

# The Role of Investment, Innovation and Efficient Use of Resources in Ensuring Long-Term Economic Sustainability

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**Abstract.** Today, the conditions of war and the instability of the economic environment in Ukraine make the issues of long-term economic sustainability particularly relevant. Consideration of the role of investment, innovation and efficient use of resources in this context is becoming strategically important for achieving economic stability and ensuring sustainable development of the country. The purpose of the article is to study the role and peculiarities of development of investments, innovations and efficient use of resources in ensuring long-term economic sustainability of Ukraine in the context of war and martial law. The author identifies the main components of economic stability, namely: investment component, innovation component, efficient use of resources, macroeconomic policy, environmental component, political component, and social policy. The analysis of investment development assessed foreign direct investment in Ukraine and from Ukraine to other countries over the past ten years and identified high investment potential in such sectors of the economy as energy, defence and agriculture, which indicates their importance in the national economy and opportunities for the country's development. Based on this ranking, the author analysed the GII sub-indices and identified dynamic changes. In the course of the analysis, the main sectors of efficient use of resources are identified. It is emphasised that investments, innovations and efficient use of resources in such strategically important areas contribute to increased production, improved infrastructure and increased efficiency of enterprises. Finally, the main trends that indicate their further development in the long-term economic sustainability of Ukraine are identified. For further research, it is important to consider the relationship between different components of economic sustainability and their impact on the overall development of the country.

**Keywords:** economic growth, innovative development, investment potential, financial stability, sustainable development.

## INTRODUCTION

In today's globalised world and constantly changing economic environment, ensuring the long-term economic stability of the country has become an important priority of government policy. Investment, innovation and efficient use of resources play an important role in this process. Firstly, they contribute to capital growth, create new jobs and increase the competitiveness of the national economy.

Secondly, innovations drive technological progress, enabling Ukraine to integrate into global production chains and create high value-added products. Finally, effective resource management leads to efficient use of natural, physical and human resources and contributes to the country's sustainable development. These three components interact and complement each other to create lasting economic stability and prosperity.

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### Research problem

The relevance of the study of this problem is due to the current challenges of globalisation and rapid changes in the economic environment. Today, it is more important than ever to understand how investments, innovations and effective resource management affect the stability and development of the economy. This will not only ensure economic growth, but also increase the competitiveness of our country's economy, create new jobs and improve the quality of life of the society. However, in the context of current challenges, the issue requires further research.

### Research focus

The focus of the article is on the study of the relationship between investment, innovation, and efficient use of resources in the context of Ukraine's long-term economic sustainability. The main hypothesis of the study is that the balanced and integrated implementation of these three elements can significantly increase the country's economic sustainability, ensure sustainable growth, and enhance the country's competitiveness in the international market.

### Research objectives and questions

The aim of the study is to assess the role of investment, innovation, and efficient use of resources in ensuring the long-term economic sustainability of Ukraine.

To achieve this goal, the following tasks were performed in the course of the study:

1. To consider the essence of the concept of "economic stability" and systematise its main components.
2. Provide an assessment of the investment and innovation component of Ukraine's economic stability, as well as the areas of efficient use of resources in Ukraine.
3. Identify the main trends that indicate their further development in the long-term economic sustainability of Ukraine.

## LITERATURE REVIEW

Investment in the economy is an important stimulus for the development of a country, providing the necessary capital for modernisation and expansion of production (Tabash et al., 2023). Table 1 shows the relationship between investment, innovation, and resource efficiency in different countries.

Table 1. The relationship between investment, innovation, and resource efficiency in different countries

Country	Global Innovation Index (GII) in 2023, %	Foreign direct investment (FDI) in 2022		GDP per capita in 2023, thousand USD
		Outflows, %.	Inflows, %.	
Sweden	67,6	10,4	7,8	56,3
Switzerland	64,2	3,1	1,3	99,9
USA	63,5	1,7	1,5	81,7
United Kingdom	62,4	4,0	1,5	48,9
Germany	58,8	4,4	1,5	52,7
Denmark	58,7	8,1	8,5	68,0
Ukraine	32,8	0,0	0,2	5,2

Source: created by the author based on: Global Innovation Index, 2023; Advantage Ukraine (2023)

attractiveness of the investment climate, the level of innovation, and the efficient use of resources play an important role in attracting both foreign and domestic investment.

We can see that countries with high levels of innovation and efficient use of resources usually have high GDP per capita. For example, Sweden and Switzerland demonstrate high rates of innovation and significant FDI inflows, which contribute to their economic growth. In contrast, Ukraine, with a much lower level of innovation and low FDI, faces difficulties in economic development, which is reflected in its relatively low GDP per capita. Thus, the

Innovation is an important catalyst for technological progress and productivity growth (Ansari et al., 2019). Support for research and development of innovative industries contribute to the creation of high-quality jobs (Zhang, 2023). As noted in the author's research, the impact of automation technologies such as self-

service kiosks, mobile ordering systems, digital payments, and CRM tools is analyzed in terms of key performance indicators: payback, labor costs, and customer satisfaction. The study also suggests how automation can contribute to achieving long-term and stable financial results in the restaurant industry (Rasulov, 2023).

Resource efficiency includes the rational use of natural, human, and financial resources (Zameer et al., 2020). Reducing losses and optimising processes can increase productivity and economic efficiency (Khan et al., 2022; Zameer et al., 2020)

Together, investment, innovation, and efficient use of resources form the basis for sustainable economic growth and improved living standards. It is important to remember that these elements are interconnected and require an integrated approach to achieve maximum impact (Omri et al., 2020; Qiu et al.,

2023). For example, South Korea and Israel have invested heavily in research and development and have seen an increase in the number of innovative products and services. Many governments are also promoting sustainable development through comprehensive programmes that combine investment in innovation with support for the efficient use of resources. The European Union, for example, is promoting renewable energy and energy efficiency through its Green Deal, which creates new jobs and reduces greenhouse gas emissions. These interactions underscore the importance of an integrated approach to maximise economic development and improve living standards.

Numerous authors and scholars have studied the theoretical and practical aspects of the interaction between investment, innovation, and efficient use of resources in the context of economic stability (Table 2).

Table 2. Areas, trends, and approaches to understanding the problem

Main directions	Trends	Approaches to understanding the problem
Green energy technologies	Increasing the supply of green energy	Ahmed et al. (2022) emphasised that investments in green energy technologies, technological innovation and trade globalisation contribute to increasing green energy supply and promote environmental sustainability in the G7 countries
Renewable energy sources	Sustainable financial inclusion, energy efficiency	Chen et al. (2022) showed in a study of the US economy that investments in renewable energy, sustainable financial inclusion, and energy efficiency play an important role in the economic stability of the state.
Dependence on natural resources	Asymmetric role in economic growth	Huang et al. (2023) emphasised the asymmetric role of dependence on natural resources, industrialisation and foreign direct investment in economic growth in the case of China.
Natural resources, globalisation	Economic recovery	She & Mabrouk (2023) identified the impact of natural resources and globalisation on economic recovery, highlighting the role of foreign direct investment and green innovation in BRICS economies.
Natural resources, green recovery	Responsible investments	Zou et al. (2023) discussed the role of natural resources and green economic recovery in responsible investment, focusing on the role of ESG in the context of Islamic sustainable investment.
Economic stability	Interdisciplinary approach	Gong et al. (2023) explored an interdisciplinary approach to economic stability in resource-rich regions.
Innovations based on blockchain	Sustainable development	Böhmecke -Schwafert & García Moreno (2023) in their article investigated blockchain-based innovations for economic and sustainable

		development using a mixed method approach based on web mining and case study modelling.
The impact of cryptocurrencies	Regulation of cryptocurrencies	Sukomardojo et al. (2023) assessed the impact of cryptocurrencies on macroeconomic stability and the possibility of regulating this impact.
Energy innovations	An important factor in economic development	Wang R et al. (2021) pointed out the need to explore natural resources as an important factor in economic development, in particular in the context of energy innovation.
Financialisation, natural resources	The importance of further study	Dogan et al. (2020) drew attention to the importance of further studying the link between financialisation and natural resource wealth in countries with a high level of resource responsibility.
Renewable energy sources	Financial inclusion, energy efficiency	Chen et al. (2022) noted the importance and necessity of investing in renewable energy, sustainable financial inclusion and energy efficiency as key factors for development in the economy, using the example of the United States.
Financial innovations, natural resources	Economic recovery	Liu & Tu (2023) drew attention to the link between financial innovation, natural resources, and economic recovery, providing a fresh empirical perspective from China.
Innovation and economic growth	Environmental impact	Zamir et al. (2020) analysed the link between innovation, economic growth and the environment, revealing the importance of foreign direct investment and trade openness in the case of India.

Source: created by the author based on the analysis of the source base

Thus, despite the large number of studies on the topic, the issue of the relationship between investment, innovation and efficient use of resources remains open and requires further research and analysis. In the modern world, technological innovations and

investments in sustainable development are developing extremely fast, changing various aspects of economic stability. Understanding the impact of the role of this triad will help to increase the level of economic stability in the short and long term.

## METHODS

### Instruments and Procedures

The following methods were used in the study:

- the economic and statistical method was used to facilitate a deeper understanding of not only the level of innovation in Ukraine, but also its reflection in the international context;
- a schematic method was used to visualise the complex phenomena and processes under study. In the context of our topic, graphs, and diagrams allowed us to show the dynamic relationships between investment, innovation, and efficient use of resources;
- the methods of analysis, synthesis, and

- comparison were used for a detailed study of the phenomenon under investigation through the analysis of its main elements, consideration of the synergistic effect between innovations, investments, resource use and their role in the formation of long-term economic sustainability;
- a systematisation method was used to organise the main trends that indicate their further development in the long-term economic sustainability of Ukraine;
- the method of grouping allowed us to collect international rankings by various criteria and identify the dynamics of changes in these criteria over a certain period of time;
- the methods of induction and deduction

were used to critically analyse the information obtained and draw conclusions about the relationship between investment, innovation, and efficient use of resources in ensuring economic sustainability;

- the method of generalisation allowed us to draw objective conclusions and identify key trends in the role of innovation, investment, and efficient use of resources for the country.

## RESULTS

Russia's war against Ukraine has caused serious damage to the national economy. Production capacity, human capital, and national savings were affected. In 2022, the economy lost 28.8% of real GDP. More than 6 million people moved abroad, and almost 5 million became internally displaced. This resulted in job losses, lower incomes, and lower purchasing power,

## Data Analysis

The study used statistical data, ratings, and information on the level of investment activity and innovative achievements of both Ukraine and other countries for comparison. The analysis of these indicators made it possible to assess how investments, innovative strategies, and effective resource management contribute to the country's economic resilience in the face of global and local challenges.

pushing more than 7 million people below the poverty line.

According to an estimate by the Government of Ukraine, the World Bank, the European Commission, and the UN (RDNA3), the damage caused to Ukraine in the period from 24.02.2022 to 31.12.2023 is USD 153 billion. The needs for restoration to pre-war levels amount to USD 486 billion. (Table 3).

Table 3. Amount of losses and needs for economic recovery in Ukraine as of the end of 2023

Sector	Damage caused, billion USD	Needs for recovery, billion USD
Residential buildings	55,9	80,3
Education and science	5,6	13,9
Healthcare	1,4	14,2
Social protection and livelihoods	0,2	44,5
Culture and tourism	3,5	8,9
Energy and mining	10.6	47.1
Transport	33.6	73.7
Telecommunications and digital technologies	2.1	4.7
Water supply and sewerage	4.0	11.1
Public utilities	4.9	11.4
Agriculture	10.3	56.1
Industry and trade	15.6	67.5
Irrigation and water management	0.7	10.7
Finance.	0.0	2.3
Environmental protection, nature management and forestry	3.3	2.3
Emergency response and civil protection	0.4	2.3
Management and public administration	0.3	0.7
Mine clearance	34.6	34.6
Total	152.5	486.2

Source: compiled from Investment guide Ukraine (2024)

Over the 2.5 years of war, the housing sector (37% of total losses), transport (22%), industry and trade (10%), energy and mining (7%), and agriculture (7%) suffered the most destruction.

In addition to the loss of physical capital, the costs of war include the loss of human capital and the expenditure of resources on military confrontation. In 2022, budgetary expenditures on defence amounted to USD 35.3 billion. In

2022, the budget expenditures on defence amounted to USD 35.3 billion, and in 2023 - USD 57.4 billion. At the same time, military assistance from external partners from the beginning of the war to the beginning of 2024 amounted to USD 95.1 billion.

Attracting additional investment resources is one of the key factors in ensuring Ukraine's sustainable economic development in times of war. In light of the current global economic changes, the Ukrainian economy needs to adapt and undergo significant reforms. Foreign

investment is crucial for introducing economic structural changes, implementing transformations, stimulating technological progress, and ensuring innovation.

An analysis of changes in the investment attractiveness index of the Ukrainian economy over the period 2018-2023 is shown in Figure 1. According to this index, values in the range of 1 to 3 indicate a negative impact on attracting additional capital and require urgent problem-solving.

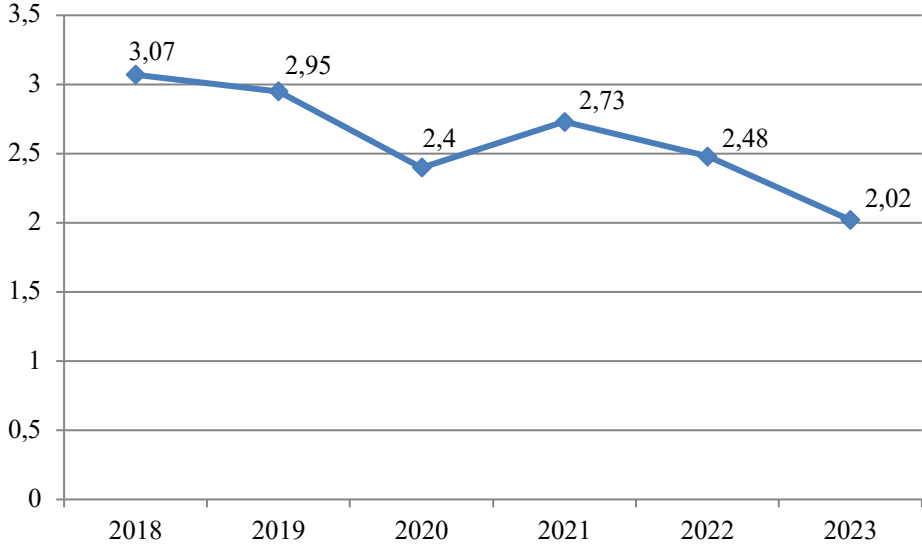


Fig. 1 - Dynamics of the investment attractiveness index of Ukraine's economy in 2018-2023

Source: compiled by the author based on (Investment index, 2023).

At the same time. Despite the difficult situation, innovation activity in Ukraine has expanded significantly and has become an important factor in the country's development. Taking into account the country's needs in the context of the war, the government has focused on identifying and updating a number of medium-term priorities to ensure the functioning of innovation at the national level in 2023.

In the context of the war, which has affected the economic situation in Ukraine, the role of investment, innovation and efficient use of resources is even more important. These elements of economic stability are becoming not only important catalysts for economic development, but also strategic tools for stabilising and restoring the economy in the challenging conditions of military conflict. A

favourable investment climate, support for innovative projects, and rational use of resources are key to restoring economic growth and ensuring the country's resilience (Sukomardojo, 2023).

Economic stability is a state of the economy in which it functions without significant fluctuations or crises arising from deficiencies in the functioning of various segments of the economy. The main signs of economic stability include stable inflation, low unemployment, stable exchange rates, the country's ability to pay its debts, stability of the financial system, stability of markets, etc. (Chen, 2022). This creates a favourable investment climate, attracts investment and promotes the development of innovative technologies. Economic stability ensures predictability and reliability in the functioning of the economy, which facilitates business development, investment, and social well-being. It is an

important prerequisite for the healthy economic development of the country and the improvement of the quality of life of citizens (Rapikaliev, 2023; Gong, 2023).

In general, economic stability means that the economy functions without serious

turbulence and ensures that the country is able to adapt to external and internal challenges without significant destabilising effects.

Table 4 shows the main components of the economic sustainability of the state.

Table 4. Components of economic sustainability of the state

No	Ingredients	Characteristics	Quantitative indicators
1	Investment component		
1.1	Direct investment	Includes investments in the real sector of the economy, such as the creation of new enterprises, expansion of production and modernisation of existing enterprises.	The volume of FDI in Ukraine (2023): USD 4,247.0 million.
1.2	Financial investments	This includes investments in financial instruments such as stocks, bonds, stock indices, etc.	In 2023, the Ukrainian equity index (UX Index) increased by 7.65% from 1,565.90 to 1,685.73 points.
2	Innovative component		
2.1	Research and development	Promotes the creation of new technologies, products and services that increase the productivity and competitiveness of the economy.	For 2023, research spending was cut: National Research Fund - UAH 466.8 million (-41%), National Academy of Sciences - UAH 335.9 million (-40.8%), and research at universities - UAH 18.2 million (-82.7%).
2.2	Technology transfer	It includes the transfer of technologies from developed countries or other industries to domestic enterprises to improve their efficiency	Investment in technology transfer (2023): USD 120 million.
3	Efficient use of resources	Sustainable use of natural resources, such as energy, water, forests, minerals, and others, is essential to ensure economic sustainability. This includes rational resource management, environmental protection measures and the introduction of energy-efficient technologies	Investments in environmental technologies (2023): USD 86 million.
4	Macroeconomic policy	It includes monetary policy, fiscal policy, and other instruments that regulate the general state of the economy.	NBU discount rate (15.12.2023 to 25.01.2024): 15%. The budget deficit in 2023 was UAH 1.33 trillion, which is UAH 418.9 billion more than in 2022.
5	Environmental component	Ensuring a balanced use of natural resources and preserving ecological balance is important for sustainable economic development. Environmental sustainability includes measures to protect the environment and develop a	Environmental protection costs (2023): UAH 29,313,644.2 thousands

		green economy.	
6	Political component	It guarantees transparency, legal stability, and predictability of the country's governance.	Corruption Perceptions Index (2023): 36/100, up 3 points from 2022.
7	Social policy	Ensures social protection of the population, reduction of inequality and support for vulnerable groups.	In 2023, UAH 469.3 billion, or 11.7% of total state budget expenditures, was allocated for social security. This is an increase of 10.2% or UAH 43.3 billion compared to 2022.

Source: created by the author based on: Kwilinski (2020); Zhang, 2023; Omri (2020)

Thus, analysing the table of components of economic sustainability, we can see that it consists of a wide range of elements that interact with each other to ensure the stability and sustainable development of the country's economy. Among these elements, the key role is played by investments in the real sector and financial markets, which facilitate the creation of new enterprises and increase their efficiency. Innovations, such as the development of new technologies and technology transfer, increase the productivity and competitiveness of the economy. Efficient use of resources, including natural, financial and human resources, is critical to economic sustainability.

However, the war in Ukraine has made significant adjustments to these components. First, industrial production has suffered a significant decline due to the destruction of businesses and disruption of supply chains. Second, the war caused massive job losses, which increased unemployment and worsened the socio-economic situation. Thirdly, the decline in investment due to increased risks and instability has reduced economic activity and complicated recovery. Thus, these factors interact and have a complex impact on economic resilience, which requires a coordinated approach to stabilising and recovering the economy.

At the same time, even in the difficult conditions of war, various measures are being taken to improve the investment climate in Ukraine:

- simplifying administrative procedures, reducing bureaucracy and facilitating the business registration process. This includes the introduction of electronic services and automation of administrative processes;
- introducing legislative changes to ensure investors' rights and protect their investments. This includes changes in legislation to protect property rights, fight corruption and establish independent courts to resolve commercial disputes;
- providing tax benefits and incentives for investors, such as reduced tax rates, tax holidays, etc;
- creating incubators, accelerators and support programmes for start-ups and innovative companies to help attract new technologies and investments in the high-tech sector;
- cooperation with international financial institutions and organisations to receive support and recommendations for improving the investment climate.

These measures are aimed at creating a more favourable environment for investment, with the aim of reducing risks, increasing investor confidence and promoting economic development.

To further understand the role of the investment component, it is worth paying attention to the dynamics of foreign direct investment (FDI) in Ukraine and in the reverse direction.

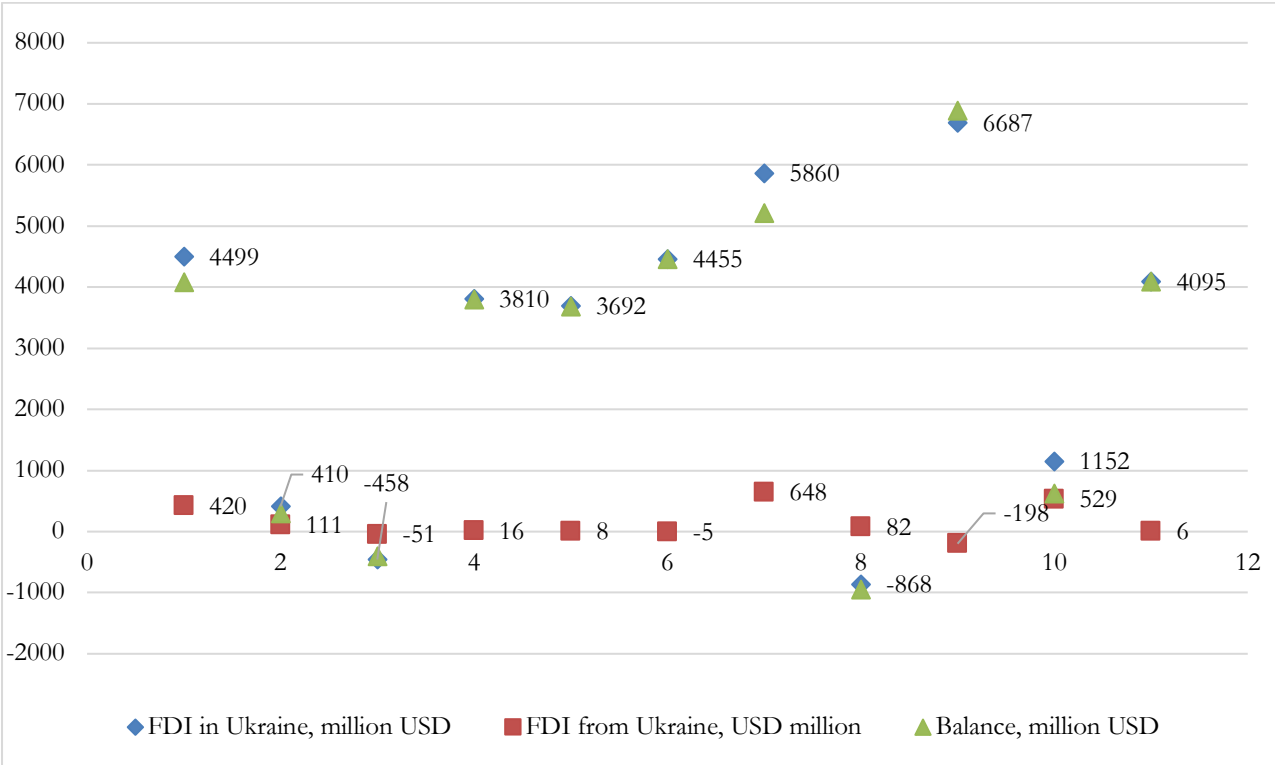


Fig. 2. FDI dynamics in Ukraine over the last 10 years  
 Source: compiled by the author according to Foreign direct investment (FDI) in Ukraine (2023)

Analysing the data in Fig. 2, it is worth noting that over this ten-year period, the impact of changes in foreign direct investment on Ukraine's economic stability was significant and complex. The growth in FDI observed during periods of improved investment climate and economic recovery helped stabilise the economy, boosted production growth, and created new jobs. However, a significant decline in FDI, especially during periods of crisis, such as the armed conflict and the COVID-19 pandemic, has led to significant challenges for Ukraine's economy. The decline in investment flows has led to a decline in production, increased unemployment, and general economic instability.

The impact of the events of 2022 was particularly severe, when a full-scale Russian invasion was accompanied by missile attacks and the destruction of businesses. These events caused serious interruptions in production, a

decline in exports and a general deterioration in the country's economic performance. Restoring economic stability in such circumstances required effective crisis management, as well as quick and effective measures to restore the country's economy and investment potential.

To improve economic stability and stimulate development, the Government of Ukraine invites potential investors to participate in important investment projects

The opening of current investment opportunities reflects the strategic desire of the state to attract foreign investment and promote a favourable investment climate. This step is intended not only to improve economic sustainability but also to create new jobs, increase competitiveness and develop important sectors of the economy.

Figure 3 shows the current investment opportunities in Ukraine.

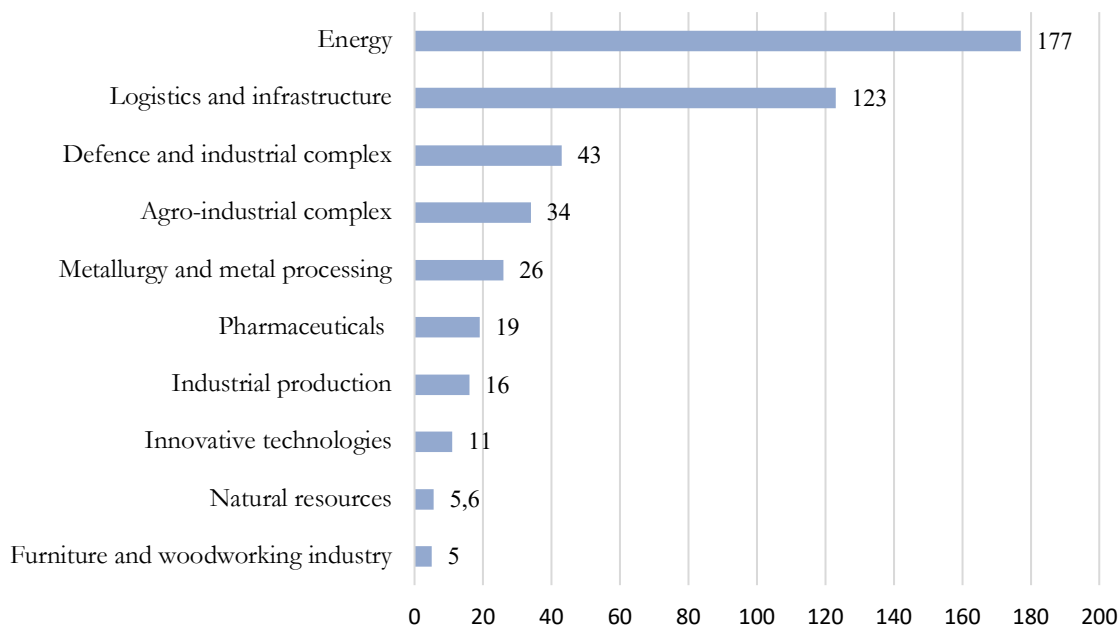


Fig. 3. Current investment opportunities for investors in Ukraine, UAH billion.

Source: compiled by the author according to Advantage Ukraine (2023)

Thus, Fig. 2 shows the investment potential of various sectors of the Ukrainian economy in billions of hryvnias. The focus is on the sectors with the highest investment potential, including energy with investments of UAH 177 billion and logistics and infrastructure with a potential of UAH 123 billion. These sectors have the highest potential to attract investment due to their strategic importance for economic development. Additionally, the energy, defence and agriculture sectors have high investment potential, which indicates their importance in the national economy and opportunities for development.

Thus, it can be concluded that the investment potential of various sectors of the economy directly affects the economic sustainability of a country.

Industries with high investment potential, such as energy and logistics, have a strong economic impact and are engines for the development of other sectors.

In the context of this study, it is also worth

paying attention to the innovation component of Ukraine's economic stability. For this purpose, the author proposes to evaluate the Global Innovation Index.

The Global Innovation Index (GII) is a ranking system that assesses and compares the innovation capabilities and achievements of countries around the world. The index is developed annually as part of a joint initiative of the World Intellectual Property Organisation (WIPO). The Global Innovation Index takes into account a wide range of factors, such as scientific and technological achievements, infrastructure for innovation, economic efficiency and others, to determine the level of innovation development of 132 countries. This index is an important tool for policy makers, researchers and businesses to assess the state of innovation in different countries and develop strategies to improve competitiveness and sustainable development.

Despite the war, in 2023 Ukraine moved up two positions to 55th place (Table 5).

Table 5. Ukraine's ranking in the GII in 2019-2023

Year	Location	Innovative resources	Results of innovation
2019	42	82	36
2020	45	71	37
2021	49	76	37
2022	57	75	48
2023	55	78	42

Source: compiled by the author based on (*Global Innovation Index, 2019-2023*)

In the ranking, we note: regulatory environment - 77th (down 2 positions), business environment - 88th (up 11 positions), human capital and research - 47th (up 2 positions), education - 31st (down 5 positions), R&D - 68th (down 9 positions), information and communication technologies - 59th (up 4 positions), knowledge and research results - 45th (down 9 positions) (Table 6).

Table 6. GII of Ukraine for the last 5 years (with sub-indices)

№	Indicator	Position in the ranking				
		2023	2022	2021	2020	2019
	<b><i>Place in the ranking</i></b>	<b>55</b>	<b>57</b>	<b>49</b>	<b>45</b>	<b>47</b>
<b>1</b>	<b><i>Institutions</i></b>	<b>100</b>	<b>97</b>	<b>91</b>	<b>93</b>	<b>96</b>
1.1	Institutional environment	126	107	101	105	110
1.2	Regulatory environment	77	75	78	76	78
1.3	Business environment	88	99	104	104	99
<b>2</b>	<b><i>Human capital and research</i></b>	<b>47</b>	<b>49</b>	<b>44</b>	<b>39</b>	<b>51</b>
2.1	Education	31	26	23	23	43
2.2	Tertiary education	37	40	33	32	37
2.3	Research and development (R&D)	68	59	58	44	54
<b>3</b>	<b><i>Infrastructure</i></b>	<b>77</b>	<b>82</b>	<b>94</b>	<b>94</b>	<b>97</b>
3.1	Information and communication technologies (ICTs)	59	63	69	82	81
3.2	General infrastructure	105	111	124	95	95
3.3	Environmental sustainability	74	86	106	99	120
<b>4</b>	<b><i>Market sophistication</i></b>	<b>104</b>	<b>102</b>	<b>88</b>	<b>99</b>	<b>90</b>
4.1	Credit	124	124	90	86	91
4.2	Investment	104	107	120	121	115
4.3	Trade, diversification and market scale	40	37	44	45	42
<b>5</b>	<b><i>Business sophistication</i></b>	<b>48</b>	<b>48</b>	<b>53</b>	<b>54</b>	<b>47</b>
5.1	Knowledge workers	42	42	45	47	45
5.2	Innovation linkages	77	78	84	81	55
5.3	Knowledge absorption	66	63	59	59	73
<b>6</b>	<b><i>Knowledge and technology outputs</i></b>	<b>45</b>	<b>36</b>	<b>33</b>	<b>25</b>	<b>28</b>
6.1	Knowledge creation	28	29	27	23	17
6.2	Knowledge impact	71	48	61	45	47
6.3	Knowledge diffusion	48	42	35	32	47
<b>7</b>	<b><i>Creative outputs</i></b>	<b>37</b>	<b>63</b>	<b>48</b>	<b>44</b>	<b>42</b>
7.1	Intangible assets	19	62	29	23	17
7.2	Creative goods and services	82	87	93	95	91
7.3	Online creativity	44	42	45	39	43

Source: compiled by the author based on Global Innovation Index (2019-2023)

Overall, Ukraine ranks 42nd in the 2023 GII Innovation Ranking, up 6 positions from 48th in 2022, but down from 37th in 2020-2021. Among 39 European economies, the country ranks 34th, ahead of Moldova, Montenegro,

Bosnia and Herzegovina, Belarus, and Albania.

Figure 4 shows the dynamics of Ukraine's place in the GII ranking and sub-indices in 2019-2023.

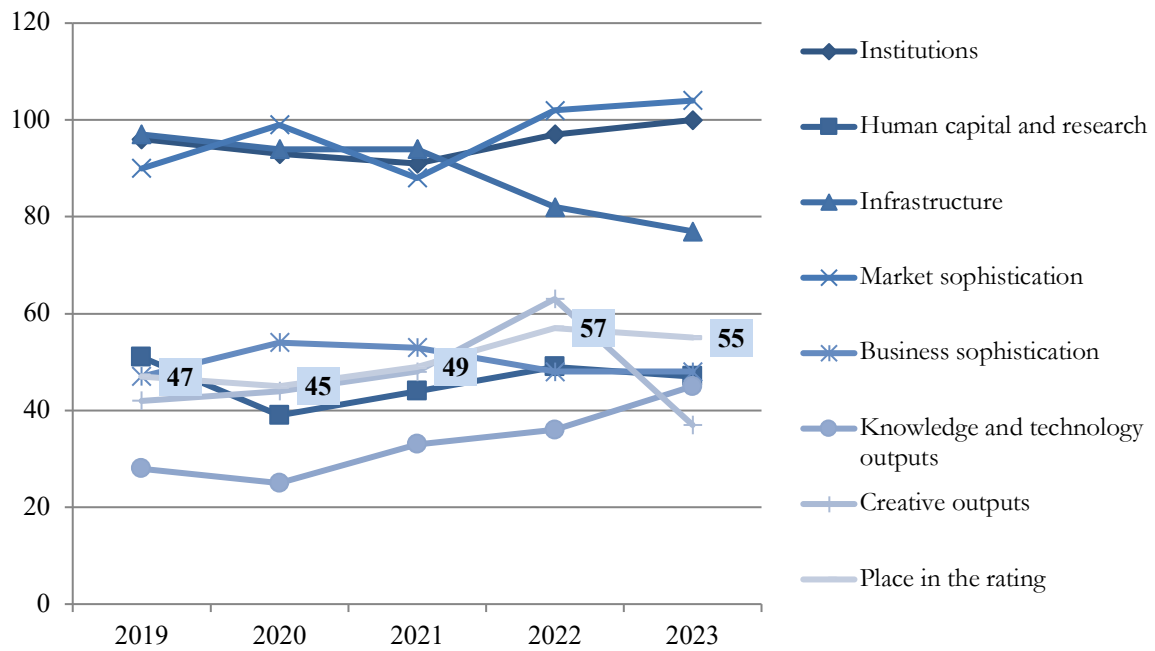


Fig. 4. Dynamics of sub-indices of GII of Ukraine  
Source: compiled by the author on the basis of Table 2

Thus, Ukraine is ranked 55th in the GII 2023 report, which is better than in 2022, when it was ranked 57th, which was the worst result in the last 5 years.

Even amid the war, Ukraine moved up two places in the Global Innovation Index ranking in 2023 to 55th place. In 2023, Ukraine entered the top 3 most innovative economies among lower-middle-income countries for the first time. High rankings are observed in the development of education, information and communication technologies, and the intellectual level of human capital. On the contrary, the lowest scores were given to the institutional environment, business confidence, and the state of infrastructure, which is not illogical in the context of a full-scale war.

It is also worth noting that Ukraine has significant natural resource potential. Improving

the efficiency of using this potential and developing production with a high degree of processing of natural resources and agricultural products pave the way for qualitative changes in the structure of the economy, modernisation of the technological mode and an increase in economic stability in the long term. It also contributes to the formation of powerful production clusters with a significant number of jobs, which can solve the problem of unemployment.

According to the National Academy of Sciences of Ukraine, the most promising sectors of the Ukrainian economy that can provide significant economic impact and increase the country's economic stability, provided they are technologically modernised, are the following, as shown in Figure 5.

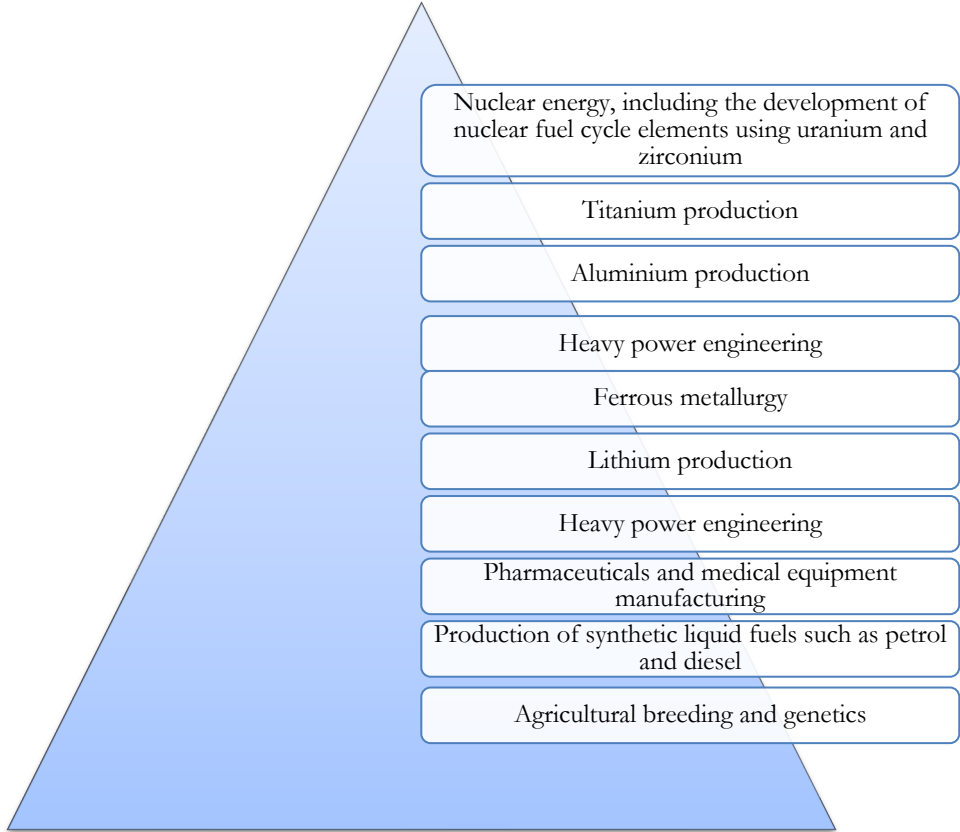


Fig. 5. Key priority areas for efficient use of resources in Ukraine as of 2023  
 Source: compiled by the author

Thus, investment, innovation and efficient use of resources in such strategically important areas contribute to increased production, improved infrastructure and higher efficiency.

This, in turn, contributes to GDP growth, reduced unemployment and improved living standards, which contributes to the overall economic stability of the country.

This relationship between investment in various sectors and economic resilience forms the strategic basis for the sustainable development of Ukraine's economy.

Despite the difficult situation caused by the war and martial law, Ukraine is still making efforts to develop investment, innovation and efficient use of resources within the framework of sustainable development. It is worth highlighting the trends that have been observed:

1. Diversification of the energy mix. In particular, increasing the production and use of renewable energy sources, such as solar and wind energy. This helps to reduce dependence on imported energy sources and promotes sustainable development.

2. Increase in infrastructure projects. Infrastructure development, including transport

and communications, is an important element of sustainable development. Investments in improving roads, railways, and other types of infrastructure help ensure efficient use of resources and support economic development.

3. Intensify the introduction of innovative technologies. Ukraine is developing innovative technologies in various fields, such as information technology, medicine, agriculture and industry. Investments in research and development of new technologies contribute to competitiveness and sustainable development.

4. Sustainable use of natural resources. Under martial law, it is important to ensure the efficient and sustainable use of natural resources. This includes environmental protection measures, the use of low-CO<sub>2</sub> emission technologies and energy efficiency in industry and the economy.

Despite the challenging situation, investment, innovation and efficient use of resources are important components of Ukraine's sustainable development, aimed at improving the quality of life of citizens and ensuring sustainable economic growth.

## DISCUSSION

Ukraine currently faces numerous challenges that need to be addressed to strengthen economic stability. In the face of constant changes in the global economic environment and domestic difficulties, the country needs to focus on strategic directions to ensure long-term economic growth and sustainability. Investment, innovation and efficient use of resources are three key factors that can significantly affect Ukraine's economic development

1. Investments are the basis for modernising the economy and creating new jobs. Attracting both domestic and foreign investment will help to upgrade infrastructure, modernise industry, and support the development of new technologies. For example, one of the key aspects highlighted by Ahmed et al. (2022) is the importance of investment in green energy technologies, technological innovation, and trade globalisation to promote environmental sustainability in the G7 countries. We agree with this approach, as green energy and technological innovation can indeed become a powerful driver for economic growth and environmental sustainability in Ukraine. The introduction of such technologies will help both reduce negative environmental impacts and provide new economic opportunities.

Research by Chen et al. (2022) has shown that investments in renewable energy, sustainable financial inclusion, and energy efficiency play a critical role in economic stability. We also believe that these factors are key to the development of Ukraine's economy. Investments in renewable energy sources can not only reduce dependence on traditional energy resources, but also stimulate innovation and job creation.

Huang et al. (2023) emphasise the asymmetric role of natural resource dependence, industrialisation and foreign direct investment in economic growth in the case of China. We believe that a similar approach can be applied to Ukraine. However, it is necessary to take into account that Ukraine has different resource and institutional characteristics, so it is necessary to adapt these strategies to specific conditions.

She & Mabrouk (2023) identify the impact of natural resources and globalisation on economic recovery, emphasising the role of foreign direct investment and green innovation.

Agreeing with their conclusions, it can be argued that foreign direct investment can significantly contribute to Ukraine's economic recovery. However, it is important to ensure the stability of the investment climate, which includes strengthening legal mechanisms, fighting corruption and creating a favourable business environment. Supporting green innovation is also critical to achieving long-term economic and environmental sustainability.

2. Innovations help to increase the competitiveness of enterprises and ensure the creation of new products and services. The introduction of new technologies, the development of start-ups and support for scientific research can become drivers of economic growth.

Studies by Böhmecke-Schwafert & García Moreno et al. (2023) on blockchain-based innovation and Sukomardojo et al. (2023) on the impact of cryptocurrencies on macroeconomic stability point to the need to adapt new technologies to strengthen economic resilience. In Ukraine, this may include the development of infrastructure for cryptocurrencies and blockchain technologies as part of the overall economic development strategy.

In addition, investments in research and development, the creation of innovation clusters and technology parks can significantly increase the country's innovation potential.

3. Efficient use of resources includes the rational management of natural, human and financial resources. This can be achieved through the introduction of modern technologies in production, optimisation of energy costs and waste reduction. A resource management system that incorporates sustainable development and environmental responsibility strategies can help to preserve resources for future generations and reduce negative environmental impacts.

In our view, to ensure the long-term economic sustainability of Ukraine, it is necessary to focus on attracting investment, supporting innovative development and efficient use of resources. The country should implement policies that will foster these three aspects, which in turn will increase economic stability and growth.

The practical application of the research findings is to support effective investment and innovation strategies in various sectors. For the

energy sector, this includes investing in renewable energy sources and modernising infrastructure. In IT, it is important to support start-ups and digital transformation. In agriculture, we should focus on agro-innovation and ecological methods. Tourism will benefit from the development of ecotourism and digital platforms. In healthcare, the introduction of telemedicine and biotechnology is important. In transport, it is necessary to invest in environmentally friendly transport and infrastructure modernisation. These steps will help improve the competitiveness and efficiency of resource use in Ukraine's economy.

Compared to the other studies reviewed above, this paper stands out in that it focuses on the impact of the triad (investment, innovation and efficient use of resources) on long-term economic sustainability in the specific context of Ukraine. It proposes a systematic approach to analysing these factors and identifying trends aimed at ensuring the country's sustainable economic development. It should be noted that the systematic approach allows for a better understanding of Ukraine's economic stability, as it provides a comprehensive analysis of the interaction between investment, innovation and efficient use of resources. This helps to identify key trends and links between various economic factors.

Looking back at the previous studies, it is worth noting that although they addressed the issue of economic sustainability and development, they did not provide as much detail on the specific impact of investment,

## CONCLUSIONS

The article analyses in detail the definition of economic stability and reveals its main components. The analysis has shown that these components are interconnected and affect the overall state of the country's economy.

The paper assesses the investment and innovation components of economic stability in Ukraine, highlighting important sectors where efficient use of resources can ensure sustainable economic growth.

The study identified key trends that indicate prospects for further development in the long term. The revealed trends allow us to clarify the directions of the country's economic

innovation and resource efficiency in the context of Ukraine. Our study is unique in that it brings together investment, innovation and resource efficiency in the context of Ukraine's long-term economic stability, which has not been fully addressed in the studies we have reviewed. Our approach offers a comprehensive analysis of the interaction of these factors in the specific conditions of Ukraine. This approach allows for a better understanding of Ukraine's economic stability and identifies ways to improve it based on the analysis of specific factors that are key to sustainable economic development.

Finally, we recall that the main hypothesis of our study was that the balanced and integrated implementation of these three elements can significantly increase the country's economic sustainability, ensure sustainable growth and enhance the country's competitiveness in the international market. Our research has confirmed that the introduction of innovative technologies contributes to increased productivity and competitiveness in the international market, the efficient use of resources reduces costs and increases production efficiency, and the attraction of investments contributes to the development of infrastructure and the creation of new jobs, which has a positive impact on the country's socio-economic situation. Therefore, these findings confirm that a balanced implementation of investment, innovation and efficient use of resources are key factors for ensuring Ukraine's long-term economic sustainability and growth.

development strategy and identify opportunities for improving the efficiency of resource use.

Further research could expand the understanding of the impact of investment, innovation, and resource efficiency on Ukraine's long-term economic sustainability, in particular by examining the specific mechanisms by which these factors interact and their impact on economic performance. Additional research could also aim at developing specific strategies and recommendations for policy regulation and support to industries that would contribute to increased resource efficiency and economic resilience.

## LIMITATIONS

The limitations of this study can be seen in the context of several key circumstances:

- limited number of sources. Only 31 sources were used in the analysis, which may reduce the representativeness of the study and the consideration of all possible views on the topic under study. To increase the reliability and objectivity, it is worth expanding the list of sources and using a variety of approaches;

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