

# PRE- AND POST-PANDEMIC ANALYSIS OF PORTUGAL'S ACCOMMODATION AND FOOD SERVICES SECTOR: A SHIFT-SHARE APPROACH

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**ABSTRACT.** Portugal's tourism industry is essential to the nation's economy, significantly contributing to wealth creation and employment opportunities. However, the onset of the global COVID-19 pandemic in 2020 severely impacted this vital sector. The accommodation and food services were particularly hit, with many businesses facing widespread closures. By early 2022, Portugal's economy faced additional hurdles. Geopolitical tensions and rising inflation created further disruptions on a global scale, complicating the recovery process. Despite these obstacles, Portugal's accommodation and food services sector began to show promising signs of recovery. To gain a deeper understanding of these dynamics, this paper utilizes shift-share analysis to examine the post-pandemic business landscape of Portugal's accommodation and food services sector, focusing on data from 2019 to 2022 for active businesses and the number of persons employed. This analytical method breaks down growth into national, sectoral, and regional components, providing a comprehensive view of the factors influencing recovery. The findings indicate that regional and industrial factors played a more significant role in driving recovery than national economic trends alone. Notably, regions such as the Algarve, Madeira, and Açores demonstrated remarkable resilience and growth. These areas benefited from their unique competitive advantages within the sector, which helped them navigate the challenging post-pandemic environment more effectively. The study's

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insights are invaluable for policymakers and investors. By understanding the importance of regional policies and innovation, stakeholders can make targeted decisions that enhance the sector's competitiveness and sustainability.

**Keywords:** business dynamics; accommodation; food services sector; tourism; shift-share analysis, Portugal

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## Introduction

Before the COVID-19 pandemic, the World Travel and Tourism Council (WTTC) reported that tourism was the second fastest-growing sector (close to the manufacturing sector), accounting for about 10% of global economic activity. In 2019, before the pandemic, the industry grew more than other service sectors, such as healthcare (3.1%) and information technology (1.7%). At the time, travel and tourism (including its direct, indirect, and induced impacts) accounted for 10.5% of all jobs and 10.4% of global GDP. In 2023, the sector accounted for a number of jobs 1.4% below the 2019 level and contributed 9.1% to the worldwide GDP - an increase of 23.2% from 2022 but 4.1% below the 2019 level (WTTC, 2023). In Portugal, the most recent numbers released indicate that, in 2022, the tourism sector came close to 2019's record figures in the leading indicators of overnight stays (-0.9%) and guests (-2.3%) and surpassed the figures for tourist receipts (+15.4%). A total of 26.5 million guests were registered, 15.3 million foreigners, representing a recovery of 83.3 % and 158.5 %, respectively, compared to the same period last year. However, these figures are still (-2.3%) and (-6.8%) away, respectively, from those recorded in 2019. Projections for 2023 indicate that this will be a record year for the sector, which is thought to be the best year ever for the industry in the Portuguese economy (Turismo de Portugal, 2024).

Accommodation (hospitality) and food services (food and beverage) are fundamental tourism-dependent businesses and have a unique role in the overall tourism industry (Dogru et al., 2023; Rodríguez-Antón & Alonso-Almeida, 2020). They are not just a beneficiary of tourism activity but an essential component that shapes the quality and sustainability of the tourism experience. The accommodation and food services sector, which is fundamental for the overall tourism experience

and supporting infrastructure for tourism activities, plays a crucial role in tourism activity due to its economic and social driver contribution - job creation, revenue generation, and Gross Domestic Product (GDP) contribution.

The financial health, vitality, and resilience of accommodation and food services are vital for the overall success and sustainability of the tourism industry. However, the accommodation and food services sector is known for a high employee turnover. Nevertheless, the extent to which employee turnover in these industries depends on overall economic activities or idiosyncratic characteristics of the hospitality industry is not clear (Dogru et al., 2023). During crises, this turnover is heightened. Therefore, the operating strategies of hospitality and food services companies are compelled to change in response to crises like COVID-19. These occurrences create significant uncertainty and often call for swift action to mitigate adverse effects (Rodríguez-Antón & Alonso-Almeida, 2020).

Indeed, tourism, hospitality, and food and beverage are strictly intertwined economic sectors whose dynamics, opportunities, and (cor)related activities have been studied in the literature, with most recent studies focusing on the resilience of such sectors after periods of crises like the COVID-19 pandemic. The use and acknowledgement of qualitative methods in the previously mentioned research fields have brought a deeper understanding of the social, cultural, and political ties within and between tourism, hospitality, and food services (Provenzano & Baggio, 2020). One of the quantitative methods of analysis applied to these sectors of activity is the shift-share analysis. This is a powerful tool for understanding the dynamics of business sectors due to its ability to decompose industry growth into components that reveal national, regional, and sectoral underlying trends and factors. By understanding past performance - the underlying component driving the sector's evolution - the shift-share analysis is a tool that can help anticipate future dynamics of policy development and competitive positioning, inform strategic decision-making, and guide investments and resource allocation to foster sustainable growth in a specific sector, like the accommodation and food services one. The relevance of such quantitative analysis is proven by a set of literature that studies tourism and hospitality (Costantino et al., 2021; Dogru et al., 2021; Krabokoukis & Polyzos, 2021; Benítez-Aurioles, 2020; Fernando, 2020; Dogru & Sirakaya-Turk, 2017). The methods have also been applied to the Portuguese economy to understand "the dynamics and characteristics of the Portuguese tourism industry" in what is considered a "first step toward formulating a strategy aimed at improving Portuguese competitive standing in the growing tourism market" (Yasin et al., 2004, p. 11).

Considering the importance of the tourism industry overall, particularly the accommodation and food services in Portugal, this paper applies the shift-share analysis to administrative data on the number of businesses and persons

employed in the accommodation and food services activities before and after the COVID-19 pandemic. National, regional, and sectoral data on the two indicators has been collected for 2019 (the year before the pandemic started) and 2022 (the last year for which there is available data) for the Portuguese economy. The objective is to understand how accommodation and food services activities recovered from the crisis that hit the sector and which component (national, regional or sectoral) allowed their recovery and resilience. The analysis allows us to dissect the growth of the accommodation and food services activities into national, industrial, and regional components. This is whether the evolution of these activities is due to overall economic trends, specific sector trends, or unique regional factors, providing a more nuanced understanding of the market dynamics. At the same time, the analysis assesses these activities' resilience in the face of unprecedented challenges posed by the pandemic.

This paper is divided into five parts. After this introduction, a brief literature review is presented on the recovery and resilience of the tourism industry as a whole and, in particular, the accommodation and food services sector after the COVID-19 pandemic. It follows a section devoted to the data and methods applied to reach the paper's objective and a section dedicated to presenting and discussing the results of applying the shift-share analysis to the Portuguese data. The paper concludes with some final considerations.

## **Brief literature review**

The global COVID-19 pandemic and the ensuing lockdowns have had dramatic consequences for the tourist industry worldwide, with many businesses in the accommodation and food services activities closing, leading to the unemployment of many human resources. Such facts conducted intense research on how the tourism and hospitality industry cope with the COVID-19 economic and social consequences. Immediately after the pandemic ended, Utkarsh & Sigala (2021) found 177 papers exploring the extensive academic landscape surrounding COVID-19's impacts on tourism and hospitality. Also, a synthesis of the findings from 407 empirical studies published in the major tourism and hospitality journals is made by Huang & Wang (2023). The studies identified by the authors try to explain the impact of the COVID-19 pandemic on consumer behaviour, response actions, recovery strategies, the broader industry, and employees. Such research shows the importance of the health crisis in the tourism and hospitality industry. Another research, utilising a mixed-method approach that includes both content and bibliometric analysis, identifies that over 70% of the initial research on the impact of COVID-19 on tourism and

hospitality focused primarily on responses to the COVID-19 challenges. These findings aim to help academics and industry professionals understand the evolving landscape of tourism and hospitality research under the constraints of the pandemic and suggest the need for continuous review to capture shifts in research focus over time (Ye et al., 2023).

Much of the previously mentioned research was concerned with the strategic adaptations necessary for resilience and recovery in the tourism and hospitality sectors during the pandemic since the acceleration of technological integration, the issues in globalisation, and the logistical inefficiencies that have reshaped industry operations (Colmekcioglu et al., 2022; Nyagadza et al., 2022). This was particularly relevant for small and medium-sized businesses (SMEs). If tourism is one of the hardest-hit industries by the global pandemic, small tourism enterprises have been heavily affected and have had more difficulties in business recovery (Sobaih et al., 2021). Tunio et al. (2021) identify various adaptive strategies for these businesses, including modifying operational practices, implementing strict health protocols, and leveraging digital technology to maintain customer engagement and manage expectations during the crisis.

The tourism industry suffered the worst impact due to the spread of the COVID-19 pandemic, with Europe the region whose tourism industry has been hardest hit globally (Saputra, 2023). In the European Union (EU), a broad range of public intervention strategies were deployed throughout the region to strengthen the hospitality sector during the COVID-19 crisis. Employing a case study approach, the research of Sanabria-Díaz et al. (2021) scrutinises the literature concerning the pandemic's repercussions. The authors explain the targeted interventions at different levels: individual tourists, tourism industry entities, and EU nations' comprehensive destination management. With analysis from the perspectives of supranational governance and stakeholder theory, the study provides an understanding of the collaborative endeavours to alleviate the pandemic's impact on this vital economic area. Indeed, they conclude that public policies are decisive in combating the effects of COVID-19 on the tourism and hospitality industry and that different COVID-19-related public rescue strategies for the tourism and hospitality sector at the individual, business and destination levels were needed.

Saputra (2023) explored the repercussions of the COVID-19 pandemic on the tourism industry, specifically focusing on the hotel and aviation sectors across Europe, considering the spatial interdependencies among regions. His findings confirm the presence of a significant spatial dependence in Europe concerning the pandemic's impact on tourism. This conclusion suggests that recovery or decline in one European country's hotel and aviation sectors can positively or negatively influence adjacent countries. Overall, Saputra's (2023)

study highlights the intricate interplay between various factors affecting the tourism industry during the pandemic, underscoring the critical role of spatial dependencies in understanding regional impacts. The importance of the regional analysis to understand the COVID-19 impact on tourism and hospitality has been highlighted in the literature worldwide. China, Indonesia, Brasil, EUA and other countries have been subject to regional analysis. In the European Union, it can be given the example of Spain. Benítez-Aurióles (2022) examines the impact of the COVID-19 pandemic on the peer-to-peer (P2P) tourist accommodation market across regions in Spain. Using data gathered by the Spanish National Statistics Institute, the study employs a shift-share analysis to dissect the reduction in overnight stays in 2020 compared to 2019. The findings reveal a significant decline of nearly 60% in overnight stays within the P2P market throughout the initial year of the pandemic, with notable regional disparities. Moreover, the analysis indicates no general correlation between regional specialisation in specific source markets and competitive advantage, which suggests that specialisation did not universally benefit regions in mitigating the decline in their specialised markets relative to the national trend.

For the Portuguese economy, Lopes et al. (2021) used a comprehensive dataset of personal and job-related attributes from 56,142 individuals in the industry to analyse factors influencing vulnerability to unemployment during the crisis. Their results reveal that older individuals, those with lower education and qualifications, women, and residents in regions with dense populations and high tourism activity were more vulnerable to unemployment during the pandemic. Their work is pivotal as it thoroughly examines how socio-demographic, work-related, and regional factors contribute to employment vulnerability in a key economic sector during an unprecedented global crisis. The authors recommend policy measures to boost worker resilience and industry competitiveness, especially in the most affected sub-sectors and regions. The regional perspective is fundamental to developing strategic measures since the Portuguese tourism sector exhibits significant developmental disparities across regions, with localized spillover effects contributing to the spatial clustering of economic activities (Santos & Vieira, 2020).

## **Research methodology**

The main goal of this study is to scrutinise the regional and sectoral business dynamics of the accommodation and food services sector in Portugal, focusing on the number of active businesses and employment levels in the sector in 2022 compared to the year 2019. The year 2019 was considered the

best year for tourism-related activities in the Portuguese economy and was the year before the COVID-19 global pandemic. The year 2022 is considered the year Portugal experienced a resurgence in the demand for its hospitality and restaurant services being important to understand how national macroeconomic trends, sectoral specialization and regional characteristics are relevant to explain the accommodation and food services sector resilience and recovery.

To achieve the goal of this work, a shift-share analysis is applied to quantitative information publicly available on the Portuguese National Statistical Office - INE (INE, 2024), on the number of active businesses operating in the accommodation and food services sector and the number of persons employed on the sector. In this research, the information on the two variables will be analysed regarding the whole Portuguese economy, the 17 main activity sectors of the economy - according to the Portuguese Statistical Classification of Economic Activities (CAE Revision3) equivalent to the Statistical Classification of Economic Activities in the European Community (NACE Rev.2) - and the regional tourism divisions that overlap the seven main Portuguese administrative regions (Norte, Centro, Lisboa e Vale do Tejo (LVT), Alentejo, Algarve, Açores and Madeira).

Data is obtainable for the investigated period - from 2019, the period before the worldwide pandemic, until 2022, the last year information exists available. The number of active businesses indicates the number of legal entities (individual and corporate businesses) corresponding to an organisational unit producing goods and/or services, enjoying a certain degree of decision-making autonomy, particularly concerning the allocation of its current resources. Regarding the number of persons employed, the indicator considers the number of persons who, during the reference period, participated in the business activity, regardless of the duration of this participation (INE, 2024).

First introduced by Dunn (Dunn, 1960), the shift-share analysis is a methodological framework that decomposes the data along three dimensions: the national 'share component' alongside the sectoral (industrial) and regional (local) 'shift components' (Artige & van Neuss, 2014). Employing this analytical instrument provides a detailed understanding of how each element influences regional economic activities, emphasising the effects of national growth, comparing industry-specific growth rates to the national average, and the regional industries' competitive advantages or disadvantages. Cost-efficient and effective shift-share analysis is used to evaluate the competitive perspective of regional industries within the broader context of national economic advancement. The shift-share analysis explains economic change as a combination of three factors that influence it: national - the share component - and sectoral and regional - the shift components. It presents a dynamic picture of the contribution of each factor to local growth: the driving effect of national growth, the specific mix of

sectors of activity and its growth rate compared to the national average, and the relative competitive advantage/disadvantage of the regional sectors (Goschin, 2014). A vast body of research literature uses shift-share analysis in different areas of study. Since the early 1960s, the shift-share analysis, in its traditional form and more recently developed forms, has been applied in many fields, such as spatial economics, political economics, geography, urban planning, international trade, firm demography and, more recently, tourism (Dogru et al., 2021; Benítez-Aurióles, 2020; Fernando, 2020; Dogru & Sirakaya-Turk, 2017). According to these authors, from an economic theoretical perspective, applying the shift-share technique in alternative contexts can demonstrate its efficacy and adaptability in analysing the changes in tourism and hospitality development in a particular country or region based on global economic, industry, and competitive growth.

The essential idea of the shift-share analysis is to find out the extent to which the difference in growth between each region and the national average is due to the region performing uniformly better than average in all sectors or to the fact that the region happens to be specialised in fast-growing sectors (Esteban, 2000). According to Cheng (2011) and Stimson et al. (2006), traditional shift-share analysis decomposes economic changes in a region into three additive components: business cycle (national share = NS), sectoral composition (sectoral mix = SM), and regional advantage (regional shift = RS). The three components sum to the total shift (TS). In the case of this work, the actual growth in the number of businesses actively working in the accommodation and food services sector and the number of persons employed in it can be represented by equation (1) that follows the work of Cheng (2011):

$$TS = NS + SM + RS \quad (1)$$

The formulas for each component are presented and explained below.

The national share component (NS) – equations (2) – measures the regional change in an analysed variable, in this case, the absolute and relative change in the number of businesses active during a given year/the number of persons employed in the active businesses that could have occurred if the regional change was at the same rate as the national economy.

$$NS = \sum_i^n E_{irt} \times g_n \quad \text{with} \quad g_n = (E_{nt^*} - E_{nt}) / E_{nt} \quad (2)$$

Where  $E_{irt}$  is the number of active businesses/number of persons employed in sector  $i$  of region  $r$  at the beginning of a time interval  $t$  (in this case, the year 2019),  $g_n$  is the overall national rate of active businesses/persons employed growth in the time interval from  $t$  to  $t^*$  ( $t^*$  being the end of the time interval that, in this work, is



the year 2022), and  $E_{nt^*}$  and  $E_{nt}$  are, respectively, the number of active businesses/ persons employed in the whole economy at time  $t^*$  (2022) and the time  $t$  (2019). This research uses data on the number of active businesses/ persons employed for the full Portuguese economy to calculate the national share component in the analysis.

The sectoral mix component (SM) measures the proportional shift due to a difference in sector growth between the region considered (each one of the seven Portuguese NUT III regions) and the national economy (the Portuguese economy as a whole) - equations (4):

$$SM = \sum_i^n E_{irt}(g_{in} - g_n) \quad \text{with} \quad g_{in} = (E_{int^*} - E_{int})/E_{int} \quad (4)$$

In the above formulas  $g_{in}$  is the national rate of active businesses/ persons employed growth in sector  $i$  during the time interval from  $t$  to  $t^*$  (from 2019 to 2022), and  $E_{int^*}$  and  $E_{int}$  are, respectively, the number of active businesses/ persons employed in sector  $i$  in the economy at time  $t^*$  and the time  $t$ . In this research, the sectoral mix component includes data for all the non-financial businesses registered in the economy 17 different sectors.

The regional shift component (RS) measures the differential shift due to differences in rates of growth of the same sector between the region and the national economy as a result of various factors (national resources, other comparative advantages or disadvantages, leadership and entrepreneurial ability, the effects of regional policy, among others). The formulas for this component are presented below (equations 5):

$$RS = \sum_i^n E_{irt}(g_{ir} - g_{in}) \quad \text{with} \quad g_{ir} = (E_{irt^*} - E_{irt})/E_{irt} \quad (5)$$

Where  $g_{ir}$  is the active businesses/ persons employed growth rate in the same time interval from  $t$  to  $t^*$  in sector  $i$  in region  $r$ , and  $E_{irt^*}$  and  $E_{irt}$  are the number of firms/ persons employed in sector  $i$  in region  $r$  at time  $t^*$  and  $t$ .

To understand the regional relevance of the accommodation and food services – considering the two variables in the study – in each one of the seven Portuguese regional tourism divisions is calculated the location quotient (LQ) using equation (6):

$$LQ = \frac{\left( X_i / \sum_i^n X_i \right)}{\left( N_i / \sum_i^n N_i \right)} \quad (6)$$

In equation (6),  $LQ$  is the location quotient,  $X_i$  is the value of the study variable for the chosen sector of activity in region  $i$ ,  $\sum_i^n X_i$  is the value of the variable for all sectors in the same region,  $X$  is the value of the economy's variable in the selected sector, and  $\sum_i^n N_i$  is the total value of the variable for all sectors in the economy (Wheeler, 2005). An LQ equal to 1 indicates the region has a balanced sector share compared to the full economy. An LQ inferior to 1 indicates a region less concentrated in the sector than the full economy while an LQ superior to 1 indicates a region more concentrated in the sector of activity than the economy.

The ratio is an important geographic index, often used to analyse the relative distribution or concentration of a specific aspect within a subarea compared to a larger reference area, providing a clear and insightful means to identify and visualise disparities in spatial data. It allows for a comparative assessment of how a particular region participates in a specific economic activity relative to a larger reference area (Krabokoukis & Polyzos, 2020). Indeed, it gives valuable insights into regional characteristics and disparities, aiding in decision-making and strategic planning. The ratio is, therefore, commonly used in regional research that applies the shift-share methodology (Irving et al., 2023; Broxterman & Larson, 2020; Krabokoukis & Polyzos, 2020; Kemeny & Storper, 2014).

## Results and discussions

Table 1 presents the absolute number of firms in activity and the number of persons employed by those firms in 2019 and 2022 for the Portuguese economy. It also shows the variable growth rate from 2019 to 2022. In Portugal, the number of active businesses (individual or corporate businesses) in accommodation and food services represent 8.95% and 8.25% of all active registered companies in the economy in 2019 and 2022, respectively. The number of persons employed in the sector represents 9.45% and 9.08% for 2019 and 2022, respectively, of all persons engaged in active businesses in the Portuguese economy. Between 2019, the year before the pandemic, and 2022, the first year without any health constraints due to the pandemic, the number of active businesses grew by 9% in Portugal, while the businesses in accommodation and food services grew by 0.5%. Regarding the number of persons employed, the variable grew by 6.2% in the whole economy while the persons employed in accommodation and food services grew 3 times less – just 2%.

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**Table 1.** Evolution of the number of active businesses and persons employed between 2019 and 2022 for the Portuguese economy

Portugal		Number of active businesses			Number of persons employed		
		2019	2022	%Δ (2022-2019)	2019	2022	%Δ (2022-2019)
All sectors	Nº	1 318 330	1 437 254	9,0	4 225 538	4 487 322	6,2
Accommodation and food services	Nº	118 031	118 620	0,5	399 241	407 255	2,0
	% Share	8,95	8,25	-----	9,45	9,08	-----

Source: Authors elaboration based on data from INE (2024)

Table 2 presents the number of active businesses and persons employed in each regional tourism division - for whole sectors and the accommodation and food services sector. Besides these numbers, it also presents the percentual share of each regional value in the full economy. The growth rate between 2019 and 2022 is presented. Additionally, the regional location quotient (and the respective growth rate) for the accommodation and food services sector can be observed before and after the global pandemic.

**Table 2.** Evolution of the number of active businesses, persons employed and the location quotient between 2019 and 2022 by regional tourism division

Regions / Sectors		Number of active businesses			Number of persons employed			
		2019	2022	%Δ (2022-2019)	2019	2022	%Δ (2022-2019)	
Norte	All sectors	Nº (%Share)	446 149 (33,8)	483 345 (33,6)	8,3	1 418 707 (33,6)	1 505 045 (33,5)	6,1
	Accommodation and food services	Nº (%Share)	33 218 (28,1)	33 852 (28,5)	1,9	98 003 (24,5)	104 222 (25,6)	6,3
		LQ	0,83	0,85	2,0	0,73	0,76	4,4
Centro	All sectors	Nº (%Share)	269 110 (20,4)	287 203 (20,0)	6,7	759 243 (18,0)	791 188 (17,6)	4,2
	Accommodation and food services	Nº (%Share)	20 877 (17,7)	21 025 (17,7)	0,7	54 855 (13,7)	56 919 (14,0)	3,8
		LQ	0,87	0,89	2,4	0,76	0,79	3,7
LVT	All sectors	Nº (%Share)	382 504 (29,0)	426 928 (29,7)	11,6	1 482 870 (35,1)	1 578 834 (35,2)	6,5
	Accommodation and food services	Nº (%Share)	33 581 (28,5)	30 924 (26,1)	-7,9	152 960 (38,3)	148 145 (36,4)	-3,1
		LQ	0,98	0,88	-10,5	1,09	1,03	-5,3
Alentejo	All sectors	Nº (%Share)	86 189 (6,5)	90 600 (6,3)	5,1	221 387 (5,2)	239 457 (5,3)	8,2
	Accommodation and food services	Nº (%Share)	7 893 (6,7)	7 717 (6,5)	-2,2	18 370 (4,6)	18 722 (4,6)	1,9
		LQ	1,02	1,03	0,9	0,88	0,86	-1,9
Algarve	All sectors	Nº (%Share)	76 971 (5,8)	86 803 (6,0)	12,8	191 215 (4,5)	203 641 (4,5)	6,5
	Accommodation and food services	Nº (%Share)	15 664 (13,3)	17 784 (15,0)	13,5	48 546 (12,2)	50 554 (12,4)	4,1
		LQ	2,27	2,48	9,2	2,69	2,74	1,8
Açores	All sectors	Nº (%Share)	28 746 (2,2)	30 393 (2,1)	5,7	72 715 (1,7)	77 727 (1,7)	6,9
	Accommodation and food services	Nº (%Share)	2 863 (2,4)	3 071 (2,6)	7,3	9 107 (2,3)	9 906 (2,4)	8,8
		LQ	1,11	1,22	10,1	1,33	1,40	5,9
Madeira	All sectors	Nº (%Share)	28 661 (2,2)	31 982 (2,2)	11,6	79 401 (1,9)	91 430 (2,0)	15,1
	Accommodation and food services	Nº (%Share)	3 935 (3,3)	4 247 (3,6)	7,9	17 400 (4,4)	18 787 (4,6)	8,0
		LQ	1,53	1,61	4,9	2,32	2,26	-2,4

Source: Authors elaboration based on data from INE (2024)

The table allows us to observe the accommodation and food sector's unequal importance in the Portuguese tourism divisions. In 2019, the regions of Norte and LVT had the most significant share of active businesses in accommodation and food services (28.1% and 28.5%), followed by the Centro and Algarve regions with a share of 17.7% and 13.3%, respectively, of all businesses in the sector. The same pattern of shares appears when observing the number of persons employed. The accommodation and food services sector in LVT accounts for a share of 38.3% of all persons employed in the sector, while Norte accounts for 24.5%, Centro for 13.7% and Algarve 12.2%. The other regions present much smaller shares for both indicators. From a regional perspective, Portuguese regions present different growth rates for both indicators. The number of active businesses in the sector of accommodation and food services decreased in LVT (-8.4%) and Alentejo (-2.7%), presented a small increase rate in Centro (0.2%) and Norte (1.4%) and increased more than the whole economy (all sectors of activity) in Algarve (13.5%), Açores (7.3%) and Madeira (7.9%). The same pattern is observed regarding the growth rates for the number of persons employed in the sector.

Even if the percentual share of the accommodation and food activities is smaller in some regions compared with the regions of Norte and LVT, these regions are not where the sector is more concentrated. The LQ for the sector indicates the relevance of the regions of Algarve, Açores, and Madeira and, to a lesser extent, the Alentejo. This was true before the pandemic and became more pronounced after it. The Algarve is the most concentrated region regarding the number of active businesses and persons employed in the accommodation and food services sector, presenting growth rates of the LQ of 9.2 and 1.8%, respectively, between 2019 and 2022. Indeed, the Algarve is renowned globally for its sun and beaches, natural parks, and historical landmarks and has solidified its reputation as a premier tourist hotspot. Therefore, it became a vital region in the Portuguese tourism industry (Martins & Correia, 2024). However, its reliance on tourism makes it susceptible to crisis negative impacts making it more critical the ability to recover from them. The values calculated for the LQ show the region has been resilient in the accommodation and food services sector. Açores is another Portuguese region that demonstrates the same resilience.

Tables 1 and 2 indicate the effective change observed for the two indicators in the analysis, considering that a pandemic crisis dramatically hit the accommodation and food services sector between the two years observed. Table 2 also allows us to observe the effective change differed in different regions. Even though only the accommodation and food services sector is presented and compared with the whole economy, it is also possible to infer the changes in the sector differ from the economy and possibly from other sectors. Moreover, Table 2

shows the regions more concentrated in accommodation and food services remained the same after the pandemic, indicating no change in the specialisation regional patterns in this sector. So, to go further in the analysis, the shift-share analysis is applied to the data to explore the structural changes in a sector within regional areas over a designated period.

Table 3 presents the results of the shift-share analysis of the existing active businesses operating in Portugal and the persons employed in those businesses, respectively. In the table, it is possible to observe the growth rates concerning the national, sectoral and regional components of the shift-share analysis. The national share component (NS) corresponds to the growth rate of each indicator for the whole Portuguese economy independently of the regions that compose it or the type of economic sectors. The sectorial component of the shift-share analysis (the sectoral mix component = SM) considers the 17 major sections of the Portuguese Classification of Economic Activities (CAE Revision 3). Finally, the regional shift component (RS) is reflected in the indicator's growth rates in the seven regional tourism divisions that compose the Portuguese economy. The regional shifts component is presented only for the total growth rate for each indicator and the indicator's growth rate for the accommodation and food services activities. The Portuguese economy's effective (real) growth rate, the total shift component (TS), is calculated by summing the total regional, sectoral, and national components. In Table 3, only the accommodation and food services sector is presented when showing the regional results. So, the effective growth rate for the accommodation and food services sector is equal to the sum of the value computed for the sector's regional component, the value computed for the sector's sectoral component, and the value calculated for the national component.

As Tables 1 and 2 show, the number of active businesses in the Portuguese economy increased from 2019 (the year before the world pandemic) to 2022 growth of 9.0%. The number of people in service in those firms grew by 6.2%. These values do not depend on the Portuguese NUT III administrative regions or the sector of activity in which firms are operating, or persons are employed. Even though for the whole Portuguese economy, there was a rise in the number of businesses in activity, if each sector of activity is taken individually (sectoral component), the surge did not happen in all 17 main sectors of activity. Active businesses decreased in eight activity sectors, including the accommodation and food services sectors. The businesses in activity in the Portuguese economy's accommodation and food services sector, as a whole, in 2022 decreased by 8.52%. The same happens for the indicator that measures the number of persons employed. For the accommodation sector, the number decreased by 4.19% in the whole Portuguese economy.

**Table 3.** Results of the shift-share analysis

Portugal	NS = National Share Component (%)							
	Active businesses		Persons employed					
	9,00		6,20					
Sectors of activity	SM = Sectoral Mix Component (%)							
	Active businesses		Persons employed					
Agriculture and fishing	-14,39		-4,59					
Mining and quarrying	-10,20		-1,50					
Manufacturing	-9,50		-6,67					
Electricity, gas, steam and air conditioning supply	29,24		12,71					
Water supply; sewerage, waste management and remediation activities	-10,09		5,37					
Construction	4,29		6,62					
Wholesale and retail trade; repair of motor vehicles and motorcycles	-9,60		-4,08					
Transportation and storage	28,15		0,13					
Accommodation and food service activities	-8,52		-4,19					
Information and communication	30,55		26,83					
Real estate activities	14,50		14,54					
Professional, scientific and technical activities	4,10		6,85					
Administrative and support service activities	8,08		1,45					
Education	-0,19		2,38					
Human health and social work activities	5,86		2,80					
Arts, entertainment and recreation	6,67		8,80					
Other service activities	-0,20		-3,10					
Regions	RS = Regional Shift Component (%)				TS = Total Shift Component (%)			
	Active businesses		Persons employed		Active businesses		Persons employed	
	Total	Accommodation and food services	Total	Accommodation and food services	Total	Accommodation and food services	Total	Accommodation and food services
Norte	-0,68	1,41	-0,11	4,34	8,3	1,91	6,09	6,35
Centro	-2,30	0,21	-1,99	1,76	6,7	0,71	4,21	3,76
LVT	2,59	-8,41	0,28	-5,16	11,6	-7,91	6,47	-3,15
Alentejo	-3,90	-2,73	1,97	-0,09	5,1	-2,23	8,16	1,92
Algarve	3,75	13,04	0,30	2,13	12,8	13,53	6,50	4,14
Açores	-3,29	6,77	0,70	6,77	5,7	7,27	6,89	8,77
Madeira	2,57	7,43	8,95	5,96	11,6	7,93	15,15	7,97

Source: Authors elaboration based on data from INE (2024)

Going deep into the analysis and doing it by regions, it is possible to observe the decrease in the number of active businesses in the accommodation sector and the number of persons on service behaving differently by regional tourism divisions. The accommodation and food services sector grew intensively, regarding the number of active businesses in areas like the Algarve (13.04%),

Madeira (7.43%), Açores (6.77%) and to a minor extent in Norte (1.41%) and Centro (0,21%). Two regions observed a decline in active businesses in the sector (LVT and Alentejo), with the region of LVT concentrating the most significant number of firms. It is clear from the table's observation that the full Portuguese economy was much more resilient after the pandemic than the accommodation and food services activities if only the activity sectors are considered (the sectoral mix in the shift-share analysis).

The opposite evolution observed between the economy's growth rates and the sector's growth is more pronounced for active businesses operating in the accommodation and food services activities than for the number of persons employed. The Portuguese national positive trend seemed to be driven by sectors such as electricity, gas, steams and air conditioning, transportation and storage, information and communication, real estate and administration, health and entertainment activities regarding the active businesses operating in the economy and the number of persons employed even if in a less extent.

Despite the negative evolution in the sectoral mix, for the accommodation and food services sector, the regional component was able to balance the sector's growth and leverage it to increase the effective growth rate observed between 2019 and 2022. Indeed, except for the region of LVT (and Alentejo for the case of the number of persons employed), the accommodation and food services sector outperformed the entire economy better in all regions if only the regional component was considered. Such good regional performance and the growth trend observed for the Portuguese economy during this period allowed the accommodation and food services sector to recover from the negative effects of the sector.

Innovation seems to be an important driving force for Portuguese regional resilience in the aftermath of the pandemic crisis. Regions where R&I entities engaged in innovation co-creation projects together with business partners were more resilient in the recovery phase. It is, therefore, important that policymakers adopt mechanisms to stimulate stronger collaboration between regional stakeholders, favouring the transference of knowledge, competencies, and technology (Sargento & Lopes, 2024). The authors also found that regional structural characteristics play different roles during the phases of resistance and recovery after the pandemic. Sectoral diversity and a more qualified labour force are important for mitigating the immediate impact of the crisis but do not appear to be crucial for the recovery of Portuguese regions. Additionally, labour stability helps reduce the shift from employment to unemployment during crises, while some flexibility is needed in the recovery stage to facilitate the transition back to employment (Sargento & Lopes, 2024). Such explanation may explain the regional results for the accommodation and food services when comparing

the evolution of variable persons employed in the sector to the variable numbers of active businesses operating in the sector. In the regions where the regional growth was more evident for the active business, the numbers of persons employed did not perform so well.

A recent study on the future of Portuguese tourism and hospitality labour based on the sector's key stakeholders' opinions states that "the most prominent challenges that the COVID-19 pandemic created are the damage to practical ability, finding a skilled and experienced workforce, and attracting tourism labour back to the sector" (Seyitoğlu et al., 2023, p. 1). The authors state that medium and long-term measures are needed to overcome such challenges in the future. They suggest the development of future trends and skills for tourism and hospitality employment together with new working models, digitisation and robotisation, and skills such as management, analytical, digital marketing, and customer behaviour analysis.

The shift-share analysis helps distinguish between the growth attributed to the national economic cycle and the growth due to regional competitive advantages. Understanding where a region stands out can inform strategies to enhance its appeal and competitiveness, as the Algarve, Madeira, or Açores regions stand out in the observed growth of the accommodation and food services sector and could be defined as a benchmark against broader national trends. Note that Algarve and Madeira represent well-established tourist destinations with high demand, while the Azores, recently recognized as Europe's leading adventure tourism destination, exemplify regions experiencing rapid tourism growth with sound location quotients for the sector.

Literature stresses that accommodation and food services managers should consider highlighting the competitive advantages of destinations and the unique supply proposals. By doing so, they can attract and retain visitors, even during challenging times like a pandemic. Emphasising these strengths can mitigate the adverse effects of such crises, making the destinations and products more appealing and resilient in the market (Afonso & Calisto, 2023). Moreover, several lessons can be learned from regions that outperform the shift-share analysis, as in the case of Açores. The region diversified tourism offerings, promoted domestic and regional tourism, prioritised sustainable development, embraced digital tools, prepared for emergencies, fostered business collaboration, invested in health and safety measures, involved local communities and adopted a long-term vision (Sousa et al., 2023). Sustainable innovation in tourism has brought positive changes in the Algarve region's natural resources, economy, urban planning, safety, and monitoring, which has allowed it to generate employment, create businesses, and increase tourist outflows. Moreover, sector diversification may drive a regional resilience enhancement - beyond the sun



and sea tourism specialisation in the Algarve region - supported by sustainable touristic products like nature-based, cultural, and creative tourism products (Martins & Correia, 2024; Samora-Arvela et al., 2024). The same strategy also seemed to work for Madeira. In the aftermath of the pandemic, Madeira bet on the strategy to develop promotional activities in various international markets and foster sustainable tourism – namely the certification of the archipelago as a sustainable tourist destination. This approach secured sociocultural identity and authenticity while providing socio-economic benefits for all stakeholders (Jesus, 2023), helping the recovery of tourism-related activities.

## Conclusions

While the Portuguese economy experienced growth between 2019 and 2022, despite the pandemic, the accommodation and food services sector did not fare as well when examined in isolation. The sector faced an 8.52% drop in active businesses and a 4.19% reduction in employment, diverging from the general positive trends in other sectors of the economy. However, certain regions, notably Algarve, Madeira, and Açores, showed strong recovery and growth within this sector. These regions benefitted from their robust tourism appeal, measured by their location quotient, and proactive regional policies, which gave them a competitive edge. Regions with a more diverse economic organisation were better equipped to handle the immediate impacts of the pandemic and support recovery, highlighting the importance of economic diversity for resilience. Innovation seems to play a crucial role in regional recovery. Areas encouraging collaboration between research institutions, innovation entities, and businesses fared better, suggesting that policies promoting knowledge and technology transfer can significantly bolster regional resilience. The study indicates that regional and industrial factors were more influential than national economic growth in shaping the post-pandemic landscape of Portugal's accommodation and food services sector. It should be noticed, however, that the analysis highlights the role of regional policies but does not delve deeply into specific policy measures and their direct impact on the sector. A more detailed policy impact analysis could enhance the understanding of effective strategies

It is important to remember that the shift-share analysis methodology used is exploratory rather than explanatory, which is a limitation of the present research. Even though by identifying the regional component of growth, businesses and policymakers can understand the unique competitive advantages or disadvantages of a region's accommodation and food services sector. This insight is crucial for developing strategies to enhance competitiveness, such as

improving service quality, diversifying offerings, or investing in marketing. For investors and policymakers, shift-share analysis helps identify high-potential areas for investment or development within the accommodation and food services sectors. By understanding which regions or sub-sectors outperform due to intrinsic factors, resources can be allocated more effectively to maximise economic returns and job creation.

Given that this research analysis is exploratory rather than explanatory, further research is recommended over a more extended timeframe. This should include other tourism-related sectors and a detailed policy effectiveness analysis. Such an approach would better capture long-term recovery trends and the sustainability of the sector's growth post-pandemic. It would also provide a comprehensive view of the overall tourism industry's recovery and its interdependencies and offer a detailed analysis of specific policy interventions and their effectiveness across different regions. This information would be crucial for guiding future policy-making and strategic planning.

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