

## Article

# COVID-19's Impact on the Restaurant Industry

Conceição Gomes , Cátia Malheiros , Filipa Campos  and Luís Lima Santos 

CiTUR Centre for Tourism Research, Development and Innovation, Polytechnic of Leiria,  
2411-901 Leiria, Portugal

\* Correspondence: conceicao.gomes@ipleiria.pt

**Abstract:** The restaurant industry contributed to the creation of wealth and employment until the end of 2019, when it reached maximum values. However, with the COVID-19 pandemic in early 2020, this sector suffered a very serious economic and employment crisis. The analysis of this situation is imperative to mitigate the consequences for the restaurant industry and to prevent impacts in future crises. The main purpose of the present study is to compare the years 2019 and 2020, analyzing the profitability, payroll costs, headcount, and indebtedness of the restaurants, to verify the COVID-19 pandemic's impact in Spain and Portugal. Quantitative research was applied, where a descriptive analysis and hypothesis testing were conducted. SABI database was the secondary data source used in this research. The results show that the COVID-19 pandemic has had an impact on profitability, efficiency, and indebtedness in the restaurant industry, being a generalized situation in both countries, in all regions except for Ceuta. The results also confirm the importance of this study for managers and academics since all the variables under study worsened with the COVID-19 pandemic. This study represents a contribution to managers and stakeholders in the restaurant sector by allowing the comparative evaluation of each restaurant with the average of the variables by location and the definition of proactive strategies. Practical implications are proposed to mitigate the effect not only of COVID-19 but also of other pandemics or economic crises that may arise in the future, preparing managers and stakeholders to adapt to change and promoting the financial sustainability of the restaurant industry. It is recommended to increase the disclosure of statistical indicators and financial ratios of free access, which allows the improvement of the analysis of different variables that are important for professionals in the restaurant industry.

**Keywords:** COVID-19; restaurant industry; profitability; payroll costs; headcount; indebtedness



**Citation:** Gomes, C.; Malheiros, C.; Campos, F.; Lima Santos, L. COVID-19's Impact on the Restaurant Industry. *Sustainability* **2022**, *14*, 11544. <https://doi.org/10.3390/su141811544>

Academic Editor: Riccardo Testa

Received: 19 August 2022

Accepted: 9 September 2022

Published: 14 September 2022

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



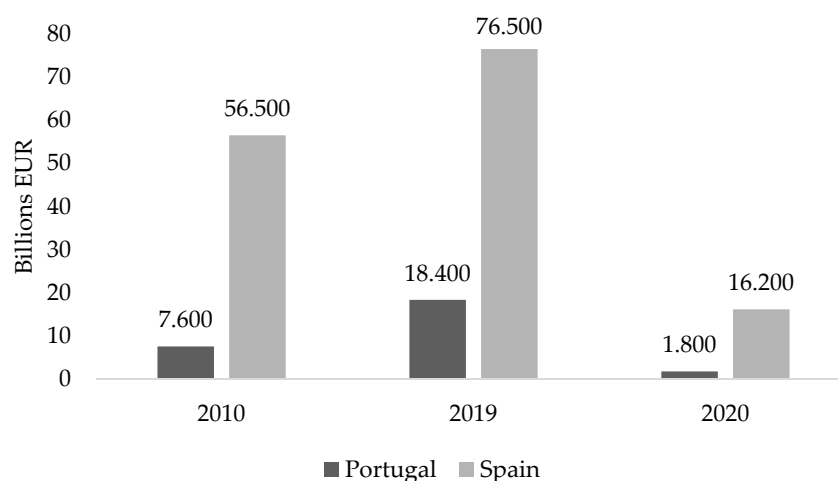
**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

The tourism sector had been growing positively in the early 21st century until 2019. In countries such as Portugal and Spain, tourism has contributed significantly to the GDP (gross domestic product) of both countries. Late December 2019 saw the emergence of COVID-19, a highly infectious disease that quickly spread across the globe and had devastating impacts on both the tourism and restaurant sectors, causing travel restrictions worldwide and reducing tourist arrivals [1]. Moreno-Luna et al. [2] state that, in the year 2020, GDP fell by 16.4% and 21.5% in Portugal and Spain, respectively, due to the importance that the tourism sector has in the economy of these countries through tourist flows.

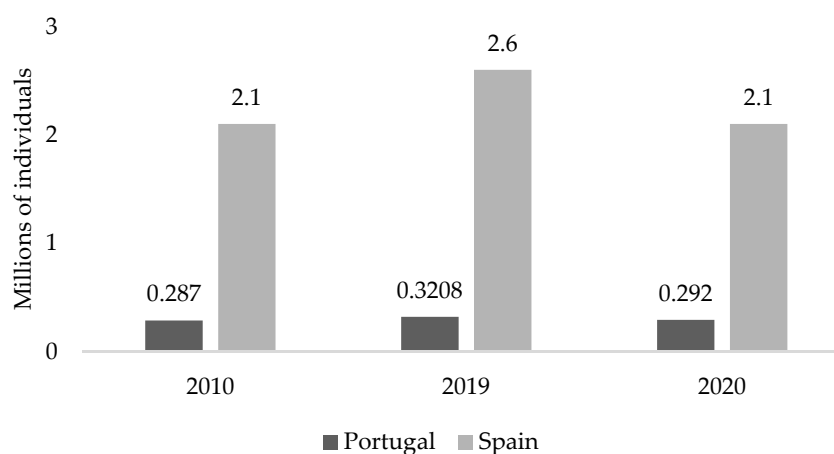
### 1.1. Tourism Development and the COVID-19

Analyzing the period between 2010 and 2019, tourism revenues in Portugal more than doubled from EUR 7600 billion to EUR 18,400 billion [3]. In the same period, Spain increased from EUR 56,500 billion in tourism-related revenues to EUR 76,500 billion [4]. However, with the impact of the COVID-19 pandemic, revenues decreased dramatically; Portugal receded almost 10 years of tourism revenues, amounting to EUR 7800 billion [5]; in the case of Spain, the decrease was even more significant, settling at EUR 16,200 billion in revenues [6]. Figure 1 graphically presents the data explained above.



**Figure 1.** Revenues of tourism in Portugal and Spain. Source: adapted from Costa [3], INE [5], and UNWTO [4].

Regarding employment, according to Costa [3], tourism in Portugal is considered a “key employer” since it increased from 0.287 million jobs in 2010 to 0.320 million jobs in 2019. Already in 2020, it suffered a loss of almost 30,000 jobs, reverting to 0.292 million jobs. As far as Spain is concerned, in 2010, the tourism sector contributed 2.1 million workers; this figure has increased over the years, settling at 2.6 million jobs in 2019. In 2020, due to the pandemic issue, jobs were reduced to similar numbers as in 2010, settling at 2.1 million jobs [6]. Figure 2 presents data on the number of jobs in the years mentioned.



**Figure 2.** Employed population in the tourism sector in Portugal and Spain. Source: adapted from Costa [3] and Segittur [6].

The restaurant industry is one of the industries that contributes the most to the development of tourism both in terms of revenue and employment and was highly damaged during the year 2020 by the pandemic. According to Opstad et al. [7], the restaurant industry is labor-intensive with a lot of small companies. Restaurants are known to operate in a constantly competitive environment [8] and are easily sensitive to crises. In this sense, it was essential to study the impact that crises had on the functioning and performance of restaurants, as in the case of the enormous crisis caused by COVID-19. In Portugal, “lay-off” was launched, a financial support scheme where the Portuguese government supported 1/3 of the salary [3].

## 1.2. Main Objectives

The context of long-term uncertainty justifies the main objective of this study. A comparison is carried out between the years 2019 and 2020, aiming to evaluate the performance of restaurant companies in Portugal and Spain since these two countries of the Iberian Peninsula have a common historical past and a similar culture.

Due to the lack of literature on the restaurant industry, there is a need to define guidelines to support managers, professionals, and policy makers in observing and evaluating this industry from different perspectives, giving them practical meaning. Despite the existence of several authors (evidenced throughout the article) who have analyzed the financial variables—profitability, indebtedness, headcount, and payroll costs—this study is the first to relate all the variables together, comparing the pre-pandemic and pandemic period scenarios and relating them to location (an even more scarce occurrence to be observed in the existing literature) in one of the most important tourism subsectors—the restaurant industry. Thus, variables such as the number of employees, payroll cost percentage, headcount growth, profitability ratios, and indebtedness ratios are going to be analyzed. This study will allow an understanding of how these variables behave and determine whether the location, as well as the COVID-19 pandemic, has an impact on restaurant performance. In this way, the following specific objectives have been set:

1. To assess the overall performance of the variables in the period under analysis.
2. To understand if the regions with higher profitability ratios in 2019 are the same in 2020.
3. To understand whether the regions with the most employees in 2019 are the ones that lost the most jobs in 2020.
4. To understand whether, with the lay-off of workers, the payroll cost percentage increased in 2020.
5. To understand whether regions with the worst debt ratios or with greater financial problems in 2019 became even worse in 2020.
6. To understand if the location has an influence on the behavior of the variables under analysis.

The structure of the study includes the introduction, the literature review, the methodology used, the presentation and discussion of the results, and the conclusions of the study, which include actions to prevent impacts in future crises. A desirable contribution of this study is the mitigation of the consequences of COVID-19 in the restaurant industry.

## 2. Literature Review

With the occurrence of several economic and financial crises, managers must adopt quick and intuitive tools to face situations of uncertainty, make informed decisions and promote the sustainability of their companies. With such tools, managers can have at their disposal variables that allow them to evaluate the performance of their firms, such as profitability, payroll cost, headcount, and indebtedness, which will be analyzed in this chapter. The impact of COVID-19 and the recovery measures adapted to overcome this crisis will also be analyzed.

### 2.1. Performance Evaluation of the Restaurant Industry

Thorough management of a restaurant is essential to enable its success [9]. Several studies evaluate the performance of restaurant chains at the level of financial management and other measures such as quality and marketing [10–12]. Financial ratios and indicators are considered strong performance measures to evaluate the performance of companies [13].

Poor management of these enterprises due to financial volatility and lack of knowledge can lead to bankruptcy of a restaurant [9]. The characteristics of the restaurant business and the global economic crisis experienced in 2008 caused financial difficulties for several companies in the restaurant industry, leading many of them to bankruptcy [14]. To avoid this problem, Bogdan [15] developed an analysis of two years of bankrupt and non-bankrupt restaurant companies; the results of the study argue that financial ratios, such as return on

equity (ROE) and EBITDA margin, are key to avoiding insolvency situations from progressing to bankruptcy. Along the same line, Becerra-Vicario et al. [16] built a high-accuracy model that allows for predicting restaurant bankruptcy and indicates that variables such as liquidity, profitability, and solvency are important to avoid bankruptcy.

Liquidity reflects the ability of a company to repay its obligations while maintaining a favorable operation [17]. Profitability represents the efficiency of the firm's entire business activity and helps in the process of financial well-being and business performance [18]. Solvency reflects the firm's ability to mature in the medium and long term, depending on debt elements such as maturities and financial expenses [18].

Given the purpose of this study, it is important to analyze profitability and solvency ratios. Profitability ratios are used to provide information about a company's profitability, helping in evaluating management by relating various variables in financial statements and income [19]. In other words, "profitability ratios indicate a company's ability to generate earnings against cost during a given period" [13], p. 213. Profitability is negatively correlated with size, meaning that small restaurants have higher growth and profitability than large ones [7]. Table 1 shows the formulas for calculating some profitability ratios such as ROE, return on assets (ROA) and return on sales (ROS).

**Table 1.** Profitability ratios.

Ratios	Formula	Sources
ROE	$\frac{\text{net income}}{\text{equity}} \times 100$	Park and Lee [20] and Lima Santos et al. [21]
ROA	$\frac{\text{income before interest and taxes}}{\text{assets}} \times 100$	Coelho [22]
ROS	$\frac{\text{net income}}{\text{sales}} \times 100$	Gomes and Oliveira [23]; Lee et al. [24]

In general, financial ratios help to detect the financial and operational difficulties of companies [25]. Solvency ratios help a company to meet long-term objectives. According to [26], p. 1, restaurant companies tend to issue long-term debt to cover current debts and often use "financing interchangeably to manage their financial constraints and target debt ratio". Bondoc [27] highlights debt structure by dividing debts into short-term and long-term, which is necessary for a thorough analysis. Table 2 presents the formulas to calculate some solvency/structure ratios, such as debt-to-assets ratio, global financial autonomy, and equity ratio.

**Table 2.** Solvency/indebtedness ratios.

Ratios	Formula	Sources
Debt-to-assets ratio	$\frac{\text{liabilities}}{\text{assets}} \times 100$	Lin [28]; Park and Lee [20]; Singh [10]; Chang et al. [29].
Global financial autonomy	$\frac{\text{equity}}{\text{liabilities}} \times 100$	Dhaoui [30]; Bondoc [27]
Equity ratio	$\frac{\text{equity}}{\text{assets}} \times 100$	Veldhoven et al. [31]

Headcount and payroll costs are variables that are very important for performance evaluation. Gomes and Oliveira [23] promoted measures supporting managers' decision-making, which encouraged the performance of tourism intermediary companies. In this study, profitability ratios were analyzed and correlated with headcount. Headcount and headcount growth rate were used by Akbaba [32], who highlights that employees' variables are important for the performance evaluation of tourism enterprises. Moser [33] corroborates this, arguing that being labor-intensive is a characteristic of the restaurant industry. Thus, the impact of headcount and labor costs in such a volatile industry should be analyzed. According to the results obtained by Allegretto and Reich [34], increases in wage costs are supported by increases in the selling prices of products in a restaurant. On the other hand, it is possible and interesting to analyze the performance of labor ratios

to maintain effective human resource management [35]. Mathe [36] refers that a lower payroll cost implies better performance. Table 3 presents the formulas to calculate some labor ratios.

**Table 3.** Labor ratios.

Ratios	Formula	Sources
Labor costs	$\frac{\text{labour costs}}{\text{sales}} \times 100$	Mathe [36]; Sabri et al. [37]
Labor productivity (sales per employee)	$\frac{\text{sales}}{\text{number of employees}} \times 100$	Sabri et al. [37]
Capital to labor ratio	$\frac{\text{assets}}{\text{labour costs}} \times 100$	Pettinger [38]

The variables discussed above often vary according to location. Several authors state that the location where a company operates influences management decisions and can be a decisive factor in the success or bankruptcy of a business, as it has a significant impact on its performance and financial sustainability [39–41].

Lado-Sestayo et al. [42] argue that it is necessary to study how location can affect the profitability of a hospitality business; therefore, the results of this study state that location can affect the profitability of a company.

Regarding the debt of restaurant businesses, Planinc and Kukanja [43] argue that these companies have difficulties in achieving positive financial results. Vivel-Búa et al. [40] state that location influences indebtedness.

According to Dong et al. [44], employment is essential for the implementation of location-based strategies. Location is often at the root of employee recruitment measures in a company [45,46].

## 2.2. COVID-19 on the Restaurant Industry

The restaurant industry is a socio-economic sector that, in addition to its sensitivity to seasonality, is also vulnerable to natural risks such as epidemics and pandemics [47]. In late 2019, the emergence of the COVID-19 pandemic in China damaged several business sectors. The tourism sector, where the restaurant industry is embedded, was one of the most affected sectors with employment and revenue losses [4,47].

Madeira et al. [48] analyze the various types of crises that may exist in the restaurant industry, namely internal and external. The internal crises, according to the authors, can be solved through corrective measures, while the external crises are not dependent on the managers' work but on government measures and support. Regarding the crisis caused by COVID-19, Madeira et al. [48] agree with other authors already mentioned and emphasize that a similar crisis had never occurred before. Gössling et al. [1] corroborate this, stating that the world has had several epidemics/pandemics over the years, but none had such significant impacts on tourism; in previous studies also, Tse et al. [49] analyzed the impact of SARS (Severe Acute Respiratory Syndrome) on the tourism sector, specifically in the restaurant industry.

According to Sardar et al. [50], p. 7, the restaurant industry has been severely affected due to various economic factors such as business closures; "employees lay-off"; price increases related to decreased demand; increased bank loans; increased business bankruptcies; financial weakness; and reduced dining room capacity related to the implementation of public health measures.

Costa [3] states that, with the presence of COVID-19, several restaurants closed for a period, and others adapted, providing takeaway services and home deliveries; in addition, this disease required a global change regarding food safety and customer health care [51]. The uncertainties present during the pandemic period also caused a reduced flow of customers, which directly affected employment and the operation of restaurant businesses [52]. According to Sardar et al. [50], several managers lost all their money

because of the lockdown imposed by the government, and several restaurant businesses lost all their income.

According to Moser [33], restaurants generally have limited liquidity and low-profit margins; Gössling et al. [1] support this opinion and state that, with COVID-19 and lockdowns in several countries during 2020 and 2021 [13], this industry decreased its workload, which caused the number of employees to decrease as well. In small restaurants, the imposed government measures had the biggest impact, preventing them from operating sustainably [52].

In employment matters, since the industry was disrupted by COVID-19, the Private Sector Quality of Employment Index (JQI) estimates that some 10.8 million employees working in bars and restaurants have lost their jobs [53]. However, according to interviews conducted by Burhan et al. [54], hotel and restaurant managers had a sense of empathy for the most vulnerable employees and needed to keep qualified staff in their companies to open the business after confinement.

### *2.3. Measures and Strategies to Recover from COVID-19*

To recover the economy, countries such as Spain, Portugal, and Italy have created, as early as May 2020, agreements to promote economic recovery and employment [55]. Several authors present different strategies for the recovery of the restaurant sector of activity [2,48,51,52,56,57].

Freitas and Stedefeldt [51] argue that strategies involve the intensification of food safety from the beginning of the purchase of raw materials to the sale/provision of services. Kim et al. [52] present strategies and opportunities for this industry, such as the rise of takeaway and home delivery. The results of the study presented by the authors indicate that some restaurants have required customers to include a greater number of orders to increase their operational efficiency and improve financial performance.

On the other hand, Madeira et al. [48] refer to product innovation, and the provision of new services is seen as a form of strategy for a more sustainable future in restaurants in Portugal. The increase in the average number of meals and service hours is also seen as a solution to increase restaurant revenues. Burhan et al. [54] also argue for reduced operating costs. Another option will be to bet on domestic tourism customers in Spain [2], but this would involve adjustments in the number of employees [48]. Yost et al. [57], p. 409 advocate the importance of employee training and agreements/contracts with suppliers to decrease the cost of raw materials, “focusing on cost control, forecasting, and optimizing resources”. For increased revenues, Yost et al. [57] state that offering discounts might attract newer customers. Variable schedules among employees can also help restaurant businesses adapt to uncertain situations.

As far as small and medium-sized companies are concerned, their survival remains a relevant concern. Managers feel motivated, although the financial resources they have are not sufficient, so new strategic opportunities should be evaluated, considering that the economic recovery of these companies may take time to return to pre-pandemic scenarios. Moreover, each company has its own specific characteristics [58].

Finally, Senbeto and Hon [59] state that any crisis has direct effects on tourism, and in the specific case of COVID-19, tourism experienced negative effects. Gössling et al. [1] also consider the possibility of the emergence of new pandemics and crises; the role of tourism in the economies of countries where the restaurant sector is included should be assessed. Zhang and Blasco [60], p. 116 argue that the difficulties created by COVID-19 “should be addressed by meeting future tourism trends and strengthening collaborations”. Pinilla et al. [61] argue that these changes should be implemented through European programs, such as the Next Generation—a recovery plan that aims to recover the economy of the various countries of Europe and transform a society that works for everyone.

Therefore, the importance of introducing recovery responses not only immediately but also in the long term is highlighted [58], with proper monitoring of the restaurant operations [62], considering aspects such as effective management [9].

This literature review leads to the following five hypotheses concerning this investigation:

**Hypothesis H1.** *Restaurants' profitability is expected to be negatively affected by COVID-19 pandemic.*

**Hypothesis H2.** *Restaurants' employment is expected to be negatively affected by COVID-19 pandemic.*

**Hypothesis H3.** *Restaurants' payroll cost is expected to be increased by COVID-19 pandemic.*

**Hypothesis H4.** *Restaurants' indebtedness is expected to be increased by COVID-19 pandemic.*

**Hypothesis H5.** *Location influences the profitability, employment, payroll cost and indebtedness of the restaurants.*

### 3. Methodology

Considering the objective of this study and the literature review related to tourism development, the impact of COVID-19 on the restaurant industry and the measures and strategies that have been adopted for the recovery of businesses in this sector of activity are followed by a rigorous analysis of the impact of this disease on profitability, payroll costs, headcount, and indebtedness in the restaurant industry. The period selected for data analysis was between 2019 and 2020, to compare the year when restaurants and tourism reached historic highs and the year when there was a significant decline in restaurant management issues resulting in significant losses.

Portugal and Spain are countries where the tourism sector and the restaurant industry are very important in the economy. Quantitative research has had a wide application in various studies [63], for example, Galstian et al. [64], Lucas and Ramires [13], and Silva et al. [65]. Then, it was used to study the impacts of the COVID-19 pandemic on the restaurant industry in Portugal and Spain. Descriptive analysis and hypothesis testing were the techniques used for data analysis. Secondary data were used through SABI database [66] on 20 May 2022, and the research focused on Portuguese and Spanish restaurant companies, which are assigned the economic activity code 5610, in Portugal by the Código de Atividades Económicas (CAE) and in Spain by the Clasificación Nacional de Actividades Económicas (CNAE). Kim et al. [52] prepared a similar study, collecting data on restaurant companies' monthly sales between 2019 and the first quarter of 2020 in China.

The search on the SABI platform [66] started with the extraction of several variables concerning the years 2019 and 2020: region, net income, equity, debt, long-term bank debt, short-term bank debt, total assets, turnover, headcount, payroll costs, income before income taxes and interests. All these data obtained from the SABI platform allowed the calculation of profitability ratios, debt ratios, headcount growth, and payroll costs, according to Table 4.

All the variables were used in the comparison of the various regions of Portugal and Spain between the years under study.

Data collection started with 16,958 restaurants from Portugal and 29,850 from Spain. A total of 8041 Portuguese restaurants and 8218 Spanish restaurants were eliminated for lack of information, as they assumed negative equity, and it made it impossible to calculate ROE. Thus, the final sample consisted of 8917 Portuguese restaurants and 21,632 Spanish restaurants.

Statistics Packages for Social Sciences (SPSS) software (IBM, Armonk, NY, USA) was used to analyze the data to obtain the results of this research. Poon and Low [67] also used the same software in their study. For the hypothesis testing, non-parametric tests were used insofar as variables failed normality through Kolmogorov–Smirnov test (K–S test), an assumption required for the adoption of parametric tests. Thus, Kruskal–Wallis test was performed instead of one-way ANOVA as data are not normally distributed, and the Friedman test was conducted as it is a non-parametric test equivalent to the parametric two-way ANOVA. These two tests were also used by Fu [56] in a similar study.

**Table 4.** Definition and description of the study variables.

Variable	Formula	Mean		Std Deviation		Maximum		Minimum	
		Portugal	Spain	Portugal	Spain	Portugal	Spain	Portugal	Spain
ROE 2020	$\frac{\text{Net income}}{\text{equity}}$	−3.21	−0.49	85.25	7.79	25.02	41.57	−6963.39	−532.05
ROE 2019		−0.241	0.31	18.79	78.87	98.03	5789.37	−1371.03	−7471.31
ROA 2020	$\frac{\text{income before income taxes and interests}}{\text{assets}}$	−0.08	0.02	0.37	0.15	1	1.34	−11.73	−2.99
ROA 2019		0.09	0.09	0.35	0.42	10.6	51.04	−8.55	−11.05
ROS 2020	$\frac{\text{Net income}}{\text{turnover}}$	−0.73	0.08	0.37	8.9	1	1158.35	−3505.71	−26.87
ROS 2019		0.06	0.03	0.35	6.53	10.6	476.2	−39.51	−735.27
NE 2020	Number of employees	10.69	15.92	50.91	224.85	2678	18,196	0	1
NE 2019		12.46	15.91	56.42	124.45	2899	7955	0	1
HG	$\frac{NE_{2020} - NE_{2019}}{NE_{2019}} \times 100$	−0.9%	−5.27%	64.305%	76.05%	2550%	3068%	−100%	−99%
PC 2020	$\frac{\text{payroll costs}}{\text{turnover}}$	0.46	0.38	1.53	0.2	121.6	10.15	0	0
PC 2019		0.28	0.42	0.44	4.52	32.24	482.82	0	0
ID 2020	$\frac{\text{debt}}{\text{assets}}$	0.57	0.58	0.29	0.3	1	0.99	0	0
ID 2019		0.51	0.56	0.27	0.28	1	1	0	0
STBD 2020	$\frac{\text{short term bank debt}}{\text{short term debt}}$	0.1	0.3	0.22	0.25	1.02	1	0	0
STBD 2019		0.07	0.24	0.17	0.22	1	1	0	0
LTBD 2020	$\frac{\text{long term bank debt}}{\text{long term debt}}$	0.7	0.86	0.4	0.23	1	1	0	0
LTBD 2019		0.58	0.82	0.44	0.28	1	1	0	0

Notes: ROE—return on equity; ROA—return on assets; ROS—return on sales; HG—headcount growth; NE—number of employees; PC—payroll cost; ID—indebtedness; STBD—short-term bank debt; LTBD—long-term bank debt. Financial ratios option was chosen since they are considered strong measures [13].

Kruskal–Wallis test had the aim of analyzing if there were significant differences in the variables are study among diverse regions in 2019 and 2020 [56]. In other words, variables' median was compared among regions groups in other to know if the variables present equal distribution in them. First of all, it was formulated and tested the hypothesis “H0: ROE/ROA/ROS/payroll costs percentage/headcount growth/indebtedness distribution is equal across region categories” with a level of significance of 0.01.

The Friedman test [68] is a non-parametric test that analyses the scatter between two factors; it can compare various ranking methods on different data sets [69]. “The Friedman test is used to verify the relation between the categorical and ordinal variables (factor)” [70], p. 290. The same authors state that samples behave as repeated evaluations of similar objects, measured at different time points, and can also be measured under different conditions. In this study, the Friedman test was used to analyze if the COVID-19 pandemic had had an impact on the restaurant industry.

As happened with Gligor-Cimpoieru et al. [71] and Fu [56], the Kruskal–Wallis test and the Friedman test were efficient in this study.

## 4. Results and Discussion

### 4.1. Overall Performance of the Variables

The sample in the study is made up of 8917 Portuguese restaurants (including mobile food service activities) belonging to Portuguese EAC Rev.3—561 and 21,632 Spanish restaurants belonging to Spanish EAC Rev.2—561. The restaurants are geographically distributed according to the Nomenclature of Territorial Units for Statistics (NUTS). This nomenclature of territorial units is segmented into three levels, and the chosen level was two (NUTS 2), as can be consulted in the appendices. The years under review were 2019 and 2020 to analyze the effect of the COVID-19 pandemic. The restaurants in both countries present huge but different volatility. In Portugal, there were 7980 active restaurants in 2019, yet 937 restaurants were born, and 709 died, ending up with 8208 active restaurants in 2020. In this way, despite the COVID-19 pandemic, there was an increase in the number of restaurants in Portugal. This is confirmed by the Bank of Portugal [72] and may be related



to the fact that this sector is quite volatile [73] and that the birth and death rates of these companies are non-constant [72].

In Spain, the situation is different, as, in 2019, there were 20,734 active restaurants, whereas, in 2020, 898 restaurants were registered and 3987 were eliminated, ending up with 17,645 active restaurants. According to Martínez Jorge and Galindo [74], based on data from the Bank of Spain, small and medium-sized Spanish companies represented a large part of the restaurant supply and were the most affected by the COVID-19 pandemic. The decrease in the number of Spanish restaurant companies may be related to the vulnerability of this sector, which increased by 6 p.p. in the year 2020 (20%) compared to the year 2019 (14%), registering a drop in the number of companies at the very beginning of the same year, due to the confinement imposed by the government and the forced closing of companies [75]. The same authors state that there was a peak in the insolvency rate of restaurant companies, standing at 15% at the end of the year 2020.

In Tables 5 and 6, the sample is presented by region. In Portugal, Lisbon Metropolitan Area is the region with the largest number of restaurants, followed by the North region. In Spain, Cataluña should be highlighted with 4327 restaurants, closely followed by Madrid. Ceuta and Melilla are distinguished by the small number of restaurants.

**Table 5.** Restaurants by region—Portugal.

Region	Number	Percentage
Alentejo	371	4.16%
Algarve	1002	11.24%
Center	1242	13.93%
Lisbon Metropolitan Area	3518	39.45%
North	2258	25.32%
Autonomous Region of Madeira	366	4.10%
Autonomous Region of Azores	160	1.79%
Total	8917	100%

**Table 6.** Restaurants by region—Spain.

Region	Number	Percentage
Andalucía	3188	14.74%
Aragón	513	2.37%
Asturias	486	2.25%
Baleares	1002	4.63%
Canarias	1170	5.41%
Cantabria	282	1.30%
Castilla y León	680	3.14%
Castilla-La Mancha	587	2.71%
Cataluña	4327	20.00%
Ceuta	7	0.03%
Comunidad Valenciana	2936	13.57%
Extremadura	237	1.10%
Galicia	936	4.33%
La Rioja	100	0.46%
Madrid	3644	16.85%
Melilla	11	0.05%
Murcia	524	2.42%
Navarra	235	1.09%
País Vasco	767	3.55%
Total	21,632	100%

#### 4.2. Profitability

According to Appendix A, the average profitability of restaurants in Portugal decreased between 2019 and 2020. ROE, ROA, and ROS decreased by 297 p.p., 17 p.p., and

78 p.p., respectively. This describes the state of the restaurant industry under the COVID-19 pandemic. The position of Portuguese regions is similar, with all regions presenting a drop between 2019 and 2020. It should be emphasized that all regions have negative average profitability either on assets, sales, or equity, which highlights the impact of COVID-19 in all regions. In 2020, the Autonomous Region of Azores (ARA) had the highest ROE (−69.37%), the Center presented the highest ROA (−2.93%), and the North attained the highest ROS (−14.71%). The Autonomous Region of Madeira (ARM) has the worst scenario when ROE and ROA are analyzed.

Observing Appendix B, Spain presents a drop in ROE and ROA, of 79.29 p.p. and 6.81 p.p., respectively. Curiously, it shows a rise in ROS and positive values in ROA and ROS. Analyzing the ROE of the regions, in 2019, Cataluña has the highest value (281%), followed by Asturias (240%), while in 2020, the primacy goes to Ceuta (18%) and Melilla (12%), the regions with the smallest number of restaurants. ROA and ROS show a fall in all regions except in Ceuta, Andalucía, Canarias, and Extremadura. The influence of the COVID-19 pandemic is obvious.

Based on these results, “Hypothesis H1: Restaurants’ profitability is expected to be negatively affected by COVID-19 pandemic” was not rejected since all the regions analyzed decreased their profitability.

#### 4.3. Payroll Costs/Headcount

In Portugal, a slight decrease of 0.9% was recorded in relation to the number of employees in restaurants, with Algarve having the most accentuated decrease (−13%). The percentage of staff costs to sales increased in 2020, compared to 2019, i.e., a decrease in efficiency was noted in all the regions. In 2020, Alentejo registered the highest value (72%), while the North obtained the lowest value (42%) (Appendix B).

In Spain, concerning the number of employees, an increase of 5.27% was recorded. However, most regions recorded a decrease except Ceuta, Madrid, and Murcia. The most pronounced decrease was in Baleares. The evolution of the percentage of staff costs to sales was a little different in Spain compared with Portugal. In the country overview, a decrease was verified (42% to 38%) excluding Aragón, Canarias, Cantabria, Castilla e León, Castilla-La Mancha, Ceuta, Comunidad Valenciana, Galicia, Murcia, Navarra, and País Vasco. Nevertheless, the percentages are lower than the Portuguese ones (Appendix B).

“Hypothesis H2: Restaurants’ employment is expected to be negatively affected by COVID-19 pandemic” and “Hypothesis H3: Restaurants’ payroll cost is expected to be increased by COVID-19 pandemic” were tested, but the solutions are not the same for all regions. H2 is not rejected for Portugal and Spain, excluding Ceuta, Madrid, and Murcia, where it recorded an increase. H3 is not rejected for Portugal but is rejected for Spain excluding the following regions Aragón, Canarias, Cantabria, Castilla e León, Castilla-La Mancha, Ceuta, Comunidad Valenciana, Galicia, Murcia, Navarra, and País Vasco.

#### 4.4. Indebtedness

The increase in the indebtedness of restaurants in Portugal is evident in all regions without exception (51% to 57%). This increase occurred both in the short-term bank debt and in the long-term bank debt (Appendix C). The highest increases in indebtedness in terms of p.p. were registered in ARM and ARA, as well as the highest percentages of debt. It is worth noting that the percentages of long-term bank debt are higher than those of short-term bank debt, with ARA standing out as having the highest percentage (81%).

In Spain, the long-term bank debt is higher than the short-term bank debt for all the regions and for both years. Everything indicates that the COVID-19 pandemic has made restaurants more indebted in Spain, as the debt ratio has increased in all Spanish regions except Ceuta. Comunidad Valenciana, La Rioja, Cataluña and Madrid were the regions that increased the most in p.p. (3 p.p.) (Appendix C). Both short-term bank debt and long-term bank debt recorded rises in all the Spanish regions. According to López [76], Spain was the

country that recorded a higher percentage (24%) of business bankruptcies in relation to the year 2019.

Regarding Hypothesis H4: Restaurants' indebtedness is expected to be increased by the COVID-19 pandemic, according to the results, is not rejected.

#### 4.5. Comparing Regions' Profitability, Payroll Costs/Headcount, and Indebtedness

Despite presenting different values, restaurant profitability, payroll costs/headcount, and indebtedness should be analyzed statistically across the regions. Therefore, the Kruskal–Wallis test was used to compare whether the behavior of restaurants regarding these variables differs according to the region in 2019 and 2020. The hypothesis “H0: ROE/ROA/ROS/payroll costs percentage/headcount growth/indebtedness distribution is equal across region categories” was formulated and tested. This hypothesis was rejected for all the Portuguese regions with a level of significance lower than 0.01, except for the short-term bank debt, where the same pattern was detected in all regions (Table 7). The Kruskal–Wallis test shows, regardless of the COVID-19 pandemic, that most of the variables behave differently across regions.

**Table 7.** Kruskal–Wallis by region—Portugal.

Years	Significance	Decision
ROE 2020	<0.001	Reject
ROE 2019	<0.001	Reject
ROA 2020	<0.001	Reject
ROA 2019	0.000	Reject
ROS 2020	<0.001	Reject
ROS 2019	0.000	Reject
HG 2020	0.000	Reject
NE 2020	<0.001	Reject
NE 2019	<0.001	Reject
PC 2020	0.000	Reject
PC 2019	0.000	Reject
ID 2020	<0.001	Reject
ID 2019	<0.001	Reject
STBD 2020	0.294	Not reject
STBD 2019	0.490	Not reject
LTBD 2020	0.033	Reject
LTBD 2019	<0.001	Reject

Notes: ROE—return on equity; ROA—return on assets; ROS—return on sales; HG—headcount growth; NE—number of employees; PC—payroll cost; ID—indebtedness; STBD—short-term bank debt; LTBD—long-term bank debt.

In Table 8, the great discrepancies are presented. In both 2019 and 2020, the behavior across regions is divergent. The COVID-19 pandemic has not mitigated the differences, but it may have influenced them differently. Regarding profitability, ARM, ARA, and Center stand out with the lowest profitability in Portugal. Between 2019 and 2020, the Center recorded a higher value in the growth of the number of employees, contrasting with Algarve, with a decrease of 13%. Percentage of payroll costs are higher in Alentejo and ARM, differing from the North and Alentejo in 2019, which registered lower values. Alentejo changes its position with the COVID-19 pandemic. Indebtedness is evident in ARM, and it seems that this region should be looked at carefully as there are low profitability and high debt rates in the restaurant industry. The ARA already stands out for its high percentages of long-term bank debt.

**Table 8.** Indicators by region—Portugal.

Years	The Region with the Highest Value	The Region with the Lowest Value
ROE 2020	Alentejo	Autonomous Region of Madeira
ROE 2019	Center	Autonomous Region of Azores
ROA 2020	Center	Autonomous Region of Madeira
ROA 2019	Algarve	Autonomous Region of Madeira
ROS 2020	North	Center
ROS 2019	Algarve	Autonomous Region of Madeira
HG 2020	Center	Algarve
NE 2020	Lisbon Metropolitan Area/North	Alentejo
NE 2019	Lisbon Metropolitan Area/North	Alentejo
PC 2020	Alentejo	North
PC 2019	Autonomous Region of Madeira	Alentejo/ North
ID 2020	Autonomous Region of Madeira	Algarve
ID 2019	Autonomous Region of Madeira	Algarve
LTBD 2020	Autonomous Region of Azores	Lisbon Metropolitan Area
LTBD 2019	Autonomous Region of Azores	Autonomous Region of Madeira

Notes: ROE—return on equity; ROA—return on assets; ROS—return on sales; HG—headcount employee; NE—number of employees; PC—payroll cost; ID—indebtedness; LTBD—long-term bank debt.

The same analysis was applied to Spain, and it is presented in Table 8. The Kruskal–Wallis test was also used to compare whether the behavior of restaurants regarding their profitability, payroll costs/headcount, and indebtedness differs according to region. The hypothesis “H0: ROE/ROA/ROS/payroll costs percentage/headcount growth/indebtedness distribution is equal across region categories in 2019 and 2020” was formulated and tested. This hypothesis was rejected for each variable analyzed in all the Spanish regions with a level of significance lower than 0.01 (Table 9). The Kruskal–Wallis test demonstrates, independent of the COVID-19 pandemic, that all the variables behave differently across regions. The location influences the restaurants in terms of profitability, payroll costs, and indebtedness.

In Table 10, the extremes are displayed. In both 2019 and 2020, the performance across regions is different. In Spain, the COVID-19 pandemic did not mitigate the differences, just as it did not in Portugal. Regarding profitability, the worst ROE values found are in País Vasco (−100%), Cataluña (−69%), and Madrid (−69%). ROA and ROS present superior values but are also negative, the worst regions being La Rioja (−1%) and Baleares (−7%), respectively.

Between 2019 and 2020, Ceuta recorded a higher value in the growth of the number of employees, contrasting with Baleares, with a decrease of 18%. Percentage of payroll costs are higher in Canarias (2020) and Andalucía (2019), differing from Asturias, Ceuta and Murcia in 2020 and Murcia and Ceuta in 2019. Some regions maintain the percentage while others decrease the payroll cost percentage, and other regions have increased the percentage. The situation in the regions is completely different, and it would be interesting to find out the causes. This implied, in average terms, a decrease in the payroll cost percentage in Spain.

Indebtedness is evident in Madrid (61%), with an increase of 3 p.p. Ceuta and Melilla already stand out for their high percentages of long-term bank debt and La Rioja (43%) for its short-term bank debt.

Hypothesis H5: Location influences the profitability, employment, payroll cost, and indebtedness of the restaurants is validated; therefore, and according to the year, the situation diverges, so it can be noted that several factors inherent to the location influence the restaurant’s performance, indebtedness, and efficiency. When restaurant managers conduct benchmarking activities, they should compare with the averages of the region due to their divergences.

**Table 9.** Kruskal–Wallis by region—Spain.

Years	Significance	Decision
ROE 2020	0.000	Reject
ROE 2019	<0.001	Reject
ROA 2020	0.000	Reject
ROA 2019	0.000	Reject
ROS 2020	0.000	Reject
ROS 2019	0.000	Reject
HG 2020	0.000	Reject
NE 2020	0.000	Reject
NE 2019	0.000	Reject
PC 2020	0.000	Reject
PC 2019	0.000	Reject
ID 2020	<0.001	Reject
ID 2019	<0.001	Reject
STBD 2020	<0.001	Reject
STBD 2019	<0.001	Reject
LTBD 2020	<0.001	Reject
LTBD 2019	<0.001	Reject

Notes: ROE—return on equity; ROA—return on assets; ROS—return on sales; HG—headcount growth; NE—number of employees; PC—payroll cost; ID—indebtedness; STBD—short-term bank debt; LTBD—long-term bank debt.

**Table 10.** Performance by region—Spain.

Years	The Region with the Highest Value	The Region with the Lowest Value
ROE 2020	Ceuta	País Vasco
ROE 2019	Cataluña	Aragón
ROA 2020	Asturias	La Rioja
ROA 2019	Melilla	Extremadura
ROS 2020	Canarias	Baleares
ROS 2019	Baleares	Andalucía
HG 2020	Ceuta	Baleares
NE 2020	Madrid	Aragón/Cantabria/Galicia/La Rioja
NE 2019	Madrid	Galicia/La Rioja
PC 2020	Canarias	Asturias
PC 2019	Andalucía	Ceuta
ID 2020	Madrid	Ceuta
ID 2019	Murcia	Melilla
STBD 2020	La Rioja	Canarias
STBD 2019	Extremadura	Cantabria
LTBD 2020	Ceuta/Melilla	Cataluña
LTBD 2019	Ceuta/Melilla	Cataluña

Notes: ROE—return on equity; ROA—return on assets; ROS—return on sales; HG—headcount growth; NE—number of employees; PC—payroll cost; ID—indebtedness; STBD—short-term bank debt; LTBD—long-term bank debt.

The Friedman test was used to check whether the COVID-19 pandemic influenced the behavior of restaurants. Payroll costs/headcount variables, profitability variables, and indebtedness variables were analyzed to see if they had the same behavior in 2019 and 2020. This analysis was performed for the countries as a whole (Portugal and Spain) and for the regions of each country. Hypothesis H0: All the variables ROE/ROA/ROS/payroll costs percentage/headcount growth/indebtedness applied in relation to the region and countries are not different between 2019 and 2020 and were rejected, except in the situations presented in Table 11. The COVID-19 pandemic implied significant differences in all the variables comparing 2019 with 2020, with more severe values in all regions (except Ceuta) but significantly diverging.

**Table 11.** Friedman test (2019 versus 2020) exceptions.

Indicator/region	Significance	Decision
STBD ARA	<0.01	Not reject
PC Cataluña	<0.01	Not reject
PC Asturias	<0.01	Not reject
LTBD La Rioja	<0.01	Not reject
ROE Ceuta	<0.01	Not reject
ROA Ceuta	<0.01	Not reject
ROS Ceuta	<0.01	Not reject
NE Ceuta	<0.01	Not reject
PC Ceuta	<0.01	Not reject
ID Ceuta	<0.01	Not reject
STBD Ceuta	<0.01	Not reject
LTBD Ceuta	<0.01	Not reject
ROE Ceuta	<0.01	Not reject
ROA Ceuta	<0.01	Not reject
ROS Ceuta	<0.01	Not reject
NE Ceuta	<0.01	Not reject
PC Ceuta	<0.01	Not reject

Concluding, the results of the Friedman test allow for significantly validated H1, H2, H3, and H4, excluding Ceuta. The COVID-19 pandemic has had an impact on profitability, efficiency, and indebtedness in the restaurant industry, being a generalized situation in both countries, in all regions except for Ceuta. Profitability has decreased, indebtedness has increased, and efficiency measured through payroll costs percentage diverges between Portugal and Spain. In Portugal, this percentage has increased while in Spain it has decreased. What is the explanation? The decrease in sales is a justification, or the employment policies of each country can be another reason.

## 5. Conclusions

The restaurant industry is considered a very volatile sector of economic activity, and it is sensitive to external factors such as financial crises [49]. In 2020, under the effects of the COVID-19 pandemic, the number of restaurants unexpectedly increased in Portugal, which can be explained by the birth and death rates which are highly variable [73,77]. As for Spain, according to the increased vulnerability of this activity sector, the number of companies decreased in 2020 compared to 2019 [63].

The global crisis caused by COVID-19 in 2020 seriously damaged the profitability of restaurants, increased their indebtedness, and put several jobs at risk [1,50]. Thus, comparing the years 2019 and 2020 by analyzing the profitability, payroll costs, headcount, and indebtedness of the restaurants in the two countries belonging to the Iberian Peninsula made it possible to achieve the six specific objectives of this study initially stipulated.

Overall, the variables under analysis reveal the financial weaknesses of the companies; COVID-19 influenced all these variables in the restaurant industry in Portugal and Spain. Ceuta was the only region that remained stable, the region with the fewest restaurants. The Friedman test confirmed the influence of the COVID-19 pandemic on all the variables analyzed in the restaurant industry.

As regards Portuguese profitability, it generally decreased; ARM was the region that registered the worst ROE and ROA values in 2020; as regards ROS, the Center was the one that registered the worst values for this indicator. In Spain, the region of Ceuta obtained the highest result on ROE, even though at the national level, there was a decrease in 2020. ROA and ROS also suffered declines. Despite the decrease in profitability, which was expected in 2020 given the conditions of the companies during this year [1,41], the regions that showed higher profitability ratios in 2019 are different in 2020 in both countries.

In terms of the number of employees, while there was a slight decrease in Portugal, Spain showed an increase in the number of employees. The tourist regions were the ones

that lost the highest number of jobs in 2020, in both Portugal and Spain. The regions with more employees (2019) are not the ones that lost the most jobs (2020); for example, Madrid is the region with the highest number of employees and, on average, recorded an increase.

Portugal increased the payroll costs percentage, which could be the reason for the decrease in the efficiency of the restaurants. The reduction in payroll costs due to “lay-off” has not covered the decrease in sales in Portugal. Spain, despite the increase in the number of employees, managed to decrease its costs; thus, the employment policies of each country can be another explanation.

In Portugal and Spain, all regions experienced a worsening in their indebtedness. An increase in company indebtedness was seen in both countries under study, except in the regions of Ceuta, Navarra, and Murcia (Spain). In Portugal, the most affected regions were ARM and ARA. According to López [76], it was expected that the indebtedness of companies would increase, as it was considered the country with the highest percentage of company bankruptcies in the year 2020. The percentages of long-term bank debt are higher than short-term bank debt in both countries.

In order to understand if the location has an influence, the behavior of all the variables was compared among regions through the Kruskal–Wallis test to understand if the behavior of the regions of each country is different. It was found that there are differences in the behavior of the variables among the regions studied except for short-term bank debt among Portuguese regions. The location has an influence on the variables under study, which is the reason why restaurant managers are encouraged to compare the averages for the region due to their divergences when benchmarking is carried out.

The conclusions of this study support the importance of the analysis of these variables for restaurant managers and all restaurant operators through more informed decision-making in situations of change and volatility of financial crises. In addition, this study sought to contribute to the evaluation of each restaurant against the average of the variables by location, in this case, by region, as these reflect divergences in both countries studied. The implementation of proactive strategies, creating agreements [47], strengthening the collaboration among countries and companies [52], and using European programs [53] may help managers to avoid situations of financial unsustainability caused by other pandemics or economic crises that may arise in the future, thus adapting to the change that nowadays is increasingly constant. Other recommendations at the operational level can also be applied according to Freitas and Stedefeldt [51], Kim et al. [52], Madeira et al. [48], and Yost et al. [57], such as purchasing raw materials, implementing takeaway and delivery, innovate restaurant services, increase the average number of meals and service hours and train employees. Moreover, a management control system should be implemented to offer a detailed vision of the future of the restaurant.

In terms of theoretical implications, this study has contributed to broadening research on several important variables in the restaurant sector: profitability, payroll costs, headcount, and indebtedness, relating them to location and analyzing the COVID-19 pandemic impact.

Restaurant management presents strong challenges inherent to its characteristics. The widespread idea that restaurant management is simple is wrong and is proven, in particular, by the high birth and death rates that the sector presents. In addition to these challenges, managers in this area also face the problem of a lack of relevant information for decision-making.

Nevertheless, hospitality industry statistics are published regularly as well as useful studies for management. For example, in Portugal, average occupancy rate, RevPAR, and ADR are indicators published nationally and regionally on a regular basis, and access to this information is free. In the case of restaurants, however, there is no equivalent, and one way to access data involves joining industry associations, which entails costs and only represents members and not the entire industry.

This study, therefore, represents an important contribution, as it allows comparison against average management indicators so that managers can evaluate the performance of

their business and anticipate some problems, particularly in terms of profitability, payroll costs, headcount, and indebtedness, considering the location. This research also aims to improve the management of future crises in this subsector and, despite having made the comparison between the two countries of the Iberian Peninsula, a starting point for the expansion of knowledge in other countries is truly feasible.

As a limitation, the use of a database where large restaurants are mixed with small ones and accounting information processing is different among companies of different sizes since large restaurants are more professional in providing accurate data.

As for future research, researchers can focus not only on the analysis of different financial ratios but also on the analysis of operating ratios that are poorly used in this industry. Another possibility is the medium-term analysis of the impact of COVID-19 on restaurant companies.

**Author Contributions:** Conceptualization, C.G., C.M., F.C. and L.L.S.; methodology, C.G., F.C. and L.L.S.; software, C.G., F.C. and L.L.S.; validation, C.G., C.M. and L.L.S.; formal analysis, C.G., C.M., F.C. and L.L.S.; investigation, C.G., C.M., F.C. and L.L.S.; resources, C.G., C.M., F.C. and L.L.S.; data curation, C.G.; writing—original draft preparation, C.G.; writing—review and editing, C.G., C.M., F.C. and L.L.S.; visualization, C.G., C.M., F.C. and L.L.S.; supervision, C.G. and L.L.S.; project administration, L.L.S.; funding acquisition, C.G. All authors have read and agreed to the published version of the manuscript.

**Funding:** This paper is financed by National Funds of the FCT—Portuguese Foundation for Science and Technology within the project UIDB/04470/2020.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data are contained within the article.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A. Profitability Ratios

**Table A1.** Profitability ratios by region—Portugal.

Region	ROE		ROA		ROS	
	2019	2020	2019	2020	2019	2020
Alentejo	1.8%	−106.99%	12.08%	−3.37%	6.52%	−72.62%
Algarve	9.4%	−334.75%	12.47%	−5.54%	8.77%	−16.24%
Center	35.93%	−189.87%	9.66%	−2.93%	0.82%	−337.48%
Lisbon Metropolitan Area	−24.26%	−451.19%	9.56%	−9.23%	7.74%	−34.98%
North	−70.23%	−192.09%	8.83%	−7.9%	4.61%	−14.71%
Autonomous Region of Madeira	−32.56%	−621.22%	1.01%	−13.97%	−5.41%	−31.20%
Autonomous Region of Azores	−95.33%	−69.37%	4.53%	−7.43%	4.07%	−81.14%
Portugal	−24.09%	−321.12%	9.39%	−7.5%	5.46%	−72.85%

Notes: ROE—return on equity; ROA—return on assets; ROS—return on sales.

**Table A2.** Profitability ratios by region—Spain.

Region	ROE		ROA		ROS	
	2019	2020	2019	2020	2019	2020
Andalucía	28%	−25%	11%	3%	−23%	8%
Aragón	−429%	−63%	6%	2%	10%	3%
Asturias	240%	4%	21%	4%	6%	3%
Baleares	23%	−44%	10%	6%	30%	−7%
Canarias	20%	−32%	10%	3%	−9%	130%
Cantabria	43%	−19%	11%	3%	7%	2%



**Table A2.** *Cont.*

Region	ROE		ROA		ROS	
	2019	2020	2019	2020	2019	2020
Castilla y León	12%	−87%	8%	0.4%	4%	−0.1%
Castilla-La Mancha	20%	−24%	7%	2%	3%	−1%
Cataluña	281%	−69%	7%	0.9%	5%	−0.1%
Ceuta	9%	18%	8%	15%	4%	10%
Comunidad Valenciana	19%	−28%	8%	3%	3%	1%
Extremadura	−5%	−7%	6%	3%	3%	5%
Galicia	23%	−39%	8%	1%	3%	0.1%
La Rioja	6%	−26%	7%	−1%	17%	−4%
Madrid	−197%	−69%	8%	2%	19%	3%
Melilla	21%	12%	16%	9%	14%	6%
Murcia	8%	−34%	8%	4%	4%	0.4%
Navarra	18%	−28%	7%	2%	3%	−0.4%
País Vasco	10%	−100%	8%	−0.8%	−7%	−0.8%
Spain	30.63%	−48.66%	8.85%	2.04%	2.99%	8.35%

Notes: ROE—return on equity; ROA—return on assets; ROS—return on sales.

## Appendix B. Labor Ratios

**Table A3.** Labor ratios by region—Portugal.

Region	HG	NE		PC	
	2020	2020	2019	2020	2019
Alentejo	2%	7	7	72%	27%
Algarve	−13%	9	11	50%	30%
Center	5%	8	9	43%	30%
Lisbon Metropolitan Area	−2%	12	15	43%	28%
North	2%	12	13	42%	27%
Autonomous Region of Madeira	−1%	9	10	55%	31%
Autonomous Region of Azores	1%	8	10	56%	30%
Portugal	−0.9%	11	12	46%	28%

Notes: HG—headcount growth; NE—number of employees; PC—payroll cost.

**Table A4.** Labor ratios by region—Spain.

Region	HG	NE		PC	
	2020	2020	2019	2020	2019
Andalucía	−9.5%	11	14	38%	54%
Aragón	−8.6%	9	11	37%	36%
Asturias	−2.8%	10	11	33%	33%
Baleares	−18%	11	13	39%	42%
Canarias	−2.6%	14	15	42%	39%
Cantabria	−13%	9	12	35%	33%
Castilla y León	−9%	11	12	39%	36%
Castilla-La Mancha	−8%	10	11	39%	38%
Cataluña	−11%	12	14	38%	41%
Ceuta	18%	16	18	33%	32%
Comunidad Valenciana	−6%	11	12	38%	36%
Extremadura	−1.5%	16	16	37%	37%
Galicia	−5.6%	9	10	36%	33%
La Rioja	−6.6%	9	10	41%	45%
Madrid	3%	38	31	35%	47%
Melilla	−0.3%	21	11	35%	39%
Murcia	8%	14	14	33%	32%
Navarra	−1.5%	10	11	41%	39%
País Vasco	−2.7%	11	12	38%	37%
Spain	5.27%	16	16	38%	42%

Notes: HG—headcount growth; NE—number of employees; PC—payroll cost.

### Appendix C. Indebtedness Ratios

**Table A5.** Indebtedness ratios by region—Portugal.

Region	ID		STBD		LTBD	
	2020	2019	2020	2019	2020	2019
Alentejo	52%	47%	9%	7%	72%	58%
Algarve	50%	44%	10%	6%	71%	63%
Center	59%	55%	9%	7%	69%	58%
Lisbon Metropolitan Area	56%	50%	10%	7%	68%	56%
North	59%	53%	9%	6%	71%	58%
Autonomous Region of Madeira	67%	59%	11%	7%	73%	55%
Autonomous Region of Azores	62%	54%	8%	7%	81%	74%
Portugal	57%	51%	10%	7%	70%	58%

Notes: ID—indebtedness; STBD—short-term bank debt; LTBD—long-term bank debt.

**Table A6.** Indebtedness ratios by region—Spain.

Region	ID		STBD		LTBD	
	2020	2019	2020	2019	2020	2019
Andalucía	57%	55%	32%	26%	87%	83%
Aragón	59%	58%	30%	21%	84%	79%
Asturias	56%	54%	32%	21%	89%	87%
Baleares	53%	52%	35%	28%	87%	85%
Canarias	54%	52%	25%	20%	90%	87%
Cantabria	58%	57%	31%	20%	91%	86%
Castilla y León	57%	56%	32%	22%	90%	86%
Castilla-La Mancha	60%	59%	27%	24%	89%	86%
Cataluña	59%	56%	31%	25%	83%	78%
Ceuta	39%	40%	27%	21%	100%	100%
Comunidad Valenciana	60%	57%	29%	25%	87%	81%
Extremadura	60%	58%	35%	29%	90%	84%
Galicia	59%	58%	31%	26%	86%	82%
La Rioja	57%	54%	43%	28%	86%	86%
Madrid	61%	58%	26%	24%	85%	79%
Melilla	28%	27%	n.d.	n.d.	100%	100%
Murcia	59%	59%	26%	23%	88%	85%
Navarra	55%	55%	34%	22%	87%	86%
País Vasco	58%	56%	31%	23%	91%	85%
Spain	58%	56%	30%	24%	86%	82%

Notes: ID—indebtedness; STBD—short-term bank debt; LTBD—long-term bank debt; n.d.—no data.

### References

- Gössling, S.; Scott, D.; Hall, C.M. Pandemics, tourism and global change: A rapid assessment of COVID-19. *J. Sustain. Tour.* **2021**, *29*, 1–20. [CrossRef]
- Moreno-Luna, L.; Robina-Ramírez, R.; Sánchez, M.S.-O.; Castro-Serrano, J. Tourism and Sustainability in Times of COVID-19: The Case of Spain. *Int. J. Environ. Res. Public Health* **2021**, *18*, 1859. [CrossRef]
- Costa, C. The Impact of the COVID-19 Outbreak on the Tourism and Travel Sectors in Portugal: Recommendations for Maximising the Contribution of the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) to the Recovery. 2021. Available online: [https://www.portugal2020.pt/wp-content/uploads/ccosta\\_for\\_ec.covid-19.report\\_txt.final\\_.pdf](https://www.portugal2020.pt/wp-content/uploads/ccosta_for_ec.covid-19.report_txt.final_.pdf) (accessed on 2 June 2022).
- UNWTO. *International Tourism Highlights, 2020 Edition*; World Tourism Organization (UNWTO): Madrid, Spain, 2021. [CrossRef]
- INE. The Iberian Peninsula in Figures. 2020. Available online: [www.ine.es](http://www.ine.es) (accessed on 5 May 2022).
- Segittur, "Tourism-Related Jobs According to EPA," Sociedad Mercantil Estatal para la Gestión de la Innovación y las Tecnologías Turísticas, S.A.M.P. 2022. Available online: <https://www.dataestur.es/en/economy/tourism-related-jobs-according-to-epa/> (accessed on 1 June 2022).
- Opstad, L.; Idsø, J.; Valenta, R. The Dynamics of the Profitability and Growth of Restaurants; the Case of Norway. *Economies* **2022**, *10*, 53. [CrossRef]

8. Pavesic, D. Setting the Table: The Transforming Power of the Hospitality Business, by Danny Meyer. *J. Culin. Sci. Technol.* **2012**, *10*, 271–275. [CrossRef]
9. Parsa, H.G.; Self, J.T.; Njite, D.; King, T. Why Restaurants Fail. *Cornell Hotel Restaur. Adm. Q.* **2005**, *46*, 304–322. [CrossRef]
10. Singh, A. A restaurant case study of lease accounting impacts of proposed changes in lease accounting rules. *Int. J. Contemp. Hosp. Manag.* **2011**, *23*, 820–839. [CrossRef]
11. Huang, C.; O'Brien, K.M. The Impacts of Perceived Environmental Uncertainty, Outlook, and Size on Strategic Planning in Private Clubs. *J. Hosp. Mark. Manag.* **2015**, *24*, 554–571. Available online: <https://search.ebscohost.com/login.aspx?direct=true&db=edb&AN=102621317&> (accessed on 15 May 2022). [CrossRef]
12. Lin, W.-S.; Tou, J.-C.; Yeh, M.-Y. The effective performance measures for store managers on restaurant chain growth. *Tour. Hosp. Res.* **2014**, *14*, 131–142. [CrossRef]
13. Lucas, A.; Ramires, A. Directions for management in small and medium hotels and restaurants companies. *Geoj. Tour. Geosites* **2022**, *40*, 210–217. [CrossRef]
14. Lee, S.; Koh, Y.; Kang, K.H. Moderating effect of capital intensity on the relationship between leverage and financial distress in the U.S. restaurant industry. *Int. J. Hosp. Manag.* **2011**, *30*, 429–438. [CrossRef]
15. Bogdan, S. bankruptcy prediction in the Croatian restaurant industry. *Ekon. Misao I Praksa-Econ. Thought Pract.* **2022**, *30*, 99–119.
16. Becerra-Vicario, R.; Alaminos, D.; Aranda, E.; Fernández-Gámez, M.A. Deep Recurrent Convolutional Neural Network for Bankruptcy Prediction: A Case of the Restaurant Industry. *Sustainability* **2020**, *12*, 5180. [CrossRef]
17. Papadeas, P.; Sykianakis, N. *Analysis and Investigation of Financial Statements*; Papadea Publications: Athens, Greece, 2017.
18. Bordeianu, G.-D.; Radu, F. Basic Types of Financial Ratios Used to Measure a Company's Performance. *Econ. Transdiscipl. Cogn.* **2020**, *23*, 53–58. Available online: [www.ugb.ro/etc](http://www.ugb.ro/etc) (accessed on 3 May 2022).
19. Dimitrić, M.; Žiković, I.T.; Blečić, A.A. Profitability determinants of hotel companies in selected Mediterranean countries. *Econ. Res.-Ekon. Istraživanja* **2019**, *32*, 1977–1993. [CrossRef]
20. Park, S.-Y.; Lee, S. Financial Rewards for Social Responsibility. *Cornell Hosp. Q.* **2009**, *50*, 168–179. [CrossRef]
21. Lima Santos, L.L.; Gomes, C.; Lisboa, I. The Impact of Macroeconomic Factors on the Hotel Industry Through the Financial Leverage Trends. In *Handbook of Research on Financial Management During Economic Downturn and Recovery*; Teixeira, N., Lisboa, I., Eds.; IGI Global: Hershey, PA, USA, 2021; pp. 94–111. [CrossRef]
22. Coelho, L. New restaurants and their intra-industry effects: Evidence from Portugal. *Tour. Manag. Stud.* **2017**, *13*, 33–42. [CrossRef]
23. Gomes, C.; Oliveira, F. The tourism intermediaries' profitability in Portugal and Spain—differences and similarities. *J. Hosp. Tour. Insights*, 2021, ahead-of-print. [CrossRef]
24. Lee, J.-E.; Ghiselli, R.F. The Hidden Effect of Intangible Financial Information on the Market Value of Hospitality Firms in the United States. *J. Foodserv. Bus. Res.* **2011**, *14*, 393–404. [CrossRef]
25. Altman, E.I. Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. 1968. Available online: <http://www.jstor.org/about/terms.html> (accessed on 30 May 2022).
26. Mun, S.G.; Jang, S. "Understanding restaurant firms" debt-equity financing. *Int. J. Contemp. Hosp. Manag.* **2017**, *29*, 3006–3022. [CrossRef]
27. Bondoc, M.D. Analysis of the Structure Ratios of the Funding Sources. *AUDCE* **2014**, *10*, 125–133. Available online: [http://www.bvb.ro/Bilanturi/ELGS/ELGS\\_A\\_2012.pdf](http://www.bvb.ro/Bilanturi/ELGS/ELGS_A_2012.pdf) (accessed on 12 May 2022).
28. Lin, F.-L.; Chang, T. Does debt affect firm value in Taiwan? A panel threshold regression analysis. *Appl. Econ.* **2011**, *43*, 117–128. [CrossRef]
29. Chang, Y.; Adams, R.; Carithers, T.C.; Ruetzler, T. Do Grocery Store Personnel's Perceptions, Attitudes, and Knowledge Determine Availability of Organic Food Products? *J. Food Distrib. Res.* **2014**, *45*, 1–25. Available online: <https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=109156510&> (accessed on 29 April 2022).
30. Dhaoui, E. *How to Strengthen the Financial Autonomy to Boost Investment in the Company?* MPRA, Paper 63842; University Library of Munich: Munich, Germany, 2013; Available online: <https://ideas.repec.org/p/pramprapa/63842.html> (accessed on 27 May 2022).
31. Van Veldhoven, Z.; Aerts, P.; Ausloos, S.L.; Bernaerts, J.; Vanthienen, J. The Impact of Online Delivery Services on the Financial Performance of Restaurants. In Proceedings of the 2021 7th International Conference on Information Management (ICIM), London, UK, 27–29 March 2021; pp. 13–17. [CrossRef]
32. Akbaba, A. Business performance of small tourism enterprises: A comparison among three sub-sectors of the industry. *Anatolia Int. J. Tour. Hosp. Res.* **2012**, *23*, 177–195. [CrossRef]
33. Moser, F. *Food and Beverage Management Handbook*, 1st ed.; Mem Martins; CETOP: Sintra, Portugal, 2002.
34. Allegretto, S.; Reich, M. Are Local Minimum Wages Absorbed by Price Increases? Estimates from Internet-Based Restaurant Menus. *ILR Rev.* **2017**, *71*, 35–63. [CrossRef]
35. Li, X.P.; Joppe, M.; Meis, S.M. Human resource management impacts on labour productivity in tourism. *Tour. Econ.* **2016**, *23*, 1028–1041. [CrossRef]
36. Mathe, K. Food Safety, Labor Costs, and the Effects on Quick Service Restaurant Revenues. *J. Foodserv. Bus. Res.* **2012**, *15*, 398–410. [CrossRef]

37. Sabri, N.R.; Jaber, R.Y.; Al-Bitawi, W.Y.; Abed, J.; Awwad, A.-H. Labor Productivity in the Palestinian Family Businesses Labor Productivity in Palestinian Family Businesses. *Pales-Tine*. 2015. Available online: <http://ssrn.com/abstract=2656384> Website:<http://home.birzeit.edu/commerce/sabri/http://ssrn.com/abstract=2656384> (accessed on 30 April 2022).
38. Pettinger, T. Capital to Labour Ratio. *Economics*. 2022. Available online: <https://www.economicshelp.org/glossary/capital-labour-ratio/> (accessed on 31 May 2022).
39. Sami, B.A.; Mohamed, G. Determinants of tourism hotel profitability in Tunisia. *Tour. Hosp. Res.* **2014**, *14*, 163–175. [[CrossRef](#)]
40. Vivel-Búa, M.; Lado-Sestayo, R.; Otero-González, L. Risk determinants in the hotel sector: Risk credit in MSMEs. *Int. J. Hosp. Manag.* **2018**, *70*, 110–119. [[CrossRef](#)]
41. Parsa, H.G.; Kreeger, J.C.; van der Rest, J.-P.; Xie, L.; Lamb, J. Why Restaurants Fail? Part V: Role of Economic Factors, Risk, Density, Location, Cuisine, Health Code Violations and GIS Factors. *Int. J. Hosp. Tour. Adm.* **2019**, *22*, 142–167. [[CrossRef](#)]
42. Lado-Sestayo, R.; Otero-González, L.; Búa, M.M.V.; Martorell-Cunill, O. Impact of location on profitability in the Spanish hotel sector. *Tour. Manag.* **2016**, *52*, 405–415. [[CrossRef](#)]
43. Planinc, T.; Kukanja, M. Financial Performance of the Slovenian Restaurant Sector. In Proceedings of the 23rd Biennial International Congress of Tourism & Hospitality Industry, Opatija, Croatia, 28–29 April 2016; pp. 334–349.
44. Dong, L.; Ratti, C.; Zheng, S. Predicting neighborhoods’ socioeconomic attributes using restaurant data. *Proc. Natl. Acad. Sci. USA* **2019**, *116*, 15447–15452. [[CrossRef](#)] [[PubMed](#)]
45. Chhetri, A.; Chhetri, P.; Arrowsmith, C.; Corcoran, J. Modelling tourism and hospitality employment clusters: A spatial econometric approach. *Tour. Geogr.* **2016**, *19*, 398–424. [[CrossRef](#)]
46. Solnet, D.J.; Ford, R.C.; Robinson, R.N.; Ritchie, B.W.; Olsen, M. Modeling locational factors for tourism employment. *Ann. Tour. Res.* **2014**, *45*, 30–45. [[CrossRef](#)]
47. Dube, K.; Nhamo, G.; Chikodzi, D. COVID-19 cripples global restaurant and hospitality industry. *Curr. Issues Tour.* **2020**, *24*, 1487–1490. [[CrossRef](#)]
48. Madeira, A.; Palrão, T.; Mendes, A. The Impact of Pandemic Crisis on the Restaurant Business. *Sustainability* **2020**, *13*, 40. [[CrossRef](#)]
49. Tse, A.C.; So, S.; Sin, L. Crisis management and recovery: How restaurants in Hong Kong responded to SARS. *Int. J. Hosp. Manag.* **2006**, *25*, 3–11. [[CrossRef](#)]
50. Sardar, S.; Ray, R.; Hasan, K.; Chitra, S.S.; Parvez, A.T.M.S.; Avi, A.R. Assessing the Effects of COVID-19 on Restaurant Business from Restaurant Owners’ Perspective. *Front. Psychol.* **2022**, *13*, 849249. [[CrossRef](#)]
51. de Freitas, R.S.G.; Stedefeldt, E. COVID-19 pandemic underlines the need to build resilience in commercial restaurants’ food safety. *Food Res. Int.* **2020**, *136*, 109472. [[CrossRef](#)]
52. Kim, J.; Wang, Y. Uncertainty risks and strategic reaction of restaurant firms amid COVID-19: Evidence from China. *Int. J. Hosp. Manag.* **2020**, *92*, 102752. [[CrossRef](#)]
53. JQI. Statement from the U.S. Private Sector Job Quality Index (“JQI”). Team on Vulnerabilities of Jobs in Certain Sectors to the COVID-19 Economic Shutdown. Job Quality Index, 2020. Available online: [https://ubwp.buffalo.edu/job-quality-index-jqi/wp-content/uploads/sites/171/2020/08/JQI\\_Team\\_Statement\\_1.pdf](https://ubwp.buffalo.edu/job-quality-index-jqi/wp-content/uploads/sites/171/2020/08/JQI_Team_Statement_1.pdf) (accessed on 3 June 2022).
54. Burhan, M.; Salam, M.T.; Hamdan, O.A.; Tariq, H. Crisis management in the hospitality sector SMEs in Pakistan during COVID-19. *Int. J. Hosp. Manag.* **2021**, *98*, 103037. [[CrossRef](#)]
55. Criado, S.C. Social partner participation in the management of the COVID-19 crisis: Tripartite social dialogue in Italy, Portugal and Spain. *Int. Labour Rev.* **2022**, *161*, 149–167. [[CrossRef](#)] [[PubMed](#)]
56. Fu, Y.-K. The impact and recovering strategies of the COVID-19 pandemic: Lessons from Taiwan’s hospitality industry. *Cogent Soc. Sci.* **2020**, *6*, 1829806. [[CrossRef](#)]
57. Yost, E.; Kizildag, M.; Ridderstaat, J. Financial recovery strategies for restaurants during COVID-19: Evidence from the US restaurant industry. *J. Hosp. Tour. Manag.* **2021**, *47*, 408–412. [[CrossRef](#)]
58. Kahveci, E. Business strategies for small- and medium-sized tourism enterprises during COVID-19: A developing country case. *J. Hosp. Tour. Insights*, 2022; *in press*. [[CrossRef](#)]
59. Senbeto, D.L.; Hon, A.H.Y. The impacts of social and economic crises on tourist behaviour and expenditure: An evolutionary approach. *Curr. Issues Tour.* **2020**, *23*, 740–755. [[CrossRef](#)]
60. Zhang, Y.; Blasco, D. Destination management amid COVID-19: A case study in La Cerdanya, Spain. *Anatolia* **2021**, *33*, 116–127. [[CrossRef](#)]
61. Pinilla, J.; Barber, P.; Vallejo-Torres, L.; Rodríguez-Mireles, S.; López-Valcárcel, B.; Serra-Majem, L. The Economic Impact of the SARS-CoV-2 (COVID-19) Pandemic in Spain. *Int. J. Environ. Res. Public Health* **2021**, *18*, 4708. [[CrossRef](#)]
62. Klymchuk, A.; Postova, V.; Moskvichova, O.; Hryhoruk, I. Crisis Management of Restaurant Business in Modern Conditions. *J. Environ. Manag. Tour.* **2021**, *12*, 977–985. [[CrossRef](#)]
63. Duhaime, I.; Hitt, M.; Lyles, M. *Strategic Management: State of the Field and Its Future*, 1st ed.; Oxford University Press: Oxford, UK, 2021.
64. Galstian, N.; Monte, A.; Evseeva, O. The Level of Financial Literacy of Managers and Entrepreneurs—A Comparison between Portugal and Russia. In Proceedings of the 25th International Scientific Conference on Economic and Social Development, Moscow, Russia, 30–31 October 2017; pp. 197–214.
65. de Lurdes Silva, M.; Costa, V.; Loureiro, P. Intellectual capital and financial performance of portuguese tourism sector. *J. Tour. Dev.* **2021**, *2021*, 81–91. [[CrossRef](#)]

66. van Dijk, B. SABI, Información Financiera de Empresas Españolas y Portuguesas. 2022. Available online: <https://www.bvdinfo.com/en-gb/our-products/data/national/sabi#secondaryMenuAnchor1> (accessed on 12 June 2022).
67. Poon, W.; Low, K.L. Are travellers satisfied with Malaysian hotels? *Int. J. Contemp. Hosp. Manag.* **2005**, *17*, 217–227. [CrossRef]
68. Friedman, M. A Comparison of Alternative Tests of Significance for the Problem of  $m$  Rankings. *Ann. Math. Stat.* **1940**, *11*, 86–92. [CrossRef]
69. Barbado, R.; Araque, O.; Iglesias, C.A. A framework for fake review detection in online consumer electronics retailers. *Inf. Process. Manag.* **2019**, *56*, 1234–1244. [CrossRef]
70. Mura, L.; Ključnikov, A. Small businesses in rural tourism and agro tourism: Study from Slovakia. *Econ. Sociol.* **2018**, *11*, 286–300. [CrossRef] [PubMed]
71. Gligor-Cimpoieru, D.C.; Munteanu, V.P.; Nițu-Antonie, R.D.; Schneider, A.; Preda, G. Perceptions of Future Employees toward CSR Environmental Practices in Tourism. *Sustainability* **2017**, *9*, 1631. [CrossRef]
72. Bank of Portugal. Dashboards of Sector 55—Hotels and Similar Accommodation. 2021. Available online: <https://www.bportugal.pt/QS/qswweb/Dashboards> (accessed on 25 July 2022).
73. Campos, F. A Contabilidade de Gestão na Restauração: Estudo de Caso-Implementação do USAR No Restaurante O Pinote. Master's Thesis, Politechnic of Leiria, Repositoruim of Politechnic of Leiria, Leiria, Portugal, 2022. Available online: <http://hdl.handle.net/10400.8/6722> (accessed on 15 June 2022).
74. Jorge, M.; Galindo, J. Quiebras de Empresas y Ayudas Durante la Pandemia: Cuántas y Cómo. EsadeEcPol—Center for Economic Policy, 21 March 2021. Available online: <https://www.esade.edu/ecpol/es/publicaciones/quiebras-de-empresas-y-ayudas-durante-la-pandemia-cuantas-y-como/> (accessed on 17 June 2022).
75. Zhang, D.; Hu, M.; Ji, Q. Financial markets under the global pandemic of COVID-19. *Financ. Res. Lett.* **2020**, *36*, 101528. [CrossRef] [PubMed]
76. López, D. España se Coloca en Primera Posición Mundial en el Incremento de Insolvencias Empresariales en 2021. *El País Economía*, 23 November 2021. Available online: [https://cincodias.elpais.com/cincodias/2021/11/23/economia/1637679312\\_869233.html](https://cincodias.elpais.com/cincodias/2021/11/23/economia/1637679312_869233.html) (accessed on 17 June 2022).
77. Bank of Portugal. Dashboards of Sector 56—Food and Beverage Service Activities. 2022. Available online: <https://www.bportugal.pt/QS/qswweb/Dashboards> (accessed on 1 April 2022).