UDC 330.34:336.153.11:001.895(510)

E. A. Kuzko
Zhu Mingcong
E.A.Kadovba@yandex.ru
Francisk Skorina Gomel State University, Republic of Belarus

INNOVATIVE ACTIVITY IN THE PEOPLE'S REPUBLIC OF CHINA: FINANCIAL INCENTIVES AND ROLE IN INCREASING THE COMPETITIVENESS OF NATIONAL ECONOMY

The article analyzes the main indicators and trends of innovative development in the People's Republic of China. The issues of financial incentives for innovation are considered. The article also examines the competitiveness of the People's Republic of China's economy and assesses the relationship between the development of innovative activity in this state and the competitiveness of its economy.

Key words: innovative activity, financial incentives, competitiveness of the national economy, People's Republic of China, Global Innovation Index, Global Competitiveness Index.

Е. А. Кузко
Чжу Минцонг
Е.А.Кадовба@yandex.ru
ГГУ имени Ф. Скорины, Республика Беларусь

ИННОВАЦИОННАЯ ДЕЯТЕЛЬНОСТЬ В КИТАЙСКОЙ НАРОДНОЙ РЕСПУБЛИКЕ: ФИНАНСОВЫЕ СТИМУЛЫ И РОЛЬ В ПОВЫШЕНИИ КОНКУРЕНТОСПОСОБНОСТИ НАЦИОНАЛЬНОЙ ЭКОНОМИКИ

В статье анализируются основные показатели и тенденции инновационного развития в Китайской Народной Республике. Рассматриваются вопросы финансовых стимулов для инноваций. Также исследуется конкурентоспособность экономики Китайской Народной Республики и оценивается взаимосвязь между развитием инновационной деятельности в этом государстве и конкурентоспособностью его экономики.

Ключевые слова: инновационная деятельность, финансовые стимулы, конкурентоспособность национальной экономики, Китайская Народная Республика, Глобальный инновационный индекс, Глобальный индекс конкурентоспособности.

China's economy is undergoing a profound transformation from "scale and speed" to "quality and efficiency". This transformation stems from the inevitable requirements of the internal development stage and is also driven by the external forces of global technological revolution and industrial transformation. The following areas can be noted as important trends in the country's economic development.

1. *Fundamental transformation of growth momentum: qualitative change from "factor-driven" to "innovation-driven".* The growth model that relied on the widespread use of factors such as labor, capital, and resources in the past has been replaced by a development model based on innovation and technology in the face of numerous constraints.

2. *Deep adjustment of industrial structure: reconstruction from "scale expansion" to "quality and efficiency improvement"*. By 2023, the added value of the primary, secondary, and tertiary industries accounted for 5,1 %, 38,9 %, 56,0 % (compared to 10,1 %, 45,3 %, 44,6 % in 2012. The internal transformation of the industry towards "high-end, intelligent, and green" will reshape the growth logic.

3. *Coordinated evolution of regional development patterns: upgrading from "single-point breakthrough" to "cluster linkage"*. Relying on the advantages of technology, capital and talent concentration, the Yangtze River Delta, the Pearl River Delta and the Beijing-Tianjin-Hebei region have become one of the regions with the highest concentration of innovation factors in the world.

4. *Strategic improvement of international economic status: the leap from a "trading power" to a "technology exporting power"*. China's ongoing expansion and investment in technology and innovation clusters have fostered a vibrant atmosphere of innovation, providing a model for other economies and promoting sustainable development of global technology. In the future, China is expected to continue playing a key role in driving global technological progress, tackling climate change, and improving infrastructure. In the table 1 we show the main China's science, technology, and innovation (STI) indicators.

The progress that China has made in science, technology, and innovation (STI) during the Reform and Opening Up period is remarkable (table 1). Its rise to become a global STI power is frequently attributed to its domestic efforts. But it is also undeniable that China has capitalized on the advantages presented by the globalization of research and education.

Table 1 – China's key science, technology and innovation indicators

Indicator	Unit of measurement	Value	Year
1. Gross expenditure on research and development (R&D)	Trillion yuan	3,328	2023
2. R&D expenditure as a percentage of gross domestic product (GDP)	Percent	2,64	2023
3. R&D personnel	Million person-years (full-time equivalent)	6,35	2022
4. College graduates from regular higher education institutions	Million persons	9,67	2022
5. Postgraduates at master's level	Persons	779,849	2022
6. PhD graduates	Persons	82,320	2022
7. Publications in Science Citation Index journals	Rank	1	2021
8. Rank in the Web of Science for most highly cited papers	Rank	2	2022
9. Patent applications with the Patent Cooperation Treaty	Number of patents	69,610	2023
10. Global Innovation Index	Rank	12	2023

On September 26, 2024, the World Intellectual Property Organization (WIPO) released the Global Innovation Index (GII) report for 2024, which ranks China 11th among over 130 economies worldwide, climbing one spot from the previous year. This achievement places China as the only upper-middle-income economy to break into the top 30. It also highlights the rapid development of China's innovation capabilities, with other nations such as Turkey joining the ranks of the fastest-growing innovators over the past decade.

The Global Innovation Index rose from 34th in 2012 to 11th in 2024, entering the top 10 globally in the "Market Size" and "Knowledge Workers" indicators (table 2).

Table 2 – China's Global Innovation Index (GII) Ranking Trajectory (2012–2024)

Year	GII Rank	Key Milestones
2012	34	National innovation system reform initiated
2013	35	Ranked 35th (earliest data under current methodology)
2014	29	Mass Entrepreneurship and Innovation policy launched
2015	29	Entered top 30 for the first time
2016	25	Made in China 2025 strategy accelerated industrial upgrades
2017	22	AI and quantum computing prioritized in national plans
2018	17	Surpassed Canada, Australia; led BRICS nations
2019	14	Broke into top 15, driven by digital economy growth
2020	14	Sustained rank despite pandemic disruption
2021	12	First top-12 rank; pandemic-era digital innovation surge
2022	11	Peak position (temporary, later revised)
2023	12	Stabilized as world's only middle-income economy in top
2024	11	Strides in intellectual property development, recording notable achievements in patent grants, trademark registrations and copyright filings
Note: source: Data source: [1]		

China uses various methods, including *financial incentives*, to promote innovation. The following types of financial incentives are used in China's innovation promotion practices:

– *funding and investments (including subsidies, grants, etc.):* Chinese government allocates significant funds for R&D, technology startups and innovation infrastructure projects. Programs such as "Made in China 2025" provide financial support and stimulate the development of key industries such as artificial intelligence, electronics, new materials and so on;

– *tax incentives*: the government provides tax incentives for research and development enterprises. The government also actively invests in the development of the startup ecosystem by providing tax incentives and financial support to young innovative companies. Foreign investors are also welcomed and provided with favorable conditions to invest in Chinese technology startups. In China, the government provides tax incentives aimed at promoting R&D and innovation to a wide range of organizations, including universities and university research centers, state-owned research institutes and private-public laboratories, non-profit research organizations and more. However, the main beneficiaries of these tax incentives are business entities – companies in private sector;

– *ensuring the availability of credit*: an important element of the government's policy is ensuring availability of credits and loans for innovative projects and research. This allows companies and research groups to receive additional funding for their initiatives.

In August 2025, the Chinese government released a comprehensive guide on strengthening financial support for new industrialization, aimed at modernizing the manufacturing sector. According to the document, China aims to establish a mature financial system by 2027 that promotes high-tech, intelligent, and environmentally friendly industrial development. By this time, it is expected that manufacturing companies will significantly increase their *bond issuance and improve their access to equity financing*. This will help meet the credit needs of enterprises. In addition, financial products will become more diverse, and financing instruments – including loans, bonds, stocks and insurance – will be better coordinated.

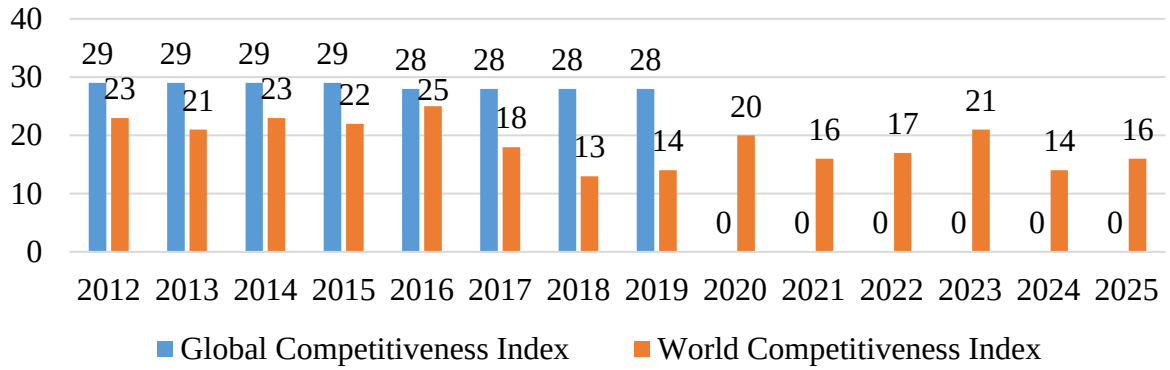
Innovative activity is widely regarded as the main factor of economic growth and national economic competitiveness. A state's competitiveness is directly linked to the competitiveness of its domestic companies and the products they produce, which are in demand in the markets. Moreover, the efficiency of production, distribution and sales of goods includes both the ability of economic institutions to create favorable conditions and the ability of firms and industries to take advantage of these conditions to gain and maintain competitive advantages.

National economic competitiveness refers to a country's comprehensive ability to create wealth, participate in the international division of labor, resist external risks, and achieve sustained growth through resource allocation in the global economic system. Its core indicators include GDP per capita, global share of industry, degree of technological autonomy and control, and attractiveness to international capital and many other factors and metrics.

Contrary to some stereotypes used to find explanations for China's success as a trading nation in low costs derived from abundant labor, low wages, poor environmental restrictions and indifference to workers' rights, the fact is that the core of China's approach to trade is based on the high historical standards of its education system, its focus on R&D and high-tech industries and a strategic and pragmatic role of government in the economy. China's successful technological development not only shows in comparative trade figures and their structure but also in the widespread use of high-tech tools in everyday life.

Innovation activity reshape the core of China's economic competitiveness.

It is worth noting that a country's competitiveness ranking is compiled annually, taking into account various factors. We talk about two the most well-known rankings. The Global Competitiveness Index (which has not been published since 2020) and the World Competitiveness Index. The dynamics of China's position in these rankings are presented in figure 1.



Source: Data source: Compiled by the author based on Annual Global Competitiveness Index and World Competitiveness Index reports [2, 3]

Figure 1 – The dynamics of China's position in competitiveness rankings

The dynamics of China's competitiveness are ambiguous, but there is a clear trend towards its steady growth. This indicator is influenced by various factors, and it can be assumed that the acceleration of innovation development plays a significant role. The correlation with the level of innovation development can be observed by analyzing the dynamics of China's position in the Global Innovation Index (table 2).

An analysis of China's development and competitiveness indicators lets identify several areas of action that could contribute to improving the country's global competitiveness:

– deepen reform and open up to boost internal development momentum;
– stimulate innovation to advance industrial upgrading and structural optimization;
– strengthen consumption as a key driver of high-quality, socio-economic growth;
– intensify policy support to improve people's wellbeing;
– resolve trade disputes to stabilize international economic cooperation.

Thus, the government's role in supporting and financial incentives of innovation in China plays a crucial role in establishing the country as a global leader in the technological field. This process is driven by strategic policies and proactive investments focused on fostering innovation and key industries. Innovation plays an important role in increasing the competitiveness of Chinese economy. It stimulates economic growth, increases the

competitiveness of companies, creates new jobs, develops scientific and technological potential, and attracts investment. The development of innovation is one of the key factors for a country’s success in the global market. Innovation is the driving force behind economic growth. It enables the creation of new products, services, and technologies that improve people's lives and enhance production efficiency. Innovative companies often become leaders in their respective industries and attract investments, contributing to the overall economic development of a country.

References

1. China – Global Innovation Index [Electronic resource]. – URL: https://countryeconomy.com/government/global-innovation-index/china. – Date of access: 03.09.2025.

2. Global Competitiveness Report 2019 [Electronic resource]. – URL: https://www.weforum.org/publications/how-to-end-a-decade-of-lost-productivity-growth/. – Date of access: 05.09.2025.

3. World Competitiveness Ranking [Electronic resource]. – URL: https://www.imd.org/centers/wcc/world-competitiveness-center/rankings/world-competitive-ness-ranking/. – Date of access: 05.09.2025.