

Oleksandra Hryhorian

# STUDY OF THE MILITARY ACTIONS AS FACTOR IN THE REGRESSION OF INNOVATIVE DEVELOPMENT IN UKRAINE

The object of the study is the state of the economy in which the state of Ukraine got into during the post-pandemic crisis, the conduct of hostilities on the territory of Ukraine. The subject of the study is the impact on the development of the economy of innovation and mechanism in the post-war period. The relevance of the study is due to the need to reveal the reasons that negatively affect the creation of an environment attractive for the development of innovations, the mechanism of their implementation, and the attraction of investments for the development of the economy at the appropriate level. It is determined not only by the need to solve local problems to improve individual elements of the economic system, but also by the need to create a complex mechanism for introducing innovations by economic entities.

The results of theoretical studies and practical experience are related to the study of the consequences of economic and political force majeure as a result of the current situation. The leading method of researching this problem is the method of systematization and analysis of theoretical research data, which allows comprehensively revealing the essence and necessity of introducing innovations.

The study is devoted to the economic consequences of the military operations that took place on the territory of Ukraine. There were precedents in history. Peace agreements were reached (the Treaty of Versailles of 1919, which was signed between the victorious countries and Germany, which was recognized as the sole culprit of the war), the reparations of the aggressor country, paid to the countries affected by the war, were aimed at restoring the economy through the introduction of innovations.

The materials of the article are of practical value for those who are interested in economics at the micro level, which are expanding their knowledge in this field. This topic is very important, because innovations play an important role in the development of every company, innovations affect the efficiency of enterprises, and the activities of enterprises affect the development of the economy. The research is aimed at the success and development of the economy of Ukraine.

**Keywords:** introducing innovations, investment attraction, post-war economic, environmental crisis.

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## 1. Introduction

Many studies by scientists are devoted to trends in the development of world industry. Development of anti-crisis measures and long-term national planning for the implementation of the industrial development strategy based on foreign experience. Relevant industrial development trends are analyzed and the main directions of structural modernization of industry are determined. Management technologies of the mechanism of sustainable innovative development of the national economy are being studied by many modern scientists. Author of [1] described the criteria and features of such a relationship, established the relationship between national and regional innovation systems, and author of [2] paid attention to the peculiarities

of the development of the national economic system, in particular to the increasing role of innovative systems in it. In [3, 4] analyzed the state of the innovative component of the enterprise and investigated the innovative potential of enterprise. In [5, 6] studied the peculiarities of innovation processes in enterprises of certain industries, where an innovative approach to financing, taxation, and the use of specific technologies and innovations was introduced as a mandatory component of the real economy.

Sustainable innovative development can be implemented on the basis of the Sustainable Development Strategy of Ukraine until 2030 and on the basis of the Global Development Goals of the UN Development Program, as a starting point for determining the conceptual foundations of the corresponding model [7].

Innovative activity aimed at the modernization of industry is characterized by a certain specificity, which consists in a long-term return on investment, high risk, significant uncertainty and high risk. In [8] investigates the methodological approach to the modernization of the innovative activity of the enterprise, details the scheme of the development management mechanism and the place of innovations in this system of industrial enterprises. In [9] investigates the financing of innovative activities mainly in the form of own financing, minor financing from the budget, the receipt of funds in the form of foreign investments is of a non-systemic nature. Studying technically developed countries, several effective tools for supporting the development of the innovation sphere can be identified. Investing is an immediate necessity in the stages of conducting research and research and development works in intellectual results, and not in the capital funds of the means of production as provided by the main investments, leads to the fact that the regulation of this activity by market mechanisms is insufficient [10, 11]. The concept of venture from the English language means «risk», «risk enterprise». Authors of [12] are the founders of the concept of venture business organization in the 50s and 60s of the 20<sup>th</sup> century; they developed and implemented a mechanism for the creation and development of venture funds, accumulation of venture capital, investment of a venture project.

Thus, *the aim of research* selected to study the economic consequences of the military operations that took place on the territory of Ukraine.

## 2. Material and Methods

Statistical and analytical analysis, theoretical generalization was used. The information base of the research is scientific developments of economist scientists, data from official state websites. The author analyzed the theoretical approaches used by scientists to study, analyze, and systematize data on innovations and the consequences of military actions.

The scientific part of the research allows investigating the impact of hostilities during the First World War, military aggression on February 24, 2022, by investigating material, environmental, and social damages.

The practical part of the research will make it possible to focus attention on the problems that arose in the post-war period and their solution by engaging the labor resources that left the country during the period of active hostilities, to draw attention to the preservation of raw materials by introducing innovations in the process of secondary processing on the basis of legislation, technological levels in connection with the imperfection of the mechanism of processing secondary military raw materials; with damage to the infrastructure of the metallurgical industry.

## 3. Results and Discussion

As Ariadne's thread, only the social production system of relations and property will help to solve the complicated issues of cost.

Science has not yet found an answer to the posed question of life, where property capital meets the interests of a person, does not slow down the new stage of development of the world economy and does not interfere with the processes of socio-economic development of society. Aristotle, who introduced the concept of chrematistics into economics, i. e. the art of making money, would be surprised how people understand it today. That's why I try put forward scientific hypothesis developing stages modern research.

Economic science should conduct an analysis of the content of the category, the content of which should be expanded and confirmed by economic and legal aspects according to the requirements of today's life, which are gaining relevance today, where enrichment should not concern a small part of the individual, but through the production of the social economy of the country.

In the world after the First World War, which lasted from the summer of 1914 to the fall of 1918, had a significant impact on the economy of the countries of Europe, where the main hostilities took place, the following economic consequences for European countries, Fig. 1 [13].

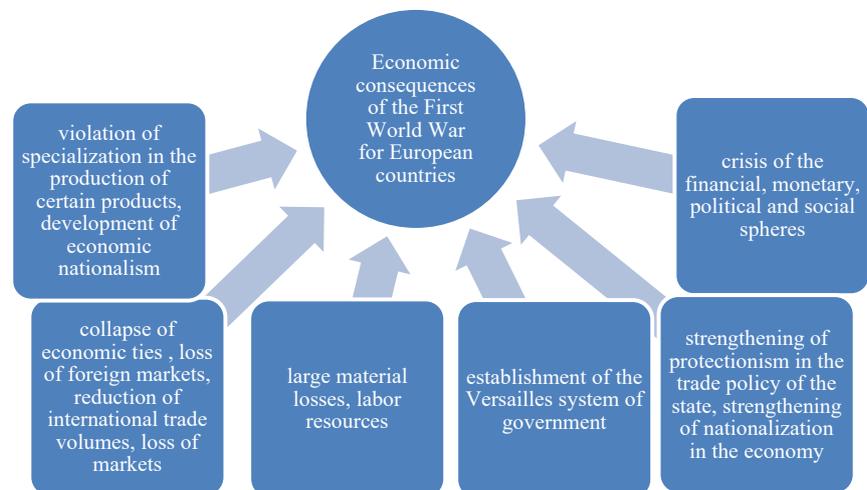


Fig. 1. Economic consequences of the First World War for European countries [13]

Cities, villages, factories, plants, farms were destroyed in the period tens of thousands of wars. Public losses composed about 10 million people, 20 million died from disease and hunger. Military costs are evaluated from 180 to 130 billion dollars (at purchasing power parity capabilities), military losses composed more than 10 million people killed, 20 million wounded, and indirect losses are evaluated more than 150 billion USD [14]. Europe stop being the main one a world industrial and agricultural center production, everywhere are reduced liberal market regime relations, where the First World war sped up development this one trends where constantly were growing losses economic resources. In this one period the government of countries that fought and those who did not fight, installed direct control over prices, production and use working strength. In this period in many countries developed bright expressed static system of economic relations. European financial centers of England, Germany, and France lost part income in id species financial commercial services as a result military actions and moved mainly to the United States of America. Europe lost the status of the main financial center life. And to

war these countries were most large foreign investors. And forced were sell part their own foreign assets for financing military costs. As a result information cost others investments decreased, and part investments lost as a result direct cancellation and default. An example is French investment, which the government it did not recognize russian, but German investments – confiscated and liquidated at the expense reparations. Inflation became the cause of growth where there are many prices countries were borrowed and carried out issue of money for financing military actions. Caused deployment social and political crises, made it difficult international trade and led, as a result, to a revolution in russia in 1917 and in Germany in 1918.

Today is no exception to the fact that we are heading for a global economic crisis. In the period of wars, they are especially aggravated. Researchers believed that the First World War introduced an imbalance in industrial relations, where a large number of weapons and equipment were produced, which led to the concentration of production, where the principle of redistribution of profits between industries was violated, where some progressed and others declined. Labor resources did not have time to meet the requirements of the labor market, where workers did not have time to retrain, and this led to job losses. Monopolies strengthened their positions and dictated their prices for products and raw materials. Thus, anarchy arose. And it led to a crisis, where the amount in circulation in the countries of the world decreased sharply, and the United States of America is no exception. Agriculture has also undergone negative changes, and weak commodity markets have not been spared. Characteristically, this crisis first affected the United States and quickly spread to other continents with the collapse of the economies of these countries, sinking such industries as heavy industry, the production of cars, iron and steel decreased by 80 %. Industrial production, retail trade decreased by 75 %, import – export by 75 %, more than 130 thousand toga, industrial and financial firms went bankrupt. 19 railway companies, 5,760 banks, the credit system was completely paralyzed – characteristic of 1911, the unemployed – more than 17 million, in agriculture – more than 1 million farmers went bankrupt [15]. According to researchers, the First World War is called the Great War. Of a total nature, in one week, 900 million inhabitants of the planet were in a state of war. And by the end of the war, 38 states with a population of 1.5 billion people, which was equal to 3/4 of the world's population, were at war. For 4 years, 3 months and 10 days, 73.5 million people were mobilized. The direct military costs of the warring parties are estimated at 28 billion USD [16].

Ukrainian lands underwent significant destruction as a result of the war in the summer of 1914 – the territory of Halychyna, Volyn, and Central Ukraine. Until the beginning of 1918, the front line passed through Ukrainian territory. During the war, 3.5 million Ukrainians were mobilized into the russian army (4.5 according to other sources out of a total of 15.5 million people), and 300,000 into the Austrian army (almost 9 % of the personnel of the Austro-Hungarian army).

The consequences of the war were as follows: all retreating troops used the «scorched earth» tactic, causing enormous damage to the peaceful Ukrainian population [17]. To date, the tactics of the enemy have not changed – the tactics of «scorched» earth with the help of other weapons: rocket systems of salvo fire, tanks, guns [18].

Significant destruction of buildings, land, death of the working population. It revealed the crisis of worldview and those values that were prominent in the previous century. It identified the main vectors of world development over a certain period of time. The war of 1914–1918 did not become the war that would end all wars, but became the harbinger of a new war even more terrible and destructive – the Second World War and hostilities on the territory of Ukraine on February 24, 2022.

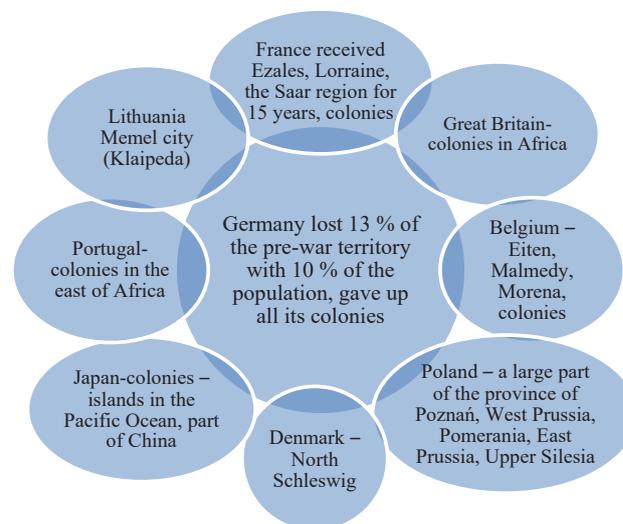
This war is also terrible, destructive for the population of Ukraine, and its consequences have not yet been fully explored.

Consequences of the war of 1914–1918:

For Great Britain – 748,000 people died, 70 % of the merchant fleet, exports of goods decreased by two times, 1/3 of the national wealth, the national debt increased 12 times during the war and 40 % of the state budget was spent on its repayment, debt to the United States of America 4 billion dollars.

The United States of America lost a population of 120,000 people, the production of industrial products increased 3 times, received the status of a world credit and world leader, a financial center; the dollar became the world currency.

Million people died in the war, industrial production decreased by 57 % from the level of 1913, agricultural production decreased by 40 %. The national debt increased 32 times: from 5 to 160 billion marks, lost 50 % of the national wealth, the economy went bankrupt, ceased to be a competitor for Great Britain and France was recognized as the sole culprit of the war and signed the Treaty of Versailles in 1919, which was signed between the victorious countries and Germany. This treaty established a new system of world order; new states appeared on the map of Europe (Fig. 2).



**Fig. 2.** Main content according to the Treaty of Versailles [13]

The First World War introduced an imbalance in industrial relations, a large number of military equipment and weapons were produced, which led to a large concentration, a violation of the principle of redistribution of profits between industries, some even declined, while others progressed, monopolies strengthened their positions, dictated the prices of raw materials and products. The working population lost their jobs, workers did not have

time to retrain, other researchers explained the reasons for the crisis, linked it to a sharp reduction in the amount of money in circulation in the leading countries of the world, especially in the United States of America. This led to a global crisis [19]. On the territory of Ukraine, the military actions of the First World War had significant consequences of an economic, ecological, and migratory nature. It is difficult to fully analyze the consequences of the military aggression currently taking place on the territory of the state. Currently, the processes of migratory movement in the direction of highly developed European countries are visible, where during the unstable situation in Ukraine; they provide shelter, work, and humanitarian aid.

It is impossible to calculate the losses today, but cities, fields, factories, plants, military expenses in the form of killed people and public losses were destroyed by the aggression. There is a large amount of damaged equipment that can serve as raw materials for recycling. Our country should be equal to Sweden, which processes 99 % of waste generated in the country and imports from other countries [19]. Every year, Ukraine imports hundreds of thousands of tons of garbage in sorted form, but there are landfills where millions of tons of its own domestic and industrial garbage, and currently also of military origin, lie waiting for the completion of the biological cycle.

For 70 years of life, more than 50 tons of water passes through the tissues of the human body. In a modern place, an average of 300–500 liters per day is needed for sanitary and household needs, 100 liters of water are needed to produce 1 kg of paper, 4–5 thousand liters of water are needed for 1 ton of cement, and 25 thousand liters of water are needed for 1 ton of steel. According to the United Nations, 85 billion tons of carbon dioxide enter the biosphere as a result of natural processes and human activities, including 15 billion tons (15 % of the total amount) due to human activities. Mercury, lead, and cadmium are recorded as fresh water air pollutants. These metals are not uncommonly found in food products and often cause

fatal consequences [20]. The amount of metals increases due to combat operations.

In Ukrainian realities, innovation processes are very slow and difficult, especially in those regions where military operations are taking place, the Kharkiv region is no exception [18].

In total, the losses of personnel of the aggressor as of January 1, 2023 are about 106,720 people, tanks – 3,031 units, armored combat vehicles (AMVs) – 6,084 units, guns – 2,021 units, multiple rocket launchers (MSDS) – 423 units, means anti-aircraft defense (APV) – 213 units, airplanes – 283 units, helicopters – 269 units, unmanned aerial vehicles of the operational-tactical level (UAV) – 1792 units, cruise missiles – 723 units, ships (boats) – 16 units. Cars and tankers – 4,720 units, special equipment – 181 units (Fig. 3).

In general, over the past 5 years, starting from 2018 to 2022, the largest number of issued and issued passports for traveling abroad is in 2018 – 5,559,231 units, and the smallest in 2022 – 1,189,566 units. Documents for permanent residence were issued in 2019 for 11,311 people and the lowest for 2,592 people in 2022. A total of 7,700 people returned to Ukraine in 5 years. The number of registered immigrants is steadily growing to 304,969 by the end of 2022, Fig. 4 [22, 23].

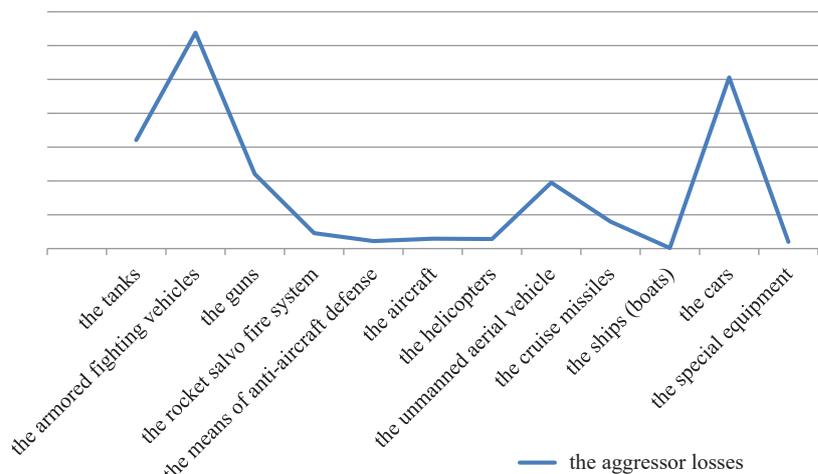


Fig. 3. The aggressor losses, 01.01.2023 [21]

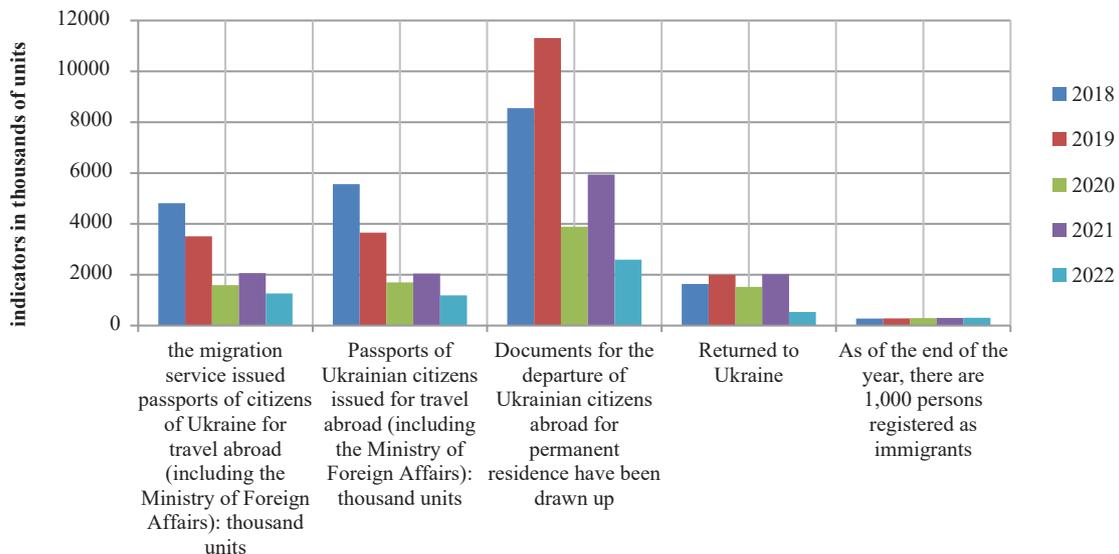
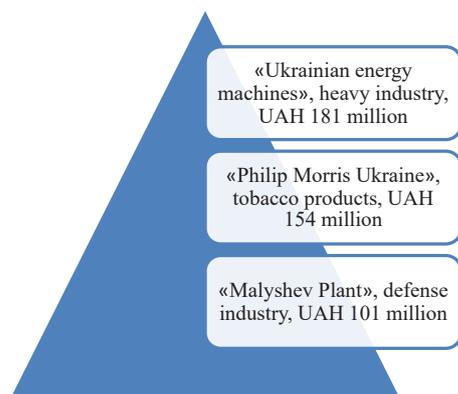


Fig. 4. Statistical data of the State Migration Service of Ukraine for 2018–2022 [23]

According to the data of the State Border Service for during the 100 days of the full-scale war, more than 8.3 million people crossed Ukraine's border with EU states and Moldova in both directions [24].

According to the data of the Ministry of Environmental Protection and Natural Resources of Ukraine, as a result of hostilities on the territory of Ukraine by the aggressor troops after the declaration of martial law on February 24, 2022, rather large-scale attacks on infrastructural and industrial facilities were carried out [24]. On May 28, a solar power plant was destroyed in Merefa, Kharkiv region, as a result of a large-scale strike, one of Europe's largest sources of cooking salt was destroyed in Soledar, Donetsk region. A total of 109 large and medium-sized enterprises will be destroyed in 2022, which fell on 6 regions – Kyiv (17 % of destruction), Donetsk (17 %), Zaporizhzhia (14 %), Kharkiv (13 %), Luhansk (10 %), Mykolaiv (8 %), Fig. 5 [25, 26]. In general, the amount of losses is estimated at 137.8 billion USD by the end of December 2022. The consequences of such pollution for the environment will be felt for years.



**Fig. 5.** The largest enterprises in terms of assets of the Kharkiv region that suffered direct losses from Russia's armed aggression in 2022 [25]

In accordance with the Presidential Decree No. 266/2022 dated April 21, 2022, the National Council for the Recovery of Ukraine from the Consequences of the War, within the framework of 24 working groups, developed a plan of measures for the post-war recovery and development of Ukraine, a list of proposals for priority reforms and strategic initiatives, draft legal acts, the adoption and implementation of which are necessary for the effective work and restoration of Ukraine in the war and post-war periods [27].

Scholar's theoreticians and practitioners constantly conduct discussions about enrichment, the art of making money as an individual, as well as a country, a world civilization. The main ethnic group in Ukraine is Ukrainians, who belong to the Eastern Slavs. The number of population was affected by the following reasons – artificially created famine, mass repressions, two world wars that took place in its territory. If after the Second World War many Ukrainians left Ukraine for political reasons, now people are forced to migrate for employment reasons, the labor market are oversaturated with labor resources due to military actions on the territory of Ukraine.

At this stage of the research, the methods and mechanisms for introducing innovations are insufficiently developed, in particular regarding the secondary processing of military equipment at the legislative level. The author investigates

the consequences of the loss from hostilities on the territory of the country, the Kharkiv region, which had the greatest negative impact on the natural resource potential and national economic complex, political and external relations. The interaction of society and nature, as an important condition for the development of the country's economy, is broken.

#### 4. Conclusions

The article describes the processes taking place on the territory of Ukraine. The military actions taking place on the territory of Ukraine are force majeure circumstances in the development of the market economy, which created unfavorable conditions for the development of innovations, investments that were actively implemented and encouraged until 2022.

Labor potential is one of the key elements of innovative development, as it is the developers and innovators of ideas. Stabilization of the number and gradual decrease of the share of the Ukrainian population is a negative process, but not a permanent one, which has many negative consequences in the life of Ukraine. This is caused by the deterioration of social living conditions, a difficult ecological situation created by the consequences of military operations on the territory. The real danger, environmental disasters that threaten the existence of civilization and deconstructive processes for business and people's livelihoods are military actions on the territory of Ukraine. The consequences of these processes require significant intellectual, i. e. innovative, investment, which will result in a qualitative change in the life of our society, labor resources aimed at business recovery, innovation and improvement of the country's economic development.

#### Conflict of interest

The authors declare that they have no conflict of interest in relation to this research, whether financial, personal, authorship or otherwise, that could affect the research and its results presented in this paper.

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#### Data availability

The manuscript has no associated data.

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**Oleksandra Hryhorian**, Postgraduate Student, Department of Banking and Financial Services, Simon Kuznets Kharkiv National University of Economics, Kharkiv, Ukraine, ORCID: <https://orcid.org/0000-0001-9530-6042>, e-mail: [Aleksandra.gryjee@gmail.com](mailto:Aleksandra.gryjee@gmail.com)