Conference Paper

The COVID-19 Pandemic and Its Effects on the Greek Tourism Sector: A Case Study of the Region of Eastern Macedonia - Thrace

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Abstract

The recent novel coronavirus pandemic (COVID-19 pandemic) has led to a new, multi-faceted societal, healthcare and generalized economic crisis, both at national and international levels. The measures taken to deal with the pandemic have resulted in unprecedented situations in almost all sectors of the Greek economy. This article attempted to investigate the extent of the impact of this new crisis on Greek tourism companies, focusing on the case of tourist accommodation and food services by region, since the tourism industry has been greatly afflicted. The main variable examined was the degree of decline in the turnover of the tourism businesses under discussion over the last two years, at regional and national levels. This was supplemented with comparative analyses of similar measurable data. Secondary and statistical data were obtained from the Hellenic Statistical Authority, the Hellenic Tourism Organization and databases of other related institutions.

Keywords: COVID-19, tourism industry, Greek companies, tourist product, region of Eastern Macedonia - Thrace

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1. Introduction and Empirical Research

The outbreak of the coronavirus pandemic (COVID-19 pandemic) has altered the social and economic reality worldwide. The first case of the novel coronavirus had been identified in December 2019 in Wuhan, Mainland China and was followed by a global public health emergency where policy measures needed to be taken against the spread and impact of the novel coronavirus [1]. This rapid spread of the virus worldwide led also to an important reduction in all global tourism trends [2].

In particular, Greece due to its geographical location and its natural and cultural assets, presents tourism as a critical motivator of the Greek economy decreasing the deficit of the balance of payments, increasing employment, generating income, and promoting regional development [3].

The research on the relation between tourism and economic development is the aim of a substantial number of scientific articles and journals. The globalization process has been the main impetus for the development of the tourism industry in the last

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decades. Consequently, tourism is considered one of the most profitable and fast-growing industries worldwide. Tourism in a country is related, directly and indirectly, to many sectors of its economy, thus tourism development has significant impact on the country's economic growth [4, 5].

The tourism industry plays a crucial role in the economic development of any country. For many countries, it is considered as a strategic industry for their economies, given its significant contribution to the local Gross Domestic Product (GDP) [6]. However, it has also been one of the economy sectors which were worst affected by the COVID-19 pandemic, due to the prevention measures imposed to control spread of the novel coronavirus, that restricted travelling. The damage to the tourism industry is of high significance, due to the vital role the tourism sector plays in the economic growth of numerous countries and its contribution to their GDP [6, 7].

The COVID-19 outbreak has resulted in millions of confirmed cases and deaths across the world and has affected people, communities, companies and organizations world-wide [8]. This has led to fears of an imminent crisis to the global economy. The tourism industry is among the hardest-hit, with consequences on both supply and demand [7, 9]. By April 2020, the majority of all global tourism destinations had implemented travel restrictions [10]. By the first quarter of 2020, the measures implemented in each country had decreased the number of international tourist arrivals by 67 million. Compared with the same period in 2019, this drop resulted in a loss of approximately US$80 billion in tourism revenue [7, 10].

As a result of COVID-19 pandemic, the World Travel and Tourism Council has announced that million jobs in the global tourism sector may be at risk [11]. In Europe, the European Tourism alliance, had called for the implementation of relief measures, such as government aid for the tourism and travel sector as well as funds from the European Union through the Corona Response Investment Initiative [12]. However, longer term planning would also be needed for the reorganization and revitalization of the global economy following the COVID-19 pandemic [9].

Škare, Soriano and Porada-Rochoń [13] estimated the negative impact of the COVID-19 pandemic on the global tourism industry using Panel Structural Vector Auto-Regression (PSVAR) on data from 1995 to 2019 in 185 countries and system dynamic modeling (referring to parameters that are linked to COVID-19). Previous pandemics also exposed the tourism sector to large adverse shocks. When those ceased, meaning there were no more infection cases, tourism arrivals returned to normal levels almost immediately. However, the COVID-19 pandemic is different in that regard. The recovery of the global tourism industry is expected to take much more time due to the vast decline in tourism arrivals. A coordinated and well-organized private and public policy response will certainly be required for the sustainment of the tourism sector to pre-COVID-19 pandemic levels. It must be mentioned that health care support and coordination will also contribute significantly to the above goal [14]. To better prepare for the pandemic, policy makers and practitioners in the tourism sector must obtain a thorough understanding of its impact on the tourism industry and economy as well as establish a new preparedness strategy to address both the current crisis as well as the ones that may emerge in the future [13].

Assaf and Scuderi [15] note that the current crisis arising from the COVID-19 outbreak is by far the most serious one compared to the previous crises the tourism industry has faced. This is also pointed out by Karabulut et al. [16] and by Dolnicar and Zare [17]. Therefore, the tourism sector and each country's government play critical roles in both the recovery efforts as well as to how global tourism will be shaped in the post-pandemic era [15].

As a result of the impact of the COVID-19 pandemic on global tourism, traditional forecasts on tourism demand have been surpassed [7]. Forecasting the impact of the COVID-19 pandemic on the tourism sector, as well as the efficiency of the government measures in assisting its recovery is essential and can provide a better picture for decision-making. To achieve that, Fotiadis, Polyzos and Huan [18], used two different methodologies: the Long Short Term Memory neural network and the Generalized Additive Model, to estimate the projected decline in international tourist arrivals over the next 12 months. The results indicated that the decline in tourist arrivals could range between 30.8% and 76.3% and would last at least until June 2021. This prediction concurs with the UNWTO projections of a 60%-80% decline for 2020 [19]. Findings also agree with Polyzos, Samitas and Spyridou [20], who noted that the trend in tourist arrivals might take up to a year to recover to pre-crisis levels.

Papanikos [21] examines the impact of the COVID-19 pandemic on the Greek tourism industry. In 2019, over 30 million tourists arrived in Greece leading up to €18.2 billion of international tourist receipts. Forecasts for 2020 looked even more positive till the COVID-19 appearance in the country. As a result of the COVID-19 crisis, the Greek tourism market crumbled along with all the other tourism markets in Europe and the world. Relying on information about international pre-bookings of European destinations, Papanikos [21] created three scenarios regarding the impact of the COVID-19 pandemic on Greek tourism. In the best case scenario, Greek tourism's contribution to GDP would fall from 16% to 6.6%, resulting in a €16.8 billion loss, while in the worst case scenario, the contribution of Greek tourism would decline by 13.9% with the output loss amounting to €19.2 billion. It is clear from the above that the impact of the COVID-19 pandemic on international Greek tourism receipts is extensive, with the consequences on GDP at an unprecedented scale even when compared to the economic crisis that hit the Greek economy, in the previous decade. Taking into account the above, it is certain that the impact on tourism will continue to linger and exert a large strain on the economy of Greece.

Niewiadomski [22], suggests that the COVID-19 outbreak, with the temporary de-globalisation that it has caused due to the restrictions on international travel, has been the first major force to put on hold the global tourism industry. This presents itself as a unique opportunity for the post-pandemic tourism industry to rediscover itself, along the lines of economic equality, environmental sustainability and sustainable growth and away from extensive economic exploitation, environmental degradation and overcrowding. However, the transformation of the tourism industry can only be achieved after the COVID-19 pandemic will end.

Sigala [23] mentions that the COVID-19 pandemic not only differs from other crises in the past, but that it can also have a profound and long-term structural effect on

tourism as an activity and industry. Mair [24] also considers the COVID-19 pandemic as a transformative opportunity, while McKinsey [25] suggests that the tourism industry should not only aim to recover from the COVID-19 crisis but also reimagine and reform itself when economic and social stability has been achieved [25].

The main research question of the present paper is the estimation of the impact on the tourist product at regional and national level based on available data on factors such as the turnover in accommodation and food services, persons employed in these sectors and information on incoming tourism in Greece (arrivals and overnight stays). The contribution of the paper to the research is significant, not only because the COVID-19 crisis is relatively recent, but also because no other relevant existing literature has covered the repercussions of the pandemic on the Greek Tourism Sector in general, while also focusing on the Region of Eastern Macedonia – Thrace. The focus on that region in particular is due to the fact that the tourism sector there plays a vital role in the local economy, in comparison to the majority of the other regions of Greece.

The structure of the present paper is as follows. First, an introduction is made on the relation between tourism and economic development, the history of the COVID-19 pandemic up to now, its significance as well as its impact on global tourism and Greek tourism in particular. Subsequently, the paper's methodology is presented in addition to the sources from where secondary data was derived, such as the Hellenic Statistical Authority and the Hellenic Tourism Organization. In the third chapter, the results of the research are introduced regarding incoming travel and national revenues at a global level for the years 2019-2020 and turnover of accommodation and food services in Greece overall and per regional unit during the COVID-19 pandemic. In the next chapter, we focus on the case of the Region of Eastern Macedonia – Thrace, its total turnover in comparison to the Greek tourist industry for the years 2019-2020 and also the total turnover per its regional units for the same two-year period. The final chapter summarizes the conclusions of the research and the extent at which the research hypothesis is confirmed. Also, some recommendations are made for future research.

2. Methodology

To achieve the aim of this study, secondary data regarding the turnover of the tourism businesses under discussion, over the last two years' time in Greece, at regional and national level, were collected and subsequently analysed by applying a quantitative methodology. The main research objective is to assess and interpret the factors through which the COVID-19 pandemic has caused changes in the tourism sector, focusing on the case of tourist accommodation and food services by region. The main research question is the estimation of the impact on the tourist product at regional and national level based on available data on factors such as the turnover in accommodation and food services, persons employed in these sectors and information on incoming tourism in Greece (arrivals and overnight stays). In this chapter the research methodology according to which the secondary data will be used to achieve the main research objective is presented. The literature sources were found mainly through Science

Direct (Elsevier), Google Scholar, the Hellenic Statistical Authority, the Hellenic Tourism Organization and other similar databases of related institutions.

The selection of secondary data for this study was decided because the use of any other method would be extremely costly. Specifically, the collection of all the necessary data on the present subject by other methods such as questionnaires would require a long time and a support team, to achieve the desired results and the costs would be very high. Also we should not forget that the COVID-19 pandemic has affected transport as well, because the exceptional measures taken to deal with this crisis forbit the movements outside a regional unit. In contrast, secondary data is readily available, with scientific articles and journals, government data and statistical studies on any related reliable subject being easily accessed through the web without the need for an in-depth investigation for primary data to answer research questions. Easy access to data, various statistics, and government surveys combined with the abundance of news help the researcher to collect and combine them to achieve her/his research goals. Furthermore, Rabinovich and Cheon [26], argues that reliable secondary data should be used, as their range is extensive and their validity is undoubted as they come from official government sources and their analysis has been conducted by experienced researchers.

The applied methodology follows the article of Papanikos [21] who examined the economic impact of the 2020 pandemic on international Greek tourism receipts. The research is based on data from international pre-bookings of European destinations. As the COVID-19 health crisis is recent, there is no relevant existing literature covering the whole subject of our research till now.

The data used, is derived from Hellenic Statistical Authority and the Hellenic Tourism Organization. They include basic tourism figures mainly for the region of Eastern Macedonia and Thrace and the other Greek regions for the two previous years 2019 and 2020. Particularly, the following variables from the mentioned archives will be used:

1. Incoming Travel and revenues at national level.

2. Turnover due to the COVID-19 pandemic.

3. Turnover Index in Accommodation and Food Services.

4. Turnover of Accommodation and food services per Regional Unit

3. Results

3.1. Incoming travel and revenues at national level

3.1.1. Incoming Travel

TABLE 1: Incoming travel at national level 2020 (in thousands). Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

2020	EU-27 countries	EuroArea Countries	France	Germany	Non - euro area countries	Other countries	United Kingdom	USA	Russia	Total
January	372	232	10	67	140	418	72	32	13	**790**
February	288	163	9	46	125	339	29	29	5	**627**
March	242	85	14	20	157	169	16	25	4	**411**
April	21	2	0	1	18	17	0	0	0	**38**
May	26	4	0	1	22	30	0	0	0	**56**
June	183	25	1	12	158	73	0	0	0	**256**
July	661	416	53	165	246	167	62	2	0	**828**
August	1349	1087	184	414	262	457	349	4	0	**1807**
September	946	767	113	377	179	389	300	4	1	**1335**
October	662	568	78	391	94	293	200	3	1	**955**
November	90	64	4	21	25	86	34	5	0	**176**
December	50	34	2	11	16	47	7	2	1	**97**
Total	**4889**	**3447**	**469**	**1526**	**1442**	**2485**	**1069**	**107**	**26**	**7374**

TABLE 2: Incoming travel at national level 2019 (in thousands). Source: ELSTAT [27, 28], INSETE [29]- processed by the authors.

2019	EU-27 countries	EuroArea Countries	France	Germany	Non - euro area countries	Other countries	United Kingdom	USA	Russia	Total
January	346	176	11	68	170	314	38	25	10	**660**
February	226	132	14	40	93	278	54	19	8	**504**
March	358	207	30	70	151	415	51	60	11	**773**
April	537	389	66	107	149	445	64	51	12	**982**
May	1412	1072	167	477	340	975	348	132	26	**2387**
June	2397	1554	240	591	843	1705	546	135	85	**4102**
July	3376	1943	285	589	1434	2297	644	173	106	**5673**
August	4264	2310	338	718	1954	2498	741	192	129	**6762**
September	3176	1693	233	653	1483	1935	655	195	81	**5111**
October	1663	1151	129	595	512	1110	283	124	82	**2773**
November	490	248	16	72	242	439	50	43	19	**930**
December	309	196	13	47	113	384	25	29	12	**692**
Total	**18554**	**11071**	**1542**	**4026**	**7482**	**12795**	**3499**	**1179**	**583**	**31348**

In 2020, incoming travel decreased by -76.5% and was set at 7375 travelers, versus 31348 thousand travelers in 2019. Over the period under review, travel traffic from EU-27 countries was set at 4889 thousand travelers, falling by -73.6% compared to 2019, while travel from countries outside the EU-27 decreased by -80.6% and reached 2485 thousand travelers. Travel in euro zone countries fell by -68.9%, while travel by EU-27 countries outside the euro zone fell by -80.7%. In particular, travel traffic from Germany fell by -62.1% and reached 1526 thousand travelers, while France fell by -69.6% and was 469 thousand travelers. With regard to countries outside the EU-27, travel from the UK decreased by -69.5% and reached 1069 thousand travelers, while the one from the USA dropped by -91.0% and was 107 thousand travelers. Finally, travel from Russia fell by -95.6% and was set at 26 thousand travelers [27-29].
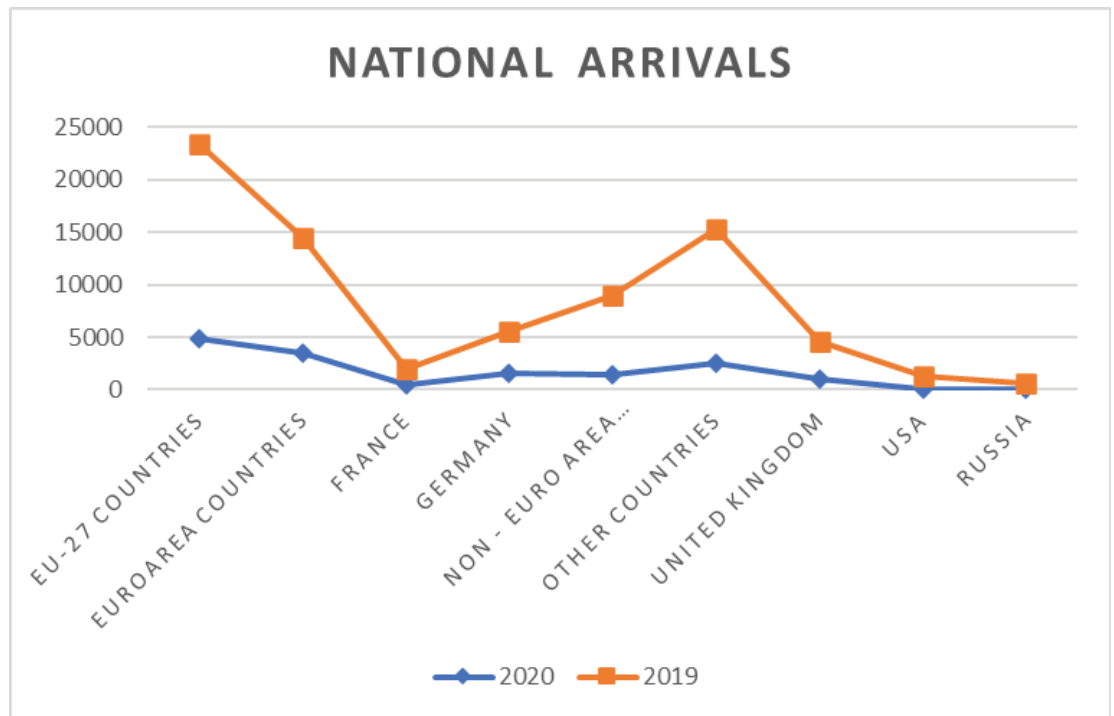
Figure 1: National arrivals 2019-2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

T<small>ABLE</small> 3: National revenues 2020 (in millions). Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

2020	EU-27 countries	EuroArea Countries	France	Germany	Non - euro area countries	Other countries	United Kingdom	USA	Russia	Total
January	116	102	4	26	14	170	34	26	7	287
February	82	66	5	18	16	158	13	28	2	240
March	43	30	5	6	14	46	5	9	2	92
April	3	1	0	0	2	4	0	0	0	7
May	4	2	0	1	2	9	0	0	0	13
June	31	17	1	8	14	33	0	0	0	64
July	467	346	45	153	121	110	51	3	0	577
August	979	827	170	308	151	394	320	6	0	1373
September	572	493	77	255	79	254	192	3	1	825
October	378	347	51	246	31	147	95	2	1	526
November	28	23	1	9	5	33	12	4	0	61
December	17	13	1	4	4	17	4	1	0	34
Total	2840	2390	367	1135	451	1434	749	83	13	4280

3.1.2. National Revenues

In 2020, travel receipts showed a decrease of -76.5% compared to 2019 and amounted to EUR 4280 million euros. This is due to the drop in receipts from residents of the EU-27 countries by -70.8%, which totaled 2.840 million euro, as well as the -82.0% receipts from residents of non-EU-27 countries, which amounted to EUR 1434 million euros. In more detail, receipts from euro area residents amounted to EUR 2390 million euro, reduced by -69.1%, while receipts from residents of EU-27 countries outside the euro area fell by -77.5% and reached EUR 451 million euros. In particular, German receipts were reduced by -61.6% and reached 1.135 million EUR, while receipts from France fell by -66.3% and reached EUR 367 million euros. Of the countries outside the EU-27, the

Table 4: National revenues 2019 (in millions). Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

2019	EU-27 countries	EuroArea Countries	France	Germany	Non - euro area countries	Other countries	United Kingdom	USA	Russia	Total
January	106	76	8	25	31	124	17	15	8	230
February	93	70	8	22	22	105	24	15	3	198
March	132	105	11	34	26	176	30	44	5	318
April	258	228	39	69	30	245	41	39	4	543
May	831	721	105	344	110	683	259	141	26	1566
June	1384	1122	176	417	262	1107	374	144	66	2558
July	1993	1528	210	544	465	1641	547	211	97	3703
August	2352	1812	272	577	540	1675	620	203	104	4104
September	1583	1220	169	532	363	1237	455	199	60	2886
October	734	630	80	334	105	648	152	128	47	1462
November	141	114	8	33	27	146	18	24	7	315
December	123	106	5	27	18	163	27	26	7	294
Total	9731	7732	1090	2959	1999	7949	2564	1189	433	18179

UK's revenue of 70.8% fell to 749 million EUR, while receipts from the USA fell by -93.0% and reached EUR 83 million euros. Proceeds from Russia fell by -96.9% and reached 14 million euros [27-29].
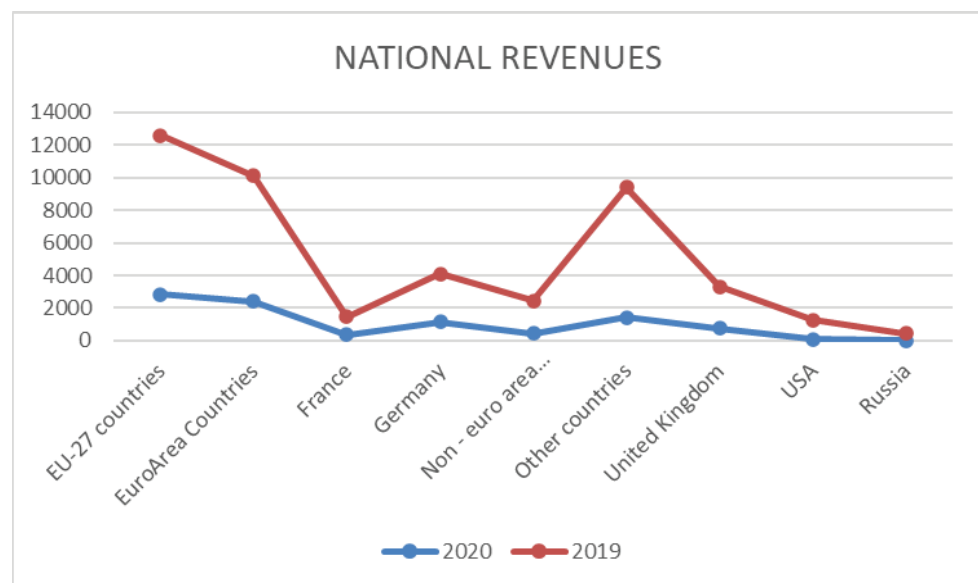
Figure 2: National revenues 2019-2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors

3.2. Turnover due to the COVID-19 pandemic

The companies that ceased temporarily their operations in March 2020, by decision of the Greek government, amounted to 219283 enterprises, accounting for 15.1% of all enterprises in the Greek economy. This number included around 89.9% of the enterprises in the Education sector and around 84.4% of the enterprises in the Accommodation and Food Services sector [27-29].

For economic activities, the European statistical classification of economic activities NACE 2 is used.

The activities of accommodation services and food services include NACE codes 55 and 56.

NACE Code 55 includes activities like:

55.10 - Hotels and similar accommodation

55.20 - Holiday accommodation and other short-stay accommodation

55.30 - Camping grounds, facilities for recreational vehicles and towed vehicles

55.90 - Other accommodation

NACE code 56 includes activities like:

56.10 - Restaurant and mobile catering services activities

56.2 - Catering services for events and other restaurant services activities

56.30- Beverage supply activities
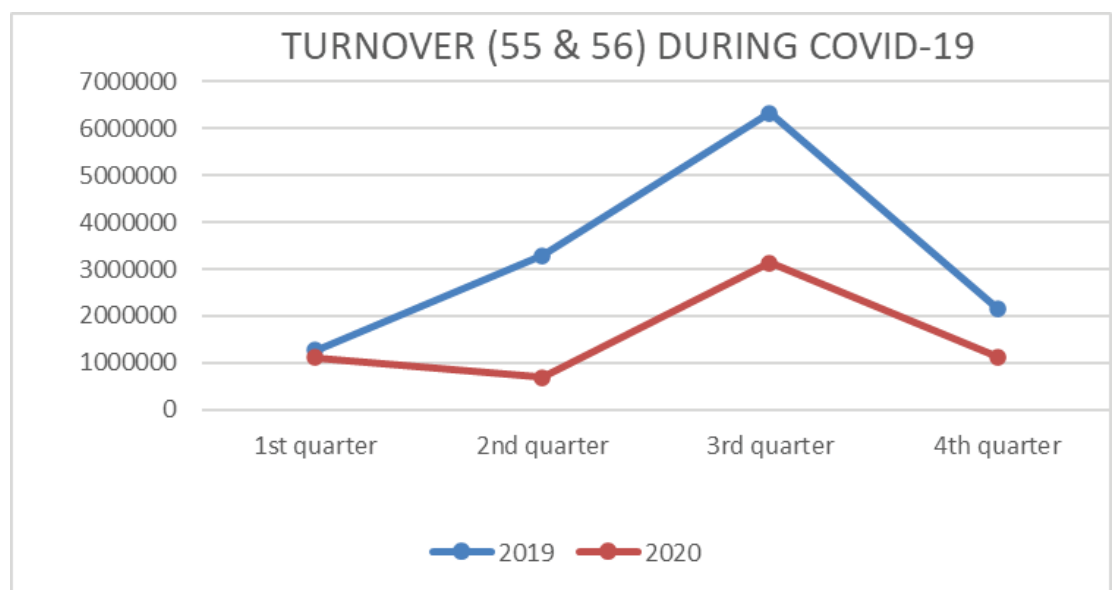
Figure 3: Turnover during the pandemic-19 (NACE codes 55 & 56) per quarter for the period 2019-2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

3.3. Turnover index in accommodation and food services

According to the Hellenic Statistical Authority, the Turnover Index in the Accommodation and Food Services sector, as well as the indicators in the sub-sectors of the 'Accommodation Services, NACE CODE 55' and 'Food Services, NACE CODE 56' for the Fourth Quarter of 2020, with a base year of 2015=100.0. The General Turnover Index is derived from the composition of the indices of the two NACE CODES 55 and 56. Its purpose is to measure activity in the accommodation and food sector, in terms of value. Turnover includes the total amounts invoiced by the undertakings during the reporting period, which correspond to sales of goods and services provided to third parties. Any subsidies on products/services shall be taken into account in addition. Turnover excludes VAT and other taxes directly linked to turnover. It also excludes other operating income, financial income and extraordinary income of undertakings [27, 28].
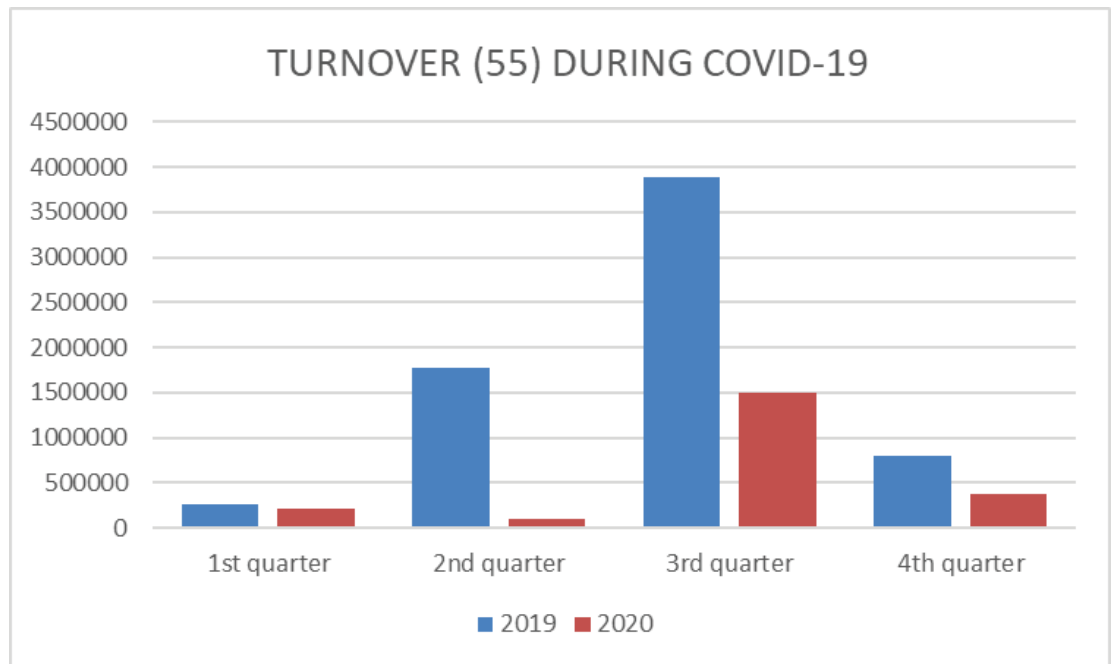
Figure 4: Turnover during the pandemic-19 (NACE code 55) per quarter for the period 2019-2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.
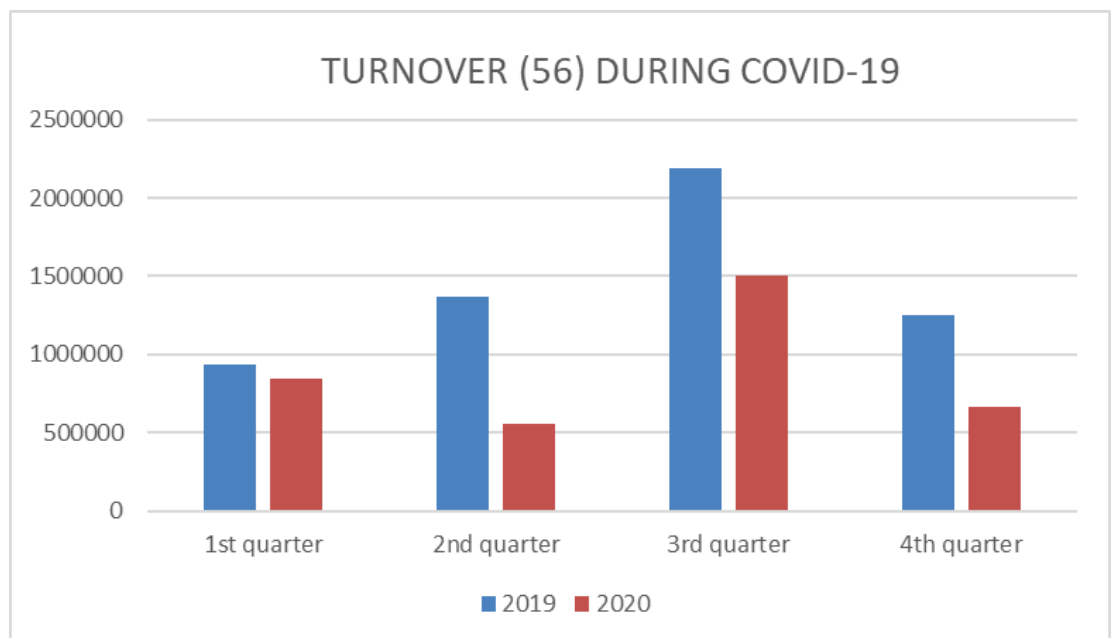

Figure 5: Turnover during the pandemic-19 (NACE codes 56) per quarter for the period 2019-2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

The General Turnover Index for the Second Quarter of 2020 compared to the corresponding index for the Second Quarter of 2019 after the breakout of COVID-19, showed a decrease of 57.6%.
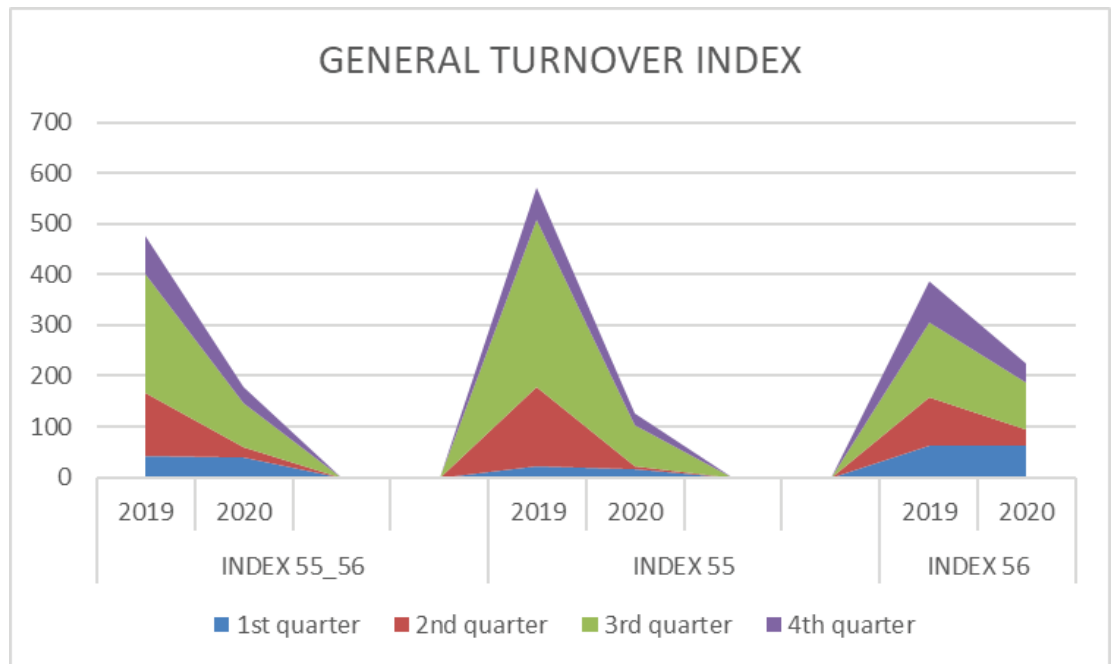
Figure 6: Evolution of the Turnover Index in the Accommodation and Food Services Sector. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

3.4. Turnover of accommodation and food services per Regional Unit.

This sector has been placed at the center of attention over the years because of its importance in shaping the performance of the Greek economy with a significant presence in all Regional Units and a significant contribution to the local economies of Greece associated with the Greek tourist product. At present, the pandemic of the novel coronavirus disease (COVID-19) has hit this sector directly as well as indirectly. Below is a presentation of the change in revenue for the years 2019 and 2020 in these sectors including data from all regional units.

Generally, in the accommodation sector, turnover in 2020 was EUR 2.303.658.141 with reduction 67.0% from the year 2019, where it was EUR 6.991.184.282.

The largest decrease in turnover between 2020 and 2019 was observed in the Regional Unit of Karpathos (83.5%) and the smallest decrease (14.3%) was recorded in the Regional Unit of Florina.

In the food sector as a whole, turnover in 2020 was EUR 3773850833, with 37.7% reduction from 2019, where it was EUR 6059184851.

The largest decrease in turnover between 2020 and 2019 was observed in the Regional Unit of Mykonos (73.3%), while the smallest decrease (17.3%) was recorded in the Regional Unit of Korinthos.
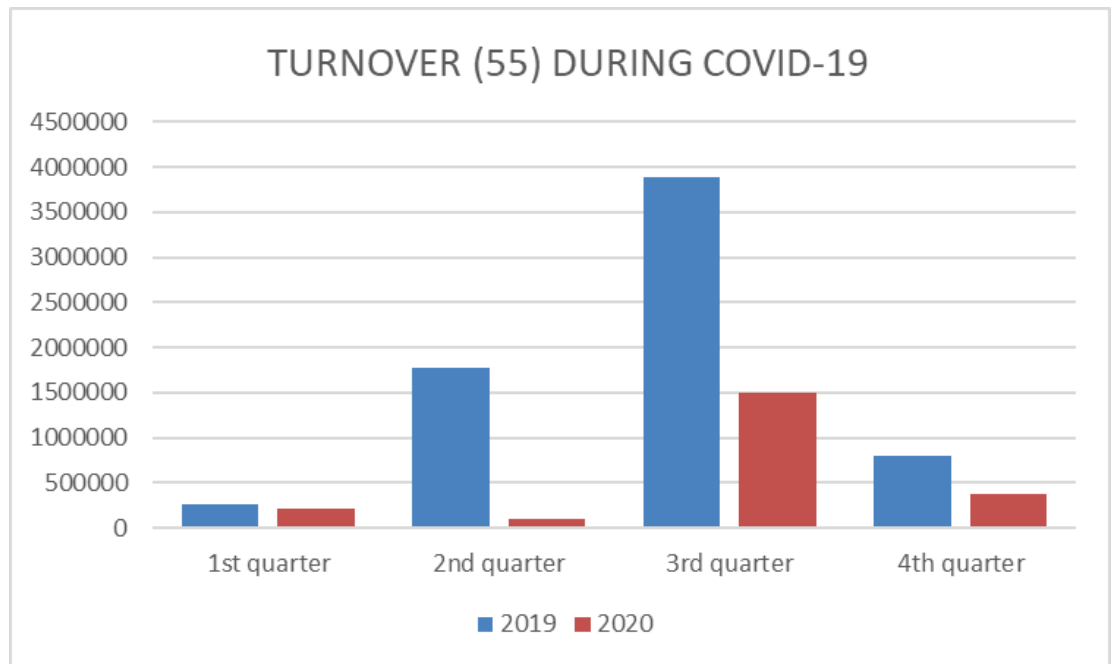
Figure 7: Turnover of total enterprises in the accommodation industry. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.
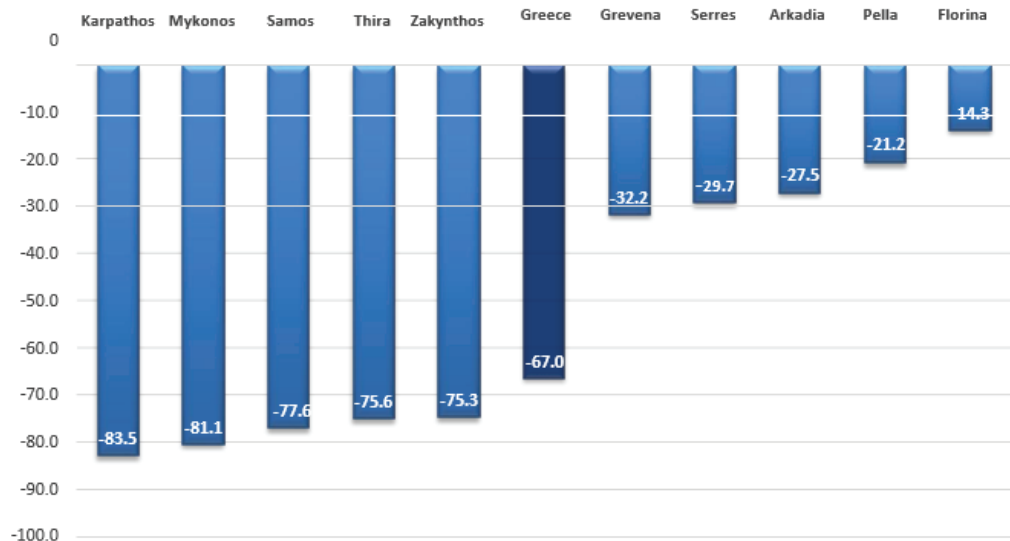

Figure 8: Annual change (%) Business Turnover in the Accommodation Sector 2020 / 2019, across the Country and Regional Units with the 5 largest and 5 smaller changes. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

4. The Case of Eastern Macedonia & Thrace

The region of Eastern Macedonia and Thrace has a population of 608,182 inhabitants and covers an area of 14,158 km² and consists of six Regional Units (Drama, Kavala, Xanthi, Thassos, Rodopi and Evros), which meet different characteristics related to both
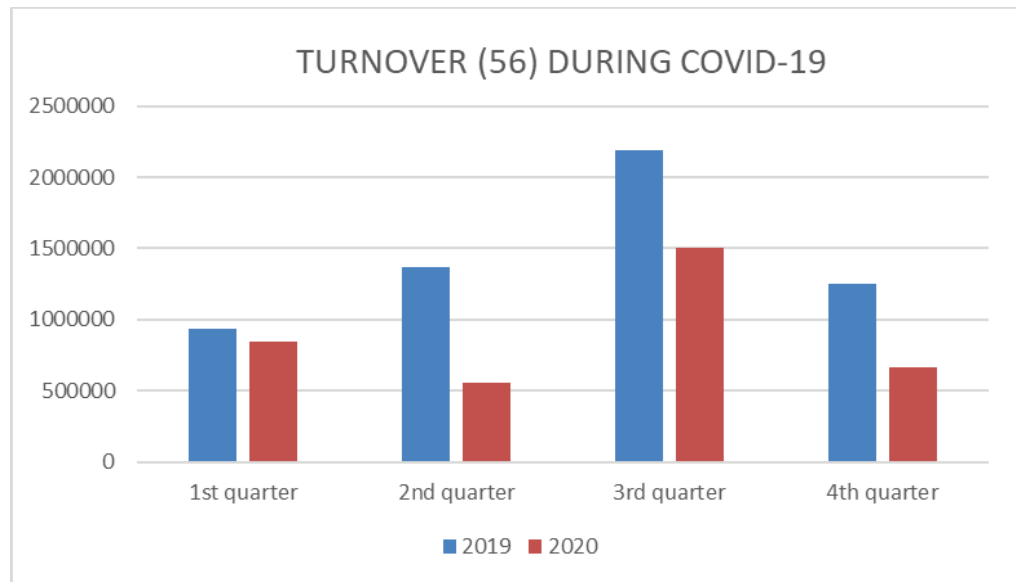
Figure 9: Total business turnover in food Services industry. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.
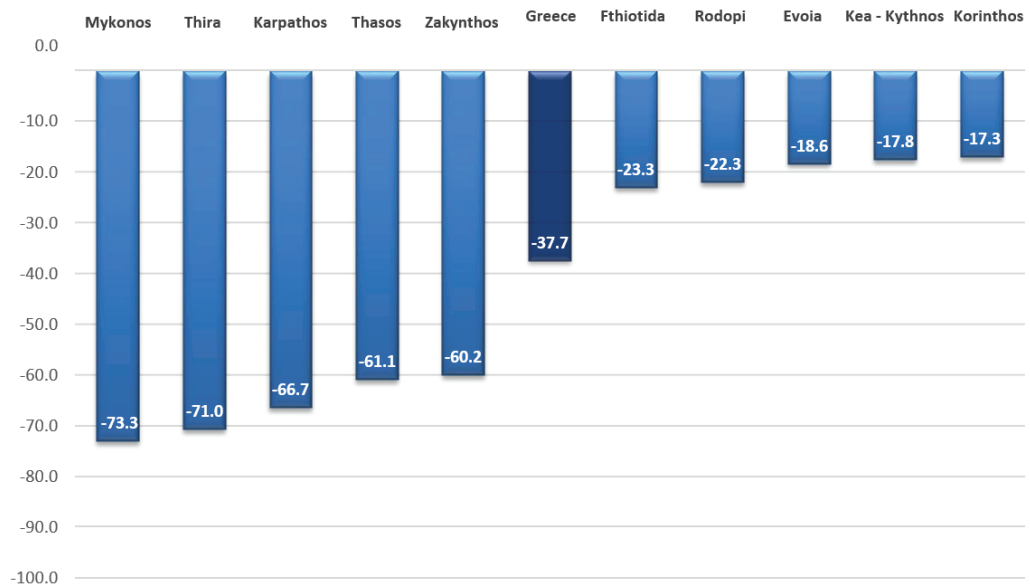

Figure 10: Annual change (%) Business Turnover in the Food Sector 2020 / 2019, across the Country and Regional Units with the 5 largest and 5 smaller changes. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

the natural environment, the cultural sector and the demographics, thereby offering various forms of alternative tourism options to numerous visitors each year.

A basic feature of the Region is its population structure, 66.8% of which is concentrated in the seven largest population centers (Orestiada, Didymoteicho, Alexandroupoli, Komotini, Xanthi, Drama, Kavala) but which are distributed (almost) evenly in its geographical territory. The existence of the two islands, Thassos with 13770 inhabitants and Samothrace with 2859 inhabitants complement the population picture of the Region.

It is of particular international and global ecological importance as it has rich flora, fauna and many areas of special protection and manages to remain a "pure" destination for nature lovers to this day.

Due to its geographical location, it manages to combine its tradition and deep history with the influences it receives from Western Europe. Its key position makes it a key point of contact with the other Balkan countries, Turkey and the Middle East and this is evident in the rich cultural heritage, which is characterized by the harmonious coexistence of Christian and Muslim traditions.

So, the tourism industry is a vital part of the local economy and, according to the National Tourism Development Plan 2014-2020, is an important growth accelerator that will significantly contribute to local economic growth in the future.

The following diagrams show the tourism turnover contribution of the Region of Eastern Macedonia and Thrace, compared to the whole of Greece for the years 2019 and 2020.
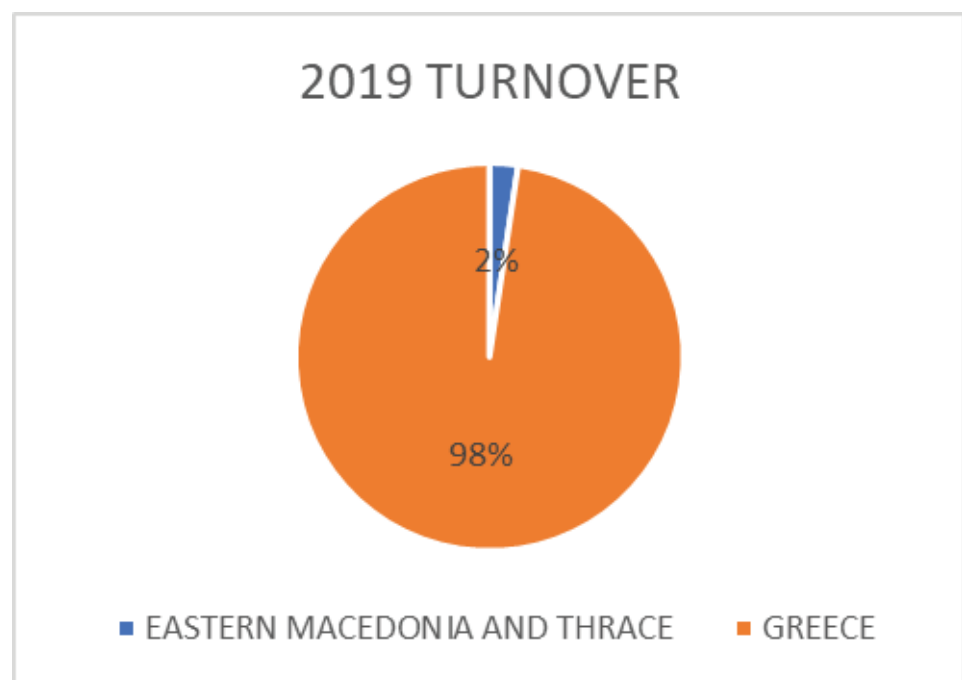

Figure 11: Total turnover of the Region of Eastern Macedonia and Thrace, compared to Greek tourist industry for 2019. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

All the above-mentioned regional units have their own specific characteristics. The regional units of Drama, Evros and Xanthi are mainly consisted of mountainous terrain. The regions of Kavala, Thassos and Rodopi are located at the seaside edge of the region of Eastern Macedonia ant Thrace.

As has been shown by relevant research, the type of tourists who choose this region for their holidays prefers the sun-sea combination. So, this is a key finding about the turnover reduction per regional unit presented in Table 5. When, an area attracts more tourism under excellent conditions (year 2019), it is obvious that there should be more reduction in the case of an emergency status like the special conditions of the pandemic COVID-19 (year 2020).
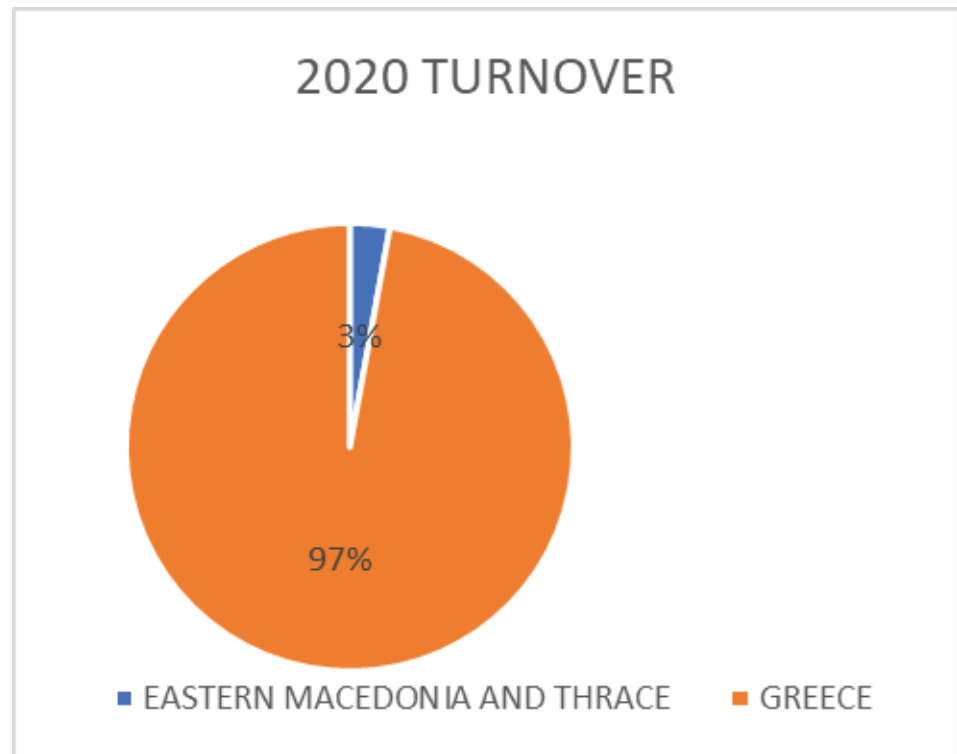
Figure 12: Total turnover of the Region of Eastern Macedonia and Thrace, compared to Greek tourist industry for 2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.
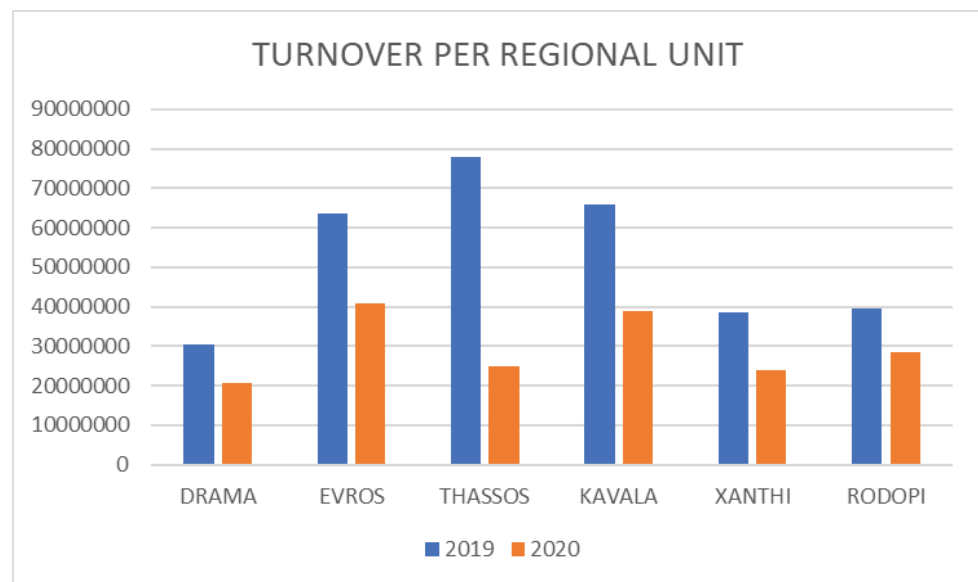

Figure 13: Total turnover per Regional Unit in Eastern Macedonia and Thrace for the years 2019 and 2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

From the above the decrease of the tourism income in the Regional Units of the Region of Eastern Macedonia and Thrace is apparent, with profound consequences for the local economy and employment. In general, the Region of Eastern Macedonia and Thrace contributes with a small percentage to the total revenue of the Greek tourist

TABLE 5: Tourism turnover reduction per Regional Unit in Eastern Macedonia and Thrace about the years 2019 and 2020. Source: ELSTAT [27, 28], INSETE [29] - processed by the authors.

	REGIONAL UNIT	2019	2020	Change2019 -- 2020 %
EASTERN MACEDONIA AND THRACE	DRAMA	5058007	2639436	-47.82%
	EVROS	17820044	6309271	-64.59%
	THASSOS	53583864	15356702	-71.34%
	KAVALA	16628066	7084909	-57.39%
	XANTHI	6186698	3114637	-49.66%
	RODOPI	5982570	2633201	-55.99%

industry but due to its special characteristics it is expected to be an emerging tourist destination.

Finally, it is crucial to mention the basic findings for the needs-problems of the tourism sector in Eastern Macedonia and Thrace. The most important:

- Low level services provided by the accommodations because the majority of tourist accommodation in the region are classified in low and medium categories and need modernization.

- There is an unequal distribution in the concentration of tourism infrastructure in the region. Specifically, regions like Drama, Xanthi and Rhodope show a low level of tourism development meanwhile in the regions of Thassos and Kavala there is a high concentration of accommodation and related tourist activities.

- There are shortages in facilities of special tourism infrastructure (marinas, conference centers, hydrotherapy centers etc.).

- There is a sharp gap in the sizes and structure of tourist demand especially from abroad (number of arrivals and overnight stays, museum visits, archeological sites and other attractions, per capita expenditure, industry participation in GDP, etc.).

5. Discussion

The influence of the COVID-19 pandemic has been quite extensive in all the spectrums of social and economic global order. The pandemic constituted a crisis that was unprecedented in terms of scale and damage in modern history. Across the world, many countries have been hit hard, with devastating effects on their economies. The traveling restrictions that were imposed and the preventive measures that were taken to halt the advance of the pandemic further amplified these effects. In particular, many countries faced great hardships due to the steep decline in incoming tourism. This is especially true for countries in the Mediterranean Basin such as Greece, whose economy heavily relies on tourism. The impact of the pandemic on Greek economy and its effect on GDP is expected to be massive even when compared to the previous economic crisis. The Greek government intervened to support the affected sectors and enterprises, but this aid cannot be sustained indefinitely, worrying policy makers. For the above reasons,

many researchers, among them Papanikos [21], have sought to assess the exact impact and repercussions of the pandemic on a country's tourism sector and economy in general.

According to the collection of secondary data from the above-mentioned sources, it appeared that regarding the analysis of the main tourist sizes there is a significant change in the general trend during the outbreak of COVID-19 in this sector. Specifically:

1. In 2020, incoming travel declined and travel receipts showed a decrease of -76.5% compared to 2019.

2. The companies that ceased temporarily their operations in March 2020, by decision of the Greek government, amounted to 219.283 enterprises.

3. Approximately 84.4% of those companies are in the Accommodation and Food Services sector.

4. The General Turnover Index after the outbreak of COVID-19, showed a decrease of 57.6%.

5. In the accommodation sector, the turnover in 2020 was reduced by 67.0% compared to 2019.

6. In the food sector, the turnover in 2020 was reduced by 37.7% compared to 2019.

7. The Region of Eastern Macedonia and Thrace has a bigger portion in Greek tourist product after the outbreak of COVID-19 (3%: 2020 vs 2%: 2021).

8. A decline was noted in the turnover of all existing top tourist destinations across the regional units of Greece.

In addition, these sectors in the tourism industry are the fastest growing and most dynamic sectors in the global economy, with enormous importance for the public and private sectors. The findings of this study corroborates with the general trend and with the literature review. Specifically, we conclude that the sector of accommodation and food services is among the most important ones, because it contributes significantly to the total revenue of the Greek economy. The impact of COVID-19 is evident as there is a significant decrease in both arrivals and revenues in the tourist industry by more than 60% in 2020, compared to the respective figures for 2019. Our research hypothesis based on our research question is confirmed as during the recent global COVID-19 pandemic the sector of tourism was totally affected.

Finally, the collection and analysis of secondary data is about official published existing data, collected for the purpose of earlier studies, which we use for a single research topic, in our case. In this respect, the use of the above data does not violate the original consensus of them, and the use of secondary data on this research topic appeared to be the best and most appropriate option. However, during the process of mining data, we noted a difficulty due to the fact that the official authorities had not published the final data for the year in discussion. So our research responds as much as possible to current events and figures. Finally, when data was collected, the fact that

there were no statistics at local level referring exclusively to tourism did not help to form a specific view.

It is recommended to continue the study for the year 2021 and the recovery years to follow. Especially for the years to follow, it is worth to have comparison analysis of different approaches and policies per Region and Country, as well as per the different types of tourism in each area.

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