

COVID-19 SHOCK TO TOURISM INDUSTRY: POSSIBLE SCENARIOS FOR PREDICTED LOSSES BETWEEN 2020-2024

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Abstract

The main purpose of this study is to generate estimates of the total income and tourist arrivals in the tourism industry with the Covid-19 pandemic in the next five years (2020-2024). For this purpose, estimates were produced through ARV formulation considering the secondary data obtained from the official statistics in the 1995-2018 UNWTO reports and three different scenarios published in the World Economic Outlook April report. Taking the emerging results into account, if the Covid-19 pandemic lasts longer than expected (the best of the worst scenario), the next five years' average tourist arrival shrinkage maybe -5,04% and an economic loss of \$70.6 billion may occur. However, according to the worst-case scenario, an annual contraction of -11.54% and an economic loss of 141.8 billion dollars are expected in the tourism sector.

Keywords: Covid-19 and tourism. Arrival estimates. Income estimates. Covid-19 and economy.

COVID-19 CHOQUE NA INDÚSTRIA DO TURISMO: CENÁRIOS POSSÍVEIS PARA PERDAS PREVISTAS ENTRE 2020-2024

Resumo

O objetivo principal deste estudo é gerar estimativas da receita total e das chegadas de turistas na indústria do turismo com a pandemia Covid-19 nos próximos cinco anos (2020-2024). Para tanto, foram produzidas estimativas por meio da formulação de ARVs considerando os dados secundários obtidos nas estatísticas oficiais dos relatórios da OMT 1995-2018 e três cenários diferentes publicados no relatório World Economic Outlook de abril. Levando em consideração os resultados emergentes, se a pandemia de Covid-19 durar mais do que o esperado (o melhor do pior cenário), a redução média da chegada de turistas nos próximos cinco anos pode ser de -5,04% e uma perda econômica de \$ 70,6 bilhões pode ocorrer. No entanto, de acordo com o pior cenário, uma contração anual de -11,54% e uma perda econômica de 141,8 bilhões de dólares são esperados no setor de turismo.

Palavras-chave: Covid-19 e turismo. Estimativas de chegada. Estimativas de receita. Covid-19 e economia.

EL CHOQUE DEL COVID-19 A LA INDUSTRIA TURÍSTICA: POSIBLES ESCENARIOS DE PÉRDIDAS PREDECIDAS ENTRE 2020-2024

Resumen

El objetivo principal de este estudio es generar estimaciones de los ingresos totales y llegadas de turistas en la industria turística con la pandemia Covid-19 en los próximos cinco años (2020-2024). Para ello, se realizaron estimaciones mediante la formulación de ARV considerando los datos secundarios obtenidos de las estadísticas oficiales en los informes de la OMT 1995-2018 y tres escenarios diferentes publicados en el informe Perspectivas de la economía mundial de abril. Teniendo en cuenta los resultados emergentes, si la pandemia Covid-19 dura más de lo esperado (el mejor de los peores escenarios), la contracción promedio de llegadas de turistas en los próximos cinco años puede ser del -5,04% y puede ocurrir una pérdida económica de \$ 70,6 mil millones. Sin embargo, según el peor escenario, se espera una contracción anual del -11,54% y una pérdida económica de 141,8 mil millones de dólares en el sector turístico.

Palabras clave: Covid-19 y turismo. Estimaciones de llegada. Estimaciones de ingresos. Covid-19 y economía.



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1 INTRODUCTION

The most obvious form of the sensitivity of the tourism to crises is seen on demand. It is natural for tourists to be affected by the risk factors associated with the destination when purchasing the time they spend at that destination. Although it will be limited, they will require to consider their own safety, since they will spend a certain period at that destination. As it is known, as the risk perceived by individual's increases, the tendency to travel decreases (Icheku & Icheku, 2016).

Any risk factor affecting the destination causes serious negativities in terms of tourism activities (Sönmez et al., 1999). Furthermore, it has been determined in the studies (Paraskevas & Altınay, 2013) that events that are not directly related to the scope and content of the service offered in the destination, such as financial crises and terrorist incidents occurring in a particular region, also affect the travel decision for the relevant destination.

In some ways, it can be said that all the geographies that are perceptively related are negatively affected, although they do not have a direct relation with the crisis. For example, during the political tension experienced in Ukraine in 2014, negativities emerging in the form of a decrease in tourism revenues decrease in the number of tourist arrivals and overnights and cost increases were detected in all regions of the country, except for conflict areas and neighboring cities (Ivanov et al., 2017). On the other hand, the privileged and easily substitutable feature of the tourism product over other consumer goods also escalates the effects of the current crisis (Henderson, 2007).

It is clear that, with a general approach, it is difficult to cope with crises and it shapes the future as a result of serious changes it produces (Henderson, 2007). One of the inevitable for the modern world (Henderson & Ng, 2004) and the difficult crises to deal with are pandemics. Outbreaks reduce the demand for tourism to destinations with general restrictions (prohibition of flight, closing borders, restricting travels, etc.), and can continue to remain negative affects in the tourist's memory despite improvements in the ongoing process. It is known that the Covid-19, which spread from China to the world in the last quarter of 2019 and reached a wide geography, number of cases and death rates until mid-2020, brought very high costs to tourism industry and concerns that these effects will deepen in the future are continuing (UNWTO, 2020a).

According to World Health Organization (WHO), "a pandemic is the worldwide spread of a new diseases". In 2020, after WHO declaration of coronavirus as a pandemic, countries throughout the

world started to impose different kinds of restrictions including ban on international travel as well as on domestic travel to contain the spread of the virus (Faisal & Dhusia, 2021). The recent virus outbreak of COVID-19 (SARS-COV2), a new virus of the Coronavirus family has brought indescribable consequences for global commerce, mobilities and even for the industry of tourism (Korstanje, 2021).

Of course, the effect of outbreaks may vary depending on the speed of spread and its fatality. For example, in the study of the crisis created by SARS, Wall (2006) emphasized that the epidemic was sustained for a long time, but in return, its fatal effects were falling behind other disasters and accordingly time was sufficient for its manageability. However, the most obvious aspect of Covid-19 is that it spreads very rapidly all over the world and produces severe losses in all areas and the process is still not under control. Aside from producing health risks, when considering it in tourism manner, it is clear that Covid-19 will bring serious negative effects to the image of many countries, especially China, due to the suspicions and debates that it has caused even during its expansion process (Wen et al., 2020).

One of the most serious areas that Covid-19 affects is employment, which is extremely important for national economies. The 2008-09 economic crisis has significantly restricted employment in the tourism sector, especially in Western countries (WTO & ILO, 2013). Again, due to the SARS epidemic, there have been serious employment losses in the tourism sector in the spreading countries, especially in Hong Kong and China (Lee & Warner, 2005; 2006).

Also, it is foreseen that the Covid-19 outbreak will seriously narrow the airline, accommodation and entertainment sectors, especially in Europe (Gopinath, 2020). Among the economies expected to be most affected by the Covid-19 virus, will be the six countries, which are located on the top ranking of international tourist arrivals in 2018, as France, Spain, USA, China, Italy, and Turkey respectively (UNWTO, 2020b).

Today, many countries around the world are carrying out strict quarantines, so that all social and economic activities have completely stopped, generating an unprecedented recession. Tourism is one of the most affected activities and it is expected to be one of those that will take the longest to recover (Felix et al., 2020).

At the same time, it was tourism that turned out to be one of the most affected industries due to the economic consequences of Coronavirus infection, including a drop in demand, restrictions on the work of organizations and institutions of a tourist profile (Afanasiev & Afanasieva, 2021).

The most critical dimension of the effects of

epidemics such as Covid-19 on tourism is the contraction in demand due to the conditions that caused travel restrictions. Other effects are mostly due to the contraction in demand. In this respect, the future of destinations in the face of crises is discussed mostly through the estimation of arrivals and income, which will reveal the contraction in demand (Hidalgo and Maene, 2017; Karamelikli et al., 2020; Polyzos et al., 2020).

For this reason, it is more consistent to evaluate the size and future of the effects of the epidemics, which are on the agenda due to the country image, its contribution to unemployment, and the effects of creating temporary financial difficulties, in terms of its effects on tourism arrivals and income generated.

The contraction in tourism demand negatively affects the growth of national economies. Because there is a strong interaction between economic growth and tourist arrivals, tourism revenues and expenditures, it has been revealed by studies conducted in different destinations and around the world (Dogru & Bulut, 2018; Risso, 2018; Nyasha et al., 2020).

The Covid-19 pandemic has caused significant demand and income declines in many areas. As stated before, the strongest impact is seen in the tourism industry. The main objective of the study is to predict the world tourism demand after the pandemic and accordingly tourism revenues. For this, the estimated number of tourists until 2024 (four years) and estimated tourism revenues were tried to be calculated by using formulas based on economic growth estimates of The World Economic Outlook (IMF, 2020). Thus, it was tried to draw a road map for the public and private sector regarding the tourism sector.

The main purpose of this research is to predict the effects of the Covid-19 pandemic on world tourism demand and, of course, tourism revenues in the near future. Estimates to be obtained in this respect will shed light on future tourism planning and possible losses. For this, possible situations will be tried to be estimated through the formulas until 2024 over the model determined for this.

2 THEORETICAL REVIEW

2.1 Outbreaks and their effects on macro-economy

It is known that outbreaks have a special place in the crises affecting tourism, depending on its severity and the extent of the geography it spreads. Although Henderson (2007) points out that epidemics are an important crisis in terms of not only for tourism destinations, but for all communities; there is a faster, deeper and bi-directional feature in the interaction between outbreaks and tourism.

Travel and tourism movements can increase the spread of outbreaks (Henderson, 2007; Baker, 2015),

thus the first controlled and blocked activities naturally emerge as travel restrictions. Therefore, in terms of its secondary dimension, one of the sectors that are rapidly and highly affected by outbreaks is tourism-sensitive businesses.

The most intensive practices for managing the crises experienced by tourism are based on preventing temporary demand losses faced by the destination. In this respect, improving the image of the destination and discovering new markets (Carlsen & Liburd, 2008), effective use of communication and planning studies (Henderson & Ng, 2004), learning strategies (Blackman & Ritchie, 2008), signal detection processes (Paraskevas & Altinay (2013) and comprehensive disaster management design and implementation (Faulkner, 2001) draw attention.

For example, the process after the September 11 attacks in the USA, has also affected tourism, and the most effective implementation among the measures taken by the state in this regard is the sector-specific subsidies and strategies related to the tax incentives (Blake & Sinclair, 2003).

Attention is drawn to effective communication, cooperation between tourism actors and public health authorities, and the public and tourists to take precautions in the fight against the spread of fear and the news in the media about the Covid-19 epidemic and its effects on tourism (Jamal & Budke, 2020).

The most common epidemics in tourism literature due to their effects are the infections affecting East Asia in 2002-03, and especially SARS. SARS is also known as the first contagious disease that emerged in the era of globalization (Omi, 2006). This virus was very effective in Hong Kong, Beijing and Guangdong, and also in more 36 countries outside China (Garg, 2013).

Both the Chinese Ministry of Health's call for travel restrictions should be introduced (Dombey, 2004) and the statements made by the WHO regarding destinations such as Beijing & Hong Kong have a high risk, the tourism and travel industry negatively affected (Pine & McKercher, 2004; Zeng, Carter & De Lacy, 2005; Bell & Lewis, 2005; Haider et al., 2008). In the analysis made by Kuo et al., (2008), it is estimated that each additional case in the countries with SARS cases across Asia, caused a drop in the demand for tourism by 403 people. It is known that there was a 9% decrease in travels to the Asia-Pacific region in 2003 due to the SARS epidemic, and in the same year, a 1,2% contraction in international tourist arrivals throughout the world (Wilder-Smith, 2006).

In 2003, tourist arrivals were decreased compared to the previous year by 10.41% in China, 9.48% in Hong Kong, 24.51% in Taiwan, 12.58% in Canada, and 19.68% in Singapore due to SARS (Çetin & Ünliönen, 2019). In China, Hong Kong, Singapore and Vietnam,

there were 20 million dollars of national income loss as well as 3 million tourism employees have been dismissed (WTTC, 2003; Lee et al., 2012). According to WTTC (2003), SARS caused a decrease in tourism revenues by 41% in Hong Kong, 43% in Singapore, 25% in China and 15% in Vietnam.

The world faced a new flu case in April 2009. This pandemic namely H1N1 (swine flu) influenza virus, is also known as swine flu among the people (Haider et al., 2008). The virus appeared in Mexico. Tourism, the country's third largest currency-bringing sector, has been negatively affected by the H1N1 virus (Lee et al., 2012; Wilson, 2008).

During this period, people suspended their travel decisions due to the easy spread of the virus. The British tour operators, such as TUI travel, Virgin holidays and Thomas Cook canceled flights and package tours to Mexico (Garg, 2013). In 2009, there has been a great decrease in tourism demand in all regions except Africa and South America.

There was a 4% contraction in all international tourism movements. Countries such as Australia and Chile canceled flights to Mexico and Argentina (Lee et al., 2012). The economic loss that Mexico experienced in the tourism industry due to the virus totaled \$ 665 million for May 2009 (Rassy & Smith, 2013).

Another virus from the coronavirus family is MERS (Middle East Respiratory Syndrome) was first seen in Saudi Arabia in 2012 (Zaki et al., 2012). WHO (2019b) reported that since September 2012, 2494 people have been caught in this epidemic, which is effective in 27 countries, and 858 people have died. Saudi Arabia, South Korea, the United Arab Emirates, Jordan and Oman have been the countries where the virus is most effective.

Although WHO has no advice that there should be a travel restriction to South Korea due to the virus, there has been a huge drop in the number of foreign tourists coming to South Korea (Joo et al., 2019a). The number of Chinese tourists, which constitute 40% of the tourists coming to South Korea in the normal period, has decreased by up to 65% due to MERS (Shi and Li, 2017). It is stated that the MERS virus caused a loss of \$2.6 billion for South Korea. It caused a loss of \$542 million in the hospitality industry, \$359 million in the food and beverage industry, and \$ 106 million in the transportation industry (Joo et al., 2019b).

The Ebola (Ebola Virus Disease Epidemic) virus, defined by WHO (2014) as "a severe, often fatal illness, with a case fatality rate of up to 90%", first appeared in Congo and Sudan in 1976 (Maphanga and Henama, 2019; Novelli et al., 2018). According to the European Centre for Disease Prevention and Control (2018), it is reported that 14415 suspected and confirmed Ebola cases were seen in Guinea, Liberia, Sierra Leone, Mali,

Spain and the USA, Nigeria and Senegal from December 2013 to November 17, 2014. In these cases, a total of 5177 people died (Maphanga and Henama, 2019).

The misrepresentation of countries infected with the Ebola virus in the African continent caused the negative impact of international tourism movements to spread throughout the African continent (Novelli et al., 2018; Mizrachi and Fuchs, 2016). Guinea, Liberia and Sierra Leone are among the countries where the virus is most effective (Amankwah-Amoah, 2016).

In these countries, the tourism, agriculture and mining sectors faced large-scale losses (Maphanga and Henama, 2019). UNDP (2015) reported that West Africa suffered a loss of \$3.6 billion between 2014 and 2017 due to Ebola, and as a consequence decreasing trade, closing borders, canceled flights and decreasing foreign investment. Therefore, Ebola has been the most important factor limiting tourism in African countries. Tourists canceled their travels to South Africa and Kenya, and the occupancy rate of hotels in Nigeria decreased by 50% (Maphanga and Henama, 2019).

In the short term, tourism has been the sector most affected by the Zika virus, which is another epidemic (epidemic) and affected Latin America and the Caribbean in 2015-17. It is reported that 70% of the total cost arising in a short time due to the virus was caused by the contraction in tourism. The loss of tourism has been calculated as approximately 9 billion dollars in 2015-17 period (UNDP, 2017). Due to foot and mouth disease in England in 2001, the number of tourists visiting the country decreased by 9.61% compared to the previous year (Çeti and Ünlüönen, 2019).

The effect of swine flu spread in 2009 on tourist arrivals was 5.01% in the USA, 2.55% in Mexico, 8.20% in Canada, 18.69% in Japan and 8.77% in Spain compared to the previous year. Emerged as 77 reductions (Çeti and Ünlüönen, 2019). The effects of the H1N1 outbreak in 2009, combined with the effects of the global financial crisis, it was recorded as an 880 million corresponding to 4% decrease in international travels worldwide (Leggat et al., 2010).

The effects of pandemics, which have emerged from the past to the present and whose effects are local or regional, on tourism movements and economy are explained in detail above. Compared to pandemics that have negative economic effects on tourism in a restricted area, the Covid-19 outbreak has caused a global lockdown. Estimating the future effects of the pandemic on the tourism economy and taking measures in line with these predictions is a very critical issue in overcoming this lockdown and crisis. In this context, it is critical to present short, medium and long-term models in the predictions to be made about the pandemic.

The Covid-19 pandemic brought a powerful challenge to the world, especially with its widespread geography, the spread rate of the disease, the increasing number of cases, and the high number of fatalities. It is certain that the effects produced by the Covid-19 outbreak, which is seen as a common threat to humanity worldwide, will be different and tougher than the previous crises.

Addressing crises as a risk factor in terms of tourism and producing measures by politics or different circles are mostly discussed by limiting at the destination level. The plans such as focusing on the security image of the destination, to persuade the demand that the risks of the area will not affect the travelers, and to regain the attractiveness of the destination (Sönmez et al. 1999) were underlined. However, it is already clear that one cannot deal with such measures in the Covid-19 pandemic process.

Table 1 presents the changes in the number of tourists coming to countries where epidemic diseases spread in different periods. The uncertainty still continues for Covid-19 and the extent of the geography in which it spreads reveals that it will have an impact far above these figures. Organizations such as UNWTO and OECD continue to update the negative picture. It is foreseen that this pandemic process will continue to cause significant losses in tourism not only for 2020 but also for the next few years in the medium term.

Table 1. Pandemics and the rate of changes in tourist arrivals in the countries affected by that period (%).

Disease	Country	Change Years	Change Rates of Tourist Arrivals
Foot and Mouth Disease	United Kingdom	2001/2000	-9,61
SARS	Taiwan	2003/2002	-24,51
	Singapore	2003/2002	-19,68
	Canada	2003/2002	-12,58
	China	2003/2002	-10,41
	Hong Kong	2003/2002	-9,48
Bird Influenza	Egypt	2003/2002	-17,12
	Indonesia	2003/2002	-11,25
	China	2003/2002	-10,41
	Vietnam	2003/2002	-7,57
Swine Influenza (H1N1)	Japan	2009/2008	-18,69
	Spain	2009/2008	-8,77
	Canada	2009/2008	-8,20
	USA	2009/2008	-5,01
	Mexico	2009/2008	-2,55
Ebola	Guinea	2013/2012	-41,67
MERS	Jordan	2013/2012	-5,21
	Saudi Arabia	2013/2012	-3,42

Source: Quoted from Tourism Statistics Yearbooks.

2.2 New Economic Dilemma in 2020: Coronavirus Pandemic 2019 (Covid-19)

In the researches, six different coronavirus species have been found which can live in mammals, birds and humans. Covid-19 is a coronavirus-borne disease such as SARS and MERS that outbreak was first identified in Wuhan, China. Since the symptoms of the disease caused by coronavirus showed similarities with the seasonal flu, they were not clearly distinguished at the first stage, but could be diagnosed in the advance acute stage (Editorial, 2020).

This has led to the emergence of a new infectious disease whose primary complications are associated with acute respiratory failure and multiple organ failure: Covid-19 (Lippi et al. 2020: 145). It is pointed out that Covid-19 is not very different from SARS in terms of clinical aspects, but it is more severe than SARS (2.3%) in terms of mortality rate (9.5%).

However, it is reported to spread more easily as it shows fewer clinical symptoms compared to SARS and MERS (Petrosillo et al. 2020; Wang et al., 2020; Paraskevis, 2020: 1-2). In addition, lessons learned with the previous outbreaks SARS and MERS, have been references to face the global threat caused by Covid -19 (Petrosillo et al., 2020).

Jayawardena et al. (2008) warned that there should be an urgent planning at the beginning of the lessons to be learned from SARS. It is stated in the research that the next crisis cannot be prevented, but with the preparation of the plan, its effects on a business or destination can be minimized.

Covid-19 cases and the number of fatalities continue to increase worldwide. According to the data obtained from the WHO, as of May 5, 2020, there are a total of 3.600.000 Covid-19 cases confirmed in more than 200 countries, and the numbers continue to increase day by day. In all countries, there are 252,000 death cases confirmed according to the data of 5 May 2020. The USA ranks first in the number of confirmed cases and fatalities (1.200.000 cases - more than 70.000 fatalities). Italy, Spain, France, Belgium and Germany respectively follow the US.

It is clear that in addition to endangering human health and causing deaths, Covid-19 also leads people to irreversible psychological syndromes. Absolute quarantine and work-related restrictions that prevent people from going out, fear of illness, anxiety about losing their loved ones, and more importantly, depression after losing friends and family are just a few of the basic psychological problems that should be addressed. (Fardin, 2020). It is clear that true infectious diseases have a strong psychological effect that spreads globally and become "moral panic" (Gilman, 2010; Christian et al., 2020).

On February 27, 2020, UNWTO and WHO in their declaration entitled Tourism and Covid-19 Joint Statement - UNWTO and WHO Call for Responsibility and Coordination, they declared that they will work with close consultation and other partners to assist governments in ensuring that health measures are implemented in a way that minimizes unnecessary intervention in international traffic and trade.

In addition, in this statement, they underlined that the response of tourism should be measured in line with WHO's general guidance and suggestions, in proportion to the public health threat and based on local risk assessment, covering all parts of the tourism value chain (public institutions, private companies and tourists) and also it should be consistent.

Furthermore, UNWTO and WHO emphasized that they are ready to work closely with all communities and countries affected by the current health emergency, and for a better and more stable future, they stated that travel restrictions beyond these can cause unnecessary interference to international traffic, including negative reflections on the tourism industry (WHO, 2020a). On March 11, 2020, 13 days after this statement, WHO declared that it declared the Covid - 19 epidemic as a "pandemic" (WHO, 2020b).

The first effect of Covid-19 is on the supply-side. In many countries, primarily the workplaces and factories were closed, and then, as a result of lower production and higher costs, 'stagflation' emerged with contractions in the supply of macroeconomic goods and services. Although short-term solutions are produced to increase demand, it is clear that there will be serious economic losses (Maital & Barzani, 2020).

In order to understand the economic effects of this outbreak, it is important to examine the supply-demand analysis. The estimates published by Deloitte on the macroeconomic impact of Covid-19 indicates that it will affect the global economy in terms of financial impact (demand) on businesses and markets (Maital & Barzani, 2020).

The effect of this global epidemic in the second stage is undoubtedly the contraction in demand. As factories and businesses close, consumers will reduce spending, demand curves will change, GNP will decrease, unemployment will increase and price increases will be inevitable. Some of this lost demand can be regained with temporary holiday expenses after the outbreak has disappeared. However, a significant portion of the demand will be permanently lost, and thereby global economic growth will be reduced in the long-term.

2.3 Economic evaluations regarding COVID-19

The International Monetary Fund (IMF) predicts

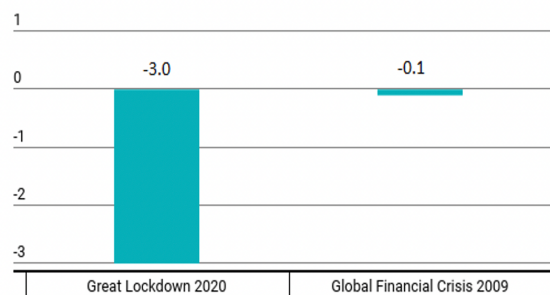
that after the Global Financial Crisis the world economy will experience the worst recession in the Covid-19 crisis, which it calls "The Great Lockdown". In addition, the IMF added to its report that global growth in the April World Economic Outlook will decrease by 3% in 2020.

This is a 6.3-point drop compared to a recent (January 2020) major overhaul. In this case, this crisis, which is called as "Great Lockdown", reveals the worst recession after the Global Financial Crisis (Figure 1). This situation emerges as a much worse result than the Global Financial Crisis (IMF, 2020). With Covid-19, the production and the consumption are rescaled worldwide, representing an unprecedented deterioration in the global economy and world trade (WTO, 2020).

On 16 March 2020, the European Commission invited Heads of State or Government to impose a temporary restraint on non-mandatory travels to the European Union (EU) for a 30-day start period. The leaders approved this call on March 17, 2020. All EU Member States (excluding Ireland) and non-EU Schengen countries have taken national decisions to implement the travel restriction since then (EC, 2020a). In Figure 2, the restrictions imposed by the European Union countries on Covid-19 are shown on the map.

Figure 1. Great Lockdown and Global Financial Crisis Comparison.

(real GDP growth, year-on-year percent change)



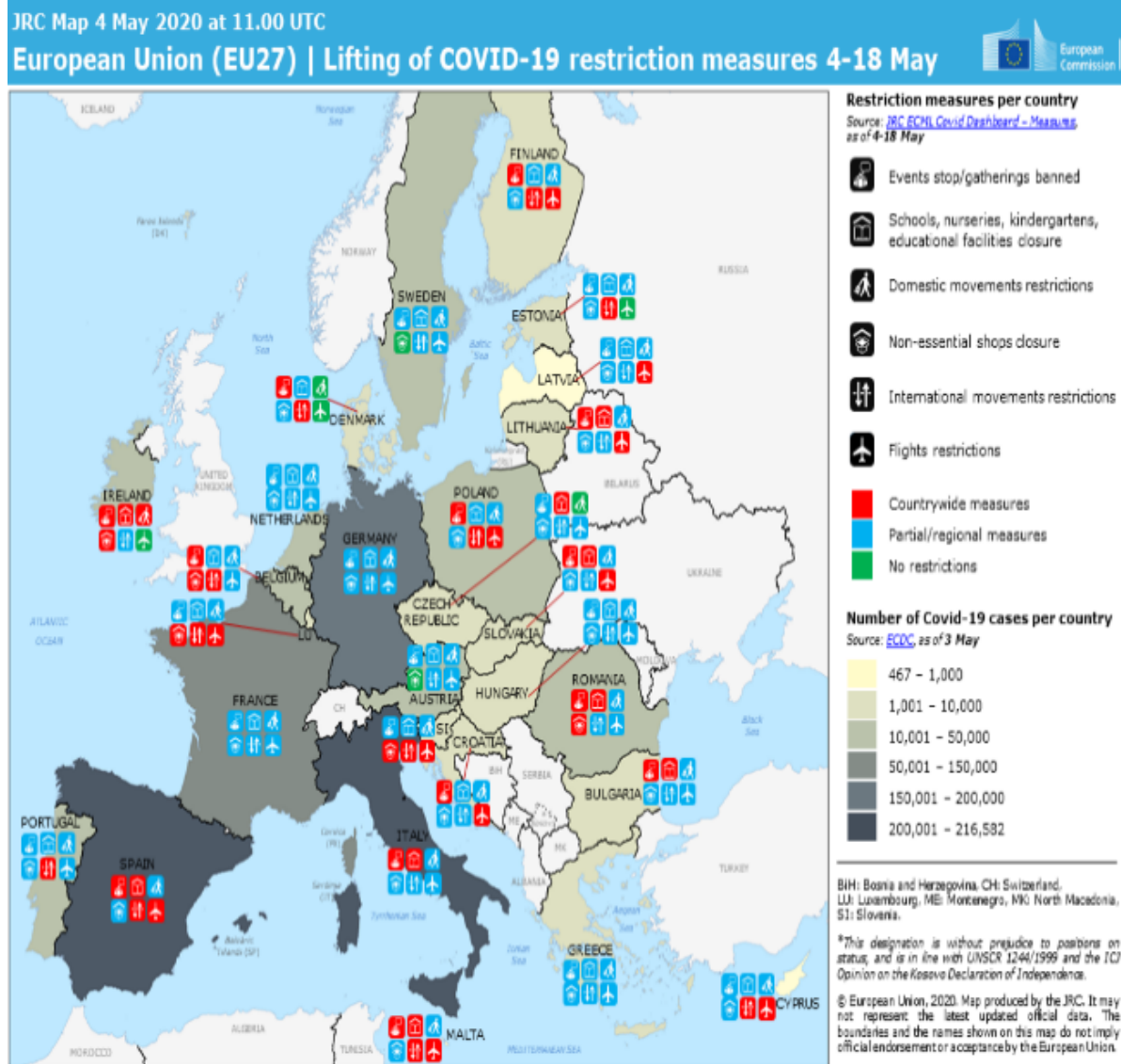
Source: IMF, World Economic Outlook.

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Source: IMF, 2020.

Travel restrictions have reduced airline traffic to almost zero from the second half of March 2020. The flights are limited to those who want to return to their countries and cargo flights. The EU Commission stated at the video conference meetings with the Ministers of Internal Affairs of the member states that, the non-compulsory travel restriction to the EU will continue, including at regular meetings. On 8 April 2020, it was decided that the travel restriction should be re-evaluated after 15 May based on the evolution of the epidemiological situation (EC, 2020b).

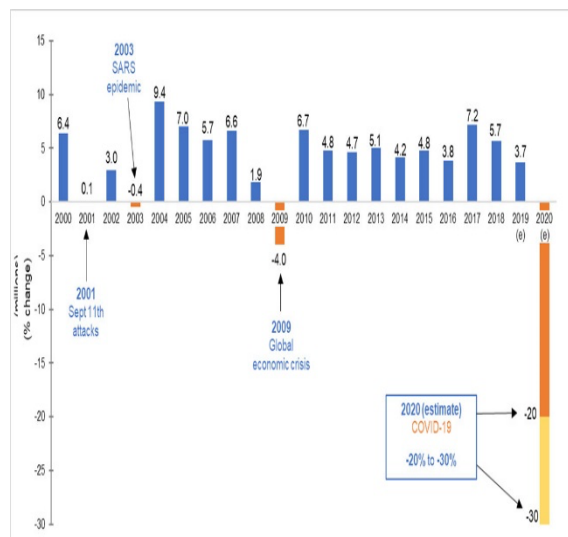
Figure 2. European Union Covid-19 Restriction Measures.



Source: EC, 2020a.

Tourism is one of the sectors that will be most affected by the Covid -19 pandemic. Although UNWTO emphasizes that it is too early to estimate the full impact of Covid-19 on international tourism, in its initial assessment, by taking into account the 2003 SARS scenario in parallel with the geographical spread and potential economic impacts of Covid -19, it is estimated that the global international tourist arrivals in 2020 may drop to 20-30%, but they have predicted in early January 2020 as 3% -4%. This means a \$30-50 billion contraction in spending by international visitors (international tourism revenues). UNWTO revises the 2020 international arrival and income forecast, but also emphasizes that such estimates can be revised. (UNWTO, 2020a). Figure 3 presents UNWTO's evaluations and estimates regarding the rates of change in international tourist arrivals.

Figure 3. Change Rates of International Tourism Arrivals.



Source: (UNWTO, 2020b).

International Trade Center (ITC) Market Analyst Spies and Service Trade Officer Zhao emphasized that the impact of global travel bans will likely have different effects on tourism in different countries in terms of the intensive season. In the Caribbean, where the travel-to-GDP ratio is the highest, the beginning of the year (1st and 2nd quarters) is the period with the highest income from tourism. These countries strongly feel the effects of Covid-19 as this period as it is their highest tourism season.

It is observed that the Pacific islands such as Fiji and European countries like Croatia and Montenegro, it is seen that their tourism income increased by 15 times more in the third quarter of the year compared to the rest of the year. Travel to other places such as Macau, Seychelles or Cambodia is less seasonal, so it is predicted that a faster recovery can be achieved after the travel bans are ceased (ITC, 2020). Furthermore, it is also among the estimates that the United States will experience a loss of \$ 24 billion in tourism and travel income (Hirsch, 2020).

According to the IMF (2020), this process is defined as a real global crisis, since no country can be fully protected. Major losses are experienced for growth, especially in countries that are dependent on tourism, travel, accommodation and entertainment. In parallel, some economies have become fragile with stagnant growth and high debt levels (IMF, 2020). In addition, due to the Covid-19 epidemic, it is anticipated that there will be a significant loss of employment in direct and indirect tourism-related industries (Pololikashvili, 2020).

Experts from the International Trade Center (ITC) (2020) predict that the initiation of travel restrictions will be disproportionately affected by the employment of related industries, such as the travel industry, accommodation and food businesses in which women employment is above-average.

In addition, experts emphasized that a significant portion of the countries most affected by the tourism shock will have difficulties in financing such support measures, and that small businesses in tourism should receive support from the international community to help their survival in the current Covid-19 process.

Nevertheless, UNWTO Secretary General Zurab Pololikashvili, in his statement on April 15 2020, invited the partners of the European Commission, United Nations and Bretton Woods Institutions to embrace tourism like never before. He emphasized that they should get the right support from the highest levels of government and international organizations in order to ensure that tourism grows back stronger and better.

UNWTO (2020a) recommends that the Covid-19 epidemic will pose a major problem for the industry and that leadership should be prioritized in the recovery

phase by prioritizing tourism. Many countries continue to suffer the negative consequences of the Covid-19 outbreak. For example, in Thailand, the Chinese market has collapsed, monthly income of many sellers, 'red car' minibuses drivers, traditional dancers and others have reduced by half, resulting in sharp declines in business life. The informal union of tour guides in Thailand is of the opinion that 25,000 people lost their jobs (Head, 2020).

These are mostly small businesses that do not have enough funds to survive but are vulnerable to the victims of the Covid-19 outbreak. In a study examining the effects of Covid-19 on ecotourism-related companies and professionals in the Brazilian state of Amazonas, it was concluded that the pandemic completely affected the personal or company turnover of 91% of the participants (Vidal et al., 2001). In the US, it is estimated that the city of Louisville was lost \$ 57.6 million due to cancellations by Covid-19. From this point of view, there are important concerns about the growth prospects of the industry in many countries globally. Before the negative process can also be considered as an opportunity for the tourism industry to be reshaped and restructured to egalitarian status. As long as the pandemic continues to spread and paralyze the life, it will continue to revise predictions of UNWTO.

Along with fear and panic, Covid-19 caused new doubts in any sector. The effort of people to give up their current habits, stays in social isolation and their survival struggles draw attention as the biggest burden of this disease on the world. In this process, businesses have started to adopt different practices according to their concerns as well as the measures taken by people. One of the important issues related to tourism concerns is on the knowledge level, awareness and precautions of the tourism personnel about this epidemic. Because they are responsible not only for the safety of their own lives but also for the safety of millions of people from different countries they serve.

Although it is still early to measure or reflect the economic losses and effects of Covid-19 on the global economy, the loss of billions of dollars can be predicted considering other pandemics as reference. Among the reasons for this loss, the rapid increase in travel bans that restrict people to visit affected areas, shutting borders and international airports by some countries can be considered.

It is clear that large-scale quarantine, travel restrictions and social isolation measures will result in a sharp drop in consumption and spending trends (Musa, 2020). In addition, in this case, the lack of activity that occurs with the restriction of travel and the cancellation of flights and reservations cause difficulties in tourism research (Korstanje, 2021).

3 METHODOLOGY

The World Economic Outlook report includes information and projections about the global production level, trade volume, commodity prices, consumer prices and offered rates. In its April 2020 report The World Economic Outlook has developed three alternative scenarios on combating Covid-19. These are longer outbreak in 2020, a new outbreak in 2021, and a new outbreak in 2021 plus a longer outbreak in 2020 (IMF, 2020).

Table 2 presents data on the future value estimates of the growth rates of the world economy. It is evident that the Covid-19 outbreak adversely affected economic activities worldwide and levels in many sectors. Undoubtedly, tourism, as well as many sectors, suffers from this situation and will continue to have for a while.

According to economic theory tourism demand is related to tourist's income level. In this context several studies (Rudez 2008, Untong, Ramos, Kaosa-Ard and Rey-Maqueira (2015) and Martins, Gan and Ferreira-Lopes (2017) use regression models and GDP per capita or growth rates in order to explain tourism demand. Therefore, in order to estimate the possible effects of the Covid-19 pandemic on the tourism industry, a study was conducted regarding the relationship between world economic growth rates and the number of travelers around the world.

In this study, data on international tourism, number of arrivals and world economic in regard to growth rates from the World Bank database and World Development Indicators database are considered as secondary data. Data published in official reports between 1995-2018 were prioritized.

Table 2. World Real GDP (Percentage Change).

	2020	2021	2022	2023	2024
Longer outbreak in 2020	-2.82	-1.92	-1.44	-1.24	-1.05
New outbreak in 2021	0.00	-4.75	-3.28	-2.46	-2.15
Longer outbreak in 2020 plus new outbreak in 2021	-2.82	-7.29	-5.57	-4.53	-4.14

Source: IMF (2020), World Economic Outlook.

Estimates have been produced by taking this data set into consideration, and using the static linear regression model. This formula is presented in Model (1) as $ARV = \text{International tourism, the percentage change of number of arrivals and } GROWTH = \text{Growth rates of the world economy.}$

$$ARV_t = \beta_0 + \beta_1 GROWTH_t + \varepsilon_t \quad (1)$$

$$\sum ARV_t = -1.602 + 2.036 GROWTH_t \quad (2)$$

(-1,657) -(6,817)

4 ANALYSIS AND DISCUSSION

The estimation results obtained from the formula are given in Table 3. Using the obtained regression results and alternative growth scenarios, estimates on the percentage changes of tourist arrival numbers after Covid-19 pandemic were calculated. The results show that the growth rate of the world economy will have a significant impact on international tourism and the number of arrivals (percent change) in the world.

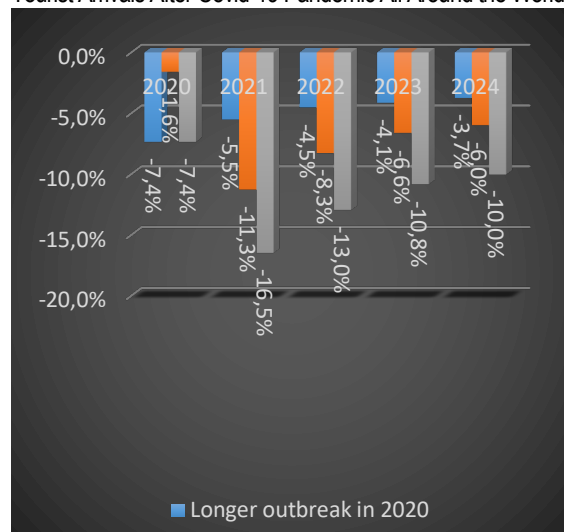
Table 3. Static Linear Regression Model Estimation Results Table.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GROWTH	2.035607	0.298599	6.817186	0.0000
C	-1.602350	0.966852	-1.657286	0.1123
R-squared	0.689	Adjusted R-squared	0.674	

Source: own elaboration.

According to Figure 4, this pandemic, which was experienced in 2020 and has a long-term scenario, will have a 7.4% in 2020, 5.5% in 2021, 4.5% in 2022, 4.1% in 2023 and 3.7% in 2024 contraction in the number of international travelers. In the case of a new outbreak in 2021, the number of international tourists would decrease by 1.6% in 2020, 11.3% in 2021, 8.3% in 2022, 6.6% in 2023 and 6% in 2024. Considering the third scenario, that is, if Covid-19 lasts longer and combines with a new outbreak, it is likely that there will be 7.4% in 2020, 16.5% in 2021, 13% in 2022, 0.8% in 2023 and 10% declines in 2024.

Figure 4. Projections about The Percentage Change Number of Tourist Arrivals After Covid-19 Pandemic All Around the World.



In order to calculate the tourism expenditures per tourist, the data of UNWTO's international tourism revenues and the total number of tourists in the period from 1995 to 2018 were taken into account (Table 4). According to the mathematical calculations made, the average tourism income per capita in the world between 1995 and 2018 is around 1025.66 dollars.

Table 4. Tourism Receipts, Arrivals and Per Capita Tourism Receipts.

YEAR	WTR	ITA	PCTR	YEAR	WTR	ITA	PCTR
1995	485.18	532.95	910.36	2007	1017.88	934.62	1089.08
1996	524.00	565.59	926.45	2008	1117.56	950.39	1175.90
1997	525.08	595.10	882.34	2009	1010.11	911.85	1107.76
1998	528.71	613.24	862.16	2010	1099.35	973.77	1128.96
1999	550.48	638.60	862.00	2011	1231.34	1013.08	1215.44
2000	561.93	689.65	814.81	2012	1275.12	1070.18	1191.50
2001	549.75	690.51	796.15	2013	1369.44	1122.92	1219.53
2002	576.80	711.14	811.09	2014	1445.37	1177.08	1227.93
2003	634.25	701.70	903.88	2015	1391.89	1227.87	1133.58
2004	757.47	775.45	976.80	2016	1417.78	1271.88	1114.71
2005	810.52	823.38	984.39	2017	1536.14	1363.22	1126.85
2006	878.87	869.72	1010.52	2018	1649.26	1441.95	1143.77
				Average	956.01	902.74	1025.66

WTR=World International Tourism Receipts (Billion US\$), ITA=International Tourism, Number of Arrivals, (Million People), PCTR=Per Capita International Tourism Receipts (US\$).

Source: World Bank, Databank, World Development Indicators.

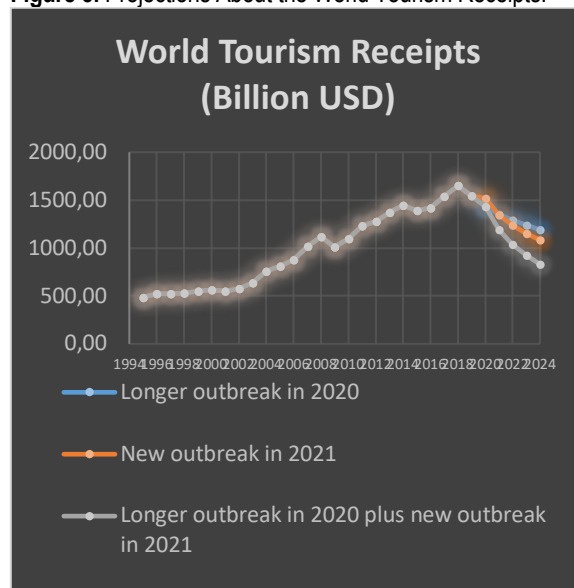
To calculate the effects of Covid-19 pandemic on international tourism revenues in the world, tourism arrival estimates and average tourism revenues have been taken into account. Using the percentage change in the number of arrivals for the three scenarios discussed earlier, the number of tourist arrivals in the period 2020-2024 used as a base.

The estimates were created differently according to the three projected scenarios. These results are presented in Figure 5 (the longer outbreak of the Covid-19 pandemic in 2020, the emergence of a new epidemic in 2021, and the combination of the longer Covid-19 outbreak in 2020 plus a new outbreak).

It is estimated that the Covid-19 pandemic in 2020 will cause an average annual decline of 5.04 in the number of tourists from 2020 to 2024. According to this scenario, the average annual loss of tourism income in the world is calculated as 70.6 billion dollars.

The new outbreak in 2021 will result in an average drop of 6.76 per year in the number of tourist arrivals from 2020 to 2024. In this case, the average annual loss of tourism revenues in the world from 2020 to 2024 will reach \$91.7 billion.

Figure 5. Projections About the World Tourism Receipts.



In the event that Covid-19 lasts longer and combines with the new outbreak in 2021, an average annual decrease of 11.54 will be experienced in tourist arrivals from 2020 to 2024. According to this scenario, the average loss of tourism revenues in the world from 2020 to 2024 will be \$ 141.8 billion.

5 FINAL CONSIDERATIONS

A significant portion of the negative effects of crises and especially epidemic diseases on economies are originated firstly and sharply to the losses in tourism. In this respect, the development of projection for tourism during the crisis periods, and the fact that this is especially related to demand has become an imperative for today's tourism policies. Because, there are many important issues that tourism businesses are desperate to combat the epidemic.

Comprehensive studies such as redesigning all business processes and developing different marketing strategies especially for hotels struggling against Covid-19, are required. However, businesses certainly need demand projections to develop new designs or operational strategies. Many sectors providing an output of goods and services to tourism industry are also subject to the forecasting obligations regarding this sector, which is a large market for them. In addition, public authorities are also responsible for developing crisis strategies and policies and producing national demand projections.

In this study, estimation and corresponding general evaluations were made based on the effects of Covid-19 on tourism demand, the future status of international travels and the economic loss that would result from the decreasing arrivals. According to the analyzes made by the IMF (2020) based on three

scenarios on Covid-19 analyzes, it is highly predicted that there will be a significant decrease in international travel within the scope of tourism in the period of 2020-2024. As a requirement of the first scenario, if the current Covid-19 outbreak process is effective until the end of the year, an average of 5.04% annual decrease is revealed. The estimated monetary equivalent of this decline is around \$ 70.6 billion.

Although the effects of previous outbreaks such as SARS, bird influenza, swine influenza on tourist arrivals to certain countries have appeared higher, the world has witnessed the first time that tourist arrivals are affected on such a scale never faced before. This also means a shock period for world tourism, which has been growing continuously since the 2009 crisis.

What is worse is that although the financial crisis in 2009 caused a contraction, especially due to the effects of Western economies that sent the most tourists, Covid-19 epidemic negatively affected demand in all over the world. In other words, in this process, the option to involve domestic markets in the face of the contraction in international travel seems to be significantly ineffective.

Furthermore, the first scenario is the most optimistic forecast situation. What makes this scenario realistic is that a vaccine has not yet been developed against Covid-19 and tourism destinations and businesses are not ready with their solution strategies to such epidemics on a global scale.

In the event that the possibility of Corona type virus envisaged under the second scenario is mutated and may cause new outbreaks, the international tourist arrival per year will decrease by 6.76% on average. With this decrease, the annual average loss of tourism revenues will reach \$ 91.7 billion. This situation makes it inevitable to address the issue of controlling the virus together with the measures to be developed against possible new types of corona viruses. On the other hand, the spread of the crisis to the second year will increase the average losses and deepen the fragility.

As the last scenario, if the Covid-19 lasts longer and combines with a new epidemic, it is estimated that there will be an annual average drop of 11.54% on international tourist arrivals. Depending on this decrease, the average loss of tourism revenues would reach \$141.8 billion. It can be said that a contraction of this scale will put the tourism industry into a big turbulence.

The mentioned scale of the contraction in the international travel market, would lead to investor losses throughout the industry, employment contractions and a decrease in the generated value. In addition, there is a vicious circle that will significantly affect other industries, especially for countries with a relatively high share of the tourism in their economy.

In other words, there may be a significant contraction in the industries that procure goods and services to tourism. This situation will develop depending on the multiplier mechanism. As it is known, tourism is an industry that is vulnerable to crises, but has a high chance of recovery (Zeng et al., 2005).

On the one hand, this situation is difficult to plan, but on the other hand, it reflects a structure that responds quickly to emergency situations under crisis conditions. Therefore, losses can be minimized by rapid policy development and measures to be taken taking into account current demand projections. Even the simple tactics and measures to be implemented may have significant positive implications.

Crisis environments also seem to trigger entrepreneurship (Dahles and Susilowati, 2015). It can be expected that new policy searches and strategy development efforts based on demand forecasts would reveal innovations that will produce long-term industrial effects. Product and/or new market diversification may be the most important combat practices in times of crisis. It is certain that all tourism actors will focus on developing the market in the face of the feeling of contraction in the mentioned scale in the demand.

It is understood that there is a serious need for public administrations to engage and develop measures for businesses, by considering that small and medium-sized enterprises are concentrated within the tourism industry and small businesses are more vulnerable to crises (Cushnahan, 2004).

Due to the fact that the business structures are very flexible, there is a possibility that businesses located especially in cities and resort areas, would be significantly affected by the contraction in international travels, except for rural enterprises, which seem to resist the crisis to some extent (Irvine and Anderson, 2004).

On the other hand, regulations and arrangements are also needed in order not to decrease the employment opportunities expected from tourism due to the crisis. As pointed out by Ferguson (2011), it is necessary that the tourism enterprises to focus on measures for employee welfare and maintain its advantageous position in egalitarian conditions such as women's employment.

The control of the estimated effects of the outbreak is undoubtedly directly linked to the solutions to be brought in the health sector. However, it is imperative that the tourism industry decision makers and authorities develop applications by taking into account the severity of the projected shrinkage.

Moving from this point; 1) New principles and practices should be adopted and developed in service delivery throughout the industry, 2) Practices that will ease potential tourists and eliminate anxiety should be

implemented and an effective crisis communication network should be established, 3) cooperation between actors that will reveal effective management and agile management concepts that will facilitate compliance with new conditions should be created within the scope of the tourism industry, 4) Support packages and incentive practices covering all sectors related to tourism should be prepared by public authorities, and 5) A mechanism that facilitates all related units to develop their own measures in a way of sharing with relevant institutions and organizations by making new demand projections at certain periods should be implemented.

Two issues related to the limitations of the research should be mentioned. This study was conducted in a process in which effects related to the Covid-19 outbreak were continuing. In this process, primarily UNWTO and IMF make continuous forecast updates. In the later stages of the process, there may be developments that can revise the existing estimates or change them radically. On the other hand, this study is estimated based on economic growth figures. Projections in this direction can be improved by enriching and by including different parameters.

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Processo Editorial / Editorial Process / Proceso Editorial

Editor Chefe / Editor-in-chief / Editor Jefe: PhD Thiago D. Pimentel (UFJF).

Recebido / Received / Recibido: 20.01.2021; Revisado / Revised / Revisado: 11.02.2021 – 03.06.2021 – 08.09.2021; Aprovado / Approved / Apobado: 28.09.2021; Publicado / Published / Publicado: 11.10.2021.

Seção revisada às cegas por pares / Double-blind peer review section / Sessão revisada por pares ciegos.