The Effects of COVID-19 Crisis on the Spanish Hospitality Sector. An Expenditure-Based Approach

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Abstract

This paper aims to determine the effects of the economic crisis derived from the COVID-19 pandemic on the catering service subsector, as a specific part of the hospitality sector. Spanish National Statistics Institute data(N=33,376) are analysed through descriptive analysis and a binomial logistic regression. A steady drop in income is expected in the early years, followed by a slow recovery in pre-crisis wage levels. Likewise, significant growth in the number of unemployed is expected together with a worsening of the contractual and salary conditions, entailing a reduction of tourism expenditure. The effects of several variables on the decision of spending money on catering services are quantified, being highlighted the relation with the increase in salaries (+3.4%), unemployment (-27.6%), and the country of birth (+66.2%), among others. Considering that the predictions are made based on data from a previous economic crisis, the results are subject to changes in economic and tourism policies, among others.

Keywords: COVID-19, Economic Crisis, Hospitality, Sustainable Tourism, Tourism Expenditure.

1. INTRODUCTION

The COVID-19 outbreak has shaken the tourism industry worldwide, constraining the demand and shoving the suppliers to economic difficulties. This new scenario sets a wide range of challenges for all touristic agents to overcome COVID-19 risks and governmental restrictions. Such challenges have entailed the bankruptcy of many tourism-related businesses, not only SMEs but also major corporations. That represents a potential threat to the economy of some countries which highly depend on tourism, such as Spain. Furthermore, regarding the economic and political role of Spain in the European Union, together with other big touristic countries such Italy or Greece, the pandemic effects on the economy entail huge risks to Europe as a whole, as seen in the latest economic crisis.

Particularly for the case of Spain, the hospitality sector is suffering the most, with dramatic figures. Indeed, different issues affect those activities comprised in the hospitality industry. On the one hand, the accommodation services suffer from a lack of tourists, what has involved a complete restructuration of the subsector by implementing strict health protocols to fulfil governmental requirements and limiting their staff and services to reduce costs. On the other hand, the catering services have experienced a similar fate but, unlike accommodation services,

the requirements have changed a lot along the time. That is because catering services are not a purely touristic service, but theyare commonly used by locals too. And, according to health authorities, they are focal points of the pandemic.

Also, a determining difference between accommodation and catering services is that the latter are mostly SMEs (Cabiedes-Miragaya, 2019), compared to accommodation services which mainly belong to hotel chains. Such difference has consequences concerning adaptability of the business through very specific governance policies (ALHaj, 2019; Hua &Alam, 2021), as for instance to the new requirements in terms of cost bearing and indebtedness, which are much tougher to manage by SMEs. This extent has been previously proven for sustainability policies, as an example of extra efforts required to SMEs (Skokic et al., 2015; Prakash et al., 2022). In other words, the business size matters in business survival (Peric&Vitezic, 2016; Sánchez-Cubo et al., 2021). Consequently, since March 2020, there is a steady closure of bars and restaurants that cannot afford further investments to be open or that cannot face the cost of the already made investments due to forced closure of the business by the local authorities.

Therefore, the hospitality industry has doubly suffered by COVID-19 -people's fear to catch the virus- and governmental decisions -curfew, strict limitations to the capacity of the premises or even the forced closure of the businesses. So, considering the importance of the hospitality industry in the Spanish economy, and its relevance for local development, this paper analyses the effect of the COVID-19 pandemic on it. For this study, the latest available data from the National Statistics Institute (N=33,376)is used regarding the income of individuals, spending on hospitality or unemployment rate, among others.The descriptive analyses help identify the trends in previous economic crises, while the results of the logistic model provided evidence on the factors which influence acquiring catering services, such as the increase in salaries (+3.4%), unemployment (-27.6%), and the country of birth (+66.2%), among others. The relations and consequences of these results are discussed.Besides, they may provide new data to businesses through information from the demand side and help defining managerial actions, contributing to the current debate in the management literature, as stated by Cristofaro et al. (2020).

After this brief introduction, a review of the literature, including the effects and tendencies of the latest economic crisis, is carried out. Then, based on the proposed methodology, a descriptive analysis of the variables is performed, considering the whole period between the 2008 crisis and the latest data. Additional to this analysis, a binomial logistic regression is proposed, which results lead to a discussion on the effects of the COVID-19 pandemic on the hospitality sector. Then, some forecasts are made based on it. Finally, some conclusions are drawn, and future lines of research are proposed. Considering all the above, the following points regarding this work's importance and originality are highlighted:

- It focuses exclusively on catering businesses, which suffered differently COVID-19 regulations and effects.
- It applies a binomial logistic regression using a large and updated database on people's expenditures.
- It brings together the statistical support for the definitor factors of consumption and the experience from previous economic crises.

2. LITERATURE REVIEW

The study of anything related to tourism is, usually, a puzzle for researchers due to the heterogeneity of the economic activities that constitute this industry. Henceforth, a commonly used delimitation of it is considering the hospitality sector as representative of the tourist activity. That is because hospitality is clearly defined in the CNAE-09 (Clasificación Nacional de Actividades Económicas, 2009) classification of economic activities. Such sector includes, separately, accommodation and catering services. These both subsectors have received much media attention since the beginning of the COVID-19 pandemic as they have been popularly seen as more sensitive to mobility restrictions. But also, because they play a crucial role in the

Spanish society, especially in the case of the catering services. Thus, in addition to the relevance tourism has in the Spanish economy in terms of GDP -12.3% in 2018- (National Statistics Institute, 2019), analysing the effects of the COVID-19 pandemic on the Spanish hospitality sector seems to be relevant and necessary.

However, as the COVID-19 pandemic is still ongoing -many countries are now facing the so-called "second wave"-, determining the total effects it has had in any country and/or sector does not seem appropriate. Additionally, many pieces of research generated by the academia are still under revision or published as pre-print versions, what leaves a knowledge gap that might slow down the studies and recovery of the tourism industry.

Thus, a thorough review of the literature has been carried out by the authors of this piece of work using the scientific databases Web of Science and Scopus. The aim is to compile all the latest -relevant- literature generated during the pandemic. The requests were made on 18/11/2020, searching by: *"Economic crisis" AND "Tour*", "Economic crisis" AND "Hospitality", "Economic crisis" AND "Catering", ("Health crisis" OR "Pandemic" OR "COVID-19") AND "Tour*", ("Health crisis" OR "Pandemic" OR "COVID-19") AND "Hospitality", and ("Health crisis" OR "Pandemic" OR "COVID-19") AND "Catering".* These pieces of research were limited to the years 2020 and 2021 to avoid pre-COVID-19 papers. The search was performed by title, abstract and keywords.

Eventually, after proper filtering -elimination of uncomplete records, duplicated results between databases and requests…- a total of 837 unique documents were retrieved, from which only 635 were articles. Such volume is immense and reflects the complete dedication of Academia to the analysis of the COVID-19 implications in the tourism industry. However, as mentioned before, the aim of this piece of work is much more limited as tourism involves many different and disperse activities. Thus, the same process of filtering was carried out to hospitality and catering, retrieving a total of 106 documents -of which 96 were articles- and 165 -of which 87 were articles- respectively. If matching these two groups to avoid any overlap, a total of 259 unique documents were retrieved, of which 177 were articles.

This overview illustrates the amount of work that has been generated during this year about the COVID-19 pandemic, but it does not provide an insight into the quality of this work. Also, in many of these pieces of work the words *"COVID-19", "pandemic" or "hospitality"* are barely included, and they are not the papers' key, or they are included by force to pre-COVID-19 studies. As a result, there are not as many relevant papers as expected for this topic. Virtually, almost half of the articles suffer from this.

However, as the analysis of the current situation requires a wider scope, the literature that treats with the effects of the global crisis in 2008 have been also included within the "results and discussion" section. That is because it is the only relatively similar event as it affected many countries worldwide. Despite that, there are discrepancies (Rodríguez-Canfranc, 2020; Spatt, 2020) on such similitudes yet since the main effects are still due to the health crisis but not to an economic crisis itself. Such a statement is justified as the socioeconomic measures implemented by many governments and supranational organisations -as the European Union- are distorting the toughness of the economic crisis linked to the health crisis.

Nevertheless, such comparisons must be made as the 2008 global crisis is the only likely reference, even though it does not include essential factors as a health risk, confinements or forced closures of businesses. But it does not prevent researchers and professionals from learning from other crises. So do Rodríguez-Antón & Alonso-Almeida (2020) by compiling the impacts caused by different crises on the hotel industry, and its recovery strategies in a variety of countries, before the COVID-19 pandemic, as well as useful insights for politics and professionals to better manage the situation.

But, roughly, the principal approaches researchers have made are: comparing the effects of the health -and economic- crisis between countries (Fana et al., 2020; Milani, 2021), analysing such

consequences on the tourism or hospitality industry (Gil-Alana & Poza, 2020; Gallego & Font, 2020; González-Torres et al., 2021; Tomaino et al., 2020) or identifying knowledge gaps through literature reviews (Zielinski & Botero, 2020). Despite that, all these issues have been understudied for the case of Spain. Indeed, just 30 documents match the previous search equations for Spain, of which only 14 papers are related enough.

Apart from these general topics, the rest of the available literature focus on specific tourist segments or issues as approximations to them in the post-pandemic era. On the one hand, tourist markets are analysed: Sustainable Tourism (Santos-Roldán et al., 2020), Medical Tourism (Pagan & Horsfall, 2020), the problem of gentrification (Alexandri & Janoschka, 2020; Ardura-Urquiaga et al., 2020) and peer-to-peer accommodation (Argelich-Comelles, 2020). On the other hand, a variety of topics are studied, as hotel managers organisational commitment (Filimonau et al., 2020), the National Tourist Offices communication strategies during the beginning of the pandemic (Huertas et al., 2020), or ways to regenerate the industry once the pandemic is over (Paolo et al., 2020).

Unfortunately, when these papers mention hospitality, any of them study the effects of the COVID-19 pandemic on the catering subsector but on the accommodation one, referring exclusively to hotels. However, much useful information can be extracted from them. Gallego & Font (2020) show an accurate forecast -using real data through Big Data techniques, not estimations- of the air passengers' tendency, illustrating that there would not be a slightly sharp recovery -U shape- but a flat "L graph", if not a new drop due to the "second wave" of the pandemic. That suggests an uncertain future in the middle term and almost a certainty that the hospitality sector would not live on international tourism for several months yet. Even more dramatic if considered that events, which usually enhance locals and national tourists to spend money on hospitality, are significantly linked to an increase in COVID-19 cases (Tomaino et al., 2020). Moreover, other segments considered as safe and desirable in the "New Normal", such as Sustainable Tourism (Santos-Roldán et al., 2020) or Medical Tourism (Pagan & Horsfall, 2020), might be affected by mobility restrictions and so they would not contribute to palliate the crisis in the industry.

The only positive impact that this situation might have had is a likely setback in the peer-to-peer accommodation that might be used to re-regulate it (Argelich-Comelles, 2020). And, eventually, a partial reversion of the gentrification phenomenon might occur (Alexandri & Janoschka, 2020; Ardura-Urquiaga et al., 2020). But, as there are almost any tourists in the cities that suffered from an excess of tourists, tourismphobia and gentrification are no longer a contemporary debate, and tourists are sought to save the hospitality sector.

Thus, the performed literature review retrieved useful papers but not catering-related ones. In this context, this work is of special interest given the different treatment that accommodation and catering subsectors have had during the toughest part of the COVID-19 pandemic, and also because of its shared use by locals and tourists. These factors difficult the analysis but help in filling the detected gap in the hospitality related literature during the pandemic. Plus, for economies highly dependent on tourism, as the Spanish one, it is of special interest knowing which factors drive consumers expenditure on catering services.

3. MATERIALS AND METHODS
In this piece of work, we analyse the effects of the COVID-19 pandemic on the Spanish hospitality sector based on the previous 2008 economic crisis experience. For this study, two approaches are considered. The data used is publicly available from the National Statistics Institute of Spain. Specifically, the surveys from which the data are extracted are the Economically Active Population Survey (National Statistics Institute, 2020a), Life Conditions Survey (National Statistics Institute, 2020b) and Household Budget Survey (National Statistics Institute, 2020c).

Firstly, a descriptive analysis is performed to understand the evolution and the relations of the selected variables. These variables are (1) the unemployment rate, (2) the average income per person and (3) the average expenditure on hospitality per person. Gender figures are included to enrich the comparison and evolution of the unemployment rate and the average income per person, but they are not shown in the graphs to simplify the representation. The average expenditure on hospitality does not disaggregate by gender.

Then, a binomial logistic regression is proposed to identify which variables do influence the decision -or possibility- of spending money in hospitality -dependent variable. The independent variables considered in this analysis are the net income of the employees -monetary income only-, gender, country of birth, employment status, responsibility on the enterprise, expenditure on leisure and expenditure on self-care. The information contained in these variables is extracted from the Life Conditions Survey, and they account for 33,376 individuals. All variables are dummy variables except for the net income of the employees. An overview of these variables is listed below:

- **Expenditure on hospitality (p_i)**
    - **0:** No expenditure
    - **1:** Monthly -at least- expenditure on catering services
- **Net income of the employees (X_{1i})**
    - Quantitative variable (thousands of euros)
- **Gender (X_{2i})**
    - **0:** Woman
    - **1:** Man
- **Country of birth (X_{3i})**
    - **0:** Foreigner
    - **1:** Spanish
- **Employment status (X_{4i})**
    - **0:** Employees, self-employed workers, and inactive population
    - **1:** Unemployed
- **Responsibility on the enterprise (X_{5i})**
    - **0:** No
    - **1:** He/she oversees some employees
- **Expenditure on leisure (X_{6i})**
    - **0:** No expenditure
    - **1:** Regular expenditure on leisure (sports, theatre…)
- **Expenditure on self-care (X_{7i})**
    - **0:** No expenditure
    - **1:** Weekly expenditure on self-care

Lastly, regarding the formulation of the logistic regression (Greene, 2012), being p_i the probability of monthly spending money on catering services, and the independent variables (X_{ki}) as stated above:

$$\ln\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_k X_{ki} + u_i \qquad (1)$$

Then, by algebraically calculating

$$p_i = F(z_i) = \frac{1}{1+e^{-z_i}} \qquad (2)$$

Where

$$z = \beta_0 + \beta_1 X_{1_1} + \beta_2 X_{2_2} + +\beta_3 X_{3_3} + \beta_4 X_{4_4} + \beta_5 X_{5_5} + \beta_6 X_{6_6} + \beta_7 X_{7_7} + u_i \qquad (3)$$

The choice of the binomial logistic regression over the wide range of existing regressions was made because of two main related reasons. On the one hand, the available database did not included data on how much money was spent on hospitality but if the individual spent money or not on these services. Therefore, the dependent variable needed to be a dummy one, and the regression models allowing that are more limited. On the other hand, considering the prior fact, the study question itself suggests that the most appropriate model would be a binomial logistic regression since the aim was to assess what affects the chances of spending on catering services. Thus, the simplest one to address it is through the proposed model, which allows a simple interpretation of the results.

4. RESULTS AND DISCUSSION

As stated in the methodology, the analysed variables are the unemployment rate, the average income per person and the average expenditure on hospitality per person, as well as gender disaggregation when possible. Therefore, the evolution of these variables since 2008 is shown in the following figures (Figure 1 and 2) to illustrate their tendency and possible interrelations. Conversely, the evolution of the rest of the variables included in the binomial logistic regression is not of interest for this study, despite that their relation to the expenditure on hospitality does.

Firstly, the unemployment rate is shown in Figure 1, quarterly to observe the fluctuations caused by the seasonality that characterises the tourism industry. In this sense, during the 2013 first quarter the Spanish unemployment rate reached its peak (26.94%), and so did the Spanish unemployment rate in hospitality (24.97%). The key to this figure is the pace that both unemployment rates followed, strongly influenced by the seasonality. Such behaviour is foreseeable as the hospitality sector is characterised by temporary employment, dropping unemployment rates during the second and third quarters. Also, it is worth to mention that the evolution of the unemployment rate for both groups considered is the same for both sexes, but women do systematically suffer from a higher unemployment rate, which is caused by their larger presence in precarious jobs. Indeed, that is what mainly prevented the Spanish economy from collapsing: the employment generated by the tourism sector.

Thus, a worrying hypothesis is proposed: what would happen to the unemployment rate in hospitality if the lockdown and restrictions continue? The provisional data provided by the National Statistics Institute might shed some light on that. Such data shows that in the second quarter the unemployment rates were 15.33% and 22.69% for Spain in general and hospitality, and 16.26% and 18.94% respectively in the third quarter. The peak experienced in the second quarter is an anomaly since travellers were not allowed to travel and so many establishments were closed during that period.

However, a few clarifications on this matter should be done. First, the Spanish unemployment rate is steadily growing, similarly to what happened at the beginning of the 2008 global economic crisis. Consequently, a sharp growth of the unemployment rates shall be expected in the following quarters. Secondly, the drop in the unemployment rate in hospitality is noticeably but not as drastic as 2008-crisis drops. Thirdly, the starting point this time is 14.41% and 17.78% respectively, far from the 10% of unemployment in 2008. Lastly, these figures are biased strongly biased as the National Statistics Institutes of the European Union are including those employees who are under a temporary employment regulation as "inactive population". If this situation continues, and it appears to do so as the "second wave" of the pandemic is hitting Europe, many -if not the vast majority- of those employees might eventually be fired if subsidies are cancelled, or the enterprises they work for decide to shut down the business. For the Spanish case, this pool of employees is, following to Alcelay (2020), 728,909 people, of which 150,125 (Expansión, 2020) belong to the hospitality sector. If these figures are considered -theoretically- as unemployed workers, the unemployment rates would rise to 19.45% and 27.13% respectively.
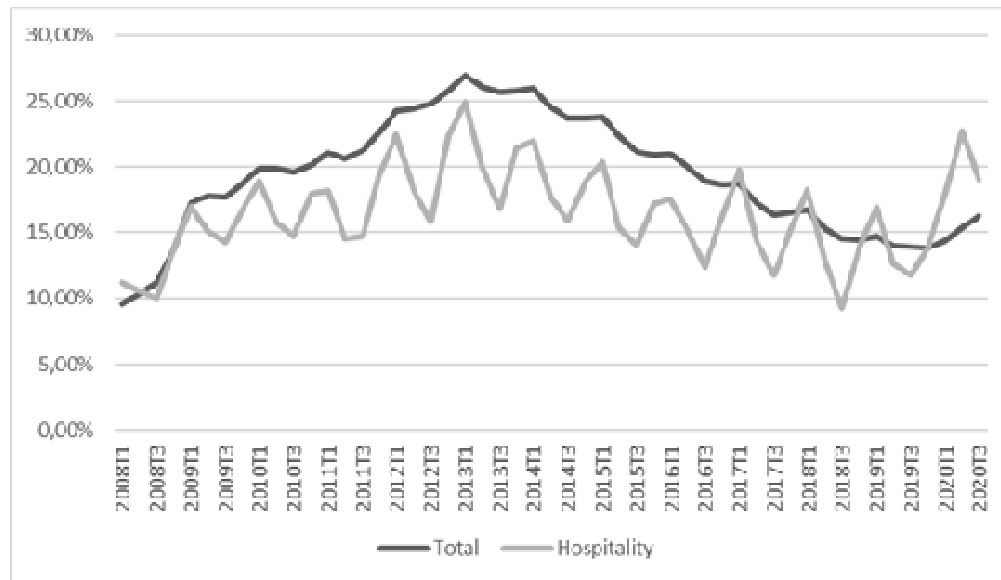
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FIGURE 1: Unemployment rate (quarterly) (2008-2020).
Source: National Statistics Institute (2020a).

Additionally, the evolution of the average expenditure and the average net income are considered together as they refer to the same resource: a person's monetary resources (Figure 2). During the previous economic crisis, there is a striking fact: despite an apparent growth in the net income in 2009, the expenditure levels decrease. And a similar tendency happens until 2014 when the main effects of the 2008 economic crisis ended. That might reflect that families tried to save in a context of economic recession and generalised financial difficulties. Indeed, this hypothesis might be reinforced as the expenditure grew once the global economic crisis weakened. But it also finds backup on previous papers that found an anti-cyclic tendency -compared to the hospitality sector's variables- in some macroeconomic variables such as the average net income (Ramón-Dangla, 2016).

In this sense, another noteworthy fact is that the expenditure in hospitality sharply increased since 2014, while the average net income pace of growth is steady but not as sharpened. However, it dramatically decreased in 2018, when some signs of economic recession were observed, as well as a slight reduction in the average net income appears. These figures might have been the prelude of a new economic crisis until the COVID-19 pandemic appeared. Once the health crisis is controlled and the economic crisis is fully revealed, it is to be examined if the effects of the economic crisis caused by the COVID-19 are worse than the ones expected. Conversely, it might be that the subsides assortment provided by many governments and supranational organisations, that otherwise would have not happened, may have mitigated the unavoidable effects of the expected economic crisis.
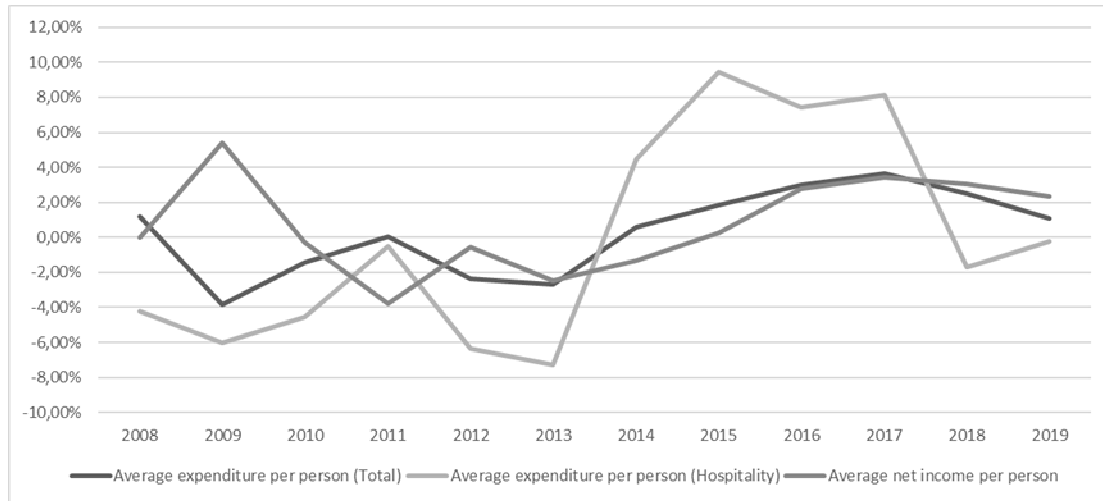
FIGURE 2: Average expenditure and average net income per person (2008-2019).
Source: National Statistics Institute (2020b) and National Statistics Institute (2020c).

However, hospitality enterprises should remain very vigilant and try to learn from the 2008 economic crisis experience. For instance, it was identified that the location influences the performance of tourism-related businesses. Indeed, it significantly affects the probability of survival (Lado-Sestayo et al., 2016). Also, if it is a residential destination, it is proved that they would suffer enormous destruction of employment than the hotel tourism ones (Perles-Ribes et al., 2016). On the other hand, the size of the enterprise also influences business survival, as well as their growth rate if they do survive. In line with this fact, Peric & Vitezic (2016) demonstrated that large and medium-sized enterprises perform better. But also, those hotels that invested in eco-innovative measures experienced growth in their labour productivity, even during the period of crisis (García-Pozo et al., 2016). Unfortunately, all these statements apply to hotels and accommodation services, but they do not usually include catering services as this subsector is much more heterogeneous and mainly made up of SME's (Cabiedes-Miragaya, 2019). The only event that directly applied to the catering subsector during the previous economic crisis was the anti-tobacco policy, which was expected to severely damage bars and restaurants' profitability. Nevertheless, such worsening did not happen (Caballero-Hidalgo & Pinilla-Domínguez, 2014; Talias et al., 2015), but that event does not apply to today's restrictions as they involve drastic measures as forced closures or only-terrace service.

Additionally, attending to the facts on which the firm has decision power, the survival strategy is a key one. The cost-cutting measures are widely known to be highly ineffective as they unavoidably affect the final service, and consequently, the hotels end up reducing their prices (Alonso-Almeida & Bremser, 2013). That strategy, trying to get more overnight stays through a price reduction, is detrimental to the profitability of the enterprise (Ramón-Dangla 2016). But such detriment does not affect equally all businesses as some firms offer superior services, and the final service after cost-cutting measures remains of high quality (Alonso-Almeida &Bremser, 2013).

Lastly, regarding the gender perspective, as it happened in the case of the evolution of the unemployment rates, the tendencies are similar, but men's net income is higher than women's ones. That is also justified because of the differences in the characteristics of the jobs they are employed. However, such tendency appears to be in the process of reversion as since 2018 men's average net income growth is slowing down while women's one is increasing more rapidly. Nevertheless, the impact of the health and economic crisis might hit these figures and sink both gender salaries, but especially women's ones.

Once the evolutions of the variables are shown, they are set in a binomial logistic regression, together with other variables previously described, to determine whether they influence on the

decision -or possibility- of spending money in hospitality. Therefore, the hypotheses of the study are whether each variable -individually and together with the other ones- potentially affect the probability of monthly spending money on catering services. The hypotheses are listed below, and the descriptive analysis of the sample is compiled in Table 1:

- **H1:** There are differences between men and women when it comes to expenditure on catering services.
- **H2:** The people who were born in Spain are more likely to -at least monthly- spend money on catering services.
- **H3:** The net income directly affects the choice of spending money on catering services.
- **H4:** If the employee is responsible for other people in the enterprise, it is more likely to spend money on catering services as a higher income is presupposed.
- **H5:** Unemployed people are more likely not to spend money on catering services.
- **H6:** People who usually take part in social activities (sports, cultural activities…) are more likely to spend money on catering services.
- **H7:** People who weekly spend a small amount of money on self-care are more likely to spend money on catering services.

	N	Min	Max	Mean	Std. Dev.	Skewness	Kurtosis
Gender	33,376	0	1	.48	.500	.079	-1.994
Country of birth	33,376	0	1	.88	.323	-2.368	3.606
Net salary (monetary) (thousands of euros; annual)	33,376	0	276.58	7.877	12.066	3.072	26.129
Responsibility in the enterprise	33,376	0	1	.12	.327	2.317	3.368
Unemployed person	33,376	0	1	.10	.304	2.613	4.826
Usual expenditure on social activities	33,376	0	1	.66	.475	-.662	-1.561
Weekly expenditure on self-care	33,376	0	1	.80	.403	-1.468	.154
Monthly expenditure on catering services	33,376	0	1	.85	.361	-1.915	1.667

TABLE 1: Descriptive Statistics.
Source: Authors.

Then, operating the binomial logistic regression as formulated in (1) to (3), it returns the following results contained in Tables 2, 3 and 4. Firstly, to assess the statistical significance of the model, the Omnibus Tests of Model Coefficients is used (Table 2). Essentially, it checks whether the model with the explanatory variables included improves the baseline model. That is performed by comparing the deviance (-2LLs) of both models using chi-squared tests. Here, the null hypothesis is that there is no difference between them, while the alternative hypothesis is that the deviance of the model with the explanatory variables included is significantly reduced. That is, the proposed model explains more of the variance than the baseline model, and so it suggests a better predictive capacity. In this case, the null hypothesis is not accepted, so the model is statistically significant, and it is useful to make predictions.

Once the statistical significance of the model is proved, it is also necessary to determine how well the model explains the data. In logistics regressions, R2s are known as pseudo-R2s as they are not calculated as the ones used for linear regressions, despite that they are approximations of the variation explained by the model. For this study, Nagelkerke's R2 (Nagelkerke, 1991) (Table 2) is used as it is the one mainly recommended in the literature since its value varies from 0 to 1. Conversely, Cox & Snell's R2 (Cox & Snell, 1989) do not reach the value "1" even in a perfect fit.

Thus, this model explains the 52.2% of the variation in the outcome, which is a great value considering the nature of the logistic regression analysis.

Omnibus Tests of Model Coefficients		
Chi-square	df	Sig.
11,946.107	7	.000
Model Summary		
-2 Log likelihood	Cox & Snell R^2	Nagelkerke R^2
16,753.730	.301	.522

TABLE 2: Omnibus Tests of Model Coefficients and Model Summary.
Source: Authors.

Additionally, the goodness of fit of the model is also calculated. Two different methods might be uses: the Hosmer & Lemeshow Test (Hosmer et al., 2013) and the Classification Table. Following the extant literature, the Hosmer & Lemeshow Tests presents several drawbacks such as its instability or a high dependency on the sample size, but mainly its changeable result depending on the grouping strategy chosen and the statistical software used (Pigeon & Heyse, 1999; Iglesias-Cabo, 2013). Consequently, the Classification Table is used. As shown in Table 3, a large share of the data is correctly predicted (89.1%), so it may be stated that the model is fitted.

		Predicted		
		No monthly expenditure on catering	Monthly expenditure on catering	Percentage Correct
Observed	No monthly expenditure on catering	3,498	1,649	68.0
	Monthly expenditure on catering	1,993	26,236	92.9
Overall percentage				89.1

TABLE 3: Classification Table.
Source: Authors.

Finally, Table 4 summarises the statistics and coefficients of the variables in the equation, including the regression coefficients, the Odds Ratios, and the Wald statistics (Wald, 1945) for each variable. Indeed, starting by the latter, all variables but "Gender" are statistically significant at the .01 level. Despite that, "Gender" would be statistically significant at the .1 level, which is a weak significance.

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Gender	-.069	.041	2.939	1	.086	.933	.862	1.010
Country of birth	.508	.053	91.301	1	.000	1.662	1.498	1.845
Net salary (monetary) (thousands of euros)	.034	.003	131.781	1	.000	1.034	1.028	1.040
Responsibility in the enterprise	.213	.083	6.616	1	.010	1.237	1.052	1.454
Unemployed person	-.323	.055	34.137	1	.000	.724	.649	.807
Usual expenditure on social activities	2.539	.056	2,040.370	1	.000	12.664	11.343	14.138

Weekly expenditure on self-care	1.938	.042	2,174.735	1	.000	6.944	6.401	7.534
Constant	-.978	.056	310.590	1	.000	.376		

TABLE 4: Variables in the model.
Source: Authors.

Thus, much valuable information can be extracted from Table 4. Starting with the "Gender" variable, as stated before, it is statistically significant at the .1 level. That is a weak significance, but it is acceptable, and so its coefficient may be interpreted. For this variable, 1 represents men, what involves that, according to the value of the coefficient, the probability of monthly spending money on catering services is reduced by 6.7%. less if the person is a man. Therefore, it suggests that women are more likely to spend money on catering services, which confirms H1. In line with it, the country of birth is also a "non-eligible" factor of the individuals. Surprisingly, this variable's coefficient is much larger than the "Gender" variable's one: up to an increase of 66.2% if the person was born in Spain. Consequently, it supports the statement contained on H2, which affirms that native Spanish people are more likely to make some expenditure on catering services.

Following on, the next set of variables are related to the professional area. Firstly, it is checked whether the variations in the net income affect consumer decisions regarding the expenditure on catering services (H3). Such statement is confirmed but, conversely to what might be expected, the impact is much lower since, per each additional one thousand euros, the probability of monthly spending money on catering services is increased by just 3.4%. Then, it has consequences when forecasting the effects of a possible net income reduction during the next economic crisis, as a slight decrement might be expected. On the other hand, if there is a sharp rise of the unemployment rate, it might strongly affect the consumption of catering services as it is demonstrated by the model that, if the individual is unemployed, the probability of spending money on catering services once a month is reduced by 27.6% -which confirms H5. Lastly, if the employee is responsible for other workers in the enterprise, it is more likely they spend money on catering services as a higher income is presupposed (H4). That is confirmed by the model, being such a rise in the probability of 23.7%.

Finally, considering other expenditure items of the individuals, which are related to non-essential spending, the expenditure on social activities (H6) -such as going to the theatre or being involved in sports- and self-care purchases (H7) are studied. For the first case, the effect is enormous since the fact of being involved in social activities increases the probability of monthly spending money on catering services by 1266.4% Regarding the latter, the fact of weekly spending money on self-care purchases increases the probability by 694.4%. Both results are solid as spending money in any of them might suggest that the individual has enough budget to do so. However, despite those large values are solid given the issue of the so-called 'size effect', such a correlation between variables needs further analysis.

The analysis carried out in this piece of work reveals much valuable information that might eventually help to forecast the effects of the pandemic on the catering service subsector. Collating the data from Figures 1 and 2 with the outcome of the logistic regression some clues are discovered. Firstly, the "starting" unemployment rate of this new economic crisis (Figure 1) is worrying, since being unemployed reduces the probability of -at least monthly- spending money on catering services by 27.6%. Once the subsidies to the workers affected by a temporary employment regulation end, if these workers end up being fired, the employment situation would be disastrous. In addition to that, as shown in Figure 2, the average net income is likely to be slightly reduced. Fortunately, the model suggests that the influence of the net income over the final decision of consuming catering services is not as large as it might be expected.

Conversely, the two variables that vastly influence on such decision are highly limited nowadays: social and self-care activities. Indeed, both are extremely related in the Spanish culture with

dining out or going out to have "tapas". If these activities are limited in such a way that even bars and restaurants are closing due to a lack of customers because of the health restrictions. But also because of external factors such as the winter season, that prevents people from being on the terraces, which are mainly the only available spaces to guarantee social distancing in many territories. All these factors directly contribute to worsening the situation of the hospitality industry, but especially the catering services' one.

5. CONCLUSIONS

The COVID-19 pandemic has caused a worldwide outbreak since the very beginning of 2020. Two years later, it is time to evaluate the impacts it has had in almost any aspect of everybody's life. This piece of work is presented as a contribution to the field of tourism. Specifically, it aims to study the effects that the pandemic has had on the hospitality industry. But it also tries to forecast the possible implications this situation might have on this sector, with special attention to the catering subsector, which is the one that is suffering the vast majority of the restrictions once the lockdown was over.

To perform this study, the authors have undertaken the following analysis. Firstly, an exhaustive review of the literature is carried out to offer a comprehensive review of the extant literature on the topic. Such a review of the literature justifies the scope of this piece of work as the effects of the COVID-19 pandemic have been barely studied yet. Then, to perform the statistical analysis, the latest data from the National Statistics Institute was used.

The statistical analysis is made in two ways. First, a descriptive analysis of the key variables "unemployment rate", "average net income", "average expenditure" and "average expenditure on tourism" is carried out. These results help understanding the expected tendency for these variables by including the 2008 global economic crisis period. Despite that both crises differ substantially, it is the closest and similar event. Thus, some references are made.

Secondly, a logistic regression analysis is performed by using the previously mentioned variables, as well as other valuable variables for the study like individual's attributes, job characteristics or expenditure habits. Regarding this analysis, some remarkable results are obtained concerning the decision-making factors of spending money on catering services. For instance, the enormous influence of the place of birth -being Spain the favourable event in the dichotomous variable-, which increases the chances by 66.2%, or the residual effect of earning substantially more money, which only increases the odds by 3.4%. This latter result is encouraging since a drop in the average net income is expected, as it occurred during the previous economic crisis. Consequently, it might be positive for the catering sector, as the decision of spending money on catering services does not seem to be highly influenced by the money an individual has.

Conversely, some worrying conclusions might be also drawn. Specifically, the dramatic drop in the probability of spending -at least monthly- money on catering services if the individual is unemployed, which decrease by 27.6%. Indeed, if the pattern of the previous economic crisis is followed, a sharp rise in the unemployment rate is expected during the following months. Such a hypothetical situation -but probable- is especially worrying if considering that: (1) the unemployment rate is significantly higher "at the beginning" of this new economic crisis, (2) public subsidies cannot be kept over time, (3) and the European Union billionaire rescue is still being deployed. All these issues, in addition to severe restrictions to bars and restaurants and travel restrictions, if kept over time, many hospitality businesses might eventually have to close, and so their workers might be fired.

In consequence, many measures should be taken in an attempt to palliate the effects of this pandemic, which is causing enormous damage to the economy and citizens' life. However, to undertake a set of measures is not an easy task, and it highly depends on the ideology of the political party that governs. Even more fragile is the situation for the case of Spain, where two political parties – with noticeable differences in the economic field - govern in a coalition.

Nevertheless, the exceptionality of the situation requires exceptional actions. And so, the response to this crisis ought to be led by the European Union, as it is already being. For the case of Spain, in the light of the results of this piece of work, the vast majority of measures should be focused on saving businesses from their closure and enhancing the employment, with special attention to the youngest generations. But also, to those middle-aged workers who lack a high level of education and who are at risk of not being hired again if they are eventually fired. Additionally, regarding the results obtained, and the habits of the Spanish population, an overwhelming demand is expected once the health restrictions are over or, at least, softened.

Considering the changeability of the situation, the authors of this piece of work might not infer additional conclusions or draw any extra recommendation. Nevertheless, the authors will put their best efforts into analysing the upcoming situation and the effects it might have on the hospitality sector, with specific attention on the catering services subsector.

6. ACKNOWLEDGEMENTS

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