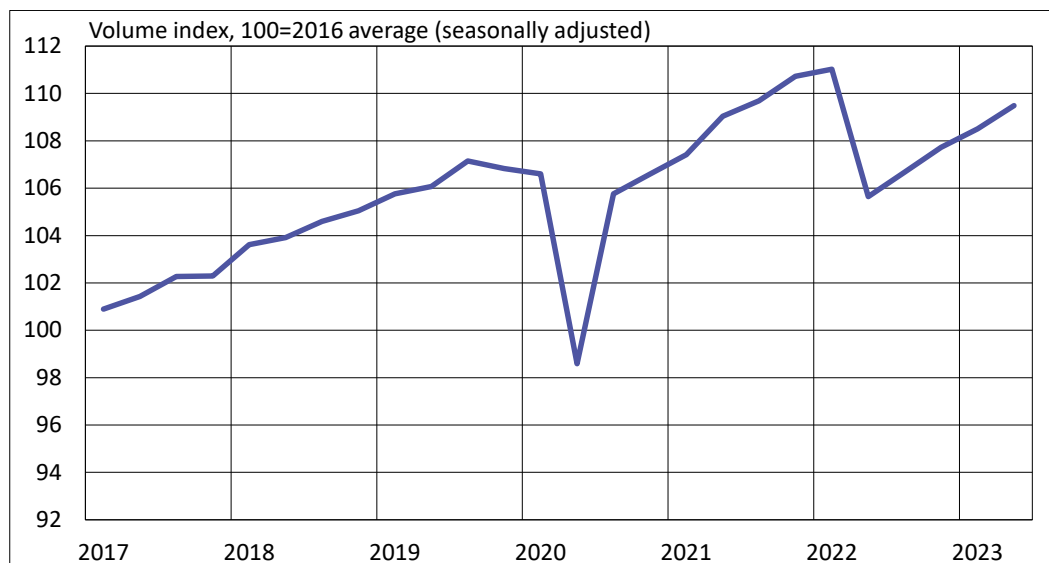
We construct a proxy for Russia's war-related output to evaluate the macroeconomic importance of war-related branches for Russia since the 2022 invasion of Ukraine. Our results suggest that war-related branches contributed significantly to Russia's economic recovery after the sharp decline of GDP in spring 2022. The largest contribution came from low-tech industries where Russia is less dependent on imports. With war-related branches diverting resources from civilian industries, Russia will find it increasingly difficult to maintain its current level of growth.

Keywords: Russia, economy, military industry, sanctions

1. Introduction

Russia's economy suffered a sharp contraction in spring 2022 after the invasion of Ukraine (Figure 1). The subsequent gradual recovery has been due largely to a substantial increase in public spending, including a large chunk of new public spending related to warfare. According to official figures from September, the category "defense" will account for 21 % of total federal budget expenditures in 2023, even overlooking the fact that other spending categories also include war-related expenditures.

Figure 1. The level of Russian GDP in 2017–2023.



Source: Rosstat.

Government spending has provided a large boost for industry and construction branches directly linked to the war effort. In this brief, we evaluate the contribution of war-related branches to Russia's manufacturing and GDP growth in 2022–2023. In the absence of available direct data on production associated with the war effort, we construct a proxy indicator that covers key sectors with direct linkages to warfare.

While our results can only be taken as indicative, they suggest that war-related branches have contributed significantly to the economic recovery of the manufacturing sector and GDP growth more broadly. The largest contributions have come from relatively low-technology branches such as manufacturing of fabricated metals, where Russia is less reliant on imports and thereby less affected by Western sanctions. Sanctions make production of sophisticated goods challenging and costly.

The strong reliance of Russia's recovery on war-related branches suggests that maintaining the current level of growth could become increasingly difficult for Russia. Continuously increasing public spending is not sustainable and the military industries are reported to suffer from capacity constraints, particularly the lack of labor (Luzin, 2023). As the military production drains resources from civil production, the paths to growth for civilian industries become elusive. The focus on military production has also degraded Russia's longer-term economic outlook. For example, the output of services associated with scientific research in 2022 was notably below that of 2011.

The brief is organized in the following way. Section 2 analyzes importance of war-related industries in Russian manufacturing. The analysis is extended to the level of GDP in section 3. Section 4 provides concluding remarks.

2. War-related industries and Russian manufacturing

We start with an examination of Russia's manufacturing statistics for changes in the role of war-related industries in Russian growth. Obviously, Russia does not release precise figures on its war-related industries, so our results are only indicative of trends. Moreover, the uncertainty associated with official statistical data has increased since the invasion in Ukraine. This initial analysis nevertheless establishes that war-related industries have become a key driver of Russia's manufacturing growth.

We construct a proxy indicator for war-related industries. It covers manufacturing of fabricated metals (includes arms and ammunition), manufacturing of computers, electronic and optical equipment (includes essential inputs for the military industry) and manufacturing of other transport equipment (includes manufacture of military fighting vehicles subcategory). Production in these industries is not, of course, exclusively war related, and other industries may manufacture products and components that support the war effort, but our proxy gives at least an indication of developments in war-related industrial output.¹

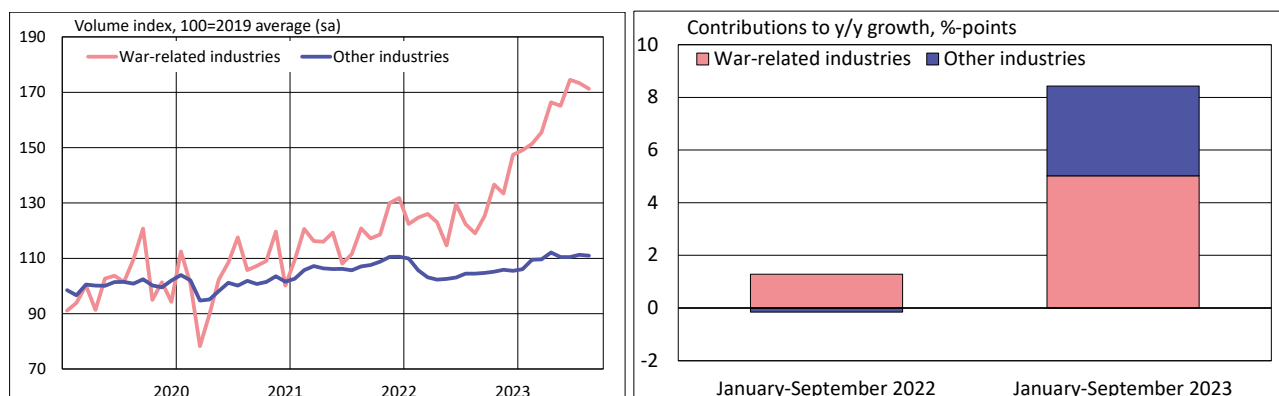
We construct a time series for war-related manufacturing output by combining data reported by Russia's federal statistics bureau Rosstat on the change in the volume of output by industries and the weights of these industries in Russia's value added. The latest weights available are from 2018. We have output data from January 2015 to September 2023.

Unsurprisingly, our proxy indicator suggests that the output in war-related manufacturing industries grew much faster than in other manufacturing industries. Compared to the months immediately preceding Russia's invasion of Ukraine, the output volume of war-related industries has grown by about 35 %, while the aggregate trend for other industries has remained flat (Figure 2A).

In January-September 2022, war-related industries accounted for all of the 1 % year-on-year growth recorded in Russia's manufacturing output. Output in other industries as an aggregate declined slightly. In January-September 2023, about 60 % of the growth in manufacturing output came from war-related industries (Figure 2B), but other industries including food processing and oil refining also contributed to positive growth.

¹ The chemical industry, following e.g. Luzin (2023), could also be included as a war-related branch of industry.

Figure 2. A) Output volume in Russia's war-related and other industries in 2019-2023; B) Contributions of war-related and other industries to annual growth of Russia's manufacturing in January-September 2022 and 2023.



Note: The annual growth rates in panel B are not identical to the figures reported by Rosstat due to such factors as seasonal adjustment.

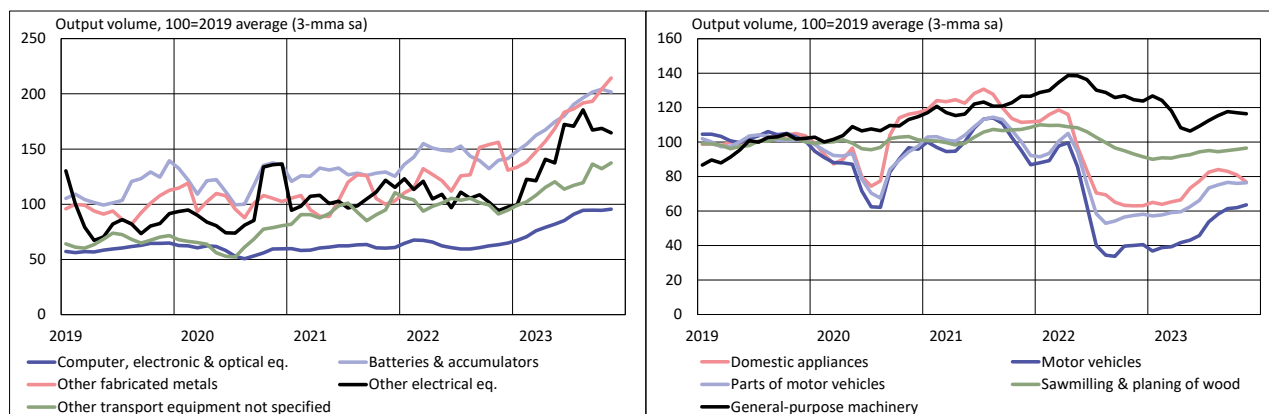
Sources: Author's calculations based on CEIC/Rosstat data.

The largest growth contribution within the war-related manufacturing industries originated from manufacturing of fabricated metals. In this relatively low-technology industry, Russia is less dependent on imports and has succeeded in increasing production despite sanctions. Restrictions on technology exports to Russia particularly affect the production of more sophisticated goods. Such production suffers from the lack of access to high-tech components and the poor quality of substitutes available from non-sanctioning countries (Bergmann et al., 2023; Luzin, 2023).

At a more disaggregate level, output of goods potentially related to military industry also dominated among fastest-growing branches. Goods with highest output growth between 3Q2021-3Q2023 include computer, electronic and optical products, batteries and accumulators, the "other" category in fabricated metals, electrical equipment and other transport equipment (Figure 3A). In these categories, output was 1.5-2 times higher in 3Q2023 than in 3Q2021.

Apart from goods directly related to the military industry, output of thermal coal and pesticides grew rapidly. The weakest output trends were in industries that rely on foreign companies and inputs or export markets, as well as consumer-related industries. For example, output of vehicles and their parts fell by 30 % between 3Q2021 and 3Q2023, while output of domestic electrical appliances was down by 24 % (Figure 3B).

Figure 3. Output trends in select Russian manufacturing industries: A) best-performing industries, B) worst-performing industries.

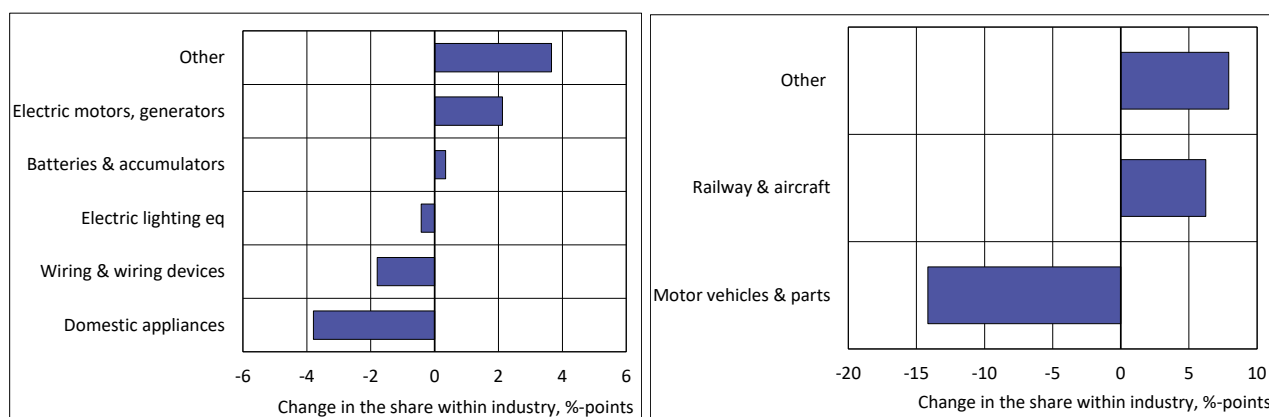


Source: Author’s calculations based on CEIC/Rosstat data.

The high growth in war-related industries and decline in many civilian industries has altered the structure of Russian manufacturing. The share of war-related industries has increased, while the share of civilian production – and consumer-related industries in particular – has declined. Rosstat reports that the combined share of war-related industries (i.e. fabricated metals, computers, electronic and optical equipment and other transport equipment than motor vehicles) in Russian manufacturing was 14 % in 2018. For the period January-September 2023, that share had climbed to nearly 20 %.

Similar shifts are visible within specific industries. For example, war-related output has replaced consumer-related output in manufacturing of electrical equipment (where the share of domestic appliances has declined) and transport equipment (where the share of motor vehicles and their parts has declined) between 2018 and 2023 (Figure 4A and 4B).

Figure 4. Change in the share of subcategories between 2018 and January-September 2023 within A) manufacturing of electrical equipment and B) the transport equipment industry.



Sources: Author’s calculations on CEIC/Rosstat data.

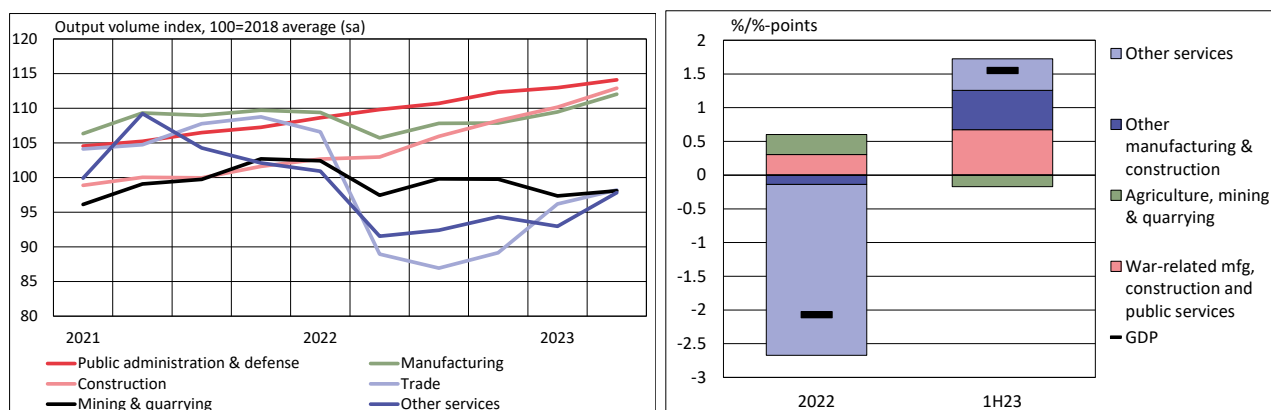
3. War-related output and Russia's GDP

In this section, we extend the analysis from manufacturing to total GDP and evaluate the contribution of war-related output on Russian GDP growth. Our estimate focuses solely on fields with straightforward linkages to war. We first include industrial output associated with war as discussed above. Next, we take into account construction works in Russian regions bordering Ukraine² and the Ukrainian territory of the Crimean peninsula occupied by Russia since 2014. Most of this activity is presumably connected to Russia's war efforts (Vesala, 2023). Finally, we include services classified as public administration and defense. This proxy is only indicative but helps illustrate the current importance of war-related branches in the Russian economy.

Russian GDP contracted sharply in 2Q2022 following Russia's invasion of Ukraine, but thereafter gradually recovered. Developments in Russia's war-related and other industries are quite diverse (Figure 5A). The drop in GDP in 2022 was led by trade and other consumer services, while post-invasion growth accelerated in defense services and construction. There was also a sharp uptick in travel services in 3Q2022 that may partly reflect recovery after covid restrictions and partly the spike in emigration after the invasion. In any case, the share of travel services is small in Russian GDP. The overall growth contribution of manufacturing was negative in full year 2022, but trends within manufacturing were diverse. As shown in section 2, the branches connected to war recorded rapid growth, while many other branches contracted.

The recovery of Russian GDP in 2023 has been led by manufacturing and construction, particularly those branches linked to the war. Government services associated with the defense sector also had an important contribution to growth. By our estimate, war-related branches (war-related manufacturing, war-related construction and public services to defense) accounted for about 40 % of Russia's 1.6 % on-year GDP growth in 1H2023 (Figure 5B).

Figure 5. A) Development of select Russian branches in 2021–2023; B) GDP growth contributions of various branches in 2022 and 1H2023.



Note: In panel B, “other services” are calculated as the residual since the sum of contributions is not precisely equal to the headline GDP growth figures.

Source: Author's calculations based on data from Rosstat/CEIC.

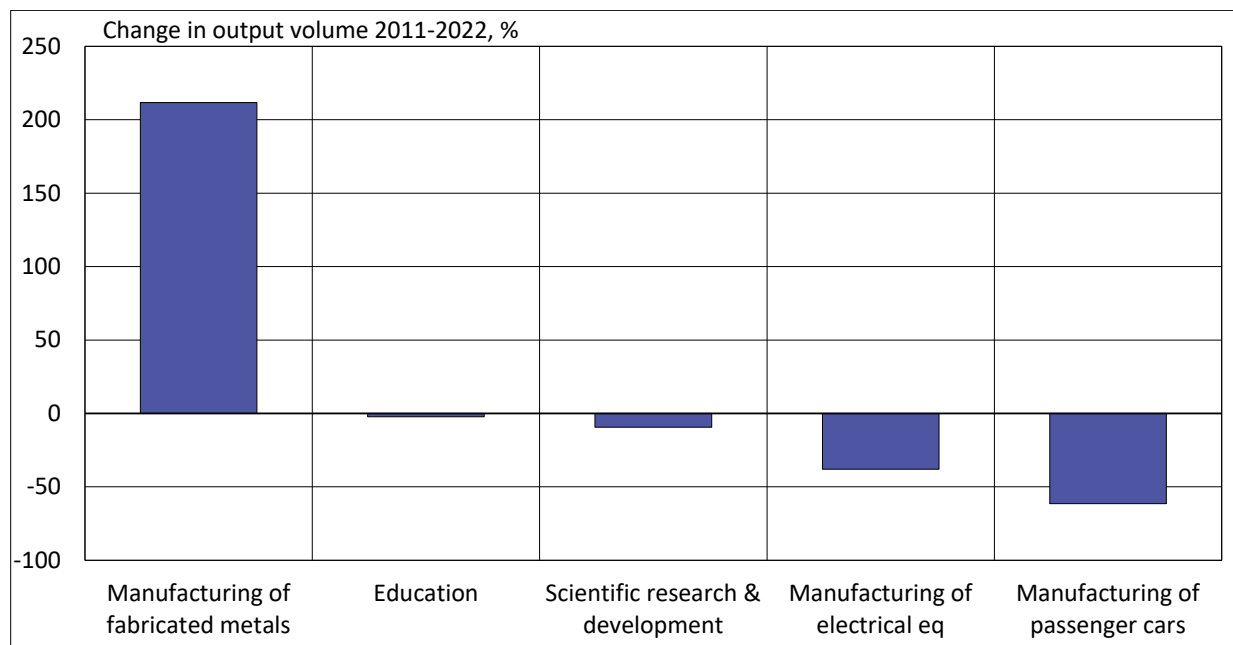
² We include regions bordering Ukraine: Belgorod, Bryansk, Krasnodar, Kursk, Rostov and Voronezh.

Our analysis suggests that Russia's recent economic recovery has heavily relied on output related to war-making and financed by public expenditure. In addition, a large part of the output produced by war-related industries has already been consumed or destroyed in battle. Other branches have recovered much more sluggishly from the steep fall of spring 2022. This implies that maintaining the current pace of growth likely becomes increasingly difficult for Russia.

Russia cannot continue for long to increase public spending substantially as it has done recently. Capacity constraints – particularly the lack of skilled labor – limits the Russian military industry's growth potential. Sanctions have restricted the access of Russia's military industry to sophisticated technology and Russia has been forced to pay a premium for substitutes from other markets (or for obtaining such products on the black market). Russia can continue at least its less sophisticated military production, but production costs are ballooning. This requires ever-higher spending to sustain even existing levels of output (Bergmann et al., 2023; Bilousova et al., 2023; Luzin, 2023, Simola, 2023).

Russia's military industries have also diverted resources away from civilian production, which now see lagging growth or contraction in many branches. Not only does this trend make the economy more dependent on war-related industries, the neglect of civilian production also affects areas typically considered critical to bolstering long-term economic growth potential (e.g. education, R&D, higher-technology manufacturing industries). Output in these areas in 2022 was even lower than in 2011 when measured in constant prices (Figure 6). With war topping Russia's policy agenda, Russia's future growth outlook can be expected to fade further.

Figure 6. Change in the volume of output in selected subclasses of Russia's GDP in 2011–2022.



Source: Rosstat.

4. Concluding remarks

In this brief, we examined the importance of war-related industries for Russia from the macro-economic viewpoint. Our analysis suggests that Russia's recent recovery has apparently quite heavily relied on output growth in war-related branches of manufacturing, construction and services. The largest contribution has come from lower-technology sectors, where Russia is not dependent on imports. Sanctions have complicated production of items that utilize sophisticated technology and driven up costs of such production.

Reliance of Russia's recovery on war-related branches makes it increasingly difficult for Russia to maintain current GDP growth rate. Constant increases in public spending are unsustainable and the military industry is already reported to encounter capacity constraints. The current focus on military production has diverted resources from Russia's civilian industries, making it more difficult to rely on branches that typically form the backbone of advanced economies to provide long-term growth.

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