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Modeling reference experience in destination choice

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ABSTRACT

The complexity underlying the destination decision-making of tourists has prompted abundant research from various academic disciplines. This paper proposes the integration of the leisure tourists' past reference experience into a model for long-haul destination choice. By analyzing the preference of tourists regarding various attributes of a tourist destination, this study consolidates the concept of reference-dependent behavior in the context of tourist destination choice and introduces the concept of reference-level bias. The research findings provide theoretical and managerial implications.

Introduction

Destination choice is a major topic in tourism research. The complexity of decision-making associated with the selection of a holiday destination has led to numerous studies, which rely on different theories about consumer decision-making. Milestone contributions are dated from the past 20 years to 30 years (Sirakaya & Woodside, 2005).

Many studies discuss how past travel experiences influence the selection of a destination. Literature tends to recognize the level of satisfaction as an antecedent to repeat visits (Huang & Hsu, 2009). In particular, travel satisfaction positively affects the intention to revisit (Yoon & Uysal, 2005). However, the relationship between past experience and repeat visits is more complex. The search for variety can eventually lead people to deliberately exclude previously visited destinations from the consideration set (Schmidhauser, 1976). Eventually, the identification of choice pattern for tourist destination (Plog, 1974, 2001) suggests that people decide to travel to a destination according to a typical pattern, that is, favoring the destinations with similar specific attributes.

Prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992) suggests that individuals evaluate the outcomes based on a reference point. This theory and its properties have been applied in various contexts. In particular, supporting evidence has been found, among others, in airline demand (Nicolau, 2011a), tourism price (Nicolau, 2011b), hotel attributes (Román & Martín, 2016), and hotel room choices (Masiero, Pan, & Heo, 2016). Therefore, a logical step forward would be to consider the past travel experience as a reference point and investigate two specific effects, such as the asymmetric preferences around reference values and the preference bias toward reference values.

The literature on tourist behavior also recognized distinctive patterns among different types of tourists. In particular, leisure tourists, in contrast to business and visiting friends and relative travelers, are considered to have more flexibility in their choices and spend the most on shopping (e.g. Lehto, Cai, O'Leary, & Huang, 2004). Meanwhile, categorized by their travel distance, short- and long-haul tourists are different in many aspects, such as visitor profile and behavior (Bao & McKercher, 2008), activity consumption (McKercher, 1998), and demand elasticity (Crouch, 1994; InterVISTAS, 2007). Long-haul travels are generally associated with higher costs than short-haul travels and occur with lower frequency. According to the theory of bounded rationality (Simon, 1957), tourists facing long-haul travel decisions are expected to process the information with more attention and higher involvement.

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In this study, the tourists' typical destination is integrated into a model for the destination choice of long-haul leisure tourists by attributing a focal function to past experience. In particular, we interpreted past travel experience not as one of the attributes that affect decision-making but as the starting or reference point where individuals formulate a decision. The findings consolidate the concept of reference-dependent behavior in the context of tourist destination choice and introduce the concept of reference-level bias. Tourists assess the destination attributes based on gains and losses relative to the most recent typical destination attribute levels (reference-dependent behavior) and show a marked preference toward the typical destination attribute levels (reference-level bias). This paper further illustrates that reference-dependent behavior and reference-level bias coexist in a unique destination choice model.

Literature review

Destination choice and attributes

The complexity of the destination decision-making of tourists has prompted abundant studies from various academic disciplines. Gorman (1957, 1980) and Lancaster (1966, 1971) establish a characteristic framework that depicts consumer goods as bundles of various characteristics or attributes. The utility gain from consuming goods is the weighted summation of the utilities contributed by each characteristic. Hence, tourist destinations are generally considered as blends of various destination attributes (e.g. Papatheodorou, 2001, 2002; Stabler, Papatheodorou, & Sinclair, 2009). Wu, Zhang, and Fujiwara (2011) classify the factors that affect the destination choice of tourists into three categories. Alternative-specific factors combine the regular attributes of destinations (e.g., tourism resources, facility fare, and service quality) and their accessibility (e.g., available travel mode, travel distance, and travel fare). Situational factors, such as weather conditions and political circumstances, are related to the time of the actual trip. Decision maker-specific factors are related to the attributes of tourists, such as age, gender, and personality.

Among these attributes, the travel costs to a destination have received considerable attention. Travel costs generally refer to the expenses for tourism activities (Awaritefe, 2004; Eymann & Ronning, 1997) or for the transportation between home and vacation destinations (Seddighi & Theocharous, 2002; Siderelis & Moore, 1998). Tourism resources or activities accessible at the destination are also important factors that affect the destination choice (Moscardo, Morrison, Pearce, Lang, & O'Leary, 1996). The number of available tourist attractions (Wu et al., 2011), types of activities (Huybers, 2003), attractiveness (Awaritefe, 2004; Wu et al., 2011), reputation (Eymann, Ronning, & Zimmermann, 1992), and ranking (Train, 1998) of attractions at the destination are important components in destination selection. Goeldner and Ritchie (2012) classify the tourist attractions within a destination into five categories (namely cultural attractions, natural attractions, event attractions, recreational attractions, and entertainment attractions) and discuss the importance and attractiveness of each category. Tourist destinations are also evaluated based on the quality of offered services (Awaritefe, 2004; Siderelis & Moore, 1998). The high quality of service at destinations enhances the overall satisfaction and consequently improves the visit intention of tourists (Tian-Cole & Crompton, 2003). Song, van der Veen, Li, and Chen (2012) developed the Tourism Service Quality Index for Hong Kong and elaborated the importance of service quality in six tourism-related sectors (i.e. hospitality, food & dining, transportation, attractions, retail shops, and immigration). Likewise, crowdedness and seasonal differences (Font, 2000; Huybers, 2003), weather and climate conditions (Hamilton, 2004; Stemerding, Oppewal, & Timmermans, 1999), and social and political circumstances (Fuchs & Reichel, 2006; Seddighi, Nutall, & Theocharous, 2001) considerably influence the selection of tourist destination. The current study focuses on the influence of the alternative-specific factors on tourist destination choice such as quality of tourist attractions, quality of services, and prices while excluding temporal or situational factors.

Past travel experience and prospect theory

While the characteristics of the destination play a crucial role in the decision-making process of tourists, it is also argued that the past travel experience of the tourists significantly influences their destination choice and behavior at the destination. Mazursky (1989) asserts that tourists may rely more on past travel experiences than external information. Beerli and Martín (2004) confirm that, in addition to other information sources, previous travel experience alters the subjective interpretation of the current destination and therefore influences tourist behavior. In a recreational activity context, Schreyer, Lime, and Williams (1984) describe the close link between the current motivation and behavior as well as subjective evaluation and satisfaction of the destination, and the "Experience Use History", with the latter defined as "the amount and types of events in which the individual has participated". Adopting a latent class regression, Crouch, Huybers, and Oppewal (2016) identify a significant relationship between past travel experience and future destination preferences, and suggest that this experience-preference structure can be related to the demographics and psychographic characteristics of the tourists. Both McKercher and Wong (2004) and Li, Cheng, Kim, and Petrick (2008) have observed a strong relationship between tourists' prior visitation history and the activity participation at the destination. In addition, Lehto, O'Leary, and Morrison (2004) suggest a significant influence of past travel experience on the tourist expenditure pattern at the destination. The relationship between past experience and current (future) behavior is sometimes attributed to habit formation, which is generally applied to consumption behavior (Havranek, Rusnak, & Sokolova, 2017) and tourism contexts (Massidda & Etzo, 2012; Nordstörm, 2005). Sönmez and Graefe (1998) also identify past travel experience as a mechanism for tourists to reduce the risk of potentially unsatisfying experience.

Given that past travel experience affects the behavior of tourists, prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992) is appropriate in analyzing tourists' destination choice because it postulates that individuals evaluate the available alternatives in terms of deviations from the reference point (reference-dependent behavior). Prospect theory has been empirically tested and applied in various contexts. In tourism, Nicolau (2008, 2011b), by analyzing vacation costs, examines two features of prospect theory, namely, loss aversion and diminishing sensitivity. Kim and Canina (2015) find evidence of reference dependence and

loss aversion in the satisfaction scores of tourists. Asymmetric preferences have also been observed among potential guests for hotel attributes (Román & Martín, 2016) and hotel room features (Masiero et al., 2016). Therefore, we formulate the following hypothesis :

H1. *Long-haul leisure tourists assess the destination attributes based on the attribute levels they have experienced in their most recent travel to their typical destination (reference-dependent behavior).*

Status quo is another concept related to prospect theory. Status quo bias, as being proposed by Samuelson and Zeckhauser (1988) and reported in numerous investigations (e.g. Kahneman, Knetsch, & Thaler, 1991; Knetsch, 1989), refers to the phenomenon where the current status is favored even if it is not objectively better than other options. Although status quo bias is defined at a consumption good (alternative) level, the concept can easily be applied at a characteristic (attribute) level. Therefore, in tourist destination choice, we can introduce a new concept to describe the hypothesis that tourists ascribe a relatively higher value to the attribute level as experienced in their typical travel compared with any other levels. We name this concept as reference-level bias and formulate the following second hypothesis:

H2. *Long-haul leisure tourists prefer the attribute levels they have experienced in their most recent travel to their typical destination (reference-level bias).*

Tourist heterogeneity

Although the attributes of a destination significantly influence the destination choice, segmentation of tourists is also crucial for this process (Mansfeld, 1992). The common criteria for consumer segmentation are geographic, demographic, socioeconomic, psychographic, and behavioristic characteristics (Wedel & Kamakura, 2012), which can be applied independently or in combination (Long & O'Leary, 1997).

Demographical factors are frequently used as a part of tourism models to control the heterogeneity across tourists (Fodness, 1992; Swarbrooke & Horner, 2007). In particular, age cohort is found to be closely related to individual preference on tourist activities (Lehto, Jang, Achana, & O'Leary, 2008). Individuals of the same generation share a similar formative experience which shapes their characteristics (Mannheim, 1952). Therefore, we formulate the following hypothesis:

H3. *Long-haul leisure tourists from different generations exhibit different preferences towards destination attributes.*

Another attention-attracting type of tourist typology is pioneered by Cohen (1972) with a psychographic typology of tourists, which is based on the desire for novelty and familiarity. Plog (1974) investigates travel personality by proposing the tourist psychographic framework. Lee and Crompton (1992) develop a "Novelty Seeking Scale" based on items from various psychological personality scales including Leisure Boredom Scale, Arousal Seeking Scale, and Sensation Seeking Scale. Some enquiries have found close link between the behavior and choices of the tourists and their Sensation Seeking score (Gilchrist, Povey, Dickinson, & Povey, 1995; Lepp & Gibson, 2008; Pizam, Reichel, & Uriely, 2001). Plog argued that the instruments should be "personality-based (psychographic) questions" (Plog, 1990), yet the existing psychological personality scales usually have a large number of questions. Hoyle, Stephenson, Palmgreen, Lorch, and Donohew (2002) affirmed that the Sensation Seeking Scale with a reduced number of items preserves reasonable validity and reliability. By randomly picking 8 out of the 40 original items in the Sensation Seeking Scale, Hoyle et al. (2002) utilized the Brief Sensation Seeking Scale (BSSS) and yielded outcomes that are consistent with the full scale. The eight-item-scale is often adopted in marketing and advertising surveys for its desirable reduction in the length of the questionnaire (Allen, Vallone, Vargyas, & Healton, 2009). In the tourism context, Eachus (2004) shows significant predictive power of BSSS on holiday preferences suggesting that tourists choose holiday destination types that "reflects certain aspects of their personality", in which sensation seeking plays a major role. Therefore, considering the practical and theoretical convenience of a concise scale from a generic psychology perspective, we adopted the BSSS and formulate the following hypothesis:

H4. *Long-haul leisure tourists with different degrees of sensation seeking exhibit different preferences towards destination attributes.*

Apart from the generic individual characteristics, traveler profile is also effective in differentiating tourists from one another. Past travel experience of the tourists not only reveals individual preference on tourist destinations but also shapes their future trip intention (Crouch et al., 2016). For example, first-time visitors and repeat visitors are found to be different in terms of activity engagement (Lau & McKercher, 2004) and expenditure pattern (Litvin, 2007). More in general, we expect the incidence of typical travel pattern to influence the way tourists assess destination attributes. Similarly, cultural distance between origin and destination countries affects not only the behavioral pattern of tourists but also their perceptions of the destination (Ahn & McKercher, 2015). In a tourism context, Ng, Lee, and Soutar (2007) and Yang, Liu, and Li (2016) investigated different cultural distance measures, such as Hofstede (1980)'s National Cultural Dimensions, Clark and Pugh (2001)'s Cultural Clusters, and West and Graham (2004)'s linguistic distances. They concluded that cultural difference is an important factor in influencing tourist behavior and found a high correlation among the different cultural distance measures. Therefore, we formulate the following hypothesis:

H5. *Long-haul leisure tourists with different travel experience exhibit different preferences towards destination attributes.*

The two behavioral hypotheses (H1 and H2) form the backbone of the theoretical framework proposed in this study. To acknowledge the importance of tourist heterogeneity in destination decision-making, we aim to explain the preference heterogeneity using a set of key tourist characteristics, namely formative experience, personality, and travel experience (hypotheses H3, H4, H5). Fig. 1 illustrates the theoretical framework.

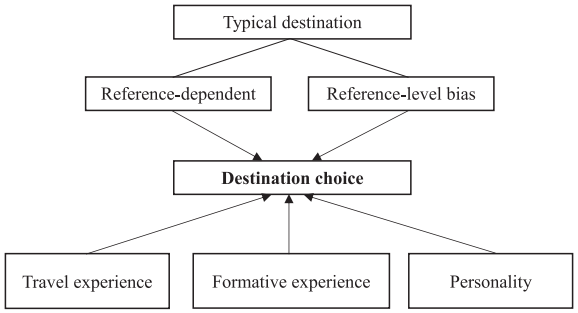

Fig. 1. Theoretical framework.

Research design

Data

The destination choices of long-haul leisure tourists were investigated through a survey focusing on any tourist trip that requires a flight time of 8 hours or more. The respondents were randomly selected among residents of three English-speaking countries, namely, the USA, the UK, and Australia, who have had at least one long-haul leisure travel in the past 5 years. The three selected countries are major and fast-growing tourism source markets in terms of expenditure for international tourism. International tourists from these three markets have spent US$ 112.9 billion, US$ 63.3 billion, and US$ 23.5 billion, respectively, in 2015. In comparison with the expenses in 2014, these countries scored annual growth rates of 7.0%, 8.9%, and 6.9% (UNWTO, 2016).

A specialized market research company administered the web-based survey to a representative sample of the online population in the target countries. A pilot study with 150 respondents has been conducted to test the questionnaire and obtain preliminary information about the choice preferences of tourists. The main study was then conducted at the beginning of 2017, and 1417 effective responses were collected from Australia (480), UK (465), and USA (472). We expressed the money-related questions in local currency for each source market.

The questionnaire comprises three parts. The first part focuses on past travel experience, including information on the entire long-haul travel history of tourists. Among all the countries visited, we asked the respondents to isolate the countries they have visited in the past 10 years and the countries where they have experienced similar combinations and quality of leisure activities. The latter set of countries comprised destinations that represent respondents' typical way of experiencing long-haul leisure travels (i.e., typical destinations). We then collected detailed information about the most recent typical long-haul leisure trip of respondents. As shown in Table 1, the respondents have visited an average of 4.5 countries as long-haul leisure destinations but showed significant

Table 1
Sample travel history and typical destinations.

	Mean	Std. Dev.	Median	Min	Max
Number of countries visited	4.50	5.48	2	1	51
Number of countries visited over past 10 years	2.94	3.44	2	1	26
Proportion of "typical destination group"	2.23	2.80	1	0	25
Most recent typical destination					
Length of stay	16.62	16.08	14	3	180
Travel party size	2.10	1.57	3	1	10
Activity engagement at different attractions[a]					
Cultural attractions	3.37	0.77	4	1	4
Natural attractions	3.39	0.74	4	1	4
Outdoor recreational attractions	2.72	1.04	3	1	4
Entertainment attractions	2.98	0.95	3	1	4
Quality of attractions/services[b]					
Cultural attractions	4.22	0.98	4	1	5
Natural attractions	4.29	0.93	5	1	5
Outdoor recreational attractions	3.46	1.38	4	1	5
Entertainment attractions	3.73	1.25	4	1	5
Hospitality services	4.30	0.81	4	1	5
Food & Dining services	4.21	0.90	4	1	5
Transportation services	3.86	0.98	4	1	5
Budget per person per day (US$)	283	213	217	20	1771

[a] Activity engagement is measured by a four-point-scale: 1 – *not at all*, 2 – *not really*, 3 – *somewhat*, and 4 – *very much*.

[b] Quality of attractions and services are measured by a five-point-scale: 1 (★☆☆☆☆) – poor, 2 (★★☆☆☆) – fair, 3 (★★★☆☆) – good, 4 (★★★★☆) – very good, and 5 (★★★★★) – excellent.

heterogeneity (ranging from 1 to 51 countries visited). A big proportion of the trips (2.9 out of 4.5) occurred during the past 10 years, and 91.3% of the respondents acknowledged that a typical pattern exists in terms of consumption and quality of activities at their destinations. In particular, respondents have visited an average of 2.2 countries according to a typical pattern, corresponding to approximately 70% of the total number of countries visited. With regard to the most recent typical trip, the length of stay ranges from 3 days to 3 months with an average of 16.6 days and a median of 14 days. The average travel size is 2.1 people. A four-point scale (not at all, not really, somewhat, and very much) was used to measure the intensity of tourist engagement in activities at the destination. On average, the respondents engaged more in cultural attractions (3.4) and natural attractions (3.4) than in outdoor recreational attractions (2.7) and entertainment attractions (3.0). The classification of the attractions follows the categorization proposed in Goeldner and Ritchie (2012, p. 205), with the "event" type of attraction omitted due to its potentially temporary nature. The categories of service quality follow the constructs of Tourism Service Quality Index (Song et al., 2012) with slight modifications. The five-point measurement scale of the attractions and service quality (i.e., poor, fair, good, very good, and excellent) largely follow the study of Spector (1976) and was further validated by a qualitative investigation conducted among 10 PhD tourism students with long-haul travel experience. The process partially followed the dyadic repertory grid technique, which is used in various contexts to elicit attributes and measurements (Easterby-Smith, 1980). In summary, the respondents have been satisfied with the level of quality and service they have experienced at their most recent trip to typical destinations, especially in terms of cultural attractions (4.2), natural attractions (4.3), hospitality service (4.3), and food & dining service (4.2).

In the second part of the questionnaire, we presented a stated choice experiment. A fractional factorial design was utilized for the pilot study. Although fractional factorial designs can be generated without any prior knowledge about respondents' preferences, they lose in efficiency compared with efficient designs. Indeed, as opposed to factorial designs, efficient designs are associated with a higher reliability of the model estimates (Rose & Bliemer, 2009) but their specification requires some prior knowledge about the model estimates. Therefore, the preliminary results obtained from the pilot study were used to generate an efficient design for the main study. In each of the 10 choice tasks included in the experiment, the respondents faced a choice among destinations described by eight destination attributes, namely, the quality ratings of cultural attractions, natural attractions, outdoor recreational attractions, entertainment attractions, service quality ratings of hospitality, food & dining, transportation, and total budget required for the trip. The destination attributes are defined in line with the aforementioned classification of attractions and services proposed in Goeldner and Ritchie (2012) and Song et al. (2012), respectively. The attribute levels associated with the quality of attractions and services are measured with a four-point-scale (fair, good, very good, excellent), where the lowest rating in the original five-point-scale (i.e. poor) was excluded from the experiment due to a considerable concentration of high ratings observed in the pilot study. Table 2 presents the attributes and their levels. The scenario of the experiment described a hypothetical long-haul trip with the length of stay and travel party based on the most recent typical trip. The experiment included three alternatives, two of which are described as "New Destinations" displaying different combinations of attribute levels, whereas the third alternative named "Typical Destination" reflected the attribute levels described by the respondents for their most recent typical long-haul leisure trip. Therefore, the attribute levels of the "Typical Destination" are individual specific and the information is collected from the responses to the first part of the questionnaire. For the respondents who indicated that they will not consider traveling to destination previously visited, the "Typical Destination" alternative was displayed but not available for selection. In particular, the reduced choice set applied to 8% of the respondents and ensured that only the alternatives actually considered by these respondents would enter the choice set and hence avoid any potential bias in the results. The attribute levels of the budget attribute were pivoted around the budget indicated by the respondents for their most recent typical long-haul leisure trip. Fig. 2 illustrates an example of choice tasks faced by the respondents.

The last part of the questionnaire included information about the personality and socio-demographics of respondents. Table 3 summarizes the relevant information. Travel personality was measured using a five-point scale (strongly disagree to strongly agree) and follows the Brief Sensation Seeking Scale by Hoyle et al. (2002). With regard to key socio-demographics, the respondents are widely spread across different age cohorts with an average of 41 years old, and about 70% of respondents have no children.

Methodology

We utilized a mixed multinomial logit (MMNL) model for parameter estimation. The utility associated with alternative a for individual i, $U_{a,i}$, is specified as follows:

Table 2
Attributes and Levels.

Quality of attractions	
Cultural	Fair (★★☆☆☆); Good (★★★☆☆); Very good (★★★★☆); Excellent (★★★★★)
Natural	
Outdoor	
Entertainment	
Quality of services	
Hospitality	Fair (★★☆☆☆); Good (★★☆☆); Very good (★★★★☆); Excellent (★★★★★)
Food & Dining	
Transportation	
Price	
Total budget	Total budget most recent (typical) trip (−40%; −20%; same; +20%; +40%)

In the following scenario, you will be given three alternative profiles. Each profile describes the characteristics of a hypothetical [*length of stay of respondents' most recent trip*] days [*travel party size of respondents' most recent trip*] person long-haul trip.

The total budget refers to the price you would be asked to pay for the whole travel party. The third column is your typical destination and its description matches with your typical long-haul leisure trip to [*respondents' most recent typical destination*].

The ratings of attractions and services are expressed in terms of solid star, "★" , as follows: ★☆☆☆☆ = poor; ★★☆☆☆ = fair; ★★★☆☆ = good; ★★★★☆ = very good; ★★★★★ = excellent.

Cultural attractions include historical sites, archaeological sites, architecture, cuisine, monuments, industrial sites, museums, ethnic, concerts, and theater.

Natural attractions include landscape, seascape, parks, mountains, flora, fauna, coasts, islands, and beach.

Outdoor recreational attractions include various sports including golf, swimming, tennis, hiking, biking, and snow sports.

Entertainment attractions include theme parks, amusement parks, casinos, cinemas, performing arts centers, sports complexes, and shopping centers.

Characteristics	*New Destination 1*	*New Destination 2*	*Typical Destination*
Quality of Attractions			
Cultural attractions	★★☆☆☆	★★★★★	★★★☆☆
Natural attractions	★★★★★	★★☆☆☆	★★★★☆
Outdoor recreational attractions	★★★☆☆	★★★★★	★★★☆☆
Entertainment attractions	★★★★★	★★★☆☆	★☆☆☆☆
Quality of Services			
Hospitality	★★★★☆	★★★★☆	★★★☆☆
Food & Dining	★★★★★	★★☆☆☆	★★★★☆
Transportation	★★☆☆☆	★★★★★	★★★★★
Total Budget	A$ 3000	A$ 2000	A$ 2500
Which alternative would you choose?	○	○	○

Fig. 2. Example of the choice task in the choice experiment.

Table 3
Descriptive statistics of tourist characteristics.

	Mean	Std. Dev.	Median	Min	Max
Personality					
I like to explore a strange city or section of town by myself, even if it means getting lost	3.60	1.18	4	1	5
I get very restless if I have to stay around home for any length of time	3.46	1.11	4	1	5
I sometimes like to do things that a little frightening	3.29	1.15	3	1	5
I like "wild" uninhibited parties	2.75	1.34	3	1	5
I would like to take off on a trip with no pre-planned or definite routes, or timetable	3.33	1.23	4	1	5
I prefer friends who are excitingly unpredictable	3.15	1.17	3	1	5
I would like to try parachute jumping	2.92	1.47	3	1	5
I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional, or illegal	2.99	1.34	3	1	5
Age	41	14.9	37	19	87
Gender (female)	57.2%				
With child/children	69.0%				

$$U_{a,i} = V_{a,i}(X_{a,k}|\beta_{k,i}) + \varepsilon_{a,i}$$

where $k = 1, \cdots, K$ is the index of attributes; $V_{a,i}$ is a value function of alternative a's attributes, $X_{a,k}$, which is conditional on the marginal utilities capturing the preference of individual i over different attributes, $\beta_{k,i}$; and $\varepsilon_{a,i}$ is the error term assumed iid extreme value. The mixture feature of MMNL model was introduced by allowing heterogeneity in individual preference on different attributes (i.e., individual-specific parameters $\beta_{k,i}$).

To assess the role of past travel experience in the destination choice process, we adopted four different specifications of $V_{a,i}(X_{a,k}|\beta_{k,i})$.

The first model (Model M1) follows the expected utility theory and considers the value of visiting a destination as the weighted summation of different attributes, as follows:

$$V_{ND,i} = \sum_{k=1}^{K} \beta_{k,i} X_{ND,k}$$

$$V_{REF,i} = ASC_{REF} + \sum_{k=1}^{K} \beta_{k,i} X_{REF,k}$$

where the subscript "*ND*" denotes the attributes of the "New Destination 1" and "New Destination 2" alternatives, the subscript "*REF*" denotes the attributes of the "Typical Destination" alternative, and ASC_{REF} is the alternative specific constant associated with the "Typical Destination" alternative.

The second model (Model M2) follows a reference-dependent specification where different marginal utilities are estimated for positive and negative deviations from the reference levels of the typical long-haul leisure trip, as follows:

$$V_{ND,i} = \sum_{k=1}^{K} (\beta_{k,i,G} \boldsymbol{I}_{\{k,Gain\}} + \beta_{k,i,L} \boldsymbol{I}_{\{k,Loss\}}) |X_{ND,k} - X_{REF,k}|$$

$$V_{REF,i} = ASC_{REF}$$

where, $\beta_{k,i,G}$ and $\beta_{k,i,L}$ are the coefficients associated with gains and losses, respectively. The indicator $\boldsymbol{I}_{\{k,Gain\}}$, ($\boldsymbol{I}_{\{k,Loss\}}$) takes the value of 1 if the attribute level reflects a gain (loss) and 0 otherwise. The above specification implies that the marginal utilities of the "Typical Destination" are normalized to 0, whereas the alternative specific constant (ASC_{REF}) captures the overall preference for such alternative in the choice set.

The third model (Model M3) is specified to analyze the reference-level bias and hence isolates the marginal utility associated with the reference levels in both "New Destination" and "Typical Destination" alternatives as follows:

$$V_{ND,i} = \sum_{k=1}^{K} [\beta_{k,i,ND} \boldsymbol{I}_{\{X_{ND,k} \neq X_{REF,k}\}} + \beta_{k,i,REF1} (1 - \boldsymbol{I}_{\{X_{ND,k} \neq X_{REF,k}\}})] X_{ND,k}$$

$$V_{REF,i} = ASC_{REF} + \sum_{k=1}^{K} \beta_{k,i,REF2} X_{REF,k}$$

where $\beta_{k,i,ND}$ are the coefficients associated with the "New Destinations" attributes that have different values from the reference levels, $\boldsymbol{I}_{\{X_{ND,k} \neq X_{REF,k}\}}$ is an indicator that takes the value of 1 if the attribute level is different from the reference level and 0 otherwise, $\beta_{k,i,REF1}$ are the coefficients associated with the reference levels in the "New Destinations" attributes, and $\beta_{k,i,REF2}$ are the coefficients associated with the "Typical Destination" attributes.

The two concepts of reference-dependent behavior (Model M2) and reference-level bias (Model M3) are non-exclusive and can be both related to the reference-dependent utility specification. Therefore, reference-dependent behavior and reference-level bias can be jointly specified into a unique model (Model M4) as follows:

$$V_{ND,i} = \sum_{k=1}^{K} [\beta_{k,i,G} \boldsymbol{I}_{\{k,Gain\}} + \beta_{k,i,L} \boldsymbol{I}_{\{k,Loss\}} + \beta_{k,i,REF1} (1 - \boldsymbol{I}_{\{k,Gain\}} - \boldsymbol{I}_{\{k,Loss\}})] X_{ND,k}$$

$$V_{REF,i} = ASC_{REF} + \sum_{k=1}^{K} \beta_{k,i,REF2} X_{REF,k}$$

Model M4 specifies the gains and losses in terms of absolute levels instead of the deviations from reference levels as specified in Model M2. This change is necessary to identify both $\beta_{k,i,REF1}$ and $\beta_{k,i,REF2}$.

The comparison among the model specifications is conducted through the Akaike Information Criterion (AIC), which is an indicator useful to compare the goodness of fit of non-nested models. A desirable feature of the AIC is the penalty included for models specified with a higher number of parameters. In this context, models with lower values of AIC are preferred. The reference-dependent and reference-level bias behavioral assumptions imply the specification of a reference-dependent utility function. Therefore, the comparison of AIC across models as well as the comparison among coefficients within models provide an assessment of the two hypotheses formulated in the previous section. In particular, Model M2 outperforming Model M1 verifies the H1 hypothesis. The comparison among the coefficients in Model M2 assesses the loss aversion across the attributes, should $|\beta_{k,i,L}|$ be greater than $|\beta_{k,i,G}|$.

The Model M3 outperforming Model M1 and the coefficients $\beta_{k,i,REF1}$ greater than $\beta_{k,i,ND}$ verifies the hypothesis of reference-level bias in destination choice (H2). The comparison among coefficients in Model M3 further allows us to test the existence of a preference towards the new destination at reference attribute levels, should $\beta_{k,i,REF1}$ be greater than $\beta_{k,i,REF2}$. In Model M4, the specification of gains and losses in terms of absolute levels makes the identification of loss aversion less straightforward. By definition, the presence of loss aversion is verified if the decrease in the utility associated with a loss is greater than the increase in the utility associated with a gain. Therefore, for model M4 loss aversion is registered if $[\overline{\beta}_{k,REF1}X_{REF,k} - \overline{\beta}_{k,L}(X_{REF,k} - D)]$ is greater than $[\overline{\beta}_{k,REF1}X_{REF,k} + \overline{\beta}_{k,G}(X_{REF,k} + D)]$, with D representing the magnitude of loss and gain deviations from the reference level. Moreover, a positive difference between the reference-level and gain coefficients estimated for the new destination indicates the existence of reference-level bias.

The comparison between Models M2 and M3 provides additional insights into the relative influence of either reference-dependent or reference-level bias specification in the destination choice. Model M4 controls for the interrelation existing between the two behavioral hypotheses and a greater performance of this model (over Model M1, M2, and M3) would further prove the coexistence of both reference-dependent behavior and reference-level bias in destination choice.

In the estimation of all model specifications, $\beta_{k,i}$s are assumed to follow a normal distribution, $N(\overline{\beta}_k, \sigma_k)$, and the significance of the standard deviations of coefficients $\beta_{k,i}s$ (i.e., $\sigma_k s$) provides evidence of tourist preference heterogeneity within the sample. Given that $\beta_{k,i}$ is unknown, the unconditional choice probability of individual i choosing alternative a can only be formulated based on the density of $\beta_{k,i}$:

$$P_{a,i}(a) = \int \left(\frac{e^{V_{a,i}(X_{a,k}|\beta_{k,i})}}{\sum_a e^{V_{a,i}(X_{a,k}|\beta_{k,i})}} \right) f(\beta_{k,i}|\theta_i) d\beta_{k,i}$$

where θ_i is a set of parameters of $\beta_{k,i}$'s joint density $f(\cdot)$. The approximation of such integral requires using simulations because the former has no closed-form solution. A simulated log-likelihood (SLL) function can be setup and maximized as:

$$SLL = \sum_i \sum_a \boldsymbol{I}_{\{a,i\}} \ln \frac{1}{M} \sum_{m=1}^{M} \frac{e^{V_{a,i}(X_{a,k}|\beta_{k,i}^m)}}{\sum_a e^{V_{a,i}(X_{a,k}|\beta_{k,i}^m)}}$$

where $\boldsymbol{I}_{\{a,i\}}$ is an indicator that takes the value of 1 if alternative a is selected by individual i, and zero otherwise. M is the number of draws.

Results

Results of discrete choice models

We estimated Models M1, M2, M3, and M4 by using the maximum simulated likelihood estimator with 1000 pseudo-random draws. In Model M2, M3, and M4, the difference among coefficients associated with the same attribute is tested through the Wald test with a significance threshold of 5%.

Table 4 presents the estimation results of the base model (Model M1). The estimates are all significant, and their signs are in line with the expectation of positive coefficients for (desirable) attraction and service attributes and negative coefficients for the (undesirable) monetary attribute. The results indicate a significant source of preference heterogeneity (σ_k) for all the attributes in the model.

Table 5 presents the estimates of Model M2. All coefficients are statistically significant and their signs are consistent with the expectations of marginal disutility for losses and marginal utility for gains. The statistically larger (at alpha level 5%) absolute values of the coefficients in the loss domain than those in the gain domain suggest a significant loss aversion in destination choice. The

Table 4
Estimation results of model M1.

	Coeff.	(Std. err)	Std.dev	(Std. err)
ASC_{REF}	-0.058^{**}	(0.0280)		
Culture	0.323^{***}	(0.0156)	0.411^{***}	(0.0240)
Nature	0.285^{***}	(0.0156)	0.393^{***}	(0.0239)
Outdoor	0.130^{***}	(0.0125)	0.336^{***}	(0.0211)
Entertainment	0.132^{***}	(0.0131)	0.375^{***}	(0.0220)
Hospitality	0.190^{***}	(0.0148)	0.313^{***}	(0.0248)
Food & Dining	0.438^{***}	(0.0170)	0.480^{***}	(0.0227)
Transport	0.145^{***}	(0.0139)	0.319^{***}	(0.0248)
Budget	-0.009^{***}	(0.0002)	0.012^{***}	(0.0004)
log-likelihood	**−12668.7**			
AIC	**25371.3**			

***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively.

Table 5
Estimation results of model M2.

	Coeff.	(Std. err)	Std.dev	(Std. err)
ASC_{REF}	-1.020^{***}	(0.073)		
Gain domain				
Culture	0.089^{***}	(0.031)	0.305^{***}	(0.061)
Nature	0.066^{*}	(0.034)	0.394^{***}	(0.062)
Outdoor	0.072^{***}	(0.021)	0.320^{***}	(0.031)
Entertainment	0.042^{*}	(0.024)	0.321^{***}	(0.039)
Hospitality	0.211^{***}	(0.035)	0.228^{***}	(0.076)
Food & Dining	0.265^{***}	(0.032)	0.353^{***}	(0.054)
Transport	0.083^{***}	(0.027)	0.283^{***}	(0.049)
Budget	0.008^{***}	(0.0004)	0.018^{***}	(0.0006)
Loss domain				
Culture	-0.470^{***}	(0.024)	0.451^{***}	(0.029)
Nature	-0.443^{***}	(0.024)	0.454^{***}	(0.030)
Outdoor	-0.218^{***}	(0.025)	0.342^{***}	(0.038)
Entertainment	-0.291^{***}	(0.025)	0.490^{***}	(0.035)
Hospitality	-0.253^{***}	(0.022)	0.312^{***}	(0.032)
Food & Dining	-0.573^{***}	(0.027)	0.629^{***}	(0.032)
Transport	-0.224^{***}	(0.025)	0.324^{***}	(0.037)
Budget	-0.014^{***}	(0.0007)	0.023^{***}	(0.0009)
log-likelihood	**−12108.1**			
AIC	**24282.3**			

***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively.

significance of all the standard deviations of coefficients reveals the tourist preference heterogeneity for different attractions, quality services, and budget. Model M2 considerably outperforming Model M1 supports the hypothesis (H1) of reference-dependent behavior in destination choice.

Table 6
Estimation results of model M3.

	Coeff.	(Std. err)	Std.dev	(Std. err)
ASC_{REF}	0.745	(0.483)		
New Destination: Non-reference levels				
Culture	0.233^{***}	(0.0141)	0.054^{***}	(0.0347)
Nature	0.219^{***}	(0.0143)	0.051	(0.0386)
Outdoor	0.178^{***}	(0.0126)	0.004	(0.0714)
Entertainment	0.117^{***}	(0.0128)	0.016	(0.0659)
Hospitality	0.197^{***}	(0.0141)	0.017	(0.0706)
Food & Dining	0.321^{***}	(0.0139)	0.020	(0.0638)
Transport	0.172^{***}	(0.0131)	0.001	(0.0809)
Budget	-0.0051^{***}	(0.0002)	0.004	(0.0002)
New Destination: Reference level				
Culture	0.271^{***}	(0.0127)	0.106^{***}	(0.0194)
Nature	0.246^{***}	(0.0124)	0.035	(0.0411)
Outdoor	0.181^{***}	(0.0133)	0.010	(0.0814)
Entertainment	0.137^{***}	(0.0129)	0.049	(0.0389)
Hospitality	0.180^{***}	(0.0125)	0.022	(0.0552)
Food & Dining	0.333^{***}	(0.0130)	0.085^{***}	(0.0229)
Transport	0.178^{***}	(0.0137)	0.017	(0.0660)
Budget	-0.0045^{***}	(0.0003)	0.003^{***}	(0.0005)
Typical Destination				
Culture	0.101^{***}	(0.0305)	0.119^{***}	(0.0592)
Nature	0.273^{***}	(0.0347)	0.133^{***}	(0.0553)
Outdoor	−0.014	(0.0211)	0.080	(0.0650)
Entertainment	0.135^{***}	(0.0246)	0.151^{***}	(0.0511)
Hospitality	0.203^{***}	(0.0408)	0.135^{***}	(0.0595)
Food & Dining	0.331^{***}	(0.0392)	0.318^{***}	(0.0362)
Transport	0.164^{***}	(0.0319)	0.162^{***}	(0.0603)
Budget	-0.003^{***}	(0.0002)	0.001^{***}	(0.0003)
log-likelihood	**−11895.0**			
AIC	**23888.0**			

***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively.

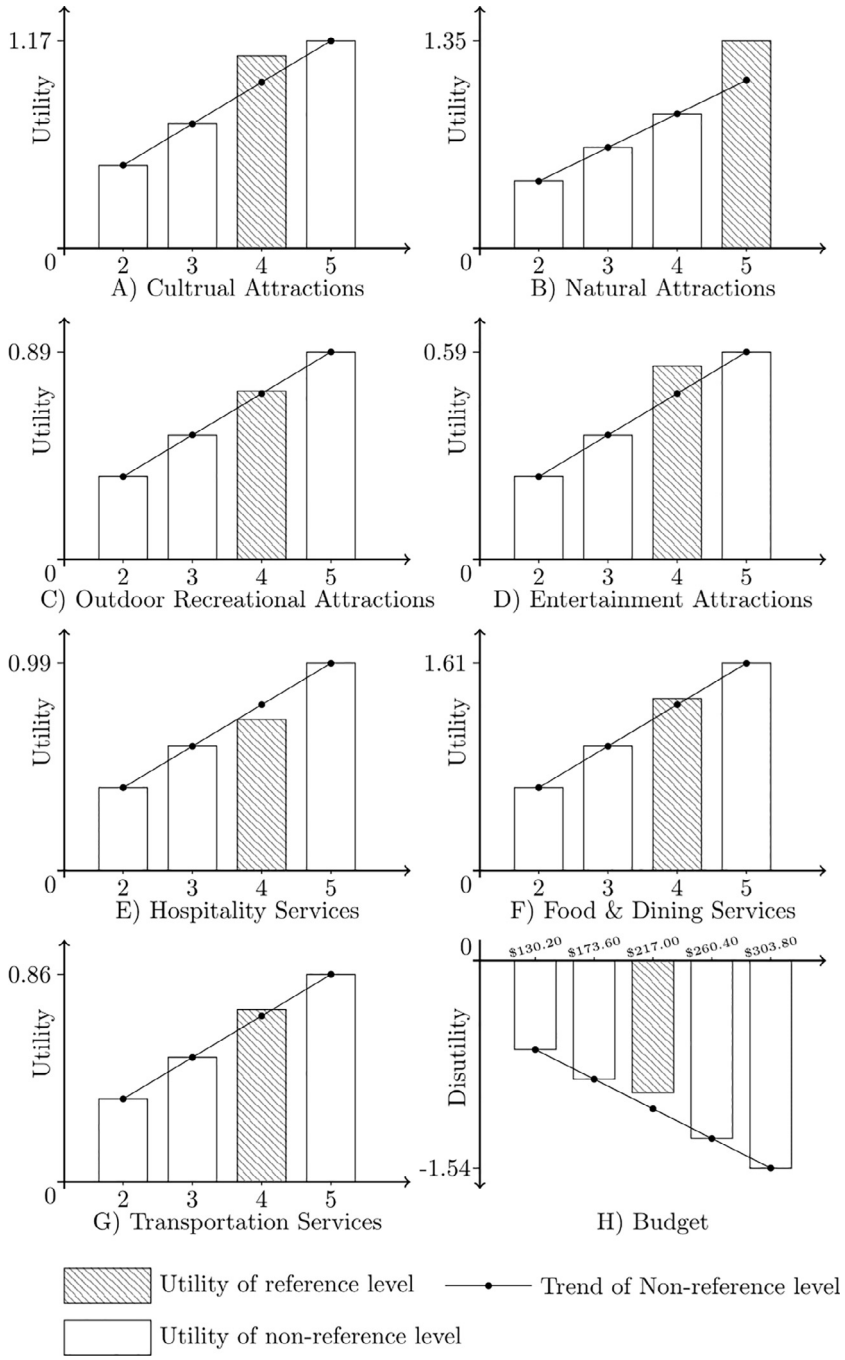

Fig. 3. Representation of marginal (dis)utilities of Model M3.

Table 6 presents the estimation results of Model M3. All coefficients have the expected signs, though the coefficient associated with outdoor attractions of the "Typical Destination" is not statistically significant. With regard to the "New Destination", the coefficients associated with the reference level are statistically larger (at alpha level 5%) than the estimates for non-reference levels for cultural, natural, and entertainment attractions, food & dining services (difference significant at alpha level 10%), and budget. This finding indicates that even when tourists visit a new destination, they tend to favor the level of quality they have experienced from the attractions and services in a typical destination. We call this inertia as reference-level bias, which is verified for five out of the eight attributes investigated in the experiment. Fig. 3 illustrates this finding. The rectangles display the utility gains (disutility in the case of budget) at each attribute level. The shaded rectangles represent the reference level of each attribute (this demonstration adopts the median of reference attribute levels). The solid trend line shows the linear trend of the non-reference level. Therefore,

Table 7
Estimation results of model M4.

	Coeff.	(Std. err)	Std. dev	(Std. err)
ASCREF	0.109		(0.3129)	
New Destination: Gain domain				
Culture	0.229***	(0.0226)	0.006	(0.0773)
Nature	0.285***	(0.0191)	0.012	(0.0802)
Outdoor	0.142***	(0.0204)		
Entertainment	0.150***	(0.0179)		
Hospitality	0.233***	(0.0202)		
Food & Dining	0.362***	(0.0191)	0.075***	(0.0219)
Transport	0.203***	(0.0207)		
Budget	−0.001	(0.0008)	0.003***	(0.0002)
New Destination: Loss domain				
Culture	0.273***	(0.0420)	0.142***	(0.0327)
Nature	0.401***	(0.0375)	0.104***	(0.0376)
Outdoor	0.105***	(0.0390)		
Entertainment	0.195***	(0.0376)		
Hospitality	0.286***	(0.0399)		
Food & Dining	0.421***	(0.0380)	0.056	(0.0668)
Transport	0.296***	(0.0430)		
Budget	−0.004***	(0.0004)	0.003***	(0.0002)
New Destination: Reference-level				
Culture	0.280***	(0.0270)	0.094***	(0.0242)
Nature	0.355***	(0.0231)	0.063***	(0.0297)
Outdoor	0.136***	(0.0259)		
Entertainment	0.181***	(0.0236)		
Hospitality	0.234***	(0.0247)		
Food & Dining	0.390***	(0.0238)	0.112**	(0.0200)
Transport	0.241***	(0.0276)		
Budget	−0.002***	(0.0006)	0.001	(0.0008)
Typical Destination				
Culture	0.113**	(0.0371)	0.254***	(0.0372)
Nature	0.397***	(0.0411)	0.156*	(0.0484)
Outdoor	−0.065		(0.0550)	
Entertainment	0.175***	(0.0298)		
Hospitality	0.373***	(0.0479)		
Food & Dining	0.384***	(0.0452)	0.332***	(0.0308)
Transport	0.218***	(0.0400)		
Budget	−0.001**	(0.0006)	0.002***	(0.0003)
log-likelihood	**−11728.2**			
AIC	**23554.4**			

***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively.

reference-level bias is observed whenever the level of a shaded rectangle lies above the level of the trend line, indicating that the marginal utility of reference-level is higher than that of non-reference levels. Compared with Models M1 and M2, the lower degree of preference heterogeneity depicted by the insignificance of several coefficients' standard deviations indicates the ability of the Model M3 specification to capture the sources of heterogeneity within the sample. This is confirmed by the considerable improvement of the model fit of Model M3 (AIC 23888) with respect to Model M1 (AIC 25371). These findings support the hypothesis (H2) of reference-level bias in the context of destination choice. In addition, Model M3 outperforming Model M2 (AIC 24282) indicates that the effect of the reference-level bias is greater than that of the reference-dependent behavior.

Table 7 presents the estimation results of Model M4, which combines the reference-dependent behavior and reference-level bias. Considering the large number of parameters and that the specification introduced in Model M3 captures a part of the preference heterogeneity, this model specified only a subset of coefficients as random. The coefficients associated with culture, nature, food & dining, and budget attributes were selected upon the estimation of several specification forms.

To allow the introduction of both reference-dependent behavior and reference-level bias into the same model, the gains and losses in Model M4 are specified in terms of absolute levels. Therefore, the same sign is expected for the coefficients associated with both gains and losses. The estimation results of Model M4 are consistent with those of Models M2 and M3. Tourists exhibit loss aversion for all the attributes, except for the quality of hospitality services. Reference-level bias is registered for five attributes, namely cultural attractions, natural attractions, entertainment attractions, food & dining services, and transport services. Likewise, tourists tend to prefer reference levels at new destinations (rather than the typical destination) for culture, outdoor, food & dining, and transport attributes. Similar to Fig. 3, Fig. 4 illustrates the estimates of Model M4 by using the medians of the reference attribute levels. The shaded rectangles represent the utility at the reference level, the dotted rectangles illustrate the utility at the attribute levels above the reference level (i.e. gains), and the plain rectangles represent the utility at the attribute levels below the reference level (i.e.

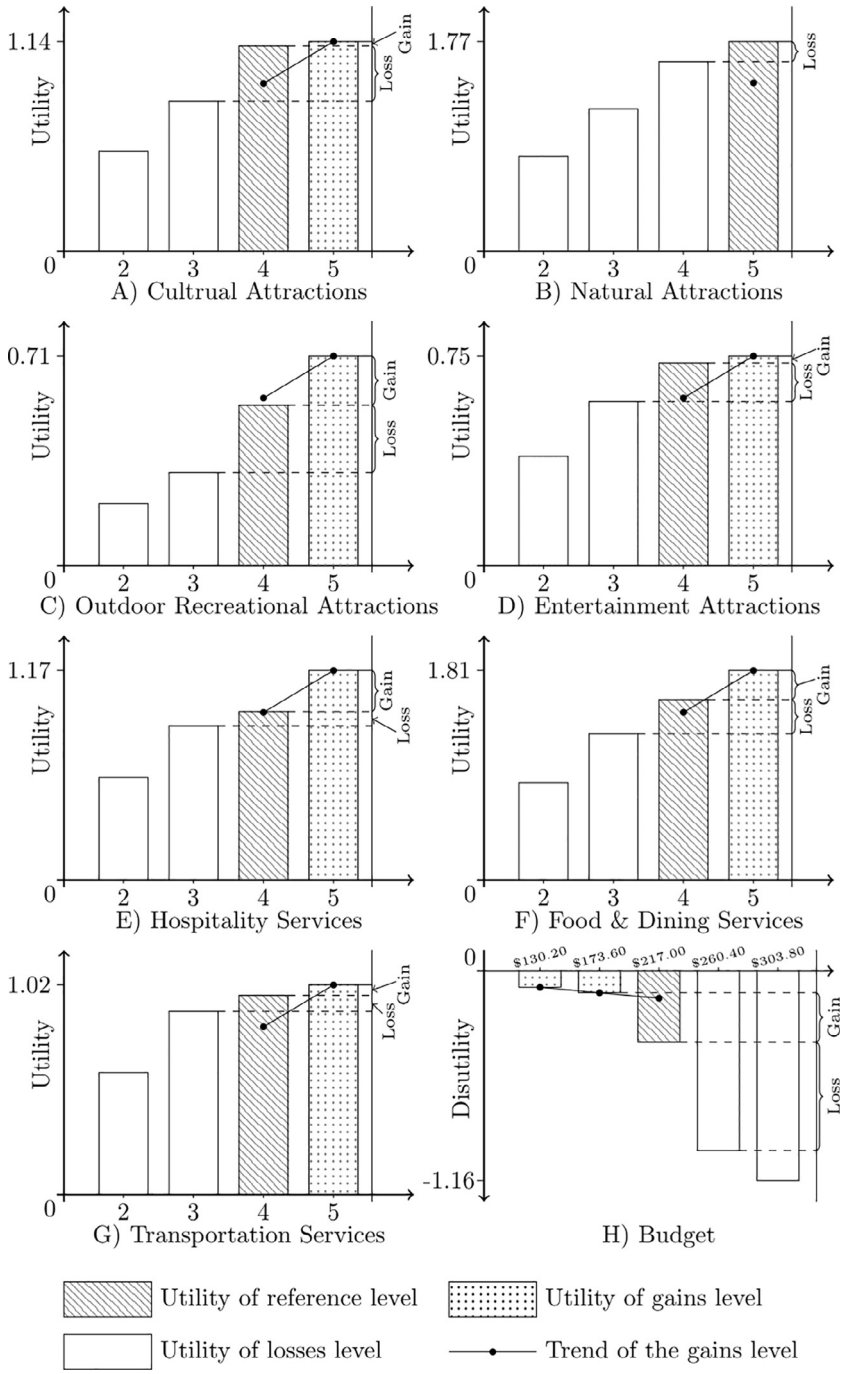

Fig. 4. Representation of marginal (dis)utilities of Model M4.

losses). The solid trend lines represent the linear trends of the gains. We observed reference-level bias when the level of the shaded rectangle is above the trend line of the gains, whereas we observed loss aversion when the difference between the plain rectangle and the shaded rectangle (the disutility of loss) is greater than the difference between the shaded rectangle and the dotted rectangle (the utility of gain). In addition, we also observed a significant source of heterogeneity regarding the sensitivities of tourists to the quality of cultural attractions, natural attractions, services in food & dining, and budget. In general, Model M4 outperforms the specifications of all the other models, thereby confirming the coexistence of reference-dependent behavior and reference-level bias in a unique model for the destination decision-making of long-haul leisure tourists.

Individual sensitivities and their characteristics

To estimate the individual coefficients, we used the unconditional distribution of the parameters – $N(\overline{\beta}_k, \sigma_k)$ – obtained in Model M4. The individual coefficients are therefore derived by simulation, as follows:

$$\beta_{k,i} = \frac{\int \beta_k P(y_i \mid X, \beta_k) f(\beta_k \mid \overline{\beta}_k, \sigma_k) d\beta_k}{\int P(y_i \mid X, \beta_k) f(\beta_k \mid \overline{\beta}_k, \sigma_k) d\beta_k}$$

where y_i represents the choice of individual i, X contains the information of the attribute levels in the alternatives, and $f(\beta_k \mid \overline{\beta}_k, \sigma_k)$ is the density function of parameter β_k.

To explain the source of heterogeneity within the sample, the individual coefficients were regressed on individual characteristics related to three main constructs, namely, travel experience, formative experience, and personality.

The travel experience is captured by the concentration of typical travel experiences and a purposely created linguistic travel distance (LTD) index, representing the central tendency and dispersion (i.e., cultural variety), respectively, of the individual's past travel experience. The ratio of the number of typical destinations visited over the total number of destination visited captures the concentration of typical travel experience of an individual. A LTD index is developed to proxy the cultural variety of travelers past experience. Language is described as "the most immediate manifestation of cultural diversity" (UNESCO., 2009, p. 81). Furthermore, the linguistic distance can be applied to any origin-destination pair. The linguistic distances in the LTD index are adopted from the work of Chen, Sokal, and Ruhlen (1995). The individual LTD index is measured as follows:

$$LTD_i = \frac{1}{G} \sum_{g=1}^{G} \sum_{l=1}^{L} p_{l,G} LD_l$$

where $g = 1, \cdots, G$ are the countries visited by respondents i; $l = 1, \cdots, L$ lists all the spoken languages; $p_{l,G}$ is the percentage of the population that speaks language l in country G; and LD_l is the measure of linguistic distances of language l from English (the spoken language in the USA, the UK, and Australia). For the languages that are not contained in the 130 languages list provided by Chen et al. (1995), their linguistic distance values were measured using their closest language family. We compiled information on the percentages and mix of languages used in different countries from CIA World Factbook - (CIA., 2017). To simplify the process, we disregarded the languages spoken by less than 5% of the total population. The weighting of $1/G$ prevents the respondents from scoring a high LTD index by visiting small-linguistic-distance countries for multiple times.

Generation classification is used to capture the formative experience (Mannheim, 1952); people born before 1960 are defined as Baby Boomers, those born from 1960 to 1980 as Generation X, and those born after 1980 as Generation Y.

The measurement of the personality traits of individuals relies on the Brief Sensation Seeking Scale. By using principal axis factoring (Cronbach's alpha equal to 0.88), we reduced the dimension of the eight items (Table 3) into one single score reflecting low to high levels of sensation seeking. Table 8 lists the descriptive statistics of typical experience, formative experience, and personality in the sample.

A linear regression model is specified as follows:

$$\beta_{k,i} = \alpha + \gamma_1 \ln LTD_i + \gamma_2 TyDest_i + \gamma_3 D_{GenY,i} + \gamma_4 D_{GenX,i} + \gamma_5 BSS_i + \xi_i,$$

where $\beta_{k,i}$ represents the coefficient k in Model M4 estimated for individual i; LTD_i is the linguistic travel distance index of individual i; $TyDest_i$ is the concentration of typical travel experience of individual i; $D_{GenY,i}$ and $D_{GenX,i}$ are dummy variables for generations Y and X, respectively; BSS_i is the sensation seeking score of individual i; and ξ_i is a Normal iid error term. Table 9 presents the OLS regression results (the empty columns refer to the coefficients omitted from regression analysis because of their statistically insignificant standard deviation).

In general, evidence is found in support of the hypotheses H3, H4, and H5. Tourists with a high variety of cultural experiences attach a low utility to the attribute levels of typical destinations (-0.004, -0.0017, and -0.013 for cultural attractions, natural attractions, and food & dining services, respectively). They are also particularly sensitive to losses on cultural attractions (0.0011) and gains in food & dining services (0.0004).

By contrast, tourists with a high concentration of typical travel experiences are less sensitive to losses in the quality of cultural attractions (-0.0004) and to travel budget of the typical destination (0.00005). Given that these tourists are used to typical travel experiences, they are conservative with regard to price changes as indicated by their higher sensitivity to price increase (-0.00003)

Table 8
Sample statistics for typical experience, generation, and personality.

	Mean	Std. Dev	Median	Min	Max
Linguistic travel distance	10.405	11.549	6.167	0	56.500
Typical travel concentration	0.654	0.376	0.75	0	1
Personality (Sensation seeking)	17.370	5.125	17.404	5.493	27.465
Generation (Baby Boomers)	19.3%				
Generation (Generation X)	33.3%				
Generation (Generation Y)	47.4%				

Table 9
OLS regression results for individual sensitivities.

Reference level	Culture		Nature		Food & Dining		Budget	
	Typical	New	Typical	New	Typical	New	Typical	New
Constant	0.209***	0.2715***	0.4603***	0.3655***	0.494***	0.3870***	−0.00145***	
	(0.011)	(0.0046)	(0.0034)	(0.0034)	(0.027)	(0.0042)	(0.00005)	
Linguistic travel distance	−0.004*	−0.0003	−0.0017**	0.0000	−0.013**	−0.0013	−0.00001	
	(0.002)	(0.0009)	(0.0007)	(0.0007)	(0.005)	(0.0009)	(0.00001)	
Typical travel concentration	0.010	0.0021	0.0021	−0.0028	0.018	−0.0009	0.00005*	
	(0.007)	(0.0028)	(0.0021)	(0.0021)	(0.016)	(0.0026)	(0.00003)	
Generation Y	−0.030***	0.0078***	−0.0079***	−0.0043*	−0.069***	0.0039	−0.00012***	
	(0.007)	(0.0030)	(0.0022)	(0.0022)	(0.017)	(0.0027)	(0.00003)	
Generation X	−0.019**	0.0059*	−0.0053**	−0.0033	−0.044	0.0032	−0.00006*	
	(0.007)	(0.0030)	(0.0023)	(0.0023)	(0.018)	(0.0028)	(0.00003)	
Personality	−0.002***	−0.0002	−0.0004**	−0.0005***	−0.004***	−0.0003	−0.000004*	
	(0.001)	(0.0002)	(0.0002)	(0.0002)	(0.001)	(0.0002)	(0.00000)	
New destination	Culture		Nature		Food & Dining		Budget	
	Losses	Gains	Losses	Gains	Losses	Gains	Losses	Gains
Constant	0.2614***				0.3980***	0.3583***	−0.00524***	−0.00012***
	(0.0028)				(0.0022)	(0.0011)	(0.00020)	(0.00013)
Linguistic travel distance	0.0011*				0.0004	0.0004*	0.00004	0.00003
	(0.0006)				(0.0005)	(0.0003)	(0.00004)	(0.00003)
Typical travel concentration	−0.0004*				0.0001	−0.0001	−0.00003	0.00003**
	(0.0003)				(0.0002)	(0.0001)	(0.00002)	(0.00001)
Generation Y	0.0012				0.0005	0.0011	0.00043***	−0.00006
	(0.0020)				(0.0015)	(0.0008)	(0.00014)	(0.00009)
Generation X	−0.0009				−0.0014	0.0013	0.00012	0.00011
	(0.0021)				(0.0016)	(0.0008)	(0.00014)	(0.00009)
Personality	0.0002				0.0005***	−0.0002***	0.00007***	−0.00004***
	(0.0002)				(0.0001)	(0.0001)	(0.00001)	(0.00001)

(Standard errors are in brackets); ***, **, and * indicate significance levels at 1%, 5%, and 10%, respectively.

and lower sensitivity to price decrease (0.00003).

Compared with Generations X and Y, Baby Boomers ascribe additional utility to typical destination attribute levels for cultural attractions, natural attractions, and food & dining services but are less sensitive to reference prices. Generations X and Y assign more utility to the reference levels on cultural attractions in new destinations than Baby Boomers (0.0078 and 0.0059, respectively). The young tourists (the Generation Y) are less sensitive to price rises (0.00043) than older generations.

Revealed by their nature, sensation-seeking tourists ascribe less utility to the reference levels on typical destination (−0.002, −0.0004, −0.004, and −0.000004 for culture, nature, food & dining, and budget attributes, respectively). Furthermore, they are more (less) sensitive to the losses (gains) in the quality of food & dining services and budget.

Conclusions

This study investigated the preferences of leisure tourists for long-haul tourist destinations by utilizing the discrete choice experiment and modeling techniques. Reference-dependent behavior, a distinguished feature described by prospect theory, was integrated into the utility specification of the model. Additionally, we have observed and contextualized a new behavioral bias, namely, reference-level bias. When traveling to a new destination, long-haul leisure tourists tend to combine attractions according to a typical pattern, which is formed based on their past travel experience.

In general, tourists exhibit loss aversion (i.e., losses are valued more than gains) in seven attributes, namely cultural, natural, and entertainment attractions, hospitality, food & dining, and transportation services, and travel budget, out of the 8 we have investigated. Tourists further manifest an inertia for reference levels (i.e., reference levels are valued relatively more than non-reference levels) in attributes such as cultural, natural, and entertainment attractions, and food & dining, and transportation services.

This research contributes to the theoretical development of the destination choice of tourists. We have formulated a conceptual framework centered on the concept of tourists' typical destination (reference) and specified a discrete choice model that can capture the role of reference experience on the long-haul destination choice. This study consolidates the concept of reference-dependent behavior in the destination choice and further introduces the concept of reference-level bias. In particular, we have integrated these two concepts into a unique model specification, which supports the assumption that tourists manifest both reference-dependent behavior and reference-level bias. A direct implication of our research findings is that the typical travel patterns of individuals must be included in future studies on destination choice behavior.

Several managerial implications have emerged from our research findings. Leisure tourists are predominantly loss averse regarding any of the attributes considered in the long-haul destination decision-making. This phenomenon emphasizes that destination

marketing organizations must focus on promoting those tourist attractions which are also present in top-visited destinations. Looking at the ratio between loss and gain coefficients, we note that tourists are particularly loss averse on attributes such as travel budget (4.00), quality of transportation services (1.46), and quality of natural attractions (1.41). Therefore, we expect that improvements on these aspects will significantly benefit tourist destinations. Regarding travel budget, the analysis of individual sensitivities indicates that tourists with a high concentration of typical travels are characterized by high loss aversion, whereas Generation Y and sensation-seeking tourists are less loss averse.

As previously discussed, destination-marketing organizations should ensure that tourists will not perceive the quality of attractions, services, and travel prices as a loss relative to what experience in their typical destination. The inertia that tourists manifest for reference level further implies that although outperforming other destinations will result in a competitive advantage, matching the tourists' perceived reference levels of quality will create a favorable condition to attract tourists. Based on the ratio between the reference and gain coefficients for new destinations, the attributes associated with travel budget (2.0), natural (1.25) and cultural (1.22) attractions are associated with a relatively high reference-level bias. For the quality of cultural attractions, Generations Y and X register higher reference-level bias than Baby Boomers, whereas sensation-seeking tourists show a low reference-level bias for the quality of natural attractions. Regarding the travel budget, tourists with a high concentration of typical travels are associated with a high reference-level bias, whereas sensation-seeking tourists have low reference-level bias.

The comparison between the reference levels at typical and new destinations indicates a general preference for the typical destination in the attributes associated with the quality of natural attractions and hospitality services. This finding may depict the popular "sun/sea/sand" travel segment (beach is part of natural attractions) composed of repeat tourists, who are motivated by their familiarity of the natural attractions and hospitality services at the destination. Repeat tourists appear to be less concerned about the travel prices, making this travel segment particularly appealing. The interest for natural attractions at the typical (repeat) destination increases for the individuals who have collected less linguistic travel distance in their past travel experience and for Baby Boomers as compared with Generations X and Y.

Finally, the sensation-seeking tourists will likely give less value to typical destinations and are less loss averse regarding the travel budget. This finding confirms the inclination of sensation seekers to visit new destinations and represents a good opportunity for tourist destinations to attract new visitors. Indeed, a balanced share of both risk-averse (repeat) and variety-seeking (first-time) tourists is important for a destination (Oppermann, 1998).

This study is not without limitations. The sample is limited to three English-speaking source markets. One immediate extension will be to include additional source markets that are culturally and linguistically diverse. Future research should investigate the impact of the reference-dependent and reference-level bias behavioral assumptions on destination policy measures. In general, further investigation is needed to refine the conceptualization of the typical travel experience to advance the modeling of tourist destination choice.

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