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RESTRUCTURING OF THE RUSSIAN MANUFACTURING SECTOR UNDER SANCTIONS

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Abstract. The article analyzes structural changes in the Russian manufacturing sector under the dual pressures of the pandemic crisis and post-2022 sanctions. Focusing on gross value added (GVA), investments, and production trends across Russian industries compared to the U.S., the study employs purchasing power parity (PPP) methodology for cross-country comparison. Key findings reveal that while the share of manufacturing in Russia’s GVA remained stable (2019–2024) and construction declined, physical output in these sectors grew faster than the economy-wide average. This paradox stems from lower price deflators in manufacturing (155.7%) and construction (138.7%) compared to services, curbing inflation and redistributing value to less productive sectors. Pre-crisis (2015–2019), Russia’s manufacturing growth (2.76% annually) outpaced the U.S. (0.09%). Post-sanctions, Russian manufacturing accelerated sharply (5.18% annually in 2020–2024), whereas U.S. output remained below 2017 levels by 2023. Sanctions thus acted as a catalyst, driving import substitution and structural adaptation. Investment trends shifted markedly: pre-2020, Russian capital inflows lagged behind the U.S., but post-sanctions, annual growth surged to 8%, exceeding U.S. rates (2.4%). However, by 2024, investment momentum slowed due to skilled labor shortages, technological isolation, and financial constraints in foreign transactions. Despite challenges, Russia mitigates labor deficits through automation and high-tech job creation, while import substitution, supported by trade surpluses and adaptive business strategies, reduces technological dependence. Sanctions exposed systemic weaknesses but also stimulated production growth and industrial restructuring. Sustainable development requires scaling production capacities, enhancing efficiency, and fostering institutions tailored to modern challenges. Crucially, state regulation must transition from directive control to creating innovation ecosystems, balancing market mechanisms with strategic planning. The study underscores the need for qualitative governance reforms over expanded intervention, prioritizing domestic producers and technological self-reliance amid geopolitical turbulence.

Keywords: added value, purchasing power parity, production by economic activity, investment, sanctions, Russia.

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РЕСТРУКТУРИЗАЦИЯ РОССИЙСКОГО ПРОИЗВОДСТВЕННОГО СЕКТОРА В УСЛОВИЯХ САНКЦИЙ

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Аннотация. Рассмотрены структурные сдвиги в добавленной стоимости по отраслям экономики РФ, в производстве продукции и инвестиций как реакция на новые геополитические вызовы. Выявлены противоположные тенденции в структурных сдвигах создаваемой стоимости в материальном производстве и услугах в РФ и США. При этом, в отличие от США, в РФ заметно выросли производство и инвестиции в обрабатывающих отраслях. Отмечено, что темпы роста добавленной стоимости в обрабатывающих производствах и строительстве в РФ заметно выше средних

по экономике, а дефлятор цен ниже. Это свидетельствует о том, что быстро развивающийся обрабатывающий сектор позволяет перераспределять часть вновь создаваемой стоимости в пользу услуг.

Ключевые слова: добавленная стоимость, паритет покупательной способности, производство по видам экономической деятельности, инвестиции, санкции, Россия.

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INTRODUCTION

The first signs that the Russian economy was on the threshold of major changes began to emerge in 2007, following Vladimir Putin’s speech in Munich [source 1]. Even then, it became clear that Russia’s thoughtless integration into the global economy, as a “full-fledged” partner in words, but as a source of cheap natural resources in reality, was leading it into the trap of being firmly entrenched in the league of “resource-providing” economies, critically dependent on the rest of the world. Escaping from this trap is becoming increasingly difficult with each passing year, and once the point of no return is reached, the final reformatting of the national industry to meet the needs of the global economy, it becomes completely impossible [1, 2]. The historic turn toward the creation of a relatively independent economy began after the reunification of Crimea in 2014 [3]. The events of February 2022 dramatically accelerated this process, and Presidential Decree No. 309 of May 7, 2024, “On the National Development Goals of the Russian Federation for the Period up to 2030 and for the Long-Term Period up to 2036,” legislatively established the irreversibility of the chosen course [source 2].

The Decree sets six national goals, including a sustainable and dynamic economy and technological leadership, as well as corresponding indicators and targets, the fulfillment of which characterizes the achievement of these goals. Economic processes are inertial. Consider the extent to which the impetus given to the Russian economy by new geopolitical conditions corresponds to national development goals. Take 2019 as a baseline, the last year of relatively calm economic development in the Russian Federation under a “soft” sanctions’ regime. Then the situation became sharply more complex: in 2020–2021, the COVID-19 pandemic, and from 2022 onward, a wave of finan-

cial, trade, technological, and other restrictions imposed by the collective West against Russia in connection with the implementation of the special military operation.

GROSS VALUE ADDED

In the context of sanctions aimed at limiting Russian businesses’ access to foreign finished goods and components [4, 5], one might expect that activities closely related to material production would develop faster than the service sector. However, this is not the case. The share of OKVED (All-Russian Classifier of Economic Activities) 2 sections A–F and H¹ in the structure of gross value added (GVA), calculated in current prices, turned out to be significantly lower in 2024 than in 2019. When calculated in constant 2021 prices, the gap is not as great, but the trend is evident (Table 1).

Is the share of sections A–F, H, within 44% of total GVA, a lot or a little? If one takes the GVA generated in the US economy as a benchmark, then at first glance, it seems very high. The problem here is that calculating GVA using the official exchange rate of the national currency, as has long

¹ Sections A–F, H: agriculture, hunting and forestry; fishing, fish farming (Section A); mining (B); manufacturing (C); supply of electricity, gas and steam; air conditioning (D); water supply; sanitation, waste collection and disposal, pollution elimination activities (E); construction (F); transportation and storage (H). Sections G, I–T: wholesale and retail trade; repair of motor vehicles and motorcycles (G); HoReCa (I); activities in the field of information and communication (J); financial and insurance activities (K); activities related to real estate operations (L); professional, scientific and technical activities (M); administrative activities and related support services (N); public administration and military security, social security (O); education (P); activities in the field of health care and social services (Q); activities in the field of culture, sports, organization of leisure and entertainment (R); provision of other types of services (S); activities of households as employers; undifferentiated activities of private households in the production of goods and provision of services for their own consumption (T).

Table 1. Gross value added by sectors of the Russian economy in basic prices, 2019, 2024¹

Sections	2019	2024 ¹	2019	2024 ¹
	Billion rubles at current prices		%	
Total	98 487.2	182 800.2	100.0	100.0
<i>A–F, H</i>	45 852.5	79 958.9	46.6	43.7
<i>G, I–T</i>	52 634.7	102 841.3	53.4	56.3
Sections	Billion rubles in 2021 prices		%	
	2019	2024 ¹	2019	2024 ¹
Total	116 281.0	130 688.6	100.0	100.0
<i>A–F, H</i>	54 848.3	59 019.7	47.2	45.2
<i>G, I–T</i>	61 702.1	71 578.3	52.8	54.8

¹ Excluding statistical information for the Donetsk People's Republic (DPR), Luhansk People's Republic (LPR), and Zaporizhia and Kherson Regions.

Calculated by the author based on: [source 3].

been recognized by the academic community [6], is incorrect. The results obtained using the purchasing power parity (PPP) indicator of the national currency are debatable but significantly more informative.

Calculating GVA using PPP is not difficult. Rosstat annually provides the necessary data, which are very close in value to the indicators published by the OECD. The problem is that the PPP value for GDP as a whole cannot be used for calculations for individual types of economic activity. Rosstat, however, is much more conservative in its presentation of PPP by type of activity. The latest available data are for 2014 and 2017. However, they are structured in such a way that their direct comparison across the relevant types of economic activity is difficult and requires certain assumptions that demand more rigorous evidence.

Taking into account the available information, without claiming “accounting” accuracy, one can estimate the PPP for sections A–F and H (material production plus transportation and storage) of the Russian Federation's GDP in 2014 and 2017. Note that the market exchange rate of the ruble to USD from 2014 to 2017 changed to a significantly greater extent than the PPP indicators for GDP (the market rate in 2014 was 37.97 rubles/USD, and in 2017 – 58.33 rubles/USD, while the PPP was 21.01 rubles/USD and 24.12 rubles/USD, respectively) [source 4]. Moreover, the convergence

of the PPP indicator for material production with the ruble/USD market exchange rate was faster than for services. Assume (in the absence of other information) that these trends continue. One can identify the PPP for material production and services in 2019. Following the same logic, and knowing the PPP indicator for GDP in 2023, one can calculate the PPP for material production and services in 2023. Based on the resulting figures, it is possible to calculate the values of value added in the material production (plus transportation) and services sections.

Calculations based on PPP for the GDP structure show that the differences in the shares of material production and services in the Russian Federation's and the United States' GDPs are noticeably smaller than expected from the data in Table 1, but are still significant (Table 2). The optimal share of material production and services in GDP has been the subject of long-standing economic debate. It should be noted here that, given the strict restrictions on cross-border flows of goods imposed on Russia, the relatively high share of GVA generated by material production is, rather, a blessing.

It should be noted that the issue of the GVA share generated in the material production sector, in the context of Russia's current geopolitical situation, is secondary. The primary issue is the absolute value of the GVA generated. Using the US economy as a benchmark shows that the added value of the Russian economy as a whole is 4.7 times lower than that of the US (based on PPP). This difference is partly due to objective factors: the Russian population is approximately 2.3 times smaller than that of the US. When adjusted for population size, Russia's GDP is no longer 21.5% (2023) of the US level, but almost half (47%). Using this calculation method, the Russian material production sector accounts for more than two-thirds of the corresponding US figure.

A review of industry statistics shows that the potential for further growth in Russia's material production sector is significant. This is primarily due to the unacceptably low labor productivity of Russian workers. In 2023, more than 42% of Russia's workforce was employed in the material production sector (plus transportation and storage), while in the US, the figure was 19%. The gap in labor productivity is narrowing; however, the data

Table 2. Gross value added by economic sectors of the Russian Federation and the USA, 2019, 2023

	2019	2023 ¹	2019	2023 ¹
	USD billion PPP		%	
Russia, total	3964.9	5958.7	100	100
Sections <i>A–F, H</i>	1206.6	1751.0	30.4	29.4
Sections <i>G, I–T</i>	2758.3	4207.4	69.6	70.6
	USD billion		%	
US, total	21 540.1	27 720.7	100	100
Agriculture, forestry, fishing, and hunting; mining; manufacturing; public utilities; construction; transportation and storage (Industry Group 1)	4721.6	6137.2	21.9	22.1
Wholesale and retail trade; financial and insurance activities; real estate operations; information and communication activities; renting and leasing; professional and business services; educational services; health care and social assistance; cultural, sports, leisure, and entertainment activities; public administration (Industry Group 2)	16 818.5	21 583.5	78.1	77.9
	Per employee, USD		Russia to US, per employee, %	
Russia, total	55 792.4	81 724.1	40.2	46.9
Sections <i>A–F, H</i>	40 229.7	56 642.5	24.6	28.0
Sections <i>G, I–T</i>	67 160.7	100 178.0	50.5	59.8
US, total	138 677.6	174 179.7		
Industry Group 1	163 597.9	202 594.7		–
Industry Group 2	132 990.4	167 499.6		

¹ Excluding statistical information for the Donetsk People's Republic (DPR), Luhansk People's Republic (LPR), and Zaporizhia and Kherson Regions.

Calculated by the author based on: [source 6].

presented (see Table 2) clearly indicate that the objectives set in the National Project “Labor Productivity” [source 5] remain highly relevant.

The situation in the service sector is better. The value added per employee in Russian services is significantly higher than in the material sector, and the corresponding value for the economy as a whole is largely determined by labor productivity in services. In the United States, it should be noted, the situation is the exact opposite. The Russian case clearly indicates not so much a high level of development in the service sector of the national economy (under any calculation method, the results here are noticeably weaker than in the United States [7]), but rather the presence of serious problems in the material sector and specific processes of value redistribution, the beneficiary of which is the service sector [8].

The dynamics of the decline in the share of particular material production sectors in GVA

and, correspondingly, the increase in the share of services are clearly visible in the data in the first columns of Table 3. However, the next two columns of the table demonstrate a rather interesting effect: the growth rate of the physical volume of GVA in manufacturing and construction is significantly higher than average, but their share of total GVA is rapidly declining. On the other hand, the GVA growth index for real estate transactions is significantly lower than average, while the share of these transactions in total GVA is rapidly growing. In trade, the growth rate of GVA is negative, but its share of total GVA is still increasing.

The fact is that prices for individual types of goods and services produced in the Russian Federation are growing at significantly different rates. The GVA deflator for manufacturing is significantly below average, while the GVA deflator for trade, by contrast, is significantly above the economy-wide average. Rapid price growth in this sec-

Table 3. Gross value added by sectors of the Russian economy in 2024

Section	Type of activity	Structure of GVA by economic sector (in current basic prices), % of total		Indices of physical volume of GVA by type of activity ¹	Gross value added deflator indices by economic sector ¹
			2024 ¹	2019 – 100%	
	Gross value added at basic prices	100.0	100.0	112.4	165.1
<i>A</i>	Agriculture, hunting and forestry; fishing, fish farming	3.9	3.0	104.0	137.1
<i>B</i>	Mining	12.8	11.8	94.9	179.4
<i>C</i>	Manufacturing	14.5	14.6	120.2	155.7
<i>D</i>	Supply of electricity, gas and steam; air conditioning	2.6	2.1	105.1	139.8
<i>E</i>	Water supply; sanitation, waste collection and disposal, pollution elimination activities	0.5	0.5	106.1	176.4
<i>F</i>	Construction	5.4	4.9	121.4	138.7
<i>G</i>	Wholesale and retail trade; repair of motor vehicles and motorcycles	13.0	13.1	101.9	184.6
<i>H</i>	Transportation and storage	6.9	6.9	101.1	185.5
<i>I</i>	HoReCa	0.9	1.0	122.5	157.2
<i>J</i>	Activities in the field of information and communication	2.6	3.5	144.0	170.9
<i>K</i>	Financial and insurance activities	4.3	4.4	167.0	112.9
<i>L</i>	Activities related to real estate operations	9.8	10.6	103.6	208.0
<i>M</i>	Professional, scientific and technical activities	4.5	4.7	119.4	164.7
<i>N</i>	Administrative activities and related support services	2.2	2.3	113.9	172.3
<i>O</i>	Public administration and military security, social security	7.3	8.7	135.0	163.6
<i>P</i>	Education	3.3	2.9	99.6	162.3
<i>Q</i>	Activities in the field of health care and social services	3.4	3.1	104.6	161.3
<i>R</i>	Activities in the field of culture, sports, organization of leisure and entertainment	1.0	1.2	122.6	176.8
<i>S</i>	Provision of other types of services	0.6	0.5	101.6	139.7
<i>T</i>	activities of households as employers; undifferentiated activities of private households in the production of goods and provision of services for their own consumption	0.5	0.3	82.3	143.0

¹ Excluding statistical information for the Donetsk People's Republic (DPR), Luhansk People's Republic (LPR), and Zaporizhia and Kherson Regions.

Calculated by the author based on: [source 3].

tor allows for the appearance of an increased contribution of this type of activity to the country's GVA, despite declining physical sales volumes.

The data in Table 3 demonstrate a rapid shift in the price structure of the economy. At the macro level, services and mining benefit from this (ob-

viously, not only statistically). It should be noted that prices behave very differently across individual manufacturing sectors. For example, in the production of rubber and plastics, the deflator index in 2023 compared to 2019 was 176.8%, while in the production of other transport vehicles

Table 4. Gross value added and volume of shipped products by economic sectors of the Russian Federation, 2024

		GVA by economy's sectors ¹		Volume of shipped goods and services ^{1, 2}		Column 5 to column 3
1	2	3	4	5	6	7
Sections	Sectors	Billion rubles	%	Billion rubles	%	Unit
A01, B–F	Gross value added of sections A01, B-F, at basic prices / industrial production	66 643.6	100.0	150 070.4	100.0	2.3
<i>A01</i>	Crop and livestock production, hunting and provision of related services in these areas	4847.9	7.3	8902.9	5.9	1.8
<i>B</i>	Mining	21 488.2	32.2	31 417.1	20.9	1.5
<i>C</i>	Manufacturing	26 616.9	39.9	82 877.3	55.2	3.1
<i>D</i>	Supply of electricity, gas and steam; air conditioning	3767.7	5.7	7997.1	5.3	2.1
<i>E</i>	Water supply; sanitation, waste collection and disposal, pollution elimination activities	930.0	1.4	2095.9	1.4	2.3
<i>F</i>	Construction	8992.9	13.5	16 780.1	11.2	1.9

¹ Excluding statistical information for the Donetsk People's Republic (DPR), Luhansk People's Republic (LPR), and Zaporizhia and Kherson Regions.

² The data are provided for a full range of organizations by actual types of economic activity.

Calculated by the author based on: [source 3].

and equipment, prices, on the contrary, even decreased, the deflator index was 93.3%.

Thus, the situation in the material production sectors is apparently better than a cursory analysis of Rosstat data might suggest: physical production volumes are growing at a faster rate than their value indicators reflect. The situation is reversed in services (though not all services). Finally, an indirect indicator that manufacturing in Russia is developing quite successfully is the fact that the GVA of manufacturing in the US increased by only 4.2% in 2023 compared to 2019, while in Russia it increased by 11%. Rapid growth in manufacturing GVA in Russia continued into 2024².

Referring to GVA statistics by economic sectors creates a somewhat biased view of the role these sectors play in shaping Russia's market reality. For example, GVA values in mining and manufacturing are quite similar. However, in terms of the volume of shipped products, that is, in terms of market formation for goods and services, the value of output in the manufacturing sector was 2.6 times higher than in the extractive sector in 2024 (Table 4). In the production of electrical equipment, the value of

² There were no data on GVA in the US economy at the time of writing.

shipped products is four times higher than the added value created; in the production of motor vehicles, 4.5 times; and in the production of coke and petroleum products, as much as nine times. In industries where the share of raw materials and supply costs in the total product/service cost is relatively small, this gap is significantly narrower. For example, in the production of medicines, it does not exceed a factor of two, while in the repair and installation of machinery and equipment, and in crop and livestock farming, it is even smaller, 1.7 times.

Thus, the state of the Russian economy is determined by conditions in industry, primarily manufacturing, to a significantly greater extent than is apparent when examining GVA statistics by type of economic activity [9]. In the context of increasingly stringent restrictions on the import of finished goods and components, it is in this sector that value is created, enabling the existence and development of services. Let us now examine the state of affairs in industry in more detail.

RENAISSANCE OF MANUFACTURING

Russian industry has proven resilient in the face of recent crises. After a slight decline during

Table 5. Production indices by type of economic activity, 2019–2024, %

Name of the activity type according to OKVED 2	Russia									US
	OKVED 2 code	2019	2020	2021	2022 ¹	2023 ¹	2024 ¹	2024/2019	2023/2019	2023/2019
Agriculture, hunting and forestry; fishing, fish farming	<i>A</i>	104.3	101.3	99.3	111.3	100.2	96.8	108.6	112.2	101.7
Industrial production (industry)	<i>BCDE</i>	103.4	97.9	106.3	100.7	104.3	104.6	114.3	109.3	109.1²
Mining	<i>B</i>	103.4	93.5	104.2	101.5	99.0	99.1	97.0	97.9	102.1
Manufacturing	<i>C</i>	103.6	101.3	107.4	100.3	108.7	108.5	128.7	118.6	98.3
Supply of electricity, gas and steam; air conditioning	<i>D</i>	99.2	97.6	107.1	100.5	100	102.3	107.5	105.1	
Water supply; sanitation, waste collection and disposal, pollution elimination activities	<i>E</i>	102.9	102.2	112.6	96.8	100.3	99.9	111.6	111.7	101.6

¹ Excluding statistical information for the Donetsk People's Republic (DPR), Luhansk People's Republic (LPR), and Zaporizhia and Kherson Regions.

² Sections *A–T*.

Calculated by the author based on: [sources 3, 7].

the difficult COVID-19 year of 2020, it quickly recovered in 2021, slowed down during the sanctions-hit 2022, and began to regain momentum in 2023. High growth rates in manufacturing and agricultural output are particularly noteworthy, in contrast to the depressed situation in mining (Table 5).

The trajectory of American economic development during the same period was markedly different. The relatively high growth rates of the economy as a whole (an average annual growth rate of 4.04% in 2020–2023) were not driven by manufacturing (production volume in 2023 was even lower than in 2019), mining, or agriculture (where output growth was minimal), but rather by services, primarily information services (which grew by 27.5% in 2023 compared to 2019), finance (14.2%), professional and business services (19.1%), and others.

The extent to which the weak dynamics of the material production sector contributed to the observed sharp shifts in both the economy and U.S. politics is a subject for separate study [10]. What can be noted here is that the Russian manufacturing sector, despite operating under severe external restrictions, is demonstrating the ability to grow much faster and more confidently than the American sector, which faces no comparable sanctions (Table 6).

Table 6. Average annual growth rate of manufacturing industries, %

Period	Russia	US
2015–2019	2.76	0.09
2020–2023	4.36	1.82 ¹
2020–2024	5.18	–

¹ The positive average annual growth rates of manufacturing output in 2020–2023, despite the fact that production in 2023 still failed to return to 2019 levels, are the result of a specific statistical effect: a sharp decline in 2020, followed by growth that was not rapid enough to fully offset that initial drop.

Calculated by the author based on: [sources 3, 7].

Economic sanctions affect both parties, the initiators of the sanctions and the countries against which they are directed. The costs and consequences of sanctions have been the subject of numerous academic studies. A review of such studies for the period 1980–2015 is presented in [11]. Moreover, the academic community has long recognized the fundamental possibility of sanctions having a positive impact on an economy. For example, some foreign authors, while analyzing the effectiveness of building international coalitions to implement sanctions regimes and emphasizing their role in increasing economic pressure, also acknowledge that “sanctions can activate internal production mechanisms” [12]. The Russian case demonstrates that crisis conditions, namely post-pandemic challenges and sanctions restric-

tions, proved to be a stronger motivator for the development of the Russian manufacturing sector than market institutions guiding domestic producers toward integration into the global economy.

INVESTMENTS IN FIXED CAPITAL

The COVID restrictions and the sanctions crisis have had a beneficial effect on the intensification of the Russian investment program [13]. Although investment growth rates are still far from the record levels of 2006–2007 (17.8% and 23.8%, respectively), they already significantly exceed the unimpressive results of the 2010s, an average of 2.6% for the period 2010–2018 (calculated based on: [source 3]).

The activation of investment programs by Russian businesses is occurring, on the one hand, unevenly across different types of economic activity, and on the other, investor priorities are shifting over time [14]. Thus, while in 2023 the growth of investments in both mining and manufacturing, compared to 2019, was lower than in the economy as a whole, this ratio changed fundamentally in 2024 (Table 7).

The main beneficiaries of investment growth in 2024 (compared to 2019) were construction (169.5%), information and communications

(165.5%), finance and insurance (169.3%), public administration and military security (167.1%), among others. The weakest sectors were agriculture (where the scale of investment in 2024 was significantly lower than in 2019) and other services.

In 2024, investment growth slowed, both overall and in a number of specific economic activities. While in 2023 investments in fixed capital increased by 9.8% compared to 2022, in 2024 they rose by only 7.4% compared to 2023. In 2023, a decrease in investment was observed in two sections of OKVED 2; by 2024, this number had increased to six. Apparently, the deficit of development resources is beginning to deepen in the Russian economy: opportunities for attracting financial and material resources from abroad remain difficult and limited, while internal resources, primarily skilled labor, are already significantly utilized [15].

It should be noted that the Russian case differs significantly from the American one. While investment in the Russian economy stagnated during the years of the “soft” sanctions’ regime, it has accelerated sharply since 2021. In contrast, in the United States, investment growth was steady from 2014 to 2019 but slowed markedly between 2020 and 2023 (Table 8).

Table 7. Index of physical investment in fixed capital for the full range of economic entities, 2019–2024, %

Name of the activity type according to OKVED 2	Russia									US
	OKVED 2 code	2019	2020	2021	2022 ¹	2023 ¹	2024 ¹	2024/2019	2023/2019	2023/2019
Total	<i>A–F</i>	102.1	99.9	108.6	106.7	109.8	107.4	136.5	127.1	109.8
Including:										
Agriculture, hunting and forestry; fishing, fish farming	<i>A</i>	100.4	96.0	103.4	99.3	101.0	93.5	93.1	99.6	100.4
Mining	<i>B</i>	96.6	96.9	100.7	109.9	109.1	114.2	133.7	117.1	97.7
Manufacturing	<i>C</i>	100.4	102.9	109.1	95.6	117.6	122.4	154.4	126.2	111.3
Supply of electricity, gas and steam; air conditioning	<i>D</i>	94.4	104.1	94.9	102.2	119.8	106.6	128.9	120.9	111.7
Water supply; sanitation, waste collection and disposal, pollution elimination activities	<i>E</i>	106.5	127.2	107.9	105.9	110.0	110.9	177.3	159.9	181.4
Construction	<i>F</i>	100.4	103.9	114.0	120.1	110.4	107.9	169.5	157.1	120.7

¹ Excluding statistical information for the Donetsk People’s Republic (DPR), Luhansk People’s Republic (LPR), and Zaporizhia and Kherson Regions.

Calculated by the author based on: [sources 3, 8].

Table 8. Average annual investment growth rates in Russia and the US, %

Period	Russia	US
2014–2019	100.7	103.8
2020–2023	106.4	102.4
2020–2024	106.2	–

Calculated by the author based on: [sources 3, 8].

RESULTS AND CONCLUSIONS

Despite a sharp deterioration in external economic conditions, the Russian manufacturing sector has demonstrated steady growth. The nature of this growth is noteworthy: over the period under review, the share of manufacturing in the structure of value added remained virtually unchanged, while the share of construction declined significantly. At the same time, the physical volume of value added in both sectors grew substantially faster than in the economy as a whole. This effect is the result of slower price growth in these sectors relative to the broader economy and suggests that manufacturing and construction are less susceptible to inflation than most services.

The average annual growth rate of manufacturing in Russia during the pre-crisis period (2015–2019) significantly exceeded the comparable figure for the United States. With the onset of the pandemic, and especially following the imposition of sanctions on the Russian economy, growth rates accelerated sharply. In contrast, in the U.S., even by 2023, manufacturing output remained below 2019 levels. Thus, sanctions pressure on the Russian economy became not just a stimulus, but a major factor in accelerating economic growth.

The sanctions shock also spurred investment. While investment in Russia grew more slowly than in the U.S. before 2020, its growth rate accelerated

significantly after the introduction of restrictions and eventually outpaced that of the U.S. However, in 2024, investment dynamics in Russia slowed, signaling mounting constraints: a shortage of skilled labor, technological isolation limiting access to advanced solutions, and financial barriers to operations in foreign markets. These constraints, however, are not insurmountable. The labor shortage is being mitigated through automation and the creation of high-tech jobs, displacing low-productivity ones. Technological dependence is decreasing due to import substitution, supported by a trade surplus and the adaptive capacity of Russian businesses to circumvent sanctions on the import of technology and components.

Thus, sanctions have, on the one hand, stimulated production growth and accelerated the structural transformation of the Russian economy; on the other hand, they have exposed its systemic vulnerabilities. Successful economic development under the new conditions requires:

- supporting the rapid expansion of production capacity while ensuring greater efficiency in its use;
- creating new development institutions that are adequate to the complexity of modern challenges;
- integrating the potential of the governmental approach to managing economic development with the market mechanism, while addressing their respective shortcomings.

At the current stage, the key factor is not so much the expansion of government regulation as its qualitative transformation, from direct, command-and-control management to the creation of conditions that support the development of national producers and the formation of an innovative ecosystem.

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