In transportation and storage, investments in the development of port and railway infrastructure have become important in the context of reorientation of cargo flows from western to southern and eastern directions.

In 2024, investments in freight railway transportation increased by 14.4%, while investments in road freight transportation increased by 2.4% and in air and space transportation by 47.0% as compared to 2023.

In the manufacturing industry in 2024, investments in all sub-products of the machine-building, metallurgical and chemical complexes grew dynamically. The highest rates of investment program financing were recorded in the production of electrical equipment, computers, electronic and optical products and motor vehicles.

Despite the fact that the majority of basic industries in the last twenty years carried out a fairly active modernization with the outstripping growth of expenditures on the renewal of machinery, equipment and vehicles it should be recognized that in general the state of fixed assets and does not correspond to the dynamic changes in demand for new product lines and production technologies. With the current level of capacity utilization in the economy as a whole and in the complex of manufacturing industries, changes in access to the world market of investment goods, transformation of the price structure and the exchange rate of the national currency, the Russian machine-building complex is experiencing a deficit of capacities capable of replacing the demand for technical means, especially in industries with a high share of foreign technologies and finished investment goods. The increase in risks associated with the expansion of fixed assets production has actualized the elaboration of the concept of technological development for the period up to 2030, which identified measures to support institutions of innovative development and active involvement of private business in the implementation of investment projects aimed at ensuring the development of investment production.

3.2. Sectoral dynamics of industrial production¹

3.2.1. Industry dynamics of industrial production

In 2024, industrial production was growing, which was sustained primarily by the manufacturing sector (the reason, among other factors, could be import substitution, including don the back of the positive effect of production localization programs). The extractive sector demonstrated a downward trend for most of the year. The production and distribution of electricity, gas and water in 2024 also slightly decreased.

Authors: Kaukin A. S., Candidate of Economic Sciencesk, Director of the Center for Real Sector, Head
of the Industrial Organization and Infrastructure Economics Department, Gaidar Institute; Miller E. M.,
Researcher at the Industrial Organization and Infrastructure Economics Department, Gaidar Institute.



Fig. 1. Dynamics of the industrial production index in 2014–2024 (actual data and trend component), in % to 2021 annual average

Sources: Rosstat, own calculations.

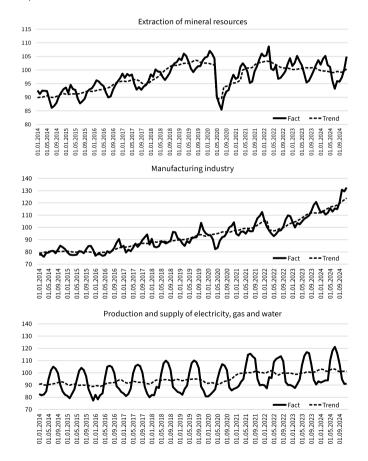


Fig. 2. Production indexes dynamic by industry in 2014–2024 (actual data and trend component), in % to 2021 annual average

Sources: Rosstat, own calculations.

Table 10 Change in the output index across sectors of the economy

Names of industries	Share in industrial production index, %	December 2024 on December 2023, %	December 2024 on June 2024, %	Changes in recent months
Industrial production index		105.97	103.61	Growth
Extraction of minerals	34.54	100.21	101.36	Slow growth
Manufacturing, including:	54.91	110.93	105.83	Growth
Production of food, including beverages and tobacco	16.34	111.40	105.11	Growth
Textile and garment production	1.14	114.69	110.24	Growth
Manufacturing leather, articles thereof and footwear	0.27	83.29	94.56	Recession
Wood processing and wood ware manufacturing	2.02	100.93	97.78	Recession
Pulp-and-paper industry	3.35	77.71	87.73	Recession
Production of coke and petrochemicals	17.25	99.61	100.09	Stagnation
Chemical industry	7.56	114.49	106.95	Growth
Manufacturing of rubber and plastic articles	2.14	98.21	96.88	Recession
Manufacturing of other nonmetallic mineral products	4.02	101.02	96.48	Recession
Metallurgy and manufacturing of ready-made fabricated metal products	17.42	125.91	108.91	Growth
Manufacturing machinery and equipment	6.97	98.89	102.71	Slow growth
Manufacturing electrical, electronic and optical equipment	6.27	113.35	106.29	Growth
Manufacturing transport vehicles and equipment	6.75	143.94	118.68	Growth
Other industries	2.42	98.61	89.81	Recession
Electricity, gas and water supply	13.51	98.90	97.94	Stagnation

Sources: Rosstat, own calculations.

To correctly interpret trends in individual industries, it is necessary to decompose their output into components: calendar, seasonal, irregular and trend; the in-

^{1.} Trend component is a well-established term used in the literature, but it should be noted that this component is not a "trend" in the strict sense used in econometrics when analyzing time series: in this case it is the residual from the separation of calendar, seasonal and irregular components from the series. "Trend component" is incorrect to use for time series forecasting (for most of the indexes of industrial production it is non-stationary in levels (and stationary in differences), but it can be used for interpretation of short-term dynamics and its comparison with the events that took place.

terpretation of the latter is of substantial importance. Experts of the Gaidar Institute have identified the trend component of the series of production indices for 2003–2024¹ based on actual statistics published by Rosstat.

The results of series processing for the industrial production index as a whole are presented in *Fig. 1*. The results for the aggregate indices of the extractive and manufacturing sectors, as well as production and supply of electricity, gas and water are presented in *Fig. 2*. For the other series the results of decomposition are summarized in *Table 10*.

3.2.2. Industrial production dynamic in H1 2024

The trend component of industrial production in H1 2024 showed growth (103.7% compared to the same period of the previous year). The manufacturing sector made a positive contribution to the dynamics. The extractive industry and the industry of production and supply of electricity, gas and water showed a decline.

The consequences of trade restrictions and the extension of the OPEC+ deal continue to have a negative impact on the production dynamic of the extraxtive sector. The suspension of the publication of statistics on oil production volumes was extended by the Russian Government until April 1, 2025, which limits detailed analysis.²

The reduction in coal production in the first 6 months of 2024 follows the decline in external demand for Russian coal. This is due to the fact that Russian coal. has become less competitive, firstly, owing to the low level of world prices (there is a surplus of coal on the market, which, among other things, forces Russian producers to maintain discounts on their products); secondly, owing to the introduction of import duties in China (at the end of 2023, the main importers of Russian coal were China, India and Turkey); thirdly, owing to a decrease in demand from India on the back of the development of its own production; fourthly, owing to high transshipment costs, which increase the already high transportation costs (logistical restrictions at the Eastern polygon force to transport Russian coal products through the ports of the Azov-Black Sea basin and ports of the North-West, many companies from the beginning of 2024 refuse to transship coal through the port in Taman, as they do not want to incur losses from the loss of coal transshipment through the port in the North-West).3 For January-June 2024, according to Kpler, seaborne exports decreased by 17% to 79.1 mn tons compared to the same period in 2023.

^{1.} The trend component was extracted with the Demetra package using the X12-ARIMA procedure.

Ban on publication of oil and gas production statistics extended until April 2025//Interfax. 07.03.2024. URL: https://www.interfax.ru/business/949492

Milkin V. Russian coal export prices fell to their lowest level in almost three years//Vedomosti. 11.04.2024. URL:https://www.vedomosti.ru/business/articles/2024/04/11/1031100-eksportnie-tseni-na-rossiiskii-ugol-snizilis

After a drop in gas production in 2022–2023, in H1 2024 gas production and LNG production increased to 345.8 bcm, up 8.2% y-o-y. The positive trend was mainly due to the attractive price. Increased demand from: the EU (via the Turkish Stream pipeline and through Ukraine), China (via the Power of Siberia pipeline), Uzbekistan, as well as domestic demand (due to the continuation of the domestic gasification program) contributed to the positive trend.

The growth of the manufacturing industry in H1 2024, as well as in 2023, is mostly associated with the production of intermediate products for the defense industry and import substitution. Since the beginning of 2024, high growth rates were demonstrated by the production of motor vehicles and the production of computers, electronic and optical products, which is associated with a low base in 2023 and, possibly, the positive effects of production localization programs (which, among other things, creates a margin for growth in demand in the industries producing components).²

In other sectors of the economy in H1 2024, the growth of the trend component was also maintained (trade due to the sale of non-food products, including imports of new partners, construction due to the restoration of infrastructure and housing construction, including the growth of individual housing construction).

3.2.3. Industrial production dynamic in H2 2024

The trend component of industrial production at the end of 2024 showed growth (104.6% compared to 2023). The manufacturing sector made a positive contribution to the dynamic. The mining sector and production and distribution of electricity, gas and water had about zero growth rates, as in the first 6 months of the last year.

The main factor contributing to the dynamics of the extractive sector was the extension of the OPEC+ deal on additional voluntary cuts until the end of March 2025, as the oil production industry accounts for a significant share in the sector.

A positive contribution to the dynamics of industrial production in H2 2024 was largely made by manufacturing industries, in particular, by the machine-building complex due to the growth in the production of certain vehicles and equipment (rail cars, diesel locomotives, etc.), as well as the growth in production of computers and electronics (navigation devices, radar equipment, etc.).

Boiko A., Milkin V., Ilyushenko D. Why industrial production grew 3.5% last year//Vedomosti. 01.02.2024. URL:https://www.vedomosti.ru/economics/articles/2024/02/01/1017832-pochemu-promishlennoe-proizvodstvo-viroslo

Ilyushenko D. What happened to the localization of domestic cars after the departure of foreigners.//Vedomosti. 03.09.2023. URL: https://www.vedomosti.ru/auto/articles/2023/10/03/998383-chto-proizoshlos-lokalizatsiei-otechestvennih-avtomobilei

^{3.} The government has extended the ban on publishing oil production statistics until April 1, 2025.

Growth was retained in the chemical industry on the back of the ongoing development of vacant niches and development of cooperation with friendly countries. Growth is noted in production of not only large-tonnage raw chemical products (mineral fertilizers, caustic soda, ammonia), but also medium- and low-tonnage chemical products with high added value (dyes and pigments, paint and varnish materials, polymeric materials). Maintaining growth will be primarily determined by the change of the key growth factor: transition from "easy import substitution" to the implementation of projects related to the development of production technologies of new materials and chemistry.²

Growth continues in metallurgical production and production of other metal products against the backdrop of growing demand for intermediate goods and components for the needs of the military-industrial complex.

Increasing control over compliance with sanction restrictions,³ the ongoing tight monetary policy and shortage of personnel, including those who meet the market requirements in terms of professional competencies (growth of the working-age population is lower than its drop),⁴ create risks of production decline in the industrial sectors of the Russian economy already in early 2025.

3.3. Transportation complex⁵

3.3.1. Trends in the development of the transportation sector

In 2024, despite the continuing pressure from the ongoing international sanction restrictions and new restrictive measures, the transportation industry demonstrated its ability to adapt, stabilize and build logistics supply chains, which is confirmed by the positive dynamics of cargo, freight and passenger traffic volumes. In the freight transportation industry, there is a trend towards the expansion of transportation and logistics services, which was facilitated by the development of transport and warehousing infrastructure. The growth of freight flows is faci-

Taking up the vacated market share due to the withdrawal of foreign producers from the Russian domestic market.

^{2.} Bateneva T. The National Project "New Materials and Chemistry" is included in the pool of 12 top-priority megaprojects//RG.RU. 06.11.2024. URL: https://rg.ru/2024/11/06/reakciia-vosstanovleniia.html

^{3.} The Path Forward on Energy Sanctions. A Toolkit to Step Up Pressure on Russia in 2025//The International Working Group on Russian Sanctions. Working Group Paper #21.15.11.2024.

^{4.} The sphere with the most severe shortage of personnel in Russia in Q3 2024 has been named // TASS. 12.10.2024. URL: https://tass.ru/ekonomika/22106395

^{5.} Authors: Makarov A. V., Center for Spatial Economics, IAES RRANEPA; Ponomarev Yu.Yu., Candidate of Economic Sciences, Head of Industrial Organization and Infrastructure Economics Department, Gaidar Institute, Head of Infrastructure and Spatial Studies Department, IAES RANEPA; Rostislav K. A., Researcher at the Infrastructure and Spatial Studies Department, IAES RANEPA; Researcher at the Quantitative Analysis of Economic Effects, Gaidar Institute.