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REVISTA TURISMO y SOCIEDAD

SILVER TOURISM: AN APPROACH TO SENIORS' EXPENDITURE

TURISMO PLATEADO: UNA APROXIMACIÓN AL GASTO DE LOS MAYORES

Resumen

Estudiar los efectos de una población cada vez más envejecida es crucial, pero se encuentra escasamente estudiado en el sector turístico. Este trabajo utiliza análisis descriptivos y regresiones logísticas multinomiales para hallar los factores explicativos del gasto de los mayores en hostelería y ocio antes y durante la pandemia COVID-19, con datos del Instituto Nacional de Estadística de España, empleando muestras de población adulta y anciana en 2019 y 2020. Los resultados sugieren que la renta, el número y situación laboral de los miembros del hogar y el número de viviendas aumentan las posibilidades de gastar más, al contrario que el tamaño del municipio de residencia; la variable *sexo* no fue concluyente.

Palabras clave: España, Gasto, Ocio, Turismo plateado, Turismo senior.

- En España, los mayores ganan menos que los adultos, pero tienen pensiones relativamente altas.
- La proporción de gasto en hostelería y ocio parece constante para los mayores españoles.
- Los ingresos son los que más influyen en el gasto, por lo que hay que salvaguardar las pensiones.
- El Estado debe garantizar el derecho a vacaciones de los mayores, mediante políticas públicas.
- Los hogares cuyos sustentadores principales son ancianos están empobrecidos y pueden gastar poco.

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Abstract

Studying the effects of an ageing population is crucial, but it remains understudied in the tourism industry. This paper uses descriptive analyses and multinomial logistic regressions to find the explanatoryining factors for senior spendings' expenditure on hospitality and leisure before and during the COVID-19 pandemic, with using data from the National Statistics Institute of Spain of adult and senior population samples in 2019 and 2020. The findings results suggest that income, number and labour situation of the household members and the number of houses increase the chances likelihood of spending more, conversely to the size of the municipality of residence; the variable "sex" was innot conclusive.

Keywords: Expenditure, Leisure, Senior Tourism, Silver Tourism, Spain.

- In Spain, seniors earn less than adults but have relatively high pensions.
- The expenditure share on hospitality and leisure seems constant for Spanish seniors.
- Income has the highest influence on expenditure, so pensions need to be safeguarded.
- The state must guarantee the right to vacations of seniors through public policies.
- Oversized households with senior breadwinners are impoverished and can spend little.

1. Introduction

Ageing is one of the main hot topics worldwide but by far more important in Western countries. Indeed, Europe is the region in which this phenomenon has the most noticeable impact, being constantly monitored in detail by Eurostat (2022). From the many consequences this trend may eventually have in the continent and the world, the ones on the tourism industry might entail deep changes in how it is understood, given a huge increase in the figures of senior travellers (Eurostat, 2022) and the subsequent adaptations to their needs (Zielinska-Szczepkowska, 2021), which may overtake other segments' ones.

At this point, it is extremely important to find a unanimous definition for 'senior traveller', 'silver tourist' or any similar term (Pestana *et al*., 2019), since this heterogeneity scatters the available information in many small subgroups, which complicates studying the subject. In fact, it is difficult to find a proper definition of this type of tourism apart from the assumptions that are made in the works that study this phenomenon, which usually assume retirement (Deng *et al*., 2022) or age (Pak, 2020) as the definitors. Since retirement does not necessarily involve being old and being old does not necessarily involve ceasing working activity, some bias may arise if third-party data is used. Therefore, this piece of work takes the latter assumption to consider a tourist to be 'silver' or 'senior'.

Once the thresholds are set, an in-depth literature review should be performed. Some authors have already undertaken it through bibliometric techniques for the period 1980-2017 (Daniels *et al*., 2019; Pestana *et al*., 2019; Pestana *et al*., 2020), finding interesting

topics highly related to this type of tourism, such as nature conservation, information, technologies, or destination preferences. Plus, bibliometric results – which are not relevant for this particular study –, were also recorded. However, five years have gone by, and these results might not be as representative as they were; in this period, Web of Science and Scopus sum 91 unique documents while 97 are counted for the last five years. Consequently, this paper updates the prior ones – not carrying out a bibliometric analysis but a systematic literature review – to introduce the need for the subsequent study, given the research gap found.

Thus, on June 2022 a very wide search was performed in the scientific databases Web of Science and Scopus, following the steps of Pestana et al. (2019), including the most renowned terms: *"silver tour*" OR "senior* tour*"*. However, these authors included more terms – not truncating the words – such as *"senior travel", "mature tourists", "elderly tourist", "older tourists", "elderly travel", "elderly tourists"* or *"grey tourists"*. Nevertheless, running this equation showed that the two selected terms cover almost the same number of papers, but include many additional, not relevant results. Considering that, adding and filtering – excluding duplicated works and irrelevant ones – the results obtained from these two databases (June 2022) summed up 188 scientific articles, 97 of them within the last five years. These ones were classified into many subcategories to provide a comprehensive overview of the current state of the arts, which is shown next.

Such results were overwhelming, as the two main categories group many more papers than the rest of the identified subtopics. Firstly, well-being among senior tourists is a top priority, which seems a truism as elder people may not be willing to get involved in intense tourism activities – despite a growing interest in active ageing (Talos *et al*., 2021) – but prioritise well-being. Besides, it is worth highlighting that, despite the vagueness of the term, not only theoretical and qualitative papers have been written (Melon et al., 2018; Raccanello & Cuamatzin-Garcia, 2019; Kim *et al*., 2021; Li & Chan, 2021; Sie *et al*., 2021; Xiang & Qiao, 2022) but quantitative papers are equally represented (Oliveira *et al*., 2018; Hwang *et al*., 2020; Mahadevan & Pam, 2020; Tavitiyaman & Saiprasert, 2020; Wen *et al*., 2020), with a special interest in advanced quantitative methods as SEM models are (Hwang *et al*., 2019; Pan *et al*., 2020), which are well known for their usefulness in the tourism sector (Ceballos-Santamaría *et al*., 2021; Pérez-Calderón *et al*., 2020).

Slightly less relevant – but far more addressed than the rest of the subtopics –, accessibility stands out as senior tourists may face more barriers and constraints than other tourists (Cavapozzi & Zantomio, 2021; Qiao *et al*., 2022). Indeed, most of the related literature addresses the accessibility to the means of transportation – specifically the bus –, given a certain degree of disability in the four papers identified (Raccanello & Cuamatzin-Garcia, 2019; Pinto *et al*., 2020; Rosa *et al*., 2020; Rosa, 2022). Surprisingly, conversely to the prejudice of elder people more interested in cultural destinations – even though the topic is addressed in the literature (Zambianchi, 2020; Parreira *et al*., 2021) – accessibility to museums is only addressed once (Giammanco et al., 2022). Lastly, in relation to all the above, ICTs are a usually forgotten barrier, and it is barely addressed within the most recent literature (Wen et al., 2020; Ramos-Soler et al., 2019). However, some studies suggest that travel support – public and private – may help them overcome these barriers (Gabruc & Medaric, 2021).

In this sense, identifying the actual needs of the senior tourists seems crucial for properly addressing this growing market through segmentation (Otoo et al., 2021), getting to know the specific characteristics of the senior travellers, which differ from the rest of the people who travel (Markiewicz-Patkowska *et al*., 2019). In fact, discovering their motivations to travel is essential not only for commercial purposes but to provide them with a pleasant experience (Wijaya *et al*., 2018; Filipe *et al*., 2021; Otoo *et al*., 2020a; Otoo *et al*., 2020b). Thus, the emotional part seems to play the main role in terms of companionship (Wang *et al*., 2022) and fear to travel in the post-COVID-19 context (Zambianchi, 2020), which undoubtedly should be taken into account. Lastly, it is worth mentioning at this point the existence of two segments within the seniors' one: the geriatric tourists (Tsartsara, 2018), which are the ones that need medical assistance in the destination, and the oldest old or preeminent-mature tourists, which are the ones elder than 85 years old (Daniels *et al*., 2019).

All the above – and many other works within the last five years – omit two key aspects of tourism such as spending and consumption in economic terms. In the analysed period, only three papers were fully devoted to these topics, taking the households as the units for the case studies performed, in China (Deng *et al*., 2022) and Hungary (Bakucz *et al*., 2021). These two pieces of work addressed consumption from a quantitative point of view. Related but different from them, Mahadevan & Pam (2020) found out that, in the case of China, senior travellers' tourism demand is inelastic, which is of great importance if comparisons to other countries can be made. Finally, related to consumption but not involving much of the seniors' money, public social programs that allow people from lower classes to travel are crucial in understanding seniors' travel motivations, consumption, and expenditures (Thomas, 2018; Amaral *et al*., 2020; Derco & Strba, 2020).

Therefore, the interest of this piece of work lies in trying to provide a deeper understanding of the factors that influence the consumption of senior citizens, with special emphasis on tourism, given the importance of 'silver tourism' now and likely in the future, which is stated as the research question of this paper. It is addressed through a multinomial logistic model – explained more in-depth in the following section – to capture the singularities of each expenditure group – low, medium and high. Moreover, comparisons with adults excluding seniors and interannual comparisons with the latest data are made. Then, after showing the results in the corresponding section, they are discussed, some conclusions are drawn, and the limitations of the study are stated.

2. Materials and methods

As briefly introduced, the relevance of this paper lies in the methodological aspects since it brings to the literature a topic which has not been much addressed and it does through a sound statistical method, supported by large databases, contrary to the usual few dozens or hundreds of surveys or interviews.

In this sense, the data that support this study comes from the Family Budgets Survey, prepared by the National Statistics Institute (2021) of Spain. For this study, the latest data – 2020 – is used, but also 2019 data, to suppress the possible bias of COVID-19 during 2020 and to provide an interannual comparison. Plus, in line with the findings of Markiewicz-Patkowska et al. (2019), it is hypothesised that people under 65 years old might

have different consumption patterns, so a comparison is performed in both years. Lastly, the criterion of determining a person as 'senior' because of being 65 years old or more is supported by Pak (2020). The numbers of individuals in each category are: category 'adults' in 2019, labelled as "<65_19", 14,433 individuals; category 'seniors' in 2019, labelled as ">=65_19", 6,384 individuals, category 'adults' in 2020, labelled as "<65_20", 13,424 individuals and category 'seniors' in 2020, labelled as ">=65_20", 5,746 individuals. The age of reference is taken from the breadwinner of the household.

Unfortunately, the microdata provided by the National Statistics Institute (INE) has two big cons regarding the consumption variables. The first one is that the microdata does not contain the disaggregation by type of expenditure – which is included in a separate file larger than the Excel standard and hardly possible to join to the microdata file – which makes the dependent variable be the overall consumption by household. However, this goes in line with the second con but it is also a pro, since the overall consumption figures are provided 'elevated', as the INE calls it, which means that the figure is resized considering a range of variables of the household – please, see Nationals Statistics Institute (2021) for more detailed information on this procedure. The resulting figures constitute a con since tourism data cannot be directly extracted but inferred from the data provided in the search tools that they provide on the website, and many statistical methods cannot be applied. On the other hand, since they already include some variables in the calculation of the consumption, the proposed model is lighter.

Considering all the above, the statistical procedures carried out go as follows. First, the information about expenditures by categories is provided by means of variation rates and shares to illustrate the hospitality and leisure consumption in the general population and the seniors segment. Following this descriptive analysis, which helps in contextualising the rest of the results, an additional descriptive analysis of some relevant variables is performed. Many of the variables included in the corresponding table are included in the multinomial logistic regressions that constitute the core of this piece of work. Consequently, following these two descriptive analyses, the results of the tests and estimations of the model are presented.

The choice of the multinomial logistic regressions lies in the characteristics of the data. Since the dependent variable is provided 'elevated' and without dimensions, running standard regressions or similar might involve a high degree of bias and be little representative. Thus, as the study unit is the household, following Deng et al. (2022), the authors decided to classify the expenditure into three categories resulting from dividing the sample into three even groups: low (1), medium (2) and high (3) expenditure. The base category is 'medium' as a standard criterion to determine 'what makes consumption be under or above the medium expenditure'.

The model is specified in its general form (i):

$$\beta_0 + \beta_1 Status + \beta_2 \ln(Income) + \beta_3 Mun\_Size + \beta_4 N\_Memb + \beta_5 N\_Occup + \beta_6 Sex + \beta_7 N\_Prop \quad \text{(i)}$$

The variables are the following ones. The dependent variable is 'Consumption', which takes the aforementioned values. Then, the model is made up of seven independent variables.

First, there are two dummy variables, 'Employment situation' and 'Sex'. 'Employment situation' takes the value 1 when the person is retired – in the +65 years old category – or if the person is occupied – in the younger than 65 years old category. 'Sex' values are 1 for me and 6 for women, as in the original database. Then, 'Mun_Size' is the size of the municipality, which is a categorical variable with five levels of size, from 1 to 5, being 1 the highest and 5 the lowest. Besides, there are three 'open' numerical variables: 'N_Memb', which represents the number of members of a household, 'N_Occup', which states the number of workers in the household, and 'N_Prop', which includes the number of houses in properties – apart from the one they are currently living. The latter is also 'open' but the maximum is 4. Lastly, 'Income' is expressed as the natural logarithm on the annual income, resulting from multiplying the household income – not only the breadwinner's income – by twelve to make it an annual figure, as consumption is. The software used to perform the calculations were Microsoft Excel and SPSS (IBM Corp., 2021).

3. Results

Following the order established in 'Materials and methods', the 'Results' section starts by showing the expenditure by groups of expenditures and groups of individuals (Table 1). This disaggregation is unfolded in two categories: the 'senior' one and the general population. Such a separation is performed because, as stated in the 'Introduction', not all retired are over 65 years old and not all individuals over 65 years old are retired. Since this data does not come from the microdata but from the results tool of the National Statistics Institute website, both categories were included to avoid bias.

The results of this descriptive analysis for these three groups and for the 'last' five years period – 2015 was included for calculating the variation rates – show some interesting patterns. Apart from the large drop in 2020 caused by the COVID-19 pandemic, the most relevant pattern is that for both 'leisure and culture' and 'restaurants and hotels' expenditure categories, when a small change occurs in the general population, the same but larger occurs for both subgroups of seniors. Then, it is also worth noticing the exception to this trend in the 'restaurants and hotels' subgroup in 2020, which is associated with the already lower expenditure in the previous years. Lastly, the shares of each category have remained kind of constant over the years, while the absolute quantities have steadily grown, likely because of inflation.

Table 1. Expenditure by groups of population and category of expenditure

		General			*Leisure and culture*			*Restaurants and hotels*		
		Total	65+ years	Retired	Total	65+ years	Retired	Total	65+ years	Retired
2020	€	26,995.76 (-10.74)	23,545.92 (-8.19)	24,865.85 (-8.86)	1,125.89 (-31.92)	638.88 (-39.71)	749.03 (-38.39)	1,752.21 (-40.49)	920.84 (-43.27)	1,051.66 (-44.28)
	%	100			4.17 (-1.30)	2.71 (-1.42)	3.01 (-1.44)	6.49 (-3.25)	3.91 (-2.42)	4.23 (-2.69)
2019	€	30,242.76 (1.24)	25,646.07 (1.10)	27,283.40 (.44)	1,653.69 (.64)	1,059.68 (3.44)	1,215.72 (1.49)	2,944.35 (-.11)	1,623.24 (.58)	1,887.30 (.88)
	%	100			5.47 (-.03)	4.13 (.09)	4.46 (.05)	9.74 (-.13)	6.33 (-.03)	6.92 (.03)

		General			*Leisure and culture*			*Restaurants and hotels*		
2018	€	29,871.28 (2.34)	25,366.29 (3.07)	27,164.69 (2.59)	1,643.16 (-1.14)	1,024.48 (-2.64)	1,197.89 (-3.01)	2,947.56 (-1.84)	1,613.83 (-2.60)	1,870.88 (-4.64)
	%	100			5.50 (-.19)	4.04 (-.24)	4.41 (-.25)	9.87 (-.42)	6.36 (-.37)	6.89 (-.52)
2017	€	29,188.19 (3.50)	24,610.09 (2.00)	26,480.17 (1.82)	1,662.14 (4.29)	1,052.25 (5.89)	1,235.11 (5.64)	3,002.75 (7.99)	1,656.88 (8.15)	1,961.93 (5.10)
	%	100			5.69 (.04)	4.28 (.16)	4.66 (.17)	10.29 (.43)	6.73 (.38)	7.41 (.23)
2016	€	28,199.88 (2.65)	24,128.05 (2.41)	26,005.73 (2.49)	1,593.76 (.04)	993.69 (-3.02)	1,169.16 (-4.72)	2,780.46 (7.06)	1,531.96 (8.71)	1,866.70 (9.53)
	%	100			5.65 (-.15)	4.12 (-.23)	4.50 (-.34)	9.86 (.41)	6.35 (.37)	7.18 (.46)
2015	€	27,473.04	23,559.99	25,372.78	1,593.08 (-)	1,024.62 (-)	1,227.09 (-)	2,597.01 (-)	1,409.23 (-)	1,704.25 (-)
	%	100			5.80 (-)	4.35 (-)	4.84 (-)	9.45 (-)	5.98 (-)	6.72 (-)

Note 1: € rows in Euros. Interannual variation rate between brackets.
Note 2: % rows in percentage. Interannual variation between brackets.
Source: Authors.

Next, Table 2 shows the descriptive statistics of the variables included in the model, but also the descriptive statistics of the variables 'consumption' and 'income' previous to the transformation for becoming the variables included in the model. This table is mostly informative on the distributions of certain aspects of the sample, and especially important are asymmetry and kurtosis for the estimations of the model. Starting with the latter, the results show that the data is mostly normally distributed, despite absolute expenditure and income, and tilted variables such as the number of additional properties – which is mostly 0 or 1 – or the number of occupied people – which is mostly 0 in senior households.

Table 2. Descriptive statistics of relevant variables.

		Min	*Max*	*Mean (Std. Dev.)*	*Skewness*	*Kurtosis*
Mun_Size	<65_19	1	5	2.682 (1.591)	.301	-1.471
	>=65_19			2.754 (1.646)	.246	-1.57
	<65_20			2.677 (1.595)	.312	-1.469
	>=65_20			2.746 (1.65)	.251	-1.573
N_Memb	<65_19	1	11	2.881 (1.249)	.384	.452
	>=65_19		10	1.952 (.887)	1.52	4.835
	<65_20		12	2.846 (1.242)	.375	.443
	>=65_20		8	1.952 (.865)	1.357	3.784
N_Occup	<65_19	0	6	1.398 (.808)	.125	.251
	>=65_19		5	.229 (.527)	2.669	8.659
	<65_20		5	1.364 (.779)	.018	-.009
	>=65_20		4	.221 (.504)	2.48	6.724
Sex	<65_19	1	6	2.623 (2.341)	.749	-1.439
	>=65_19			2.752 (2.386)	.627	-1.607
	<65_20			2.662 (2.355)	.712	-1.494
	>=65_20			2.674 (2.36)	.7	-1.51

		Min	*Max*	*Mean (Std. Dev.)*	*Skewness*	*Kurtosis*
N_Prop	<65_19	0	5	.137 (.379)	2.965	10.584
	>=65_19		4	.253 (.492)	1.906	3.67
	<65_20		5	.133 (.37)	2.983	10.786
	>=65_20		4	.245 (.481)	1.957	4.274
Employ-ment situation	<65_19	0	1	.82 (.384)	-1.665	.772
	>=65_19			.834 (.372)	-1.8	1.24
	<65_20			.822 (.382)	-1.685	.839
	>=65_20			.835 (.371)	-1.804	1.255
Income_M	<65_19	0	1	.82 (.384)	-1.665	.772
	>=65_19			.834 (.372)	-1.8	1.24
	<65_20			.822 (.382)	-1.685	.839
	>=65_20			.835 (.371)	-1.804	1.255
Income_Y	<65_19	0	16,550	2,363.49 (1,432.01)	1.834	7.311
	>=65_19		15,104	1,847.70 (1,205.05)	2.54	13.127
	<65_20		21,964	2,413.99 (1,448.46)	1.728	7.86
	>=65_20		18,734	1,919.60 (1,207.58)	2.29	12.608
Ln_IncomeY	<65_19	0	12.20	10.013 (1.071)	-6.316	56.178
	>=65_19		12.11	9.834 (.612)	-1.807	30.615
	<65_20		12.48	10.015 (1.162)	-6.18	50.396
	>=65_20		12.32	9.868 (.678)	-4.198	60.983
Expend. (in thou-sands)	<65_19	82.63	374,722.33	24,182.66 (24,718.41)	2.94	15.973
	>=65_19	71.807	185,133.77	15,724.89 (16,318.40)	2.913	12.978
	<65_20	1.427	464,116.18	22,337.83 (24,625.71)	3.731	25.996
	>=65_20	126.307	190,156.88	15,148.04 (16,029.05)	3.357	18.164
Ln_Expend.	<65_19	11.322	19.742	16.576 (.964)	-.295	.256
	>=65_19	11.182	19.037	16.166 (.912)	-.077	.057
	<65_20	7.263	19.956	16.489 (.952)	-.227	.934
	>=65_20	11.746	19.063	16.143 (.882)	.033	.018
Cat_Expend	<65_19	1	3	2.01 (.816)	-.019	-1.507
	>=65_19			2.01 (.819)	-.018	-1.507
	<65_20			2.011 (.819)	-.019	-1507
	>=65_20			2.01 (.819)	-.019	-1.507
N = "<65_19" = 14,433; ">=_19" = 6,384; "<65_20" = 13,424; ">=65_20" = 5,746						

Source: Authors.

Also, it is interesting the column of the maximum values per variable. For instance, the maximum in the variable 'number of members' in the household is high but more especially with regards to the seniors' households, since up to eight or ten people are living in a household whose breadwinner is a retired senior – i.e., if considering that retired senior households include a single or a couple of seniors, in 2020, 940 (19.6%) of these households had 'additional' members backed by a retiree. This fact does not only influence their daily life but also their consumption patterns since the pension is divided between more people, and so they might be likely to spend less money on leisure and tourism.

Next, once the sample is known, the models – one per year and category – are run using the software SPSS (IBM Corp., 2021). So, Table 3 shows the results of the general assessment of the model while Table 4 shows the results of the estimations of the models. So, Table 3, based on log-likelihood tests of the model without variables and with all the variables,

aims to determine if the models are explicative and, if so, their explicative power. For the four models, the models are proved to be explicative at the 99% level. Regarding their explicative power, the results show that they are not very powerful. However, the pseudo R2 values are over the commonly accepted minimum threshold for accepting a model and, in the case of the seniors in 2019, very close to a very good threshold – 0.2 – for Nagelkerke's R2. Currently, there are not statistically proven pseudo-R2 thresholds to support decision-making with regards to the model explicative power despite the rule of thumb that states that 'the higher, the better' and that many studies using non-parametric methods which rely on pseudo-R2s present very similar values, in the range from 0.1 to 0.4.

Table 3. General assessment of the model.

		Log-Likelihood Chi²	*Log-Likelihood tests*		*Pseudo-R²s*	
			df	*Cox & Snell*	*Nagelkerke*	
Only constant	<65_19	30,319.39				
	>=65_19	13,424.40				
	<65_20	28,130.30				
	>=65_20	12,017.76				
Model	<65_19	28,528.25	1,791.14***	14	.117	.131
	>=65_19	12,245.81	1,178.59***		.169	.19
	<65_20	26,693.19	1,437.10***		.102	.114
	>=65_20	11,357.46	660.30***		.109	.122

Note: p_values at: ***.01; **.05; *.1
Source: Authors.

Lastly, the results of the estimations of the models are presented in Table 4. Overall, the results are statistically significant for almost all the variables in the four models and in both categories analysed, with respect to the base category, which is category 2 – medium expenditure. Then, regarding the betas and their corresponding value – Exp(B) –, the results are noticeably good since there are no extreme values for almost any variable, apart from the income one – which could be seen as a truism, but whose impact must be quantified.

In line with the latter, a brief summary of the results contained in Table 4 would be through the sign of the effect of each variable in the model. For instance, regarding the employment situation, being retired – for seniors – or occupied – for the rest of the adults – diminishes the chances of expending less and increases the chances of being in category three, with respect to being in category two. The only exception is for the subgroup "<65_20", which also decreases its chances of being in category three. This trend is held along the whole table, apart from some exceptions.

So, following the prior reasoning, income, number of household members, number of occupied members and number of properties follow the same pattern as the employment situation. Conversely, the size of the municipality – when it gets smaller – increases the chances of spending less. Lastly, sex does not follow any pattern but deserves some attention as the effects are very low – being 5.4% the largest –, so it could be stated that gender barely affects expenditure, and so it is not statistically significant in many of the cases.

Table 4. Results of the models' estimations.

B (Std. Err.)		*Category 1 – Low expenditure*			*Category 3 – High expenditure*		
		Wald	*Exp(B)*	*B (Std. Err.)*	*Wald*	*Exp(B)*	
Cons-tant	<65_19	1.909 (.256)	55.815***		-5.034 (.418)	145.297***	
	>=65_19	7.591 (.7)	117.627***		-6.625 (.679)	95.16***	
	<65_20	1.331 (.209)	40.697***		-3.027 (.388)	60.776***	
	>=65_20	4.162 (.69)	36.351***		-4.59 (.691)	44.105***	
Employ-ment situ-ation	<65_19	-.077 (.07)	1.212	.926	.095 (.074)	1.634	1.1
	>=65_19	-.192 (.097)	3.966**	.825	.172 (.104)	2.744*	1.188
	<65_20	-.028 (.075)	0.143	.972	-.042 (.077)	.292	.959
	>=65_20	-.202 (.103)	3.843**	.817	.316 (.108)	8.625**	1.371
Income	<65_19	-.161 (.027)	36.639***	.851	.488 (.043)	130.492***	1.629
	>=65_19	-.799 (.073)	119.065***	.45	.676 (.069)	95.293***	1.967
	<65_20	-.094 (.022)	18.857***	.911	.299 (.04)	56.215***	1.349
	>=65_20	-.438 (.072)	37.452***	.645	.436 (.07)	38.304***	1.547
Mun_ Size	<65_19	.101 (.013)	58.877***	1.106	-.106 (.013)	63.217***	.9
	>=65_19	.168 (.019)	74.484***	1.183	-.133 (.02)	44.202***	.876
	<65_20	.133 (.014)	95.042***	1.142	-.096 (.014)	48.875***	.909
	>=65_20	.155 (.02)	58.366***	1.167	-.126 (.021)	37.268***	.881
N_ Memb	<65_19	-.097 (.019)	26.908***	.907	.006 (.019)	.098	1.006
	>=65_19	-.032 (.049)	0.424	.969	.012 (.045)	.074	1.012
	<65_20	-.132 (.02)	44.561***	.877	.028 (.019)	2.072	1.028
	>=65_20	-.046 (.051)	0.821	.955	.055 (.048)	1.299	1.056
N_ Occup	<65_19	-.291 (.041)	50.991***	.747	.156 (.038)	16.565***	1.169
	>=65_19	-.199 (.09)	4.922**	.82	.166 (.073)	5.225**	1.181
	<65_20	-.346 (.043)	63.382***	.707	.156 (.041)	14.413***	1.168
	>=65_20	-.283 (.093)	9.164**	.754	.131 (.079)	2.736*	1.14

B (Std. Err.)		*Category 1 – Low expenditure*			*Category 3 – High expenditure*		
		Wald	*Exp(B)*	*B (Std. Err.)*	*Wald*	*Exp(B)*	
Sex	<65_19	.053 (.009)	33.833***	1.054	.013 (.009)	2.057	1.013
	>=65_19	-.018 (.016)	1.2	.983	-.004 (.016)	.076	.996
	<65_20	.025 (.009)	7.149**	1.025	-.012 (.009)	1.75	.988
	>=65_20	-.006 (.017)	.131	.994	.048 (.016)	8.646**	1.049
N_ Prop	<65_19	-.333 (.06)	30.482***	.717	-.058 (.052)	1.238	.943
	>=65_19	-.182 (.075)	5.906**	.834	.144 (.063)	5.238**	1.154
	<65_20	-.26 (.063)	16.809***	.771	.034 (.056)	.385	1.035
	>=65_20	-.079 (.077)	1.031	.924	.192 (.068)	7.995**	1.212

Note: df = 1 in all the table. N = "<65_19" = 14,433, ">=65_19" = 6,384, "<65_20" = 13,424, ">=65_20" = 5,746
Note: p_values at: ***.01; **.05; *.1
Source: Authors.

4. Discussion

The results displayed in the above section aim to provide a comprehensive overview of socioeconomic data regarding seniors and their adult counterparts in Spain. The descriptive results are self-explained, but it was worth mentioning some differences between samples. First, the little difference in the maximum size of the households between the categories is surprising because, as explained above, it should be expected to be more reduced for seniors' homes in which the breadwinner is an old person, retired or closed to it. These results suggest – but should be further studied – that Spain suffers from structural problems related to the emancipation of young and middle-aged adults, because of a range of reasons, including high unemployment rates (Moreno-Mínguez, 2018). That is seen in the results of the next variable – number of occupied people in the household – in which the mean, despite being little representative of the 'real' number of people working, suggests that the number of them in senior houses is much lower. Moreover, the asymmetry values indicate that the distribution is much more skewed for seniors. In other words, they have smaller households but also fewer working people in them. For instance, in 2019, the mean for the category 'adults' was 1.398, which is far away from the 0.229 for the 'seniors' one. And similar results were registered in 2020, which suggests that the pandemic might not have strongly affected the existing situation.

Then, the next set of variables follows a similar pattern likely because of the design of the sample, as men and women are evenly distributed – the mean is a bit distorted because of being six the number that represents men, but the interpretation is similar to one of the dummy variables as 0 and 1. Besides, the number of people with one or more properties rapidly decreases with every increase in the number of the house in addition to the usual one. And, lastly, regarding the variable which represents the current situation of the person – occupied/non-occupied for adults and retired/non-retired for seniors –, the distribution

is always slightly superior to the 80% for the reference category, which seems to the sampling procedure. Little relevant information can be extracted from these variables at the descriptive level.

Lastly, income and expenditure respond to the expected figures, as both are less high for seniors. Nevertheless, the average incomes are relatively high, especially for the latter since contributory pensions in Spain are also high – which is of high importance in providing economic security (Pak, 2020). These data in Table 2 directly lead to the results contained in Table 1, about expenditures in general and in tourism. Thus, all those individual results put together lead to think that seniors spend less than their younger counterparts, and it is true, at least in the Spanish case. Related but different from them, Mahadevan & Pam (2020) found out that, in the case of China, senior travellers' tourism demand is inelastic, which is of great importance if it can be compared to other countries.

Considering the descriptive results, as well as the previous findings extracted from the literature review, it seems that the expenditure on tourism is somehow proportionally fixed to the overall expenditure and that there are differences between subgroups in expenditure. Therefore, as the proportion of it that is devoted to leisure and hospitality seems 'fixed', and the official resources do not provide the microdata for directly calculating the expenditure on these subcategories, the calculations could be performed using the overall expenditure as the dependent variable and then inferring the results. In this sense, the interpretation of the results in Table 4 can only be interpreted in terms of general expenditure and not in terms of spending on tourism, and then the results might be inferred.

Thus, as stated previously, the results of the estimations of the models provide important information in terms of the statistical significance of the estimators but, at the same time, the models do not have large explanatory power (Table 3). Consequently, it may suggest that there are other variables, apart from the ones contained in the model and in the databases, that explain the dependent variable. So, further analysing the unexplained heterogeneity of these models seems a likely future line of research that should be addressed.

However, the obtained results may explain part of the dependent variable and, most importantly, the proposed models contain key variables that should always be taken into account in the design or that at least need to be addressed. In this sense, the income variable seems to be the most obvious variable to include and so the one with the largest impact. Deeping into the results, the less drop is experienced for adults from the 'medium expenditure' to 'low expenditure', and even reduced from 2019 – 14.9% – to 2020 – 8.9%. This effect also occurs from 'medium expenditure' to 'high expenditure' in which the increase of the odds to higher expenditure is larger but decreases from 2019 – 62.9% – to 2020 – 34.90% – in adults. Similar effects happened for seniors but with greater figures. Indeed, this result seems to contradict the registered by Mahadevan & Pam (2020) in China, since the changes in the odds of spending more money if given higher salaries are striking, and so inelasticity seems improbable for the Spanish case.

Similar results are also recorded for an 'Employment situation', which should be in line with the results of 'Income' and, indeed, they do. The only exception lies in the case of seniors in 2020 for the odds of spending more – 'high expenditure' – if retired. The

chances decrease by 4.10%, which may be the consequence of the COVID-19 pandemic, which has reduced their purchases. It was already suggested in Table 1, but the result of the model seems to support this assertion. However, the result in this study is not statistically significant (p_value = .292). Therefore, the impact of COVID-19 on seniors' spending on leisure and hospitality (Mahadevan & Pam, 2020; Bakucz et al., 2021) might have been larger than expected and needs to be scientifically studied and quantified.

Then, the models cover some variables whose results might be foreseeable, but whose value lies in quantifying the effects. Thus, the size of the municipality of residence is proven to directly influence the likelihood of spending more or less, being the smaller ones more likely to be in the 'low expenditure' category, to detriment of the 'high expenditure' category. Similarly, the higher the number of occupied members in a household and the number of properties, the more likely the expenditure is to be higher – around a 16% increase for the occupation case. The case of the 'number of properties' variable is slightly different as the increase in the odds for seniors is large – 15.4% in 2019 and 21.2% in 2020 –, but low or even negative in adults. The interpretation of these latter results is tricky since both are not statistically significant, but they may respond to less cash availability in earlier life stages.

Additionally, the socio-economic variables of 'number of members' in the household and 'sex' are of interest. The first one seems to be also a truism since the bigger the family, the more expensive it is to maintain it, and so the effect on expenditure should always be positive. However, it is only statistically proven the contrary effect – the fewer family members, less expenditure –, and only for adults. Perhaps, the lack of significance for seniors may lie in the fact that, even though the family size may increase, their expenditure has a ceiling on the amount of money for their pensions, as it might be assumed that the increase in the number of family members is because of financial or employment problems in line with the results of unoccupied individuals previously explained. Therefore, since seniors are mostly retired and the increases in the number of family members are of unoccupied or inactive people, little additional incomes may be received and so the expenditure thresholds could not be increased or diminished.

Lastly, the odds attached to 'sex' are very low and no pattern is noticed in any subgroup, together with a lack of statistical significance for half of them. Thus, it may suggest that there are no gender differences in overall expenditure but that further studies need to be developed to prove that extent. In the case of this study, despite some results being significant, the authors may conclude that this variable is not crucial for understanding overall expenditure, at least for 'high expenditure' individuals.

5. Conclusions

The ageing of the population is a hot topic in Western countries, but it is rapidly expanding worldwide. This event may affect – and it is already affecting – many aspects of modern societies. Among the many branches, it may have an effect, tourism is one of the most important industries, given its large share of the GDP of many countries worldwide. Therefore, assessing its impacts on this particular industry is highly relevant and so the extant literature has corroborated through a wide range of studies covering many areas within the hospitality and leisure industry. However, there are still some gaps that need

to be addressed, especially through sound quantitative methods that may support findings applicable to general cases, escaping from case studies. In this sense, this study aimed to address the gap in senior tourists' expenditure on hospitality and leisure, using the publicly available data from the National Statistics Institute of Spain, to provide four large samples, which constitute – together with the statistical method for this particular area in the scientific literature – the main novelty of the study.

Thus, this study provides evidence through descriptive and inferential statistical analyses. First, the data about expenditure by categories showed that the shares of 'leisure and culture' and 'restaurants and hotels' remain relatively almost constant through the years. That information not only provided an overview of the expenditure trend of the general population and the subgroups of elder people and retired people – separately – but supported the decision of setting 'overall expenditure' as the dependent variable of the study, as the National Statistics Institute of Spain does not publicly provide disaggregated expenditure figures in these databases. Once this decision was adopted, the descriptive information of the variables was displayed. From this information, the differences in expenditures and incomes between adults and seniors were corroborated, and additional information on key variables such as the number of members and the number of occupied people in the household was shown.

Considering the prior information, four multinomial logistic models were run, one for each subgroup of population and year, considering 2019 as the pre-COVID-19 pandemic context and 2020 as the COVID-19 context. Differences between groups and years were expected to appear but they did not. Conversely, the results are mostly statistically significant, moderated – only the variable 'Income' had large odds – and consistent through variables and subgroups. Indeed, many of the results might be seen as a truism but the extant literature lacked statistical support for many of the relations provided in this study, or they were studied under very small samples or in particular cases. Plus, in line with this assertion, despite the explanatory power of the proposed model being limited, the present study leads the way to further works focused on the particularities found among the results of the paper.

Therefore, this piece of work suggests that the employment situation of the person, the household income, the number of members and occupied members in the household and the number of properties apart from the family home, if increased, may negatively affect the odds of expending less. In other words, each unit these variables are increased, less likely the household would be classified as a 'low expenditure' one. Conversely, the decrease in the chances of expending less lead to some degree of higher expenditure, which increases the odds of being classified as 'high expenditure' households. In this sense, the more powerful variables are the 'income' and the 'number of occupied people'. However, it was also detected that the variables 'number of members' in the household and 'employment situation' need further analyses since their results are not always statistically significant.

In addition, the variable 'size of the municipality' happens to have the reverse effect and so the smaller the municipality, the larger the chances to spend less money, and vice versa. Lastly, the variable 'sex' does not provide sound results and so differences in gender in relation to the overall expenditure cannot be made.

All in all, this study provides a wide range of results which aim to contribute to the extant literature on senior or silver tourism by providing advanced statistical analyses based on sound data. The subsequent results may be highly useful for delving into the characteristics of a future tourism industry characterised by the ageing of the population. More specifically, the results of this study would be of high interest to all stakeholders involved in the tourism industry. In the first place, regarding public administrations, they would acquire further knowledge about what make elder citizens spend less than adults on leisure activities, which may lead to better public policies on providing holiday opportunities for those unprivileged ones. Secondly, private agents may find the results of interest to create more specific products for their customers, both adults and elder tourists. Lastly, this work provides further knowledge on the field of study, which may serve Academics as a base for future studies, especially regarding the steady share of the expenditure on hospitality and leisure, and the effects of the welfare state on the Spanish elderly, which may extrapolate to similar contexts.

Nevertheless, like all studies, this paper has some limitations that need to be considered. First, the dependent variable is not expressed in euros but it's a categorical variable resulting from the classification of the expenditure – which is provided 'elevated' by the National Statistics Institute –, which limits the power of the statistical method. Then, the variable 'sex' is not statistically significant in most cases, which suggests that it is not highly relevant for the study, but the lack of significance limits the prior assertion. And, lastly, post-COVID-19 results would be of high interest but, despite the 2021 results are expected to be released soon, they are still part of the COVID-19 context, so it might be necessary to wait until the second half of 2023 to have a view of the effects of the pandemic on expenditure by categories and ages. Finally, considering the aforementioned limitations, the authors of this work see them as future lines of research that may enrich not only these results and the literature on the field but also have potential interest for the tourism stakeholders.

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