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Assessment of Structural Changes in the Economy in Terms of the Priorities of Scientific and Technological Development in Russia

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ABSTRACT

The implementation of the new strategy for the scientific and technological development of Russia requires monitoring structural changes in the economy as an information basis for justifying structural modernization. This information is needed to form economic growth models and stimulate investment activity in industries of new technological structures, which will ensure the development of all related sectors of the economy and the technological independence of the country. In this regard, the objective of the study was to assess structural changes in the economy and their forecasts for the medium term, taking into account the priorities of Russia's scientific and technological development. The study is based on the calculation and assessment of qualitative changes in the structure of the economy, focusing on the identified priority sectors and industries. It also evaluates the quality of these changes. Based on the EMISS data for 2017–2023, we have constructed trends that meet the criteria of approximation reliability, and correctly reflect the established patterns in the changes in indicators. We have also made a forecast for 2024–2026 in the context of the identified sectors and industries. An improved approach to grouping priority sectors and industries is of theoretical significance, as it allows us to assess structural changes in the economy from the perspective of the priorities of Russia's scientific and technological development. The practical significance of the obtained results consists in the possibility of their use for monitoring the implementation of the strategy for scientific and technological development, as well as in supporting investment projects aimed at the technological advancement of companies in the industries of new technological structures that are essential for future economic growth. The research methodology may be of interest to strategic development centers and investment funds that support industry and entrepreneurship.

Keywords: scientific and technological development; assessment of structural changes; forecast; trends; manufacturing sector; extractive and transaction sector; transformation indicators; investment activity; interpretation

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INTRODUCTION

The transformation of the national economic model is aimed at economic growth and technological sovereignty of the country. The vector of structural changes is defined in the Strategy of Scientific and Technological Development of Russia and the concept of technological sovereignty as "the use of intelligent manufacturing solutions, robotic and high-performance computing systems, new materials and chemical compounds, the results of processing large amounts of data, machine learning technologies and artificial intelligence". In this regard, the key role in accelerating Russia's scientific and technological development is assigned to the information technology and electronics industries, which will determine the level of technological development of all related sectors and sectors of the economy and the country's innovative economic growth. An adequate system for monitoring and forecasting structural changes in the economy will contribute to the implementation of the set strategic objectives [1, 2].

Quite a lot of scientific papers have been devoted to the study of structural changes in the economy, a number of authors have considered the changing proportions of the economic system occurring in different countries under the influence of various factors [3–5]. At the same time, O.Y. Krasilnikov [6], assessing the structural changes, emphasized the outstripping growth of production of advanced technological structures.

Among the most significant scientific works on the structural modernization of the Russian economy and its transformation, as well as the justification of priority sectors and industries, the research of S. Glazyev, O.S. Sukharev and D.L. Kosakyan stands out [7–11]. These scientists consider the main priority of modernization to be the support of industries of the fifth and sixth technological structures, as well as the stimulation of industries of the fourth structure, which serve as the basis for their development. To assess the growth potential of the Russian economy after modernization, S.Y. Glazyev and O.S. Sukharev uses the method of dividing industries into two sectors: processing and transactional raw materials. They emphasize that the redistribution of resources to the manufacturing sector is an indicator of positive changes in the structure of the economy aimed at reindustrialization and ensuring technological sovereignty [7].

The purpose of our study is to assess the structural changes in the economy and their forecasts for the medium term in terms of the priorities of scientific and technological development in Russia. This can be useful in developing and monitoring industrial policy, as well as in justifying private and public investment projects in the technological development of companies in industries that determine future economic growth.

RESEARCH METHODOLOGY

The research methodology is based on an analysis of scientific works by Russian and international scholars on the issues of economic structural modernization, assessment of economic changes, and the theory of economic growth and technological development. The study utilizes economic research methods such as empirical analysis, mathematical modeling, statistical analysis, and forecasting. Additionally, the authors rely on available data sources in the digital realm and their professional expertise.

To achieve this goal, we used an improved approach to grouping priority sectors and industries, which allows us to assess structural changes in the economy from the perspective of priorities for scientific and technological development in Russia. This approach is consistent with the conclusions of O.S. Sukharev [11].

To the priority manufacturing sector (manufacturing industries (Section B of the OKVED)) The sectors of human and intellectual capital development are

considered as an indispensable condition for the formation of technological sovereignty and acceleration of economic growth: information and communication activities (section J of the OKVED), professional, scientific and technical activities (section M), education (section P), activities in the field of health and social services (section Q), activities in the field of culture, sports, leisure and entertainment (section R). The Mining and transactional sectors include sections A–S, except for sections B, J, M, P, Q, R).

Two industries that form the core of the new technological order and play a key role in intensifying positive structural changes in the economy and future economic growth are also identified: the production of computers, electronic and optical products (OKVED 26) (electronics) and computer software development, consulting services in this field and other related services (OKVED 62) (IT industry).

Structural changes in the economy (sectoral proportions) are assessed using indicators of the production function: shipped goods, non-current assets and the number of employees [12] for the period from 2017 to the first half of 2024 from the EMISS. When interpreting structural changes, we used the approach of E. S. Reinert [12], which classifies activities into qualitative and substandard categories. The manufacturing industry, which is characterized by increasing returns, is classified as high-quality, while the mining industry, which is characterized by decreasing returns, is classified as low-quality. At the same time, innovations provide increasing returns, while raw materials provide decreasing returns. This allows us to conclude that economic growth is associated with an increase in the share of high-quality activities: the manufacturing sector and industries of the fifth and sixth technological structures, on which the further level of technological development of all related sectors of the economy will depend.

The research algorithm is shown in *Fig. 1*.

The first stage is to analyze the current factors and risks of economic growth, using available public information from the digital resources of Rosstat, the Bank of Russia, and published research results from the Russian Academy of Sciences and scientific organizations.

The second stage analyzes the qualitative changes in the structure of the economy in the context of the identified priority sectors and industries based on the interpretation of the dynamics of the specific weights of sectors and industries, as well as the analysis of long-term and annual growth rates.

The third stage is to assess the contribution of selected sectors and industries to the dynamics (growth and growth rate) of the Russian economy. To assess qualitative changes, long-term growth rates and the contribution of selected sectors and industries to the dynamics of general economic indicators are calculated. The share of each sector or industry in the growth of overall economic indicators is estimated as the ratio of the change in the indicator of the structure of the sector or industry for each analyzed period to the change in the indicator for the economy as a whole. The contribution of a sector or industry to the economic growth rate is calculated based on the economic growth rate formula, which is the sum of the products of the growth rates of sectors or industries by the shares of sectors or industries in the economy.

E. Reinert notes that the increased return on resources and intensive development indicate positive changes in the industry. Therefore, resource efficiency indicators have become important indicators for assessing qualitative transformations in the Russian economy, especially in the context of technological sovereignty.

The fourth stage is the assessment of transformation indicators based on the analysis of the dynamics of labor and capital efficiency. According to the conclusions of E. Reinert [12], the increasing return on resources used and intensive growth indicate positive processes of

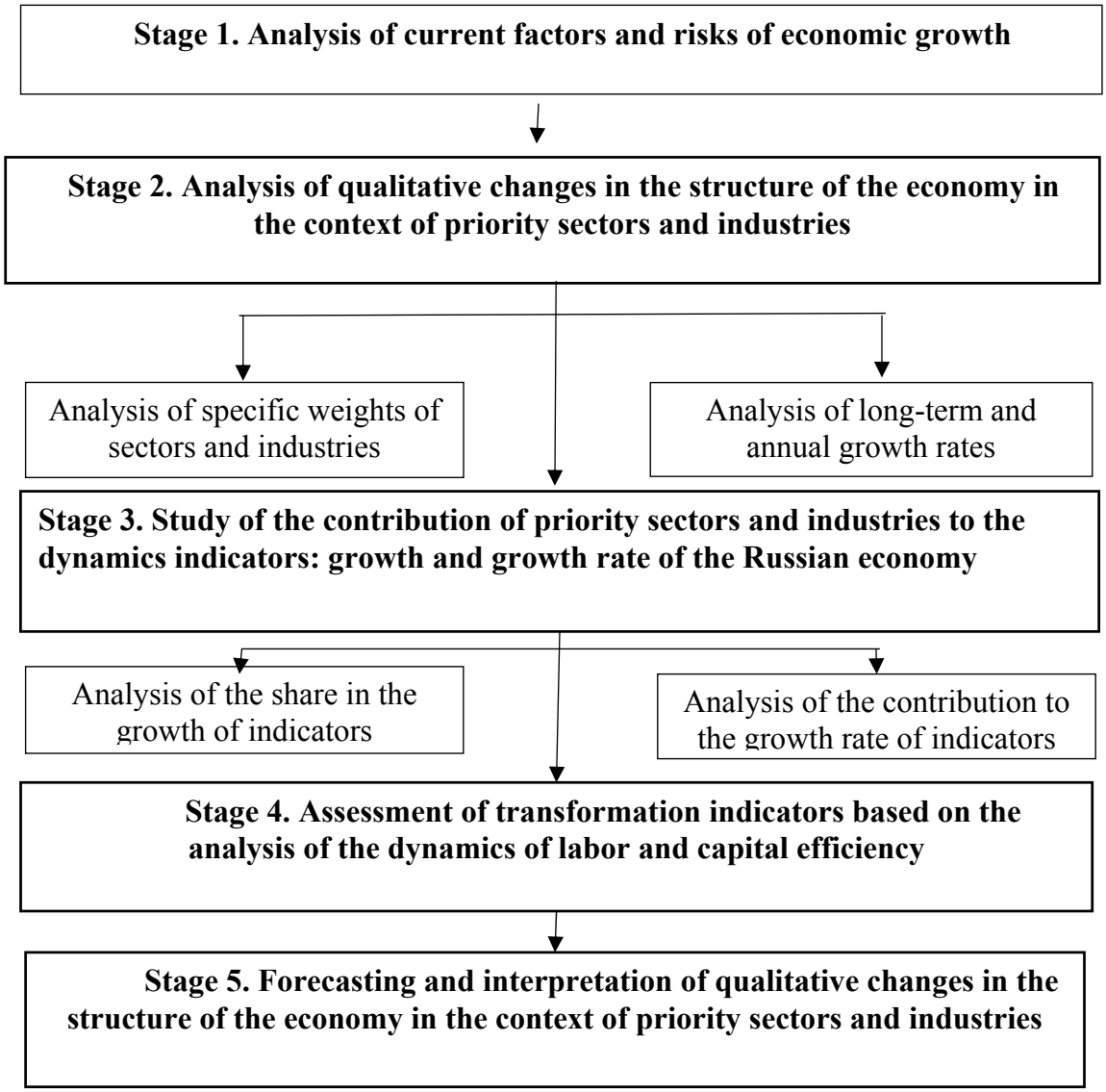

Fig. 1. **Algorithm for Studying Structural Changes in the Economy**

Source: Compiled by the authors.

industry transformation. In this regard, indicators of resource return characteristics have become important indicators for assessing qualitative transformations in the Russian economy, especially in the context of technological sovereignty.

The final stage consists in making forecasts for 2024–2026 in the context of selected sectors and industries based on the selection of trends that meet the criterion of approximation reliability, correctly assessing the prevailing patterns in the change of indicators, as well as interpreting the results and forming conclusions.

THE RESULTS OF THE STUDY

An analysis of current trends shows an increase in domestic demand for high-value-added products as a result of import substitution, as well as high entrepreneurial confidence of large businesses. There is an increase in investment activity [13], which is important for maintaining high current rates of economic growth and competitiveness of Russian producers in the long term. According to Rosstat, the Russian Ministry of Economic Development, and banking experts, the first half of 2024 It showed an increase in investments in the manufacturing industry

(machinery and equipment, especially in the mechanical engineering and chemical industries). The results of a survey of the real sector of the economy conducted by INP RAS in 2024 [14] also confirm the growth of investment activity of enterprises: 67.3% of them are implementing current investment projects, 49.6% are planning new investment projects, 41.4% will increase investments in their development if bank loans become cheaper. Investments in industries that ensure technological sovereignty are implemented through special investment contracts (SPIC, SPIC 2.0) and a cluster investment platform for obtaining preferential loans for large technological projects in manufacturing industries, which contributes to a qualitative change in the structure of the Russian economy by increasing the share of industries related to the manufacturing industry, as well as industries of the fifth and sixth technological structure, in particular electronics and IT industries, generating high added value [15].

However, along with the prerequisites for positive changes, there are also factors that hinder them. First of all, there are high geopolitical risks: further escalation of conflicts, sluggish international trade, and increasing climate disasters, which pose problems for global growth and the possibility of achieving sustainable development goals [16]. Internal risks to the technological development and economic growth of the country are associated with limited production capacity and a high key interest rate, limiting lending opportunities.

The second stage of the study consisted in analyzing qualitative changes in the structure of the economy in the context of priority sectors and industries (*Tables 1–3*).

It should be noted that the identified sectors turned out to be comparable in terms of shipped goods (*Table 1*). At the same time, the share of the manufacturing sector in non-current assets is lower (*Table 3*). This indicates a higher capital intensity of the mining and transactional sectors. By number (*Table 2*) the share of the mining and transactional sector is also higher. This indicates its higher labor intensity. Thus, calculations confirm that the manufacturing sector requires relatively less labor and capital, which increases its role in accelerating economic growth. The share of the manufacturing sector grew in 2023, and in the first half of 2024, the IT sector is steadily growing: during the study, its share increased from 0.67% to 1.73%. At the same time, the share of electronics remains on average at 1.23%, which underlines the need for government support.

In terms of numbers, the changes are more significant than in terms of shipped goods: during the study period, the share of the manufacturing sector increased gradually from 45.6% to 46.57% without noticeable jumps. At the same time, a significant influx of workers into the IT industry should be noted, the share of which increased from 0.7% to 1.42%, which indicates significant positive changes taking place in the industry. Its share in non-current assets increased from 0.09% to 1.16%, that is, by more than 12 times, reflecting its increased investment activity.

The third stage of the study is based on calculations and analysis of the dynamics of indicators of structural changes in selected sectors and industries (*Fig. 2*), assessment of their contribution to economic growth (*Tables 4–9*). Calculations show that the growth rate of the manufacturing sector is higher than that of the mining and transactional sectors in terms of shipped goods and numbers. Moreover, in 2023, the dynamics indicators are improving, which indicates the momentum of 2022, which accelerated economic growth. Since the calculations are performed at current prices, it is necessary to take into account that the average annual GDP deflator index in 2017–2023, it amounted to 106.73%, in 2023–106.3%. In terms of non-current assets, the mining and transactional sectors have higher indicators, which demonstrate insufficient investment activity in industries that create more significant added value. It should be noted the

Table 1

Structure by Indicator of Shipped Goods, %

Sectors / Industries	2017	2018	2019	2020	2021	2022	2023	First half of 2024
Manufacturing sector	49.57	49.73	49.10	50.22	49.48	48.17	49.84	49.91
Mining and transactional sector	50.43	50.27	50.90	49.78	50.52	51.83	50.16	50.09
Total for the sample	100	100	100	100	100	100	100	100
Electronics	1.22	1.13	1.18	1.19	1.15	1.11	1.26	1.23
IT industry	0.67	0.88	0.97	1.11	1.32	1.44	1.60	1.73

Source: Compiled by the authors.

Table 2

The Structure by the Number of Employees, %

Sectors / Industries	2017	2018	2019	2020	2021	2022	2023
Manufacturing sector	45.60	45.35	45.45	45.71	46.10	46.26	46.57
Mining and transactional sector	54.40	54.65	54.55	54.29	53.90	53.74	53.43
Total for the sample	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Electronics	0.97	0.93	0.93	0.92	0.95	0.95	1.02
IT industry	0.70	0.81	0.88	0.97	1.08	1.29	1.42

Source: Compiled by the authors.

Table 3

The Structure of Non-Current Assets, %

Sectors / Industries	2017	2018	2019	2020	2021	2022	2023
Manufacturing sector	32.33	31.90	31.59	32.32	31.89	30.61	30.51
Mining and transactional sector	67.67	68.10	68.41	67.68	68.11	69.39	69.49
Total for the sample	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Electronics	0.36	0.37	0.36	0.39	0.36	0.36	0.38
IT industry	0.09	0.13	0.16	1.21	1.15	1.19	1.16

Source: Compiled by the authors.

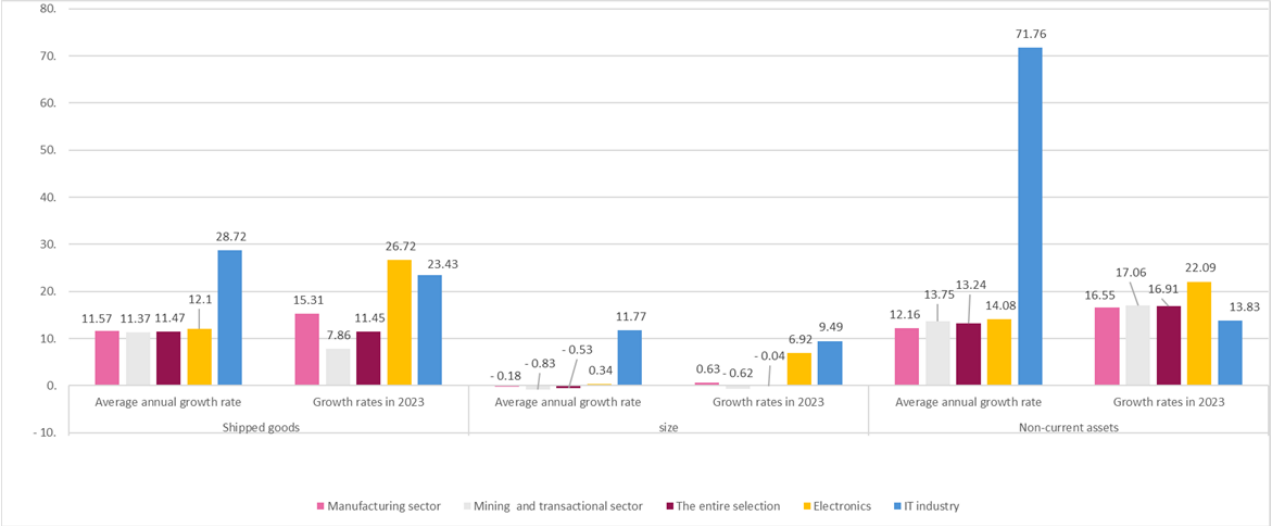

Fig. 2. **Average Annual Growth Rate for the Period 2017–2023 and Growth Rate for 2023, %**

Source: Compiled by the authors.

high average annual growth rate of non-current assets in the IT industry, where in 2020 alone there was a 9-fold increase, which is explained, among other things, by the effect of a low base. The growth rate of non-current assets in the IT sector is significantly ahead of electronics. However, in 2023 Asset growth in electronics accelerated sharply, while in the IT industry it slowed down to 13.82%.

An analysis of the contribution of sectors and industries to the growth of overall economic indicators reveals their relatively high variability. At the same time, there is a general positive trend towards an increasing share of manufacturing in the growth of goods shipped (*Table 4*). The share of the manufacturing industry was 64.41%, while the shares of the electronics and IT industries increased to 2.59% and 2.96%, respectively.

The results of calculating the share of sectors and industries in the total number of employees show multidirectional trends (*Table 5*). As a result, according to EMISS data, the average number of employees in various organizations decreased by 16 thousand in 2023 compared to 2022. However, in the manufacturing sector, it increased by 126 thousand, while in the mining and transactions sector, it decreased by 142 thousand. Based on the analysis, the positive contribution of the manufacturing sector, as well as the electronics and IT industries, should be noted, which allows us to draw positive conclusions about the qualitative change in the structure of workers.

The share of mining and transactional sectors in the growth of non-current assets (*Table 6*) exceeds that of the manufacturing sector. This suggests that investment activity in these sectors is more robust. It helps to drive the growth of these sectors' non-current assets, as well as the replacement of outdated technologies with more capital-intensive and labor-saving options.

The share of IT industry in non-current asset growth is increasing significantly, but this indicator is characterized by volatility, reflecting the discontinuous nature of investment activity [14].

Attention is drawn to the substantial increase in IT sector non-current assets in 2020, attributed to acquisitions during the COVID-19 pandemic.

The analysis of the contributions of sectors and industries to the growth rates of general economic indicators has allowed us to confirm our earlier conclusions. We found that the contribution of the manufacturing sector to the growth rate of shipped goods is almost equal to that of the mining and transactional sectors. The share of the IT industry has been

Table 4

Shares of Sectors and Industries in the Growth of Shipped Goods, %

Sectors / Industries	2018	2019	2020	2021	2022	2023
Manufacturing sector	50.65	32.05	67.13	47.23	30.90	64.41
Mining and transactional sector	49.35	67.95	–167.13	52.77	69.10	35.59
The entire selection	100.00	100.00	–100.00	100.00	100.00	100.00
Electronics	0.61	2.69	–0.70	1.02	0.61	2.59
IT industry	2.09	3.41	13.71	1.97	3.03	2.96

Source: Compiled by the authors.

Table 5

Shares of Sectors and Industries in the Growth of the Number of Employees, %

Sectors / Industries	2018	2019	2020	2021	2022	2023
Manufacturing sector	–117.55	–29.75	–25.33	6.22	50.18	780.54
Mining and transactional sector	17.55	–70.25	–74.67	–106.22	–150.18	–880.54
The entire selection	–100.00	–100.00	–100.00	–100.00	–100.00	–100.00
Electronics	–11.33	–1.11	–1.95	3.28	1.15	175.82
IT industry	30.99	11.50	5.32	14.36	124.16	326.83

Source: Compiled by the authors.

Table 6

Shares of Sectors and Industries in the Growth of Non-Current Assets, %

Sectors / Industries	2018	2019	2020	2021	2022	2023
Manufacturing sector	27.14	26.37	36.09	28.13	23.19	29.96
Mining and transactional sector	72.86	73.63	63.91	71.87	76.81	70.04
The entire selection	100.00	100.00	100.00	100.00	100.00	100.00
Electronics	0.52	0.14	0.53	0.13	0.36	0.47
IT industry	0.50	0.73	6.61	0.66	1.38	0.97

Source: Compiled by the authors.

Table 7

The Contribution of Sectors and Industries to the Growth Rate of Shipped Goods, %

Sectors / Industries	2018	2019	2020	2021	2022	2023
Manufacturing sector	0.582	0.509	0.497	0.659	0.518	0.555
Mining and transactional sector	0.589	0.527	0.493	0.673	0.557	0.559
The entire selection	1.171	1.036	0.990	1.331	1.076	1.114
Electronics	0.013	0.012	0.012	0.015	0.012	0.014
IT industry	0.010	0.010	0.011	0.018	0.016	0.018

Source: Compiled by the authors.

Table 8

The Contribution of Sectors and Industries to the Growth Rate of the Number of Employees, %

Sectors / Industries	2018	2019	2020	2021	2022	2023
Manufacturing sector	0.452	0.452	0.451	0.458	0.462	0.466
Mining and transactional sector	0.545	0.542	0.536	0.535	0.536	0.534
The entire selection	0.997	0.994	0.987	0.993	0.998	1.000
Electronics	0.009	0.009	0.009	0.009	0.010	0.010
IT industry	0.008	0.009	0.010	0.011	0.013	0.014

Source: Compiled by the authors.

Table 9

The Contribution of Sectors and Industries to the Growth Rate of Non-Current Assets, %

Sectors / Industries	2018	2019	2020	2021	2022	2023
Manufacturing sector	0.348	0.335	0.386	0.356	0.359	0.357
Mining and transactional sector	0.743	0.725	0.808	0.759	0.814	0.812
The entire selection	1.091	1.059	1.194	1.115	1.173	1.169
Electronics	0.004	0.004	0.005	0.004	0.004	0.004
IT industry	0.001	0.002	0.014	0.013	0.014	0.014

Source: Compiled by the authors.

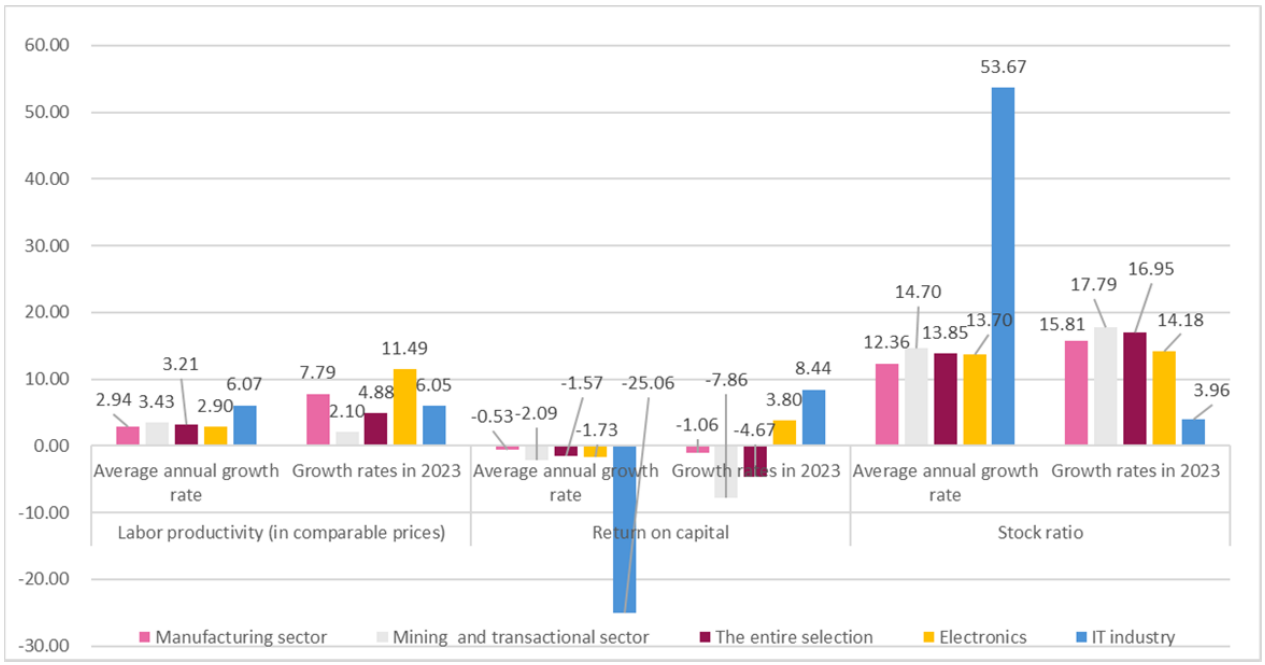

Fig. 3. **Growth Rates of Labor and Capital Efficiency Indicators, %**

Source: Compiled by the authors.

steadily growing, while the contribution of electronics ranges from 0.012 to 0.015%, as shown in *Table 7*.

The contribution of the manufacturing industry to the population growth rate is increasing, but it is still inferior to the mining and financial industries. The IT sector stands out in particular, where new specialists are actively coming, which cannot be said about electronics (*Table 8*).

The contribution of the mining and transactional sectors to the overall growth rate of non-current assets significantly exceeds the share of the manufacturing sector. This indicates the need to channel resources to the development of the manufacturing sector. The contribution of the IT industry has increased significantly, in contrast to electronics, where the indicator value is consistently low (*Table 9*).

At the next stage, to assess the results of the transformation, the achieved rates of increase in the efficiency of labor and capital use are calculated (*Fig. 3*). Their analysis allows us to conclude that labor productivity and stock ratio are steadily growing. However, the growth rate of returns is negative. This indicates the insufficient efficiency of the use of the introduced objects of non-current assets.

An analysis of the indicators of the table in the context of the sectors and industries under consideration provides grounds for concluding that there is a high level of labor productivity dynamics in the electronics industry, and in general, a speeding up of labor productivity growth in 2023 compared to the average annual rate (with the exception of the IT industry).

Despite the negative average growth rates of non-current asset returns over the study period, there has been a positive upward trend in electronics and IT companies in 2023. With regard to the stock ratio, it should be noted that this indicator has a significant annual average growth rate in the IT sector, with a slight decrease in 2023. For selected sectors and the electronics industry, the growth rate of stocks and equipment accelerated in 2023, indicating positive trends in production development and investment attraction.

At the final stage, trends were developed based on data for the period 2017–2023 and forecasts of the economic structure for 2024–2026 were formed in the context of selected

Table 10

Forecast of the Structure of Goods Shipped, %

Sectors / Industries	2024	2025	2026
Manufacturing sector	49.18	49.11	49.04
Mining and transactional sector	50.82	50.89	50.96
The entire selection	100.00	100.00	100.00
Electronics	1.18	1.18	1.18
IT industry	1.92	2.21	2.53

Source: Compiled by the authors.

sectors and industries. The trends selected according to the criterion of approximation reliability reflect the established patterns in the change of indicators. In terms of the volume of goods shipped, exponential trends indicate an accelerating growth in indicators:

• for the processing sector (the accuracy of the approximation is 0.9378, the relative error is 4.20%):

$$V_{S1} = 41537 \times \exp(0.1058 \times t); \quad (1)$$

• for the mining and transactional sector (the accuracy of the approximation is 0.922, the relative error is 4.43%):

$$V_{S2} = 42008 \times \exp(0.1085 \times t); \quad (2)$$

• as for Electronics (the accuracy of the approximation is 0.9265 and the relative error is 4.93%)

$$V_{I1} = 978 \times \exp(0.1084 \times t); \quad (3)$$

• in the IT industry (the accuracy of the approximation is 0.9761, the relative error is 6.16%):

$$V_{I2} = 527 \times \exp(0.2462 \times t), \quad (4)$$

where t – is the year number.

The analysis of the forecast structure (*Table 10*) by sector does not provide grounds for conclusions about an increase in the manufacturing sector, its share is slightly decreasing, which indicates the need to intensify industrial policy towards supporting the sector. The share of electronics remains unchanged, which also indicates insufficient efforts to accelerate the growth of the industry. A noticeable increase in the share of the IT sector allows us to conclude about the successful development of the industry and about an effective industrial policy that stimulates this growth.

Logarithmic, exponential, and linear trends are constructed to predict the population structure:

• for the processing sector (the accuracy of the approximation is 0.6082, the relative error is 0.30%):

$$L_{S1} = -158.1 \times LN(t) + 20139; \quad (5)$$

• for the mining and transactional sector (the approximation confidence value is 0.9453, the relative error is 0.41%):

$$L_{S2} = 24481 \times exp(-0.01 \times t); \quad (6)$$

• for Electronics (the accuracy of the approximation is 0.0137, the relative error is 2.52%):

Table 11

Forecast of the Employees Number Structure, %

Sectors / Industries	2024	2025	2026
Manufacturing sector	46.68	46.88	47.08
Mining and transactional sector	53.32	53.12	52.92
The entire selection	100.00	100.00	100.00
Electronics	0.99	0.99	1.00
IT industry	1.58	1.77	1.99

Source: Compiled by the authors.

Table 12

Forecast of the Structure of Non-Current Assets, %

Sectors / Industries	2024	2025	2026
Manufacturing sector	30.50	30.22	29.96
Mining and transactional sector	69.50	69.78	70.04
The entire selection	100.00	100.00	100.00
Electronics	0.37	0.37	0.37
IT industry	1.30	1.32	1.32

Source: Compiled by the authors.

$$L_{I1} = 0.7375 \times t + 412.34. \quad (7)$$

The low value of the approximation value is due to the fact that in the period 2017–2020 there was a decrease in the number of personnel in the industry according to EMISS, then in the period 2020–2023 there was an increase. Therefore, the trend in the change in the indicator is weak, but since the overall changes are not significant, the relative error is not large.

- in the IT industry (the accuracy of the approximation is 0.9866, the relative error is 2.07%):

$$L_{I2} = 279.48 \times exp(0.1094 \times t), \quad (8)$$

where t — is the year number.

The change in the forecast structure (Table. 11) it can be assessed positively — an increase in the share of the manufacturing sector with a decrease in the extractive and transactional sectors, as well as a slight increase in the share of electronics and a significant increase in the share of the IT industry — all this indicates a positive impact on the economy of the momentum received in 2022.

The forecast of the structure for non-current assets was based on the following exponential and linear trends:

- for the manufacturing sector (the accuracy of the approximation is 0.98, the relative error is 2.46%):

$$K_{S1} = 31229 \times \exp(0.1173 \times t); \quad (9)$$

• in the mining and transactional sectors (approximation confidence value 0.9812, relative error 3.21%):

$$K_{S2} = 64250 \times \exp(0.1301 \times t); \quad (10)$$

• for Electronics (the accuracy of the approximation is 0.9677, the relative error is 4.32%):

$$K_{I1} = 348.04 \times exp(0.1284 \times t); \quad (11)$$

• for IT industry (the value of the approximation reliability is 0.897, the relative error is 10.22%):

$$K_{I2} = -675.73 + 511.2 \times t, \quad (12)$$

where t — is the year number.

Analysis of the forecast structure for non-current assets (*Table 12*) provides grounds for conclusions regarding the lack of investment in non-current assets in the manufacturing and electronics sectors, as evidenced by the declining share of these sectors and the stability of industry shares. However, only in the IT sector can we observe not very significant but nevertheless positive changes — an increase in its share of total non-current assets.

According to forecast calculations, the IT industry is expected to have the highest growth rate, with a negative trend towards decreasing its share in manufacturing. The extractive and transaction sectors are expected to experience uniform growth.

CONCLUSIONS

The research conducted indicates the intensification of transformational processes in the economy, partly due to industrial policy. This has served as a driver for growth in manufacturing industries, especially in the context of the new technological order.

In the manufacturing sector, we see a gradual increase in the share of shipped goods and the number of employees. However, in the case of non-current assets, the share is decreasing. This indicates a lack of investment activity on the part of enterprises.

The IT industry, on the other hand, has seen a significant increase in indicators during the period under study (2017–2023). The share in the total volume of shipped goods has increased by more than 1.5 times, while the number has grown by more than two times. Furthermore, non-current assets have increased by more than twelve times, reflecting the increased investment activity of this industry under the influence of government support.

Unfortunately, there has been no increase in the share of electronics. This requires additional incentives, similar to those provided to the IT industry, in order to stimulate growth in this sector.

The growth rate of the manufacturing sector exceeds that of the extractive and transactional sectors in most indicators, with the exception of non-current assets. However, the IT industry's growth rate for non-current assets significantly exceeds that of electronics. While the growth rate of IT decreased in 2023, electronics saw a significant increase due to government support and investment incentives. The total increase in shipped goods was 64.41% in the manufacturing sector, 2.59% in electronics, and 2.96% in IT, showing a trend towards accelerating the growth of priority sectors.

The number of employees in the manufacturing and electronics industries is growing, which also contributes to positive changes in the economy.

Transformation indicators are increasing in all identified sectors and industries. The growth and growth rates of productivity and the labor force are positive trends in the development of production and the influx of capital.

The forecast for 2026 suggests that the trend of a decreasing share of the manufacturing sector may not have been fully reversed, with the electronics sector projected to remain stable and the IT industry continuing to grow steadily. There is a positive trend in the structure of employment, with an increase

in the number of people working in the manufacturing sector and IT. However, there are no significant predictions for any significant changes in the electronics industry.

In terms of investment activity, as measured by the growth of non-current assets, there is a negative trend towards a continued decrease in the proportion of investments going towards the manufacturing sector. However, the IT industry is expected to increase its investment activity and contribute to a higher share of total non-current assets in the future.

The results of this work can be used to monitor the implementation of the scientific and technological development strategy by assessing the structure of the economy and clarifying the direction of development, as well as attracting investments in priority industries that are the engines of scientific and technological progress in the country.

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