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THE CHALLENGE OF TRANSITIONING FROM A RESOURCE-DEPENDENT ECONOMY TO AN INNOVATION-DRIVEN MODEL OF SUSTAINABLE DEVELOPMENT

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ПРОБЛЕМА ПЕРЕХОДУ ВІД РЕСУРСОЗАЛЕЖНОЇ ЕКОНОМІКИ ДО ІННОВАЦІЙНОЇ МОДЕЛІ СТАЛОГО РОЗВИТКУ

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The article examines the problem of transition from a resource-dependent economy to an innovative model of sustainable development under conditions of global transformations, economic digitalization, and increasing environmental and socio-economic challenges. It is substantiated that the traditional resource-based economic model, focused mainly on the exploitation of natural resources and raw material specialization, is gradually losing its efficiency due to high dependence on fluctuations in global markets, instability of the external economic environment, low level of technological modernization, and insufficient development of innovation activity. It has been determined that a resource-dependent economy is characterized by high energy intensity, weak diversification of production, limited development of high-tech industries, and increased risks to the economic security of the state. The study explores the essence of the innovative model of sustainable development and identifies its key characteristics. It has been established that the innovative development model is based on the effective use of intellectual capital, digital technologies, scientific achievements, education, and innovation infrastructure. Particular attention is paid to the role of digital transformation, automation of production, artificial intelligence, big data, and modern information technologies in ensuring economic modernization. It has been proved that the introduction of innovations contributes to increasing the competitiveness of the economy, improving resource efficiency, enhancing the adaptability of enterprises to crisis changes, and ensuring long-term economic sustainability. Special attention is paid to the transformation challenges facing the Ukrainian economy under conditions of war-related threats and post-war recovery. It has been determined that the formation of an innovative model of

sustainable development in Ukraine requires industrial modernization, support for high-tech sectors, development of human capital, stimulation of innovative entrepreneurship, and integration into the global innovation environment. The study identifies the key directions for ensuring economic transformation, including the development of innovation infrastructure, improvement of state policy in the field of science and innovation, support for the digital economy, creation of a favorable investment climate, and implementation of ESG-oriented management principles.

The research concludes that the transition from a resource-dependent economy to an innovative model of sustainable development is a necessary condition for strengthening economic security, increasing competitiveness, and ensuring long-term resilience of the national economy in the context of global transformations and technological changes.

Keywords: resource-dependent economy, innovative development, sustainable development, digitalization, intellectual capital, economic transformation, economic resilience, competitiveness, digital economy, innovation infrastructure.

Introduction. The current development of the global economy is accompanied by large-scale transformative processes linked to digitalization, intensifying global competition, environmental challenges, shifts in technological paradigms, and the need to ensure long-term economic sustainability. In the context of the emerging knowledge economy and the rapid development of innovative technologies, the traditional resource-dependent economic model is gradually losing its

effectiveness and fails to ensure an adequate level of competitiveness for national economies. This problem is particularly acute in countries whose economic development is largely based on raw material specialization, the export of natural resources, and a low level of technological modernization in production. A resource-dependent economy is characterized by high sensitivity to fluctuations in global commodity prices, limited production diversification, low levels of innovation, and insufficient development of high-tech sectors. Such a model of economic development poses significant risks to the country's economic security, as dependence on external markets and unstable market conditions reduces the economy's adaptability to global crises. Furthermore, the dominance of raw material industries hinders the development of human capital, science, innovation infrastructure, and the digital economy, which negatively impacts the pace of structural modernization of the national economy.

In today's context, the concept of sustainable development - which aims to achieve a balance between economic growth, social development, and environmental security - is of particular importance. Implementing the principles of sustainable development requires a transition to an innovative economic model based on the use of modern technologies, intellectual capital, digital tools, and environmentally oriented management mechanisms. An innovative development model contributes to increased labor productivity, the creation of new competitive advantages, the development of high-tech industries, and the assurance of economic resilience in the face of global challenges.

For Ukraine, the challenge of transitioning from a resource-dependent economy to an innovative model of sustainable development is extremely pressing. A significant share of raw material exports, high energy intensity of production, insufficient integration of science and business, low levels of innovation activity among enterprises, and limited funding for research and development hinder economic modernization. Additional challenges include the consequences of military operations, the destruction of production infrastructure, demographic losses, and the need for post-war economic recovery based on sustainable and innovative development.

In this context, the need to study the challenges of transforming a resource-dependent economy, identify key directions for innovative development, and establish effective mechanisms to ensure sustainable economic growth has become

particularly urgent. This necessitates the improvement of public policy in the areas of innovation, human capital development, the digitalization of the economy, and the creation of a modern innovation infrastructure as the foundation for the transition to a new model of economic development.

Analysis of basic research and publications.

The issue of transitioning from a resource-dependent economy to an innovation-driven model of sustainable development is the subject of active research by both international and domestic scholars [1-11]. Significant attention is being paid to issues of innovation-driven development, the digital transformation of the economy, the emergence of a knowledge economy, and ensuring sustainable development in the face of global challenges.

The theoretical foundations of resource-based and innovation-based approaches to the development of economic systems were explored by J. Barney, D. Teece, and J. Fahy, who substantiated the role of resources, dynamic capabilities, and innovation in ensuring the competitiveness of enterprises. T. Strange and A. Bayley made a significant contribution to the development of the concept of sustainable development, examining the interconnection of the economic, social, and environmental components of development.

The issue of the digital transformation of the economy and its impact on competitiveness and sustainable development was studied by O. Koval, O. Lyshak, Y. Xia, H. Jiao, and other researchers. Their works emphasize the role of digital technologies, innovation, and intellectual capital in shaping a new model of economic development. Issues of enterprises' innovation resilience, ESG transformation, and the economy's adaptation to global challenges are addressed in the works of S. Jin, Y. Wang, L. Zhang, and other researchers.

Among Ukrainian scholars, A. O. Kasych, I. Stankovska, L. Smaga, O. Borodina, K. O. Antoniuk, and others have made significant contributions to research on sustainable development, the innovative transformation of the economy, and economic security. These scientific works address issues related to ensuring the economic stability of enterprises, developing innovative potential, digitizing business processes, and establishing modern mechanisms for managing the development of economic systems.

At the same time, despite the significant number of scientific works, issues related to the comprehensive transition from a resource-dependent economy to an innovative model of

sustainable development remain insufficiently researched in the context of modern global transformations, military challenges, and the need for post-war economic recovery in Ukraine. This necessitates further scientific research in this area.

The purpose of this article is to examine the challenges of transitioning from a resource-dependent economy to an innovation-driven model of sustainable development, to identify the key factors and obstacles to economic transformation, and to outline the main directions for building an innovation-oriented development system in the current context of global challenges, digitalization, and ensuring economic resilience.

Materials and results of the study. Current trends in the global economy point to a gradual shift in focus from the traditional resource-based economic model toward an innovation-driven knowledge economy. For a long time, the resource-dependent model drove economic growth in many countries through the export of natural resources, raw materials, and low-value-added products. However, under current conditions, this model increasingly reveals its limitations due to the instability of global markets, high dependence on external economic conditions, growing environmental risks, and technological backwardness [5].

A resource-dependent economy is characterized by a concentration of a significant portion of gross domestic product in raw material sectors, a low level of production diversification, and insufficient innovation activity. Under such conditions, economic growth depends to a large extent on the dynamics of global prices for energy resources, metallurgical, or agricultural products, which creates a high level of economic instability. Furthermore, a focus on natural resource extraction often hinders the development of high-tech sectors, reduces the incentive to innovate, and exacerbates structural imbalances in the economy [7].

One of the key challenges of a resource-dependent economy is the so-called “resource paradox” or “resource curse,” where significant natural resource potential does not contribute to long-term economic development but, on the contrary, fosters dependence on raw material exports and limits the development of the innovation sector [3]. Under such conditions, investments are predominantly concentrated in extractive industries, while research and development, human capital development, and high-tech manufacturing remain underfunded.

For Ukraine, the problem of resource dependence is particularly acute. For a long time, a

significant share of Ukrainian exports has come from the metallurgical, raw materials, and agricultural sectors. This economic structure poses risks to the country’s economic security, as it increases dependence on global price fluctuations and limits the potential for developing a high-tech sector. At the same time, current challenges related to military operations, the destruction of industrial infrastructure, labor migration, and the need for post-war reconstruction underscore the need to develop a new model of economic development.

In this context, an innovative model of sustainable development - based on the use of intellectual capital, modern technologies, digital tools, and environmentally oriented management mechanisms—takes on particular significance. Unlike the resource-based model, the innovative economy is founded on the creation of high added value, the advancement of science and technology, the digitization of production processes, and the integration of innovations across all sectors of economic activity [9].

Digital transformation of the economy plays a crucial role in the transition to an innovation-driven development model. The advancement of digital technologies, artificial intelligence, production automation, big data, and platform-based business models contributes to more efficient resource utilization, the optimization of management processes, and the creation of new competitive advantages. In today’s environment, digitalization is becoming not only a driver of economic growth but also a vital tool for ensuring economic resilience and the adaptability of enterprises to crisis-induced changes.

Human capital is one of the key elements of the innovative model of sustainable development. It is knowledge, professional competencies, innovative thinking, and the ability to create new technologies that are becoming the primary resources of economic development. In this regard, the modernization of the education system, support for research and development, the development of entrepreneurial competencies, and the promotion of innovative activity among young people are of paramount importance.

At the same time, an effective transition to an innovative model of sustainable development is impossible without the creation of a modern innovation infrastructure. This involves the creation of technology parks, innovation clusters, business incubators, technology transfer centers, and digital platforms for collaboration between science and business. The presence of a developed innovation infrastructure helps accelerate the

commercialization of scientific research, boost investment activity, and foster a favorable environment for the development of innovative entrepreneurship.

The concept of sustainable development, which aims to achieve a balance between economic, social, and environmental development goals, is of particular importance in today's context. The transition to an innovative economic model must be accompanied by the adoption of environmentally safe technologies, improved energy efficiency in production, the development of a circular economy, and adherence to ESG-oriented management principles. This not only minimizes the negative impact on the environment but also enhances the investment attractiveness of enterprises and the competitiveness of the economy as a whole.

Government policy plays a crucial role in driving economic transformation. Effective government regulation should be aimed at stimulating innovation, supporting high-tech industries, developing the digital economy, and fostering a favorable investment climate. Key instruments of government support include tax incentives, government investment in research and development, funding for innovative projects, support for startups, and the development of public-private partnerships.

Furthermore, an important factor in the successful transformation of the economy is Ukraine's integration into the global innovation ecosystem. Participation in international scientific and technical programs, cooperation with international innovation centers, and the attraction of foreign investment contribute to accelerating technological modernization and the development of the national innovation system.

Thus, the transition from a resource-dependent economy to an innovation-based model of sustainable development is a complex and multifaceted process that requires a comprehensive transformation of the economic system. The foundation of such a transformation must be the development of human capital, digitalization, support for innovation, the modernization of production, and the formulation of effective government policy in the field of sustainable development.

Conclusions and proposals. The study found that, in the current context of global transformations, the resource-dependent model of economic development is gradually losing its effectiveness and fails to ensure the necessary level of economic stability and competitiveness for the state. The dominance of raw material specialization,

dependence on natural resource exports, a low level of technological modernization, and limited development of the innovation sector pose significant risks to long-term economic development. The high sensitivity of a resource-dependent economy to external crises, fluctuations in world prices, and geopolitical instability reinforces the need for structural transformation of the national economy.

It is argued that an innovation-driven model of sustainable development serves as the strategic foundation for ensuring long-term economic growth, enhancing competitiveness, and improving the economy's adaptability to contemporary challenges. It is determined that the key components of such a model are the development of high-tech industries, the digitalization of economic processes, the intensification of research and development activities, the formation of a modern innovation infrastructure, and the effective use of human capital. In the modern economy, it is knowledge, innovation, and digital technologies that are becoming the main factors in generating economic value added and ensuring sustainable development.

It has been demonstrated that an important prerequisite for a successful transition to an innovation-driven development model is the formulation of effective public policy aimed at supporting innovation, advancing science and education, stimulating digital transformation, and creating a favorable investment environment. Of particular importance is the need to develop public-private partnerships, support innovative entrepreneurship and startup ecosystems, and integrate the national economy into the global innovation space.

It has been established that, given current global challenges, military risks, and the need for Ukraine's post-war recovery, the transition to an innovative model of sustainable development takes on not only economic but also strategic significance. Economic recovery must be based on the principles of technological modernization, environmental safety, energy efficiency, and the development of the digital economy. In this context, the implementation of ESG-oriented management, the development of a circular economy, and support for environmentally responsible production take on particular importance.

Thus, the transition from a resource-dependent economy to an innovative model of sustainable development is a necessary condition for ensuring economic stability, enhancing competitiveness, and shaping a modern model of national development. Implementing this process requires a

comprehensive approach that encompasses economic, technological, social, and institutional transformations.

Prospects for further scientific research in this area include the development of mechanisms for assessing the effectiveness of the economy's innovative transformation, the creation of a system of indicators of innovative sustainability, as well as research into the impact of digitalization and artificial intelligence technologies on ensuring the sustainable development of economic systems.

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Алексєнко Д.С., Сивочка В.В. Проблема переходу від ресурсозалежної економіки до інноваційної моделі сталого розвитку.

У статті досліджено проблему переходу від ресурсозалежної економіки до інноваційної моделі сталого розвитку в умовах сучасних глобальних трансформацій, цифровізації економічних процесів та посилення екологічних і соціально-економічних викликів. Обґрунтовано, що традиційна ресурсна модель господарювання, яка базується переважно на використанні природних ресурсів та сировинній спеціалізації економіки, поступово втрачає свою ефективність через високу залежність від коливань світових ринків, нестабільність зовнішньоекономічної кон'юнктури, низький рівень технологічної модернізації та недостатній розвиток інноваційної діяльності. Визначено, що ресурсозалежна економіка характеризується значною енергоємністю виробництва, обмеженим розвитком високотехнологічних галузей, низьким рівнем диверсифікації економіки та підвищеними ризиками для економічної безпеки держави.

У роботі досліджено сутність інноваційної моделі сталого розвитку та визначено її ключові характеристики. Встановлено, що інноваційна модель розвитку ґрунтується на використанні інтелектуального капіталу, цифрових технологій, розвитку науки, освіти та інноваційної

інфраструктури. Обґрунтовано, що важливу роль у процесі економічної трансформації відіграють цифровізація, автоматизація виробництва, розвиток штучного інтелекту, великих даних та сучасних інформаційних технологій. Доведено, що впровадження інновацій сприяє підвищенню конкурентоспроможності економіки, ефективності використання ресурсів, адаптивності підприємств до кризових змін та забезпеченню довгострокової економічної стійкості.

Особливу увагу приділено проблемам трансформації економіки України в умовах воєнних викликів та необхідності повоєнного відновлення. Визначено, що формування інноваційної моделі сталого розвитку для України потребує модернізації промисловості, підтримки високотехнологічних галузей, розвитку людського капіталу, стимулювання інноваційного підприємництва та інтеграції у глобальний інноваційний простір. Встановлено, що важливими напрямами забезпечення економічної трансформації є розвиток інноваційної інфраструктури, удосконалення державної політики у сфері науки та інновацій, підтримка цифрової економіки, формування сприятливого інвестиційного середовища та впровадження принципів ESG-орієнтованого управління.

У результаті дослідження зроблено висновок, що перехід від ресурсозалежної економіки до інноваційної моделі сталого розвитку є необхідною умовою забезпечення економічної безпеки, підвищення конкурентоспроможності та формування довгострокової стійкості національної економіки в умовах глобальних трансформацій.

Ключові слова: ресурсозалежна економіка, інноваційний розвиток, сталий розвиток, цифровізація, інтелектуальний капітал, економічна трансформація, економічна стійкість, конкурентоспроможність, цифрова економіка, інноваційна інфраструктура.

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