

*The study focuses on analyzing the changes in investment attractiveness during wartime, when certain regions are occupied or destroyed, some enterprises are non-operational due to damaged production facilities, there is a significant outflow of labor force, and energy issues arise.*

*The core issue of the study lies in the necessity of considering the complex political and economic situation's impact on Ukraine's investment climate. This requires developing more adaptive assessment methods that can account for both economic and socio-political risk factors. In such circumstances, reliable data is hard to obtain, which prompted the goal of substantiating the factors that characterize the country's investment attractiveness. To provide a comprehensive assessment of investment attractiveness, an integrated indicator is proposed, which combines data reflecting investment attractiveness, including indices calculated by leading global organizations. The analysis includes such indices as the Innovation Development Index, the Corruption Perception Index, and the Judicial System Index. As a result, an average value of the changes was calculated, showing a comprehensive shift in the indicators related to investment attractiveness. The analysis using the integrated indicator demonstrated that investment attractiveness has decreased by 10 % during the war, but certain indicators, such as the Corruption Facilitation Index and the Judicial Index, have actually improved during the war.*

*The results obtained can be used to develop risk management strategies for both international and local investors. They can also serve as a basis for creating recommendations for improving the investment climate, which in turn can attract capital and stimulate economic growth under challenging conditions*

**Keywords:** *integrated assessment, investment attractiveness, external factors, investment climate*

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# ENHANCING INVESTMENT ATTRACTIVENESS IN WARTIME: A COMPREHENSIVE ANALYTICAL APPROACH

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## 1. Introduction

The current state of countries experiencing military conflicts, including Ukraine, presents significant challenges for entrepreneurial development, resulting in a less favorable investment climate. Factors such as the mass closure of enterprises, substantial destruction of assets, labor migration, and instability of small businesses hinder progress. Given these circumstances, assessing the investment attractiveness of countries during wartime is of utmost importance. This assessment, under conditions of instability, is a complex and multifaceted task. These countries face numerous challenges associated with military actions and geopolitical shifts, impacting their economic and investment environments. Nevertheless, even in times of war, it is crucial to understand which factors continue to influence the country's investment climate and what opportunities remain relevant for potential investors.

The use of an integrated indicator for assessing the investment attractiveness of countries allows for consideration of the complexity and multi-layered nature of the factors

affecting their condition. This approach not only includes economic parameters but also incorporates socio-political aspects, which are critical during an ongoing conflict. The integrated indicator provides a more comprehensive and balanced view of the current state of the investment climate, considering both internal and external factors.

Such an assessment is essential for potential investors as it accurately evaluates the viability of resource allocation and investment efforts. Encouraging and facilitating the inflow of foreign capital and technologies is an indispensable source of development for these countries. Active investments stimulate GDP growth, provide a unique opportunity for the modernization of the country, create new jobs, boost the labor market, especially by fostering business opportunities for internally displaced persons, support the development of social infrastructure, and increase the income of the population, the state, and economic entities.

Therefore, research dedicated to the development of an integrated indicator for assessing the investment attractiveness of countries involved in military conflicts is highly relevant in the current time.

## 2. Literature review and problem statement

Most methodological approaches to analyzing a country's investment potential are based on studying its socio-economic development. Investment attractiveness is characterized by various approaches, including the analysis of absolute indicators, the structure and dynamics of the country's and regions' development indicators. Experts independently select the most critical indicators and draw conclusions about the investment climate based on them. It is essential to emphasize that the investment potential of business entities, regions, and the country depends on numerous factors. When making investment decisions regarding Ukrainian enterprises, it is necessary to thoroughly study all factors influencing the enterprise's activity and make a well-founded conclusion about the feasibility, forms, and conditions of investment.

The study [1] indicates that the evaluation of investment attractiveness based on international methodologies developed by institutions such as Institutional Investor, Euromoney, the Business Environment Risk Index (BERI), Transparency International, and Moody's Investor Service is primarily conducted at the macro level. Their main tool is surveys regarding barriers and conditions of activity in a specific territory. These evaluations use groups of indicators such as the political and legal environment, economic environment, resources, infrastructure, and the socio-cultural environment, but they have certain limitations. This is due to the subjective nature of the survey-based evaluation. That is, the issue of quantitatively assessing these indicators remains unaddressed. An option for overcoming these difficulties is using certain factors that can be quantified during the assessment.

This approach is employed in the work [2], which asserts that investors' decisions about which country to invest in depend on factors corresponding to the concept of investment attractiveness. These factors include labor costs, the availability of necessary skills, geopolitical position, tax system, market competition intensity, and the country's political stability, as well as freedom of management, lobbying, clustering, and networking. Researchers differentiate these factors, but it is also appropriate to consider the issue of integrating these indicators, which leads to further research.

According to researchers [3], the formation of investment attractiveness based on economic, legal, political, technological, geographical, and infrastructural factors is quite common. However, new economic challenges require the use of dynamic indicators, such as intelligence, knowledge, innovation, and education, which are an advantage for a country or company and form the basis for creating smart strategies. The study pays special attention to the factors of scientific and technological progress but does not attempt to combine the indicators into a single measure. That is, the study does not define an integrated indicator for assessing a country's investment attractiveness.

There is an opinion [4] that decisions to invest in another country are influenced by market access, lower production costs, and access to resources. However, the study does not consider a significant range of other factors, likely due to informational limitations inherent in the research.

According to studies [5], investment attractiveness is influenced by a favorable business climate, political stability, avoiding bureaucratic hurdles, a liberalized economic policy, and a transparent business environment. However, the researchers do not consider factors of scientific and technological progress, corruption in the country, and several other factors, which creates informational barriers and necessitates further research.

The methodological approach proposed in the study [6] partially addresses this issue and is based on distinguishing indicators affecting Ukraine's investment attractiveness across different groups. However, no attempt is made to combine these indicators into an integrated measure or to perform calculations. This could be due to objective difficulties in obtaining statistical data during the current period.

An option for overcoming these difficulties is the methodological approach [7], which suggests that a wide range of factors, grouped into an integrated measure, affects the investment attractiveness of territories. These factors include population, market size, GDP per capita, unemployment, education, and energy consumption. They also include factors such as transportation and communication infrastructure, ease of doing business, foreign direct investment inflow, trade openness, inflation; bribery and corruption, political stability, property rights, regulatory quality, government effectiveness, rule of law, income tax rates, R&D expenditures, and labor costs. Despite this significant list of factors, it is advisable in modern conditions to use an integrated measure that reflects changes in investment attractiveness.

The importance of applying a systematic approach to assessing the investment attractiveness of urban areas, considering various economic, social, and infrastructural factors for making informed investment decisions, has been proven in studies [8, 9]. Specifically, an integrated methodological approach to assessing the investment attractiveness of urban lands has been proposed, considering a wide range of factors such as functional-planning, territorial, engineering, environmental, and historical-cultural aspects [8]. The focus of the study [9] is on analyzing the key factors influencing the investment attractiveness of cities and the methods of their assessment. The main factors affecting the choice of a city for investment include the availability of a qualified labor force and its cost, resource costs, market competition, infrastructure, access to markets, political and macroeconomic stability, and institutional support. The authors also consider factors that may reduce a city's investment attractiveness, such as high taxes, corruption, and insufficient infrastructure support. Based on a survey of entrepreneurs in the Lithuanian city of Alytus, it was concluded that the availability of qualified labor and real estate costs are among the key factors influencing investment decisions. At the same time, a lack of business awareness about local business support measures reduces the effectiveness of these measures [9]. Researchers identify lowering administrative and regulatory barriers, such as tax burdens and the creation of special economic zones, as key areas for improving regional investment attractiveness to attract investors [10]. Regardless of the approach, the effective use of regional resources and infrastructure is a crucial element in attracting investment to a region [11].

Thus, numerous studies have proven that regional investment attractiveness is a multi-faceted category, where each factor plays a vital role in interaction with others [12], justifying the use of an integrated approach to its assessment. At the same time, it should be taken into account that, in wartime conditions, investors tend to avoid investing in regions with high levels of risk due to the threat of investment loss and difficulties in maintaining stable operations. Key conditions for maintaining investment attractiveness in wartime include government efforts to ensure security, stable economic policy, stimulation of investments in reconstruction and infrastructure development, as well as international support in the form of financial aid and guarantees for investors.

An analysis of the success stories of countries that restored their economies after a war shows that Israel's experience seems most suitable for Ukraine [13]. This study also identifies priority areas for improving the investment attractiveness of Ukrainian regions by developing a unique approach based on marketing, promotion, and unveiling opportunities according to the results of comprehensive regional investment climate monitoring in Ukraine.

All this suggests the need for a study focused on developing an integrated measure that reflects changes in investment attractiveness under wartime conditions.

### 3. The aim and objectives of the study

The aim of this study is to develop theoretical and methodological provisions for assessing changes in the investment attractiveness of countries during wartime, particularly in territories affected by military actions. Such efforts will enable the evaluation of shifts in investment attractiveness and help make predictions regarding future conditions.

To achieve this purpose, the following objectives were set:

- justify an analytical approach to assessing the investment attractiveness of countries in a state of war;
- analyze the current state of investment attractiveness in countries that have experienced military conflicts in recent years (Ukraine and Israel) based on indices from global organizations;
- justify a system of factors for assessing the investment attractiveness of countries involved in military conflicts;
- improve the integrated assessment of a country's investment attractiveness using a comprehensive indicator.

### 4. Materials and methods of research

The object of this research is the process of evaluating changes in the investment attractiveness of countries during wartime. It is assumed that the most thorough assessment of the investment state can be conducted using an integrated indicator that combines a wide range of macro-environment factors. The source data for the study was obtained from open sources, specifically from data published on the official web portals of the European Business Association (EBA) [14], the World Intellectual Property Organization (WIPO) [15], and Transparency International [16]. This data was processed to develop an integrated index that combines several well-known indices. This index allows for an assessment of changes in investment attractiveness during wartime.

During the processing and analysis of the accumulated materials, a range of general scientific methods was employed. These include abstract-logical analysis, theoretical generalization, and systems analysis, which are integrated with a comprehensive approach to studying the issue.

### 5. Results of the methodology for assessing a country's investment attractiveness during wartime

#### 5.1. Analytical approach to assessing investment attractiveness in wartime conditions

Globalization integrates the national economies of various countries into a unified global reproduction process, leading to the deepening of intereconomic ties between countries, the internationalization of business, the creation of corporations, and the efficient use of capital by economic entities. Investors, when considering whether or not to invest, must take into account all associated risks. The term "investment attractiveness of a country" refers to the set of factors that characterize the ability of a country to receive and efficiently utilize investment funds.

The realities of business conditions are tracked by international rating agencies based on indicators that allow for comparing business conditions across different countries. For instance, based on the Investment Attractiveness Index, the top five most attractive countries include the USA, Germany, Canada, the United Kingdom, and France [17].

To evaluate the investment attractiveness of countries during wartime, the following analytical approach is proposed, which consists of three stages (Fig. 1).

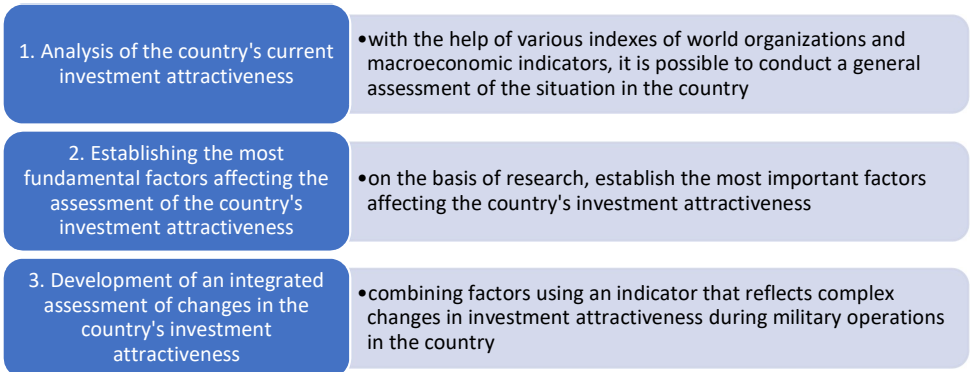


Fig. 1. Analytical approach to assessing investment attractiveness of countries during wartime

At each stage, specific analytical studies need to be conducted to achieve the desired outcome. Overall, this analytical approach allows for an assessment of the investment attractiveness of countries, considering various factors, and determines whether it is advisable to invest resources in a particular country based on positive or negative trends.

#### 5.2. Analysis of current investment attractiveness of countries in wartime conditions

During wartime, it becomes necessary to apply the most favorable and transparent mechanisms for evaluating investment objects to minimize risk for potential investors. To perform an integrated assessment of the investment attractiveness of countries in active conflict, it is proposed to evaluate the indicators of two countries currently engaged in military operations: Ukraine and Israel. It is worth noting that in times of war, most statistical information does not reflect the reality, which creates challenges in selecting and integrating indicators that can accurately assess a country's investment attractiveness and prospects for investment.

Among the indicators reflecting investment attractiveness, attention should be given to the Investment Index (RI), calculated by the European Business Association (EBA) [14], which aims to identify trends and future

changes. For Ukraine, this indicator dropped to 2.44 out of 5 possible points in 2023 (compared to 2.48 in the second half of 2022 and 2.73 in the second half of 2021).

Although the evaluations by executives of EBA member companies regarding the current investment climate remain predominantly negative in 2023, the number of top managers who believe that new investments in Ukraine will yield profits has almost doubled. A significant majority – 84 % of the directors of EBA member companies surveyed – consider the investment climate unfavorable. However, the percentage of those who find it extremely unfavorable has decreased from 37 % to 24 %. About 7 % of top managers rate the current climate as neutral, while 9 % view it as somewhat favorable. Despite the ongoing war, 32 % of respondents believe that entering Ukraine will be profitable for new investors (compared to 17 % a year ago). Furthermore, 57 % of companies already operating in Ukraine plan to continue investing during the conflict, and 79 % are willing to participate in the country's reconstruction.

It is important to emphasize that business activity across different regions is uneven. The state of business and entrepreneurial activity in the regions requires particular attention, as each Ukrainian region, regardless of its distance from the front line, faces unique challenges and difficulties. The EBA conducted business surveys in four regions – Lviv (companies in the western regions), Odesa (companies in the southern regions), Kharkiv (companies in the eastern regions), and Dnipro (companies in some central regions). Compared to 2022, business conditions in all regions have slightly improved, but remain negative on a 5-point scale (where 3 is a neutral rating) (Fig. 2).

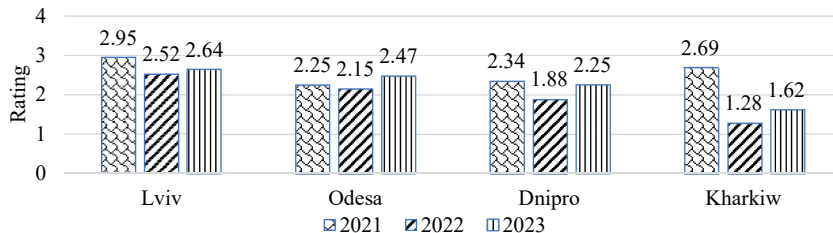


Fig. 2. Comparative analysis of business conditions in Ukrainian regions (2021–2023)

Thus, business conditions in Lviv are rated at 2.64 points, in Odesa at 2.47 points, and in Dnipro at 2.25 points. According to businesses, the situation in these regions is somewhat better than in Kharkiv, where the score is 1.62 points. However, business conditions are generally assessed as difficult, with only Lviv seeing a majority of businesses considering them satisfactory.

Israel experienced its worst terrorist attack in history in October 2023. The Hamas attacks and subsequent rocket barrages along Israel's northern border with Lebanon forced over 200,000 Israelis to flee their homes. The war caused economic damage to Israel: from October to December 2023, Israel's GDP fell by 20.7 %, but in the first quarter of 2024, GDP grew by 3.35 % compared to the previous quarter, and it is expected to grow by 2.0 % in 2024 and up to 5.0 % in 2025, according to the Bank of Israel [18]. Unlike Ukraine, the state of Israel, despite periodically experiencing military conflicts, continues to develop its industry, increase its GDP, and is a global leader in technology development, ranking 14th in the world by the Global Innovation Index (GII) in 2023. The foundations of Israel's economy remain strong, meaning that military conflicts do not hin-

der the country from successfully developing and attracting global investments.

Under such circumstances, it is necessary to approach the assessment of investment attractiveness in greater detail and to substantiate the indicators that can characterize the changes occurring in countries affected by military actions on their territory.

### 5.3. Identifying factors affecting investment attractiveness

In wartime, the problem of attracting investments and securing these contracts is acute, as is the problem of assessing and selecting the safest investment mechanisms for potential investors. The operation of businesses in such countries is accompanied by various risks, including numerous external and internal risks [19]. Taking into account the views of scholars on investment attractiveness [1–13], it is proposed to use the following set of external factors that most comprehensively characterize the process of making investment decisions, which should be presented in the following form (Fig. 3).

The most critical factor characterizing investment attractiveness is a country's tax system. A transparent taxation mechanism undoubtedly positively influences the investment climate of a region, the country as a whole, and individual enterprises, thereby attracting investments to the country.

An important component of assessing a country's investment attractiveness is the level of corruption. Previous studies [20] demonstrate a strong correlation between corruption in the public sector and the growth of corruption in the business environment, emphasizing that higher levels of state corruption correlate with higher levels of shadow economic activity. This relationship is confirmed by regression analysis, showing that corruption significantly undermines the integrity of market mechanisms, ultimately leading to a reduction in market efficiency and fair competition.

For conducting business in a country, it is crucial to assess the state of legal protection for investment objects and the transparency of the judicial system. This is a critical indicator that allows foreign investors to draw conclusions about the safety of investing in the country.

Economic factors determine the consumer's purchasing power, currency exchange rates, inflation levels, unemployment, population income, crediting, consumer basket costs, inflation rate, employment levels, and GDP levels. The economic environment is one of the most important factors in analyzing investment potential. Rising prices and decreasing services indicate that the population will lead a more "physiologically-oriented" lifestyle, satisfying basic needs such as food and drink. Overall purchasing power depends on current income levels, prices, and savings.

The innovation component is highlighted as a key macroeconomic factor that significantly affects investment attractiveness. Innovations and smart technologies are becoming increasingly important in the development of a country and attracting investments. Rapid progress in the field of information technology and digital solutions has opened up opportunities for the creation of smart cities. These cities optimize resource use, improve the standard of living for



residents, and enhance the quality of urban infrastructure. Innovations in managing urban processes, transport systems, energy supply, education, and healthcare play a key role in creating modern and efficient urban spaces. They significantly contribute to the economic development of regions and countries, attracting substantial investments. Smart technologies promote the digitalization of the urban environment, improve business conditions, and open new perspectives for innovative projects [21].



Fig. 3. System of external factors affecting the investment attractiveness of a country

The level of technological development in a city is a key factor influencing its investment attractiveness. Countries that actively implement innovations and smart technologies become magnets for investors seeking high returns and efficient capital use. These countries rise in global innovation rankings, becoming attractive hubs for businesses and entrepreneurs.

Political factors include the political situation in the country, such as ongoing military actions and the stability of the government.

The demographic situation is very important because the size of the population matters. Population growth is accompanied by an increase in human needs, which businesses must satisfy. This means expanding markets, provided there is sufficient purchasing power.

5. 4. Integrated assessment of investment attractiveness of countries in wartime

Given the limited data, it is assumed that assessing changes in a country's investment attractiveness during wartime is best achieved by evaluating changes in the most well-known rankings from leading global agencies and organizations. Research shows that the level of scientific and technological progress in a country, the use of smart technologies, the level of corruption, taxation, and the judicial system are studied by international organizations and presented in the form of indicators.

These averaged indicators will allow conclusions to be drawn about the changes in a country's investment attractiveness and the factors that have positively or negatively affected it.

The Tax Index is calculated annually by the EBA [14] and includes four components: fiscal pressure, tax service quality, tax legislation quality, and the ease/burden of tax administration (Table 1). In Ukraine, taxation issues are regulated by the Tax Code of Ukraine [22], Article 4 of which establishes equality for all taxpayers before the law,

ensuring no manifestations of tax discrimination and a uniform approach to all taxpayers, regardless of social, racial, national, or religious affiliation, legal entity ownership, individual citizenship, or the origin of capital.

The level of corruption can currently be measured using the Corruption Perception Index (CPI) [16] (Table 1). This composite index is based on data obtained from surveys conducted by several independent authoritative institutions. The index reflects the views of businesspeople and analysts

from around the world, including experts in the surveyed countries. The surveys used to calculate the index include questions about the misuse of public functions for personal gain, such as when government officials receive bribes related to public procurement or misuse public funds. Other questions assess the effectiveness of anti-corruption policies that examine political and administrative corruption.

The Corruption Index has shown surprising improvements in Ukraine recently. In

2021, Ukraine ranked 122<sup>nd</sup> out of 180 countries. In 2022, it climbed to 116<sup>th</sup> place, and by 2023, it had improved to 104<sup>th</sup> place. Positive changes have also occurred in Israel.

To characterize the security of investments, the EBA [14] calculates the Judicial Index. The Judicial Index consists of three equal components: the assessment of trust in the judicial system by the executives of EBA member companies, the assessment of the impartiality of the judicial system, and the average rating of nine factors related to the organization and functioning of the judicial system. These factors include the objectivity of the judicial process, the qualifications and professionalism of judges, the compliance of judicial decisions with legislative norms, and the quality of judicial decisions. Other factors include the fairness of judicial decisions, the accessibility of judicial decisions, the predictability of judicial process outcomes in similar cases, the independence of the judiciary from government bodies, and the actual availability of legal protection [14].

The economic condition is proposed to be characterized by such well-known indicators as GDP size, population income levels (average salary), and inflation processes. The Ministry of Statistics of Ukraine currently does not provide official information, so the data published by the IMF [23] was considered. Since rising inflation is a negative trend, comparisons should be made in reverse order.

The Global Innovation Index (GII) is a key annual ranking of countries by their innovation potential and achievements. It is published by the World Intellectual Property Organization (WIPO) using a weighted average method that covers important innovation components [9].

Political stability can be measured using the Political Stability and Absence of Violence/Terrorism Index. This index is calculated by the World Bank [24] and measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. The evaluation is made using a composite score in standard normal distribution units, approximately ranging from -2.5

to 2.5. In Ukraine, this indicator changed from –1.3 to –2, a 1.5-fold worsening. Since the indicator is negative, this reflects a decline. Thus, the change is recorded as 0.67. In Israel, it remained at the same level.

The demographic situation is characterized by changes in the population size. In Ukraine, there is currently an outflow of people to other countries, leading to reduced demand for goods, services, and labor shortages in all sectors. Currently, the population size is unstable, and this data can only be approximately determined based on IMF-published data [23]. In Israel, conversely, the population has increased, with many people returning from abroad to defend the country.

It is important to note that these indicators alone cannot fully characterize investment attractiveness. Therefore, for an integrated assessment of changes in investment attractiveness, a composite indicator is proposed that reflects average changes in the following indicators: Corruption Perception Index (CPI), Global Innovation Index (GII), Tax Index (TIi), Judicial Index (CI), Inflation Index (II), average salary (S), GDP (B), population size (P), and Political Stability Index (PS):

$$\mu I = \frac{\sum \left( \frac{ICP i}{ICP i-1} + \frac{GII i}{GII i-1} + \frac{TI i}{TI i-1} + \frac{CI i}{CI i-1} + \frac{II i}{II i-1} + \frac{S i}{S i-1} + \frac{B i}{B i-1} + \frac{P i}{P i-1} + \frac{PS i}{PS i-1} \right)}{mn}, \quad (1)$$

where:

–  $\mu I$  – the average indicator of changes in investment attractiveness;

–  $ICP i-1, ICP i$  – the Corruption Perception Index for the previous and current periods, respectively;

–  $GII i-1, GII i$  – the Global Innovation Index for the previous and current periods, respectively;

–  $TI i-1, TI i$  – the Tax Index for the previous and current periods, respectively;

–  $CI i-1, CI i$  – the Judicial Index for the previous and current periods, respectively;

–  $II i-1, II i$  – the Inflation Index for the previous and current periods, respectively;

–  $S i-1, S i$  – the average salary for the previous and current periods, respectively;

–  $B i-1, B i$  – the Gross Domestic Product (GDP) for the previous and current periods, respectively;

–  $P i-1, P i$  – the population for the previous and current periods, respectively;

–  $PS i-1, PS i$  – the Political Stability Index for the previous and current periods, respectively;

–  $m$  – the number of indicators;

–  $n$  – the number of changes.

The calculation results can indicate the following: if the indicator equals 1, the investment attractiveness remains unchanged. If the indicator approaches 0, this signifies that investment attractiveness has deteriorated by nearly 100 %.

The calculations of the average change indicator are presented in Table 1.

Based on Table 1, it is possible to conclude that the investment attractiveness change indicator during the war in Ukraine is 0.90, which means that over the past two years, indicators have decreased by only 10 %. These slight changes are explained by the fact that the Corruption Perception Index has actually improved over the analyzed period, which had a positive impact on the average change indicator. The Judicial Index also showed positive dynamics, while the Innovation and Tax Indices reflected minor changes. The Political Stability Index played a negative role, as it deteriorated significantly due to the military actions.

Thus, despite the state of war, Ukraine's investment attractiveness and business expectations remain high, considering the reduction in corruption, improvement in legal protection, and the preservation of a strong innovation component.

In Israel, despite the military conflict in 2023, the situation improved – the average change indicator reached 1.02. This country is accustomed to periodic military situations, and despite this, continues to enhance innovation, implement new technologies, pursue anti-corruption policies, develop industry, and promote population growth programs.

In conclusion, reducing corruption, improving legal frameworks, and advancing innovation can maintain business confidence and economic stability even during challenging times. Aligning these findings highlights the importance of continuing anti-corruption efforts to foster a stable and attractive business environment.

Table 1

Assessment of countries' investment attractiveness: values and changes in indicators

No.	Indicator	Ukraine					Israel		
		2021	2022	2023	Changes		2022	2023	Changes
					22/21	23/21			23/22
1	Global Innovation Index	35.6	31	32.8	0.87	0.92	50.2	54.3	1.08
2	Corruption Perception Index	32	33	36	1.03	1.13	31	33	1.06
3	Tax Index	3.01	2.97	2.85	0.99	0.95	–	–	–
4	Judicial Index	2.51	2.51	2.73	1.00	1.09	–	–	–
5	Inflation Index	110.0	126.6	105.1	0.87	1.04	104.39	104.23	1.001
6	Average salary (USD)	514.0	406.4	459.2	0.79	0.89	3322	3,333.33	1.02
7	GDP according to World Bank data (million USD)	199,770	161,990	178,760	0.81	0.89	525,000	509,900	0.97
8	Population, million (IMF)	41.0	35.0	33.2	0.85	0.81	9.1	9.3	1.02
9	Political Stability Index	–1.3	–2	–2	0.67	0.67	–1.29	–1.29	1
10	Average Change Indicator	0.90					1.02		

## 6. Discussion of the results of the investment attractiveness assessment methodology

To assess the investment attractiveness of countries during wartime, an analytical approach was developed (Fig. 1), which involves three interconnected stages leading to the final result – the development of an integrated indicator for assessing the investment attractiveness of countries in wartime conditions.

For a preliminary assessment of Ukraine's investment attractiveness, an analysis of the Investment Index calculated

by the EBA was conducted, along with various surveys and evaluations regarding business conditions and expectations in different regions (Fig. 2). The results showed that despite the difficult conditions in the country, there are certain positive expectations regarding investment prospects. Business conditions currently vary significantly across regions, depending on their proximity to the front line.

The investment attractiveness assessment methodology is based on an integrated approach that combines macro-environmental factors affecting the investment climate. These factors (Fig. 3) fall into five key groups: government regulation, the state of the economy, scientific and technological progress, political factors, and demographic factors, which were identified based on a review of literature and previous studies.

Based on theoretical and methodological research, an integrated indicator of changes in investment attractiveness was developed (1), allowing the determination of average integrated changes in investment attractiveness. This indicator ranges from 0 to 1—the closer it is to 1, the fewer changes have occurred, and conversely, a value approaching 0 indicates significant changes in investment attractiveness. The calculation results presented in Table 1 show that during the war, this indicator reached 0.9, indicating that Ukraine's investment attractiveness decreased by 10 %.

It is important to note that, unlike previous studies [1–13], the proposed investment attractiveness change indicator includes a sufficiently broad range of factors characterizing investment attractiveness. It integrates a series of indicators and provides comprehensive information about changes in the country's investment attractiveness during wartime.

The theoretical and methodological provisions developed for assessing investment attractiveness using an integrated index provide stakeholders with comprehensive information about a country's investment attractiveness during wartime.

However, this study has certain limitations, as access to most official statistical data for the period from 2022 to 2024 is unavailable. Moreover, not all indicators are subject to precise measurement and evaluation, leading to the use of data from global rating agencies and organizations such as the EBA, WIPO, Transparency International, and the IMF as proxies.

The limitation of this study is the fact that the integrated indicator does not include the full range of factors that could be included in the calculations. This is due to information base limitations.

Expanding the range of factors included in the integrated indicator could be explored in future periods when official statistical information becomes available.

### 7. Conclusions

1. An analytical approach to assessing the investment status of countries has been proposed, consisting of three stages: analyzing the current investment attractiveness of the country, identifying the most significant factors affecting investment attractiveness, and developing an integrated indicator for assessing changes in the country's investment attractiveness. These stages allow for a thorough assessment of changes in investment attractiveness, step by step leading to the final goal — an integrated investment attractiveness indicator.

2. Based on quantitative indices from global organizations, the current investment status of Israel and business conditions during military actions in different regions of

Ukraine were analyzed. The results indicate that despite extreme difficulties, businesses remain optimistic, with Ukraine's Investment Index, obtained through surveys, declining from 2.73 to 2.44, which represents approximately a 10 % decrease. However, business conditions vary significantly across regions, influenced by proximity to the front line.

3. Five groups of macroeconomic indicators were highlighted: government regulation, economic factors, scientific and technological progress, political factors, and demographic factors. These macroeconomic indicators are particularly important in wartime conditions.

4. To assess changes in investment attractiveness, an integrated indicator was proposed, combining statistical data and indices from global agencies. This indicator reflects the average changes in the following metrics: Corruption Perception Index, Global Innovation Index, Tax Index, Judicial Index, Inflation Index, average salary, GDP, population size, and Political Stability Index. This allows conclusions to be drawn about changes in a country's investment attractiveness and the factors that have positively or negatively impacted it. Despite the challenges Ukraine faces during wartime, it was found that the average change indicator over the past two years showed only a slight decline – by 10 %, indicating the resilience of the investment environment. This stability is due to several factors, including a reduction in corruption, improved legal protection, and the retention of a strong innovation component in the business sector. The ongoing full-scale military aggression by Russia against Ukraine remains the primary negative factor affecting the investment climate. In Israel, on the contrary, the research showed that the integrated indicator demonstrated positive trends, as during the long-standing Arab-Israeli conflict, which recurs periodically, the country has transformed. This is manifested in technological development, stimulation of domestic production, population growth policies, and other similar measures. Therefore, considering Israel's experience, countries experiencing military conflicts should continue to develop innovative sectors, stimulate the return of the population, and expand domestic production.

### Conflict of interest

The authors declare that they have no conflict of interest related to this study, including financial, personal, authorship, or any other type that could have influenced the research and its results presented in this article.

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### Data availability

This manuscript has no associated data.

### Use of artificial intelligence tools

The authors confirm that no artificial intelligence technologies were used in the creation of this work.

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