РОЗДІЛ З. ЕКОНОМІКА ТА УПРАВЛІННЯ НАЦІОНАЛЬНИМ ГОСПОДАРСТВОМ

In a pandemic, the economy must adapt to

new conditions in order to minimize the risks

DOMESTIC TOURISM MARKET: ANALYSIS AND FORECAST ВНУТРІШНІЙ ТУРИСТИЧНИЙ РИНОК: АНАЛІЗ ТА ПРОГНОЗ

that arise. One of the areas of the economy that is most affected by the pandemic is travel and tourism (T&T). If at the beginning of the 21st century tourism showed high indicators of development, then in 2020 the T&T sphere approached the limit of survival, according to many experts' estimates. An effective way to preserve the country's tourism potential under these conditions is to develop domestic tourism. This research aims to analyse the development indicators of the tourism sector in Ukraine and assess the prospects for the development of the domestic tourist services market based on a correlation and regression model. The article presents an analysis of the main indicators of tourism development in Ukraine. In particular, these are such indicators as the capital investment volume, the dynamics of income from the provision of tourist services. and the total contribution of tourism to GDP. A structural analysis of the dynamics of tourist flows in Ukraine for 2013-2019 has been carried out. A significant advantage of outbound tourism in comparison with domestic tourism has been revealed. A regression model has been constructed. This model reflects the relationship between the number of domestic tourists and such factor characteristics as: transport passenger turnover, average salary level and the number of travel agencies. The inverse relationship between the dynamics of the number of domestic tourists and the number of travel agencies was revealed. It was concluded that it would be advisable for the state to encourage small forms of management in the tourism industry, which are focused on creating tourist products of local significance. A direct relationship between the average salary, passenger traffic and the number of domestic tourists was proved. The calculated forecast indicates the possibility of increasing the number of domestic tourists in Ukraine in 2020 by 6%, in 2021 by 6%, in 2022 by 5%. Key words: analysis, tourism services market,

domestic tourism, correlation and regression model, forecast.

Развитие пандемии обусловило потребность адаптации экономики к новым условиям с целью минимизации рисков, которые возникли. Одной из сфер экономики, больше всего страдает от пандемии, является сфера путешествий и туризма (Т & Т). Если в начале XX века туризм демонстрировал высокие показатели развития, то в 2020 году сфера Т & Т по оценкам многих экспертов оказалась на грани выживания. Действенным направлением сохранения туристического потенциала страны в этих условиях является развитие внутреннего туризма. Данное исследование имеет целью проанализировать показатели развития сферы туризма Украины и на основе корреляционно-регрессионной модели и дать оценку перспективам развития внутреннего рынка туристических услуг. В статье проанализированы основные показатели развития туризма в Украине, в частности объемы капиталовложений, динамику доходов от предоставления туристических услуг, общий вклад туризма в ВВП. Проведен структурный анализ динамики туристических потоков Украины по 2013-2019 годы. Выявлено существенное преимущество выездного туризма по сравнению с внутренним туризмом. Расчитанная с помощью программы Eviews perpecсионная модель, отражает зависимость между количеством внутренних туристов и такими факторными признаками как: транспортный пассажирооборот, средний уровень заработной платы и количество туристических агентств. Раскрыта обратная зависимость между динамикой количества внутренних туристов и численностью туристических агентств, на основе чего сделан вывод о целесообразстимулирования государством ности малых форм хозяйствования в туристической отрасли, ориентированных на создание туристических продуктов местного значения. Доказана прямая зависимость между средней зарплатой, объемом пассажиропотоков и численности внутренних туристов. Разработан прогноз по увеличению количества внутренних туристов в Украине в 2020 году на 6%, в 2021 на 6%, в 2022 на 5%.

Ключевые слова: анализ, рынок туристических услуг, внутренний туризм, корреляционно-регрессионная модель, прогноз.

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В умовах пандемії економіка повинна пристосовуватися до нових умов з метою мінімізації виникаючих ризиків. Однією із сфер економіки, що найбільше страждає від пандемії, є сфера подорожей та туризму (T&T). Якщо на початку XXI століття туризм демонстрував високі показники розвитку, то у 2020 році сфера T&T за оцінками багатьох експертів наблизилась до межі виживання. Дієвим напрямом збереження туристичного потенціалу країни за цих умов є розвиток внутрішнього туризму. Дане дослідження має на меті проаналізувати показники розвитку сфери туризму України та на основі кореляційно-регресійної моделі оцінити перспективи розвитку внутрішнього ринку туристичних послуг. В статті проаналізовані основні показники розвитку туризму в Україні, зокрема обсяги капіталовкладень, динаміку доходу від надання туристичних послуг, загальний вклад туризму в ВВП. Проведено структурний аналіз динаміки туристичних потоків України за 2013–2019 роки. Виявлена суттєва перевага виїзного туризму порівняно з внутрішнім туризмом. Побудовано регресійну модель. Ця модель відображає залежність між кількістю внутрішніх туристів та такими факторними ознаками як: транспортний пасажирообіг, середній рівень заробітної плати та кількість туристичних агенцій. Розкрита зворотна залежність між динамікою кількості внутрішніх туристів та чисельністю туристичних агениій. Зроблено висновок про доцільність стимулювання державою малих форм господарювання в туристичній галузі, орієнтованих на створення туристичних продуктів місцевого значення. Доведена пряма залежність між середньою

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зарплатою, обсягом пасажиропотоків та чисельністю внутрішніх туристів. Зроблений прогноз свідчить про можливість збільшення кількості внутрішніх туристів в Україні в 2020 році на 6%, в 2021 р. на 6%, в 2022 р. на 5%. Визначені пріоритетні засоби та інструменти державного регулювання у сфері Т&Т України з метою стимулювання розвитку малих форм господарювання. Серед таких засобів та інструментів: створення спеціалізованих інституцій, здатних координувати туристичну діяльність у напрямі реалізації Цілей Сталого Розвитку; державно-приватне партнерство; міжмуніціпальне співробітництво; створення туристичних кластерів; новітні фінансові засоби, у тому числі краудфандинг; інформаційна підтримка та ІТ-інфраструктура тощо. Акцентовано увагу на необхідності розвитку таких перспективних для малого бізнесу видів туризму як: подієвий, спортивно-оздоровчий, екологічний, гастрономічний, винний, аграрний туризм тощо.

Ключові слова: аналіз, ринок туристичних послуг, внутрішній туризм, кореляційно-регресійна модель, прогноз.

Problem statement. Ukrainian service market is of great importance for the national economy. Tourism is an important component of the country's service sector. The tourism business ensures the creation of additional jobs, employment growth and improving the well-being of the country's population. Thus, it is one of the most promising areas in solving social problems.

In many countries, the tourism sector is a separate branch of the economy. According to the World Tourism and Travel Council (WTTC), the contribution of tourism to global GDP in 2019 amounted to 8.9 trillion USD (10.3% of global GDP). For example, tourism accounts for 91.3% of GDP in Macau, 56.6% in the Maldives, and 43.3% of GDP in the Bahamas [9]. Currently, Ukraine does not belong to countries with a developed tourism sector, but the country has all the prerequisites for proper economic development through tourism. It significantly loses in the competition, lagging behind the leading countries of the world in terms of the level of development of tourist infrastructure and the quality of tourist services. The emergence of the pandemic has negatively affected the economies of all countries of the world. Tourism is one of those sectors of the global economy that suffers the most from movement restrictions between March 11, 2020 and the present.

Analysis of recent research and publications. Many scientists and practitioners are engaged in the development of the tourism industry, including at the world level. Such domestic scientists as Sushchenko A.A., Kasenkova K.V., Kosar N., Kuzio N. and others focus their attention mainly on the problems of developing marketing strategies and advertising campaigns to form a common image and create a brand of a travel company, a brand of a city, country [6, 14]. Forecasts are used to make decisions in the tourism sector. Much attention is paid to predicting the development of the tourism industry. Thus, Lijie Yin has developed a forecast of tourist flow for new rural tourism areas in China using the gravity model [2]. Yishuo Zhang, Gang Li, Birgit Muskat, and Rob Law propose to improve the accuracy of predicting tourist demand using the artificial intelligence decomposition method [4]. Foreign researchers Anyu Liu, Vera Shanshan Lin, Gang Li, and Haiyan Song have studied the published forecasts of the Asia Pacific Tourism Association APTA and identified factors that affect the accuracy of forecasts, namely, the forecast horizon, GDP fluctuations, fluctuations in arriving tourists, forecasting methods, etc. [1]. Scientists Long Wen, Chang Liu, Haiyan Song, and Han Liu have investigated the effectiveness of the MIDAS model (MIDAS-SARIMA model) and improved it by taking into account seasonal and non-seasonal ARIMA dynamics. They used this improved model to predict the monthly arrival of tourists to Hong Kong from China [3].

The problems of development and forecasting of the tourism industry in Ukraine have also become the subject of many studies by scientists. I.S. Blahun, H.V. Leshchuk, M.V. Kyfor have carried out forecasting of the development of tourism business with the construction of a predictive model for assessing tourist flows taking into account the additive seasonality factor on the example of Ivano-Frankivsk region [5]. Orlova V.V. notes that there are uncertainties and risk factors that need to be taken into account in forecasting because they significantly affect the effectiveness of the forecast [8]. Malkov D.I. predicted trends in the development of tourism business using time trends comparing Ukraine to Poland [7]. Shelemetieva T.V. has evolved a model for forecasting the development of tourism in Ukraine. She has defined a regression direct showing the dependence of the contribution of tourism to Ukraine's GDP on the increase in the birth rate, and the average monthly pension, and the inverse dependence on the integrity of the population and time [15].

A thorough analysis of the publications has shown that domestic researchers do not pay enough attention to predicting tourist flows using modern econometric modelling tools, including forecasting domestic demand. Considering the rapid changes in the modern world, the tourism business and the pandemic factor, the developed forecasts are losing their relevance, so the need to update and improve scientific research is constantly growing.

Setting objectives. The purpose of the article is to analyse the main indicators of the development of the tourism industry in Ukraine for the period from 2013–2019, to determine the factors influencing the number of domestic tourists using correlation and regression analysis and develop a forecast of the number of domestic tourists for 3 years.

Presentation of the main research material. Based on thorough research on the development of the tourism industry in Ukraine over the past seven years, it is possible to determine the main trends and features of its functioning. We used indicators

generated by the State Statistics Service of Ukraine and the World Data Atlas [10, 13]. According to Table 1, for the period from 2013 to 2019, the country experienced a 2.12-fold increase in capital investment in the tourism industry. Thus, the number of excursion office decreased by 3.2 times in 2014, the number of collective accommodation facilities decreased by 1.12 times, and the number of travel agencies decreased by 1.3 times. These processes were caused by economic and political crisis conditions and armed conflict. During the period from 2014 to 2019, the number of business entities in the tourism industry gradually recovered. In 2019, compared to 2013, there was an increase in the number of collective accommodation facilities by 4% and rural green farmstead by 38%; this is due to some support at the legislative level. The number of travel agencies and tour bureaus tended to grow from 2015 to 2019. The researchers did not identify clear trends in the dynamics of passenger turnover in the country. For the analysed period the population of Ukraine has decreased by 3.6 million people and amounts to 41.9 million people. The growth rate of average wages in 2016 was 24%, in 2019 - 18%, respectively, and

there is also a tendency to increase income from the provision of tourist services in 2016-21%, in 2019-18%, respectively. The growth of monetary indicators testifies, first of all, the presence of inflationary impulses and some revival in the tourism sector. In 2015, revenues from travel services increased by 80%. Then there is a constant growth, but at a slower pace. The total contribution of tourism to Ukraine's GDP is 5.2% in 2019. This is the lowest value for the entire study period.

Analysis of the structure of tourists shows the orientation of travel agencies mainly to outbound tourism. The number of inbound tourists to Ukraine in 2013 decreased by 13.6 times due to political and military events in the country. In 2019, the situation improved slightly, but only by 37.5% of the 2013 level of foreign tourists entered Ukraine. So, Ukraine is mainly an importer of tourist services. The number of outbound tourists for the analysed period increased 2.2 times and amounted to 5.5 million, this is 13% of the population of Ukraine. The number of domestic tourists is 520 thousand people in 2019. This is 8.6% of all tourists in Ukraine. The population of Ukraine prefers outbound tourism, but the dynamics

Table 1

Dynamics of the Main Indicators of Tourism Industry Development in Ukraine

| | Indicators | Years | | | | | | | |
|----|---|----------|----------|----------|----------|-----------|-----------|-----------|--|
| | indicators | 2013 | 20141 | 20151 | 20161 | 20171 | 20181 | 20191 | |
| 1 | Investment in the tourism industry, billion UAH | 5.7 | 5.0 | 5.5 | 7.0 | 9.2 | 10.6 | 12.1 | |
| 2 | Number of travel agents (individuals and legal entities), units | 4032 | 3069 | 2547 | 2803 | 2802 | 3565 | 3903 | |
| 3 | Number of excursion office, units | 477 | 149 | 135 | 151 | 169 | 199 | 223 | |
| 4 | Number of collective accommodation facilities, units | 5138 | 4572 | 4341 | 4256 | 4115 | 4719 | 5335 | |
| 5 | Number of rural green farmstead, units | 285 | 233 | 235 | 375 | 377 | 383 | 392 | |
| 6 | Passenger turnover, billion pass. km | 128.3 | 106.3 | 97.0 | 102.2 | 99.4 | 104.4 | 107.2 | |
| 7 | Average wages level, UAH | 3265 | 3480 | 4195 | 5183 | 7104 | 8865 | 10497 | |
| 8 | Number of the country's population, million | 45.5 | 42.9 | 42.8 | 42.6 | 42.4 | 42.2 | 41.9 | |
| 9 | Income from the provision of tourist services, thousand UAH | 514873.4 | 423679.7 | 760749.2 | 921012.6 | 1049132.4 | 1216365.6 | 1432601.4 | |
| 10 | Total contribution of tourism to Ukraine's GDP, billion UAH | 111.3 | 87.4 | 106.9 | 129.8 | 167.0 | 184.2 | 202.9 | |
| 11 | Total contribution of tourism to Ukraine's GDP,% | 7.6 | 5.5 | 5.4 | 5.4 | 5.6 | 6.4 | 5.2 | |
| 12 | Number of inbound tourists, thousand people | 232 | 17 | 15 | 35 | 39 | 76 | 87 | |
| 13 | Number of outbound tourists, thousand people | 2519 | 2085 | 1647 | 2061 | 2290 | 4024 | 5525 | |
| 14 | Number of domestic tourists, thousand people | 537 | 323 | 357 | 453 | 477 | 457 | 520 | |

Source: State Statistics Service of Ukraine

Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the Anti-Terrorist Operation Zone/

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of the number of domestic tourists has been steadily growing since 2014, which gives incentives for the development of domestic tourism.

Our research on the fact that the tourism-related economy in Ukraine depends mainly on domestic tourism, as well as the domestic component of outbound tourism, is confirmed by the conclusions of experts of the European Bank for Reconstruction and Development (EBRD). At the same time, the inbound flow from abroad forms a little more than a third of the entire economy of National Tourism. For comparison, on average, the share of inbound tourism in the total amount of tourist costs in the EU countries is 90 %. [11]. So, the consequences of the COVID-19 pandemic should not be as painful as in other European countries, since the volume of the international tourism component of Ukraine in the overall tourism economy is much smaller [11].

To achieve the goals of our research, we built a multiple regression model to determine the factors influencing the number of domestic tourists in Ukraine. Using the Eviews program and the data presented in Table 1, a quantitative analysis was performed. Several variants of correlation and

regression models were compared and calculated, and the model with the most significant close relationship between variables and the performance trait was selected.

The software tested the stationarity of the series using the Dickey-Fuller test to use variables in the model. Studies have shown that all series are stationary. To increase the significance of the selected variables with an effective feature, logarithm of the series was performed and the symbols of the variables were determined (Table 2).

So, the optimized correlation and regression model of the dependence of the logarithm of the number of domestic tourists on the logarithm of the average salary in the country, the logarithm of passenger turnover and the logarithm of the number of travel agencies are shown in Figure 1.

The resulting model in the form of a regression equation is as follows:

Substituted Coefficients:

TURL = 0.82188*ZPL + 5.99398*PPL - 18.09463*A2 + + 15.74

Table 2

Model Symbols

| Number | Variable | Conventional unit | Symbols | Logarithm of a variable in Eviews |
|--------|--|-------------------|---------|-----------------------------------|
| 1 | Number of domestic tourists | thousand people | TUR | TURL |
| 2 | Average wages level | UAH | ZP | ZPL |
| 3 | Passenger turnover | billion pass. km | PP | PPL |
| 4 | Number of travel agents (individuals and legal entities) | units | Α | A2 |

Source: compiled by the authors

Dependent Variable: TURL Method: Least Squares Date: 10/03/20 Time: 13:36 Sample (adjusted): 2013 2019

Included observations: 7 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. | |
|--|--|--|--|--------------------------------------|--|
| ZPL PPL A2 C | 0.821881 5.993984 -18.09463 15.73802 | 0.087911 0.705323 2.781839 2.184123 | 9.348989 8.498213 -6.504557 7.205646 | 0.0026 0.0034 0.0074 0.0055 | |
| R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic) | djusted R-squared 0.960076 .E. of regression 0.037981 um squared resid 0.004328 og likelihood 15.92767 -statistic 49.09564 | | Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion Hannan-Quinn criter. Durbin-Watson stat | | |

Figure 1. Correlation and Regression Model of the Number of Domestic Tourists

Source: authors' calculations

The resulting model is adequate, as evidenced by the following indicators: the prob level is less than 5%, the tightness of the connection is confirmed by the coefficient of determination at the level of 0.98. Thus, according to the obtained regression equation, we see a direct dependence of the number of domestic tourists on the growth of average wages and passenger turnover. A growth of 0.8% in average wages and 6% in passenger turnover in the country will increase the number of domestic tourists by 1%. And the growth in the number of travel agencies negatively affects the number of domestic tourists,

this is related to the international orientation of travel agencies.

The regression graph clearly demonstrates the adequacy of the model. The model data line of the logarithm of the number of domestic tourists is located very close to the actual data line (Figure 2).

In the Eviews software, the calculated model was tested for the absence of heteroskedasticity using White tests and the absence of autocorrelation using the Breusch-Godfrey test. That is, the model has a constant variance of random errors, which confirms the effectiveness of estimates obtained using the least

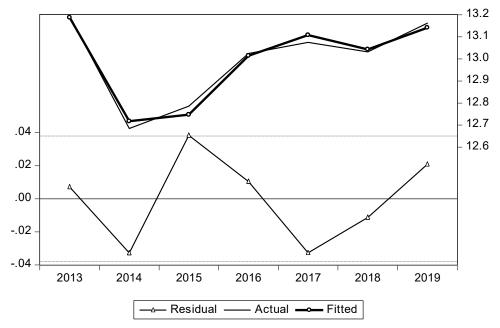
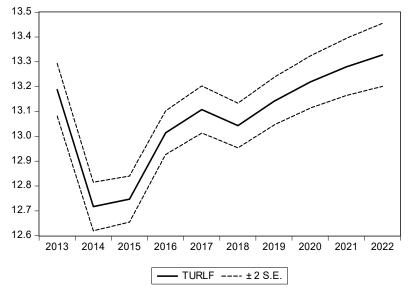


Figure 2. Graph of the Correlation and Regression Model of the Number of Domestic Tourists

Source: authors' calculations



Forecast: TURLF Actual: TURL Forecast sample: 2013 2022 Included observations: 7 Root Mean Squared Error 0.024864 Mean Absolute Error 0.021912 Mean Abs. Percent Error 0.169500 Theil Inequality Coefficient 0.000957 Bias Proportion 0.000000 Variance Proportion 0.005041 Covariance Proportion 0.994959

Figure 3. Forecast for 2020-2022 of the Number of Domestic Tourists Using the Correlation and Regression Model

Source: authors' calculations

Table 3

Model and Forecast Values of Domestic Tourists of Ukraine for 2013–2022

| Years | Number of domestic tourists by model | | Residual | | ic forecast ic tourists | Optimistic forecast of domestic tourists | |
|-------|--------------------------------------|-----------|----------|-------|----------------------------|--|-----------|
| | TURL | Persons | | TURL | Persons | TURL | Persons |
| 2013 | 13.19 | 533722.18 | 0.11 | 13.08 | 480003.96 | 13.29 | 593452.12 |
| 2014 | 12.72 | 333486.60 | 0.10 | 12.62 | 302388.12 | 12.82 | 367783.34 |
| 2015 | 12.75 | 343613.27 | 0.09 | 12.65 | 313219.39 | 12.84 | 376956.48 |
| 2016 | 13.01 | 448861.88 | 0.09 | 12.93 | 411021.52 | 13.10 | 490185.99 |
| 2017 | 13.11 | 492816.10 | 0.09 | 13.01 | 448174.98 | 13.20 | 541903.76 |
| 2018 | 13.04 | 461975.07 | 0.09 | 12.95 | 422296.56 | 13.13 | 505381.73 |
| 2019 | 13.14 | 509655.59 | 0.10 | 13.05 | 462988.39 | 13.24 | 561026.65 |
| 2020 | 13.22 | 550487.66 | 0.10 | 13.11 | 495716.14 | 13.32 | 611310.86 |
| 2021 | 13.28 | 585114.57 | 0.12 | 13.16 | 521446.01 | 13,39 | 656557.06 |
| 2022 | 13.33 | 614072.81 | 0.13 | 13.20 | 540894.41 | 13.45 | 697151.62 |

Source: authors' calculations

squares method. Therefore, the model is adequate with a certain level of accuracy. Further calculations in the program based on the obtained correlation and regression model made it possible to build a forecast for the next three years.

Taking into account the quarantine restrictions, the number of outbound tourists will be reduced to critically small values in the coming years. This makes it possible to predict an increase in the number of domestic tourists, especially those who count on VIP service. All this requires rapid development and appropriate service conditions from the tourism sector, as well as a wider range of tourist products.

The developed forecast envisages for an increase in the number of domestic tourists in 2020 by 9%, in 2021 by 7%, in 2022 by 6% (compared to the previous year). The model shows that in 2022 the number of domestic tourists will grow according to the pessimistic forecast to 541 thousand people, according to the optimistic forecast to 697 thousand people (Table 3). So, we can assume that in the next three years, Ukrainians will choose their own country for recreation. So, according to the observations of one of the Ukrainian telephone operator "Vodafone Ukraine" in the summer of 2020, the average daily traffic in the popular seaside resorts of Ukraine in Berdiansk and Kyrylivka was 20TB and 13TB, respectively, which is 37% and 55% more compared to last year 2019 [12].

Conclusions. Ukraine has all the prerequisites for intensive development of domestic tourism. This statement is confirmed by the following arguments: a large number of historical cultural monuments, sanatorium-resort institutions and sources of mineral healing waters; favourable climatic conditions and the presence of various natural and climatic zones. The positive consequences of the development of domestic tourism are the development of the hotel and resort business, the creation of new jobs and the

growth of the economy of the region and the country. The development of rural green tourism increases the income of the rural population and provides an opportunity to preserve Ukrainian traditions and customs.

The tourism industry of Ukraine has been focused on outbound tourism for the past 7 years. In 2019, 91% of all tourists in Ukraine were those who visit other countries. The contribution of tourism to Ukraine's GDP is insignificant compared to the developed countries of the world and amounts to 5.2% (2019) precisely because of the underdevelopment of domestic and inbound tourism. Using a correlation and regression model, a direct dependence of the number of domestic tourists on passenger turnover and average wages was determined. In other words, improving the transport infrastructure, increasing the level of average wages and reorienting travel agencies to sell a domestic tourism product will stimulate domestic tourism. According to our forecasts, in 2022 the maximum number of domestic tourists may reach 697 thousand people, which is 34% more than the actual number in 2019. But this growth is not final for our country; with a total population of 41.9 million people the tourism industry can attract more consumers and not only domestic ones.

The tourism industry of Ukraine requires significant activation with the help of tools and means of state regulation. Among such means and instruments: the creation of specialized institutions capable of coordinating tourism activities in the direction of implementing Sustainable Development Goals; public-private partnership; inter-municipal cooperation; the creation of tourism clusters; the latest financial means, including crowdfunding; information support and IT infrastructure and others. The impetus for the development of domestic tourism can be the expansion of promising and modern types of tourism, such as: event, sports and recreation, environmental, gastronomic, wine, agricultural tourism, etc.

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