

the economy. Also, do not forget about the acute problem of the non-renewable nature of some resources. The economy takes into account the interests of all sectors of society, thereby providing all classes with the necessary material and non-material benefits.

### **Литература**

1. Economic theory / N. M. Zubko, A. N. Zubko – Mn. “TetraSystems”, 2002. – 352 p.
2. Modern political economy: a textbook / V. G. Gusakov [et al.]; edited by V. G. Gusakov. – Minsk: Riga, 2022. – 464 p.

## **THE EVOLUTION OF THE ROLE OF FINANCE IN THE ECONOMIC SYSTEM THROUGH THE PRISM OF HUMAN DEVELOPMENT**

Голубев П.П.

Научный руководитель: преподаватель Бондарчук Д.И.  
Белорусский национальный технический университет

It is a well-known fact that finance has evolved and undergone changes over the centuries. In ancient times, primitive people also had a system of monetary relations, and prototypes of banking systems also appeared. There were primitive forms of exchange and payment, such as barter (a type of civil contract in which one party undertakes to transfer some property to the other party against the obligation of the other party to transfer property of similar value to the first) and tribal exchange systems. In antiquity, the creation of the first cash, in the understanding of modern man, money, such as coins of various kinds, began. This became a significant impetus in the development of financial instruments and financial relations, as people began to carry out world trade and pay not only goods for goods, but also money for goods and vice versa.

With the growth of population and the development of trade, in the XIII–XIV centuries in Western European countries there was a need to create more advanced financial systems and instruments. The result was the emergence of banking systems and the financial sector of the state economy. The first official state bank was founded in Naples in 1539, and it exists to this day. Also in the XIV century, one of the oldest financial instruments appeared in Italy – the promissory note. By its definition, a bill of exchange is nothing more than a security that entitles you to receive the amount specified in the bill from the debtor, the bill issuer. It is also worth saying that a kind of "boom" in world trade took place in

the era of Great Geographical Discoveries (which lasted from the XV to the XVII centuries), at that time there was an active globalization and development of world finance, as well as a significant increase in the role of world organizations.

During the late Renaissance (XV–XVII centuries), stocks and bonds appeared, which led to the creation of the first stock exchanges and joint-stock companies. It is worth mentioning that the first stock exchanges originated in Western Europe, in particular in Antwerp and Lyon, these exchanges traded not only with promissory notes and first shares, but also with government loans. With the increase in production and the advent of new technologies, after the first industrial revolution (1760-1840s), one of the most important financial instruments appeared, which everyone still uses - banknotes of various denominations.

In the XX–XXI centuries, finance has become more complex due to the improvement of technology and the improvement of financial instruments and markets. Banks, joint-stock companies and stock exchanges began to appear actively. The latter began to be accessible not only to wealthy people, but also a place where workers and farmers could trade. This "boom" of stock trading in the 1930s had a consequence that went down in history as the "Great Depression", many believe that this event was only in the United States, however, there is a lot of evidence indicating that Europe suffered no less, exponentially increasing unemployment and a decline in production and a decline in demand for the agricultural products on speak for themselves. This once again confirmed the fact that finance has a direct connection with various spheres of human life and human development. With the subsequent development of information technology, more and more advanced financial instruments and systems began to appear. So, in 1994, the first electronic payment system appeared, which marked the beginning of the era of "Electronic money". And already at the beginning of the XXI century, the first and most popular cryptocurrency BITCOIN appeared today. From all of the above, it can be concluded that finance plays an important role in the organization and functioning of economic systems at various stages of history. Historical analysis and various research approaches make it possible to understand the evolution of the role of finance and its impact on society. Finance has gone a long way to improve itself, as an integral part of our life, finance will develop in the future, already today there is a revolution in the world of finance, all new systems and algorithms, including AI, allow us to predict future development for years to come.

### **Литература**

1. Baudrillard J. The system of things / trans. from the French S.N. Zenkina. – M.: Rudomino, 2001. – 168 p.

2. McLuhan M. Understanding the means of communication: the continuation of man. – Cambridge; London: MIT Press, 1994. – 355 p.

3. Solodovnikov, S.Y. Network mechanisms of economic management as new forms of socio-functional technologies / S. Y. Solodovnikov // Economics today: collection of scientific articles / BNTU. – Minsk, 2019. – Issue 9. – pp. 84-91.

## **THE USE OF ARTIFICIAL INTELLIGENCE (AI) IN THE FIELD OF GRAPHIC AND INDUSTRIAL DESIGN**

Криворот В.В.

Научный руководитель: преподаватель Бондарчук Д.И.  
Белорусский национальный технический университет

The use of AI technologies and abilities in the sphere of graphic and industrial design is evolving very fast and has the potential to change the industry. AI technologies, such as deep learning and machine learning, are being employed to automate different aspects of industrial design, increase creativity, and streamline workflows. The use of artificial intelligence (AI) in this field of industrial design presents exciting future trends and challenges. Some of the potential future trends include:

1. Automation of Routine Tasks: AI can be used to automate boring design tasks such as changing the size of different images, generating layout variations, or applying consistent styles across multiple elements. By using AI to handle tasks like that, designers can free up their time to focus on more creative and high-level aspects of their work. This can lead to increased productivity, improved quality of design, and more time for innovation and experimentation.

2. Data-Driven Design: Artificial Intelligence has the capability to examine extensive datasets to recognize patterns in design, user inclinations, and performance indicators. Utilizing data-driven design is a potent tool of AI within industrial design. Through analyzing big amounts of data, AI can pinpoint trends and patterns in user preferences, behavior, and performance metrics. This data can subsequently guide designers in making informed design choices, enabling them to develop designs that are more efficient and user-focused. For instance, AI can assess user engagement data to determine the most effective design components for attracting and retaining user attention, ultimately resulting in more influential and prosperous designs.

3. Personalized Design Solutions: AI can be used to create personalized design solutions based on user's preferences, behavior, and other collected information. This could lead to more engaging and relevant visual content for users.