“The impact of quarantine due to COVID-19 pandemic on the tourism industry in Lviv (Ukraine)”

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THE IMPACT OF QUARANTINE DUE TO COVID-19 PANDEMIC ON THE TOURISM INDUSTRY IN LVIV (UKRAINE)

Abstract

The global crisis caused by COVID-19 pandemic and the introduction of long-term international quarantine measures have had a very negative impact on the tourism industry. The paper aims to analyze the sectoral losses of the tourism industry during quarantine due to the COVID-19 pandemic in Lviv, a city whose historical center is included in the UNESCO World Heritage Site. The article highlights the potential of the tourism industry before the introduction of quarantine measures, as well as using extrapolation methods estimates the economic losses of the tourist industry of Lviv in the conditions of long-term quarantine. Besides, the anti-crisis measures of the city authorities to minimize the impact of quarantine due to COVID-19 pandemic on the tourism industry of Lviv are described. Based on a statistical analysis of the forecasted economic losses, it is recommended that city authorities abolish some local taxes and fees in the tourism sector to restore its potential as soon as possible.

Keywords tourism industry, COVID-19, economic losses, anti-crisis measures, Lviv (Ukraine)

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INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) has announced that the world was confronted with a new global pandemic – COVID-19 virus (coronavirus disease 2019; coronavirus). This is another challenge for the global and national economy, and first of all, for the tourism industry. Mass city tourism is the most vulnerable area, which in 2020 will suffer increasing losses due to anti-pandemic measures by the international community and governments of several countries.

The official UNWTO (United Nations World Tourism Organization) release emphasizes: "Tourism is currently one of the most affected sectors... With travel restrictions, UNWTO emphasizes the importance of international dialogue and cooperation and stresses that the COVID-19 challenge is also an opportunity to show how solidarity can go beyond borders" (UNWTO, 2020b).

According to estimates by the Global Business Travel Association (GBTA), losses of entrepreneurs in the world because of canceled or suspended trips due to COVID-19 could reach USD 820 billion at the end of the year. According to estimates by the International Air Transport Association (IATA), losses in the field of passenger air transportation through COVID-19 could range from USD 63 billion (optimistic scenario) to USD 119 billion (pessimistic scenario) by the end of 2020 (IATA, 2020). This is not the first crisis in international tourism. And the world economy has developed a

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system of effective tools to counteract the force majeure of the macro scale (see, for example, relevant UNWTO analytical reviews (Steiner et al., 2013)).

Along with large transport corporations, hotel and restaurant chains, a large group of urban centers of mass tourism are at risk of the greatest financial losses due to international quarantine measures. Among the many cities on the planet, centers of beach, cruise, ski, wellness & SPA, entertainment, and cultural and educational tourism expect the greatest losses from COVID-19. In 2020, there are hundreds of cities on the verge of financial collapse, with budgets of more than 75-90% being filled by tourists arriving with day trips and shopping from cruise ships, or by foreign beach vacationers, or by visitors to top popular attractions such as Machu Picchu, Swiss Glacier Express, Iguazu Falls and more.

The risk of losing up to 2/3 of the budget includes cities that are in the UNESCO World Heritage Site. For the most part, the well-being of the residents of such cities was guaranteed by the stable and high annual tourist arrivals, and the municipal economy was based on small family businesses serving these tourists. One of these cities is Lviv in Ukraine. In 1998, the Ensemble of the Historic Centre of Lviv was included in the UNESCO World Heritage List by the following criteria:

(II): In its urban fabric and its architecture, Lviv is an outstanding example of the fusion of the architectural and artistic traditions of Eastern Europe with those of Italy and Germany.

(V): The political and commercial role of Lviv attracted to it several ethnic groups with different cultural and religious traditions who established separate yet interdependent communities within the city, evidence of which is still visible in the modern townscape (Lviv – the Ensemble of the Historic Centre, 2020).

1. LITERATURE REVIEW

Crises on a global, macro-regional, and national scale have a destructive impact on tourism. In the 21st century, crises have become an integral limiting factor in the development of the global tourism industry (Lawsand & Bruce, 2006; Hall, 2010; Gurtner, 2010; Kennell, 2013; Steiner et al., 2013). Today, the range of scientific studies on the impact of financial and economic, geopolitical, migration, terrorist, natural and climatic, ecological, and pandemic crises on tourism has hundreds of publications in books and journals indexed in Scopus and Web of Science.

Potential crisis risks and subjective assessment of foreign travel safety are the defining motivations for deciding to travel for millions of modern tourists, particularly in developed countries (Lawsand & Bruce, 2006; Baker, 2015). However, obviously, nothing scares the average tourist like a threat to catch a virus on a trip. Outbreaks of malaria, HIV/AIDS, atypical pneumonia, Ebola, Zika virus, influenza strains, MERS-CoV, eventually COVID-19, almost completely nullify inbound tourist flows into the infection-affected area (Oldstone, 2010; Liang, Yang, Youliang, & Yan, 2012; United Nations, 2017; Abukhalifen & Albattat, 2018; Hintzen, 2019; Joo, Maskery, Berro, Rotz, Le, & Brownyeng, 2019; Piontti, Perra, Rossi, Samay, & Vespignani, 2019; Ruiz Estrada, Park, & Lee, 2020).

Travelers can carry microbes and their genetic material; they can be victims, guards, couriers, processors, and transmitters of microbial pathogens (Chen & Wilson, 2008). The same scientists stated that travel restrictions, especially urban isolation, would be the only effective strategy to curb epidemics in the future (Chen & Wilson, 2008).

Large industrial cities and cities-centers of mass tourism are at the highest risk and are vulnerable to the spread of epidemics (Ali & Keil, 2006). Each such medical crisis significantly impairs the economy of cities, worsens the well-being of residents, and leads to the collapse and bank-

ruptcy of small family businesses in the tourism industry (Hall, 2010; Gurtner, 2010). In such situations, the problems of reinventing retirement, work, wealth, health, and welfare in an idle society become a difficult challenge for residents of large cities (Marin, 2017).

The global spread of the COVID-19 pandemic from China to virtually every country in the world has become an unprecedented challenge for the tourism industry in 2020. Experts are just beginning to calculate and forecast the economic consequences of this crisis (Ayittey, Ayittey, Chiwer, Kamasah, & Dzuvor, 2020; Evans, 2020; Ruiz Estrada, Park, & Lee, 2020; Siddhartha Manandhar & Prami Nakarmi, 2020; Karabag, 2020; Suborna Barua, 2020; UNCTAD, 2020, etc.).

UNWTO (2020a) calls on the tourism industry to be part of recovery plans after overcoming COVID-19.

The financially strong and the most efficient companies in the market survive in a crisis. Over the last decade, lots of research has focused on the study of mechanisms for effective crisis and post-crisis management of the tourism industry, both at the level of individual cities and regions and states. The main theses of tourism crisis management in the 21st century were formulated by Blake and Sinclair (2003), Lawsand and Bruce (2006), Hall (2010), Gurtner (2010), etc.

The cities in Europe – recognized international centers of culture and tourism, including historic cities included in the UNESCO Cultural Heritage – have developed their experience of successfully overcoming the crises for the tourism industry from 2000 to 2020. One of the best analytical reviews of post-crisis strategies and mechanisms for cultural tourism and urban regeneration in Europe was presented by Kennell (2013). Noteworthy is the study of the experience of resuscitation of urban tourism in Rome after the 2008 global economic crisis (Montanari, 2010).

One of the aforementioned historic European cities included in the UNESCO World Heritage Site is the city of Lviv, founded in 1231–1235 by Daniel, King of Ruthenia, and named after his son, Leo (the first mention of 1256). At the beginning of 2020, Lviv faced an unprecedented economic crisis caused by large-scale quarantine due to the COVID-19 pandemic.

2. METHODS

This paper is based on a research approach aimed at statistical and sociological assessment of the key factors and features of the indices and trends of the development of the tourist industry of Lviv in the context of crisis processes in the world tourism. The study of tourism dynamics and other tourism transformations involves using the system of methods that assess the modern processes in them and determine their impact on the development of the destinations concerned. In this study, general and special scientific methods were used.

Using statistical methods, the data from reporting sources were processed, and the average annual dynamics of filling the municipal budget at the expense of revenues of enterprises of the tourism industry for 2017–2019 was determined. The forecast for losses in the number of tourists and the amount of losses of the city budget due to quarantine was made by the extrapolation method.

In April 2020, an initiative group of teachers and students of the Lviv Institute of Economics and Tourism conducted a Facebook survey of employees and interns of 290 enterprises of the restaurant business in Lviv. The information collected during the surveys was systematized and ranked. The severity of the quarantine downtime problem for enterprise groups has been identified, depending on the type of service activity and the size of the business capitalization.

The collected data were processed in the statistical program Statgraphics Plus V5.1 International Professional. Using a procedure with successive reduction of a group of variables to construct a regression model of Lviv's sectoral enterprises' dependence on various indicators, statistically qualitative models were obtained from the indicators that are significant. A cluster analysis of the data array was performed using the Ward's Method (Hennig, Meila, Murtagh, & Rocci, 2015).

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3. RESULTS

3.1. The potential of Lviv on the tourist map of the world

The tourism and hospitality infrastructure of Lviv has been developing dynamically over the last two decades, focusing on high standards of service and requests from tourists from Central and Western Europe, Canada, and the USA.

The following factors have stimulated the development of the hospitality sector and the economic profile of Lviv as the "tourist capital of Ukraine": (1) the process of successful market transformations in Ukraine; (2) active integration of the economy and society of the state into the global system of world order; (3) upholding European democratic values by the Ukrainian nation (Orange Revolution in 2004, Dignity Revolution in 2013–2014); (4) Ukraine's introduction of a visa-free regime for EU tourists in 2005, further simplification of visa formalities for tourists from other regions of the world; (5) the geographical position of Lviv near the EU border; (6) development of the international airport "Lviv" and land transport network with major EU cities; (7) active involvement of local authorities and businesses in EU grant projects for the development of tourism infrastructure; (8) realization of promotional measures on the tourist promotion of Lviv in the domestic and international markets; (9) development of event tourism and corresponding brand "Lviv – city of 100+1 festivals"; (10) active representation of the city's guest potential on the Internet; (11) concentration in the city of the largest number of higher education establishments in Ukraine, which train specialists in the tourism, hotel and restaurant business; (12) providing the best qualified staff of the hospitality sector of Lviv, as a rule, able to kindly communicate with foreign tourists in English and often in one of the languages of the neighboring countries (Polish, German, Italian, etc.).

Let us reinforce our statements with a few statistical facts.

In the first six months after the introduction of visa-free entry to Ukraine for the EU citizens on September 1, 2005, the number of tourists from these countries increased significantly in Lviv (from Poland + 97%, from Italy + 61%, from Germany +38%, etc.). During the EURO 2012 Football World Cup, the hospitality sector of Lviv proudly withstood the peak short-lived influx of event tourists. For 10 days of Euro 2012 (from 7 to 17 June), 150 thousand tourists from over 30 countries visited Lviv. Most of the guests were from Germany, Poland, Italy, and Portugal. 120 thousand city maps were distributed free of charge to the guests. Following the success of EURO 2012, Ukraine has been ranked first in the places offered by leading experts. So, according to National Geographic magazine, Crimea topped the world ranking of "20 places must visit in 2013"; Lviv has risen to a prestigious second place in the ranking of the Lonely Planet edition of "best cities for a weekend in Europe".

The further collapse of international tourism in Ukraine (including Lviv) occurred in 2014 as a result of the illegal military annexation by the Russian Federation of part of the territory of Ukraine (Crimea, Donetsk, and Luhansk with adjacent territories). According to the scheme worked out in 2008 during the war with Georgia (in the occupied territory, the fake Abkhazian republic was organized), in 2014, in the captured territories of Ukraine, the fake Donetsk and Luhansk Republics were also organized). However, even Ukraine's involvement in the protracted war and forcing it to return to the sphere of direct post-colonial-geopolitical control of the Russian Federation could not break Ukrainians' desire to be a part of an open democratic world and continue to integrate into the global tourism industry actively.

In 2018, 2.2 million tourists visited Lviv, spending an average of EUR 74 a day. In 2019, 2.5 million tourists visited the city, which is 13.6% more than in 2018. In 2019, guests spent an average of EUR 94 a day in Lviv.

Every year Danylo Halytskyi International Airport "Lviv" expands its flight geography. In 2018, another 12 new destinations were opened. In 2018, passenger traffic to Lviv increased by 46.3% compared to last year and reached over 1.5 million passengers. Changes in the structure of foreign tourists correlate with new flights to the EU. For example, in 2018, the opening of direct flights from London operated by low-cost airlines Wizzair and Ryanair, according to expert estimates, has led to an in-

crease: by 86% of tourists from India, by 71% of tourists from Australia, by 62% of tourists from the United Kingdom, by 21% of tourists from the USA and Canada (Tourism Office of Lviv City Council, 2020).

The goals of the Lviv Development Strategy (2012–2025) based on public-private partnerships and maximum promotion of investments and startups are being met in the city. The strategy clearly envisages the consolidation of efforts and resources in two priority areas for sustainable development of Lviv: tourism and IT-business services.

About 760,000 people live in Lviv (30% of Lviv region population). The annual average foreign direct investment per capita in Lviv for the period 2014–2019 fluctuates at USD 800-900.

The hospitality sector in Lviv is steadily developing. The city had 55 hotels in 2000, 100 – in 2005, 154 – in 2010, 273 – in 2015. At the beginning of 2020, there were 302 hotels and apart-hotels in Lviv. As of January 1, 2020, there were more than 1200 food establishments in Lviv. Only in the central part of the city, there are 290 cafes, pubs, restaurants, more than 60 souvenir shops.

Over the period 2000–2019, the sector of tour operators and travel agents of Lviv grew from 42 to 214 companies. The trend of the last decade is an increase in the number of franchise agency offices of international tour operators (TUI, TEZ-TOUR, Coral Travel, etc.). There are 58 tour operators, 233 travel agencies, and 51 excursion agencies in the Lviv region, which organize transfers and excursions to Lviv. It should be noted that at the expense of tourists, the attendance of Lviv museums over the period 2000–2019 increased by 240%.

3.2. Tourism industry in Lviv during quarantine due to COVID-19 pandemic

Chronicle of national restrictive measures on preventing the spread of the COVID-19:

- on March 11, the World Health Organization (WHO) announced a coronavirus pandemic. On March 11, the Cabinet of Ministers has decided to introduce quarantine in Ukraine from March 12 to April 3, and then to April 24. In particular, the educational institutions were closed; all mass events in the country were canceled;
- on March 15, Poland and Ukraine have closed borders for foreigners;
- on March 16, the Cabinet of Ministers has decided to suspend the operation of air, rail, and bus services between cities and regions of Ukraine;
- on March 17, the Verkhovna Rada of Ukraine has adopted a law on preventing the spread of the coronavirus disease COVID-19;
- since March 18, Ukrzaliznytsia has canceled all passenger traffic in Ukraine.

In Ukraine, the coronavirus caused the greatest economic losses to both large companies (airlines, tour operators) and centers of mass city tourism. Since the beginning of March 2020, the hospitality industry (including financially vulnerable private small tourist business) of Kyiv, Lviv, Odesa, Chernivtsi and other popular centers of city tourism has died down.

The example of the city of Lviv will illustrate the realities and scales of "dying" of mass city tourism in Ukraine through COVID-19.

Since March 16, 2020, Lviv city authorities had to close all mass leisure, tourism, and trade establishments (except grocery stores, pharmacies, and gas stations). A few days before the border closure, the cancellation of flights, and the railway connection, practically all tourists left Lviv hotels.

Since March 17, the network of gastronomic tourism establishments of Lviv was closed for quarantine – one of the most profitable sub-branches of the city, its tourist business card, which promotes new fashion trends of city gastronomic tourism in Ukraine. Famous Lviv restaurateur Vardkes Arzumanyan, the owner of the top elite restaurants popular with foreign tourists, was the first who announced the closure of his restaurants: Champaneria X&X, Para Janov & Port

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wine, Taron, Mons Pius, Centaur, and Libraria. Next, a similar decision was made by the owners of the concept restaurant chain Holding of Emotions "!FEST", an integral part of the tours to Lviv, the top leader of the sympathies of hundreds of thousands of tourists in global ratings (TripAdvisor, etc.). Finally, in accordance with the decision of the City Council, the doors of small business establishments, which traditionally associated with leisure tourists in Lviv, were forced to close – stylish coffee shops (element of the architectural and cultural environment of the historical center of Lviv, included in the UNESCO World Heritage Site).

Danylo Halytskyi International Airport "died". Officially, dozens of mass tourist events have been canceled in the city: from touring performances of stars to sports competitions and popular city festivals. Until mid-March, the travel agency network tried to keep at least some demand, manipulating discounts of up to 30% of the cost of outbound tours. However, the mass media information campaign and the increased natural panic diverted the attention of Ukrainians from tourist companies' offices for a long time.

Every day, the image of travel companies, which are faced with mass cancellation of spring tours and even more widespread refusals of consumers from purchased tours in the post-quarantine period, drops significantly. Consumers are massively demanding a full refund of the cost of the tours, which undermines the financial sustainability of several tour operators. For example, the Lviv tour operator AKKORD-TOUR is now experiencing the biggest financial and image losses and conflict crisis in the relations with the network of travel agencies and tourists. On the other hand, the most famous Lviv domestic tourism tour operator "Vidviday" also put all planned tours "on pause", switched to quarantine mode of office work and focused on addressing work with the audience of consumers in order to reschedule the dates of purchased tours and other compensatory tools for maintaining good relations with the travel agents market and consumers.

In 2020, specialists of the Lviv City Council predicted Lviv's inbound city tourism indicator at 2.5 million people (Tourism Office of Lviv City Council, 2020). However, due to international quarantine measures in 2020, which will last until the end of spring (optimistic scenario) – midsummer, by the method of extrapolation by the average absolute monthly increase in the number of arrivals in 2019 (base year for calculating the monthly forecast trend of potential losses in 2020) we get an extrapolation forecast of the collapse of this indicator from 1 to 1.5 million people.

On average, a tourist stays in the city for 2.5 days and spends EUR 80-90 per day in Lviv. Thus, according to the calculations by the method of extrapolation based on the average level of the series for the base 2019, the projected volume of financial losses of the tourist market of Lviv will reach EUR 80-135 million this year due to non-arrival of 40-60% of the tourist flow.

The losses will not be avoided by any of the subtypes of city tourism presented in Lviv: from the most popular weekend excursion and entertainment tourism to sports, festival, business and conference tourism. All the subjects of the Lviv tourist market, from private tour guides to business-class hotels, are preparing for considerable losses. For example, O. Gagarina, the deputy general director of Dnister Hotel informed in an interview on March 10, 2020: "Only today until 10 am, we have already canceled more than 8 events that were scheduled. Yesterday, 9 events were canceled. The number of cancellations is very high every day. Not only the upcoming events for the near term are canceled, but also the events planned for the summer period are canceled" (Zaxid.net News, 2020).

The income of tourism business in Lviv, calculated by the specialists of the Tourism Office of Lviv City Council based on the analysis of the results of sociological surveys and marketing research, totaled EUR 331 million in 2015, EUR 445 million in 2017, EUR 520 million in 2019. Unfortunately, in 2020, one can forecast a decrease of this figure to EUR 150-100 million or less, given the unprecedented economic crisis caused by large-scale quarantine and introduced restrictive measures.

The fixed amount of revenues (taxes and fees) from the tourism industry to the municipal budget since the beginning of the 21st century was characterized by a constant growth trend (Figure 1). Thanks to Lviv's participation in the events of the EURO 2012 Football World Cup, this figure reached its

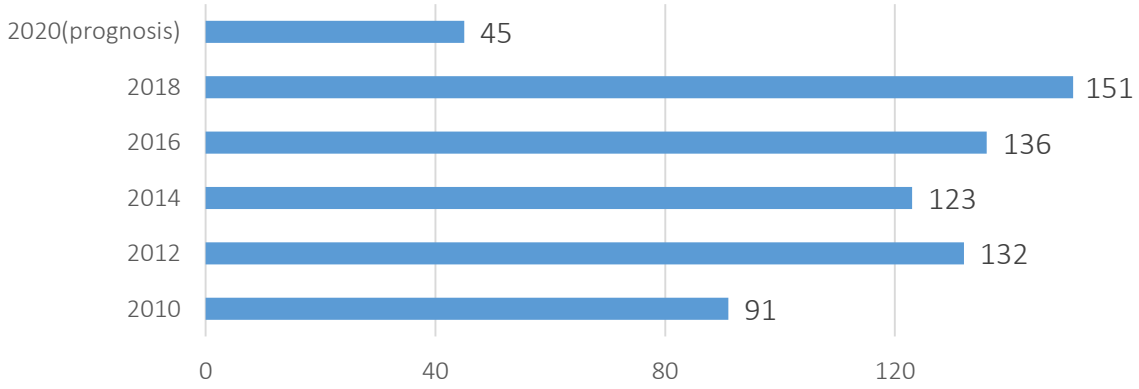

Figure 1. Revenues to the city budget from the tourism industry, UAH million

historical peak of UAH 132 million (EUR 12.94 million). After the illegal annexation of Crimea and Ukraine's involvement in the long-standing geopolitical crisis, the revenues from the tourism industry in the budget of Lviv "sank" to EUR 7.8 million in 2014, EUR 4.9 million in 2016. In 2018 and 2019, revenues from the tourism sector amounted to EUR 4.8 million and EUR 4.95 million, respectively.

According to our forecast, due to WHO's announced restrictive measures on global quarantine containment COVID-19, Lviv's budget will be able to receive about EUR 1.7 million from the tourism industry (optimistic scenario, if quarantine is canceled on June 1st).

It should be noted that on April 1, 2019, the Lviv City Council changed the conditions of charging a tourist fee (paid by tourists who stay overnight in hotel establishments in Lviv, in national currency) for domestic and inbound tourism. In particular, for a room up to EUR 12 for one person per night, the tourist fee is set at UAH 8 (EUR 0.27-0.30); for a room from EUR 12 to EUR 25 (62% of the fund of hotel rooms in Lviv) – EUR 0.40-0.45; for a room from EUR 25 to EUR 40 – EUR 0.54-0.60, etc. This decision made it possible to sharply increase the city's revenues through the tourist fee: from UAH 2.95 million in 2018 to UAH 6.54 million in 2019. However, according to our forecast, due to counteracting the spread of COVID-19 worldwide and curtailment of tourist activity of the population, this indicator will not exceed UAH 0.84 million by the end of 2020 (optimistic scenario).

Figure 2 shows the dynamics of payment of the tour fee to the municipal budget by the hospitality establishments in Lviv for the first half of 2018, 2019, 2020 (prognosis). These figures are the most

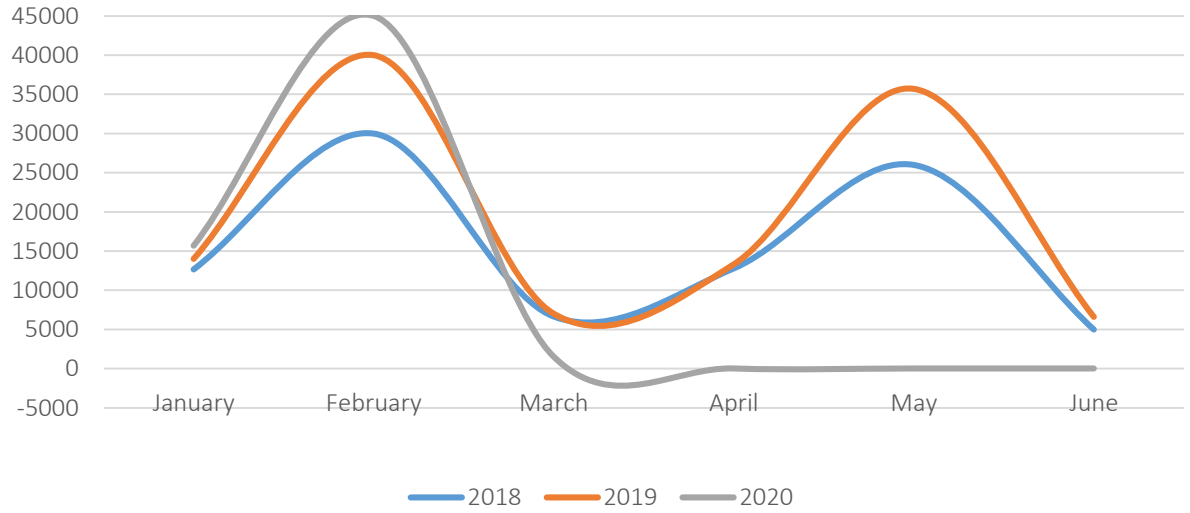

Figure 2. Dynamics of tourist fee for the first half of 2018, 2019, 2020, EUR

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accurate indicator of tourist flow activity since they have a direct correlation with the tourist statistics in Lviv.

In the winter season, the highest peak in tourist activity in Lviv falls in December and early January (the cycle of Christmas celebrations, tourist fairs and festivals, but relatively high prices), the second peak – in February (the period of maximum tourist discounts, promotional campaigns, as well as the winter peak conference tourism. In particular, in February 2019, Lviv hosted participants of Event Industry Forum (February 8-9), Lviv Chocolate Festival (February 14-17), Guide Forum (February 26-27), etc.

In early spring the activity of tourists visiting the city drops sharply. The tourist traffic is activated depending on the weather warming. With the first truly beautiful and warm weekends of the last decade of April, the tourist flow to Lviv is growing rapidly.

The spring peak of tourist activity traditionally falls in May thanks to the cooperation of the authorities, business, and public organizations for the development of event tourism. This gives the guests new enchanting and unforgettable impressions, even if they come to Lviv more than once. In particular, in May 2019, Lviv actively invited visitors to come and take part in the following unforgettable events: Easter Egg Hunt and Festival (April 1 – May 5), Easter Fair in Lviv (April 19 – May 12), Lviv City Day, 763rd anniversary (May 4-5), Ethno Fashion Day (May 5), Children's Cultural Forum (May 17-19), Vyshyvanka (Embroidered Shirt) Day (May 16), 39th Musical Art Festival "Virtuosos" (May 16 – June 9), Street Food So Good. Spring (May 17-19), International Museum Day (May 18), LvivKlezFest (May 19), Lviv Media Forum (May 30 – June 1), Craft Beer & Vinyl Music Festival (May 24 – June 2), Music Festival "Weathervanes of Lviv" (May 24-26), etc.

Unfortunately, due to COVID-19, all (more than 50) planned tourism events in March-May in Lviv were canceled. Lviv did not count about 240 thousand event tourists because of this fact.

The rapid development of gastronomic and entertaining tourism in Lviv in 2010–2019 relied on the extensive, growing infrastructure of the restaurant business of different types and price categories. During this period, from 6 to 14 new establishments, focused on servicing the steadily growing tourist flow, were opened annually in the city. TripAdvisor's global online platform captures the record growth rate of popularity of Lviv gastronomic establishments in Ukraine, for example, Kryivka, Masoch Café, House of Legends, Lviv Coffee Manufacture, Baczewski Restauracja, Pub-Museum "Gas Lamp", The Most Expensive Galician Restaurant (Masons), The Brewery Restaurant "Kumpel", Coffee Houses "Under the Blue Bottle", Champaneria X&X, Coffee House "At the Golden Rose", Restaurant "36Po", Restaurant "Capriccio", TISTO Pizza Pasta, Bar "Cannoli Wine Club", Restaurant "Grand SoLie", etc. (TripAdvisor: Restaurants in Lviv, 2020).

In recent decades, significant progress has been made in cluster analysis, and the modern varieties of analysis are credible with the objectivity of classification. To analyze the crisis resilience of restaurant establishments, 290 enterprises were clustered. A cluster analysis of the data array was performed using Ward's method (Hennig, Meila, Murtagh, & Rocci, 2015).

The results of calculations of Ward's procedure in the statistical program Statgraphics Plus V5.1 International Professional in the form of a dendrogram are shown in Figure 3. It demonstrates the clusterization of crisis resilience of gastronomic tourism establishments by the following criteria: a) the activity index of an online sales service through delivery services; b) scale of business (amount of tax payments to the municipal budget); c) an indicator of reviews of the establishment in TripAdvisor (Ita), from the point of view of potential tourists-visitors (stock of tourist-informational and reputational and branded strength); d) distance (km) of the establishment from the epicenter of tourist leisure (Market Square).

According to the above criteria, the calculated average values in each of the clusters show a clear cluster rating. The analysis of restaurant clustering results by the above criteria showed that three clusters on all dendrograms are clearly distinguished.

Clusters were ordered by increasing average values in them. The 1st cluster includes the Lviv res-

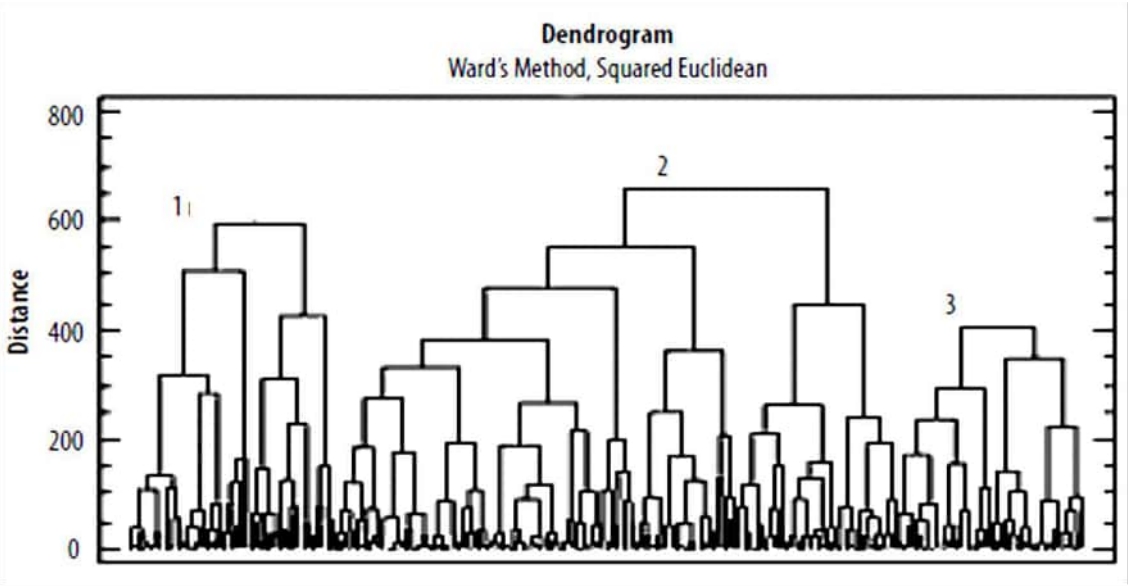

Figure 3. The result of the cluster analysis of the crisis resilience of restaurant business establishments in Lviv by Ward's method

taurant business establishments that successfully transformed the service business models in March 2020 and are actively developing remote services (online ordering and sales of products via courier delivery service, cooperation with grocery stores). The 2nd cluster includes quarantined closed establishments with a significant stock of tourist-informational, reputational, and branded and financial strength, which actively attract and utilize their own and borrowed capital investments in upgrading their facilities and retaining qualified staff. The 3rd cluster includes a group of economically most vulnerable small family business establishments (cafes, pizzerias, bars, street eateries, and mini-restaurants), whose owners resort to over 50% staff reductions and declare intentions to wind down their businesses or have already started bankruptcy proceedings.

Thus, according to the results of cluster analysis, 81.6% of restaurants (290 enterprises located in the city center) in Lviv have average and above-average values by all evaluation criteria. This is the group of establishments to which the optimistic forecast of the successful overcoming of the crisis period and restoration of service activity after quarantine can be extended.

The subjects of the Lviv tourist market (as well as Ukraine in general) will not be able to overcome this crisis on their own. Academician of NSA of Ukraine Dr.Sc. Danylyshyn (2020) states: "It is necessary to launch the demand stimulation programs, if possible, with their focus on purchasing the products from a domestic producer. This will enable to decrease the negative impact of the crisis on the citizens' welfare, will prevent the decrease of business activity, will create the conditions for the development of Ukrainian producers…"

The state is obliged to lend a helping hand to the national tourism business, that is, to immediately implement such instruments of state tourism policy that would minimize the threat of potential bankruptcies for hundreds of companies and FOPs operating in the Ukrainian tourism market. These are, first of all, the exemption of tourist market entities from taxes on income and property (including VAT) (Danylyshyn & Bohdan, 2020); the delaying other mandatory payments; the involvement of state-owned banks in anti-crisis preferential lending programs for tourism enterprises, cafes, hotels, etc.; state support-protection of national business; study of national strategies of Poland, Turkey, Georgia, EU in support of national tourism sector due to pandemic and caused by it crisis social and macroeconomic consequences.

The Lviv City Council gave the first example. On the initiative of mayor A. Sadovyi, on March 16, 2020, to soften the blow to small and medium-sized businesses in connection with the tem-

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porary closure of tourism, leisure, food and trade establishments, the City Council decided that business entities, located in the premises of communal property and do not work through quarantine, will receive a temporary cancellation of the rent for the premises. City Council approved to return the hotel fee to the city's hotels. The mayor of Lviv also urged the owners of commercial premises to reduce the rent to tenants who do not work temporarily. Among them are dozens of offices of travel agencies, coffee shops, pizzerias, and fast food outlets of tourists, tourist souvenir shops, and other financially vulnerable establishments of the city's small tourist business.

On May 14, 2020, the Lviv City Council approved a plan with five stages of the exit of the tourism industry from quarantine: stage 1: May – opening of open-air museum spaces; opening of open-air cultural exhibitions; opening of summer terraces of street restaurants; stage 2: June – resumption of work of museums and other centers of cultural and tourist space of the city; stage 3: July – holding tourist events (concerts and theater performances) in the open space in compliance with sanitary restrictions; stages 4 and 5: August-December – opening of tourist service facilities and pilot launches of event tourism projects.

CONCLUSION

The study showed that the introduction of quarantine due to COVID-19 would significantly reduce all indicators of the tourism industry in Lviv in 2020. In particular, the losses of tourist flow are estimated at between 1 and 1.5 million tourists in 2020. The projected volume of financial losses of Lviv's tourist market due to the non-arrival of 40-60% of the tourist flow will reach EUR 80-135 million this year. According to the forecast, Lviv's budget will be able to receive about EUR 1.7 million from the tourism industry in 2020 (optimistic scenario), compared to EUR 4.95 million in 2019.

Lviv's tourism industry emerges from quarantine downtime in stages, without fatal losses, but financially weakened. Since May 16, summer playgrounds and terraces of restaurants and cafes have opened; since May 22, hotels start working in the conditions of sanitary restrictions (1 person in a room, breakfast in a room, etc.); travel agencies resumed work with clients on rebooking overdue tours and promotion of tours on the market in July-August. Depending on the pandemic situation, these restrictions are planned to be alleviated situationally during the summer-autumn in 2020.

To restore market conditions to the pre-quarantine level, the Lviv City Council is recommended to abolish local taxes and fees from the tourism industry by autumn 2020. This solution will be able to minimize losses and reach break-even indicators for the tourist industry's enterprises in the first two months after the end of quarantine, in conditions of the sharp drop in demand and operating revenue.

The effective practice of municipal-private partnership in Lviv gives the authors of the paper grounds for an optimistic forecast of the consequences of international quarantine measures to counteract the COVID-19 pandemic for the Lviv tourism industry. Local authorities and businesses are gradually developing a package of compromise solutions to preserve tourism infrastructure and hospitality of a unique Ukrainian city whose historical center is included in the UNESCO World Heritage Site.

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