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FORMATION OF MACROECONOMIC INDICATORS UNDER THE INFLUENCE OF MICE-TOURISM

The analyzed materials of scientific research allow to draw a conclusion about the indisputable influence of the tourist business on the formation and development of the economic potential of the region at the macro-levels. At the same time, tourism is in close interaction with the geographical, economic, innovative, ecological component. The dynamics, pace and nature of this interaction is affected by a wide range of determinants, which under certain conditions that under certain conditions set the vector and level of influence of tourism business on the overall potential of the region. The top 10 leading countries in business tourism events were selected, data for 2017-2020 was processed for analysis.

The purpose of our research is to determine the impact of international MICE (Meetings, Incentives, Conferences, Exhibitions) tourism on the macroeconomic indicators of the effectiveness of the region's performance, namely gross domestic product (GDP) and foreign direct investment (FDI).

Using the methods of correlation-regression analysis and dispersion analysis, a close relationship between the number of MICE-tourism events and the level of GDP and FDI was established. It has been proven that the number of MICE-events and economic effect of their holding have a positive effect on the growth of GDP and FDI in the of the leading countries. Developing the international business tourism, a country has the potential to enhance its macroeconomic indicators. The formation of a healthy business climate in the country is ensured by a number of indicators. One of the key factors in this process is the organization and conduct of business events (MICE-tourism). The number of business tourism events and the economic effects of their holding create favorable conditions for increasing GDP and FDI of the country that organizes and hosts MICE events. The experience and example of China shows the need to develop and implement alternative resources for the formation of

a positive climate for increasing the level of development of the country's economy, while the resource of business tourism can be used as an additional element in this process.

Key words: *international tourism, MICE-events, macroeconomic indicators, specialization, gross domestic product, foreign direct investment.*

Проаналізовані матеріали наукових досліджень дозволяють зробити висновок про безперечний вплив туристичного бізнесу на формування та розвиток економічного потенціалу регіону на макро-, мезо- та макrorівнях. При цьому туризм знаходиться у тісній взаємодії з географічною, економічною, інноваційною, екологічною складовою. Динаміка, темпи та характер взаємодії обумовлений широким колом детермінант, які в певних умовах, визначають вектор та рівень впливу туристичного бізнесу на сукупний потенціал регіону. Розглянуті матеріали дослідження висвітлюють вплив туристичної індустрії в цілому. Ми вважаємо, що класифікація туристичного бізнесу за видами дає можливість більш детально оцінити туристичний потенціал регіону та забезпечити більш високий рівень об'єктивності при здійсненні прогностичних оцінок його розвитку. Спеціалізація та концентрація у виробничому процесі забезпечує сталий розвиток суб'єкта господарювання та підвищує рівень його конкурентоспроможності у своєму сегменті функціонування. Диференціація за спеціалізацією надання туристичних послуг за видами дозволить більш повно розкрити потенціал тої або іншої туристичної дестинації. Метою нашого дослідження виступає визначення впливу показників ефективності функціонування МІСЕ-туризму на формування макроекономічних показників регіону, а саме валового внутрішнього продукту (ВВП) та прямих іноземних інвестицій (ПІІ). З використанням методів кореляційно-регресійного аналізу та дисперсійного аналізу встановлено тісний зв'язок між кількістю заходів МІСЕ-туризму та рівнем їх економічних ефектів. Для аналізу обрано топ-10 країн-лідерів з проведення заходів ділового туризму, оброблено дані за 2017-2020 рр.

Результати дослідження свідчать, що показники кількості проведених МІСЕ-заходів в регіоні та рівень економічного ефекту від їх проведення знаходяться в прямому пропорційному зв'язку з рівнем показників ВВП та залучених ПІІ в регіон. Крім того встановлено, що із загальної тенденції вибивається такий регіон як Китай. Очевидно, що високі темпи нарощення ВВП та формування привабливого інвестиційного клімату для залучення ПІІ Китаю обумовлені іншими потужними макроекономічними драйверами. Як свідчать статистичні дані за період 2017-2019 рр. Китай нарощував кількість проведення заходів ділового туризму, незважаючи на вплив пандемії.

Ключові слова: *міжнародний туризм, заходи МІСЕ, макроекономічні показники, спеціалізація, валовий внутрішній продукт, прями іноземні інвестиції.*

Introduction. The international tourism industry faces a number of unique challenges to revitalize the industry and offset the unique scale of turbulence in 2022. In our opinion, in modern conditions a proven and effective tool is activation and development of tourism services in the structure of MICE. An analysis of modern scientific research on the effectiveness of the development and functioning of international tourism suggests that there is a wide range of unresolved issues that require additional analysis.

Scientists Kom Campiranon & Charles Arcodia in their research emphasize the importance of the development of MICE tourism in Thailand in the concept of forming anti-crisis strategies for the development of this segment of international tourism. In this

study, the authors substantiate the need for development of MICE tourism in a crisis, emphasizing that its segmentation will make it possible to form more effective management strategies in a crisis. An important element, in our opinion, is the economic justification of the importance of the effective functioning of MICE tourism for the country's economy, not only from the standpoint of a "quality consumer" [1].

Using differential and systematic generalized method of moments (GMM) estimates for dynamic panel models, Singaporean researchers Kristin Lim and Liang Zhu substantiate the relationship between tourism demand and MICE. At the same time, it is noted that there is a constant relationship between indicators of demand for tourism in

Singapore and changes in the level of income received by the country's budget. In addition, researchers are exploring the concept of lagging tourist arrivals, driven by a high level of stability of habits and repeated visits. This study proves the high level of influence of general tourist flows and MICE tourism, while the impact of the MICE segment on the country's economy is not analyzed. [2].

An important aspect of the development of international tourism is its social component, which is associated with the impact of a tourist destination on the life of the local population. Researchers Guðrún Helgadóttir, Anna Vilborg Einarsdóttir and others on the example of Iceland substantiate the necessity of forming the concept of tourism development on the basis of quality of life, sustainability and responsibility. Scientists have concluded that social sustainability, which is considered both a procedure and a component, is a useful component of the concept for solving issues of tourism development [3].

Martin Falk, Sigbjørn L. Tvetraas and others in their research focus on updating the process of researching the development of international tourism in the context of the impact of the pandemic on its development and functioning. Conditions of uncertainty and turbulence caused by the COVID-19 pandemic necessitated the formation of additional information blocks at the micro level. This, in turn, along with the development of statistical and econometric methods, will ensure the relevance and objectivity of research. Analysis and processing of data on state regulation and the impact of international tourism development trends on the development of tourism in Northern Europe will allow to predict the future directions of tourism development in this region [4].

The innovative component has become an integral part of the development of any business processes in the conditions of globalization of economic relations. The introduction and use of modern innovative tools allows increasing the level of economic efficiency of the functioning of business entities and the level of their competitiveness on the international market. The sphere of services, and in particular the tourism industry, builds

the foundations of its functioning precisely on the use and improvement of the innovative component. However, the questions of how innovations develop and how their diffusion is ensured remain unresolved.

Analyzing the processes of development and functioning of the tourism industry, Olga Høegh-Guldberg in her research focuses on the role of innovation in business networks. The aim of the research was to deepen understanding of the process of the emergence of innovations in business networks and their distribution among network members. Investigating this issue, the researcher proves that due to its formative, directed and long-term and dynamic nature, the "mirror process" of reflection better reflects the context of the network company. This ensures the wide implementation and dissemination of innovations in the tourism business [5].

The development of the tourism business is defined and formed in different ways, based on the tourism resource potential of the region. The territorial infrastructure of a tourist destination includes two components: the center (core) and the periphery. The economic potential of these components shows asynchronous development dynamics. Scientists Lujun Su, Xiaojie Yang, Scott R. Swanson in their study considered the patterns of material, non-material transformations and the general level of the quality of life of residents of tourist destinations, based on the concept of its division - core-periphery.

As a result, it was established that the life quality of destination residents at all stages of the life cycle has an inverted U-shape. That is, the level of development of a tourist destination directly affects the level of the life quality of its residents, while the "core" of the tourist zone has a higher standard of living at the stage of implementation and growth, the "periphery" increases the pace of economic growth at the stage of maturity. It is obvious that the development of the region's tourism potential has a positive effect on its economic growth and competitiveness [6].

The impact of tourism on the sustainable development of the region is contradictory, due to the undeniable positive rates

of economic development and the negative impact on the environment. Eunjung Yang, Jinwon Kim, Chul Sue Hwang used data from 3,108 US counties and 67 Florida counties in their study. At the same time, the spatial interaction between geographically weighted regression and spatial moderation analysis was considered. The obtained data testify to the heterogeneous mixed influence of the tourism business on the level of stability of the region. In particular, the results of the study show differences in the interaction between the specialization of the tourism industry, the sustainability of the tourist destination and the level of environmental pollution. The “environmental pollution” factor negatively affects the interaction between indicators of economic sustainability of a tourist destination and (a)-sectors “art/entertainment/recreation” in the USA and (b)-sectors “accommodation/food supply” in Florida [7].

The analyzed materials of scientific research allow to draw a conclusion about the indisputable influence of the tourist business on the formation and development of the economic potential of the region at the macro-, meth- and micro-levels. At the same time, the functioning of tourism is in close interaction with the geographical, economic, innovative, ecological component. The dynamics, pace and nature of interaction is determined by a wide range of determinants, which under certain conditions determine the vector and level of influence of tourism business on the overall potential of the region.

The reviewed research materials highlight the impact of the tourism industry on the formation of macroeconomic indicators. We believe that the classification of the tourism business by type allows a more detailed assessment of the tourism potential of the region and provides a higher level of objectivity in predictive assessments of its development. Specialization and concentration in the production process ensures the sustainable development of the business entity and increases its level of competitiveness in its segment of operation. Differentiation according to the specialization in the provision of tourist services by type will allow to more fully reveal the potential of a particular tourist destination.

The purpose of our research is to determine the impact of international MICE tourism on the formation of macroeconomic performance indicators of the region, namely the gross domestic product (GDP) and foreign direct investment (FDI).

Using the methods of correlation-regression analysis and dispersion analysis, a close relationship between the number of MICE-tourism events and the level of GDP and FDI was established. For analysis, the top 10 leading countries in business tourism events were selected; data for 2017-2020 were processed.

European countries are the leaders in conducting business tourism events (51% of the total volume). In second place, by a large margin (17% of the total volume), are the countries of North America. The study of indicators of the dynamics and structure of international business events by topic for the period 2017–2020 revealed the top five: medicine, technology, science, education, industry, social sciences. It was established that during the analyzed period, business tourism had a positive development potential, however, under the negative influence of external factors (the COVID-19 pandemic), the business tourism market has declined and transformed in the period 2019-2020. In the structure of the analysis of the effectiveness of the functioning of economic activity, the following categories of formats for its implementation are distinguished: virtual, hybrid, relocated. The proportion of canceled and rescheduled MICE tourism events has increased significantly over the analyzed period. The negative impact of this trend on the level of economic efficiency of business international tourism is obvious.

The results of the study have showed that the indicators of the number of conducted MICE-events in the region and the level of economic effect from their implementation are directly proportional to the level of GDP and FDI attracted in the region. In addition, it was established that such a region as China stands out from the general trend. Obviously, high GDP growth rates and the formation of an attractive investment climate for attracting FDI in China are also driven by other

powerful macroeconomic drivers. According to statistics for the period 2017-2019, China is increasing the number of business tourism activities despite the impact of the pandemic.

The economic effect of conducting MICE-tourism events is formed under the influence of the scale of the event (the number of participants involved) and the format of its implementation. During the pandemic, virtual (48%) and hybrid (3%) formats prevailed during the international business meetings which objectively led to a decrease in the level of attendees' expenses for transport, accommodation, meals and to a decrease in the overall level of economic efficiency of business meetings in the regions where they were held.

MICE-tourism (Meetings, Incentives, Conferences, Exhibitions) is an area of the business tourism industry related to the organization and holding of various corporate events. The concept of MICE consists of four basic directions: meetings – corporate meetings, presentations, negotiations, etc., incentives – incentive or motivational tours and programs, team building, staff training, corporate holidays, conferences – conferences, congresses, conventions, forums, seminars, etc., exhibitions – exhibitions, image events (festivals, charity concerts, etc.) (Fig. 1).

Key market players are specialized MICE and event agencies, congress bureaus, exhibition centers and various venues for holding corporate events. In companies, MICE is regulated by special programs – SMMP (an abbreviation of the English “strategic meeting management program” – a program for the strategic management of corporate events), which help, in particular, to consolidate data and reporting.

According to the ICCA (International Congress and Convention Association) Director General Senthil Gopinath, analysis of the dynamics of ICCA's annual statistical reports provides insight into global trends in the meetings industry and general trends in international business activity.

The dynamics of association meetings around the world has a positive trend for the period 2017-2021 (Fig. 2). It emphasizes the need and importance of face-to-face MICE-events. In the last decade, the average annual rate of increase in the volume of business tourism in Europe reached 9%, while tourism in general – 5%.

And according to the forecasts of specialists, the number of business trips will increase in the coming years. According to the UNWTO, the annual increase in the share of business tourism in the world is 1.6%, which

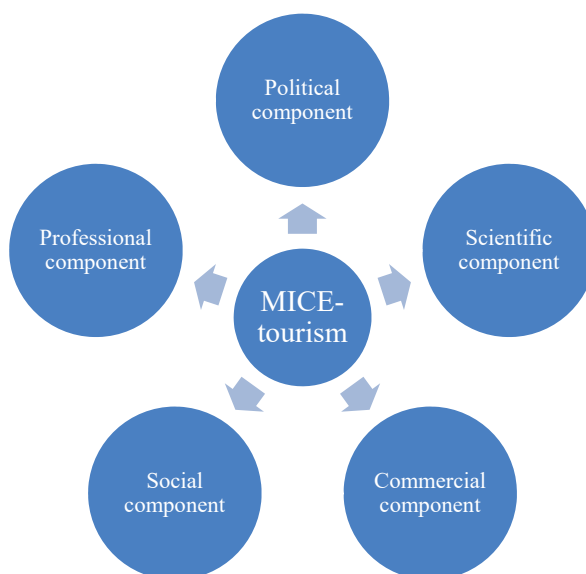


Fig.1. MICE-tourism classification *

*composed by the author

indicates the increasing importance of the development of this type of tourism [9-10].

The leaders of the business tourism market (MICE events) are European countries (more than 51%). The second place is occupied by the countries of North America, primarily the United States (17%); the third place – by the countries of the Asia-Pacific region, where the business tourism market has been developing at the fastest pace in recent years. They account for about 15% of all

MICE events. 10% of the business tourism market belongs to CIS countries, 7% to Latin American countries [12].

It should be noted that the intensity of the processes of MICE events began to correlate with the level of economic development of the region. For a clearer understanding of the processes of operation and development of MICE-tourism, it is necessary to analyze the dynamics and trends of conducting business events by subject (table 1).

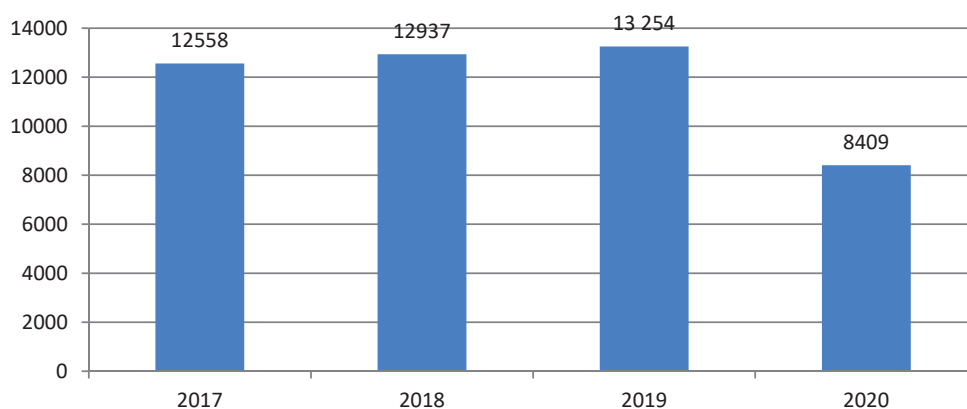


Fig.2. Dynamics of MICE events in the world, units, 2017-2020*

*composed by the author using [9-12]

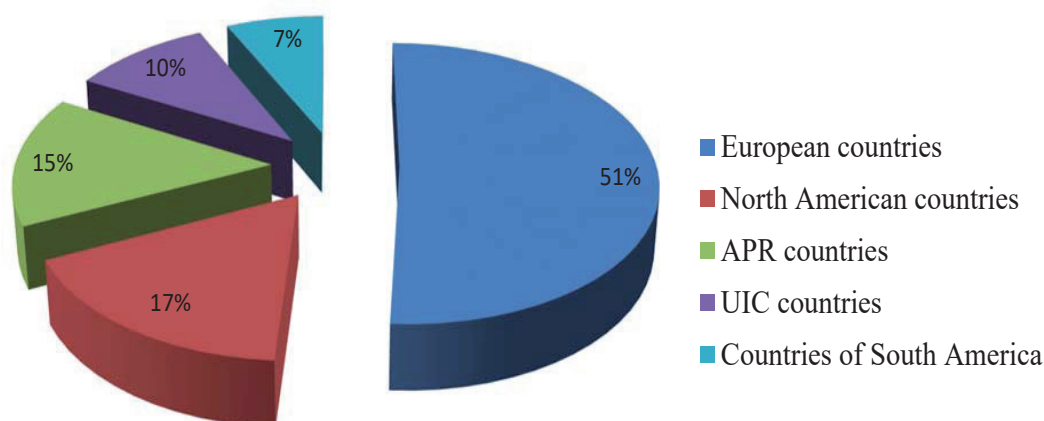


Fig.3. Leading countries in the MICE tourism market, 2020*

*composed by the author using [9-12]

Medicine, technology and science are the most active industries in terms of holding international business events for the period 2017-2020. And it is clear that the leading countries in these areas (the countries of the EU, North America, in particular the USA, the countries of the Asia-Pacific Region) are interested and act as the main moderators in the process of activating the international community in the direction of holding international business events.

1. Dynamics and number of business tourism events

The United States has been the world leader in business events for the past two decades. The top 10 remains relatively unchanged, with some countries moving up or down one rank. France moved up to third place behind Spain, which was one rank down. A similar change in ranks at one position occurs between China and Japan, Portugal and Canada, Australia and the Republic of Korea, as well as Belgium and Sweden (table 2) [8, 9].

The pace of activation of business events in the world for the period 2017-2019 showed positive dynamics. The

leaders were countries with a high level of economic development, which acted as moderators of MICE tourism. The negative dynamics of the US and the UK does not significantly affect the status of these countries as world leaders in the field of business tourism.

Influenced by the current turbulence in the world caused by the pandemic, in 2020 the ICCA statistical analytics was supplemented with information, including the differentiation of events into virtual and hybrid meetings, relocated, cancelled, postponed and unaffected.

Of all the meetings scheduled for 2020, virtual meetings (44%) and hybrid meetings (2%) accounted for the largest percentage. Of the total number of planned events (8409), only 763 (or 9%) of the events have the status of "unaffected". As a result, in 2020, only 61% (or 5,130) of events included in the MICE tourism category were held (Fig. 4).

2. Dynamics and number of participants

The number of participants is an important element of the analysis of the effectiveness of conducting and the level of demand for MICE-tourism events. Analysis

Table 1

Dynamics and structure of international business events by topic, 2017–2020*

Topics of events	2017		2019		2020	
	Number of events	%	Number of events	%	Number of events	%
Medicine	2130	17,0	2150	16,6	1172	13,9
Technologies	1704	13,6	1865	14,4	1501	17,8
Science	1658	13,2	1750	13,5	1582	18,8
Education	810	6,5	829	6,4	800	9,5
Industry	812	6,5	816	6,3	800	9,5
Social sciences	600	4,8	648	5,0	440	5,2
Economy	540	4,3	544	4,2	487	5,8
Management	536	4,3	540	4,0	420	5,0
Transport and communications	425	3,4	427	3,3	423	5,0
Culture	411	3,3	420	3,0	250	3,0
Law	363	2,9	363	2,8	214	2,5
Trade	30	0,2	30	2,7	44	0,5
Agriculture	337	2,7	337	2,6	114	1,4
Ecology	285	2,3	285	2,2	107	1,3
Others	1917	15,3	1947	15,0	55	0,7
In total	12558	100	12951	100	8409	100

*compiled by the author based on [9-12].

Table 2

Estimated total number of MICE events, 2017-2019, selected countries [8, 9]

Countries	2017	2019	Change in ranking between 2017 and 2019 (+;-)
USA	941	934	-7
Germany	682	714	32
France	506	595	89
Spain	564	578	14
United Kingdom	592	567	-25
Italy	515	550	35
China	376	539	163
Japan	414	527	113
Netherlands	307	356	49
Portugal	284	342	58
Ukraine	13	15	2

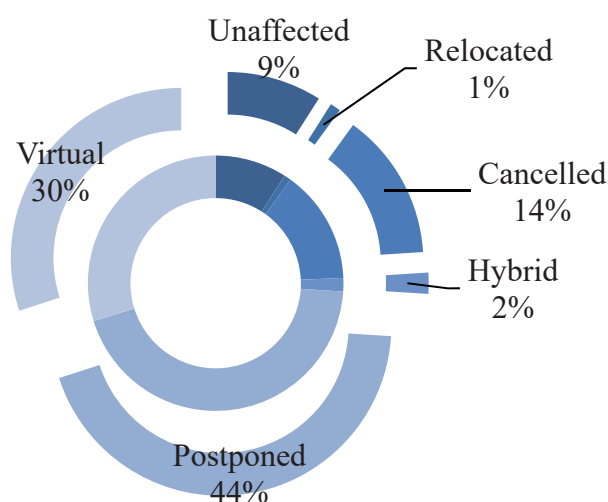


Fig.4. Total number of business events in the world by status, 2020*

*compiled by the author based on [10]

Table 3

Estimated total number of participants in MICE events, 2017-2019, selected countries*

Countries	2017	2019	Growth rates from 2019 to 2017 (+;-)
USA	424 010	357 000	-67 010
Germany	246 045	253 000	6 955
France	211 129	251 000	39 871
Spain	327 996	349 000	21 004
United Kingdom	192 544	216 000	23 456
Italy	172 274	218 000	45 726
China	126 541	170 000	43 459
Japan	133 025	176 000	42 975
Netherlands	134 510	152 000	138 549
Portugal	120 226	125 197	4 971

*compiled by the author based on [8, 9]

of the number of participants makes it possible to form, analyze and implement a forecast of the economic efficiency of MICE tourism (Table 3).

ICCA Statistics data for 2017-2019 indicate a positive trend in the demand for this category of events, an increase in their popularity among participants. Analysis of data for 2020, including for the above reasons, is presented in Fig.5

Unlike the number of meetings presented in Fig. 4, the number of participants in business events in 2020 shows that postponed (38%) and virtual (37%) meetings make up an equal segment of the total number of visitors, it means that although the number of virtual meetings was less than the number of postponed meetings, the number of participants in these meetings was higher, as was the average number of visitors (Fig. 4).

3. Format of meetings, 2020.

The Middle East has become the leader in holding business meetings involving more than 500 participants in 2020 – 50% of all planned meetings. This is significantly higher than in all other regions, which range from 19% to 32% (Table 4). In three out of the four highest categories, the Middle East has the highest percentage in the category of

scale of holding international business events among all regions.

This fact correlates with the hypothesis that in modern realities, the attraction of a large number of participants to international meetings is due to the trend of the virtual format of their holding. At the same time, smaller meetings are more often held offline.

According to ICCA, of all meetings planned for 2020, the highest percentage were virtual (48%) and hybrid (3%). The most popular format of virtual meetings is among technological associations (48% of the total volume of planned meetings); in second place are educational institutions, they held 32% of meetings in a virtual format.

This is due to the high degree of adaptation of these sectors of the economy to the virtual communication format during the pandemic. On the other hand, business meetings on scientific topics had the largest number of meetings that had the status of cancellation/postponement (66%) – 11% and 55%, respectively (Fig. 6).

4. Economic analysis, 2020

The high level of economic efficiency of international business tourism is determined by the status of the event and its duration, the level of solvency of its participants, the level of attraction of direct foreign investment in

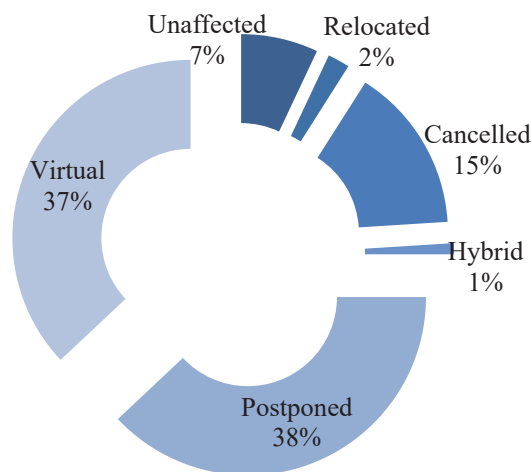


Fig.5. Total number of business events in the world by status, 2020*

*compiled by the author based on [10,11]

Table 4

Total number of MICE-events by region and number of participants in 2020, % [10, 11]

Number of participants	Europe	Asia	South America	Latin America	Oceania	Africa	Middle East	Total
50-149	37	27	29	27	24	18	20	32
150-249	21	21	18	20	18	22	10	20
250-499	23	24	24	26	26	34	20	24
500-999	11	17	16	16	17	15	28	13
1000-1999	5	8	8	8	9	9	12	6
2000-2999	1	1	3	1	5	1	3	2
3000 and up	2	2	2	2	1	1	7	3
Total	100	100	100	100	100	100	100	100

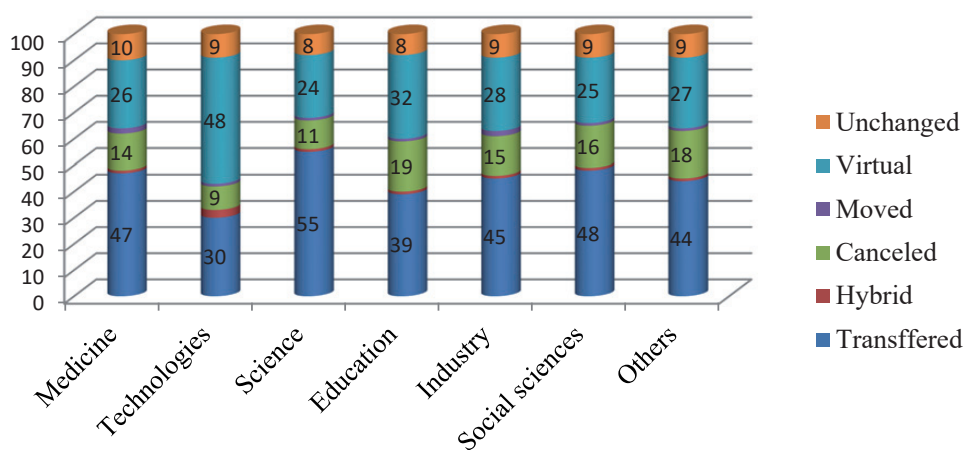


Fig.6. Total number of business events in the world by topic and status, 2020*

*compiled by the author based on [10, 11]

the region and other economic effects. In 2019, the average total expenditure for all meetings in the ICCA database was almost US\$11 billion.

In 2020 the significant transformation of MICE event formats became a catalyst for the inevitable emergence of hybrid and virtual meetings. As a result, in 2020, 2,648 (32%) regular real meetings were converted into 143 hybrid (2%) and 2,505 virtual (30%) meetings [10, 11].

This fact has a significant impact on the economic outcome of MICE events, as hybrid and virtual meeting formats have limited impact on the destination itself in terms of travel, accommodation, food/beverage and other local costs. The virtualization of meet-

ings also affects the number of visitors and registration fees (Fig. 7).

As expected, the increase in the number of virtual and hybrid meetings in 2020 led to a decrease in the cost of events. In 2019, there were 13,252 unique association meetings, representing a total estimated cost of \$10,817 million. The COVID-19 pandemic caused a decrease in the level of economic efficiency of the MICE industry in 2020. Of the planned 8,409 meetings, of which 3,484 actually took place: unaffected (763), virtual (2,505), relocated (73) and hybrid (143). An attempt to explain the reduction of total estimated expenditure in the field of MICE is presented in Table 5 and Fig. 8.

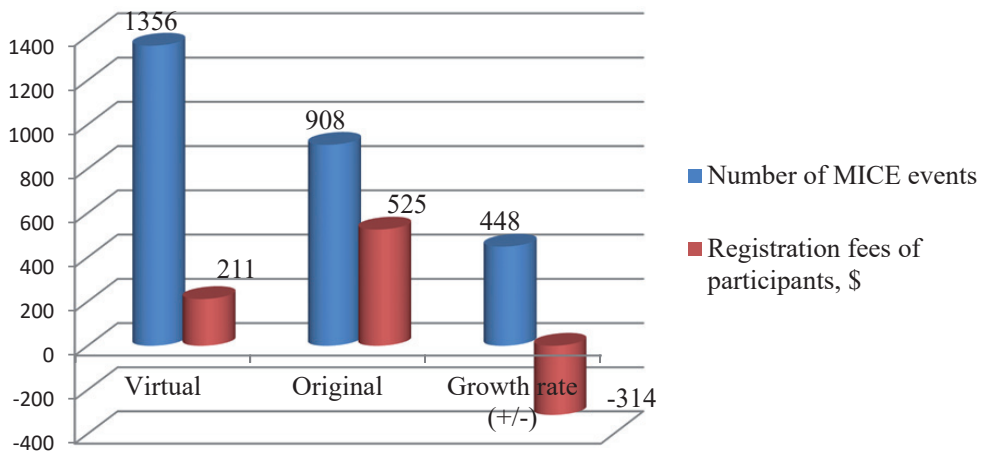


Fig.7. Economic effect of the change in the status of holding business events in the world, 2019-2020*

*compiled by the author based on [9-11]

Table 5

Calculation, explaining the decrease in the total estimated expenditure in the field of MICE *

Estimated total expenditure, 2019	Based on 13,252 meetings	\$10.817 million
Loss due to volume effect	2020 had 4,843 fewer meetings than in 2019.	- \$3,953 million
Loss due to cancelled appointments	Of the 8,409 scheduled meetings in 2020, 1,211 were cancelled.	- \$0,988 million
Loss due to postponed meetings	Of the 8,409 scheduled meetings in 2020, 3,714 have been postponed to 2021 or later.	- \$3,032 million
Losses due to virtual/hybrid meetings and others	Virtual and hybrid meetings have a lower economic impact than face-to-face meetings. In addition, fluctuations in average enrollment factor fees and average attendance from 2019 to 2020 into this loss amount.	- \$1,179 million
Estimated total expenditure, 2020	Number of meetings unaffected/postponed: 836 Average number of meeting participants without changes/relocation: 418 people Average registration fee for meetings without changes/moves: \$571. Estimated total expenditure for meetings that do not factor in location/travel: 907 million dollars Total number of virtual and hybrid meetings: 2,648 The average number of participants in virtual/hybrid meetings is: 1,356 people The average registration fee for virtual/hybrid meetings is: \$211. Estimated total costs for virtual/hybrid meetings: \$758 million.	\$1.665 million

*compiled by the author based on [11]

These tables indicate a significant decline in the level of the economic result of the functioning of business tourism in the world. Loss items are formed as a result of canceling or postponing business events, conducting them in a hybrid or virtual format. The analysis of the given calculations of ICCA in the annual reports shows the significant influence of the functioning of business tourism on the general indicators of the effectiveness of the functioning of international tourism as a whole (Fig. 8).

The main goal of our research is to identify the deep connections between indicators of the economic efficiency of the development of MICE tourism and macroeconomic indicators that characterize the development of the state's economy

and shape its investment climate. In our study, we focus on the ratio of indicators of gross domestic product (GDP) and foreign direct investment (FDI) and the number of business tourism events and the level of their economic result.

5. Correlation analysis

The results of the correlation-regression analysis testify to the influence of the development of MICE tourism on the process of increasing the economic potential of the region. For the study, the top ten leading countries in organizing and conducting MICE events were selected (Table 6). The parameters of the study were the dependence of the country's GDP (gross domestic product) and FDI (foreign direct investment) on the number of business tourism events and financial income from them.

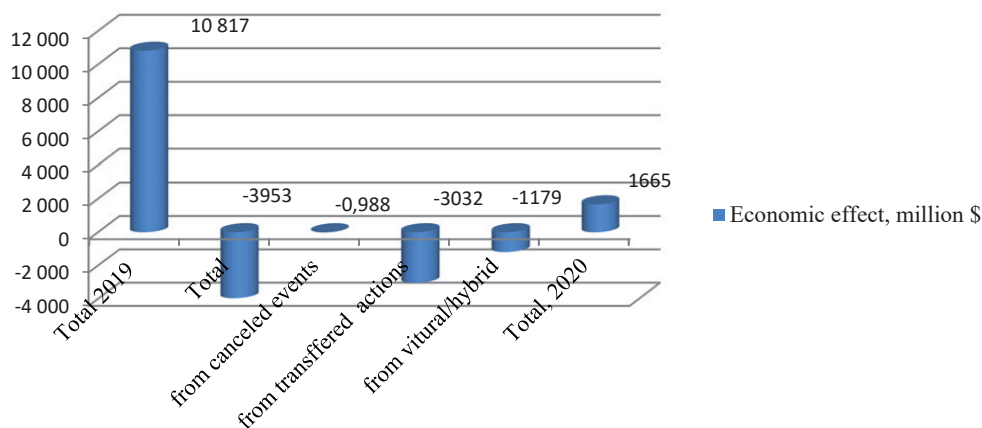


Fig.8. The impact of the pandemic on the economic effect of the operation of business tourism in the world, 2019-2022, million \$

Table 6

Output data of correlation-regression analysis, 2019*

	Countries	GDP (billion dollars)	PIII (million dollars)	Number of MICE events	The economic effect (revenue) of MICE measures billion dollars
1	USA	21 345	261 412	934	357,90
2	Germany	3 964	54 063	714	66,50
3	France	2 762	33 965	595	39,00
4	Spain	1 429	8 515	578	18,20
5	Great Britain	2 829	45 454	567	80,90
6	Italy	2 026	18 146	550	42,20
7	China	14 217	141 225	539	180,80
8	Japan	5 176	14 552	527	82,70
9	Netherlands	914	48 963	356	19,40
10	Portugal	239	12 084	342	6,20

*compiled by the author based on [8-10].

As an estimated indicator, we will consider the correlation coefficient between the volumes of GDP and FDI in the country and the number of conducted MICE events, as well as the net financial result obtained from their implementation across countries. The correlation coefficient is calculated using the formula:

$$r_{xy} = \frac{n \sum_{i=1}^n x_i y_i - \sum_{i=1}^n x_i \sum_{i=1}^n y_i}{\sqrt{(n \sum_{i=1}^n x_i^2 - (\sum_{i=1}^n x_i)^2)(n \sum_{i=1}^n y_i^2 - (\sum_{i=1}^n y_i)^2)}} \quad (1)$$

where r_{xy} is the correlation coefficient between indicators;

x_i, y_i – values of indicators x and y for the i -th period;

n is the number of time periods.

As a result of comparing the series of values for the selected period, we will get the

value of the correlation coefficient, which is in the range from -1 to +1. At the same time, the closer the value is to unity, the stronger the relationship (inverse or direct) between the parameters (table 7-10).

It was found that the number of business tourism events has a significant impact on the level of GDP and FDI of the studied countries. Correlation coefficient, respectively, for GDP - exceeds the critical value of 0.7184 at a significance level of 95%) and FDI – $r_{xy} = 0,7061$.

As for the influence of the indicator of income from business tourism events on the level of GDP and FDI, according to the results of the calculations, $r_{xy} = 0,9818$ and $0,9655$ respectively.

Table 7

Correlation-regression analysis of the impact of the number of MICE events on the level of GDP of countries

Regression statistics					
Multiple R	0,718477				
R-squared	0,516209				
Normalized R-squared	0,455735				
Standard error	5048,708				
Observation	10				
Analysis of variance		df	MS	F	Significance F
Regression		1	217579866,1	8,536073	0,019242416
Remainder		8	25489457,35		
In total		9			

Table 8

Correlation-regression analysis of the impact of the number of MICE events on the level of FDI of countries

Regression statistics						
Multiple R	0,706154					
R-squared	0,498654					
Normalized R-squared	0,435985					
Standard error	59676,43					
Observation	10					
Analysis of variance		df	SS	MS	F	Significance F
Regression		1	28337189577	28337189577	7,957032974	0,022465447
Remainder		8	28490207008	3561275876		
In total		9	56827396585			

It should be noted that the value of $F < 0.05$ means that the model is adequate, and the value of $P < 0.05$ means that the coefficient is significant.

The results of the analysis indicate a close relationship between the analyzed indicators. It can be concluded that the intensification of organizational processes and the holding of international business events have a positive effect on the rate of growth of the country's GDP (Fig. 9).

The general trend is broken by China, whose indicators deviate from the general trend. This fact indicates the presence of a powerful potential for increasing GDP in this country, and the lever of the development of business tourism acts as an additional tool in this process and does not have a dominant character.

The results of the analysis of the impact of the number of MICE-tourism activities on the level of FDI have a similar result to the GDP indicator (Fig. 10).

A close connection was established between indicators of the economic effect of business tourism activities and the level of GDP and FDI of the countries (Figs. 11, 12).

The formation of a healthy business climate in the country is ensured by a number of indicators. One of the key factors in this process is the organization and holding of business events (MICE tourism). The number of business tourism events and the economic effect of them create favorable conditions for increasing the levels of GDP and FDI of the country that organizes and hosts MICE events.

Table 9

Correlation-regression analysis of the impact of the economic effect from the implementation of MICE-events on the level of GDP of countries

Regression statistics					
Multiple R	0,981897717				
R-squared	0,964123126				
Normalized R-squared	0,959638517				
Standard error	1374,860989				
Observation	10				
Analysis of variance	df	SS	MS	F	Significance F
Regression	1	406373583	406373583	214,9848665	4,5967E-07
Remainder	8	15121941,92	1890242,74		
In total	9	421495524,9			

Table 10

Correlation-regression analysis of the impact of the economic effect from the implementation of MICE-events on the level of FDI of countries

Regression statistics					
Multiple R	0,965556237				
R-squared	0,932298846				
Normalized R-squared	0,923836202				
Standard error	21929,6612				
Observation	10				
Analysis of variance	df	SS	MS	F	Significance F
Regression	1	52980116260	52980116260	110,1663758	5,90685E-06
Remainder	8	3847280324	480910040,6		
In total	9	56827396585			

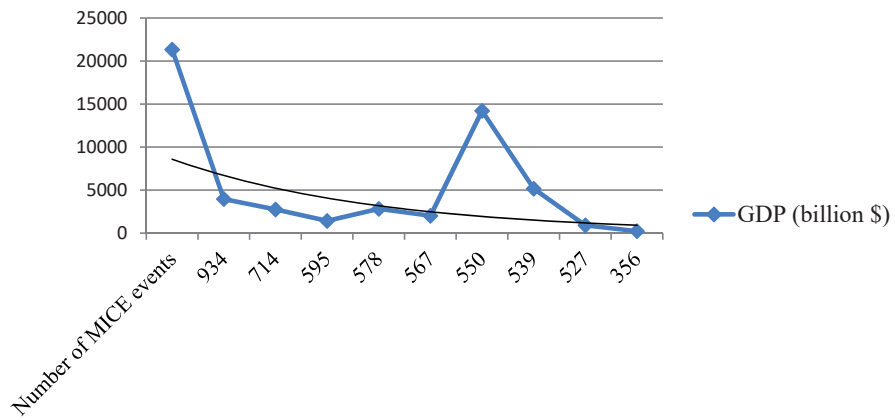


Fig.9. The impact of the number of MICE-tourism events on the level of GDP, 2019*
*compiled by the author based on [9].

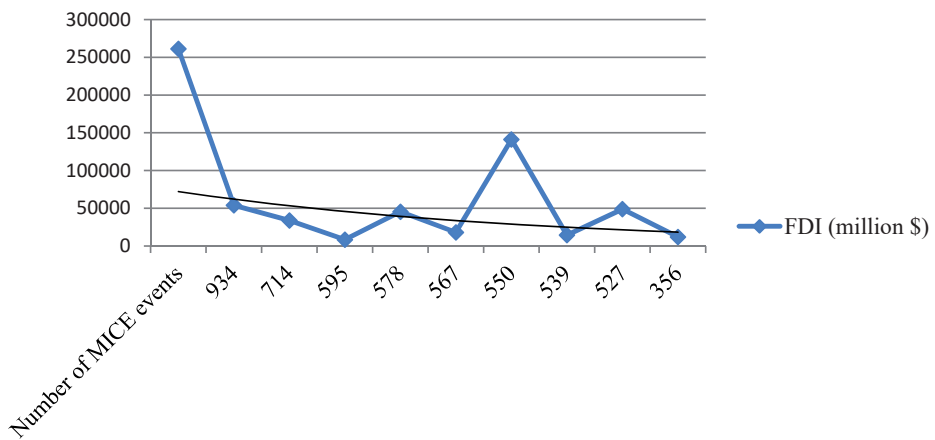


Fig.10. The impact of the number of MICE-tourism events on the level of FDI, 2019*
*compiled by the author based on [9].

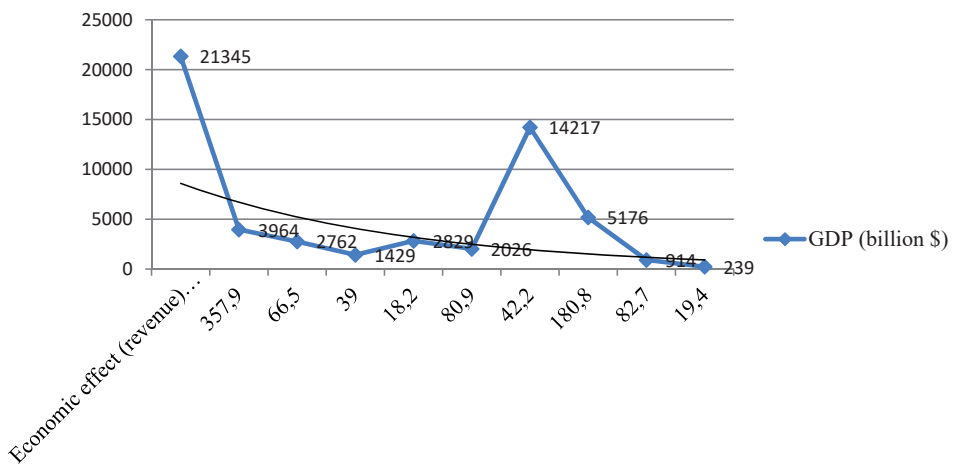


Fig.11. The impact of the economic effect from holding MICE-tourist events on the level of GDP, 2019*
*compiled by the author based on [9].

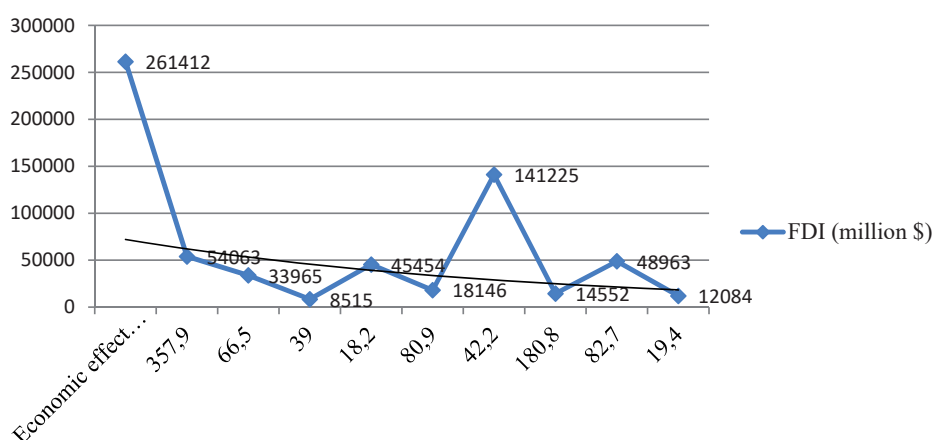


Fig. 12. The impact of the economic effect from holding MICE-tourist events on the level of FDI, 2019*

*compiled by the author based on [9].

The experience and example of China shows the need to develop and implement alternative resources for the formation of a positive climate for increasing the level of development of the country's economy, while the resource of business tourism can be used as an additional element in this process.

Conclusions. The formation of a healthy business climate in the country is ensured by a number of indicators. One of the key factors in this process is the organization and conduct of business events (MICE-tourism). The number of business tourism events and the economic effects of them create favorable conditions for increasing the levels of GDP

and FDI of the country that organizes and hosts MICE events. The experience and example of China shows the need to develop and implement alternative resources for the formation of a positive climate for increasing the level of development of the country's economy, while the resource of business tourism can be used as an additional element in this process.

Having studied the influence of international MICE-tourism on the national macroeconomic indicators, the issue of the even redistribution of investment capital accumulated in the international tourism industry in the hospitality sector has remained unresolved.

References

1. Kom Campiranon, Charles Arcodia (2008). Market Segmentation in Time of Crisis A Case Study of the MICE Sector in Thailand. *Journal of Travel & Tourism Marketing*, vol. 23, no. 2-41, pp. 151-161. (In English).
2. Christine Lim & Liang Zhu. Examining the link between meetings, incentive, exhibitions, and conventions (MICE) and tourism demand using generalized methods of moments (GMM): the case of Singapore. *Journal of Travel & Tourism Marketing*, 2018, vol. 35, no.7, pp. 846-855. doi: 10.1080/10548408.2018.1435334.
3. Guðrún Helgadóttir, Anna Vilborg Einarsdóttir, Georgette Leah Burns, Guðrún Þóra Gunnarsdóttir & Jóhanna María Elena Matthíasdóttir. Social sustainability of tourism in Iceland: A qualitative inquiry. *Scandinavian Journal of Hospitality and Tourism*, 2019, vol. 19(4), pp. 404-421. doi: 10.1080/15022250.2019.1696699.
4. Martin Falk, Sigbjørn L. Tveteraas, Jinghua Xie. 20 years of Nordic tourism economics research: a review and future research agenda. *Scandinavian Journal of Hospitality and Tourism*, 2021, vol. 21, no. 1, pp.1-13. doi: 10.1080/15022250.2020.1833363.

5. Olga Høegh-Guldberg. Between company and network practices: mirroring innovative ideas. *Scandinavian Journal of Hospitality and Tourism*, 2018, vol. 18, no. 3. doi: 10.1080/15022250.2018.1497305.
6. Lujun Su, Xiaojie Yang, Scott R. Swanson. The impact of spatial-temporal variation on tourist destination resident quality of life. *Tourism Management*, 2022, vol. 93. doi: 10.1016/j.tourman.2022.104572.
7. Eunjung Yang, Jinwon Kim, Chul Sue Hwang (2022). The spatial moderating effect of environmental pollution on the relationship between tourism and community resilience. *Tourism Management*, vol. 93, pp. 29-41. (In English).
8. ICCA Statistics Report Country & City Rankings Public Abstract. Available at: <https://www.iccaworld.org/dcps/doc/ICCA-Statistics-Report-2017-Public-Abstract.pdf>. (Accessed 7 February 2018).
9. ICCA Statistics Report. Available at: <http://www.iccaworld.org/dcps/doc/ICCA-Statistics-2019.pdf>. (Accessed 20 February 2019).
10. ICCA Annual Statistics Study 2020. Analyzing an exceptional and transformational year. Available at: https://www.iccaworld.org/dcps/doc/ICCA%20Statistics%20Study%202020_270521_Final.pdf. (Accessed 25 January 2019).
11. World Investment Report 2021: INVESTING IN SUSTAINABLE RECOVERY. Available at: https://unctad.org/system/files/official-document/wir2021_en.pdf. (Accessed 05 March 2022).
12. World Travel & Tourism Council. Available at: <https://wtcc.org/Research/Economic-Impact>. (Accessed 17 February 2022).

FORMATION OF MACROECONOMIC INDICATORS UNDER THE INFLUENCE OF MICE-TOURISM

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The international tourism industry faces a wide range of unique challenges, the solution of which will make it possible to revive the functioning of the industry and offset the unique scale of turbulence in 2022. In our opinion, in modern conditions a proven and effective tool is activation and development of services in the structure of MICE tourism. An analysis of modern scientific research on the effectiveness of the development and functioning of international tourism suggests that there is a wide range of unresolved issues that require additional analysis.

The analyzed materials of scientific research allow to draw a conclusion about the indisputable influence of the tourist business on the formation and development of the economic potential of the region at the macro-levels. At the same time, tourism is in close interaction with the geographical, economic, innovative, ecological component. The dynamics, pace and nature of this interaction is affected by a wide range of determinants, which under certain conditions that under certain conditions set the vector and level of influence of tourism business on the overall potential of the region.

Specialization and concentration in the production process ensures the sustainable development of the business entity and increases its level of competitiveness in its segment of operation. Differentiation according to the specialization in the provision of tourist services by type will allow to more fully reveal the potential of a particular tourist destination.

The purpose of our research is to determine the impact of international MICE tourism on the formation of macroeconomic performance indicators of the region, namely the gross domestic product (GDP) and foreign direct investment (FDI). Using the methods of correlation-regression analysis and dispersion analysis, a close relationship between the number of MICE-tourism events and the level of GDP and FDI was established. For analysis, the top 10 leading countries in business tourism events were selected; data for 2017-2020 were processed. European countries are the leaders in conducting business tourism events (51% of the total volume). In second place, by a large margin (17% of the total volume), are the countries of North America. The study of indicators of the dynamics and structure of international business events by topic for the period 2017–2020 revealed the top five: medicine, technology, science, education, industry, social sciences. The results of the study have shown that the indicators of the number of conducted MICE-events in the region and the level of economic effect from their implementation are directly proportional to the level of GDP and FDI attracted in the region. In addition, it was established that such a region as China stands out from the general trend.

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