

## FORECASTING SCENARIO OF THE INVESTMENT ATTRACTIVENESS OF THE HOTEL BUSINESS IN RURAL AREAS: CASES FOR UKRAINE

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### Abstract

The focus of the paper is to identify the short-term impact of the war economy on the hotel business, the decline in foreign direct investment trends, and to develop a simulation model for forecasting the investment attractiveness of the green hotel business.

The methods and approaches of the system approach were used to formulate the general theoretical provisions. To assess the status and forecast future directions of activating the investment attractiveness of green hotels, the scenario method, the Delphi method, Swot analysis, the "branch" and "cone of probability" methods were used to identify the main trends and possible scenarios for the investment development of the green hotels during post-war recovery. The method of expert assessments and the Likert scale were used to identify current trends in foreign direct investment. The research is aimed at assessing the investment development of the hotel sector, analysing the volume of capital investments in the activities of hotels, studying the dynamics of the investment attractiveness index, which allows to predict the investment attractiveness of green hotels in the long term.

The research's value lies in assessing the investment attractiveness of hotels in rural areas as a promising area for ensuring the viability of the agrarian sector and the green hotels.

**Keywords:** Foresight Scenarios, Green Hotels, Management, Risks, Rural Areas.

**JEL Codes:** L83, C53, M21, Z32.

### Introduction

War requires unplanned actions and forecasting future development scenarios. The hotel business of Ukraine needs post-war recovery. Taking into account the particularly urgent problem of green tourism all over the world, the issue of attracting investments in the green hotel business has become the most urgent in recent years. This study aims to determine possible scenarios of investment development of the green hotel business of Ukraine. The use of forecasting methods such as the scenario method, the Delphi method, Swot-analysis, the "branch" and "cone of plausibility" methods will

ensure the study of the most possible scenarios for the investment development of the green hotel business of Ukraine in the conditions of post-war recovery. The scientific research is aimed at evaluating the investment development of the hotel sector of Ukraine, analyzing the volume of capital investments in the activities of hotel enterprises, studying the dynamics of the investment attractiveness index of Ukraine, which is measured on a 5-point Likert scale. The study of modern trends of direct foreign investment in Ukraine made it possible to predict the investment attractiveness of green hotel enterprises of Ukraine for the long term.

Due to the negative impact of external conditions, the hotel business of Ukraine, as a strategically important factor in the development of tourism, is undergoing significant transformations. The trigger for this is a full-scale military invasion by Russia, the consequences of which are human losses and significant infrastructural damage. The rates of decline in the indicators of the Ukrainian national economy indicate a 25 percent drop by the end of 2023 (Danylyshyn, B. (2024), the inflation rate in the consumer market was 5.1% (Inflation, 2023). The specific weight of damages caused directly in the sphere of culture, sports and tourist infrastructure reaches 0.7 billion US dollars, which is about 21.9 billion hryvnias. Cumulative indirect losses in the tourism sector amount to UAH 110.8 billion. As of June 2023, since the beginning of the full-scale invasion, as a result of military actions, at least 49 tourist infrastructure buildings, located in 14 regions of the country, mainly in the east and south of Ukraine, as well as in the Lviv region and the city of Kyiv, have been destroyed or partially damaged.

Restoration and reconstruction of damage and destruction at the objects of the hotel sector will require significant investments, because it will be rebuilt taking into account the concept of “rebuilding better than it was”, which means the need to meet all current requirements for inclusivity, energy efficiency and safety (Project, 2022). Currently, the need for financing the reconstruction and rebuilding of the tourism sector and the hotel business as its component is UAH 15.5 billion (Project, 2022).

Thus, it should be noted that despite the negative situation for the development of tourism, in the summer season 2023, the requests of Ukrainians for domestic vacations in destinations that are conditionally safe intensified, and there is a tendency for the gradual recovery of domestic green tourism. At the same time, even during military operations on the territory of the country, new hotel business establishments were opened in the conditionally safe regions of Ukraine, in particular: hotels of the international chains: “Best Western” (“Best Western Plus Market Square Lviv”) and “Accor” were opened in the city of Lviv (“Ibis Lviv Center”, “Ibis Kyiv Beresteiska”); in Kyiv Region – Ribas Rooms Hotel, in Lviv Region – Plai Hotel, in Zakarpattia

Region – Hust Hostel, in Poltava Region – Obriy Holiday Village, in Chernihiv Region – “Forest Lake” and “Scandi Park” (They opened, 2023; It was important, 2024; The first 2022; Hust Hostel, 2022), which undoubtedly becomes the basis of new prospects for the development of the hotel business.

However, the political situation in the country negatively affects on the level of investments. In this regard, attracting investments and ensuring a high level of investment attractiveness is the most important factor in the economic recovery of the green hotel business.

In the future, green tourism will play an important role in ensuring the development of the green hotel business. Scientific-methodical and methodological approaches in this area will focus on studying ways to optimize economic benefits while minimizing the negative impact on the environment (Dovhal, 2019).

According to the strategies of the World Tourism Organization, green tourism is aimed at achieving goals of sustainable development: sustainable economic development, reducing social exclusion, increasing employment and fighting poverty, efficient use of resources, protecting nature and fighting climate change; preservation of cultural values, diversity and heritage; mutual understanding, peace and security (Tourism, 2017).

### **Literature review**

Forecasting the investment attractiveness of green hotel enterprises in the post-war period will create the necessary preconditions for attracting investments in the relevant spheres of the Ukrainian economy, will allow modeling possible scenarios of the development of the Ukrainian hotel industry, which are unpredictable under the current conditions of uncertainty. Forecasting itself is an effective method of implementing the necessary measures to prevent crisis phenomena in the hotel industry as a result of a full-scale invasion. Modern research lacks a set of methods for forecasting the investment attractiveness of the green hotel business, so it is advisable to use a set of forecasting methods (Balaniuk et al., 2023; Boiko et al., 2023, Savka et al., 2022), which will make it possible to explore various scenarios of the development of future events.

Forecasting the investment attractiveness of enterprises in the post-war period is based on the analysis of scientific research on entrepreneurial activity during wars and reconstruction periods in different times and in different countries. Among the studies revealing the content of this topic, it is worth highlighting publications in the scientific literature on the impact of war on business. (Felício & Figueira, 2022) analyzed the risks and opportunities for business investments. An example of the negative impact on the current international market situation in the context of the war unleashed by Russia against Ukraine is the tendency to froze investments and the exit of large international companies due to sanctions, due to financial losses due to high political risk. A survey conducted by the Yale School of Management (Sonnenfeld, 2022) shows that from the beginning of the conflict to June 7, 2022, about a thousand companies have demonstrated some form of hostility to the Russian market. In the case of Ukraine, businessmen see the war as a threat to their business and employees (Shrivastava, 2022).

From a sustainable development perspective, wars are also accompanied by environmental and social risks (Zúñiga-Upegui et al., 2019) experienced and interpreted by local communities, and business risks experienced and interpreted by corporations (Franks et al., 2014). The role of investments and financial mechanisms in supporting management based on systemic approaches in identifying cumulative effects for the development of strategies to overcome the consequences of conflicts and wars on the example of the countries of the Middle East is considered (Schillinger, 2022). Moore, R.J. (2021), considered the importance of attracting investment in the post-war environment and encouraging socially responsible business, with a long-term market perspective. In these contexts, business is often regarded as an asset for priority impact investing in post-war reconstruction (Rieznyk, 2023).

According to studies (O'Reilly, 2014), in the post-conflict environment, there is a tendency to slow down recovery and attract investments by weak institutions. Post-conflict recovery is

influenced by initial capital accumulation and the socio-economic environment. This recovery depends on strong institutions and policies. Post-war conditions present unique challenges, including economic risks and political instability, that can affect the process of attracting investment for recovery (O'Reilly, 2014). International investment in infrastructure reconstruction and the integration of open international markets is recognized as potential drivers of postwar recovery and economic growth (Brück, et al., 2000; Del Castillo, 2008). The historical experience of the Bretton Woods Conference emphasizes the importance of balanced public policy, open international markets, and effective channeling of savings into productive investment for sustainable economic growth (Eichengreen, 2004; Mit Press & Lin, 2011). In the post-war period, there are ongoing challenges and opportunities that require a combination of demand-driven approaches to attracting investment in the industry with approaches focused on the needs of conflict-affected communities, based on sustainable economic development approaches (Goovaerts et al., 2005). One of the areas of policy development aimed at mobilizing and maximizing investment potential is encouraging the investment of diaspora funds in their native countries. Although much of the scholarship on migrant entrepreneurship has focused on the impact of migrants on the host country, less is known about the impact of diasporas on home countries. Using the example of post-conflict Balkan countries: Bosnia and Herzegovina, Kosovo and Montenegro, the authors analyzed investment strategies aimed at mobilizing resources of diaspora communities and their impact on future growth (Williams, 2018).

Encouraging investment to rebuild the post-war economy is critical. As the study (Hooks, & Bloomquist, 1992) shows, federal investments made during the Second World War influenced the regional restructuring of the USA in the postwar period, which is a logical continuation of the postwar disposition of objects, including a significant portfolio of industrial assets that were in private ownership.

Another aspect highlighted in scientific research concerns the variability of approaches to forecasting the attraction of investments in different sectors of the economy and different periods of time. In particular, the determinants of profit reinvestment by enterprises in post-conflict countries with transition economies were investigated (O'Reilly, 2015). The results show that while access to finance is an important determinant of reinvestment in transition, it is not as important in a post-conflict context. Studies (Pustovoit, 2022) have proven that in the post-war period, international aid plays the role of a driver of high rates of economic growth in the country to the extent that it contributes to the economic restructuring of production from a military to a civilian regime, transforming it from technologically simple to more technologically complex. The lack of well-founded forecasts regarding the interest of investing in the hospitality sector of Ukraine complicates the systematization and adaptation of scientific provisions related to the development of hotel enterprises in the post-war period. In this regard, the purpose of this article is to develop theoretical provisions and analytical frameworks for forecasting the investment attractiveness of hotel enterprises in Ukraine in the post-war period. The task of the study is to find interpellations connecting the impact of the war on the hotel business through a research review. The study covers various aspects, such as the short-term impact of the war economy on the hotel business, declining trends in foreign direct investment (FDI) in Ukraine, and expert assessments of strategic investment directions in the hospitality industry.

### **Materials and methods**

The research uses an analytical approach to research and forecast the investment attractiveness of the green hotel sector of Ukraine. The work is based on a research approach aimed at the application of various forecasting methods: the scenario method, the Delphi method, SWOT analysis, the “branch” and “cone of probability” methods. Statistical methods were used to study the trends of foreign direct investment (FDI) in Ukraine. Through the use of the method of systematization, the investment attractiveness of

the hotel business of Ukraine was investigated. The scenario method made it possible to predict the investment attractiveness of green hotel enterprises of Ukraine in the long term. The methods of analysis and synthesis made it possible to study the dynamics of the investment attractiveness index of Ukraine, which is measured on a 5-point Likert scale. In order to form a projected scenario of the development of the investment attractiveness of hotel enterprises for the next 10 years, the dynamics of direct foreign investments in Ukraine and the volume of capital investments in the activity of hotel enterprises of Ukraine were detailed. Systematization methods were used, in particular, summarizing the experience of attracting investments by Ukrainian hotels to study factors influencing the decision of an investor of a hotel enterprise.

### **Results and discussions**

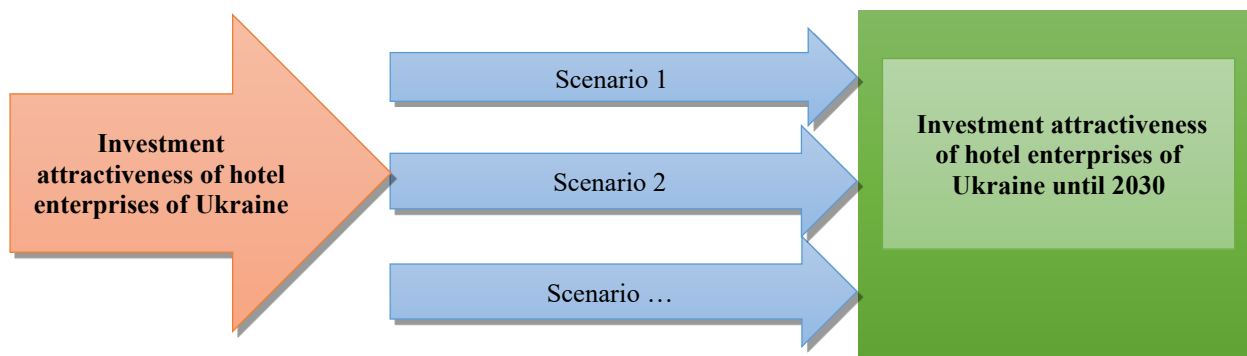
Taking into account the mostly consolidated position of scientists, that investment attractiveness is a comprehensive system of assessing and determining the financial, economic and legal conditions of the functioning of a country or a separate economic entity, which characterizes its opportunities for the inflow and placement of investments, including such aspects as the presence of stability political and economic environment, the availability of effective legal regulators, the degree of infrastructural development, access to financial markets, as well as potential opportunities for profitable capital investment (Kitaychuk, 2023). We will apply the “foresight” forecasting method, which will allow us to analyze the investment attractiveness of green hotel enterprises in the short-term, medium-term and long-term periods.

Foresight methodology includes analysis, synthesis, modeling and forecasting, which are necessary elements for monitoring possible threats in the future (Önder, 2017).

The first and main document on the future development of Ukraine's economy is the result of a study of scenarios for different time horizons (Foresight, 2015) in which, based on the application of Delphi and SWOT methods, a methodology for foresight of the structure of Ukraine's future economy was developed.

Based on this document, using the scenario method, which was used in the research of domestic scientists on forecasting the investment attractiveness of tourist enterprises (Antoniuk, 2023; Kucher, 2023; O'Reilly, 2015; Didukh,

2015), we can predict the investment attractiveness of hotel enterprises of Ukraine in the long term (until 2030), which aims to ensure its sustainable development (Foresight, 2015) (Fig. 1).



**Figure 1. The method of scenarios in forecasting the investment attractiveness of green hotel enterprises of Ukraine until 2030**

*\*Source: author's developments.*

The Delphi method was used in the study of Ukraine's investment attractiveness index and its short-term forecasting during a survey of expert practitioners (business experts, top managers and investors) by the European Business Association.

We will develop a model that will allow us to predict the investment attractiveness of green hotel enterprises of Ukraine in the post-war period. To do this, we will conduct a study that will consist of two stages.

At the first stage, we will apply the Delphi method. To do this, we will conduct a survey of a group of 20 experts about the most influential factors of investment attractiveness.

With the help of the two-round Delphi method, 15 investment variables were determined, which we implemented in the dynamic model of investment attractiveness.

At the second stage, the same group of experts indicated the relationships between the factors that were determined at the first stage.

To develop the model, we will also use fuzzy cognitive maps to model the relationships between the identified factors and create a model that supports the analysis of investment attractiveness scenarios.

The Delphi method is applied through a

series of repeated questions in the form of questionnaires for a group of experts. After each round of the survey, the question of each subsequent cycle for each participant is accompanied by information about the answers of other members of the expert group, which are presented anonymously. In this way, feedback is provided so that the experts can revise their opinions and familiarize themselves with the opinions of other experts from previous rounds and a statistical generalization of the answers of the experts, thus creating a consensus of the group (Skulmoski et al., 2007).

A fuzzy cognitive map is a graph consisting of several nodes representing the concepts of the studied area. These nodes are connected to other arcs  $W(i, j)$  showing how one concept  $i$  causally affects another concept  $j$ . Arcs that connect two concepts have weights corresponding to vague qualifications ("a little", "moderately", "a lot"). Fuzzy cognitive maps are used to model and study the relationships between certain factors and help draw conclusions based on the consequences of specific scenarios. The influence between the identified factors is evaluated using the indirect effect. That is, the influence caused by the relationships between concepts on the way from the cause variable ( $x$ ) to the consequence variable

(y) and the general effect, that is, the sum of all indirect effects from the causal variable x to the effect of the variable y Kosko, B. (1986).

A fuzzy cognitive map will be represented using the  $N \times N$  matrix, where N is the number of concepts, and i and j are concepts. Such a matrix represents the strength and direction of causality between interrelated concepts. Causality values are assigned values from the interval  $[-1; +1]$ . According to (Schneider et. al., 1998):

$>0$  indicates a causal increase or positive causality from node i to j;

$=0$  there is no causality from node i to j;

$<0$  indicates causal reduction or negative causality from node i to j.

Multiplication between the matrices representing the fuzzy cognitive maps creates an indirect general effect and allows us to investigate the effect that is the causal effect of D1. Causal consequences can be represented using the  $1 \times N$  vector (Banini & Bearman, 1998; Blahun, et. al., 2022). We can calculate such an influence by repeated multiplications:  $E \times D1 = D2$ ;  $E \times D2 = D3$ , etc., hence  $E \times Di = Di+1$ , until equilibrium is reached, which is the final result of the D1 effect. Equilibrium is reached when the final result is zero, that is, all the cells of the resultant vector are zero and there is no further causal effect under any concept. Different threshold values, depending on the needs of the simulation, limit the value, which

are the result of each multiplication in the range  $[-1; +1]$ . Therefore, if the value of  $a > +1$ , then it is set to the value (+1) or the value (-1), if the resulting value ( $\pm 0.5$ ) means that if the resulting value is greater than (+0.5) or less than (-0.5), then the value is set to (+1) or (-1) respectively.

In our study, we will use fuzzy cognitive maps based on the approach proposed in (Bueno & Salmeron, 2008; Bueno and Salmeron, 2009; Yakubiv & Boryshkevych, 2018) based on the opinion of experts, the consensus of which was reached after a two-round survey using the Delphi method. A fuzzy cognitive map will be constructed by considering the median of experts' answers to reflect the magnitude of the causal relationship between different concepts. For the sign of each causal relationship, the sign proposed by the majority of experts is selected.

In our study, we will use the geometric mean value to represent the generalized opinion of a group of experts. Thus, the importance of each of the determined factors will be calculated using the geometric mean of all participants' answers.

A group of 20 experts participated in this study and had to determine the most influential factors for investments in green hotel enterprises of Ukraine in the post-war period. The result was a two-round Delphi method with a list of 15 investment variable factors (Table 1).

**Table 1. Factors of investment attractiveness of hotel enterprises of Ukraine in the post-war period**

| Factors of investment attractiveness                                          | Geometric value |
|-------------------------------------------------------------------------------|-----------------|
| 1. Economic stability                                                         | 4,16            |
| 2. Tourist potential                                                          | 3,52            |
| 3. Infrastructure                                                             | 3,78            |
| 4. Legal stability and legislative framework                                  | 4,05            |
| 5. Tax benefits and incentives                                                | 3,82            |
| 6. Development of business infrastructure                                     | 3,65            |
| 7. Quality of services                                                        | 3,27            |
| 8. Competitiveness                                                            | 3,43            |
| 9. Ability to predict and adapt to changes                                    | 3,72            |
| 10. Availability of information about the hotel market                        | 2,46            |
| 11. Rating of hotel enterprises and availability of world-famous hotel brands | 3,12            |
| 12. Various profiles of hotels                                                | 2,57            |
| 13. Demand and availability                                                   | 3,21            |
| 14. Political situation                                                       | 4,39            |
| 15. Market orientation                                                        | 2,71            |

\*Source: author's developments.

The results of the study show that the most important factors affecting the investment attractiveness of hotel enterprises of Ukraine in the post-war period are the political situation in the country, economic stability, legal stability and the legislative framework.

Following the Delphi method, experts were asked to evaluate the direction and strength of relationships between factors of investment attractiveness. The median was calculated to determine the strength of relationships between factors, as it allows for positive or negative

features modeled in fuzzy cognitive maps. For each ratio, following the method of Bueno & Salmeron (2008), it is determined according to the majority of experts' answers (Dagdeviren, 2008).

By implementing a fuzzy cognitive map as a matrix, several investment attractiveness scenarios can be explored. We will use linguistic variables to describe the scenario, which will be expressed by the following scale (Dubodelova & Yurinets, 2007) (Table 2).

**Table 2. A scale for describing the investment attractiveness scenario**

| Linguistic meaning | Average value of fuzzy numbers |
|--------------------|--------------------------------|
| Very high          | 1                              |
| High               | 0,75                           |
| Medium             | 0,5                            |
| Low                | 0,25                           |
| Very low           | 0                              |

*\*Source: author's developments.*

Each scenario that assumes a causal effect is represented by a scenario vector, which is a  $(1 \times n)$  vector, where  $n$  is the number of variables that make up the fuzzy cognitive map of investment attractiveness. Based on the theory of fuzzy cognitive maps, by multiplying the scenario vector and the fuzzy cognitive map, it is possible to investigate the factors affecting investment attractiveness and predict the prospects of the investment attractiveness of the hotel business in Ukraine in the post-war period. It may take more than one multiplication until the final value is produced. Suppose that the following scenario is represented by the activation vector (Table 3).



**Table 3. A scenario of fuzzy cognitive maps represented by an activation vector**

|                    |                   |                |                                           |                             |                                        |                     |                 |                                         |                                                    |                                                                            |                            |                         |                     |                    |
|--------------------|-------------------|----------------|-------------------------------------------|-----------------------------|----------------------------------------|---------------------|-----------------|-----------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------|----------------------------|-------------------------|---------------------|--------------------|
| Economic stability | Tourist potential | Infrastructure | Legal stability and legislative framework | Tax benefits and incentives | Development of business infrastructure | Quality of services | Competitiveness | Ability to predict and adapt to changes | Availability of information about the hotel market | Rating of hotel enterprises and availability of world-famous hotels brands | Various profiles of hotels | Demand and availability | Political situation | Market orientation |
| 0,7                | 0,8               | 0,7            | 0,7                                       | 0,7                         | 0,4                                    | 0,4                 | 0,7             | 0,4                                     | 0,1                                                | 0,1                                                                        | 0,1                        | 0,1                     | 0,8                 | 0,1                |

*\*Source: author's developments.*

By specifying a threshold value of 0.3, the simulation results will have the following form (Table 4).

**Table 4. A scenario of fuzzy cognitive maps represented by an activation vector**

|                    |                   |                |                                           |                             |                                        |                     |                 |                                         |                                                    |                                                                            |                            |                         |                     |                    |
|--------------------|-------------------|----------------|-------------------------------------------|-----------------------------|----------------------------------------|---------------------|-----------------|-----------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------|----------------------------|-------------------------|---------------------|--------------------|
| Economic stability | Tourist potential | Infrastructure | Legal stability and legislative framework | Tax benefits and incentives | Development of business infrastructure | Quality of services | Competitiveness | Ability to predict and adapt to changes | Availability of information about the hotel market | Rating of hotel enterprises and availability of world-famous hotels brands | Various profiles of hotels | Demand and availability | Political situation | Market orientation |
| 0,69               | 0,59              | 0,52           | 0,86                                      | 0,48                        | 0,21                                   | 0,28                | 0,3             | 0,77                                    | 0,49                                               | 0,41                                                                       | 0,15                       | 0,19                    | 0,79                | 0,12               |

*\*Source: author's developments.*

The results in Table 4 indicate that the investment attractiveness of the hotel business can be changed by adjusting the relevant factors.

Using the Swot-analysis method, we will determine the areas of investment attractiveness of hotel enterprises of Ukraine (Table 5).

Having analyzed the SWOT analysis of the investment attractiveness of green hotel enterprises of Ukraine, we will develop three possible scenarios using the “branch” method (Fig. 2).





**Figure 2. Scenarios of the investment attractiveness of the hotel sector of Ukraine until 2029 using the “branch” method**

\*Source: author's developments.

To forecast the investment attractiveness of the hotel sector of Ukraine, we will also use the “cone of plausibility” method, which is based on the scenario planning method described above.

**Table 5. Swot analysis of investment attractiveness of green hotel enterprises of Ukraine**

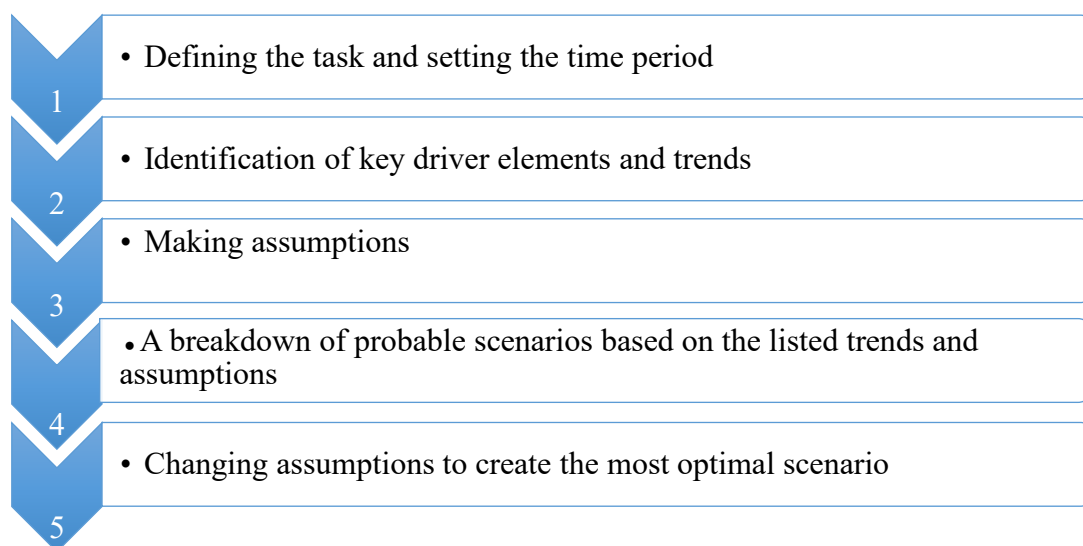
| Strengths (S)                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Weaknesses (W)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>- developed domestic tourism (<math>S_1</math>)</li> <li>- high demand for resort hotels (<math>S_2</math>)</li> <li>- opening of new hotels in areas remote from hostilities (<math>S_3</math>)</li> <li>- highly qualified and stress-resistant staff (<math>S_4</math>)</li> <li>- state support for investors (<math>S_5</math>)</li> </ul>                                                                                      | <ul style="list-style-type: none"> <li>- outflow of highly qualified labor force (<math>W_1</math>)</li> <li>- low volume of capital investments in the hotel sector (<math>W_2</math>)</li> <li>- high level of corruption (<math>W_3</math>)</li> <li>- weak judicial system (<math>W_4</math>)</li> <li>- decrease in the level of investment attractiveness of the country (<math>W_5</math>)</li> <li>- low standard of living of the population (<math>W_6</math>)</li> <li>- bad credit conditions (<math>W_7</math>)</li> </ul>                                                                                          |
| Opportunities (O)                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Threats (T)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>- victory of Ukraine in the war (<math>O_1</math>)</li> <li>- infrastructure restoration (<math>O_2</math>)</li> <li>- reconstruction of destroyed hotel enterprises (<math>O_3</math>)</li> <li>- attraction of foreign investments (<math>O_4</math>)</li> <li>- adjustment of logistics chains (<math>O_5</math>)</li> <li>- increase in the level of investment attractiveness of the hotel sector (<math>O_6</math>)</li> </ul> | <ul style="list-style-type: none"> <li>- time and funds are needed to rebuild the destroyed infrastructure and hotel enterprises (<math>T_1</math>)</li> <li>- decrease in the standard of living of the population, and therefore its solvency (<math>T_2</math>)</li> <li>- rising unemployment (<math>T_3</math>)</li> <li>- a decrease in the volume of investments in the hotel sector, because funds will be allocated for more urgent needs (<math>T_4</math>)</li> <li>- reduction of labor resources (<math>T_5</math>)</li> <li>- deterioration of the economic situation in the country (<math>T_6</math>)</li> </ul> |

\* Source: author's developments.

The “cone of plausibility” technique was developed at the University of Houston (USA) and adapted by the British Ministry of Defence. This technique is most effective in application in the short term. Such a technique allows conducting an audit of all scenarios of the

development of events. After defining the key elements, assumptions are put forward, on the basis of which the corresponding scenario is built (Foresight, 2015).

The key elements of this method will be presented in the form of a diagram (Fig. 3).



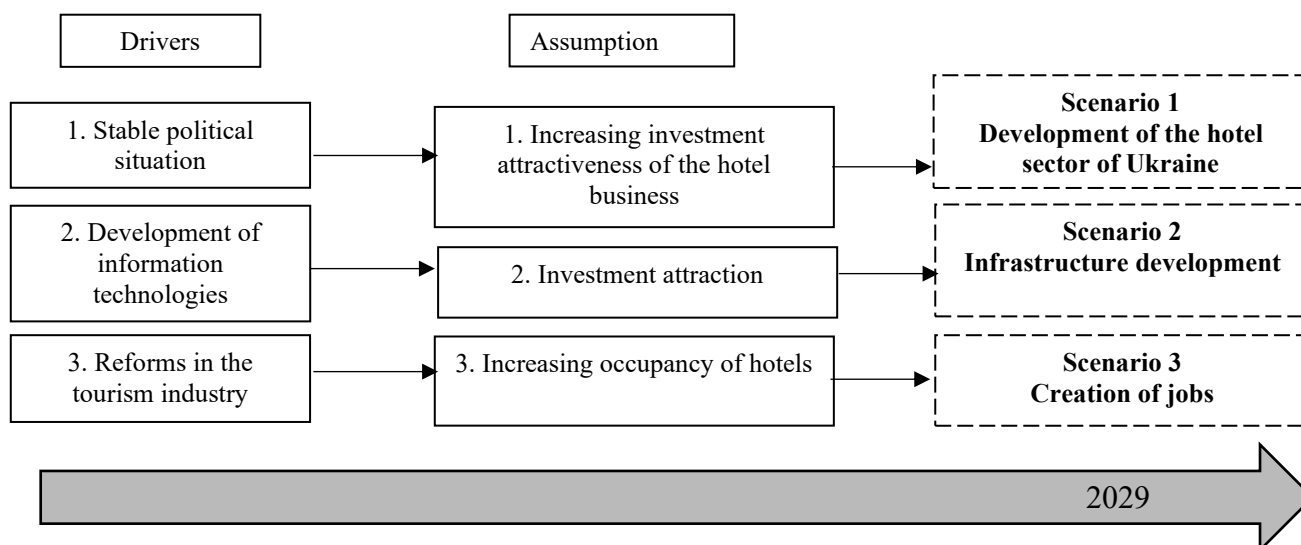
**Figure 3. Key elements of the “Cone of Plausibility” technique**

*\*Source: built by the authors based on (Foresight, 2015).*

Based on the “cone of plausibility” method, we will consider possible scenarios for the investment attractiveness of the hotel sector of Ukraine until 2029 (Fig. 4).

For the short-term forecasting of the investment attractiveness of the green hotel business, we will use the SPACE methodology

(Yakubiv & Boryshkevych, 2018), in the following directions: the financial position of hotel business enterprises (FP), the competitiveness of hotel business enterprises (CH), the attractiveness of the hotel industry (AH) and the stability of the hotel industry (SH) (table 6).



**Figure 4. Investment attractiveness of the hotel sector of Ukraine until 2029 (optimistic scenario)**

*\*Source: author's developments.*

We will transfer the obtained results to the coordinate system and build a strategic map (Fig. 5), which will become the basis for developing a strategy to increase the investment attractiveness of the green hotel business of Ukraine, where:

$$X = AH - CH$$

$$Y = FP - SH$$

Accordingly, for the foresight assessment of the investment attractiveness of the green hotel business of Ukraine, the X and Y coordinates will be equal to:

$$X = 4,7 - 3,8 = 0,9$$

$$Y = 4,0 - 3,4 = 0,6$$

So, the vector of investment attractiveness of the green hotel business of Ukraine is placed in the “Aggressive position (motivation)” square. Modern conditions for the development of the green hotel business require active actions, investment in this industry, because under today's

realities, people continue to travel, and domestic ecotourism has gained special development since the beginning of the full-scale invasion, therefore the demand for ecological hotels has grown in regions far from the war zone. After the end of the war in Ukraine, a flow of foreign tourists is predicted. In addition, the developed map of the strategic development of the investment attractiveness of the green hotel business shows positive dynamics, and therefore the question of investing in the green hotel business of Ukraine is expedient and urgent.

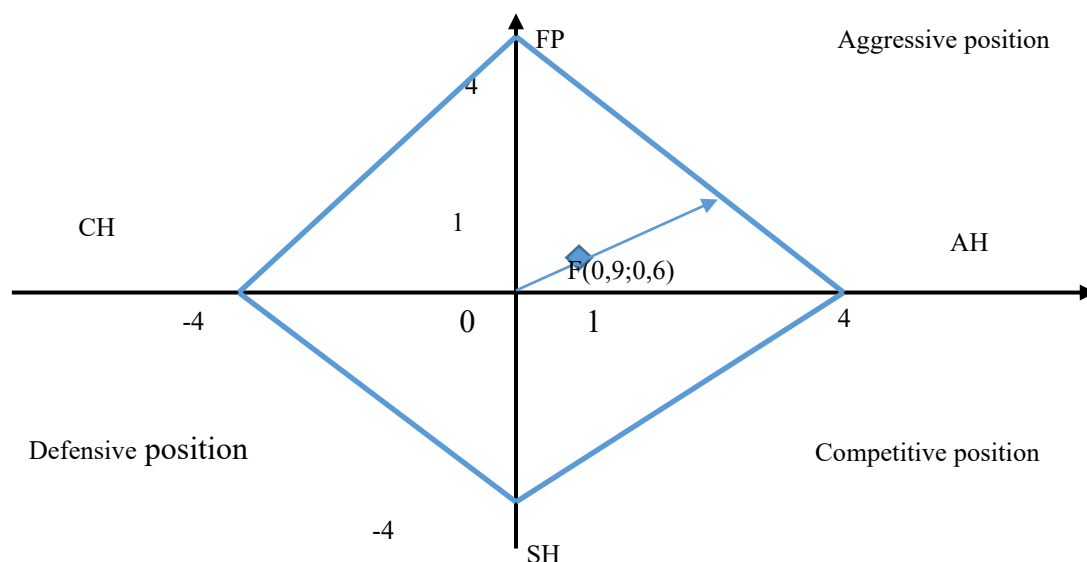
The purpose of this study was to determine the short-term impact of the war economy on the hotel business, the decline in foreign direct investment (FDI) trends in Ukraine and, based on expert assessments, to develop a forecast of strategic investment directions for the green hotel business.

**Table 6. Evaluation of criteria for short-term forecasting of investment attractiveness for the green hotel business of Ukraine by method SPACE analysis**

| Assessment criteria                                   | Assessment, points | Weight, units | Weighted assessment, points |
|-------------------------------------------------------|--------------------|---------------|-----------------------------|
| 1. Financial position (FP)                            |                    |               |                             |
| Return on equity                                      | 4                  | 0,1           | 0,4                         |
| Liquidity                                             | 5                  | 0,2           | 1                           |
| The level of financial stability                      | 3                  | 0,2           | 0,6                         |
| Riskiness of business                                 | 4                  | 0,5           | 2                           |
| Total:                                                |                    | 1,0           | 4,0                         |
| 2. Competitiveness of hotel business enterprises (CH) |                    |               |                             |
| Market share                                          | 3                  | 0,1           | 0,3                         |
| Quality of services                                   | 5                  | 0,4           | 2                           |
| Demand for services                                   | 3                  | 0,3           | 0,9                         |
| Profitability of services                             | 3                  | 0,2           | 0,6                         |
| Total:                                                |                    | 1,0           | 3,8                         |
| 3. Attractiveness of the hotel industry (AH)          |                    |               |                             |
| Growth potential                                      | 5                  | 0,2           | 1                           |
| Influence of military and political factors           | 5                  | 0,5           | 2,5                         |
| Profitability level                                   | 4                  | 0,1           | 0,4                         |

|                                                              |   |     |     |
|--------------------------------------------------------------|---|-----|-----|
| Assessment of future development                             | 4 | 0,2 | 0,8 |
| Total:                                                       |   | 1,0 | 4,7 |
| 4. Stability of the hotel industry (SH)                      |   |     |     |
| Stability of the economy (monetary base/ credit obligations) | 3 | 0,5 | 1,5 |
| The level of development of innovative activity              | 5 | 0,5 | 2,5 |
| Elasticity of demand                                         | 4 | 0,1 | 0,4 |
| Variation in demand                                          | 4 | 0,2 | 0,8 |
| Total:                                                       |   | 1,0 | 3,4 |

\* Source: author's developments.



**Figure 5. Construction of the vector of investment development of the green hotel business in the foresight scenario**

\*Source: author's developments.

Within the selected strategic directions, a simulation model for forecasting the investment attractiveness of the green hotel business of Ukraine in the post-war period has been developed, which includes the following elements, namely:

- 1) recognition of Ukraine as a brand throughout the world;
- 2) reconstruction of destroyed infrastructure;
- 3) construction of new hotel enterprises (new investment objects).

## Discussion

In addition, the goals of tourism development are to focus on ensuring sustainable balanced development and evaluating the success of innovations and investments both at the level of the economic entity and the state (Mazaraki et al., 2024; Yatsiv et al., 2017; Kozhukhivska, 2019). At the same time, investment attractiveness changes under the influence of both external and internal factors (Basyuk, 2013).

The dependence of the investment attractiveness of the green hotel business of

Ukraine in the post-war period on the main influencing factors (distance from the places of hostilities, the presence of partnership relations (connections), the emergence of new tourist eco-routes) is taken into account.

In order to obtain more in-depth conclusions about forecasting the long-term impact of the war economy on the hotel business, it is necessary to expand the research parameters in the future, in particular, to increase the list of factor indicators. This can be, for example, corporate social responsibility (CSR) of hotel enterprises, military and business risks and their impact on the willingness of investors to invest in new facilities.

### Conclusions

Applying a comprehensive approach that combines the scenario method, SWOT analysis, the Delphi method, the method of fuzzy cognitive maps, “branches” and “cone of plausibility”, this

work investigated the investment attractiveness of the green hotel business in Ukraine. The impact of the military economy on the development of the hotel industry is determined. The volume of capital investments in the hotel business of Ukraine, the dynamics of the investment attractiveness index of the hotel sector of Ukraine were analyzed. Scenarios for the development of the investment attractiveness of green hotel enterprises have been developed. Taking into account the importance of environmental protection, investing in a green hotel business is not only economically beneficial, but also an extremely important stage in the development of the hotel industry. The orientation of the hotel business of Ukraine towards ecological development is an important factor of investment attractiveness for foreign investors, as well as a necessary step in the preservation of the country's natural resources.

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