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**Changes in the Contribution of Tourism to the Economy  
of the EU Member States Under the Impact of Crises**

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**Abstract**

*The year 2020 represents a turning point for both the global economy as a whole and the tourism sector in particular. After a sustained upward trend over a decade, tourism was one of the biggest "losers" of the pandemic crisis. Based on these assumptions, this paper proposes an analysis of the changes in the contribution of the tourism sector to the economy of EU Member States from a macroeconomic perspective. To achieve this objective, several research questions were addressed: (1) Was tourism more affected than the economy as a whole? (2) In which direction did the crisis have a greater impact on tourism: on the contribution to GDP or on the employed population? (3) Did the share of international tourism in total domestic tourism change? and (4) what about the contribution of tourism to member countries' exports? To answer these questions, a quantitative analysis was conducted based on secondary data – the statistics provided by the WTTC: Total contribution of the travel and tourism sector to GDP, Total contribution of the travel and tourism sector to employment, Share of tourism in exports, Share of international tourism in the total domestic market. The main results show that the tourism sector has been severely affected in terms of its contribution to GDP, exports, and labour market, and has lost its economic productivity.*

**Keywords:** tourism sector, crisis, macroeconomic impact, GDP, labour market, European Union member states.

**JEL Classification:** L83, Z31, E60.

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## **1. Introduction**

Despite its resilience in recent decades (during the 2007-2009 financial and economic crisis, 2014-2016 Ebola outbreak, various terrorist attacks), tourism was one of the hardest hit sectors of the economy during the pandemic crisis (Corbisiero, Monaco, 2021), suffering significant losses in all segments. Starting in March 2020, and then several more times when the pandemic situation required it, many businesses in this sector stopped or reduced their activity, resulting into lost income for both tourism businesses and workers (Kniffin et al., 2021; Williams, 2021), while tourist flows decreased, either for objective reasons – travel restrictions – or for subjective reasons – tourist behaviour.

In the case of the tourism industry, the health crisis also had an increased impact for reasons that are characteristic of the sector: from an economic perspective – the large proportion of SMEs (micro) and the importance of the activity for local communities, including due to its impact on training (macro), but also from a social point of view – the impact on vulnerable categories (women, young people, unqualified employees) who traditionally represent an important part of the workforce in the sector.

Therefore, it is essential to acknowledge that tourism is a labour-intensive activity that provides many jobs for skilled and unskilled workers, as well as for people who encounter/face difficulties in finding a job (Sun et al., 2022). The study by Sun et al. (2022) examines how the decline in international tourism consumption affects tourism employment and the potential for income loss.

Thus, the COVID-19 epidemic had a far greater destructive impact on the travel and tourism (T&T) industry than previous studies suggested (Škare, Riberio Soriano, Porada-Rochoń, 2021).

The European Union (EU) groups heterogeneous internal markets in terms of structure and development, with countries where tourism is a key industry, as evidenced by the significant contribution to GDP and employment (Greece, Croatia, Cyprus, or Malta – economies with a high degree of dependence on tourism), but also mature economies – the top tourist destinations in the Mediterranean (Spain, France, or Italy), where the contributions to GDP and employment are significant, especially if we refer to the size of the economies (2<sup>nd</sup> to 4<sup>th</sup> places in the EU).

This paper is organised as follows: Problem Statement – which provides a synthetic overview of previous work strongly related to the topic, Research Questions/Aims of the Research – where the study's propositions, research questions, and hypotheses were stated, Research Methods – which provide information about methods, data sources, observation units, and time period, Findings – where the main results of the work are synthesised, and finally Conclusions – which highlight the main findings related to the objectives and hypotheses, and also the main limitations and future research directions.

## **2. Problem Statement**

Humanity has faced several health crises over the years, caused by viruses that have been studied by specialists. For example, since 2006, Jonung and Roeger have produced a report estimating the potential macroeconomic impact of a pandemic in the EU using a quarterly macroeconomic model. In various pandemic scenarios, the authors quantify the macroeconomic costs of a pandemic, i.e., the costs in terms of lost output due to illness and death, measured as reductions in GDP growth and/or declines in GDP levels. They focused on two sectors of the European economy that were expected to be very strongly affected, namely tourism and trade (Jonung, Roeger, 2006). Enilov and Wang (2022) provide new evidence on the causal link between international tourist arrivals and economic growth. The current 2019 COVID pandemic has demonstrated the sensitivity of regional economies dependent on tourism and hospitality to external shocks (Watson, Deller, 2021).

Sun et al. (2021) tried to develop an analytical model to investigate the vulnerability of tourism employment during the COVID-19 pandemic to better understand how tourism losses affect local employment, which is analysed from different perspectives. The authors use two indicators to define employment vulnerability, namely job losses and unemployment in tourism. Other research papers target crisis resilience by examining how workers develop resilience during the COVID-19 crisis (Tuan, 2021).

Sanabria-Díaz, Aguiar-Quintana, and Araujo-Cabrera (2021) present different public rescue COVID-19-related strategies for the tourism and hospitality sector, at the individual level (for tourists), at the business level (for tourism companies), and at the destination level (for EU countries) from the perspective of stakeholders. Dreshaj et al. (2022) studied tourism demand in a panel analysis based on a GMM (generalised method of moments) model for countries in the Mediterranean region and showed the positive impact of previous demand on current demand in times of crisis.

Figini and Patuelli (2022) develop a methodological tool to estimate the total contribution of tourism to output, gross value added, and employment; their article examines the economic contribution of tourism to GDP. In the context of tourism-based economies, Kim and Marcouiller (2015) found that stronger economies recover faster than weaker ones when hit by exogenous shocks. Watson and Deller (2021) examine the negative impact of external shocks on tourism-dependent economies by looking at resilience and the degree of recovery. In a complementary direction, other authors have approached the topic from the perspective of crisis management (Sönmez et al., 1999) and global practical and theoretical approaches to recovery solutions after unprecedented crises (Cheer et al., 2021).

## **3. Research Questions / Aims of the Research**

The aim of the study is to provide an analysis of the changes in the contribution of the tourism sector to the economy of the EU Member States under the influence of the pandemic crisis.

To achieve this general objective, four main research questions were addressed:

- (1) Was the tourism sector more affected than the economy as a whole?
- (2) In which direction was the impact of the crisis on tourism more pronounced: on the contribution to GDP or on the labour market?
- (3) Did the share of international tourism in total internal tourism change?
- (4) How has the contribution of tourism to member countries' exports changed?

The main descriptive hypotheses related to the literature review and research questions are as follows:

(i) the characteristics of the sector (labour-intensive, direct relationship with the consumer), travel restrictions, and consumer behaviour have made tourism more vulnerable to health crises than other sectors of the economy and the economy as a whole;

(ii) the regulatory measures and policies adopted during the health crises focused on reducing the impact, with an important social component – protecting jobs and vulnerable workers (women, low education); as a result, the economic efficiency (productivity) of the sector decreased, so that the impact on the labour market was stronger than the GDP formation;

(iii) the share of domestic tourism has increased and the share of exports of tourism services in the country's total exports has decreased, due to an accumulation of different factors: domestic tourism is more resilient and has recovered faster, foreign travel is more sensitive to restrictions and pandemics, and tourism exports are so-called internal exports, i.e., tourism activities take place within the territory of the exporting country.

#### **4. Research Methods**

To test the hypothesis and achieve the objective of the paper, a quantitative study was conducted. Secondary data on EU member states provided by the World Travel and Tourism Council (source) for two points in time – the last year before the pandemic (2019) and the last available official data (2021) were used. The analysis was carried out in two stages – first, the empirical analysis of the main indicators and second, the analysis of the processed indicators.

The main indicators considered for all EU countries, which covered 2019 and 2021, are presented in Table no.1.

**Table 1. Research variables**

<b>Variables</b>	<b>Measure unit (%)</b>	<b>Abbreviation</b>
The total contribution of the T&T sector to GDP	T&T GDP in total country GPD	Total_GDP
The total contribution of the T&T sector to employment	T&T employment in total employment GPD	Total_empl
The share of tourism in the exports	T&T exports in total country exports	Exp
The share of international tourism in the total domestic market	International tourism revenues in total domestic tourism market	Int

*Source:* The authors, based on WTTC methodology.

The following formulas were applied for each EU member state:

- The evolution of the GDP contribution =  $(\text{Total\_GDP}_{2021} - \text{Total\_GDP}_{2019}) / \text{Total\_GDP}_{2019} * 100$  (1)

- Employment contribution evolution =  $(\text{Total\_empl}_{2021} - \text{Total\_empl}_{2019}) / \text{Total\_empl}_{2019} * 100$  (2)

- Tourism Efficiency<sub>2019</sub> =  $\text{Total\_GDP}_{2019} / \text{Total\_empl}_{2019}$  (3)

- Tourism Efficiency<sub>2021</sub> =  $\text{Total\_GDP}_{2021} / \text{Total\_empl}_{2021}$  (4)

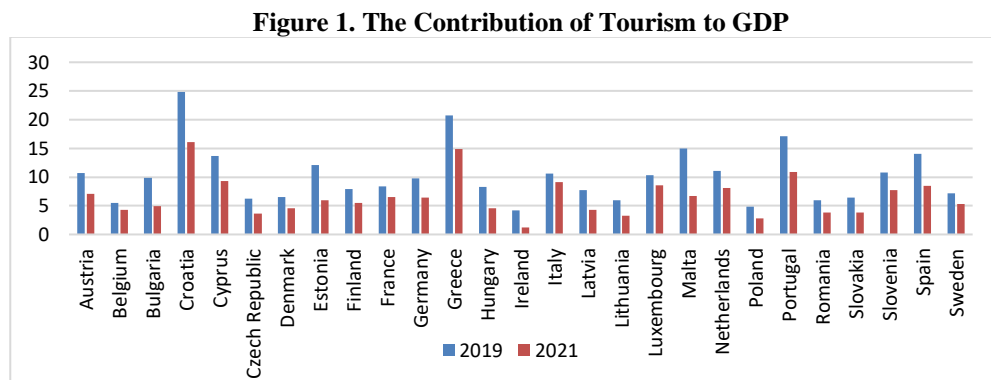
- International tourism share evolution =  $(\text{Int}_{2021} - \text{Int}_{2019}) / \text{Int}_{2019} * 100$  (5)

- The share of tourism in the evolution of exports =  $(\text{Exp}_{2021} - \text{Exp}_{2019}) / \text{Exp}_{2019} * 100$  (6)

## 5. Findings

### 5.1 The Socio-economic Impact

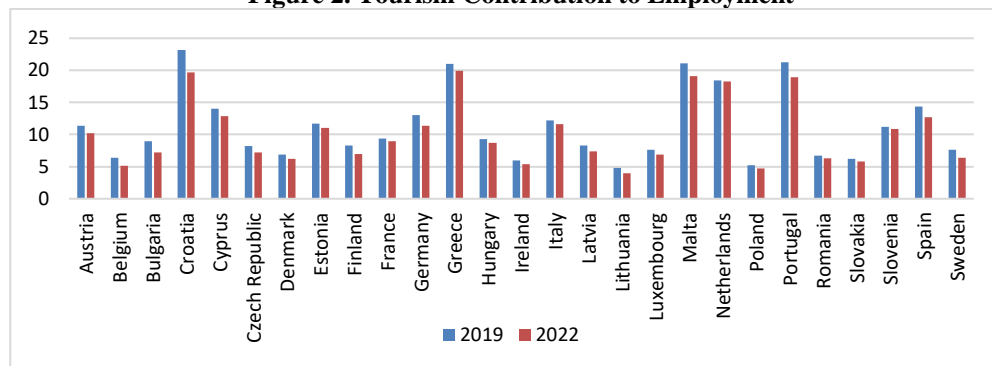
In 2019, Croatia (24.8 %) and Greece (20.7 %), followed by Portugal (17.1 %), Malta (15 %), and Spain (14 %), recorded the highest shares of tourism contribution to the economy from among the EU Member States (Figure 1). On the other hand, the lowest contributions were of 5.5 % (in Belgium) and even below 5 % (Poland - 4.8 %, Ireland - 4.2 %). In 2021, the share of tourism in the economy of the EU Member States reaches a maximum of 16.1 % (Croatia), with Greece (14.9 %) and Portugal (10.9 %) among the top 3 states with more than 10 %, while Ireland, Poland, and Lithuania have registered the lowest values.



Source: The authors, based on WTTC data (WTTC, 2022).

In terms of employment (Figure 2), the percentage of the population employed in tourism and related sectors ranged from 23.2 % in Croatia, followed by Portugal, Malta, and Greece (where each recorded about 21 %), to about 5 % in Poland and Lithuania. In 2021, one in five people employed in the economy worked in tourism and related sectors (in Greece, Croatia, Malta, and Portugal), while Poland and Lithuania ranked last with less than 5 %.

**Figure 2. Tourism Contribution to Employment**



Source: The authors, based on WTTC data (WTTC, 2022).

For the the 2019-2021 timeframe, the strongest relative impact on the contribution of tourism to GDP was recorded in Ireland (a decrease of 71.4 %), with the share exceeding 50 % in Malta, Bulgaria, and Estonia. Relatively smaller impacts were recorded in Luxembourg (-16.5 %) and Italy (-14.2 %). As for the decline in the contribution of tourism to GDP measured in percentage points (p.p.), the most affected countries were Croatia (a decline of 8.7 percentage points), Malta (with a loss of 8.8 p.p.), and also Portugal, Estonia, or Greece (around -6 p.p., each).

The impact on the labour market was also reflected in a reduction in the share of tourism in the total number of jobs in the Member States' economies. The relative impact rate ranged from a decrease of more than 20 % in Belgium and Bulgaria to a decrease of only 2.7 % in Slovenia and of 0.5 % in the Netherlands. As a result, differences in the reduction in contribution, measured in percentage points, were insignificant in the Netherlands (0.1 p.p.) and were less than 1 percentage point in 14 of the 27 Member States. In contrast, the decline in the contribution of tourism to employment was strongly felt in Croatia (3.5 percentage point drop in the share), Portugal (-2.4 p.p.), and Malta (-2 p.p.).

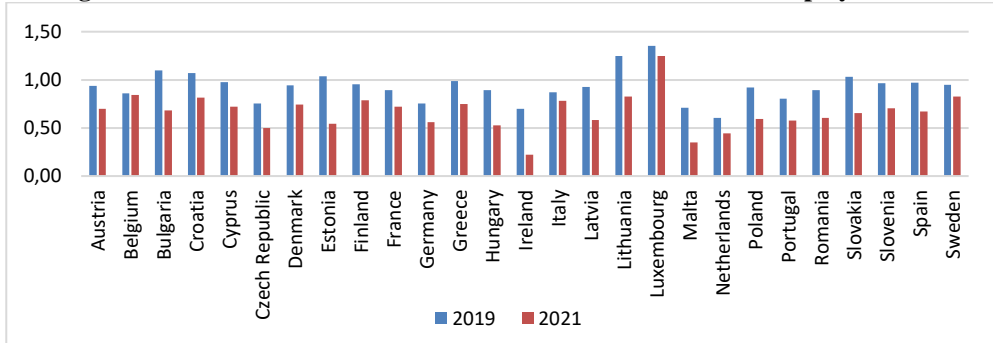
## 5.2 Changes in the Sector GDP / Employment Efficiency

Regarding the differences in the impact on the GDP and on the employed population, we note that the negative impact of the pandemic crisis has almost invariably been reflected more strongly in the formation of the GDP. Thus, the difference in the rate of development is the largest in the case of Ireland (-61 p.p.), while in eight other countries, the contribution to GDP decreased by at least 30 p.p. and up to 45 p.p., while only in three out of the 27 countries (Italy, Luxembourg, Belgium) the registered decrease was of less than 10 p.p.

The sector efficiency, calculated as the ratio between the share of GDP and the share of the employed population (Figure 3), was above 1 in only six EU member states, with Luxembourg (1.36) and Lithuania (1.25) well above. While 11 other countries recorded values between 0.9 and 0.99 and five others between 0.8 and 0.89,

the economic productivity of the tourism sector in the Czech Republic, Germany, Malta, Ireland, and the Netherlands was significantly lower (0.6 – the minimum value). In 2021, only in Luxembourg, the efficiency ratio was above 1 (1.25), in all other countries the indicator was lower than 0.85, with extremely low values in Malta (0.35) or Ireland (0.22).

**Figure 3. The Share of Tourism in GDP / Share of Tourism in Employment Ratio**

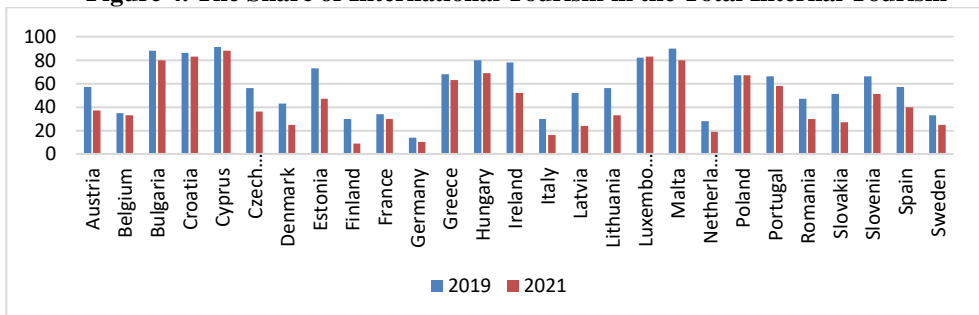


Source: The authors, based on WTTC data (WTTC, 2022).

### 5.3 Changes in the International Tourism and Tourist Exports

In 2019, the share of international tourism (inbound tourism) in the total internal tourism (domestic tourism + inbound tourism) was of 91 % in Cyprus, 90 % in Malta, 88 % in Bulgaria, and 86 % in Croatia. The differences between the EU internal markets were considerable: the share of international tourism was around 30 % in Finland, Italy, or the Netherlands and reached a minimum of 14% in Germany. Five of the 27 Member States maintained a share of international tourism in the total internal travel of 80 % or more in 2021, while the share fell to 16 % in Italy and 10 % in Germany, and reached the minimum value of 9 % in Finland.

**Figure 4. The Share of International Tourism in the Total Internal Tourism**



Source: The authors, based on WTTC data (WTTC, 2022).

The first observation related to the changes in international tourism is that, except for Luxembourg, where the share of international tourism has increased by 1 percentage point (but this corresponds to a growth rate of only 12 %), and Poland,

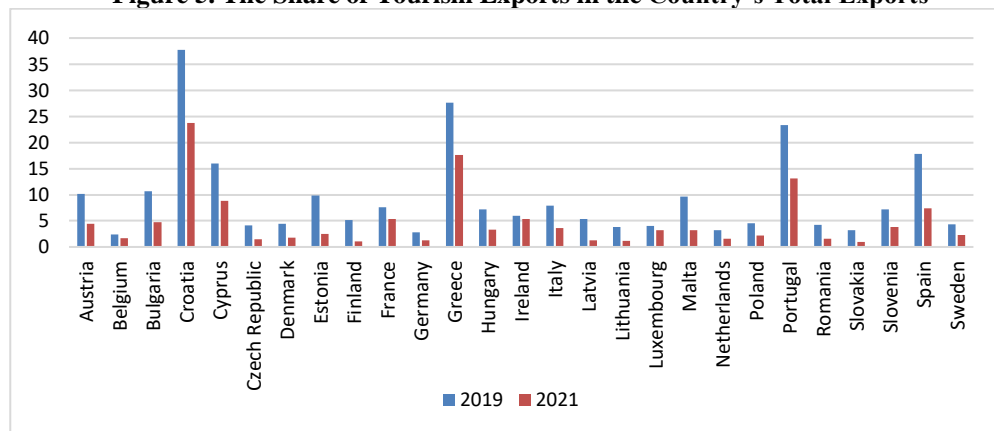
where the values for 2019 and 2021 remained at the same level, in all other EU Member States the share of international tourism in domestic tourism has decreased.

In 8 out of 27 countries, the share of international tourism decreased by more than 20 p.p., with the largest differences in Latvia (28 p.p.), Estonia, and Ireland (26 p.p. each), and in 7 other countries, the decrease was between 10 and 20 percentage points. In terms of development rate, the decrease in the share of international tourism was higher than the average in Finland (-70 %, corresponding to 21 p.p.), Latvia (-53 p.p.), and Ireland (-5 p.p.), Latvia (-53.8 %, 28 p.p.), but also Italy and Slovakia (about 47 % each), while in Cyprus or Croatia the decreases were much smaller (3.3-3.5 %, 3 p.p. each).

Another important observation is that in 2019, the share of international tourism was higher than that of domestic tourism in 18 out of 27 countries, while in 2021 this number decreased to only 11 countries.

In 2019, Croatia held the record for the share of tourism exports in total exports, with 37.7 %, while Greece (27.6 %) or Portugal (23.3 %), but also Spain (17.8 %) or Cyprus (16 %) also had extremely high values. The Netherlands, Slovakia, Greece, or Belgium only exported tourist services in insignificant percentages, of around 3 % or even less. Even though Croatia, Greece, and Portugal remained among the European countries with the highest tourism share in 2021, the percentages were significantly lower, by 10 percentage points or more (23.7 % in Croatia, 17.6 % in Greece, 13.1 % in Portugal). The decline in the export share was observed in all EU countries, and no less than 13 states having recorded a share of tourism in total exports below 2.5 % in 2021.

**Figure 5. The Share of Tourism Exports in the Country's Total Exports**



Source: The authors, based on WTTC data (WTTC, 2022).

Consequently, the sharpest declines in the share of exports were recorded by Croatia (14 p.p., -37 % rate), Spain (10.4 p.p., -58.4 %), Portugal (10.2 p.p., -43.8 %) and Greece (10 p.p., -37.1 %). In contrast, the share of tourism exports in total exports decreased by less than 1 percentage point in Luxembourg, Belgium, and Ireland. As far as the development rate is concerned, the decreases of 75 % or more in



Estonia, Latvia, or Finland should be highlighted, corresponding to a decrease in the share of tourism exports by 7 and 4 p.p., respectively.

## **6. Conclusions**

Regarding the first research question, the first conclusion that can be drawn is that tourism was more affected than the economy as a whole, which confirms the first hypothesis. Considering the previously mentioned results, we can confirm the second hypothesis and answer the second research question: the impact of the crisis was felt more in the GDP formation than in the labour market. Answering the third question, we can partially confirm hypothesis 3: The share of international tourism in the total internal tourism decreased during the COVID-19 crisis in the EU member states almost without any exception. Answering question 4 and hypothesis 3, it is confirmed that the share of tourism in the member countries' exports has decreased during the crisis.

The results provide empirical evidence that supports and complements previous studies on the relationship between tourism and economic vulnerability (Sun et al., 2021), on changes in economic contribution in times of crisis (Figini, Patuelli, 2022), or on the negative impact of external shocks (Watson, Deller, 2021). However, as a limitation of the research, we consider that the approach exclusively from the relative perspective of macroeconomic indicators provides only an overview of the impact of the health crisis on tourism in relation to the economy of EU member states. In further research, the problem studied could be completed by analysing the sectoral in relation to the measures and strategies adopted by the authorities during the pandemic.

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