DIRECT VS. INDIRECT CHANNELS: DIFFERENTIATED LOSS AVERSION IN A HIGH-INVOLVEMENT, NON-FREQUENTLY PURCHASED HEDONIC PRODUCT

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Abstract

Purpose

This article investigates whether intermediaries reduce loss aversion in the context of a high-involvement non-frequently purchased hedonic product (tourism packages).

Design/methodology/approach

The study incorporates the reference-dependent model into a Multinomial Logit Model with Random Parameters, which controls for heterogeneity and allows representation of different correlation patterns between non-independent alternatives.

Findings

Differentiated loss aversion is found: consumers buying high-involvement non-frequently purchased hedonic products are less loss averse when using an intermediary than when dealing with each provider separately and booking their services independently. This result can be taken as identifying consumer-based added value provided by the intermediaries.

Practical implications

Knowing the effect of an increase in their prices is crucial for tourism collective brands (e.g. “sun and sea”, “inland”, “green destinations”, “World Heritage destinations”). This is especially applicable nowadays on account of the fact that many destinations have lowered prices to attract tourists (although, in the future, they will have to put prices back up to their *normal* levels). The negative effect of raising prices can be absorbed more easily via indirect channels when compared to individual providers, as the influence of loss aversion is lower for the former than the latter. The key implication is that intermediaries can -and should- add value in competition with direct e-tailing.

Originality/value

Research on loss aversion in retailing has been prolific, exclusively focused on low-involvement and frequently-purchased products without distinguishing the direct or indirect character of the distribution channel. However, less is known about other types of products such as high-involvement non-frequently purchased hedonic products. This article focuses on the latter and analyzes different patterns of loss aversion in direct and indirect channels.

Keywords: Loss aversion; Prospect theory; High-involvement non-frequent purchases; Reference price.

1. INTRODUCTION

In the current market, direct and indirect sales live together, and the analysis of multi-channel competition and their consumer behaviour differences have acquired especial importance in the literature (Yan and Pein, 2009; Grewal and Levy, 2009). A recurrent conclusion is that brick-and-mortar retailers want to beat the convenience of home shopping and easy access to information provided by today's direct sales mechanisms; however, in order to reach this objective, these physical intermediaries necessarily have to add value to the product (Zhang, 2009; Mukhopadhyay et al., 2008). Note that this additional value -provided by the intermediaries in competition with direct e-tailing- can give extra satisfaction to individuals, as customer satisfaction depends on functional -the product itself- and performance-delivery elements -services provided by the retailer- (Czepiel et al., 1985). Consequently, retailers might help differentiate the same product sold by direct sales through the above retail services.

According to Yan and Pein (2009), retail services can be defined as "all forms of demand-enhancing services (provided by the retailer), which include immediate customer support, presale advice, pre- and post-purchase services, in-store advertising and promotions, technical and shopping assistance, return service, channel assembly services and the overall quality of the shopping experiences". Note that these elements are factors that affect the individual's retailing decisions and are directly managed by the retailers (Staus, 2011). Consequently, the main thrust of brick-and-mortar retailers builds on their value-added services, not always available through direct channels (Yao and Liu, 2005).

Because of this, consumers might be willing to pay for them because, apart from the *uniquely enriching experiences* retailers can provide (Sands et al., 2009), some of these services can reduce transportation and search costs (Kopalle et al., 2009). In this

line, it is generally reported that prices in indirect channels are higher than in direct channels (Brunger, 2010; Brunger and Perelli, 2009); note that, when margins in the latter are low, Zhang (2009) suggests that multichannel retailers can benefit from drawing consumers back to physical stores.

On this account, the study of prices in retailing is a substantive issue that has attracted major attention, from core influences such as the effect of prices on the individual's choice (Erdem et al., 2001) and satisfaction (Zielke, 2008) to more ancillary aspects such as using non-advertised prices as a bait to get consumers to call to ask for prices (Desai et al., 2010). Within the analysis of price effects, loss aversion has been shown to play a relevant role (Bell and Latin, 2000). Although research in this field has been prolific, most of it has focused on low-involvement and frequently purchased products (Estelami and Lehmann, 2001), without distinguishing the direct or indirect character of the distribution channel. Thus, when such a distinction is made and other types of products are considered, doubts are cast on the accumulated understanding of consumer price knowledge (Estelami and De Maeyer, 2004).

Hence, the purpose of this article is to investigate whether there are different effects of loss aversion on direct and indirect channels, in the context of a high-involvement non-frequently purchased hedonic product like tourism packages. In order to fulfil this objective, the remainder of the paper is arranged as follows: The second section shows the roles that distribution and price play in tourism. The third section covers the description of the modelling approach used to test loss aversion in the two alternatives -direct and indirect channels-. The fourth section shows the data, sample and variables used, and the fifth presents the results obtained and their discussion. Finally, the sixth section summarizes the conclusions.

2. THE ROLES OF DISTRIBUTION AND PRICES IN A HIGH-INVOLVEMENT, NON-FREQUENTLY PURCHASED PRODUCT: THE CASE OF TOURISM

2.1. Distribution in tourism

Tourism is a strategic industry, with 12% of World GDP (Balakrishnan, 2009) and distribution channels play a crucial role. Tourism distribution channels can perform the functions of (Bastakis et al., 2004; Lubbe, 2005; Vasudavan and Standing, 1999): bundling and promoting tourism products; being an information broker, transferring information between clients and suppliers; providing mechanisms that enable consumers to make, confirm and pay for reservations; and advising travellers. In this regard, retail travel agents play a critical role in tourism (Bitner and Booms, 1982), and their importance still stands today (Huand et al., 2009). This is justified by their ability to provide personal information and advice to travellers on a continuous basis (Walle (1996). In fact, Tsai et al. (2008) indicate that although the volume of direct sales is rising, consumers still rely on travel agents to provide a human touch and professional services. Accordingly, there is evidence that the "*Ropo effect*" ("research online, purchase offline") clearly applies to tourism, especially to holiday packages, where a number of customers are turning to the Internet for information research but going offline to book the product (Rose, 2009; Yu, 2008; Law and Wong, 2003; Cheyne et al., 2005).

Considering the direct channel's advantages, some authors suggest that it is surprising that it has not completely triumphed over the indirect channel; or at least not at the rate one would have expected (Rose, 2009). To reinforce this trend, note that according to the PhoCusWright Report (2010), offline travel distribution will grow faster than online for the first time since the rise of online travel.

Why does the human touch remain so important in tourism? Trust is the key element (Delgado-Ballester and Hernández-Espallardo, 2008). Rose (2009) succinctly characterizes a holiday package as "having relatively high complexity and information intensity, usually connected with a relatively high price and low frequency of purchase and cannot be assessed prior to its consumption" and finds that trust is a determinant factor in the travel customer's channel choice decision. Certainly, inseparability between production and consumption (through which tourists have to go to the place where the product is located) and intangibility (by which tourists cannot see or try what they are really purchasing), increases tourists' uncertainty. The former implies that it is the individual -his/her own self- who has to move to enjoy the product, hence increasing his/her involvement in consumption; and the latter reduces the ease with which they can evaluate tourism services. In the same vein, heterogeneity in tourism products affects tourists' perceptions of uncertainty, as it implies high variability in tourism service delivery, making it impossible to produce two identical products. It again raises this uncertainty derived from not really knowing what an individual will find during his/her stay. Therefore, in order to reduce uncertainty derived from inseparability, intangibility and heterogeneity, an individual may rely on the "human face of a retailer". In this context, the "high touch" facet (Naisbitt, 2001) can offer travel agents an unbeatable competitive edge not only through this reduction in uncertainty but also by providing a one-to-one, face-to-face, personal approach and gathering and organizing customized information unique to the individual's travel needs (Kim et al., 2007). Evidently, on account of these advantages and the whole reduction in uncertainty, consumers should be prepare to assume some additional cost (Brunger, 2010; Brunger and Perelli, 2009), which leads us to the role of prices in tourism.

2.2. Prices in tourism

When designing tourism packages, intermediaries must pay special attention to the price as it is the most important of all the cognitive components of the decision process (Sánchez et al., 2006); this is especially relevant -as outlined below- if we consider the high-involvement, non-frequent and hedonic character of holiday packages.

Prices are often considered to be an indication of quality, and attitudes to prices can also be related to the amount of risk the buyer feels is involved in the purchase decision: a person may be willing to pay a higher price to feel safer and to be sure of what s/he will obtain. Note that prior to the consumption, for the case of experience goods, the individual forms expectations about the forthcoming experience using a number of intrinsic and extrinsic cues that give indication about the likely performance standards (Gould-Williams, 1999). In this regard, the epitome of experience goods is tourism, where information asymmetries play a crucial role for the individual when making his/her decisions (remember that it is the individual -his/her own person- who has to move to reach the product). The uncertainty inherent in the purchase and consumption of tourism services makes the strategies developed to reduce information asymmetries critical (one just has to consider that people cannot observe the product attributes prior to the service encounter). Thus, in order to reduce the uncertainty derived from the characteristics of this experience good, an individual may rely on prices. In fact, according to Assael (1995), the individual's interest and level of involvement in a product determine the extent s/he meaningfully absorbs the information on prices and, clearly, this statement strongly applies to tourism consumption in which the individual is actively involved.

Also, it is important to consider the psychological aspect of tourist prices: they may be a symbol of status as well as value. In this respect, although literature holds that

demand for tourism products and tourist activities is that of *ordinary goods*, in such a way that price increments diminish consumption (Smith, 1995), price does not always have a deterrent effect on destination choice. As tourism purchases are hedonic purchases, since they are inherently enjoyable and associated with pleasure during or after consumption (Patrick and Park, 2006), Morrison (1996) indicates that this underlying hedonic character found in the consumption of tourism products may imply that high prices do not always act against demand; rather that the concept of value for money, which compares the amount spent with the quality of installations and service, takes over. In fact, value for money has been shown to be critical in different areas of tourism such as competitiveness (Stevens, 1992), repurchase behaviour (Petrick et al. 2001; Petrick and Backman, 2002; Petrick, 2004; Chen and Tsai, 2007; He and Song, 2009), tourist satisfaction (Chen and Tsai, 2008), intention to return (Alegre and Cladera, 2008) and perceived relationship quality (Moliner et al., 2007).

Note that, as has been suggested previously, an individual meaningfully absorbs the information on prices depending on his/her level of involvement in a product. Once people have obtained this information, they put it into an encoding process in which they interpret and assign a meaning to a specific price. However, even though they all receive the same external stimulus -price-, perceptions of it are changed in the encoding process as individuals adapt it to fit an existing set of beliefs (Jacoby and Olson, 1977). That is, when people observe the price to visit a destination, information acquired in the past makes it likely that some will interpret the price as being expensive while others will consider it to be inexpensive. This process of adapting the price to fit an existing set of beliefs leads to different psychological evaluations of it, the central construct being the reference price (Assael, 1995; Kim and Crompton, 2002), since it establishes a reference point for the evaluation: it is the internally held standard that people use to

evaluate new price information. These arguments build on the idea that preferences are reference-dependent and they give rise to *loss aversion*. Next, we briefly describe this property.

2.3. Loss aversion in tourism

There is considerable evidence from marketing supporting the notion that price is composed of not only the retail price itself, but that reference prices are also critical in the formation of price perceptions (Winer, 1986). Reference prices have been shown to have a consistent and statistically significant impact on consumer demand (Erdem et al., 2001). That is, when faced with a price, the consumer compares it with some form of comparison standard, i.e. the reference price; and this comparison leads consumers to perceive a gain if the actual price is less than the reference price, or a loss if the actual price is higher than the reference price.

Loss aversion implies that changes from reference points may be valued differently depending on whether they are gains or losses; concretely, people are more sensitive to losses relative to their reference point than to gains. In this regard, prospect theory predicts that the absolute level of the change in demand due to a loss is greater than the corresponding impact of an equal gain. In practical terms, this “loss aversion” property has important implications in markets in which individuals manifest themselves as loss averse: given that their final choice is greatly influenced by it, organizations can develop actions based on this phenomenon (e.g. implementing activities to modify their reference points).

Loss aversion has been theoretically and experimentally demonstrated, but the empirical results on the relative size of loss aversion are not consistent (Klapper et al, 2005). For instance, Hardie et al. (1993) find evidence of loss aversion while Kalyanaram and Little (1994) find no significant loss aversion in their respective

applications. Some authors argue that this inconsistency can be the result of not adequately accounting for consumers' heterogeneity in their response, as studies that do not incorporate heterogeneity into their modelling may provide an upward biased estimate for loss aversion. This has been empirically demonstrated by Bell and Lattin (2000) and Klapper et al. (2005).

In tourism, the analysis of loss aversion is especially relevant as the increased promotional activity by competing destinations is likely to raise price elasticities (Crouch, 1994), even more so considering the high-risk nature of the tourism industry, in which a price reduction aimed at getting a rival's market share might provoke a hostile repricing reaction (Cooper et al., 2008). Note that an excessive reduction in prices could lower tourists' reference prices down to levels in which subsequent increases could be highly damaging to demand. However, despite its importance, tourist loss aversion has been analyzed sparingly: Oh (2003) analyzes room prices of a specific upscale hotel operating in a US city and estimates the reference prices by the average value of: i) the fair rate suggested by the sample individuals for the room in which they are staying and ii) the mean market room rate for hotels like the sample hotel (also estimated by the sample individuals). This author does not find evidence that asymmetric effects of price deviations exist in individual's judgments of price perceptions. Kim and Crompton (2002) base their study on reference prices, but do not estimate them. They operationalize the perceptions of the admission price to a Texas state park by asking sample visitors whether a specific admission fee is "much too low, too low, about right, too high, much too high" and recoding them on a five-point ordinal scale. They use this measure as the dependent variable of a regression model to find the independent variables that have an influence on it. Their main result is that economic

factors were better explanatory variables for perceptions of admission price than behavioural factors.

Therefore, on account of the relevant role prices play in this type of product, this article tests for *differentiated* loss aversion in the context of a high-involvement non-frequently purchased hedonic product, depending on the type of channel -direct vs. indirect-. Specifically, we hypothesize that consumers buying high-involvement, non-frequently purchased hedonic products like tourism packages are less loss averse when using an intermediary than when dealing with each tourist product provider separately (hotel, airline, etc.) and booking their services independently. It implies that they will be more willing to accept a higher than expected price; in other words, the negative effect of finding a price higher than their reference price is lower when tour operators and travel agencies are involved. As stated previously, retailing has singular characteristics that affect pricing in a competitive environment (Kopalle et al, 2009), providing an array of services, such as location, information, assortment, delivery and ambience (Betancourt, 2004). These benefits are even more important when it comes to services since, according to the literature (Sweeney et al., 1999), retail service quality plays a crucial role in the creation of value perceptions (remember the reduction in the uncertainty ever inherent in tourism packages). Therefore, intermediaries are expected to provide *extra value* and therefore individuals may be willing to bear some extra price (Kopalle et al., 2009). Note that, if this hypothesis is not rejected, it could be taken as identifying consumer-based added value provided by the intermediaries.

3. RESEARCH DESIGN

3.1. Modelling approach

For the analysis of the loss aversion property in a two-facet context -with and without intermediaries-, we follow Bell and Latin (2000) and Klapper et al. (2005), so

that the utility function U_{int} for alternative i and individual n on occasion t is expressed as

$$U_{\text{int}} = \alpha_i + \beta_n\left(GAIN_{\text{int}} + \lambda_n LOSS_{\text{int}}\right) + \varepsilon_{\text{int}} \qquad (1)$$

Rearranging and specifying $\gamma_n=\beta_n\lambda_n$

$$U_{\text{int}} = \alpha_i + \beta_n GAIN_{\text{int}} + \gamma_n LOSS_{\text{int}} + \varepsilon_{\text{int}} \qquad (2)$$

where, RP_{nt} is the reference price for individual n on occasion t and $PRICE_{it}$ is the actual price of alternative i on occasion t, $GAIN_{int}$ and $LOSS_{int}$ are defined as follows: $GAIN_{int}=(RP_{nt}- PRICE_{it})D_1$, where $D_1=1$ if $RP_{nt}- PRICE_{it}>0$ and $D_1=0$ otherwise. $LOSS_{int}=(RP_{nt}- PRICE_{it})D_2$, where $D_2=1$ if $RP_{nt}- PRICE_{it}<0$ and $D_2=0$ otherwise. Note that the prices of all alternatives are compared to a common reference price RP_{nt} for each individual, as each person has one reference point for all the alternatives (Tversky and Kahneman, 1991). Finally, α_i,γ_n, β_n, λ_n are coefficients to be estimated and ε_{int} is a random term.

Loss aversion will be detected if $\lambda_n>1$ or if $\gamma_n/\beta_n>1$; i.e. if the parameter associated with losses is greater than the parameter related to gains. Squared variables are added to control for diminishing sensitivity; thereby equation (2) becomes:

$$U_{\text{int}} = \alpha_i + \beta_n GAIN_{\text{int}} + \zeta_n GAIN_{\text{int}}^2 + \gamma_n LOSS_{\text{int}} + \eta_n LOSS_{\text{int}}^2 + \varepsilon_{\text{int}} \qquad (3)$$

Since our objective is to detect different degrees of loss aversion depending on whether intermediaries are used or not, in order to reflect potential changes in the effects of $LOSS_{int}$ and $LOSS_{\text{int}}^2$ we introduce two dummy variables: $TI_n=1$ if the individual uses a travel intermediary and $TI_n=0$ otherwise, and $IOT_n=1$ if the trip is a independently organized trip and $IOT_n=0$ otherwise. New parameters ξ_1, ξ_2, ψ_1 and ψ_2 are estimated to capture these changes:

$$U_{\text{int}} = \alpha_i + \beta_n GAIN_{\text{int}} + \zeta_n GAIN_{\text{int}}^2 + \gamma_n LOSS_{\text{int}} + \xi_{1n} TI_n LOSS_{\text{int}} + \xi_{2n} IOT_n LOSS_{\text{int}} + \\ + \eta_n LOSS_{\text{int}}^2 + \psi_{1n} TI_n LOSS_{\text{int}}^2 + \psi_{2n} IOT_n LOSS_{\text{int}}^2 + \varepsilon_{\text{int}} \quad (4)$$

We assume that ε_{int} is a random term that is iid extreme value, which allows us to use the Random Parameter Logit Model (RPL). As Bell and Latin (2000) find that a model without heterogeneity may provide an upward biased estimate for some parameters (in particular, for the loss aversion parameter), we estimate the RPL Model because it explicitly models the price response heterogeneity and, in line with Klapper et al. (2005), allows us to account for heterogeneity to the fullest possible extent. As it leads coefficients θ to vary over decision makers with density $f(\theta)$) and θ is not observable, the probability $P_{nt}(i)$ of an individual n choosing alternative i on occasion t is the integral of $P_{nt}(i/\theta)$ over all the possible values of θ:

$$P_{nt}(i) = \int_{\theta} \frac{\exp\{U_{\text{int}}\}}{\sum_{j=1}^{J} \exp\{U_{jnt}\}} \phi(\theta \mid b, W) d\theta \qquad (5)$$

where J is the number of alternatives and ϕ is the density function of θ, assuming that θ is distributed Normal with average b and variance W.

Also, an advantage of the RPL model is its flexibility, which allows representation of different correlation patterns between non-independent alternatives. This flexibility avoids the assumption of Independence from Irrelevant Alternatives (IIA). The traditional multinomial logit model assumes the hypothesis of IIA, which supposes the existence of identical correlation patterns and, therefore, proportional substitutions across alternatives. In fact, the RPL model does not have the restrictive substitution patterns of the Logit model, as the ratio of probabilities $P_{nt}(i)/P_{nt}(j)$ depends on all the data, including the attributes of alternatives other than i and j. Most importantly for our study is the fact that this flexibility of the RPL model also allows representation of any random utility model (McFadden & Train, 2000). In particular, an

RPL model can approximate a Nested Logit (NL), which is appropriate for non-independent and nested choice alternatives. Following Browstone & Train (1999), the RPL model is analogous to an NL model in that it groups the alternatives into nests by including a dummy variable in the utility function, which indicates which nest an alternative belongs to. In this regard, we include two alternative-specific constants -*coastal* and *inland constants*- in the utility function.

3.2. Data and Variables

To reach the objective, we have used information on tourist choice behaviour obtained from the national survey "Spanish Holidaying Behaviour (III)", which was carried out by the Spanish Centre for Sociological Research. This is due to the following reasons: i) The availability of information on individual tourist destination choice behaviour in terms of types of destinations, concretely, the types "coastal" and "inland". The examination of destination choices of a "coastal-inland" type is relevant because of the tendency of people to look for alternatives to the sun, sea and sand type holiday which predominates in countries like Spain. Moreover, the development of these alternatives is largely found in inland areas, as it allows a destination typically known for its coast to diversify its "product portfolio" as well as revitalising an inland economy. In this context, the study of prices is crucial for the development of tourism policies by public bodies and for the implementation of strategies in the tourism industry. And ii) The survey is directed at a sample (over 18 years old) obtained at each individual's home, which avoids the characteristic selection bias of destination collected samples, leading to a more precise analysis of tourist demand. The sample was collected through personal, at home, interviews with a structured questionnaire. The original sample is of 3,781 individuals, but only 2,127 take holidays. Given that we need information on past vacation experiences, by considering individuals who provide

information on at least two consecutive holiday periods (regardless of whether they went, after the first time, on holiday or not), the final sample size is of 410 individuals.

Variables. In order to make the choice models operative, we define the variables used and identify the dependent and independent variables.

1) *Dependent variables.* To represent the set of alternatives (destination types) available to the individual, we use the following three dummy variables: i) coastal, which takes a value of 1 when this type of destination is chosen and 0 if not; ii) inland, where a value of 1 shows that this kind of destination has been selected and 0 if not; iii) not going on holiday (at the last vacation occasion), which takes a value of 1 when chosen and 0 if not.

2) *Independent Variables*. a) *Prices*. Since the alternatives are "types of destinations" (coastal and inland) we have to build a price index for each type. Concretely, we measure prices of destination types using the specific cost index for each type of destination and each individual proposed by Eymann and Ronning (1997). The procedure used to form this index has sometimes been called the "quasi-hedonic" regression technique due to its resemblance to the hedonic regression introduced by Rosen (1974). In fact, the index proposed by Eymann and Ronning (1997) is an application to tourism destinations of the well-known hedonic price index widely used in the literature in different fields (Izquierdo and Matea, 2004). It implies following a two stage procedure (Eymann and Ronning, 1997): i) a regression model is estimated $E_{\text{int}} = \delta_{i1} + \delta_{i2} X_{\text{int}}^{(1)} + \delta_{i3} X_{nt}^{(2)} + \varepsilon_{\text{int}}$ where E_{int} are the tourism costs (expenditures) of each individual n in each destination type i on occasion t, $X_{int}^{(1)}$ is the "consumption intensity" in the corresponding destination type i based on the number of days the individual n spent there on occasion t, and $X_{nt}^{(2)}$ are the socio-demographic characteristics of the individual n on occasion t (household size, marital status,

education and income); and ii) the estimated parameters δ_{i1}, δ_{i2} and δ_{i3} are used to construct the specific cost indices -or quasi-hedonic prices QHP_{int}- for each type of destination and each individual at a specific occasion using the expression $QHP_{\text{int}} = \hat{\delta}_{i1} + \hat{\delta}_{i2}\overline{X}_{it}^{(1)} + \hat{\delta}_{i3}X_{nt}^{(2)}$ where $\overline{X}_{it}^{(1)}$ represents the average consumption of variable $X_{it}^{(1)}$ in destination *i* in period *t*.

b) *Reference prices*. In the pricing literature, two types of comparison standards have been proposed: i) internal reference price, through which consumers evaluate a price by comparing it with price information that is based upon past information. In the terminology of Briesch et al (1997), consumers are said to use an internal memory-based price standard; and ii) external reference price, in which the comparison standard is a price -or the current distribution of prices- observed in the shopping environment. In this case, consumers are said to utilize a stimulus-based reference price (Briesch et al., 1997).

However, it is important to stress that not only are reference price quantities generally unavailable from conventional data sources, but they are also difficult to measure (Winer, 1986). In fact, Hardie et al. (1993) indicate that the identification of the reference point for each consumer is a significant challenge in this modelling context. In general terms, in the review carried out by Kalyanaram and Winer (1995) it is concluded that many empirical studies have assumed and found that past prices are important components of the reference price formation process, thus building convincing empirical evidence that past prices are considered when consumers form reference prices. In this line, Briesch et al. (1994) compare models with current prices (external) and with past prices (internal), finding that the best-fitting model was based on the latter. However, based on the price recall data presented by Dickson and Sawyer (1990) in their application in a supermarket context, Kalyanaram and Winer (1995) also

indicate that consumers are not very likely to clearly remember past prices paid, given the number of products purchased in supermarkets. In addition, consumers may also use current context-dependent information when building a reference price, such as the current price of the last product purchased (Klapper et al, 2005). The current price of the last product purchased has been suggested by Bell and Latin (2000) based on the argument that it is easier for the consumer to remember the product bought at the last purchase occasion than remember the last price paid.

Given this lack of consensus in the estimation of the reference price, in our investigation we develop alternative internal and external reference price concepts. Specifically, we formulate one internal reference price and two external reference prices. Then, we empirically determine which reference price model, internal (memory-based) or external (stimulus-based), is best.

We define the one internal memory-based reference price as the price a consumer paid at the last purchase incidence; defined as the occasion previous to the current purchase. As stated before, this measure is common in the literature and several studies support the use of this internal reference price, such as Mayhew and Winer (1992), Klapper et al. (2005) and Mazumdar et al. (2005). We determine the two stimulus-based reference prices as: i) the current price of the last product purchased (Hardie et al., 1993; Bell and Lattin, 2000), as it is easier for the consumer to remember the product bought at the last purchase occasion than remember the last price paid; and ii) the average of the current prices of the available alternatives (Rajendran and Tellis, 1994), as individuals may observe to what extent a price stands out in comparison with other product prices.

Regarding their measurement, the reference prices for the destination types coastal and inland are, as in the case of prices, measured using the quasi-hedonic prices

of Eymann and Ronning (1997) obtained from the two-stage procedure laid out before (of course, for the case of a destination type an individual chose, we use the real magnitude paid, both for prices and reference prices). Note that, by employing this technique, we are able to estimate the price QHP_{int} for each destination type *i*, each individual *n* and every purchase occasion *t*. Therefore, the internal reference price, defined as the price a consumer paid at the last purchase incidence, is expressed as $RP_{nt}= QHP_{jnt-1}$, where *j* is the alternative bought on the last occasion; the external reference price, defined as the current price of the last alternative purchased, is expressed as $RP_{nt}= QHP_{jnt}$; and the external reference price, defined as the average of the current prices of the available alternatives, is expressed as $RP_{nt}= \overline{QHP}_{nt}$.

4. RESULTS AND DISCUSSION

In order to empirically test the best reference price alternative, we estimate -with each of them- the model with both linear and squared reference-price-based variables (Equation 3). The internal reference price measured by the price paid at the last purchase incidence presents the best fit (Log-Likelihood):

$$[LL(QHP_{jnt-1})= -367.59]>[LL(\overline{QHP}_{nt})= -390.83]>[LL(QHP_{jnt})= -405.36]$$

This result is in accordance with the wide evidence that the last price paid takes part in the formation of the reference price (Briesch et al., 1994; Kalyanaram and Winer, 1995; Mazumdar et al. 2005). Having empirically determined that, in this application, the internal memory-based reference price is best, we use it to estimate the model (Equation 4).

Table 1 presents the parameter estimates for the reference-dependent model, designed explicitly to examine the effects of gain and loss on individual decisions, in which we have introduced the effects of using/not using intermediaries (Equation 4).

Note that as a whole, the explanatory ability of Equation 4 outperforms that of Equation 3 in terms of log-likelihood functions

$$[LL_{(Eq.4)}=-319.86>-367.59=LL_{(Eq.3)}]$$

as well as Akaike and Schwarz Information Criteria (which control for the number of parameters)

$$[AIC_{(Eq.4)}=-337.87>-373.59=AIC_{(Eq.3)}]$$

$$[SIC_{(Eq.4)}=-343.38>-375.42=AIC_{(Eq.3)}]$$

We observe that the parameter associated with gains is not significantly different from zero and the parameter related to losses is significantly positive. The fact that the loss parameter is greater than the gain parameter supports the idea that tourists react more strongly to price increases than to price decreases relative to the reference price, which represents evidence in favour of loss aversion. In real terms, it means that, when individuals encounter actual prices above their reference prices, they opt for another cheaper alternative. Note that according to the way the loss variable is defined [$(RP_{nt}- PRICE_{it})$ in such a way that $RP_{nt}- PRICE_{it}<0$], it has a negative sign for alternative *i*. Given that its associated parameter is positive, the effect on the choice of alternative *i* is negative, reducing its value and therefore, increasing the probability of another alternative *j* with a lower price being chosen.

[Table 1 about here]

With regard to the gain parameter, it is not significant. This means that the positive difference $(RP_{nt}- PRICE_{it})$ does not have any influence on the selection of alternative *i*. One possible explanation for this result could be that, although some individuals can save money when actual prices are below reference prices, some others can opt for another more expensive alternative whose price approaches their reference price. Therefore, as $PRICE_{it}$ gets closer to RP_{nt} the difference $(RP_{nt}- PRICE_{it})$ tends to

zero, and its impact on the choice of alternative *i* becomes null. Concerning the squared variables, $gain^2$ and $loss^2$, we find that the parameter associated with the former is not significantly different from zero and the parameter related to the latter is significantly positive. It means that there is diminishing sensitivity for losses, showing convexity for these negative values.

[Figure 1 about here]

As for the use/non-use of travel intermediaries, all the interaction variables are statistically significant. However, while the interactions "$Loss^2$ x Tourist Intermediary" and "$Loss^2$ x Independently Organized Trip" are significantly different ($H_0: \psi_1 = \psi_2$; t=60.61;p-value <0.000), the interactions "Loss x Tourist Intermediary" and "Loss x Independently Organized Trip" are not ($H_0: \xi_1 = \xi_2$; t=0.3117;p-value>0.75).

These results mean that the further the actual price is from the reference price, the larger the distance in terms of loss aversion between using and not using tourist intermediaries becomes. Figure 1 shows that the difference is imperceptible when the prices are close to the reference price, but after a certain point (say, about 20 Euros), each line takes a distinct path, implying a stronger reduction in loss aversion when using intermediaries, as individuals perceive that extra value is created and provided in terms of further services (Kopalle et al, 2009; Sweeney et al., 1999). Conversely, when booking independently, consumers become more and more loss averse as the difference between actual price and reference price increases. Therefore, we cannot reject the hypothesis that tourism intermediaries reduce loss aversion in the context of high-involvement non-frequently purchased hedonic products.

To confirm this result, we have to discard the possibility that this outcome comes from the fact that less-price sensitive customers could be choosing intermediaries. If this were the case, customers using intermediaries would

systematically select higher-priced products. We conduct several ANOVAs to test whether there are differences in prices paid with and without intermediaries. Table 2 shows the results of the four Anova tests performed and no significant differences are found in any case. This reinforces the differentiated loss aversion pattern found.

Strictly speaking, being less-price sensitive does not necessarily mean that loss aversion is going to be lower: it is one thing to "select a high price" and another to "select a higher than expected price". Both sensitive- and insensitive-to-price individuals must have reference prices, though, at different levels; therefore, loss aversion can exist in both cases. However, it is true that both concepts can be related: less sensitive consumers are less affected by higher prices; hence, they could be less loss averse. The results of the Anova tests dismiss the possibility of an association between "less sensitive individuals and use of intermediaries"; thus, the lower loss aversion found is due to the mediating role of intermediaries and not because those using intermediaries could be less sensitive.

Consequently, this result can be taken as identifying consumer-based added value provided by the intermediaries. That is, consumers are more predisposed -or are less reluctant- to accept higher than expected prices via indirect than via direct channels. Based on the persistent claim that retailers have to create value through performance-delivery elements, this result supports the fact the consumers recognize this added value and the differentiation obtained by intermediaries through their extra services.

For the case of tourism packages, note that it is not just a question of the uniquely enriching experiences retailers provide, but a more basic trait emerges: retailers help consumers gain trust in a high-involvement product. Remember that the "Ropo effect" especially applies to tourism, and this result confirms the travel agents' ability to provide personal information and advice to travellers. That is, these

intermediaries reduce the uncertainty derived from the fact that consumers: i) have to go to the place where the product is located; ii) cannot assess it before consumption; and iii) do not know what they will find during their stay. Therefore, consumers are prepared to incur the cost of decreasing this uncertainty. Strictly speaking, they are more prepared when using indirect channels; note that the loss aversion property does not disappear in either case.

As a final remark; implicit in the greater loss aversion of direct channels is the idea that people are never sure whether they are opting for the optimal price when they book on their own without travel advisors; thus, when finding a higher than expected price they are more likely to change alternatives when they do not receive any professional advice because their doubts about the existence of a more economical price become stronger.

5. CONCLUSIONS

This article has examined the existence of different effects of loss aversion on a high-involvement non-frequently purchased hedonic product, depending on whether individuals use direct or indirect channels. By incorporating the reference-dependent model into a Multinomial Logit Model with Random Parameters, the empirical application carried out in Spain shows that people react more strongly to price increases than to price decreases relative to the reference price, which represents evidence in favour of loss aversion. It implies that, when individuals encounter actual prices above their reference prices, they opt for another more economical alternative.

More importantly, with regard to the differentiated effects on direct and indirect channels, we find that consumers buying high-involvement non-frequently purchased hedonic products (tourism packages, to be precise) are less loss averse when using an intermediary than when dealing with each provider separately and booking their

services independently. This means that the negative effect of finding an actual price higher than their reference price diminishes when intermediaries take part. The uncertainty inherently associated with this type of product makes the extra value added by intermediaries especially relevant in reducing information asymmetries, and this makes people more likely to accept higher than expected prices when they are offered by intermediaries as opposed to individual service providers. In this regard, the key implication is that intermediaries can -and should- add value in competition with direct e-tailing.

For destination management, the main implication is as follows: at a time when destinations are emphasizing the use of collective brands to promote individual destinations under these umbrella brands (such as “sun and sea”, “inland”, “green destinations”, “World Heritage destinations”, etc.) , knowing the effect of an increase in their prices is crucial; this is especially applicable these days when many destinations have lowered prices to attract tourists, knowing that later they will have to put prices back up to their *normal* levels. It is well known that excessive price reductions could lower reference prices, and consequently the region of loss aversion would be widened; thus, the subsequent price increases could provoke strong negative reactions in demand. In this regard, Kalyanaram and Winer (1995) indicate that firms could force people to adapt to new higher reference prices by augmenting prices through small increments, in such a way that these increments are not fully noticed by individuals. This tactic can be implemented more readily by intermediaries as the negative effect of raising prices can be absorbed more easily managed less tightly via indirect channels when compared to individual providers, as the influence of loss aversion is lower for the former than the latter. This result also gives importance to networking on the part of the destinations, as promotional activities such as fam-trips and workshops, whose main purpose is to make

contacts with intermediaries, are still worthwhile, as the individuals recognize consumer-based added value provided by the intermediaries.

An important limitation of this study comes from the use of secondary information sources, as it does not allow us to work with dimensions tailored to our investigation. In particular, this limitation prevents us from testing a larger number of alternative reference price proposals. As Lattin and Bucklin (1989) suggest, consumer reference points are difficult if not impossible to measure directly, and researchers have to try several alternatives to capture these constructs indirectly. Although in our study we have tested three alternative reference prices -one internal and two external-, we cannot use either of the measures suggested by the individual him/herself such as the "fair price" or some stimuli-based reference prices such as those appearing in brochures or advertising because they were not available to us.

The analysis is made on the two most important types of destination for Mediterranean countries like Spain -coast and inland-, and its findings are restricted to them. That is, the article shows that a differentiated loss aversion exists, but other kinds of destination could be tested to overcome this major limitation and enrich the findings. In particular, Mediterranean countries with destinations that are awarded the distinction of "World Heritage City" by UNESCO could add a third alternative to see whether loss aversion changes with respect to coastal and inland destinations. Also, as Roper (2005) finds that the standardization of marketing tactics in an international realm is affected by type of product and industry characteristics, other countries, such as those of Central Europe, with a different pattern of types of destination, can analyze destinations defined according to their urban character -city vs. village-.

Three important avenues for further research stand out: Firstly, note that our analysis focuses on *types* of destinations and certainly this way of working allows us to

find the influence of prices and reference prices in a general manner, but we are not able to get knowledge of their impact on a particular destination. Therefore, a thread of future research could be oriented towards analyzing specific destinations in order to observe the asymmetric effects of price response, in such a way that rivalry analyses could be carried out destination-by-destination and by type of purchase -direct vs. indirect-. For example, within a country, it would imply analyzing different destinations according to their prices and the way tourists have booked. Secondly, having shown that decisions are determined by asymmetric price response effects and that these effects change depending on the direct-indirect character of the purchase, and as these decisions determine market shares, it is important to note that the inclusion of loss aversion in competition models could shed some light on the analysis of competitors' actions and reactions. Specifically, as González-Benito et al. (2005) show, the concept of store format plays a prominent role in the relationship between market share and spatial competition; thus, it may be relevant to analyze the different ways loss aversion is manifested in distinct store formats with regard to these high-involvement non-frequently purchased hedonic products; e.g. is the loss aversion effect for purchases in city centre travel agencies different to its effect on those in hypermarkets?. Thirdly, in line with the development agencies' purpose of generating tourism from events (Stokes, 2006), it could be relevant to look into a potential differentiated loss aversion according to the way people make reservations.

The main idea we can derived from the results is that: given that intermediaries reduce loss aversion in the context of a high-involvement non-frequently purchased hedonic product such as tourism packages, tourism intermediaries are considered to provide consumer-based added value. Therefore, they have to look for this valuable provision and make clients trust their service.

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Table 1. Effects of gains and losses using/not using intermediaries

Independent Variables	b	t-statistic	SD of β	t-statistic
Gain	0.0059829 (0.0235776)	0.2537520	0.0596199 (0.0686404)	0.8685833
Gain^2	-0.0000059 (0.0000494)	-0.1189222	0.0001228 (0.0001496)	0.8211540
Loss	0.0804259 (0.0192170)	4.1851445	0.0002799 (0.0003584)	0.7809117
Loss x Tourist Intermediary	-0.0581978 (0.0199353)	-2.9193297	0.0009420[b] (0.0003102)	3.0371111
Loss x Independently Organized Trip	-0.0683152 (0.0189252)	-3.6097552	0.0001113 (0.0003298)	0.3373658
Loss^2	0.0002010 (0.0000553)	3.6373507	0.0000003 (0.0000014)	0.2262774
Loss^2 x Tourist Intermediary	-0.0001143 (0.0000624)	-1.8328789	0.0000012 (0.0000022)	0.5437788
Loss^2 x Independently Organized Trip	-0.0001801 (0.0000549)	-3.2809255	0.0000006 (0.0000008)	0.7466667
Coastal Constant	1.5126352 (0.2514217)	6.0163270	-	-
Inland Constant	1.5200900 (0.3201473)	4.7480959	-	-
Log-likelihood	-319.8658			

Table 2. Price Differences between direct and indirect channels (by types of products and through occasions)

	Average price paid (t-1)		***Average price paid (t)***	
	Coastal Destination	Inland Destination	Coastal Destination	Inland Destination
Anova's F test	0.163	0.155	0.683	1.671
(p-value)	(0.687)	(0.694)	(0.409)	(0.197)

Figure 1. Differentiated effects of loss aversion in direct and indirect purchases